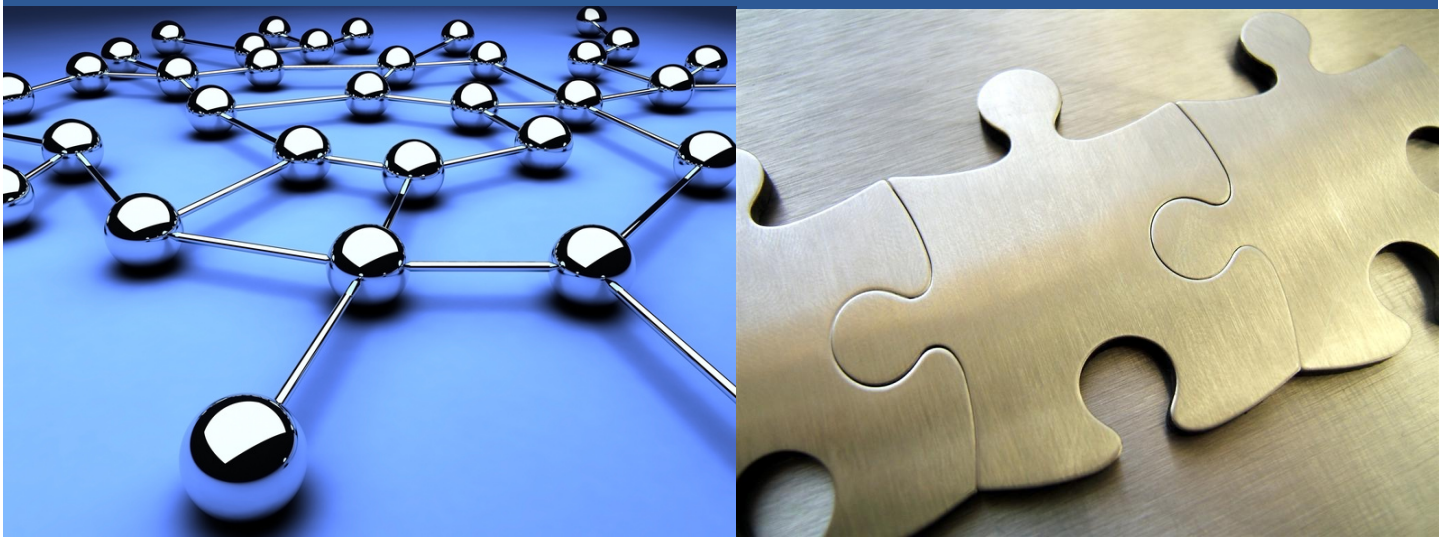# Making Connections

Evaluation Project to Assess Best Practices in EDA's University Center Program

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Acknowledgements

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Recommendations & Summary

The stated goal of the University Center program is to "[provide] resources to develop, implement, and support regional strategies to promote (1) job creation, (2) the development of high-skilled regional talent pools, and (3) business expansion in a region's innovation cluster."[1] The goal is not explicitly job creation (which is economic growth, not economic development), but the development of capacities that expand economic actors' capabilities. These actors may be individuals, firms, or industries. By investing in institutions such as universities, the program lowers risk and supports the utilization of private sector capabilities.

Economic development depends on strong formal and informal institutions that sustain and coordinate diverse social networks. Universities can be uniquely powerful examples of such institutions. They generate new ideas, facilitate knowledge transfer (from faculty/experts to employers through the training of students), and provide infrastructure for many things from research to training. The University Center program is specifically targeted at expanding the links between the universities and their local and regional economic ecosystem, and in doing so, helping them to fulfill this critical institutional role.

Feldman et al. define economic development as *positioning* the economy on a higher growth trajectory.[2] From this viewpoint, a good case can be made that the Economic Development Administration (EDA) University Center program is more important than ever to the development of the U.S. economy. A focus on economic growth (measured by jobs) as a metric obscures much of the capacity-building work that university centers do. By reframing the program and assessment mechanisms to align with Feldman's definition of economic development, what appear to be very disparate programs across the country actually converge on one goal: to build capacity that expands individuals' and firms' abilities to earn a living, conduct business, and develop communities.

Universities as Capacity

Higher education in the United States represents a critical institutional foundation for the country's economy, producing the talent and technology that fuel economic growth. While the modern research university owes its origins to Germany's culture of learning, the public land-grant university, which built on and democratized that earlier tradition, is a true expression of American genius, reflecting a democratic interest in "useful learning."[3] Almost all universities and colleges in the United States share, to a greater or lesser extent, this commitment to teaching and research that directly serves society.

EDA's University Center program operates squarely within this tradition. It is aimed at mobilizing higher education behind the needs of the U.S. economy. It is not the only federal program involved with higher education, and of course, it co-exists with a tremendous range of other federal initiatives. But as the discussion in the following chapters of this report indicates, the University Center program represents an unusually broad and flexible approach to unlocking higher education's assets and putting them to work.

Program Evolution

The University Center program has evolved over time, in a way that is consistent with the evolution of economic development itself. Initially, the University Center program was focused on technical support for economic development institutions and programs. In a sense, it mimicked the investments made by EDA in physical infrastructure with investments in institutional infrastructure. Historically, what the U.S. economy needed at that time was well-designed economic plans and well-prepared industrial sites. Now, economic development is framed in terms of building capacity for people and businesses, rather than simply building roads and buildings. The University Center program has always

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[1] "FY 2013 University Center Economic Development Program Competition." *Announcement Of Federal Funding Opportunity Number EDAFY2013UC.$7.2* April 18, 2013.

[2] Feldman, M., et al., *Economic Development: A definition and Model for Investment,* 2013.

[3] The North Carolina constitution of 1776 authorized the establishment of universities to encourage "useful learning.""

focused on capacity building by providing the institutional linkages needed for economic development.

More recently, the University Center program has shifted toward a narrower focus on innovation, entrepreneurship, and technology transfer. This shift was approximately accompanied by a new policy of awarding University Center grants based on a competitive process. One consequence of this shift has been the participation of smaller institutions in the program alongside large public institutions.

Program Heterogeneity

This change in focus toward innovation, entrepreneurship, and technology transfer has not compressed the University Center program into a single, tightly focused set of activities, similar to the manufacturing Extension Partnership (MEP) or incubator programs. University centers that are focused on innovation in a very specific sector also co-exist with centers focused on regional and local economic development. Some higher education institutions – for example, the Georgia Institute of Technology – manage to provide economic development assistance to communities while also supporting technology transfer and innovation. Some institutions are involved in broad-based support for existing businesses and local communities.

This heterogeneity across centers is the result of program design and implementation. Federal funding announcements are circulated from Washington, DC, but they are interpreted by both the regional EDA offices that run the grant competitions and by grantees in the formulation of their applications. Each region is mindful of the specific characteristics of its economy and its institutions of higher education, while each applicant seeks to respond to some possible very local need, in ways consistent with its institutional strengths.

While the change in the federal funding announcements over time has shifted the focus of the University Center program toward innovation and entrepreneurship, there remains scope for the purpose of the program to be flexibly interpreted in any particular case. All conversations with regional staff and with center directors and staff confirm that this flexibility is seen as a significant virtue of the program. It allows for specific local needs to be addressed, and it allows for ingenuity and experimentation in proposing new centers.

Assessment, Impact, and Scale

Some aspects of activities in support of innovation, entrepreneurship, and start-ups lend themselves easily to assessment. Metrics may include businesses established (for some specified period), capital invested, jobs created, and so on. Support for established business is also quantifiable – jobs saved/gained, increased revenues, etc. The MEP program has well-developed practices in this area, although it requires a non-trivial expenditure of time and effort to survey clients and generate complete reports (for which the MEP provides dedicated resources). The University Center program, with only modest funding, provides no dedicated resources for assessment.

Institutional Differences

In this respect, it is useful to consider the marked differences in background conditions within the University Center program, which are discussed at greater length in the chapter on best practices below. Some large institutions operate a center as part of a diverse set of long established, interlocking programs and activities. The center in such cases offers the institution in which it is located generic institutional capacity (management and administrative staff). This kind of capacity is very hard to build in a world of dedicated program funding but is indispensible for coordinating and profiting from the co-location of allied activities serving similar goals.

As a result of this capacity to coordinate and integrate different programs and funding streams, centers at large institutions can have tremendous impact. For example, the program at Rutgers University is involved in technology transfer and start-ups across the state of New Jersey, mobilizing assets at many other institutions, as well as providing support to existing businesses facing painful economic adjustment.

By contrast, the center at Northern New Mexico College is at a small institution, is new, and works with a distressed rural area that lacks support from other programs. The impact of this center, in absolute terms, is much smaller than that of the center at Rutgers. But this kind of comparison is plainly unhelpful. The University Center program's policy goals are to achieve broad geographic coverage for the program, to address distressed areas, and to encourage new, innovative programs. The center at Northern New Mexico College clearly contributes to achieving these policy goals.

These two kinds of centers have very different capacities to measure success. The center at Rutgers precisely tracks technology transfer, start-ups, and other business support successes; and as a long-established center, it has done so for many years. The newly established center at Northern New Mexico College is engaged in work with impacts that are difficult to measure, and it has no dedicated resources for assessment. However, both centers are building capacity and serving as a link between the university and the local and regional economic ecosystem.

One Program, Two Approaches

One way to make the comparative understanding and assessment of the university centers more tractable would be to formally acknowledge this effective division of centers into two categories. In one category would be long-standing centers with diverse activities; the other category would include newly established centers focused on a narrower set of activities. Roughly speaking, it would be possible to place about 3/5 of the presently funded centers into the former category, and 2/5 into the latter.

The fit is not exact, and programs grow and change over time. For example, the center at Penn State was relatively recently moved within the university and integrated into the College of Engineering, which corresponded to a shift in center activities and goals toward support for business. Its activities are now coordinated with a substantial set of existing initiatives that already had statewide reach. The Kansas State University and the Iowa State University of Science & Technology university centers both shifted from traditional engineering technical assistance to providing a more holistic, or systems-based, approach of market feasibility and new product development assistance.

Established Centers

All long-established programs are based at large public institutions, while recent programs have more diverse institutional homes. The long-established centers often date from before the introduction of a competitive grant cycle (in 2004), but have proved able to win renewal after competition began. They have a long history of high, absolute impact for their work (tied to other programs that magnify their efforts) and the capacity to generate clear-cut performance metrics. These programs can and do collect output and outcome metrics and are mostly alike, allowing for relatively straightforward, data based, comparative assessment based on agreed upon metrics.

However, it is important to note that some of the large, established centers – for example, the University of Nevada, Reno, and the University of Arkansas, Little Rock – are not focused on innovation and entrepreneurship, but continue to leverage broad partnerships in support of local and regional economic development institutions. They have a strong record of satisfied clients and stakeholders, but their metrics are qualitatively different from the other established centers.

New Centers

Most newly established centers focus on entrepreneurship and business support, but they do so through a highly differentiated set of activities. For example, the center at Rogers State is focused on building entrepreneurial communities, the center at Northeastern University provides legal services, and the center at Duquesne University provides support for green and sustainable business. Comparative assessment cannot easily be based on commensurate data for these centers.

For many universities, the university center grant represents risk money. Universities do not have to ask the legislature for it. The EDA allows them to experiment, to learn from experience, and to change approaches if necessary. The grant enables centers to build capacity, such as adding market analysis experts to a traditional engineering shop or funding a completely new center on Apps and Maps. There is no a road map for many of these centers, especially in light of their regional circumstances. It is not always clear what steps will lead to success.

In short, one possible path for the future could be the development of two parallel federal funding opportunities aimed at two different kinds of centers, an approach that acknowledges both the high impact of established programs and the fresh ideas of new programs. The requirements and assessments in each case would be tailored accordingly. It may even be useful to subject each category of center to a different funding cycle – established centers on a five-year cycle and new centers on a shorter term. Further, new centers could graduate into the established category.

Graduation

This distinction raises the question of whether established centers with strong track records should be expected to graduate from the program and pursue a self-sustaining course. Views on this are divided, as is practice across EDA

regions, although a plan for long-term sustainability is part of the latest federal funding announcement.

There are some centers that will be sustainable at some point in the future through local or private support and/or program fees. These centers could graduate out of the program. However, there are other centers that are unlikely to ever become self-supporting, especially those focused on capacity building and services to local and regional governments and economic development organizations. Their clients will never have the means to pay market price for their services. Graduation could be a useful practice if it leads to a special status in which a center in good standing could keep the EDA affiliation and be encouraged to turn to EDA for support from other programs, even as it lost the annual center grant.

Recommendations

A persuasive case can be made that the EDA University Center program is more valuable than ever. At the same time, accountability in higher education is more important than ever. The challenge when evaluating the University Center program lies in the flexible, delegated manner in which the program is implemented. This approach is fertile and responsive, but very difficult to assess. Acknowledging two broad categories of programs can help make clear the differences among centers, and can enable different and more effective assessment practices. Further, more clearly establishing the role of students in the program can support the achievement of program goals, regardless of the category of center.

The recommendations that follow are based on our analysis of university centers, analysis that revealed general patterns of activities and outcomes that may be used to guide future program design. In particular, these recommendations are focused on straightforward ways to achieve variety and accountability at the same time.

1) The Federal Funding Opportunity should be designed in Washington D.C., or implemented by the regions, in such a way as to set separate expectations for established centers and for new centers (expectations spelled out in the contract governing the award).

The discussion in the section above lays out in a straightforward way both the bi-modal differences across types of center, and the different value each kind of center brings to the program. These different benefits are worth supporting in the future, and the way the FFO is

written or implemented could acknowledge the differences through the use of separate grant cycles (3 as opposed to 5 years) and in the different goals, activities and assessments (metrics**)** expected of each type.

It is important to acknowledge that different grant cycles will add to the administrative burden on the regions; however, such an arrangement will better allow different kinds of centers to co-exist and be held accountable.

2) The program should retain its flexibility

Recommendation #1 is designed to take advantage of program flexibility, especially at the regional level. For example, program flexibility allows a regional office to invest in innovative programs and allows programs to change their focus in response to exogenous events. This is the virtue of a 3-year grant cycle; the ability to make a different decision in three years affords offices the ability to take risks. Three years is not enough time to show *outcomes* such as jobs, but it is enough time to show *outputs* that align with economic development.

3) University centers should track and report simple metrics relating to interactions across their networks.

Formal and informal networks are at the heart of capacity building—whether it be for communities, firms, or entrepreneurs. And University centers, even though they engage in very different substantive activities, all share a commitment to deep engagement with their respective networks. This activity should be tracked.

At first, the metrics chosen could be straightforward input/process metrics, reported to regional offices using a standard protocol. For example, any contact with a client or stakeholder could be logged using a basic Customer Relationship Management (CRM) system (some centers already have systems of this kind in place). The goal would be to obtain a longitudinal picture of network participation. Measures capturing the depth and other qualities of network activity (for example, participation by clients as distinct from stakeholders) could be designed and implemented over time.

4) University centers should track and report the use of students who participate in a center program.

Using students and faculty to serve clients should be more than just leveraging low cost labor. Successful economic

development requires the transfer of knowledge between actors. Centers that focus on engaging students in client work and that facilitate hiring of students are more likely to facilitate the transfer of knowledge from faculty (who teach the students) to employer. Though employers may benefit from the center's help, hiring students institutionalizes that knowledge within the workplace, the community, and regional ecosystem.

The metrics chosen in this case should make a qualitative distinction between the use of students as extra hands and the use of students in an apprentice or analytical role. The collection of these metrics could be integrated into metrics measuring overall network activity.

5) As part of the award process, university centers should develop and commit to a set of assessment metrics in consultation with regional offices.

A focus on economic growth tends to cause centers to focus on short-term impacts instead of long-term investments in building capacity. The mutually agreed-upon metrics proposed here would be aligned with economic development capacity building. The most highly rated metric, job creation, is a function of market forces and cannot be credibly attributed only to the work of a center. Furthermore, defining mutually agreed-upon expectations and metrics for each grantee will encourage both accountability and program diversity.

University Centers in Brief

There are currently 58 university centers located in 45 states and Puerto Rico.

- *Service areas:* Center service areas vary from a portion of a state, to an entire state, to areas of multiple states. Most centers serve a large geographic area and a predominantly rural population.
- *Institutional characteristics:* Many centers are located at large public universities with more than 20,000 students, while a similar number of centers are at smaller public universities. Only a few are at private universities or small colleges.
- *Structure within the University:* Most centers are located within a university outreach unit or in an academic unit (e.g., business, school, law school, or engineering/technical department).
- *Leadership/staffing:* Professionals who do not have faculty appointments lead most centers.
- *Cost share:* Most centers (91%) receive at least some cost share match from their universities.

- *Regional autonomy in implementation:* Each of the six EDA regions has complete autonomy in implementing and awarding university center grants. Therefore, the number of centers awarded, funding levels, cost share requirements, and other factors can vary widely from region to region.

University Centers: Building Capacity

University centers seek to achieve both common and center-specific goals that reflect the goals of their region, but feed into the overall goal of economic development – to develop capacities that expand actor's capabilities. University centers do this through direct capacity building activities such as workshops and training and also by being an institution that enables the generation of new ideas, knowledge transfer, and infrastructure.

University Center Activities: Building Capacity
Services for Local, Regional, State Governments and Economic Development Organizations
Planning, analysis, & impact studies
Data analysis & GIS toolkits
Training
Assistance to non-profits
Dissemination & networking
Services for Existing Businesses
Business & product development services
Consulting on business process improvements
Building business networks
Connecting with university resources
Services for Entrepreneurs and Start-ups
Cultivating an entrepreneurial culture
Cultivating entrepreneurship among disadvantaged groups
Accessing public funding
Access to capital
Counseling on starting a business
New product development
Legal services
Researching what works
Providing incubator facilities

The goals of the university centers are related to the capabilities that centers are trying to expand, mainly to expand skills and markets to promote job creation and business expansion as well as develop high skilled talent pools. Specific goals vary among centers as a function of their location and specialization.

As specified in EDA's program requirements, university centers provide *technical assistance*, *applied research*, and

information dissemination to people and organizations to expand individuals' and firms' capabilities. For example, in building entrepreneurial capabilities, centers may provide technical assistance via business counseling, do applied research on local markets, and disseminate information through workshops and newsletters in an effort to cultivate entrepreneurship in their regions.

In building capacity in local/regional governments and community development organizations, centers may provide direct planning assistance, do applied research in analyzing economic data to address the needs of the recipient, and then disseminate the information through publications as part of their assistance to the organization. centers help these organizations so the organization can serve its clients by building the clients' capabilities.

University Center Best Practices

At the heart of this assessment project is the identification and analysis of "best practices." The focus here is on identifying practices thought to be exemplary, the linkages between these practices and outputs/outcomes produced for beneficiaries, and the possible lessons to be learned for other university centers.

> A **best practice** *is a way of working that systematically yields success on a regular basis, and can be parsed, shared, and adopted by others. It is more effective and/or efficient than any other way of working.*

Due to the wide variation in the structure, goals, and activities of the 58 current university centers, their outcomes are intrinsically difficult to measure and compare. Therefore, identification of university center best practices requires a qualitatively rich understanding of the structure of the institutions involved and their circumstances, resources, activities, and outputs. This study uses a high-level logic model for the University Center program to understand how various conditions and inputs shape the effectiveness of activities serving different groups, as well as overall center outcomes and success (see the following Figure).

In applying this logic model to identify best practices, it is important to keep in mind how scale (large/small center), region (rural/urban service area), length of tenure, and other underlying conditions affect how centers operate. A best practice at a large institution or in an urban area may be different from the best way to work at a smaller center or in a rural area with more limited assets and resources.

Logic model: UC program overview

* Education & experience for students is an additional activity/output achieved through the external activities enumerated above
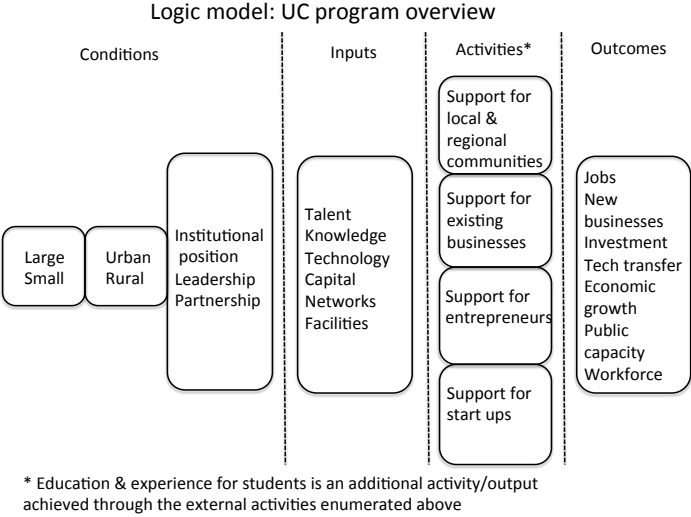
Best Practices at EDA University Centers

Underlying Conditions: Leadership & Institution

✓ *Leverage all one's resources*: Leveraging university and external resources is an important part of success**.**

✓ *Recognized Leader with Deep Experience:* An experienced leader – especially with off-campus experience – who provides strong intellectual/technical leadership and can build relationships makes a huge difference.

✓ *Salient, Client-Facing Institution:* A center that reports to a senior leader in the university and is responsive to external needs is more likely to succeed.

Activities: Support for Local & Regional Communities

✓ *Go to the Client:* The best centers spend time in the field and bring their programs directly to their clients, instead of waiting for clients to knock on their door.

✓ *Build Your Own Networks:* Caring for and nurturing networks – and drawing clients into these networks – is essential for success (especially in rural areas).

Activities: Support for Existing Businesses

✓ *Serving Two Clients through Use of Student Labor:* Well-directed and supervised student contributions can bring cost-effective expertise to meet business needs while also providing valuable work experience for the student.

✓ *Understanding Needs:* Assistance must be carefully adapted to the needs of local businesses and the market opportunities they face.

Activities: Support for Entrepreneurs

✓ *Well-Matched Mentors:* Experienced mentors (who have started a business themselves) can best provide structured counsel and guidance that addresses the real needs and concerns of new entrepreneurs.

✓ *Focused Communities:* Programs focused on certain technologies or sectors, leveraging resources to address specific technical needs, seem to yield significant results.

Best Practices at EDA University Centers

Activities: Support for Start-Ups

- ✓ *Broad Technology Partnerships:* **High-impact centers leverage connections and services from many sources to address start-up needs (gaining "economies of scope").**

- ✓ *Map and Engage Communities:* **Deliberate engagement of the community in fostering start-ups is critical, especially in regions without strong university connections.**

- ✓ *Fill Financial Gaps:* **Almost all start-ups need capital, and strong centers either connect these businesses with sources of finance or mobilize financial resources/networks themselves.**

Introduction and Methods

The stated mission of the Economic Development Administration (EDA) is to "lead the Federal economic development agenda by promoting innovation and competitiveness, preparing American regions for economic growth and success in the worldwide economy." Economic development is defined by Feldman et al. as "the product of long-term investments in the generation of new ideas, knowledge transfer, infrastructure, and it depends on functioning social and economic institutions and on cooperation between the public sector and private enterprise."[1] In pursuit of economic development, EDA invests in institutions of higher education through its University Center Economic Development Program (also referred to as the University Center program) in order to leverage university assets to build regional economic ecosystems.

The EDA recognizes that "universities contain significant economic development assets—such as faculty, staff, students, research and proof of concept centers, laboratories, and high speed broadband networks—to support regional economic growth. Potential university-based support for economic growth includes the commercialization of research, the conversion of intellectual property and ideas into products and services, and the support of regionally-owned strategies that support business expansion and job creation. Additionally, universities facilitate environments conducive to trade and global exports by providing services for businesses to connect to international markets."

The stated goal of the University Center program is to "provid[e] resources to develop, implement, and support regional strategies to promote [1] job creation, [2] the development of high-skilled regional talent pools, [3] and business expansion in a region's innovation cluster."[4] The goal is not explicitly job creation (which is economic growth, not economic development), but the "development of capacities that expand economic actors' capabilities. These actors may be individuals, firms, or industries."[1]

Currently, the EDA funds 58 university centers in 45 states and Puerto Rico. The vast majority of these centers are located in the state public university system, though some are located at private universities and small public colleges.

This Study's Goal

In 2012, EDA partnered with SRI International to review and inventory the various attributes and activities of EDA's existing university centers. These include the following:

- The types of major activities supported by each center;
- The percentage of time spent by the center on each of the major activities identified;
- The types of university assets leveraged to support the implementation of these activities;
- The types of external assets leveraged to support the implementation of these activities;
- The beneficiaries, both public and private, of the activities undertaken by the center; and
- The measures (both short- and long-term) that the center uses to assess the effectiveness of its activities.

In addition, the SRI team was tasked with identifying activities that have the greatest impact on realizing the three economic development goals of the program and analyzing "best practices."

Methods

Given the national imperative to accelerate innovation, growth, and employment, it is timely and important to review the activities of EDA University Centers and to identify and share best practices. However, center activities and practices vary widely due to the individual needs of the regions where centers reside. In addition,

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[4] "FY 2013 University Center Economic Development Program Competition." *Announcement Of Federal Funding Opportunity Number EDAFY2013UC.$7.2* April 18, 2013.

some centers are just starting up, while others have been around for more than 30 years. The resulting variability makes it impossible to implement a one-size-fits-all approach to assessment. Therefore, this evaluation employed a mixed-method approach: quantitative information was gathered where possible, while qualitative methods served as the bedrock of the assessment. This report:

- Assembles and analyzes data on each center's range of activities, time and other resources invested in those activities, and institutional and external funds leveraged;
- Assesses center activities by surveying institutions, clients, stakeholders, and beneficiaries, and by estimating the outcomes of activities that result in innovation, growth, and employment; and
- Uses this information to assess impact and define best practices.

Data Collection

Qualitative and quantitative methods were employed in order to capture the diverse activities engaged in by university centers. Data were collected via each of the following methods and used as the basis for this report.

Printed materials and interviews with regional office staff

Background materials from each Center's grant proposal and annual reports were gathered from the EDA's six regional offices (five offices were visited in person, while the Seattle office shared materials via mail). These documents served as the basis for all interviews. In addition, they are a direct input into many parts of this report, supplementing what was gathered through surveys and interviews.

Staff members were interviewed in person (and over the phone for the Seattle Regional Office). These interviews provided the team with rich background on the implementation of the University Center program as well as historical changes over the years. In addition, it was important to learn how each regional office interprets federal funding announcements as they relate to the needs and characteristics of the particular region. The interviews and printed information were summarized in a structured format and used as the basis for many items in the analysis and this report. They also informed the instruments for the following data collection steps.

Informational web survey of university centers

An information survey was launched in December of 2012 with an email invitation to every university center contact. This overview survey gathered contact information for each center as well as basic information about the center's goals, activities, partner organizations, demand levels, and beneficiaries. In addition, respondents provided information on grant matching sources, other funding sources for the center, and university resources leveraged by the center. The survey also asked about assessment tools and metrics used by the center as well as what respondents considered to be their center's outputs, outcomes, and best practices. The results of the survey were used to inform the creation of detailed data collection instruments used in later steps of the project. The information survey had a 95% response rate: 55 out of the 58 centers responded to the initial survey. The survey instrument and descriptive statistics are included in Appendix B. Closed-ended questions were analyzed using SAS software, while the open-ended responses were coded into major themes. The results also directly informed the University Profiles contained in Appendix A as well as subsequent chapters of this report.

University center interviews

The team conducted a series of interviews with selected staff at each university center to obtain a deep and complete understanding of all the activities engaged in by the centers. Guided by an interview protocol, the team visited eight centers to conduct in-person interviews with center directors and their staff. In addition, team members attended the Chicago Regional Office meeting at Purdue University.

The site visit locations were chosen based on recommendations from regional office staff along with the information collected from the background survey. The centers were chosen in order to create a list that covered the different types of center programs in terms of activities (e.g., tech transfer/commercialization, capacity building, entrepreneur services) as well as type of institution (e.g., land-grant university, private university, small institution). Collectively, these visits enabled team members to gather the rich information that comes from in-person meetings to inform the interview protocol for the remaining centers, which were each interviewed with an 1-2 hour telephone call.

Every center was interviewed except for Marshall University, which has had a recent change in leadership, and the consortium led by the University of Wisconsin at Milwaukee, whose director was ill during this study. Details about the site visit locations and the interview protocols are included in Appendix C. Interview results were summarized into a standard format. The results are used throughout the report to supplement center survey and archival data and as a direct input to the University Center Profiles.

Client and stakeholder survey

Each university center was asked to provide a representative list of clients and stakeholders for SRI to survey. For the majority of centers that were visited in person, at least three clients were interviewed in person using the protocol included in Appendix B. These interviews explored how clients heard about the center; the services clients received from the center; and clients' satisfaction and outcomes. Based on these interviews, the protocol was revised to construct a web-based survey instrument. The instrument was tested with three economic development professionals.

Fifty-one (51) of the university centers provided lists of clients and stakeholders for the survey, for a total of 785 contacts with working email addresses. Responses were received from 485 clients and stakeholders, resulting in a response rate of 62%. (Four clients or stakeholders opted out of the survey). Closed-ended questions were analyzed using SAS software, while the open-ended responses were coded into major themes. The interview protocol and the resulting survey instrument are displayed in Appendices C and D along with the survey results. Spearman correlation analysis was used to explore the connections between center activities received by clients and outcomes reported by clients.

About the Analysis Presented in this Report

The following chapters make up this report:

- **Overview of the EDA University Centers** reviews the history of the University Center program, as well as how it is currently implemented across the regions.
- **University Centers: Goals and Activities** provides a detailed summary of the goals and activities of the centers.
- **University Centers: Resources** presents the resources leveraged by the centers.

- **University Centers: Assessments** details the beneficiaries of the centers and the tools and metrics used by the centers to assess their activities.
- **University Centers: Impacts and Best Practices** identifies practices thought to be exemplary, highlights the linkages between these practices and the outputs and outcomes produced by or for beneficiaries, and articulates possible lessons to be learned by other centers.
- The **Conclusion** section presents our analysis of the program's policy goals.
- **Appendix A** contains a profile for each university center. Each center's profile includes center-specific details of the broad topics presented in previous chapters.
- **Appendix B** contains the survey instrument and summary results for the informational web survey of university centers.
- **Appendix C** contains the details about the site visit locations and the interview protocols for the center interviews.
- **Appendix D** contains the survey instrument and summary results for the client and stakeholder survey.

Web Share Site

For each university center, SRI drafted a brief description of the center's activities and one or more success stories based on our review of the center's proposal and annual report(s) as well as our interviews with staff. These "web blurbs" were posted on a website[5] to enable university center staff to learn what other university centers are doing and to review and comment on each other's success stories.

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[5] Located at http://ucbestpractices.uservoice.com.

Overview of the EDA University Centers

The University Center program has been in existence since 1966. In the first decades of the program, university centers were reviewed, but unless a center obviously failed in its purpose, centers were re-funded from year to year. In 2004, EDA changed the program from an annual funding cycle, where applications from existing university centers were simply reviewed, to a competitive grant program, where institutions of higher learning had to compete for funding for a three-year period, even if they had been centers in the past. Between 2004 and 2012, competitions were based on a three-year funding cycle, with two of the six regions up for competition each year. Starting in 2012, the time between competitions was changed to a five-year cycle, with an annual review of each center done each year by the program manager to secure approval for funding for the next year.

Funding for the University Center program has fluctuated through the years. In 1996, the total annual funding was $9.1 million with an average annual grant of $100,000[6] for each center. However, by 2006, the total funding was $6.8 million with grants ranging from $80,000 to $200,000.[7] In the FY 2013 solicitation for proposals, the total funding for this program is $8.4 million, with an expected annual award size of $100,000 to $200,000 per center. Each year total funding is split among the regions. Table 1 summarizes the funding levels for FY 2008 to FY 2013.

A map of university center locations is provided in Figure 1 and Figure 2 lists the 58 currently funded centers. There are centers located in 45 states plus Puerto Rico. Seven states are home to two centers (see Figure 1). Three states (North Carolina, Pennsylvania, and Texas) host three

Table 1. University Center program funding: 2008-2013.

Fiscal Year	Total Program funding	Region specific appropriation
FY 2013	$8.4M	Austin: $1.1M Denver: $1.4M
FY 2012	$8.4M	Atlanta: $1.3M Seattle: $1.1 M
FY 2011	$7.4M	Chicago: $1.1M Philadelphia: $1.4M
FY 2010	$7.4M	Austin: $1.1M Denver: $1.4M
FY 2009	$7.2M	Atlanta: $1.3M Seattle: $1.1 M
FY 2008	$7.2M	Chicago: $1.1M Philadelphia: $1.4M

centers. The five states that do not currently host a university center are Colorado, New Hampshire, Rhode Island, Utah, and Vermont.

Changes in Federal Funding Announcements

The focus of the federal funding announcements has evolved over the years, though it has been consistently open to "innovative proposals with a variety of economic development foci." In the 1990s (the earliest announcement available on the Federal Register website), the funding announcements were brief and provided only limited guidance. As the years progressed, the funding announcement became more detailed, especially with the shift to a competitive award process in 2004. Since then, announcements have gradually added different focus areas, ranging from entrepreneurship to environmentally sustainable development. These changes in the funding announcement are important to note because this guidance directly affects the activities that prospective

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[6] "Economic Development Assistance Programs—Availability of Funds," *Federal Register*, Vol. 61 No. 246 (20 December 1996).
[7] "Solicitation of Proposals for the University Center Economic Development Program," *Federal Register*, 71 FR 1409 (9 January 2006).
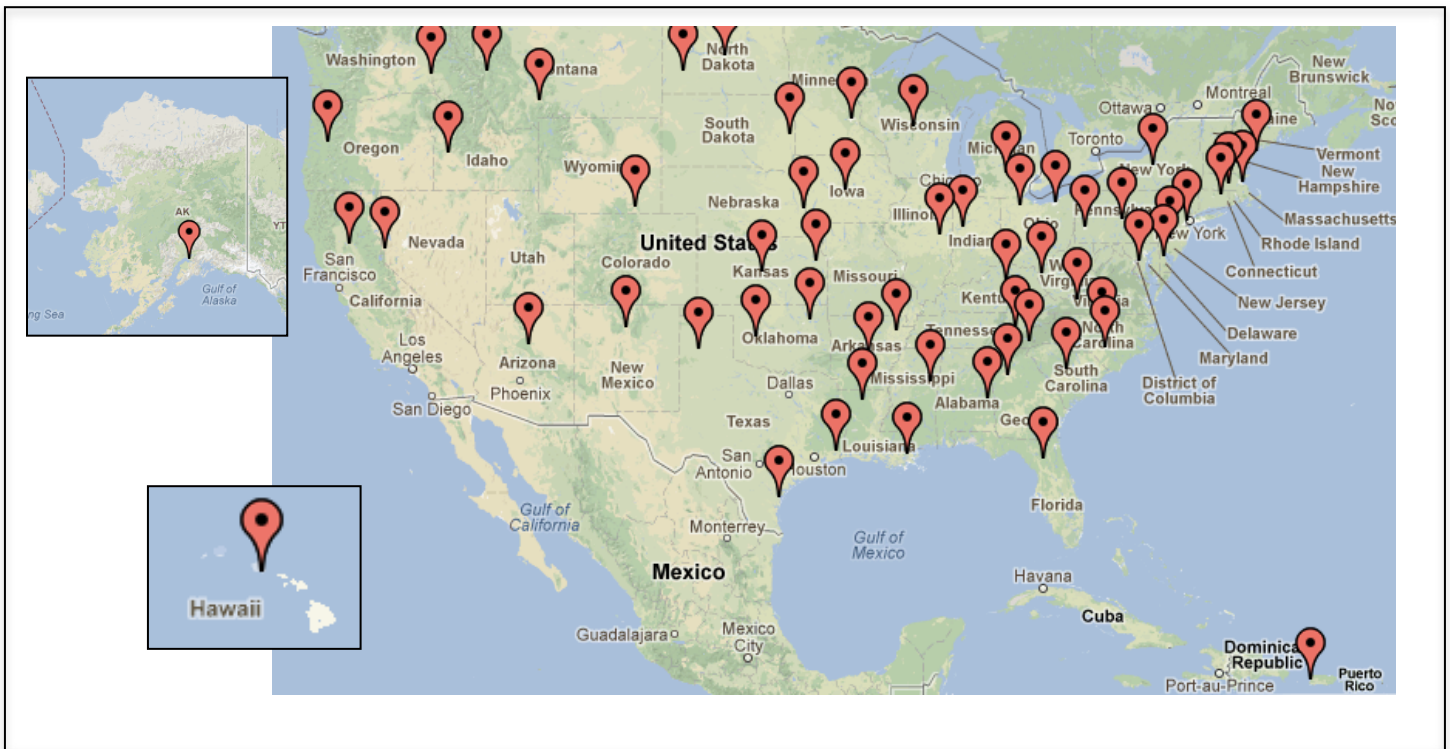
Figure 1. Geographical locations of university centers.

and renewing university centers propose in their scopes of work.

In 1994, the announcement suggested that "most successful proposals funded in the recent past have emphasized providing technical assistance to public sector and nonprofit organizations related to economic development planning and projects or helping private sector firms use technology to solve manufacturing or processing problems."[8] In 2004, the new competitive announcement expanded the evaluation criteria to include "advanc[ing] productivity, innovation and entrepreneurship. An investment in a proposed University Center will embrace the principles of entrepreneurship, enhance regional industry clusters, and leverage and link technology innovators (university research) with the private sector to create the conditions for greater productivity, innovation and higher-skill, higher-wage job creation."[9]

Recent University Center program funding announcements have expanded the stated focus of the program beyond the "traditional" economic development focus of the 1990s and the productivity, innovation, and entrepreneurship focus of the early-to-mid-2000s. Recent announcements have asked applicants to show their alignment with current EDA Investment Priorities, which in 2013 were:

- Collaborative Regional Innovation,
- Public/Private Partnerships,
- National Strategic Priorities,
- Global Competitiveness,
- Environmentally-Sustainable Development, and
- Economically Distressed and Underserved Communities.

In addition, the FY 2013 announcement added a required application section detailing how the proposed project would be sustainable beyond the project performance period.

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[8] "University Center Technical Assistance Program; Availability of Funds," *Federal Register*, FR Doc No: 94-16939 (13 July 1994).
[9] "University Center (CENTER) Program," *Federal Register,* 69 FR 19973 (15 April 2004).

Atlanta Region
Auburn University, Auburn, AL
Fayetteville State University, Fayetteville, NC
Georgia Tech, Atlanta, GA
Mississippi State University, Starkville, MS
University of Florida, Gainesville, FL
University of Kentucky, Lexington, KY
University of North Carolina, Chapel Hill, NC
University of South Carolina, Columbia, SC
University of Tennessee, Knoxville, TN
Western Carolina University, Cullowhee, NC

Seattle Region
Boise State University, Boise, ID
California State University, Chico, CA and California State University, Fresno, CA
Northern Arizona University, Flagstaff, AZ
University of Alaska, Anchorage, Anchorage, AK
University of Hawaii, Honolulu, HI
University of Nevada, Reno, NV
University of Oregon, Eugene, OR
Washington State University, Pullman, WA

Denver Region
Creighton University School of Law, Omaha, NE
Iowa State University of Science and Technology, Ames, IA
Kansas State University, Manhattan, KS
Montana State University, Bozeman, MT and University of Montana, Missoula, MT
South Dakota State University, Brookings, SD
University of Kansas, Lawrence, KS
University of Missouri, Columbia, MO
University of North Dakota, Grand Forks, ND, and North Dakota State University Research and Technology Park, Fargo, ND
University of Wyoming, Laramie, WY

Austin Region
Arkansas State University, Jonesboro, AR
Lamar University, Beaumont, TX
Louisiana Tech University, Ruston, LA
Northern New Mexico College, Espanola, NM
Rogers State University, Claremore, OK
Southwestern Oklahoma State University, Weatherford, OK
Texas A&M University - Corpus Christi, Corpus Christi, TX
University of Arkansas at Little Rock, Little Rock, AR
University of New Orleans, New Orleans, LA
West Texas A&M University, Canyon, TX

Chicago Region
Bowling Green St University, Bowling Green, OH
Cleveland State University, Cleveland, OH
Michigan State University, East Lansing, MI
Purdue University, West Lafayette, IN
University of Illinois, Champaign, IL
University of Minnesota, Minneapolis, MN
University of Wisconsin, Milwaukee, WI

Philadelphia Region
Becker College, Worcester, MA
Delaware State University, Dover, DE
Duquesne University, Pittsburgh, PA
Marshall University, Huntington, WV
Northeastern University, Boston, MA
Rutgers, The State University of New Jersey, Newark, NJ
Syracuse University/ CenterState Corporation for Economic Opportunity, Syracuse, NY
Temple University, Philadelphia, PA and Clark University, Worcester, MA
The Pennsylvania State University, University Park, PA
University of Connecticut, Storrs, CT
University Of Maryland, College Park, College Park, MD and Morgan State University, Baltimore, MD
University of Puerto Rico, Mayaguez, PR
University of Southern Maine, Portland, ME
Virginia Polytechnic Institute and State University, Blacksburg, VA

Figure 2. University locations of university centers.

Implementation Across Regions

The EDA headquarters publishes federal funding announcements for University Center program competitions after receiving input from the regions. However, each EDA region implements its own competitions. The regions have complete autonomy in their interpretation and application of the funding announcement criteria. The regional office staff communicates with potential applicants and organizes the internal panels that review the applications on technical and merit grounds. These panels make funding recommendations, and then the regional director has final say on the awards granted. After the awards are made, the regional program managers monitor the grantees for technical and financial performance throughout the grant period.

Years of University Center program support

Starting in 2004, a significant number of centers were dropped from the program while new centers were added. Figure 3 displays the percentage of university centers and their age. About half of the centers are new since the competition started in 2004. The break down by region is displayed in Table 2 and shows that the distribution of ages varies among regions. A full third of the centers are new in the past 3 years. It is important to note that many centers with a long history of funding developed totally new programs in recent grant cycles, with new activities and focuses due to both changes in the program's federal funding announcement and the U.S. economy in general.
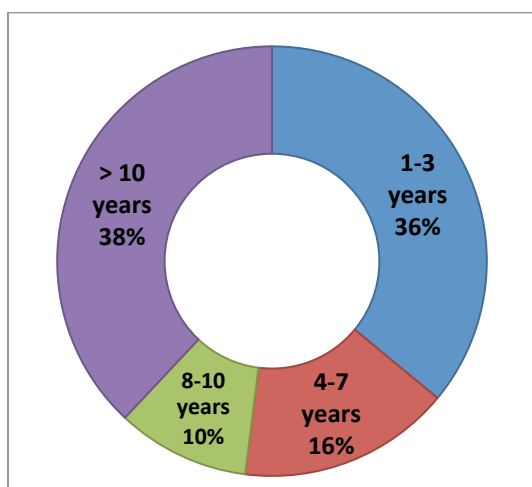
Figure 3. Age of university centers.

Table 2. Age of university centers by region.

Region	1-3 years	4-7 years	8-10 years	> 10 years
Atlanta	10%	33%		23%
Austin	19%		50%	14%
Chicago	19%	11%	17%	5%
Denver	10%	44%	17%	9%
Philadelphia	38%		17%	23%
Seattle	5%	11%		27%

Geographic considerations

Geography and service area are stated evaluation criteria, reflecting EDA's goal of trying to maximize service areas covered by awarded centers while minimizing overlap with other centers. The distance and distribution of university center locations reflect the size and population density of the region. Regions with fewer states or with dense, heterogeneous states tend to have more than one center in a state. For example, North Carolina has three centers, one in the far west that serves rural Appalachia; one in the Fayetteville region that serves rural, small-scale agriculture; and one in Chapel Hill that serves distressed, heavily minority counties in eastern North Carolina. In the west there is usually, but not always, one center per state, and in the Seattle Region, the staff reported that they always try to have at least one center award per state.

Funding levels

Regional directors and their staffs decide how many university centers to fund and the funding levels. Therefore, the average size of awards and the number of centers funded vary from region to region. For example, in the FY 2011 competition, the Philadelphia Region chose to make smaller grants to a larger number of universities than the Chicago Region did in the same competition. Though the regions generally divide up their available funding evenly among their awardees, some awards, particularly those that involve multiple institutions, receive higher funding levels.

The average EDA award to a center is $132,435 per year, with the average award for single campus being a bit lower at $128,191 and formal multiple campus partnerships being funded at an average of $146,619. The lowest annual award is $96,766 and the highest is $240,000. Table 3 displays the average award per region and the number of formal multi-institution awards.

Regions with more formal multi-institutional awards have a higher average annual award.

Region	Average annual award	Number of awards	Number of multi-institution awards
Atlanta	$128,592	10	0
Austin	$ 112.850	10	0
Chicago	$159,714	7	2
Denver	$153,536	9	2
Philadelphia	$99,769	14	1
Seattle	$164,225	8	2
All	$132,462	58	7

Cost share

Each university center is required to match some portion of the federal award, known as a cost share. The cost share ensures that there is tangible local support for the program being proposed. It also provides additional leverage for the EDA funding. When university centers are able to raise their cost share, it is a signal that the university center is an active and valued agent in its ecosystem.

The federal funding announcements provide guidance on the expected cost-sharing levels, though specific cost-sharing amounts are contained in the proposals and are approved during the award process. The 1995 funding announcement required a 25% minimum match, while the 2013 announcement stated: "EDA award may not exceed 50 percent of the total cost of the project. Projects may receive an additional amount that may not exceed up to 30 percent of the total project cost, based on the relative needs of the Region in which the project will be located, as determined by EDA." For example, a center's grant budget could consist of 50% EDA funds and 50% center matching funds (in-kind or cash) if the center has a 50% cost share. A second example is an EDA share of 80% of the grant budget and a center share of 20% provided in cash or in-kind funds. In this case, the overall grant budget is less than in the 50/50 case because the center is contributing less to the grant budget, while the EDA is contributing the same amount in both cases. A third example is when the center contributes much more than 50% to the grant budget. In this case, the EDA grant is at the same level as it would be if the center only contributed 50% of the grant budget; however, the total budget is higher than in the first two cases. The smallest budget is $137,700 and the largest budget is $592,739.

Because individual regions can approve university cost shares below the 50% guideline, the percentage of the cost share varies from region to region and from center to center. We found a tendency for the match to vary based on the type of work the center is doing. For centers that do mostly capacity building work in rural states, the cost share is lower than 50%, while centers involved in technology transfer or services to entrepreneurs tend to have a higher cost share. For example, Becker College, which focuses on creating an entrepreneurial ecosystem in the digital gaming industry in Massachusetts, has a 78.5% cost share (i.e., they contribute more than 3.5 times the EDA grant to their center budget). Table 4 displays the average cost share for each region and for the program as a whole. The average university center cost share is 52%, very close to the recommended 50%. Table 4 also displays the amount leveraged by centers.

Figure 4 displays the different sources of match funding that university centers use. Most centers (91%) reported receiving at least some of their match funding from their universities. State funds are the next most frequently reported source, followed by nonprofit contributions and program fees. Far fewer centers reported local government and other federal programs as sources of match funding. Six of the centers that chose "other" wrote in that they receive funds from private sources.

Region	Average cost share	Average amount leveraged
Atlanta	51%	$133,410
Austin	48%	$135,404
Chicago	50%	$169,291
Denver	51%	$152,989
Philadelphia	57%	$151,703
Seattle	49%	$158,305
All	52%	$150,124
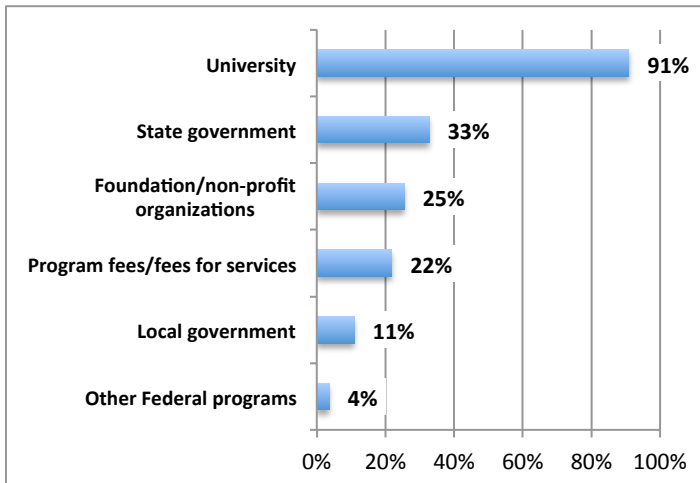
Figure 4. Percentage of centers reporting various sources of matching funds.

Cost share can be provided in the form of cash or in-kind contribution. The type of cost share varies from center to center. Since regions can take into account the type of match when evaluating a proposal, some regions tend to weight their evaluation criteria toward cash match, while others do not have a preference. Though there may appear to be a difference between in-kind and cash cost share, in reality, there is a great deal of overlap. The in-kind contribution for many centers consists mainly of salary and fringe benefits paid by the university, while centers that have a cash match often use their cash for salaries and fringe benefits. About 42% of centers use cash as their match. About 29% of centers use in-kind contributions as their match, and about 29% of centers use a mix of cash and in-kind contributions for their match.

The value of cost share contributions by universities is hard to judge for several reasons. Some centers use the difference in the EDA capped indirect rate (capped at 20% in the FY 2013 announcement) and the university's negotiated federal indirect rate (usually between 40% and 50%) as an in-kind contribution for rent and utilities to the center's match. In contrast, some centers' universities provide overhead such as rent, etc., outside of the cost share, which would lead to their cost share being understated. Program fees are rarely used as match mainly because, as some center staff told us, it is hard to predict program fees.

The flexibility provided to the Regional Office in relation to cost sharing allows the staff to respond to changing

economic conditions and take risks on innovative ideas that address those changes. However, cost share is a signal of local and regional support.

Institutional Characteristics of FY 2012 Centers

Service area

One of the goals of the University Center program is to provide services to distressed areas, in both rural and urban areas of the country. University center service areas range from a portion of a state to an entire state to areas of multiple states. A small number of centers serve areas beyond their own state – for example, the University of Washington's service area includes the entire State of Washington along with extreme western Idaho and northern Oregon. The University of Hawaii Center is unique because it serves not only the State of Hawaii, but also all of the American Affiliated Pacific Islands (American Samoa, Guam, etc.). Because of these large service areas, many centers that are located in small cities actually serve very rural portions of the country. In our analysis of university center locations, we determined that the vast majority of centers (41) tended to serve a rural population, while 17 university centers tended to serve a more urban population.

University Center structure

Universities are important institutions in their larger economic ecosystem that operate with specific rules and procedures that lower transaction costs and inspire confidence by certifying the range of potential outcomes. The institution size affects the university center's role in their ecosystem. University centers at large public institutions tended to have a larger and more rural service area and focus, while those at smaller institutions tended to have more focused goals. Twenty-eight centers are located at large public institutions of higher learning with more than 20,000 students. Twenty-two of these are land-grant institutions. Twenty-two centers are located at smaller public universities with student bodies between 2,000-20,000. Four centers are located at private schools, and two centers are located at small colleges. The vast majority of centers are associated with only one campus (though always with a wider mission that often has other higher educational institutions as partners). Seven centers are formal partnerships between two or more universities in the same state, while three centers are at the level of a statewide university. Though many centers are formally associated with only one campus, all centers work with

other higher education institutions in their system or service area.

University centers are typically located either in an outreach unit or an academic unit of their institution or system. Of the 29 centers located in academic units, 19 centers are in business schools, six are in engineering/technical departments, two centers are in law schools, one center is located in an architecture department, and one center is located in a department of urban affairs. When a center is located in an academic unit, the director of the center usually reports to either the department head or to the dean of the college. When a center is located in an outreach unit, the center director usually reports to a vice president for outreach or to a vice provost.

Many university centers are led by professionals who do not have faculty appointments, though some teach a class. However, some centers have directors who hold faculty appointments. Within this group, a few centers have principal investigators with faculty appointments, but the directors responsible for running the day-to-day activities occupy professional positions without teaching responsibilities. For example, the principal investigator of Kansas State University's Advanced Manufacturing Institute is a faculty member, which allows him to leverage many university resources; however, the director of the center is a professional non-faculty staff member who runs the day-to-day activities of the center.

University Centers: Building Capacity

University center goals

University centers act as a link between the institutions of the university and the local and regional ecosystem to achieve the program's overall goal of economic development – to develop formal and informal capacities that expand an actor's abilities. University centers do this through direct capacity building activities such as workshops and training and also by being an institution that enables the generation of new ideas, knowledge transfer, and infrastructure.

The goals of the university centers are related to the capabilities that centers are trying to expand mainly to expand skills and markets to promote job creation and business expansion as well as develop high skilled talent pools (Table 5). Specific goals varied among centers as a function of their location and specialization.

Table 5. Goals reported by university centers in informational web survey. Percent indicates number of university centers that marked the indicated goal as one of their goals. Respondents could choose as many as applied.

What is the goal of your center?	
Promote job creation	84%
Create and nurture regional economic ecosystems	84%
Promote business expansion in your regional innovation clusters	80%
Promote the development of high-skilled regional talent pools	51%

Capacity-building activities

As specified in EDA's program requirements, university centers provide technical assistance, applied research, and information dissemination to a wide variety of people and organizations in order to expand individuals' and firms' capabilities. For example, in building entrepreneurial capabilities, centers may provide technical assistance via business counseling, do applied research on local markets, and disseminate information through workshops and newsletters in an effort to cultivate entrepreneurship in their region. In building capacities in local/regional governments and community development organizations, centers may provide direct planning assistance, do applied research in analyzing economic data to address the needs of the recipient, and then disseminate the information through publications as part of their assistance to the organization. Centers help these organizations build capacity so the organization can serve their clients in ways that build the clients' capabilities.

University centers performed specific capacity-building activities that tie directly to the specific capability building goals. These activities ranged from increasing business productivity through efficiency training to educating local entrepreneurs on sources of capital (broadly illustrated in

Table 6). The bulk of centers' activities fell along a continuum ranging from some centers focused mainly on serving local economic development organizations to some centers focused solely on entrepreneur support through activities such as incubator services. Figure 6 displays a rough representation of the continuum of the clients centers serve. Activities tended to cluster around clients, but many activities serve multiple types of clients.
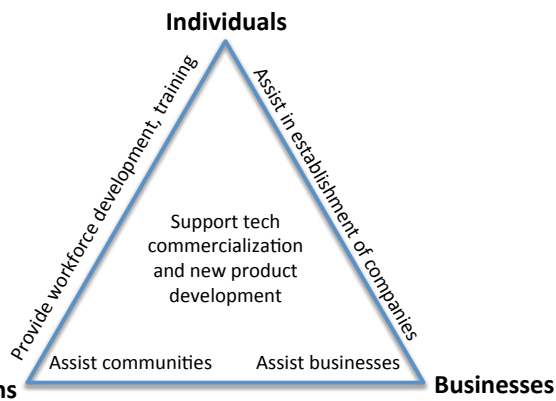
Figure 6. Continuum of clients and related activities.

The activities converge into a few general classifications. The vast majority of centers (82%) indicated on the informational survey that they assist entrepreneurs in the establishment of innovation-based companies and support or accelerate technology commercialization and new product development. In addition, a large portion of centers (75%) reported that they assist communities in identifying and defining their workforce talent pool, entrepreneurial capacity, and growth strategies. The same percentage of centers indicated that they assist existing businesses in increasing productivity and quality.

Half of the centers entered in at least one other capacity-building activity, though many of the answers are actually more granular examples that fit within the larger categories. These activities included:

- Sixteen (16) of the other activities were related to building capacity in local, regional, and state governments and economic development organizations and included "improving efficiency and processes in local government administration functions" and "Develop and deliver accredited economic development courses to practitioners and public officials."
- Nine (9) of the other activities were related to building entrepreneurship capacity through

Center activities grouped by major clients

Local, regional, state government and economic development organizations
- Planning, analysis, & impact studies
- Data analysis & GIS toolkits
- Information dissemination & networking
- Training
- Assistance to non-profits

Existing businesses
- Business & product development services
- Consulting on business process improvements
- Building business networks
- Connecting with university resources

Entrepreneurs
- Cultivating an entrepreneurial culture
- Cultivating entrepreneurship among disadvantaged groups
- SBIR/STTR assistance
- Access to capital
- Counseling on starting a business
- New product development
- Legal services
- Researching what works
- Providing incubator facilities
- Services to bridge the "valley of death"

Figure 5. Classification of activities.

networks, workshops, and trainings and included "building a resource network of mentors, services providers, and support organizations" and "operate and maintain an entrepreneurial web-based network platform."

Table 6. Percentage of centers indicating they engaged in selected activities.

What are the activities of your center?	
Assist entrepreneurs in the establishment of innovation-based companies	82%
Support or accelerate technology commercialization and new product development	80%
Assist communities in identifying and defining their workforce talent pool, entrepreneurial capacity, and growth strategies	75%
Assist existing businesses in increasing productivity and quality	75%
Provide workforce development assistance, professional and leadership development, and core business training	58%
Other	51%

University center activities correlate with certain goals. University centers reporting that they support or accelerate technology commercialization and new product development also tended to indicate that one of their goals is to promote job creation. University centers reporting that they provide workforce development assistance, professional and leadership development, and core business training also tended to indicate that one of their goals is to create and nurture regional economic ecosystems.

SRI's survey of university center clients explored the connections between type of client and services received on a more granular level. Early stage businesses tended to receive assistance related to early stage entrepreneurial capacity building through training and assistance with business plan writing, locating capital, pitch coaching, incubator space, entrepreneurship mentoring, direct legal support or legal education, and assistance in specific new product market studies, new product feasibility studies, and prototype development. Clients affiliated with individual firms and existing businesses tended to receive assistance only in new product development, while clients affiliated with regional organizations and Indian tribes tended to receive training in economic development practices, grant writing, and other capacity building activities.

Developing capacity in government and community organizations

Many public officials and economic developers do not have capacity in time, skill sets, or access to data to perform the economic analysis and strategic planning needed to understand and shape the economic development of their region. About three-fourths of university centers provide technical assistance to local governments, regional governments, economic development districts, and other economic development organizations. These university centers tend to serve more rural parts of the country, as capacity to do analysis and planning can be especially thin in rural regions. The ways in which the university centers build capacity vary widely.

Provide planning, data analysis, & impact studies to empower local economic developers
Because many university centers are led and staffed by experts in economic development, they often serve as the

de facto economic development planning resource for local and regional governments and economic development organizations across their service area. Many centers build capacity for strategic planning through the support of the preparation of comprehensive economic development strategies for local and regional economic planners. These plans have to be filed by each planning and economic development district to make their member governments eligible for infrastructure and capital improvement funding from EDA.

University centers also help build capacity in strategic planning for other local and regional communities. Many small towns and cities in rural America is the lack of capacity for an effective planning exercise. University centers build these towns' and cities' capabilities in planning by bringing them together and guiding them through a strategic planning process. For example, Arkansas State University's Delta Center for Economic Development assists small cities through county-led economic development strategic planning. The counties receive on-site training, technical assistance, and coaching in organizational development, collaboration, and project management from the Center. The goal is to support the development of a plan to foster a true regional economy by aggregating small communities and building capacity through local and regional leaders.

In addition to general strategic planning, university centers also build capabilities in local and regional governments and economic development organizations by supporting the research and analysis needed to support specific economic development projects in their area. University centers help prepare market analyses, surveys, feasibility studies, business plans, and impact studies for local initiatives that are viewed as vital for economic development, such as new commercial developments or infrastructure and/or transportation projects. The analytical and/or research support provided by a university center may be a critical step for the community to secure outside funding or attract investors for a project. For example, the University of Alaska University Center builds capacity in communities and tribal organizations by assisting at least 10 projects each year in all regions of the state focused on economic development. Sample projects include preparing a business and operations plan for a South Denali campground facility, visitor center, and transportation hub (with the Alaska Department of Natural Resources); feasibility analysis and business plan

BGSU/OU Rural Universities Consortium University Center: Online Geo-Spatial Toolbox
An online GIS-based workforce toolkit developed by the Rural Universities Consortium University Center (hosted by Bowling Green State University and Ohio University) will provide the kind of up-to-date data required by businesses and economic developers to make informed decisions about investment, growth, and training opportunities and needs.

There is a fundamental need in NW and SE Ohio to support data-driven decision-making by regional economic and workforce development professionals. To address this need, the Center is building a suite of online geo-spatial tools that provide key workforce data for its service region and for the state as a whole. The model allows for quick access to laborshed information, as well as occupational skillsheds for any location in the Center's service area. Tools available to users include: WARN notices (layoff events of 60+ jobs) by county, location, and time; plots of local commuting patterns; workforce data at the 2-digit occupational level; and D&B company data. The Center is drawing upon business directories, GIS, and Google Maps to compile the database, which will be continually updated to provide users with the most current information. The toolbox is currently at the prototype stage, and the goal is to have the entire suite of tools ready by 2016.

The value of the toolbox is to provide regional stakeholders with accurate, useful information about workers and their skill sets that they could not obtain from any other source. This kind of information can be used to help economic developers attract new investments to their area; help start-up companies make data-driven decisions on where to locate their business; and help existing/expanding companies to identify workforce availability. Additionally, workforce development professionals and educational institutions can use the toolbox to align training programs/curricula with identified gaps and opportunities.

development for a local food production and marketing cooperative in a southeastern Alaska community; and business plan and organizational strategy preparation for a public transportation service in a south/central Alaska community. Communities benefit from the Center's assistance with improved capabilities to develop, implement, and maintain capital projects; a reduction in inappropriate investments; and improved financial sustainability of projects.

Building capacity through data analysis & GIS toolkits
Economic development planning hinges on data – for example, data on population, workforce, industrial clusters consumption patterns, residential profiles, etc. Much, if not all, of these data are not available at the local level and are difficult for small communities and organizations to analyze. Many university centers provide data analysis tools to enable community/regional economic development planning efforts (see box below on BGSU/OU). Many university centers have access to geographic information systems (GIS), which provide a geographic representation of data of interest. These maps enable economic developers to present economic data in a geographic space to support their activities. For example, the California State University Center assists Enterprise Zones by combining its economic profile data with GIS mapping capabilities. These data enable the

Enterprise Zones[10] to update their target employment areas (TEAs) by using the required data to determine census tract eligibility, map TEAs, redraw TEAs as needed, and update TEAs for yearly renewal. The Purdue Center for Regional Development's Local Decision Maker (LDM) tool is another example that provides detailed GIS-based datasets for the entire State of Indiana with 140 layers of information, and it supports comprehensive planning.

Building capacity through training
Local officials in many parts of the country do not have a background in economic development principles and yet, upon election, they find themselves in charge of formulating public policies for their communities with the goal of increasing job growth or expediting recovery after a disaster. To remedy this situation, some university centers provide training to local officials to develop capabilities in basic economic development principles, business retention and expansion, and creating an entrepreneurial culture. For example, the University of Tennessee EDA University Center (UTUC) partnered with UT Extension and the Tennessee Department of Economic and Community Development to build capacities in rural communities through training in strategic planning and supporting an entrepreneurial culture. Through programs

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[8]*Enterprise Zones* are areas in which special policies to encourage economic growth and development are implemented.

> **University of Arkansas Institute for Economic Advancement: Disaster Planning and Recovery**
> Natural disasters are often the final straw forcing local business to close. Businesses still operating suffer damage, disruption to supply lines, loss of sales, and the interruption of operations. When businesses and industries fail or falter, the communities they serve can be severely disadvantaged.
>
> Working closely with Arkansas's eight Planning and Economic Development Districts (PDDs/EDDs) and the Arkansas Economic Development Commission (AEDC), the Institute for Economic Advancement (IEA) (University of Arkansas at Little Rock's university center) facilitated a two phased "bottoms up" planning process that allowed local officials, business people, first responders, regional planners, and others to share their experiences and ideas on improving disaster preparation and recovery. During the first phase of meetings or "understanding sessions," the chronology of events in a natural disaster and the limitations for disaster planning and recovery were identified. At the second wave of sessions participants developed a wide range of actions and strategies at the local, state, regional and federal level to improve planning and recovery for local business and industry. As participants proceeded through these phases, a reference plan evolved for the state.
>
> In an attempt to keep disaster preparedness on the forefront of planning, IEA has engaged staff from the Texas Engineering Extension Service to provide additional disaster preparedness training for local elected officials and leaders in the eight regions. The trainers from Texas traveled to the eight regional offices in Arkansas to provide these training sessions. Each region was responsible for getting a minimum of 15 participants involved.

facilitated by UTUC, the program provided training to community members, local officials, economic development professionals, and local entrepreneurs on the economic importance of entrepreneurship, finding and interpreting data, asset mapping, strategic planning, creating community buy-in, and best practices in entrepreneurial development.

University centers also provide training to local and regional governments on lean government, which promotes efficiency in government. For example, Auburn University's Auburn Technical Assistance Center helps local counties implement the "Lean Government Systems" program. Local government personnel are introduced to management philosophies and business practices that present tools for greater efficiency (such as the identification and elimination of waste) while, at the same time, improving services and customer satisfaction.

Other centers train officials in methods for strategic planning. Purdue University's Center for Regional Development has developed its own unique training program for civic leaders, "Strategic Doing," which cultivates a collaborative and innovative approach to strategic planning. Purdue is providing training to regional leaders throughout Indiana and across the country (via in-person training and webinars), and some other EDA university centers (such as University of Alaska) are collaborating with Purdue to incorporate the training into their own programs. Some university centers provide

training that focuses on disaster planning (see box below on University of Arkansas).

University center training of all types is mainly given in person; however, an increasing amount is being made available online to increase the reach of these capacity building projects.

Building capacity for nonprofits
In addition to governments and economic development organizations, some university centers provide assistance to nonprofits that seek to build regional capabilities in both individuals and firms. In addition, nonprofits also serve as institutions that enable cooperation between the public sector and private enterprise. University centers provide training and support to nonprofits in strategic planning, education in institutional capacity development, and impact analysis. For example, the University of New Orleans's Center for Economic Development pairs teams of students with local nonprofits to help write business plans. Over the past three years, this initiative has resulted in the preparation of nine nonprofit business plans and the preparation of supporting documents needed to incorporate, organize, and secure tax exempt status. Most clients are small- to medium-sized nonprofit organizations focused on neighborhood revitalization, small businesses, entrepreneurship, and local economic development.

Another example is Northern New Mexico College's NNMC University Center, which assists the Sostenga Center for

Sustainable Food, Agriculture, & Environment – a nonprofit, student- and community-based program that preserves regional agricultural/cultural heritage and promotes value-added food production. With the Center's support, the Sostenga staff has developed and implemented business and marketing plans to launch the Sostenga Center, building capabilities in areas such as regional farming and cooperative marketing, and building collaborations with community members to support knowledge transfer.

Building capacity for existing businesses

Building capacity in product and business development

Some university centers directly support businesses through new product development assistance, such as prototyping, or have a formal connection to new product development services. Many centers also help businesses expand their capacities through market feasibility studies along with their core product development services. For example, Kansas State University's Advanced Manufacturing Institute provides both market feasibility analysis and direct assistance in designing and fabricating new products.

Other centers focus on helping businesses with marketing, marketing plans, and feasibility studies. Some centers focus on marketing to increase export business. For example, in 2011, Rekluse Motor Sports was selected for Idaho's 2011 Export Excellence Program to receive help in assessing and entering global markets from Boise State University, University of Idaho, and Idaho State University's TechHelp Center. A Boise State international business student and a center partner worked with the company to develop an export action plan for the company's automatic clutch for dirt bikes (which had been developed with help from TechHelp in 2002).

University centers also strive to build capabilities through the dissemination of informational guides and materials to existing businesses. For example, the Duquesne University Center for Green Industries and Sustainable Business Growth has developed over ten manuals on various topics relevant to sustainability and growth for small businesses. Some examples include: Operating a Sustainable Business, How to Fund Green Projects, Green Restaurant Guide,

Marketing Your Green Products and Services, and Export Markets for Green Industries.

Consulting on business process improvements

More than half of the university centers assist existing businesses in a wide variety of business process improvements. Many centers work with businesses on product or manufacturing process improvements. Process improvements enable businesses to enter new markets by receiving certifications to be a part of a larger supply chain. Process improvement services also help businesses become leaner and more able to increase their manufacturing capacities. For example, Montana State University and University of Montana's University Technical Assistance Program/Montana Manufacturing Extension Center's staff and student teams assisted Elichai™ Fine Jewelry by mapping custom and wholesale order flow and production processes in the context of lean manufacturing and value stream mapping. The assistance resulted in work being easier and quicker than before.

Other university centers are performing applied research to help businesses improve their processes. For example, Iowa State University of Science and Technology's Center for Industrial Research & Service is working on supply chain sustainability by creating a tool to effectively help small- and medium-sized enterprises understand sustainability opportunities, along with providing technical assistance on improving sustainability. Other university centers help businesses prepare for or recover after a disaster. For example, Auburn University's Auburn Technical Assistance Center provides technical assistance to businesses affected by disasters by participating in Economic Recovery Task Force efforts to identify financing sources and rebuilding priorities.

Building capacity for entrepreneurs

Most of the country does not have a mature and vibrant entrepreneurship culture such as that found in places like Silicon Valley, Boston, and Austin, Texas. However, all areas of the country have people who are interested in entrepreneurship, perhaps through the commercialization of scientific or technological ideas, but more simply through bringing an innovative idea to market by starting a new business. The majority of university centers provide services to entrepreneurs, whom we define for this classification as individuals who are trying to start or have started a business and who are not in an incubator. These

Kansas State University: Connections Among Businesses

The University Center at Kansas State University, hosted by the Advanced Manufacturing Institute (AMI), established the Kansas Opportunity Innovation Network (KOIN). Its mission is to enhance the global competitiveness of rural businesses by providing access to innovative ideas, new markets, expertise, capital, and collaborations, independent of close geographical proximity. KOIN has developed new regional innovation tools and uses this knowledge to support local and regional businesses and to identify and exploit business growth opportunities through in-depth market analyses that complement the large-scale new product development services for which AMI is widely known. These complementary services allow AMI/KOIN to enhance the global competitiveness of rural/distressed companies and regions in Kansas.

In support of its mission, KOIN's strategy includes profiling innovation competencies, assets, capabilities, and needs of regions, communities, and local companies to scout new opportunities, especially global opportunities, outside existing markets where clients may have little or no connections. KOIN also maps networks of technology providers, expertise, capital, and potential business partners that possess complementary competencies that can enable Center clients to respond in a competitive manner to readily connect and combine opportunities, companies, communities, and regions in innovative ways. KOIN's work has included a quantitative key industry analysis and a quantitative regional innovation assessment for Kansas counties. One study mapped where workers reside versus where they are employed to illustrate regional inter-connectedness. Another study produced unique data visualization of industry concentration including location, number of firms, employment, and sector. KOIN supports community and regional strategic planning, and conducts feasibility analysis and business plans for proposed accelerators and redevelopment sites.

services range from broad-based activities that encourage entrepreneurship regionally to individual assistance for entrepreneurs on specific needs (such as business plan writing or accessing finance). The goal of these programs is to prepare an individual to succeed. Many of the activities described below strive to polish entrepreneurs' ideas and presentations to enable them to get a product to market.

Counseling on starting a technology-based business[11]
Technology transfer from universities is an enduring challenge. There are specific difficulties associated with pricing intellectual property correctly, sharing control, and assigning benefits. These are the domains of university tech transfer offices (which often work closely with university centers). Then there are wider sets of issues faced by innovators (some of whom are faculty members) who tend to know a great deal about technology but very little about starting a business.

In addition, entrepreneurs and inventors often lack the business acumen needed to convert their good ideas into successful business ventures. Many university centers provide assistance to entrepreneurs as a means of generating successful, new job-creating businesses in their region. Centers strive to build capacity in their local

entrepreneurs and inventors though support in business plan writing, market feasibility studies, competitive analysis, management consulting, and other services. Most of the university centers that provide these services do so through hands-on, one-on-one, individualized technical assistance. For example, Michigan State's University Center is conducting a program to reach out to garage-basement inventors, many of whom have no desire to be connected to a university, so one of the first tasks has been to build trust. The Center has been working with a few inventors to develop a co-learning plan for taking an idea to commercialization. Then the Center asks the inventors where they ran into problems and what types of assistance would help them over those hurdles. The Center has assisted this group in growing its network among garage-basement inventors, in getting recognition, and in creating an identity and a logo. The Center is now organizing an inventor expo for garage-basement inventors. The Raymond von Dran Innovation and Disruptive Entrepreneurship Accelerator at Syracuse University operates a student "sandbox" – a program that prepares student teams for every stage of entrepreneurship, linked with an incubator where students can realize their projects.

At some centers university center staff, university students, or faculty provide assistance. For example, California State University's Center for Economic Development offers customized technical assistance via

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[11] Many of the activities discussed in this section apply equally to entrepreneurs and start-ups.

market research and technical data services conducted by student interns, experienced researchers, or faculty members. The East Central Illinois University Center operates a student-led shared services program for entrepreneurs, providing assistance with market assessments, web development, business plan development, lab setup, graphic design, and other activities.

Other university centers offer assistance provided by experienced entrepreneurs. For example, the East Central Illinois University Center provides Entrepreneur-In-Residence (EIR) counseling services, hiring local experienced entrepreneurs to provide monthly consulting to prospective technology entrepreneurs. West Texas A&M University's (WTAMU) Enterprise Center brings the assistance directly to entrepreneurs in their communities by hiring facilitators (who are experienced entrepreneurs themselves) to travel to rural communities weekly to provide technical assistance and consulting for aspiring and existing entrepreneurs.

Workshops and training on business skills are another way that university centers build capacity in entrepreneurs. For example, the WTAMU Enterprise Center offers the *Idea Village* program, which uses a 12-week, self-paced group coaching and training format to teach technology transfer, commercialization, and business skills to entrepreneurs in

the pre-incubation stage. The California State University Center conducts a media-oriented program. This Center has held two 1-day workshops at different locations within the Great Central Valley of California, covering best practices in website creation, email marketing, and the effective use of social media and networking. Attendees use the information to transform their businesses or to improve their workforce skills.

Building capacity through access to public funding

For early-stage innovators and inventors, getting help navigating the path to a Small Business Innovation Research (SBIR) grant or a Small Business Technology Transfer (STTR) award can be daunting. Three university centers build capacity in entrepreneurs through workshops and direct assistance in writing SBIR and STTR program grants; these grants provide assistance in commercializing scientific research.

According to interviews, in Montana, lack of capital for business growth is a major barrier to businesses in the region – in fact, SBIR funding declined due to state funding for SBIR outreach being eliminated in Montana. The University of Montana's University Technical Assistance Program (part of the joint EDA Center at Montana State University and the University of Montana) has been able to step in and restart SBIR assistance by educating manufacturers and technology firms about best practices in competitive SBIR funding leading to technology

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University of Florida Tech Connect: Assistance to Women Entrepreneurs

In the Fall of 2012, UF Tech Connect®, in conjunction with the Office of Technology Licensing, Florida Innovation Hub and the regional workforce development board (Florida Works), launched a program to provide entrepreneurial training for women. eWiTS, Empowering Women in Technology Startups, was a two-month course designed to empower women and its specific goals included:

- Increase the number of women in leadership roles in STEM industries.
- Increase networking opportunities locally for women in STEM fields
- Encourage women to assume lead roles in STEM companies
- Provide mentoring and educational platforms for women regarding leadership and entrepreneurship

In addition, the program supported the overall UF Tech Connect® mission to increase the number of technologies commercialized from universities. eWITS stemmed from a very successful previous project that was done collaboratively with UF Tech Connect® and the regional Workforce board, however eWITS was tailored for women and modified to capitalize on the lessons learned from the prior pilot program.

The format was structured to limit participation to women because research conducted by UF Tech Connect® indicated that a considerable dynamic shift occurs when both genders are present in a learning environment. Women encounter unique barriers to entry as CEOs, particularly in technology-based corporations. The mission of eWITS was to address the distressing lack of women in technology-based startup companies by providing a platform to create programs and resources specifically targeted at increasing women's participation in STEM leadership roles. Ultimately, 57 women participated in the Fall 2012 pilot program.

commercialization. In addition, the Center has a nationally recognized SBIR expert who works to develop and commercialize new technologies and identify market opportunities.

Some university centers also play an important role in helping businesses to gain access to public agencies and resources. University centers provide businesses with information about available programs and, in some cases, even make introductions and broker partnerships. For example, a new memorandum of understanding has been recently executed between the University of Connecticut and the state Department of Economic and Community Development to provide early-stage support to two companies that are building relationships with the university.

Building capacity through access to capital

Entrepreneurs in rural regions – as well as in most small- and medium-sized urban areas – typically face challenges in accessing the financing they need to launch their business. While venture capital is readily available in a few thriving metro areas (in places like Boston and Silicon Valley), most of the country lacks strong venture capital resources. Several university centers have developed programs to address this financing gap, especially in the predominantly rural regions they serve. Leaders at a few university centers (including the University of Kentucky Von Allmen Center for Entrepreneurship, the Louisiana Tech Enterprise Center, and the Texas A&M University Corpus Christi Coastal Bend Business Innovation Center) have created programs to cultivate local sources of venture and angel capital. The Red River Valley Research Corridor University Center in North Dakota has educated 250-300 angel investors on how to form angel funds.

Other university centers simply try to help entrepreneurs

access existing sources of capital both within and outside their region, by providing information about financing sources, by facilitating networking, and by bringing entrepreneurs to events where they can meet with funders. Lamar University's Innovation & Commercialization Center is located in a rural region that lacks an entrepreneurial culture and sources of capital, so the Center seeks to connect entrepreneurs with out-of-region resources. For example, the Center hosted a booth at the 2012 North American Angel Capital Association Conference in Austin, Texas, which allowed it to make connections with six angel investor groups and to showcase the University's and region's innovations and technologies to a much broader audience.

Cultivating entrepreneurship among disadvantaged groups

In addition to generally supporting an entrepreneurial culture in their service regions, many university centers also specifically focus on building entrepreneurial skills among targeted population groups – especially disadvantaged and minority groups that have not traditionally demonstrated a high level of entrepreneurship. For example, Northern Arizona University's Alliance Bank Business Outreach Center supports a program that builds entrepreneurship in American Indian tribal communities, while the University of Oregon's Economic Development Center provides technical assistance supporting Latino business development. Southwestern Oklahoma State University's Center for Economic and Business Development hosts the Operation Start Up & Grow Conference for aspiring veteran entrepreneurs. A few centers have launched programs encouraging entrepreneurship among women (e.g., Lamar University Center for Innovation and Commercialization Outreach, University of Florida TechConnect – see box). Others focus on youth entrepreneurship programs – training the entrepreneurs

University of South Carolina: Cultivating Entrepreneurship Through Business Plan Competitions
The Proving Ground is the University of South Carolina's signature entrepreneurial competition to identify and accelerate innovative business concepts. Teams of students competed for over $40,000 in seed money, startup support, and the chance to turn their ideas into reality. The program was a partnership between CETi, USC's Startup Center, The USC Technology Commercialization Office, and The Faber Entrepreneurship Center. The program was launched in early September 2012 and culminated with a live pitch competition with seven finalists on November 14th during Global Entrepreneurship Week. The competition had 50+ submissions in the categories of Technology, Innovation, and Social Impact. Submissions came from four campuses across the state. More than 20 entrepreneurial judges and coaches judged the submissions and awarded $30,000 in seed funding. Finalists secured $70,000 in follow-on funding, and four new ventures formed as a result of the competition. One of the winning entries was Watsi, which is a crowd funding platform for medical treatments in third world countries. Recently Watsi was accepted as the first ever nonprofit in the globally recognized Y-Combinator in San Francisco.

of the future. Youth-focused programs are offered at the University of Alaska's Center for Economic Development (a statewide "Lemonade Day" event that teaches business skills via lemonade stands), Purdue's Center for Regional Development (a youth entrepreneurship "boot camp" and classroom curriculum), and West Texas A&M University's Enterprise Center (a youth entrepreneurship fair and internship program).

Building capacity for product development

University centers also support entrepreneurs by directly providing or making connections to product design and prototyping services, just as some do for existing businesses. Some centers provide direct assistance, such as Western Carolina's University Center, which provides 3D design, reverse engineering, 3D scanning, rapid prototyping, and testing. Other centers provide connections to these types of services. For example, the University of South Carolina's Innovista Center for Product Realization connects its clients to the Western Carolina University Center, while the Louisiana Tech Enterprise Center connects its clients to the National Science Foundation prototyping and technology commercialization programs at Louisiana Tech.

Centers also provide feasibility and market studies. For example, Washington State University's Center for Innovation and Value Creation supports an Innovation Assessment Center that helps innovators understand the market viability of their idea, refine their product/service, and improve their chances for successful commercial development. Upper division business majors, supported by outside reviewers with specialized expertise, conduct the research/assessment work for this service.

Legal services

Two university centers are located in law schools (Northeastern University and Creighton University) and provide legal services directly to entrepreneurs, nonprofits, and micro-enterprises that would not be able to afford the same quality of service elsewhere. Legal services range from legal entity formation to contractual matters. For example, Creighton University's Community Economic Development Law Clinic began working with the community organization No More Empty Pots™ (NMEP) in January 2009. Two semesters worth of students worked closely with Center leaders to incorporate NMEP and obtain IRS recognition as a tax-exempt 501(c)(3) public

charity. Both Centers work with their host law schools to hold workshops on legal topics for entrepreneurs, which is another way they provide technical assistance and disseminate information.

Building capacity through services to start-ups in incubators

Technology incubators are intended to help transform research-based ideas with commercial potential by fostering the creation of new start-up companies that successfully produce and market new products, processes, and services. The technology incubator, itself an innovation, was invented about 20 years ago to help bridge the gap between a promising idea and successful product development. Technology incubators aid the early-stage growth of technology-based companies by providing shared facilities such as space, office services, business consulting assistance, access to financing, and access to major university or government laboratories.

The issues surrounding the gap between invention and innovation are so important that the problem has received several labels, most notably the "valley of death" (Figure 7). This metaphor suggests a barren territory between the research enterprise and the finance and business enterprise. Crossing this valley places promising ideas at great risk of dying even before the concepts they represent are allowed to take flight.

New ideas with apparent commercial potential, based on research conducted at universities and, later, in government laboratories, have been abandoned because one or more of the following ingredients were missing:
- Intellectual property protection;
- Proof of concept, working prototype, or other proof of the idea's potential value;
- Strong business plan;
- Early-stage financing;
- Management expertise;
- Legal, technical, and/or accounting advice; and
- Market analysis.

Depending upon the environment in which an incubator exists, the incubator must either provide these services to resident companies directly, or ensure that such services are provided to companies from the local community.

University centers provide services to start-ups that help them bridge the valley of death.[12] Centers provide access to entrepreneurial mentors, assist with writing grant proposals, help with core business functions, do market research, and arrange networking events between peers and venture capital. Many of these services parallel the types of services provided to entrepreneurs outside the incubator (as elaborated in the previous section).

Ten (10) university centers are co-located within an incubator or business accelerator. North Dakota's University Center, Georgia Tech's Enterprise Innovation Institute, the University of Florida's TechHelp, West Texas A&M University's Enterprise Center, and the East Central Illinois University Center are examples of the many centers that are co-located with incubators. Eight other centers have partnerships with local incubators. Residents of incubators pay rent and utilities, but would not be able to pay for many of the support services provided by the center. University centers co-located in incubators provide services specifically targeted to building capacity in residents, such as mentoring, entrepreneurs-in-residence, market analysis, and access to market reports.

Not only do incubators provide services that help start-ups, they also enable many entrepreneurs to stay in the area. For example, Georgia Tech's Enterprise Innovation Institute works through the Advanced Technology Development Center Incubator. A current resident, who is commercializing university research, credits the Center for keeping him in Atlanta when he could have easily moved to the west coast.

Incubator services can also be targeted at specific industry clusters and types of businesses, with the aim of nurturing a region's targeted industry clusters. For example, the West Texas A&M University Enterprise Center's incubator facilities have recently opened a shared-use, fully-equipped commercial kitchen – the Kitchen Co-op – which provides culinary entrepreneurs with kitchen space and the necessary tools to develop and successfully commercialize food products (along with the typical suite of other incubator-related services). This service is helping to catalyze an emerging food cluster in the region.

The Valley of Death
[drawn by Congressman Vern Ehlers]

Basic Research, Invention

Innovation
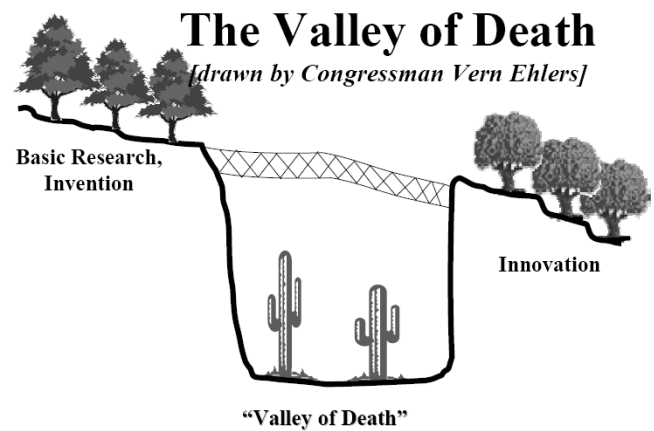
"Valley of Death"

Figure 7. The valley of death.

University Centers as institutions

Centers serve as social institutions in their economic ecosystems that enable cooperation between the public sector and private enterprise, a requirement for economic development [1]. Centers provide information on local and regional economic conditions as well as business development and economic best practices. They act as "honest brokers" and bring actors together – from stakeholders on an economic development issue to local entrepreneurs. They are, in short, nodes in a critical network of social and economic relations that allow information to circulate and economic exchange to occur among a distributed set of participants.

Centers are well connected to regional economic development networks and assist agencies with network building and the convening of relevant stakeholders. For example, Rutgers University Center supported planning work that identified de-manufacturing as a potential economic opportunity for Union County, and the center then developed the Demanufacturing Partnership Program, which helped to launch the initiative through a series of conferences.

Dissemination & networking

Every university center disseminates information on economic indicators in its region, both through EDA reports and through other publications targeting regional stakeholders. For example, the University of New Orleans's Center for Economic Development publishes a comprehensive analysis of the regional real estate market covering the full range of residential, commercial, and industrial properties. These published reports are widely

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[12] Presentation by L.M. Branscomb, "National Innovation Systems and U.S. Innovation Policy," Harvard University (30 September 2003).

circulated and attract significant media coverage locally as well as from regional and national outlets. In addition to those with a direct interest in real estate, local and regional economic development organizations and site selectors also use the publications. Cleveland State University's Center for Economic Development supports the regional economic ecosystem by defining what matters to metro growth and producing a revised and updated Regional Dashboard of Economic Indicators. The EDA University Center at Texas A&M University, Corpus Christi, has created a vibrant "Economic Resource Hub" which serves as a gateway to data and research about the Coastal Bend region. This tool compiles and disseminates economic and business data from community stakeholders and other sources for the benefit of public and private sector stakeholders.

Six university centers host conferences focused on the regional economy. These conferences both disseminate information to participants and provide networking opportunities. For example, Bowling Green State University/Ohio University's Rural Universities Consortium University Center hosts a "state of the region" conference each year. In addition, center directors and other center staff often gives presentations and talks on local economic conditions.

University centers conduct research to identify and disseminate information about economic development best practices among regional stakeholders. For example, Michigan State University's Center for Regional Innovation supports co-learning projects between university faculty and external partners to identify innovative economic development practices and strategies, and develops "info briefs" to document local innovation in economic development. Purdue has developed a "Leading Edge Practices in Regional Development" (LEEP) web tool, which catalogues "success stories" in regional economic initiatives and provides networking tools for information sharing and collaboration.

Some university centers cultivate formal and informal networks of economic development practitioners, public officials, and other stakeholders. These networks facilitate information sharing and collaboration. Michigan State University, for example, has built the REI Network – a responsive virtual community of over 700 members from the public and private sectors who are engaged in strategic partnerships, peer learning, and knowledge transfer on

topics such as regional talent and innovation infrastructure. Social media tools such as Twitter and LinkedIn drive communication in the network.

University centers also support communities through other methods such as hosting websites for rural communities; organizing communities; and making connections by sitting on boards, planning commissions, and community development organizations. For example, the Center for Economic Development at the University of New Orleans strives to stay connected with economic development efforts and organizations throughout the region, and routinely participates in or facilitates meetings of business, civic, and government leaders focused on some aspect of recovery and rebuilding at the regional or local level.

Other centers perform research in an effort to understand their area's ecosystem. For example, the University of Missouri's University Center for Innovation and Entrepreneurship gathered information on companies that are growing rapidly in Missouri called Cheetahs. The report's extensive data collection effort offered new insights and detailed the issues faced by Cheetahs and the types of assistance that could be developed for the promotion of entrepreneurship and small business success in Missouri.

Building business networks
Many university center clients in rural or distressed communities are missing connections to capital or mentoring. The activities described above seek to make these connections through business counseling, etc. However, some activities are solely focused on making connections such as between businesses and business support systems. Strong business networks are an important ingredient for success and underlie the strength and competitiveness of regional industry clusters. Rural areas often lack the connections and networks that anchor strong regional clusters, and therefore may have missed the economic growth that accompanies cluster-based development. Hence many centers focus on creating connections between businesses and individuals in their service area. The Kansas State University box on the next page details its work on connecting rural businesses and support systems.

The University of Kansas's KU Entrepreneurship Works for Kansas strives to address the shuttering of small/medium sized businesses due to the owner's lack of a successor by connecting owners of these existing business to potential buyers among students and alums through its RedTire program. The program helps arrange financing and provide ongoing mentoring support to the new owners from RedTire's experienced Advisory Board.

Connecting with university resources
The role of university centers in making connections is often more complex than simply convening and making introductions between businesses and faculty members; many university centers see themselves as translators and brokers, building and shaping productive relationships. University centers not only identify and match businesses with the right faculty (and vice versa), but also manage expectations and shape the parameters of mutually beneficial collaborations.

In both rural and urban areas, many centers focus on connecting businesses with the vast resources that are available at many universities to support research, technology development, commercialization, and other business innovations that drive growth and competitiveness. For example, Virginia Tech's University Center facilitates collaborative projects between companies and faculty, such as the National Tire Research Center, which specializes in testing for global tire and vehicle manufacturers.

Centers themselves are rarely involved in the legal protection of intellectual property resulting from university research; however, many centers disseminate information on university research to existing businesses. University centers use a variety of mechanisms to make university research and technology accessible to businesses. Lamar University's Center for Innovation and Commercialization Outreach (LCICO) brings university innovations directly to companies by hosting monthly Advancing New Technology (ANT) meetings for senior-level staff from local companies. At these meetings, the Center reports on recent university commercialization activities and profiles new university technologies of potential interest to the local companies. LCICO then seeks advice from the ANT advisory council on approaches for moving these new technologies forward. The Wisconsin Center for Commercialization Resources (at the University of Wisconsin, Milwaukee) has a different

model, which focuses on consolidating university resources via a virtual one-stop-shop or web portal that provides easy access to information about the extensive research, technology transfer, and commercialization resources at the Center's five partner universities. The University of Southern Maine's Maine Center for Business and Economic Research is currently working on connecting research funded by the National Science Foundation's Experimental Program to Stimulate Competitive Research to the business community through annual collaboration sessions where results from university research are shared with the business community.

Other university centers not only help connect businesses to university research, but also help negotiate the intellectual property rights and tech transfer process. For example, Kansas State University's Advanced Manufacturing Institute has pre-negotiated terms for some university research, which makes it easy for business to develop university research into a market-ready product. The University of North Dakota Center for Innovation and North Dakota State University Research & Technology Park assist existing businesses in commercialization of university research by publicizing potential licensing opportunities in addition to assisting with the licensing of technology.

Building capacity through cultivating an entrepreneurship culture
Many university centers organize or help support business plan competitions as a way to build entrepreneurial capabilities on and off campus. The University of Puerto Rico, Mayaguez Campus's Business and Economic Development Center helped one client, Cutting Edge Superconductors, Inc., win first place in the national business plan competition of EnterPrize 2011 and second prize in InnoVenture 2012, another national competition. By winning, the company received media coverage in major newspapers, a seed investment prize of $30,000, a $15,000 prize for SBIR proposal development counseling and in-kind support such as free incubator space to house the company, and pro bono legal services. Cutting Edge Superconductors was founded by Dr. Yong-Jihn Kim, a Physics Professor at the University. West Texas A&M University's Enterprise Center sponsors the annual Amarillo EnterPrize Challenge business plan competition (with funding from the Amarillo EDC), which provides up to $500,000 in capital funding grants for entrepreneurs seeking to expand or launch a business. To date, 58

businesses have received cash grants of as much as $100,000 each, totaling more than $3 million in grants over the past 17 years. These firms have created more than 568 new jobs and brought more than $91.3 million into the Amarillo economy. (Also see box about University of South Carolina's Innovista Center for Product Realization.)

University centers mentor and train communities in how to support entrepreneurs. Rogers State University's Innovation Center has developed a formalized Entrepreneur-Ready Community Certification Program, which provides planning assistance and training to communities to create entrepreneur-friendly environments, targeting distressed communities of less than 20,000 residents. The program is intended to equip these communities to provide support services to small businesses and entrepreneurs who need business assistance.

In addition to these hands-on programs, some university centers support entrepreneurs in business start-ups by simply gathering and sharing informational resources. For example, Fayetteville State University has created a resource database that offers entrepreneurs comprehensive information about the resources available in the region to help launch and grow new companies, new products, and new services. The University of Connecticut's Technology Exchange Portal offers a wide range of services to entrepreneurs, including students and mid-career professionals in the life sciences, tied to incubators and other kinds of support. Northeastern University School of Law's Business Legal Clinic has created a similar resource guide for its clients. This is a key way to provide technical assistance through information dissemination.

Researching what works

Besides providing services to entrepreneurs, some university centers are engaged in systematic investigation of what works in supporting entrepreneurship and business start-up, or in the provision of services. For example, Georgia Institute of Technology's Enterprise Innovation Institute is investigating why some institutions produce many more start-ups per research and development funding dollar than the average university. Northeastern University School of Law's Business Legal Clinic is investigating the value of legal clinic services provided to entrepreneurs who would not have access to

legal services elsewhere. In addition, Creighton University School of Law's Community Economic Development Law Clinic is investigating the impact of access to attorneys on micro-enterprises.

University Centers: Resources

Universities are major players in the economic development of their local and regional ecosystems. They generate new ideas and enable knowledge transfer (from faculty to students to the student's employers); and they provide the infrastructure for these two activities. Universities provide education so that workers can more fully participate in the economic, social and cultural patterns of behavior that encourage initiative and engagement, which Feldmen et al. identify as important building blocks for economic development.[1] Universities expand the abilities of those that take advantage of the institution. However, it is important to focus on more than just education, an important focus is also necessary on the development of industries that will use the skilled labor or the region will experience "brain drain".[2] In many cases, especially in the past, universities have sat outside their local and regional economic ecosystem. University Centers address this gap directly by making connections between university resources and the economic actors of their local and regional ecosystems.

The Economic Development Administration funds university centers because of the variety of assets that universities and colleges have on their campuses – valuable resources that can be used in support of regional economic development. Examples of such assets include scientific advances generated by researchers, proof of concept centers built for faculty projects, the deep expertise of faculty members, and students. Current EDA centers leverage those resources in many highly effective ways.

In addition to university resources, university centers also leverage a wide variety of external resources, such as funding and partner organizations. Many centers receive funding from state agencies and regional economic development organizations. Centers also utilize partner organizations for referrals and to jointly implement projects and initiatives.

EDA University Center grants allow many centers to build generic institutional capacity to substantially increase their ability to serve clients. This allows the centers to meet client needs directly, but more importantly it allows them to increase their ability to leverage existing knowledge, expertise, and equipment elsewhere within the university or outside the university with other partners. In this sense, the resources provided to the centers have the effect of a "force multiplier"; a range of resources and partners can be combined and coordinated around center activities and in pursuit of center goals. This kind of institutional development would seem to epitomize "capacity building', that is to say long run economic development.

Leveraging University Resources

The switch to a competitive grant process spurred more connections between center and university resources. The competitive program resulted in the selection of university centers that were more integrated into their campuses and better able to mobilize other campus resources. As Figure displays, centers leverage a wide variety of university resources reviewed in detail below.

Human capital – students

Almost every university center uses students in some form or fashion. Some centers use students as general administrative staff, while many use students to do work for clients. Sixty-three percent (63%) of client and stakeholder survey respondents indicated that students were an advantage of their center's connection to a university (Figure). Because student labor is usually of high quality but much cheaper than professional labor, the use of students enables centers to do a lot with a very
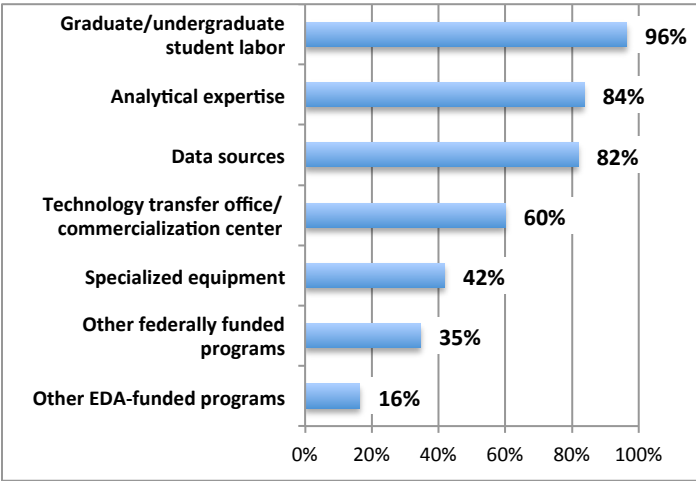
Figure 8. Percent of centers reporting leveraging of selected university resources.

Figure 9. Percent of client and stakeholder respondents indicating advantages of being connected with a university center.

small amount of funding. Students also bring state-of-the-art knowledge in engineering or business principles to firms. Students are often more up-to-date with technology and can help bring firms into the e-commerce age.

The University of Oregon's Economic Development Center is one example of using students as interns. The Center delivers technical assistance to rural communities through the Resource Assistance for Rural Environments (RARE) program, which places up to 20-25 students in rural communities for a year of service to complete economic development projects. At the East Central Illinois University Center, student interns deliver shared services (such as marketing material creation, website development, graphic design, and IT support) to start-ups. Student interns provide these clients with much-needed services while simultaneously gaining real-world experiences and marketable skills. The EDA University Center of Western Carolina University also uses student teams to work with businesses on marketing strategies, business plans, or process improvements. One project helped a North Carolina-based company design and prototype a faster way to certify electric motors. The client's need was met, and students learned from a real-world problem.

Students bring state-of-the-art capacities in engineering or business principles to firms. Frequently these students are more up-to-date with technology and/or research resources than are entrepreneurs. For example, the Innovation Assessment Center services offered by Washington State University's Center for Innovation and Value Creation uses upper division, business major

students to conduct research and prepare reports on markets, competition, and feasibility of new product ideas and business concepts brought by entrepreneurs or inventors to determine whether ideas are worthy of further development. Since students are more familiar with the research resources and available data, can easily access these resources through university channels, and are generally experienced researchers, they are able to conduct this kind of research more quickly and efficiently than an entrepreneur or inventor would be able to do independently. Clients value the new ideas that students bring – as one client said in the survey, "access to students was great. Lots of great new ideas, but also core research ability to complete the identified questions."

One question to be addressed is the degree to which university center support is merely underwriting existing curricula offerings, or whether it expands the experience available to students (as well as helping center clients). The University Center program is intended to raise the connections between recipient institutions and external partners to new levels, not sustain existing efforts. Interviews with Center staff and clients suggest that this is the case, with benefits above and beyond existing student internships etc. Indeed, by drawing students into the economic challenges of local business and local communities the university center program has the effect of building a cadre of engaged graduates who understand and are committed to future prosperity—clearly a very important source of new capacity.

The University of Kansas's KU Entrepreneurship Works for Kansas: Student Teams

The Center provides technical assistance to a wide-range of clients through its Jayhawk Consulting program, which is an application-based class that undertakes real-world projects for clients. Jayhawk Consulting gives University of Kansas (KU) students the opportunity to acquire hands-on experiential learning. Over the six years since its inception, Jayhawk Consulting has provided pro bono consulting assistance to over 72 organizations with diverse business models and challenges. Past clients have included General Motors, Black & Veatch, Towne Park, Shelton Land & Cattle, and Children's Mercy Hospital. Those projects included market feasibility and research, business plan development, economic impact analysis, and private equity investment research.

Jayhawk Consulting performed an economic impact study for the North Flyer Alliance in 2009, which has resulted in legislation being passed in Kansas in support of passenger rail. The Northern Flyer Alliance is a group of 49 cities, 6 counties, and 19 Chambers of Commerce along the I-35 corridor stretching from Kansas City to Fort Worth that have joined together to promote the reintroduction of passenger rail in their communities and the Tri-State Region that includes Kansas, Oklahoma and Texas. In 2009, the group needed an economic impact study to ascertain the economic justification for renewing passenger rail between Kansas City and Oklahoma City. After hearing the Center director present at a regional conference, the Alliance decided to engage with Jayhawk Consulting for their study. A group of seven students from Jayhawk Consulting who were supervised by Mr. Meyers met with the client to discuss the project, collected and updated feasibility studies, and developed hypothetical marking plans. Using these data, the team estimated the economic impact using IMPLAN software and added enhanced value and cost avoidance. The analysis revealed a 3.58 return on investment over a 10-year period. This analysis was presented to the client by the students and was used to inform Kansas legislation. Entrepreneurship Works for Kansas has shown how students and external clients can both be served by a program that is targeted on client need and which closely directs student contributions.

Human capital – faculty

University centers leverage faculty analytical capabilities. Some centers have formal arrangements with faculty in which the project pays part of their salary for their participation. Some faculty work with the center as part of their responsibility to engage in professional service – this is especially true at institutions where service is counted as part of a professor's tenure review. Other centers arrange to pay faculty some summer salary in exchange for their being available and responsive during both the summer and the academic year. This is especially effective at institutions where a 9-month contract is the norm and research grants that pay summer salary are scarce. Two centers pay faculty directly for science research related to their center's goals.

Faculty members leveraged by centers to serve clients typically come from the engineering, science, and business departments. Economists are one of the most common types of faculty (or university staff) used by centers in the Atlanta EDA region since centers pay university economists to write their state economic report, which is required by their region.

Human capital – student and faculty teams

About a quarter of university centers draw upon teams of faculty and students to deliver services to clients. The largest and most effective use of students is to serve clients directly. Many of these teams, with faculty guidance, complete a project for clients as part of a course. This is also a significant use of faculty time. For example, the University of New Orleans's Center for Economic Development pairs teams of students enrolled in the Center director's class with local nonprofits to help write business plans. The director of the University of Kansas's Entrepreneurship Works for Kansas Center teaches a business class in which teams of students work on client projects (see the University of Kansas box on following page).

Other centers coordinate senior undergraduate students' "capstone courses" by finding industry projects, organizing student and faculty teams, and overseeing the project-related work. For example, South Dakota State University's SDSU University Center supports faculty/student teams to perform productivity, energy audit, and supply chain systems analysis for South Dakota manufacturers and construction companies. The projects last 3 to 9 months, ideally involving cross-disciplinary

student teams in a mechanical engineering, industrial management, construction management, and/or ag-biosystems engineering capstone course. Through these student teams faculty members transfer their capabilities about business, engineering, or manufacturing. One South Dakota business has been working with the Center for many years and has valued the student teams that have worked on projects for his manufacturing business. The client said that an important outcome is the students that have come to work for him as a result of those projects.

The EDA University Center of Western Carolina University also uses student teams to work with businesses on marketing strategies, business plans, and process improvements. One project helped a North Carolina-based company design and prototype a faster way to certify electric motors. The client's need was met; students learned from a real-world problem; clients learned from the faculty and students. Mississippi State University's Technology Resource Institute uses teams of MBA students. One project was for a local company that wanted to expand its manufacturing business but knew nothing about the sector into which it was looking to expand. This company engaged the Center's team of MBA students, who prepared and presented a formal report to the company outlining the best path to success. Several months later, the company reported back that the new product not only kept it from laying off workers; due to backorders for the new product, the company was hiring additional workers.

Centers' place within the university institution

Simply being associated with a university is an asset that all university centers leverage. Many interviewees said that the connections bring the center instant credibility, which usually takes time to build. Some interviewees (and survey respondents) highly valued the "honest broker" role that connections with the university supply (see Figure). Many centers, especially those involved directly in community strategic planning, find themselves required to give advice that may not be well received. Universities are normally viewed as independent third parties, which allow people to see centers as impartial.

University intellectual property

Most university centers do not deal directly with intellectual property. They leave the patenting and licensing to their official university technology transfer/commercialization office. However, many centers

have a close working relationship with that office. In this working relationship, centers leverage the university's intellectual property in several ways. First, many centers that work with early-stage entrepreneurs receive referrals from their university technology transfer office. Second, centers that work within or with campus-based incubators frequently focus their efforts on entrepreneurs who are working with university-generated intellectual property. Third, entrepreneurs value university centers because they are knowledgeable about the commercialization of university research, which has its unique challenges. One example of a center's leveraging of their university IP is the University of Kentucky Von Allmen Center for Entrepreneurship that has a staff member who works closely with the university's IP office to review all the university's disclosures. This gives the center a first look at promising commercialization opportunities.

Other university centers market intellectual property from their university's technology transfer/commercialization office to existing businesses and help them commercialize the product. For example, the University of Connecticut Center has an established track record of success in the life sciences, helping to broker intellectual property to large- and medium-sized businesses and start-ups across the state.

Other university resources

Universities frequently have access to data and specialized equipment that many centers leverage. Many centers help entrepreneurs get access to specialized equipment. For example, the Georgia Institute of Technology's Enterprise Innovation Institute connected a client to faculty on campus who had special processing and testing equipment. Other centers use their access to GIS labs and library resources that are part of the university ecosystem. These activities allow university centers to integrate the university assets into the local and regional ecosystem.

Other federal funding at universities

One goal of the University Center program is to leverage existing funding. Historically, EDA does not have many programs that fund university-based activities, so it is not surprising that only a few centers indicated that they leverage other EDA funding sources (see Figure). Programs that these centers reported leveraging include other EDA grants such as general technical assistance grants for feasibility studies, innovation cluster studies, disaster preparedness, statewide comprehensive

economic development strategies (CEDS), and a rural accelerator grant concentrating on entrepreneurship. For example, the University of Tennessee EDA University Center leverages a federal Jobs Accelerator grant with the goal to grow the carbon fiber and advanced material industry cluster in East Tennessee.

More centers indicated that they receive other federal (non-EDA) funding sources that they use outside of their match budget (see Figure 8). These sources include almost every federal agency that gives out grants, including the following:[13]

- National Institutes of Standards and Technology's Manufacturing Extension Partnership (6 centers),
- Department of Agriculture (6 centers),
- National Science Foundation (4 centers),
- Department of Defense (3 centers),
- Department of Energy (2 centers),
- Federal Emergency Management Agency (2 centers),
- Small Business Administration (2 centers),
- AmeriCorps (1 center),
- Department of Homeland Security (1 center),
- Environmental Protection Agency (1 center),
- Federal Aviation Administration (1 center),
- Minority Business Development Agency (1 center),
- National Institutes of Health (1 center),
- National Oceanic and Atmospheric Administration (1 center),
- Small Business Innovation Research Program (1 center),
- Small Business Technology Transfer Program (1 center),
- Delta Regional Authority (1 center).

Leveraging External Resources

Many centers have funding sources outside the university (Figure 8). The distribution of funding sources reflects the organizations with which centers partner. External funding sources are an enlightening signal for which actors in the center's local and regional ecosystem value the center. These actors frequently have much to gain from the economic development achieved by the center.

External funding

For many centers, the EDA grant budget is only a small part of the overall total budget for the center. Many

[13] Centers listed multiple federal agencies; they are counted once for each agency reported.

centers leverage external funding to increase the number of clients served. Some of this money goes into a center's match, while other money goes into its budget outside of the EDA budget. Figure 8 above shows the percentage of centers indicating each source for match or outside match funding. State government sources include North Dakota Department of Commerce, which provides the cash match for the Red River Valley Research Corridor University Center's grant. Other centers leverage funding from nonprofits or economic development organizations. For example, Kansas State University's Advanced Manufacturing Institute/ Kansas Opportunity Innovation Network uses local and regional development organization funds for part of their match.

Partner organizations

All university centers leverage their relationship with partner organizations to serve their clients. In addition to the organizations displayed in Figure 10, centers reported partnering with area chambers of commerce, angel investors, foundations, local and regional economic and community development organizations, tribal councils and organizations, and many others.

University centers use their partners in a variety of ways that depend on their center's goals as well as their clients' needs. Centers typically depend on these partners to refer clients to their own programs/services, and also refer clients to external organizations/service providers when needed services are not provided within the university center. For example, many university centers interact with their region's Small Business Development Centers
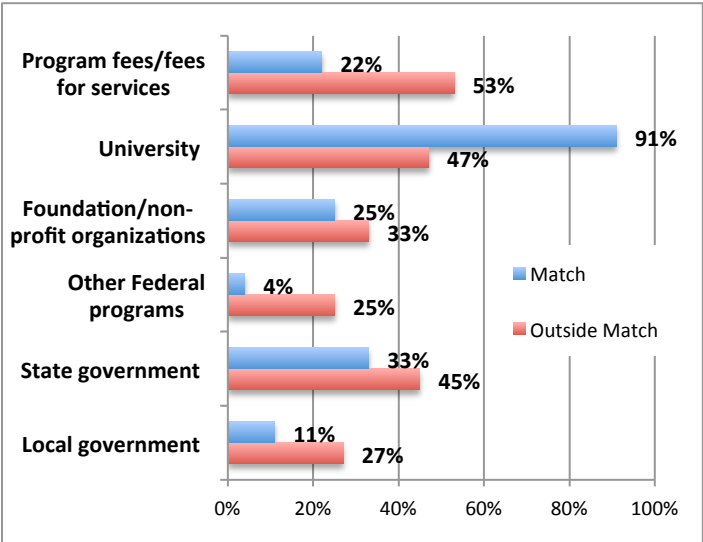
Figure 8. Sources of funds used by centers for activities. Some funding is accounted through their grant through the match (blue), while other funding sources support center activities outside the program grant (red).
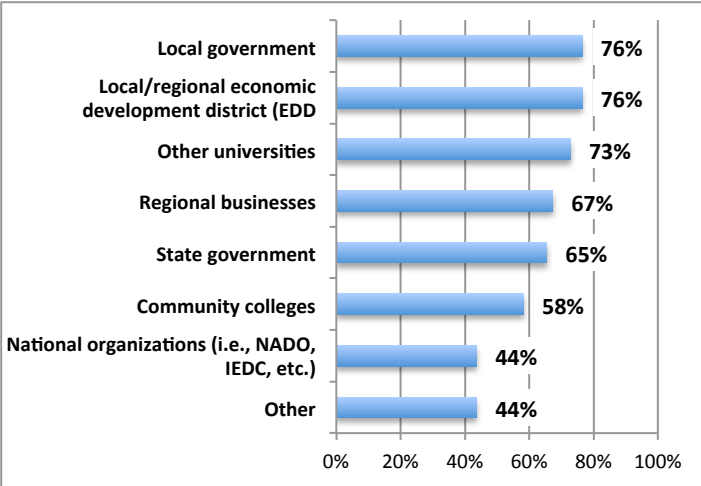
Figure 9. University centers' partner organizations that centers indicated they partner with: percentage of centers reporting each type of organization

(SBDCs) in this fashion, as both a source of referrals and an external service provider. The East Central Illinois University Center taps into SBDC counselors to provide business-counseling services at the Rantoul Business Center (where the center is launching a new community incubator), as well as to deliver counseling on financing options to center clients. The University of Oregon's Economic Development Center contracts with the Oregon Small Business Development Center Network (OSBDCN) as a service provider to deliver technical assistance to businesses, and also to facilitate outreach and business engagement as part of its Latino Business Development initiative. OSBDCN (along with other partners such as local governments, economic development districts, and industry associations) is also a source of referrals for community-initiated demonstration projects completed by the Center each year.

Many university centers are implementing programs as joint initiatives with an external partner (often also drawing upon external funding resources to support these initiatives). The University of Minnesota, Crookston EDA Center's digital literacy project is a good example of this type of external collaboration. For two years, the Center has been actively engaged in the Minnesota Rural Intelligent Communities (MIRC) project, a $6.3 million sustainable broadband adoption initiative supported by the National Telecommunications and Information Administration (NTIA). This project is focused on making digital tools available to low-income residents, training residents in digital literacy to enhance the workforce, and

providing technical assistance to rural businesses. MIRC is implemented through a broad coalition of 19 partner organizations, including the Blandin Foundation, Minnesota Regional Development Commissions, University of Minnesota Extension Offices, Minnesota Workforce Centers, and many others.

Another example of a university center drawing upon a broad-based external partnership is the University of Hawaii Pacific Business Center Program's (PBCP) initiative to develop gluten-free breadfruit flour manufacturing in American Samoa. PBCP is supporting commercialization of breadfruit flour as a mechanism for economic diversification and job creation. This endeavor is a joint effort of many partners, including the National Tropical Botanical Garden Breadfruit Institute, the Institute of Tropical Food Research and Development, American Samoa government departments, and others. A leading distributor and logistics company with national/international capabilities – FoodSource CH Robinson – has also been engaged to assist with export and distribution of the product. The partners bring a variety of technical expertise, and PBCP is now assisting the American Samoa Government in seeking U.S. Department of Interior funding for the project.

University Centers: Assessments

Assessing the activities of a university center is critical. First, assessment methods allow centers to define and track who their beneficiaries are. Second, assessments provide a feedback loop that helps inform center managers about the extent to which they are meeting the needs of their clients. In addition, assessments provide the granting agency a way to measure the progress of a center in reaching the project goals.

Beneficiaries

Beneficiaries of university centers include a wide variety of entities; in fact, some centers said that they have supported/assisted every type of entity that was a choice on the survey. Almost every center reported that individual firms in their region and local governments have benefited from its services (Figure 10). This is also reflected in the affiliations of the surveyed university center clients and stakeholders. About one-third of the surveyed clients are early-stage businesses (start-ups and entrepreneurs), while 19% are existing businesses. The 29% of clients that identified themselves as an early stage business tended to hear about their center through referrals from university staff.

Because of the limits of information provision, our client and stakeholder survey population respondents are not fully representative of the whole population of university center clients and stakeholders; however, the affiliations of respondents who identified themselves as clients (Figure 11) and stakeholders (Figure 12) reveal the types of people who believe they are beneficiaries of the centers.

Types of existing businesses assisted vary drastically across centers. Some centers, especially those working in process improvement, serve large businesses. For example, Kansas State University's Advanced Manufacturing Institute helped John Deere develop a
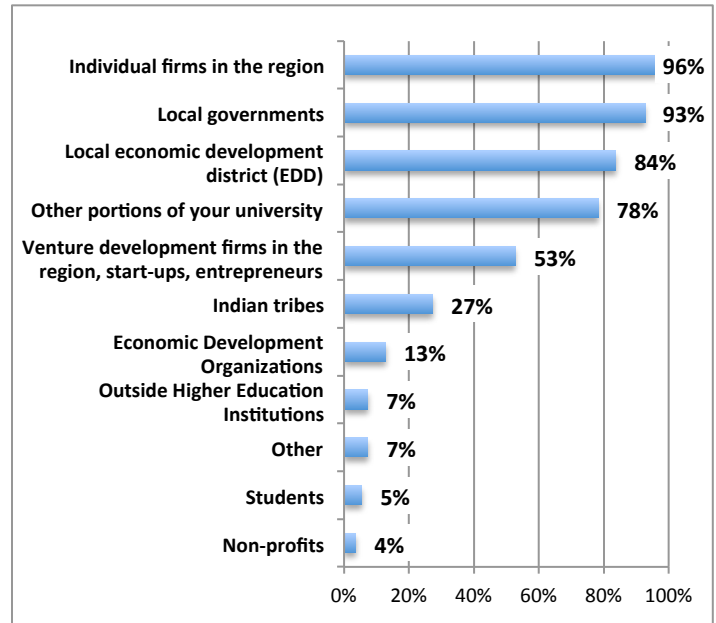
Figure 10. Entities that university centers indicated benefited from their services.

greaseless pin joint system for its four-wheel drive loaders.[14] However, the vast majority of this Center's and other centers' existing business clients are small- to medium-sized businesses. For example, the Center at Mississippi State University helped a medium-sized steel fabricator adjust to a downturn and retain employees by shifting into a new product category. In Pennsylvania, a student team at Penn State helped Buzby Networks design a prototype for a new, innovative, and mass-producible plastic enclosure for Buznet™ routers, which is being phased into the company's standard product line.

Twenty-nine (19%) of clients identified themselves as an early stage business; they tended to hear about the center through referrals from university staff.

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[14] http://www.amisuccess.com/AMI_success/JohnDeere.asp.
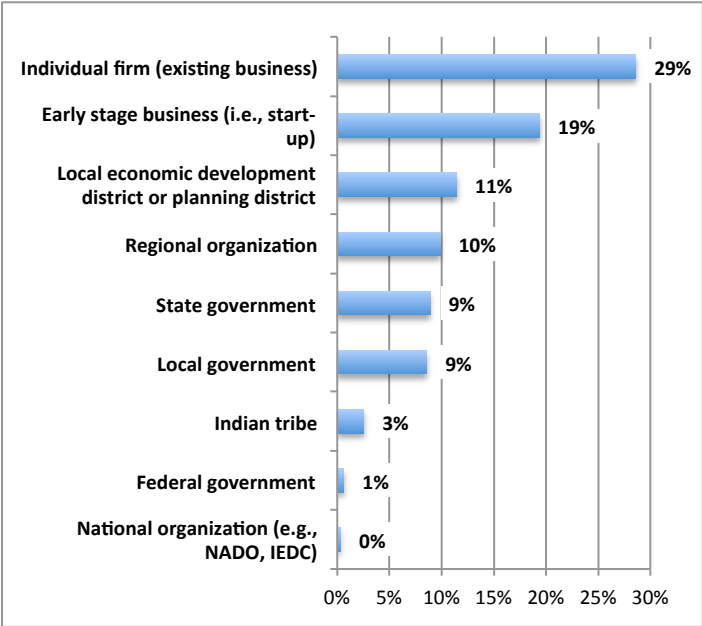
Figure 11. Affiliations of survey respondents who indicated they were a client of their center.

Figure 12. Affiliation of survey respondents who indicated they were a stakeholder of their center.

Eighty-four percent (84%) of university centers reported that they serve local Economic Development Districts (EDDs), and 11% of client respondents and 10% of stakeholder respondents identified their organization as local EDDs or planning districts. Clients that defined themselves as affiliated with a regional organization such as EDDs tended to learn about their center from their general knowledge of regional resources. The frequency of engagement of university centers with their EDDs varies drastically, from none to daily. Centers that are most focused on incubator-type services and commercialization mainly interact with their EDDs through referrals and presentations, if they interact at all. Other centers, such as Cleveland State University and Purdue University, interact on a regular basis with their local EDDs through strategic planning support, data analysis and delivery, and grant-writing support. One example of engagement is Purdue's development of a tool – Strategic Doing, The Game – that is used to provide a half-day of training explaining how Strategic Doing works. Current activity is focused on bringing this skill-based training program to economic development practitioners throughout Indiana and EDA Region 5. Assistance will be provided to Indiana users of this tool. At Michigan State University, the university center is evaluating this training tool for use in helping inner-city Flint civic leaders to keep their housing initiatives focused and based on measurable outcomes.

Members of Indian tribes are a smaller, but important, group of beneficiaries of university center services.

Twenty-seven percent (27%) of surveyed university centers stated that they serve this population, and Western regions especially focus on these groups. Clients that identified themselves as from an Indiana tribe tended to learn about the center via a referral from an economic development organization. Centers that have a strong focus on serving tribal communities and organizations include Northern Arizona University's Alliance Bank Business Outreach Center, the University of Alaska's Center for Economic Development, Northern New Mexico College's University Center, and the University of Oregon's Economic Development Center. Services provided by these centers tend to focus on technical assistance for tribal organizations and business entities, as well as entrepreneurship/business start-up support in tribal communities.

Assessments

University centers use a variety of tools and metrics to assess their activities. University center self-assessments typically focus on three types of measurements:

- *Activities:* Measuring/counting what the center does such as number of workshops held, projects started, etc.
- *Outputs:* Measuring/counting what the center does or produces (such as workshop attendance and number of reports), as well as client feedback and experiences with center activities.

- *Outcomes/Impacts:* Measuring broader impacts and results, such as jobs created and capital invested.

Assessing Outputs

Collecting information on outputs and activities is a way that university centers measure the effectiveness of their activities in the short term. Outputs are defined as the short-term results of capacity building activities of the university center that build capabilities in the local and regional economic ecosystem. These metrics include clients and businesses trained or assisted, workshop attendance, and reports written. If workshop attendance is not high, centers then reevaluate the usefulness of that topic to their clients. If their services are not being utilized, centers look to concentrate on something else. For example, one center spent a lot of time creating a data tool for economic development organizations but found that local organizations did not have the capacity to use the tool. The center focused its resources elsewhere while it reached out to potential users.

If potential clients are not taking advantage of the center's services, the center can pivot to find out what services it can provide that are demanded by clients. The ability to change with the needs of the region is a highly valued feature of the University Center program grant.

Every university center collects several types of output metrics. Table 7 shows some of the output metrics used by centers as collected by our survey. Additional output metrics include:

- Number of businesses engaged
- Number of workers trained
- Number of entrepreneurs supported
- Attendance at workshops, meetings, and networking events
- Number of graduates with improved training

Many other centers keep track of their mentions in local and national media. Some centers collect information on reports downloaded and social media followers. Finally, some centers collect data on products produced or assisted with, including the following:

- Number of economic plans developed
- Number of disclosures from applied research
- Number of grants submitted by clients
- Number of new products developed

- Number of studies (feasibility, impact, etc.) disseminated

Outputs, of course, are not outcomes with economic development impact, but are intermediate steps to outcomes and impacts.

Table 7. Output metrics collected by centers according to the informational survey.

Output metrics collected by centers	Percent of centers who collect
Number of clients assisted	89%
Number of workshops conducted	60%
Number of businesses served	84%

Every center also reports on outputs in their annual report to their regional office, including number of clients served, who they are, and what type of service they received. Centers collect this information through internal bookkeeping procedures that vary from simple spreadsheets to complex software. For example, the Center for Economic Development at California State University, Chico and California State University, Fresno uses Goldmine, sold by Front Range, as its off-the-shelf Customer Relationship Management (CRM) software to log every client interaction. All Center employees have been trained to include the details describing the interaction and the work product provided to the client. Analyzing client purchase patterns has allowed the Center to predict when certain clients are likely to request specific kinds of data. It also provides an audit trail that is useful for problem solving.
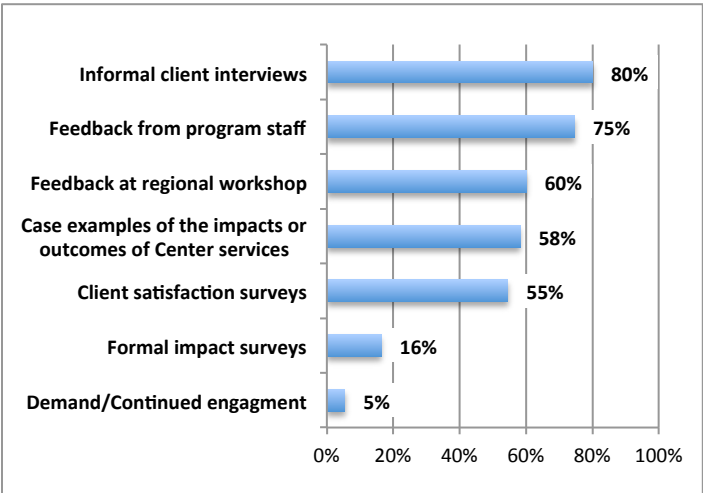
Figure 13. Tools centers use to assess their activities.

Centers collect feedback on their activities mainly through informal methods such as informal client interviews and feedback from staff (see Figure 13). This reflects that these centers are not serving hundreds of clients a year and are predominantly in rural areas, so it is manageable for the directors to be personally connected to clients. Centers that had been or are closely connected with the NIST MEP program tend to have a formal mechanism through which they survey their clients about their experiences, outputs, and outcomes.

Centers that assist local, regional, and state governments and community development organizations tend to have informal assessment mechanisms that involve talking with clients and measuring their success by the number of clients that return or refer others to them. This is supported by the client survey, where the vast majority of clients either knew of the center through general knowledge or were referred to the center by another organization (see Figure 14). Center staff feel that they "must be doing something right" if the community keeps coming to them for help.

Assessing Outcomes and Impacts

Outcomes and impacts take longer to appear, and are used by university centers to assess the effectiveness of their activities in the long term. Outcomes are usually more interesting to policy makers. However, outcomes usually take a long time to appear, and attribution is often difficult to establish credibly (especially in the case of jobs created and capital invested). In many cases, the university center grant is only a small amount of the money used to provide services to that client in that center, and the center is only one of many resources the

Figure 14. How clients reported hearing about the center.

client may use to achieve a specific outcome.

Most centers collect success stories of clients who have achieved an important outcome that demonstrates the economic impact of their services, but few centers systematically collect data on the outcomes of their services. In many cases, center activities do not produce outcomes that can be measured. In other cases, the outcomes are so far downstream that the attribution is a problem.

New centers do not have any outcomes to report due to the time lag between outputs and impact. Centers that have been funded for more than their current grant cycle report on their outcomes as much as they are able, although many long-funded programs have changed their focus and activities recently, also reducing the availability of outcomes. Every center is required to report on jobs created and capital invested starting two years into their grant using the required Government Performance and Results Act (GRPA) form.

Long-term outcome measures

As shown in Table 8, 76% of the centers indicated that they collect information about jobs created and retained to assess their center, while 51% indicated they use increased capital investment as a metric. One-fourth of the centers monitor regional venture capital as a measure of their effectiveness, while a few look at assessments of worker skill levels and average wage levels as measures of their effectiveness.

Though assessment is an important part of program improvement and accountability, many center staff expressed frustration with the current emphasis on jobs and private investment metrics. For some centers, these numbers are not at all connected to their immediate goals, since their work is in capacity building and/or education, even if the overall aspiration is always prosperity. They feel that it is impossible to know precisely how their help contributed to job creation or private investment in their community. Centers are required by EDA to capture these numbers, and the vast majority do so through informal interactions with their clients, but the numbers are of uncertain accuracy.

For other centers, it is more straight forward to establish connections between a center's services and job and investment metrics. If a center helps a community write a grant for a rail spur that is funded and enables a company
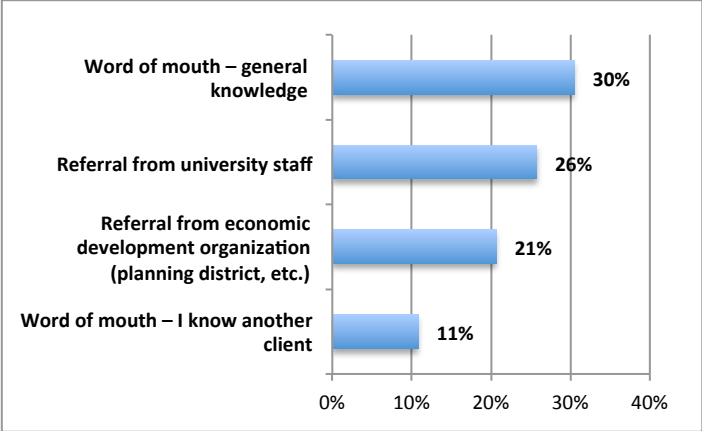
Table 8. Outcome metrics collected by centers as reported in the informational survey.

Outcome metrics collected by centers	Percent of centers who collect
Jobs created/retained	76%
Increased capital investment by regional firms	51%
Increase in regional venture capital	25%
Increase in average wage levels	13%
Increase in skill levels of regional workforce	18%

to build in a small town and create jobs, then the center feels that is an easy connection to establish. Other centers that provide services to entrepreneurs and start-ups report the jobs created and private investment received by their clients, even if the university center grant is not the sole source of support for services to those individuals. Alternatively, centers that work with existing businesses on a particular plan that opens up a new market can readily claim the increased jobs due to the increased demand for the company's products.

It is interesting to note that, although every center is required to collect information on jobs and investment, many of the centers do not use that information in their own assessment of their effectiveness. Though all centers report quantitative outcome metrics such as job creation and investment when available, they generally do not use the information to guide program decisions. However, the research team did hear a few cases where decisions on what clients to serve were being based on sheer number of jobs created. In some cases, this means helping large companies instead of the small companies in disadvantaged areas where the help would make a bigger difference. Creation of 10 jobs in a town of 1,000 has a much deeper impact on the community than creation of 10 jobs in a town of 100,000. (While it is "true" from a neo-classical view that "a job is a job is a job"regardless of where it is created, obviously local multiplier effects will very in important ways.)

Assessments should focus on the definition of economic development and not the definition of economic growth (jobs, etc.). A focus on jobs causes centers to focus on short term impacts instead of long term investments in building capacity. In addition, job creation is more a function of market forces and very rarely can a center take sole credit for a job created. Assessments should include narratives, and quantitative measures should reflect a definition of economic development that places capacity building at center stage.

Client-reported outcomes

Figure 15 shows the outcomes that clients reported experiencing due to working with their university center. The top outcome is making connections with other entities (with 54% of clients having reported that outcome). Thirty-seven percent (37%) of clients have avoided misdirected efforts. About one-third of the clients realized the creation or development of an economic development strategy through their center's assistance. Another third indicated they have realized cost savings due to process improvements facilitated by their center.

Outcomes reported by clients can be tied directly to role played by UCs in building capabilities directly or acting as an institution to build capabilities. Six of the eight outcomes reported are related to building capabilities in individuals, firms and local economies. These outcomes include increased capabilities in business methods, process improvements, strategic planning, and regional economic development. The remaining outcomes are related to making linkages between entities as a social institution.

Outcomes that go beyond pure numbers

In our interviews, we heard over and over again that one of the most important things a university center does is make connections between people and resources. Even though the University Center program is very diverse, we observed that every program makes connections that are needed for economic development. As illustrated in the chapter on activities, many centers develop new connections and/or strengthen existing ones between businesses and university resources, while others connect entrepreneurs (and some do both). Many centers also help entrepreneurs find mentoring and funding sources. The law school university centers give disadvantaged entrepreneurs access to resources, including law students who help entrepreneurs with legal requirements. Other centers connect economic development organizations with funding or data resources. Centers also help local economic development districts or communities make connections between cities and people to obtain the critical mass needed to achieve change.

In combination, university center activities make businesses, organizations, and communities stronger. In many cases, businesses realize cost savings or increased demand for improved products/services. These outcomes may in some cases create jobs, but the immediate impact may not be job creation. The business may be able to
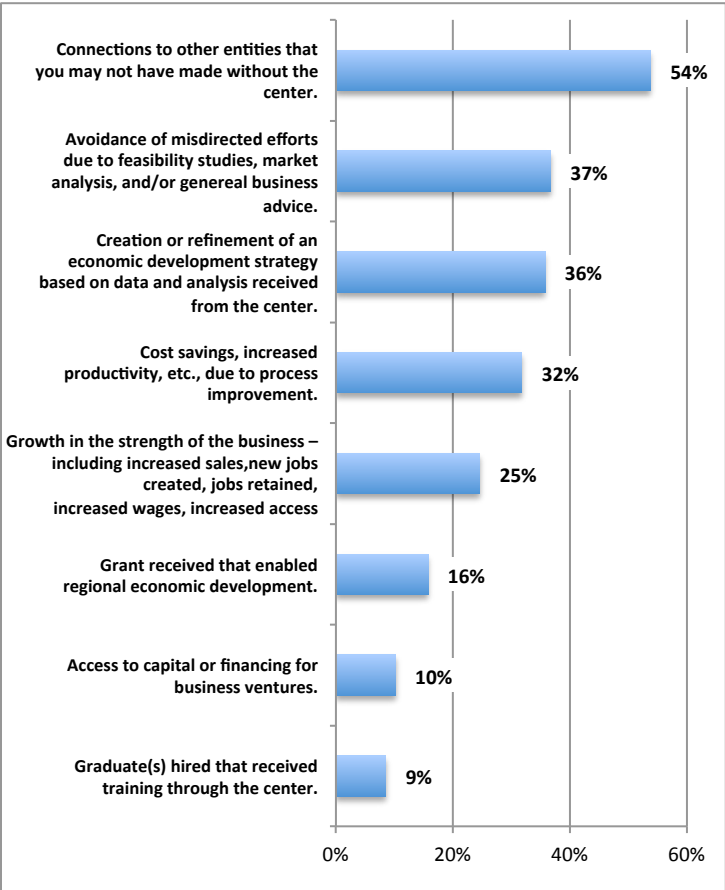
Figure 15. Outcomes that clients attribute to the services provided by their center.

invest in new equipment or in training its employees, or it may offer pay increases to employees.

Centers also make communities stronger by nurturing an entrepreneurship ecosystem – making connections among entrepreneurs or between entrepreneurs and needed resources. Some centers also educate local officials on how to nurture an entrepreneurial ecosystem themselves. Another way centers strengthen their regional economies is through investment in industry clusters. For example, Becker College's Massachusetts Digital Games Institute focuses on strengthening the digital game industry in Massachusetts by making connections between industry and the education system. The Center also surveys the industry to find out what skills are needed in graduates.

Creating stronger economic development organizations and vibrant community organizations are other important outcomes of many university centers. Centers accomplish this by helping regional and local entities with their strategic planning process. Centers are valued for their competent, unbiased research and analysis, which allows the planning process to go further with a higher quality.

Or centers train local officials in economic development principles, disaster preparedness, etc. For example, one client's group was strengthened and refined by the formation of a nonprofit corporation and proper bylaws and operating standards.

The education of students (in other words, workforce training) is by far one of the largest outcomes (or impacts) from the University Center program and yet is the most overlooked in the current reporting structure. As illustrated over and over through the previous chapters, students work on many university center projects – either by working directly for clients or for the centers themselves. Some students learn as part of a class, while other students learn in a hands-on way as a student intern in a local company. Students learn from these experiences, which benefits not only the current client but also the future employers of these students. Internships are highly valued by employers as a proxy for skills that are not taught in traditional classes. These experiences increase the chances that students will be hired upon graduation, and frequently students are offered employment by the client for which they interned.

One of the most cited and valued outcomes of the University Center program is that, in addition to increasing their skills, students are introduced to rural businesses, which they may never have heard about because these businesses do not hire enough employees to warrant participating in campus career fairs. Students who intern in rural businesses and are hired by these companies stay in the rural regions, many of which suffer from "brain drain" and the flight of young, educated people to larger cities.

These are important outcomes that promote long-term job creation through the development of high-skilled regional talent pools, and business expansion in regional innovation clusters.

Connecting Activities and Outcomes

Clients were asked about the services they received from university centers and the outcomes they experienced. Though these data are pertinent only to clients who responded to our survey, the 315 clients who did respond provide a good overview of the connection between activities and outcomes. For many outcomes, the activities spanned all the client groups.

Clients reported that many different types of activities led to the outcome of connections to other entities that they may not have made without the center. Clients that reported this outcome tended to receive the following types of assistance:

- Building economic development strategies (e.g., through workforce analysis, measurement of entrepreneurship and innovation, general analysis of regional economic data, economic impact analysis, etc.);
- Early stage entrepreneur support services (e.g., business plan writing, locating capital, pitch coaching, incubator space, entrepreneurship mentoring, etc.);
- Training in economic development practices, grant writing, and other capacity building.

Likewise, clients who cited the outcome of avoidance of misdirected efforts due to feasibility studies, market analysis, and/or general business advice tended to receive the following assistance:

- Building economic development strategies (e.g., through workforce analysis, measurement of entrepreneurship and innovation, general analysis of regional economic data, economic impact analysis, etc.);
- Early stage entrepreneur support services
- Training in economic development practices, grant writing, and other capacity building;
- Assistance in new product development (e.g., market studies, feasibility studies, prototype development, etc.).

Clients that reported an outcome of cost savings, increased productivity, etc., due to process improvement tended to indicate they received the following assistance:

- Assistance in new product development;
- Process improvement or core business training for existing business.

Clients that cited an outcome of growth in the strength of the business – including increased sales, new jobs created, jobs retained, increased wages, increased access to capital – tended to indicate they received the following assistance:

- Training in economic development practices, grant writing, and other capacity building;
- Assistance in new product development;

- Process improvement or core business training for existing business.

Clients that reported an outcome of a grant received that enabled regional economic development tended to indicate they received the following assistance:

- Building economic development strategies;
- Early stage entrepreneur support services;
- Training in economic development practices, grant writing, and other capacity building.

Clients that cited an outcome of creation or refinement of an economic development strategy based on data and analysis received from the center tended to indicate they received the following assistance:

- Building economic development strategies;
- Training in economic development practices, grant writing, and other capacity building;
- Assistance in new product development.

Clients that cited an outcome of access to capital or financing for business ventures also tended to indicate they received early stage entrepreneur support services.

The narrow connection between some business services and business cost savings and increased productivity is straightforward. More striking is how a broad array of activities works in combination to meet many client needs. This finding is consistent with an understanding of UCs as broad-spectrum institutions, and as institutions with a focus on capacity building for the future, whether directed at entrepreneurs, existing firms, and whole communities.

University Center: Impacts and Best Practices

At the heart of this University Center program study is the identification of activities that realize economic development goals, as well as analysis of "best practices." In what follows we will identify practices thought to be exemplary, highlight the linkages between these practices and the outputs and outcomes produced by or for beneficiaries, and articulate possible lessons to be learned for other university centers.

Analytical Challenges

A best practice should be distinguished from a success story. Through the site visits, surveys, and interviews that inform this assessment we have encountered numerous success stories — centers that have accomplished their goals as reflected in output and outcome metrics, including feedback from clients and stakeholders. But a best practice is a way of working that systematically yields success on a regular basis – a way of working that can be parsed, shared, and adopted by others. Furthermore, a best practice not only yields success but is also more effective and/or efficient than any other way of working.

This means that a "best practice" is defined through rigorous comparison. In a perfect world, a best practice may be discovered where you have enterprises (with the same goal(s)) that are all alike except along one dimension – that of the activity or practice in question. These enterprises realize measured outputs and outcomes. In such a case, as long as there are theoretical or empirical reasons why the practices and activities identified give rise to the outputs and outcomes observed, the activity associated with the greatest impact or outcome on a regular basis is plausibly the best practice—better than other ways of working.

However, in the case of the EDA University Center program, none of the "perfect" conditions identified

above is present. This assessment is analyzing 58 programs engaged in activities that serve four broad client groups. The programs in question are in some cases long established, and in other cases very recent. They are attached to very different institutions, located in very different regions of the country, and aim to meet very different local and regional needs. Their outputs and outcomes are varied, often hard to measure, and intrinsically difficult to compare.

While the inventory that is part of this report has categorized center activities in four ways, there is a great deal of variation within each category. For example, appropriate activities in support of start-ups will vary based on characteristics of the local economy (urban or rural), characteristics of the institutional home for each center, and several other variables. In short, even within a single defined set of activities, no two centers are alike.

Measuring impact is equally problematic. Here it is helpful to compare the circumstances facing the assessment of university centers to those involved in the assessment of a closely related set of programs – business incubators. Incubators, some at institutions of higher education and some outside the campus environment, have been subject to a great deal of evaluation over many years. There are hundreds across the country, all engaged in a very similar activity – broadly stated, the nurturing of start-up enterprises. The outputs and outcomes (jobs created, capital invested, etc.) would seem to be relatively easy to measure.

And yet fine-grained analysis of all the specific practices involved in running an incubator yields a list of more than

30 services.[15] Furthermore, effective data collection of outputs and outcomes is difficult (it depends on the response of clients), and subject to significant selection bias. Under such circumstances, even very sophisticated data analytics may yield only modest findings.

The circumstances of the individual centers that comprise the EDA University Center program are much more varied, and their outputs and outcomes are much less clear-cut – especially when the age of the center is taken into account. Since this project was limited to only currently funded university centers, for many of them it is too soon to have a statistically significant amount of outcomes. It is fair to say, therefore, that a quantitative approach is impractical and ineffective – and quite possibly misleading.

An Empirical, Qualitative Approach

Another way to approach the challenge of assessment is by relying on a qualitatively rich understanding of the structure of the institutions involved and of their activities, based on information obtained through direct and indirect means. This understanding should be clearly mapped, and the connections among the elements closely specified. The information informing this exercise is derived from a variety of resources, including external reports, written materials, self-assessment, surveys, etc.

The Michigan State University publication, "Points of Distinction: A Guidebook for Planning and Evaluating Quality Outreach," remains a model approach to the qualitatively complex issue of external engagement, and offers a useful set of qualitative measures of impact.[16] Another very rich analysis of the different logic models that prevail across units involved in external engagement, together with a detailed mapping of impacts by unit and by domain, can be found in a recent report from North Carolina State University, "Impact: What Counts is What's Counted" (final report of the Benchmarking Economic

Development Impacts task force).[17] These reports show that a qualitative approach is certainly possible, and in this case we argue it is the only practical way available.

Logic Model: University Center program Overview

Reliable assessment of the University Center program requires a clear and detailed picture of the way centers work, including their circumstances, resources, activities, and outputs. What follows first is a discussion centered on a very general logic model for the program as a whole. This will show how the environment, the institution, and other elements are systematically important for practice regardless of the very different goals and activities being pursued by any particular center. While the experience of the assessment team and the views of many center staff, clients, and stakeholders have underlined the great variety that exists within the center program; common themes have also been observed. That is the best place to begin the discussion.

Figure 16 is a high-level logic model for the program as a whole. On the left are three sets of conditions identified by center leaders and staff, clients, and stakeholders as consequential for center success. These conditions are not exhaustive of all the different underlying circumstances that may matter, but the evidence suggests that they have general and significant consequences.

Underlying Conditions: Scale and Region

As the discussion of the history of the University Center program indicates, over time there has been an evolution in the goals set for the center grant as described in the federal funding announcement, as well as a shift toward new programs and away from the renewal of existing programs. An important consequence of these changes is that there is a great difference in scale among institutions that are home to university centers, with many large statewide universities operating alongside much smaller regional institutions. In addition, the age of centers varies drastically, with more than one-third of the centers coming into the program in the last three years.

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[15] See David A. Lewis, Elsie Harper-Anderson, and Lawrence A. Molnar, "Incubating Success: Incubation Best Practices That Lead to Successful New Ventures," p. 32 (2011, Institute for Research on Labor, Employment, and the Economy, Ann Arbor, Michigan).
[16] http://outreach.msu.edu/documents/pod_2009ed.pdf, pp. 24-25.

[17] http://www.ncsu.edu/extension/documents/Impact_2_fulldraft_1.pdf, pp. 36-60.
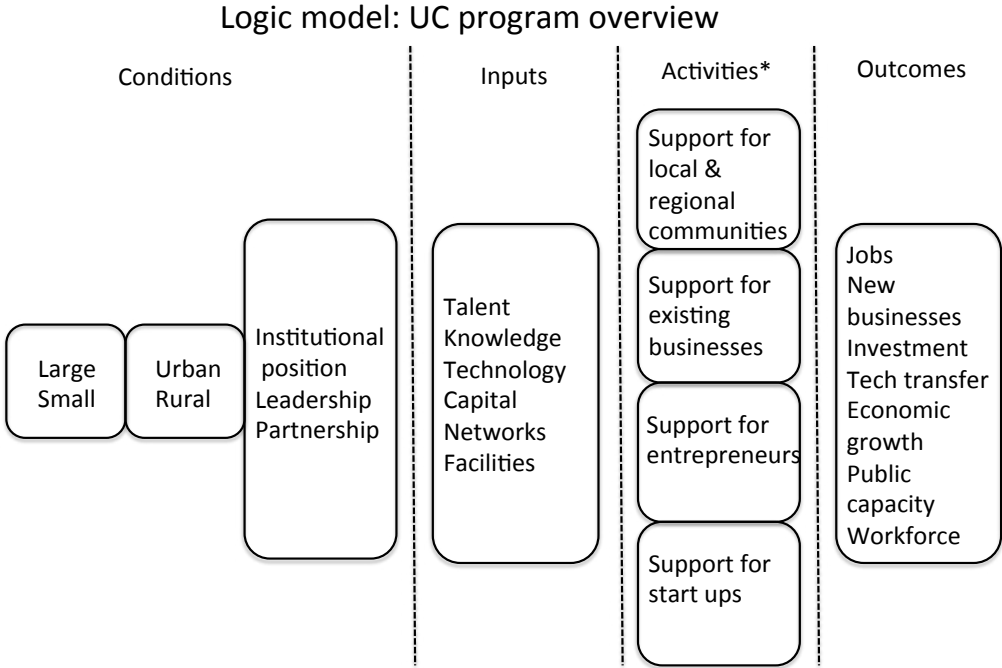
Logic model: UC program overview

* Education & experience for students is an additional activity/output
achieved through the external activities enumerated above

Figure 16. Logic model of the University Center program.

These differences are reflected in the way the centers work. Those inside large institutions with several established, allied programs often play a coordinating role and invest center resources in a generic capacity that acts as a "force multiplier" for other programs. Those at smaller institutions are more narrowly focused on specific activities. From this it follows that the best way to work at a larger institution may be very different from the best way to work at a smaller center under much more restricted circumstances.

Furthermore, centers are distributed fairly broadly across the country. While some are located in major cities, many have largely rural service areas. This difference is also consequential for the way a center operates. In rural areas, networks are thinner, assets more limited, talent harder to find. This, in turn, means that activities that make use of these inputs must be adapted accordingly, often with quite different outcomes. Simply stated, one kind of best practice may apply in rural areas, and another kind in urban areas.

Given the modest scale of the University Center program, how centers leverage their resources is also important.

The program grant is small, and so centers have to combine it with other resources to be truly effective.

Best Practice: Leverage of Resources

Leveraging university resources, of course, is the main goal of the program, and most centers do it to varying degree. As reviewed in previous section, human talent is a major resource for centers. Free or low-cost labor stretches the university center grant and allows more assistance to occur. In some cases, volunteer student labor is the only additional resource that centers have (for example, at the law school university centers) for the match required as part of the grant.

In many cases, the university center is co-located with other federal programs (e.g., NIST MEP, SBA), which provides them with access to other professionals' time. Many centers pay small amounts for these experts to help Center clients. By combining several sources of funding to support these positions, institutions that host University Centers have a much deeper expert bench. Many center staff cited this type of leverage as a way to have a greater impact. For example, the Western Carolina University Center leverages its partnership with the Small Business

and Technology Development Center to provide services that it could not provide on its own.

Every center leverages the badge of the EDA university center. This badge brings them credibility. As one center director said, "Being a university center I think opens doors when we are looking at regional opportunities and opportunities to participate in other federal funding proposals." A stakeholder of another center said, "Being a university center creates an objectivity and credibility that an individual organization may not have."

The vast majority of university centers (84%) leverage faculty expertise and most clients and stakeholders (74%) cite faculty expertise as an advantage of the center's connection to the university. However, survey respondents also indicated that timeliness was a disadvantage of working with the university. To be effective, centers must find ways to successfully motivate faculty. For example, the University of South Dakota leverages its ability to provide faculty with summer salary to secure timely engagements through the academic year.

Underlying Conditions: Leadership and Institutions

The two broad divides described above – large/small and urban/rural – are background conditions beyond the control of any center, although they should be taken into account when identifying best practices. However, other general conditions that shape the way centers work are more capable of alteration, especially in the areas of leadership and institutional position.

While there is a great deal of discussion of leadership in higher education and beyond, there is no systematic theory for how to successfully train or recruit good leaders. Yet many people involved in the center program and in university engagement generally agree that leadership is an indispensible ingredient for success. In particular, successful leaders of centers are not only leaders on campus but also – perhaps even more so – leaders among the stakeholders and clients that the center serves, with many years of work experience among such constituencies.

The institutional position of a center is also critical. The University Center program engages external clients in order to apply the resources of higher education to the challenges of employment, business development, and regional economic growth. The evidence from the

research conducted for this assessment is that this mission is best accomplished through a client-facing institutional arrangement, which is responsive to external needs and located wholly or partly outside the hierarchy of academic units. Furthermore, a center that reports to a senior leader within the university (for example, a Vice-Provost for Research), and therefore enjoys general salience within the institution, will find it easier to mobilize resources from across the institution.

Leadership and institutional circumstances can be changed. Getting them right is an opportunity for best practice regardless of the kinds of activity being pursued. This assessment has identified two foundational practices that apply in these areas.

Best Practice: Recognized Leader with Deep Experience

This is not a very counterintuitive or surprising practice, but there is general belief that experienced, established leadership can make all the difference. Ideally, a university center director will provide strong intellectual and technical leadership, and build and maintain strong relationships with university faculty and staff across various departments and capacities, as well as with external public and private partners.

Many clients and stakeholders attributed their satisfaction with their center's work to the leadership of the center. Many center staff also cited, as a best practice, having a leader with off-campus experience. In many cases this leader is the principal investigator on the grant; however, in other cases a highly integrated staff member with the "real-world" experience also fills this role. Clients and stakeholders value this expertise.

A strong leader is most effective at creating and maintaining networks – an important activity for every client, and the number one output cited by clients and stakeholders. For many, these connections led to funding for new ventures or to the creation of regional strategies that promote the goals of the program. Strong networks are also the key to leveraging faculty expertise. Many interviewees mentioned the "silo" culture that exists on campuses among (and within) departments, and they attribute a successful center practice to strong leadership that transcends barriers and coordinates the expertise needed for the client.

Centers without widely recognized leadership or that had high turnover of directors did not have very high satisfaction levels as measured by the client and stakeholder survey.

Best Practice: Salient, Client-Facing Institution

Reporting pathways and institutional incentive structures matter. Having a visible connection to the university leadership is invaluable in mobilizing resources both inside and outside the university. As one center director said, "When you have commitment from the top that this is an important activity, then a lot of people pay attention."

A center that is prominent and that takes its cues from the outside world is more likely to succeed. Many center directors mentioned being focused outside the university as a best practice, and clients and stakeholders cited this as a reason for their satisfaction with their center. For example, one client was satisfied because of the "level of expertise provided, customer service mentality, and partnership [that] extended to the community. We appreciate the business minded approach taken rather than merely academically focused." Client-facing institutions are more ingrained in their communities and regions. They have a better understanding of the region's problems and steps that need to be taken to address these problems.

Logic model: Support for local & regional communities
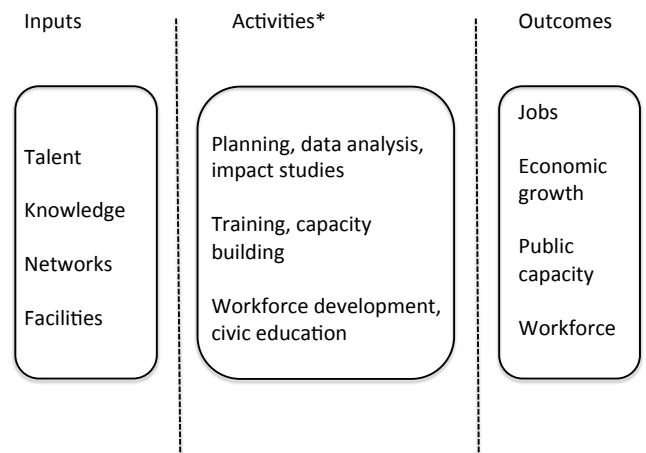
* Education & experience for students is an additional activity/output achieved through the external activities enumerated above

Figure 17. Logic model for local and regional communities.

Logic Model: Support for Local and Regional Communities

Beyond general best practices that can apply to any center, there are more specific practices connected to each of the four categories of center activities identified by the background research for this assessment project.

Illustrative Examples

Recognized Leader with Deep Experience

Many university centers have directors or highly placed and integrated staff with established work experience off-campus. The following is a partial, illustrative list of center directors and staff that are example of this practice:

- Becker College's Monty Sharma who before MassDiGI, was a founder and general manager for Integrated Services for Vivox, worked with game companies around the world from Sony Online to *World of Tanks*.
- Northeastern University's Pete Sessa had his own law firm in Boston until retiring.
- Kansas State University's Jeff Tucker is highly involved in the state-wide economic development community.
- University of Nevada, Reno's Tom Harris has built strong partnerships with rural communities through his affiliation with the Cooperative Extension and his hands-on approach, attending local meetings and events whenever possible.
- Prior to joining Syracuse University, Entrepreneur in Residence John Liddy worked on research and development for a start-up company and then in corporate management for several years.
- Temple University's Dr. Youngjin Yoo has worked with leading companies including Samsung Electronics, American Greetings, Bendix, Moen, Intel, Ford Motor Company, Andersen Consulting, IDEO, Gehry and Partners, University Hospitals in Cleveland, American Management Systems, Lotus, NASA, Parker Hannifin, Poly One and the Department of Housing and Urban Development.
- The University of New Orleans's director Ivan Miestchovich, who is a tenured faculty member, sits on many local advisory boards as well as routinely participates in or facilitates meetings focused on some aspect of recovery and rebuilding at the regional or local level.

Illustrative Examples

Salient, Client Facing Institution

Private firms in the service sector, delivering professional services, often struggle to face their clients as much as needed. This challenge is even greater for an academic institution. But through its institutional location, and the practice of its staff, centers are closely connected to the clients and stakeholders they serve. Some illustrative examples include:

- Many university centers, for example at North Dakota State University, the University of South Carolina, and the Georgia Institute of Technology, are co-located with an incubator, which allows them to have daily interactions with clients.
- The University of Florida TechConnect® holds an annual Celebration of Innovation where the University of Florida President and Vice-President of Research each gives a brief talk about the center signaling the commitment that the University leadership has to the incubator.
- The Institute for Economic Advancement at the University of Arkansas at Little Rock enjoys separate, direct support from the state, and a separate institutional history with a statewide mission (it reports to the Dean of the Business School on administrative issues only).
- MassDiGI University Center at Becker University strives to facilitate strong links among the digital games industry, higher education, and the public sector to strategically foster job growth and economic development in Massachusetts in the digital games industry. They are focused outward on the Massachusetts digital games community by being constantly engaged in industry events and public policy debates.

Support for local and regional communities is a long-established area of work for university centers that now exists alongside a more recent emphasis on entrepreneurship and innovation. The logic model in Figure 17 lays out the inputs, activities, and outcomes associated with this category of activity.

The information gathered as part of this assessment has underlined the very low capacity of some of the public entities (local governments, EDDs, etc.) served by centers in rural areas. They are unable to conduct effective analysis of their needs or to develop strategic plans. Any activity aimed at supporting economic development must recognize that the clients in such cases often cannot come to a central office, cannot afford to pay for training programs, and may only have a poor understanding of the challenges they face and the value of the services available to them. In such cases, successful center programs are always willing to go to the customers and meet them at their level of need and understanding.

The ability of a university center to engage a client, elicit trust, and provide broad support is determined in part by the scale and scope of the networks in which the center participates. Survey responses on best practices by centers consistently identified networks as crucial to success. Further, while in some regions of the country and

in some service areas there are established business and other stakeholder networks, this is not always the case. The best way of working when leveraging networks is to help build, as well as use, them effectively.

Best Practice: Go to the Client

This approach seems to be obvious, yet many units at universities with engagement roles, including some Centers, expect clients and stakeholders to find their way onto campus, knock on the right door, or call the right number. The best programs have leaders who spend a tremendous amount of time in the field, knocking on the client's door. As one director said, "Do as much work as possible at the business or in the community you're helping. We have seen a marked increase in our successes by going to the customer versus having them come to us. There is a comfort level having comfortable surroundings." Successful programs will have a wide range of clients across their region, and will put on workshops where the clients are located.

Best Practice: Build Your Own Networks

Networks matter – participating in networks and drawing clients into supporting networks is crucial. Every center director attributed part of their center's success to the networks they have formed and/or leveraged. As one center director said, "We couldn't hit a fraction of our

economic development goals by ourselves. This is a long road…to established partnerships and a network of people that share the same mission and goal of growth and jobs. It is easier said than done, but it is worth it. It is the only way that we can continue to really make more of a difference."

Another center director echoed this sentiment, saying, "You have to go out and start talking to people. It may not be a hit the first time, or the first four times… but you make those relationships. You have to be there and you have to be persistent." Centers that are successful at building networks show that they are getting out into their community, attending events, and facilitating events that bring people together. The central importance of networks to the capacity of a community or region is a classic example of the informal institutional capital or social capital fostered by economic development.

Illustrative Examples

Go to the Client

Many centers make the effort to get out into the community and go to the client. This can range from knocking on doors to becoming very involved in the economic development community through attendance at meetings, etc. Here a some illustrative examples:

- The Technology Resource Institute at Mississippi State University strives to cultivate innovation by "building out the last mile" of entrepreneurship in rural and distressed counties through on-site entrepreneur training programs in communities such as Winona and Greenwood, Mississippi.
- The University of Arkansas at Little Rock's Institute for Economic Advancement staff travels all of the state of Arkansas to hold regional meetings on economic development topics, private and public partnerships, and to hold training for local officials.
- Arkansas State University's Delta Center for Economic Development goes into the small communities in the Mississippi Delta to lead them through economic development strategic planning. The staff interviews citizens to gather an understanding of the region.
- Northeastern University Law School University Center students present workshops on legal issues to child care workers who are looking to expand their business at their local community development organization.

Illustrative Examples

Build Your Own Networks

Successful centers build on all the assets available to them. But in some service areas critical elements for an economic/innovation ecosystem may be undersupplied. Networks are a leading example of this problem. An effective practice is to develop them and then use them.

- Iowa State University of Science & Technology's University Center is hosted by the Center for Industrial Research & Service. The Center's work focuses on Regional Trade Centers (RTC), which are typically micropolitan-based regions composed of numerous smaller cities that are economically linked. The Center uses a data-driven scientific approach to identify and select RTCs with a core population between 5,000 and 10,000 and that have the potential for growth. Then the Center works at the community and business level to develop and implement plans for long-term sustainable regional economic growth. The Center uses the triple bottom line concept to help community and business leaders develop and implement plans with the goal of ensuring sustainable people, planet, and profit in the RTC.
- University Center at Kansas State University established the Kansas Opportunity Innovation Network, which maps networks of technology providers, expertise, capital, and potential business partners that possess complimentary competencies who can enable center clients to respond in a competitive manner to readily connect and combine opportunities, companies, communities, and regions.
- Purdue University has developed a model for Open Source Economic Development (OSED) that depends on networks. "Strategic Doing" is used to quickly develop sophisticated collaborations across organizational and political boundaries. It provides a simple discipline that allows people in loosely joined open networks to think and act strategically.

Logic Model: Support for Existing Businesses

The present focus on innovation as a key part of the University Center program applies to existing businesses as much as to the more glamorous activities of entrepreneurs and business start-ups. Innovation should be everywhere, in established and lower tech sectors as much as in new areas. Indeed, because centers often serve regions subject to painful economic adjustment as a result of international competition or technological change, meeting the needs of established businesses struggling to adjust is a critical activity. A logic model for support for existing businesses is provided in Figure 18.

Established businesses have near-at-hand problems that need practical solutions. They tend not to be in search of a silver bullet in the form of new technology, though new technologies may be helpful. That is why mobilizing the talent and knowledge available at a university is the critical element in providing support. In this category of activities, the effective use of students, as well as faculty, has been widely observed. A faculty member cannot easily go on-site to a small enterprise and wrestle with the details of a marketing plan or of business process improvements. But for a student, this represents valuable work experience. Creative programs that meet student and client needs – a "two client" approach – are an effective and widely employed practice.

When businesses need technical assistance for a specific product, that assistance should be very carefully adapted to needs and to market opportunities. For example, small manufacturers may need rapid prototyping in order to make necessary product improvements, or may require access to applied research in exactly their area of technical need. Universities can offer needed facilities and applied research only when they have long-established relationships to local business networks and a deep understanding of market conditions.

Best Practice: Serving Two Clients

Students play a key role in the work of nearly all university centers, and benefit far beyond any hourly compensation they receive. Graduate students in particular can cut their teeth on real-world problems while providing very reasonable, even free business support. The key to this practice is ensuring that student contributions are available when needed and that they are well directed and well supervised.

Logic model: Support for existing businesses
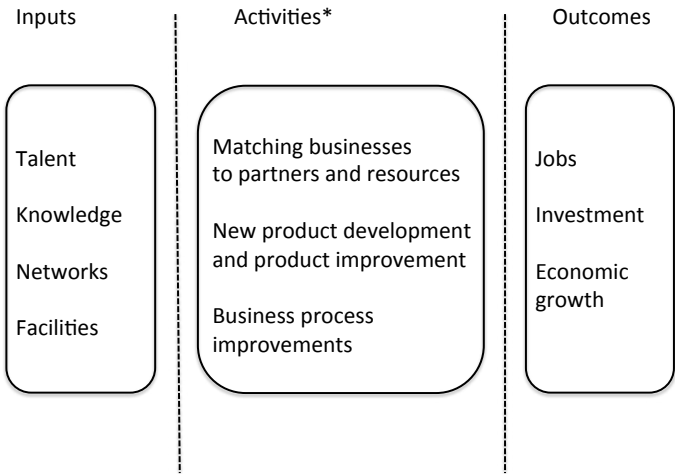
* Education & experience for students is an additional activity/output achieved through the external activities enumerated above

Figure 18. Logic Model for supporting existing businesses

Clients highly value this type of service. As one client said, "The teams provide a high quality product/service for an extremely affordable cost to the companies that we have referred. One company commented they would have paid tens of thousands of dollars to an out of state consultant for the quality product that was provided by MBA students."

The training of students through student labor, which almost every center does to some degree, is an important activity to promote the goal of developing a high-skilled regional talent pool. Students learn valuable skills, companies increase their productivity or develop new products, and students are exposed to regional companies.

Successful programs will not only meet the needs of the client by improving a business, commercializing a project, or making a community strong, but will also result in students being hired by regional organizations. Clients like to meet the talent coming out of universities under controlled conditions. Activities of this kind are good at matching skills with future employment opportunities, and access to students in this way constitutes a key advantage for the services being offered.

As noted earlier, while existing businesses have the most immediate, "transactional" needs, using students in this way will have a longer-term impact on the local workforce pool.

Best Practice: Understanding Needs

Fine-grained attention to the particular needs of local businesses and the market opportunities they face will allow for well-directed and effective support. Part of this is getting out to the client. As one center director said, "You have to work directly where you are going to make a difference. Whether training or assistance you have to work directly with the companies. You have to go inside the companies as opposed to the universities. You have to go to the people."

Clients value a center that takes the time to understand their needs. From example, one client attributed his high satisfaction to the fact that "those associated with this Center have a very good understanding of the economic climate in our area." Another client attributed his satisfaction to "the team demonstrating their understanding that each project is different as is each community." Any local or regional economy will be home to highly specialized clusters of businesses and population sub-groups. A center cannot expect to be truly effective in meeting their needs unless it develops high quality business intelligence as a guide for action.

Illustrative Examples

Serving Two Clients

University centers are uniquely situated in that one of their most valuable resources—students—are also clients. The experience they earn, even as they serve center clients, is increasingly valuable – illustrative examples include:

- Entrepreneurship Works for Kansas, The University of Kansas's EDA University Center provides technical assistance to a wide-range of clients through its Jayhawk Consulting program, which is an application-based class that undertakes real-world projects for clients. Jayhawk Consulting gives KU students the opportunity to acquire hands-on experiential learning.
- South Dakota State University's SDSU University Center supports faculty/student teams to perform productivity, energy audit, and supply chain systems analysis for South Dakota manufacturers and construction companies
- Mississippi State University's Technology Resource Institute uses teams of MBA students to work on with business. Clients praised their work; as one said, we were referred to the center "for a match with a student MBA team for their capstone marketing project. [The director] did an exceptional job matching me with distance students who were also active professionals in various areas of healthcare. The result was a thorough report on our strengths and weaknesses, an excellent framework for our design optimization process, and the core of our market analysis data in our business plan and investor projections. This was really exciting, not just because it was useful information, but because it was provided completely free of charge, and was fully encapsulated within their students' coursework. Super impressed with the total package, and would have never been able to access this level of consulting with my highly constricted start-up capital".

Illustrative Examples

Understanding Needs

When businesses need technical assistance for a specific product, that assistance will need to be very carefully adapted to needs and to market opportunities. Several centers make a real effort to understand the needs of their clients. One illustrative example is:
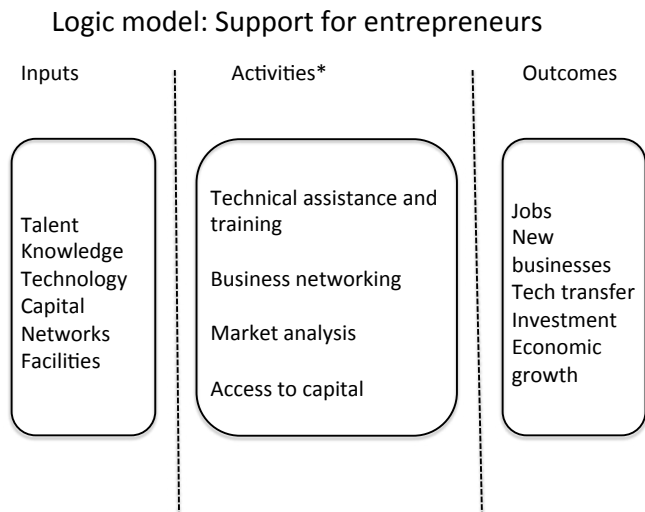
- The service area of the University Center at Northern New Mexico College faces very unique challenges related to the largely rural and disadvantaged region that is home to a number of Native American pueblos and tribes. The Center strives to increase opportunities for higher-skill, higher-wage jobs in the region, through the development of value-added sectors that build on existing capabilities and industries. To do this, the Center has to understand what the region needs. Instead of trying to open a high-tech incubator or create an angel funding group, they focus on the needs of their region by providing assistance that aligns with the agricultural base of their region.

Logic Model: Support for Entrepreneurs

Higher education institutions are the natural source of many of the entrepreneurs who will bring economic transformation to a region, although entrepreneurs may also be discovered outside an institution's gates, and may also be well-served by entrepreneurship programs. The increasing focus on entrepreneurs and entrepreneurship by the University Center program is only part of a much broader shift towards building a culture of entrepreneurship among younger generations. The logic model in Figure 19 captures the critical activities associated with the support of entrepreneurs. It is safe to say that many centers are engaged in most or all of these activities.

Entrepreneurship programs have matured a great deal over the last few years, and consist of much more than just business plan competitions (although such competitions remain a useful ingredient). Many centers report high levels of participation by students and others in their programs, and in many cases, successful businesses have been established. Practices are widely shared and constantly evolving, and it is not easy to select a best practice. However, two kinds of improvements on widely used activities were identified.

Mentorship is a critical ingredient for success in entrepreneurship. Those who have shared the experience best understand the pitfalls that any entrepreneur will encounter. But having a mentor who is distant or who perhaps has more of an academic background is not ideal. Mentors should be well suited to those they serve. One solution is working in mixed teams; another is careful recruitment from the local economy.

Logic model: Support for entrepreneurs

Inputs	Activities*	Outcomes
Talent Knowledge Technology Capital Networks Facilities	Technical assistance and training; Business networking; Market analysis; Access to capital	Jobs New businesses Tech transfer Investment Economic growth

* Education & experience for students is an additional activity/output achieved through the external activities enumerated above

Figure 19. Logic model for supporting entrepreneurs

Also, while the projects that entrepreneurs pursue are incredibly varied, research for this assessment suggests that highly focused programs – programs focused on certain technologies tightly aligned with specific needs – seem to yield significant results. A community of activity centered on a specific niche proves to be highly fertile. A center cannot be all things to all people, especially new centers, which may not have the resources of a larger well-established center.

Best Practice: Well-Matched Mentors

Entrepreneurs, especially young entrepreneurs, need structured counsel and guidance that is well matched to their technical and business needs and concerns. Two

reasons that new economies have thrived in the Silicon Valley, the Research Triangle, and Virginia's Route 123 are a mechanism for knowledge transfer and an entrepreneurial culture. University centers that facilitate these through the matching of mentors are successful in moving entrepreneurs closer to their goals.

Best Practice: Focused Communities

Just as an artistic community thrives when it works as a particular "school," there is evidence that focusing the work of a community of entrepreneurs in one particular area yields outsized gains. Centers that are successful in focusing on one community may see clear outcomes such as increases in the size of that industry cluster in their region, as businesses become stronger and hire. In addition, centers may also see an increase in students associated with their university center getting jobs as they are trained in fields and skills that meet community and workforce needs.

Illustrative Examples

Well Matched Mentors

Mentorship is a critical ingredient for success in entrepreneurship and many centers focus much effort into providing or facilitating mentoring. Here a some illustrative examples:

- University of Florida Tech Connect® pairs faculty inventors with entrepreneurs to write business plans based on their technologies, conducts market feasibility studies, assists in identifying resources to assist in proof of concept and connects them with potential funding sources.
- Wyoming Technology Business Center at the University of Wyoming focuses on developing "entrepreneurial nodes" throughout the state made up of a number of technology based, high growth companies through its e2e prorgam, which is a networking and educational group that matches entrepreneurs and people interested in entrepreneurship in order to help them get to know each other and learn about issues related to starting and growing a high growth company.
- The Raymond von Dran Innovation and Disruptive Entrepreneurship Accelerator at Syracuse University's core project, the Syracuse Student Sandbox, provides early-stage/entrepreneurship support to student ventures, including incubation space, technical assistance from the center's Entrepreneur in Residence and mentor teams, and a step-by-step incubation program.
- The East Central Illinois University Center offers Entrepreneur-In-Residence counseling services to University Center and Research Park clients, as well as university researchers.
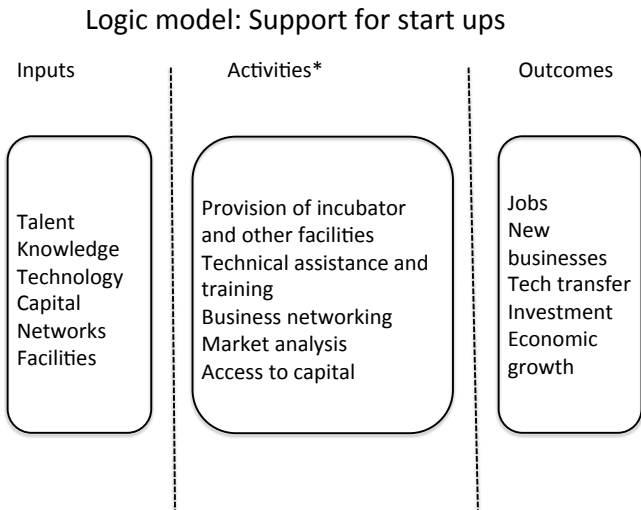
Illustrative Example

Focused Communities

One example is MassDiGI University Center at Becker College, which strives to facilitate strong links among the digital games industry, higher education, and the public sector to strategically foster job growth and economic development in Massachusetts. The Center strives to mobilize an existing network of synergistic and complementary organizations and leverages the state's unique competitive strengths to create jobs and focus on broader prosperity. The MassDiGI UC's goal is to build on the Commonwealth's primary asset- its knowledge-based economy- to nurture and expand the digital games industry in Massachusetts through academic support, product development, technology commercialization, and targeted activities that cultivate entrepreneurship. The Center promotes the industry to stabilize small- and medium-size developers in the region through public policy efforts, appearances and talks (both in person and in print), and attendance at a wide variety of conferences and industry events. In addition the center's applied research activities include an industry survey on skills needed or technology used, which is fed into the college courses at Becker and in the region. Becker also host two major events a year. The first is a Game Jam where students come for 24-48 hours and work with a group of fellow students to develop a game. The games are judged and the best ideas are developed further during the summer internship program (see success box). The internship both develops the game through technical and business mentoring and trains students in real-world game development.

In addition, the Center holds an 11-week summer internship program calls the Summer Innovation Program. The program accepts around 20 students, who are given room and board and a stipend. Students are placed on teams to work on a sponsored game idea as a simulated independent studio. Students work on all aspects of the game development cycle from design and planning to coding to business models and project management. Industry representatives evaluate the projects throughout the summer and serve as mentors by giving students advice about next steps for their project and next steps in their careers. The internship simulates a real job and gives students experience that prepares them for their future career. The first Summer Innovation Program (SIP) produced one entertainment game that was provided through Apple's App Store and one serious game that won an international award.

Logic Model: Support for Start-Ups

New business is the lifeblood of the economy and an important part of any return to growth. This set of activities is, of course, tightly linked to the support for entrepreneurs discussed above. But a business plan is where this set of activities begins. The goal is a viable new business, and in addition to the ingredients discussed above, it is clear that university intellectual property also plays a critical role in providing a start-up with a competitive edge. And yet at the other end of the spectrum, there remain many communities in which a low-tech new business is a very welcome development. University centers show themselves to be well adapted to both of these different circumstances. Figure 20 displays a logic model for assistance to start-ups.

As noted in an earlier chapter, university centers are not the central players in technology transfer, but they often provide broader, enabling services so that an

Logic model: Support for start ups

Inputs	Activities*	Outcomes
Talent Knowledge Technology Capital Networks Facilities	Provision of incubator and other facilities Technical assistance and training Business networking Market analysis Access to capital	Jobs New businesses Tech transfer Investment Economic growth

* Education & experience for students is an additional activity/output achieved through the external activities enumerated above

Figure 20. Logic model for supporting start-ups

entrepreneur or a business centered on new technology also get support in marketing, financing, etc. Incubators often play an important role in these cases. University centers situated at large institutions achieve a great deal by virtue of their connections to incubators, other facilities within their home institutions, and partners across the state. For example, the impact of the center at Penn State is achieved in part through a network of regional partners. Most important of all, partnership with others is an opportunity to match technology and other services from many different sources to many different needs – in short, to obtain gains from economies of scope.

At the other end of the continuum, fostering start-ups among communities that are not naturally tied to universities requires focused efforts to understand the needs of potential clients. Such communities may have little information about the services that are available, and may even be skeptical about the value of services from an academic institution. The solution is deliberate efforts to map individual communities and deliberate efforts to engage them on their own ground.

Finally, while start-ups need a range of services, it is almost always certain that among them will be finance. Raising money at an early stage is hard, but without financing any new business will be stillborn. Early-stage financing involves networks. No main street financial institution will back three students with a business plan in an incubator. In urban and coastal areas, there exist venture funds, angel networks, and other private sources that can be tapped. Some university centers have a long and successful track record of making connections to this kind of financial support. But in more rural areas, the lack of easy access to capital has inspired two centers to establish their own early-stage funds.

Best Practice: Broad Technology Partnerships

High-impact centers focused on start-ups are characterized by the systematic use of connections across institutions. One center director attributed the success of his center's SBIR/STTR assistance program to the networks that the center had formed, allowing it to "tap into a powerful network and refer people to the right place. We've connected the dots and have been able to leverage our network and support structure." However, many directors caution that one must be strategic with one's partnerships, because "you can spend all day drinking coffee with people." Most centers depend on networks to be effective, and so caring for and feeding networks is itself a best practice, especially in rural areas.

Best Practice: Map and Engage Communities

Valuable start-ups are possible in any community, often far from the wall of the academy. Their support will require very deliberate engagement strategies. Incubators define these engagements well, and also facilitate the mentoring and knowledge transfer needed for a vibrant community. Successful incubators will enable companies to create jobs and attract capital.

Best Practice: Fill Financial Gaps

Finance is critical, and making the connection to sources of finance is a valuable role for a center. But where financial resources are thin on the ground, a center may resort to mobilizing capital itself. Several centers do this well, and the formation of angel groups in rural Louisiana and Kentucky point to these centers' success.

Illustrative Example

Broad Technology Partnerships

High-impact centers focused on start-ups are characterized by the systematic use of connections across institutions. One example is:

- Enterprise Innovation Institute (IE[2]) is Georgia Institute of Technology's EDA University Center. The Center provides assistance and research to a wide client base in its support for local entrepreneurs and start-ups, the innovation culture in general, and economic development support for communities. In addition, the Center provides services to entrepreneurs and start-ups through VenutreLab, which provides many services such as developing business models, connecting new entrepreneurs with existing entrepreneurs (mentoring), helping locate sources of early-stage financing, and preparing new companies for global markets. The staff help companies find funding, including helping them writing grant funding applications. The applied research part of the Center's program focuses on systematically benchmarking university technology transfer programs and then advising both their program and other university programs.

Illustrative Example

Map and Engage Communities

Incubators define these engagements well, and also facilitate the mentoring and knowledge transfer needed for a vibrant community. University of Kentucky's Von Allmen Center for Entrepreneurship spent many years building its network of partnerships on the state, regional, and local level. For example, their network of private investors grew into the Blue Grass Angels in 2004 with 69 individual accredited investors. Aggregating the individual member investments with the BGA Venture Funds, local investors have now invested in 27 regional startups, providing $9.1 million in seed capital, which has been leveraged to more than $85 million in total funding for these 27 companies.

Illustrative Example

Fill the Financial Gap

In an effort to promote entrepreneurship and technology commercialization in a rural setting where lack of access to networks of other entrepreneurs, resources, and investment capital can hamper growth, the Louisiana Tech University's Louisiana Tech Enterprise Center created a Regional Innovators Network, which consists of over 600 individual members, businesses, and communities from northern Louisiana. This network spawned an early-stage seed capital fund named the Innovation Enterprise Fund. The Enterprise Center has helped raise over $250,000 and has the goal of raising $1 million. The Center also administers the fund's small grants, which are awarded to early stage companies that are spin-offs from Louisiana Tech's technology transfer activities. Companies apply for the funding and priority is given to companies that appear likely to have a substantial local or regional impact. Two rounds of funding have been completed. By creating a network and building community relationships, the enterprise center played a major part in meeting a critical need for the growth of innovation in their region.

Appendix A

This Appendix contains a profile for each university center. Each center's profile includes center-specific details of the broad topics presented in main report. The centers are presented in alphabetical order by the name of their university:

Arkansas State University
Auburn University
Becker College
Boise State University
Bowling Green St University
California State University, Chico and Fresno
Cleveland State University
Creighton University School of Law
Delaware State University
Duquesne University
Fayetteville State University
Georgia Institute of Technology
Iowa State University of Science and Technology
Kansas State University
Lamar University
Louisiana Tech University
Marshall University Research Corporation
Michigan State University
Mississippi State University
Montana State University & University of Montana
Northeastern University
Northern Arizona University, Flagstaff
Northern New Mexico College
The Pennsylvania State University
Purdue University
Rogers State University
Rutgers, The State University of New Jersey
South Dakota State University
Southwestern Oklahoma State University
Syracuse University/ CenterState Corporation for
   Economic Opportunity
Temple University
Texas A&M U - Corpus Christi

University of Wisconsin-Milwaukee
University of Alaska, Anchorage
University of Arkansas at Little Rock
University of Connecticut
University of Florida
University of Hawaii, Honolulu
University of Illinois
University of Kansas
University of Kentucky
University Of Maryland, College Park/ Morgan State
   University
University of Minnesota
University of Missouri
University of Nevada, Reno
University of New Orleans
University of North Carolina
University of North Dakota
University of Oregon, Eugene
University of Puerto Rico, Mayaguez Campus
University of South Carolina
University of Southern Maine
University of Tennessee
University of Wyoming
Virginia Polytechnic Institute and State University
Washington State University, Pullman
West Texas A&M University
Western Carolina University

DELTA CENTER FOR ECONOMIC DEVELOPMENT

University
Arkansas State University

Center Director
Alan McVey

Center Location
College of Business
outreach arm

Center since 1989

Center Activities
- Technical assistance
- Economic analysis
- Economic development training
- Entrepreneurship support
- Incubator services

Clients
- Local government
- Regional communities
- Community development organizations
- Entrepreneurs

Assessment Techniques
- Program staff feedback
- Client interviews

Contact Information
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amcvey@astate.edu

Delta Center for Economic Development

The Delta Center for Economic Development is the Arkansas State University's EDA University Center. Supported by the grant, matching funds from the University, and a partner organization, the director leads a wide range of outreach activities that seek to promote capacity building for the diversification of the regional economic base and the stimulation of job growth through economic development and technical assistance, applied research, and dissemination of information. The Center targets the chronic economic distress of the Mississippi Delta region of Arkansas. While progress is evident, areas of desperate poverty, high unemployment, and low-wage jobs still prevail in the Delta.

Goals & Activities

The Delta Center provides assistance to regional communities on countywide strategic plans for economic development that address weaknesses and threats and that maximize the use of assets and resources identified as strengths and

opportunities. These communities are small and often cannot attain the critical mass of community capital necessary to be effective or competitive. Therefore, in addition to direct assistance, the Delta Center also provides leadership training on the latest rural economic development concepts and practices such as the identification of emerging and growing innovation clusters.
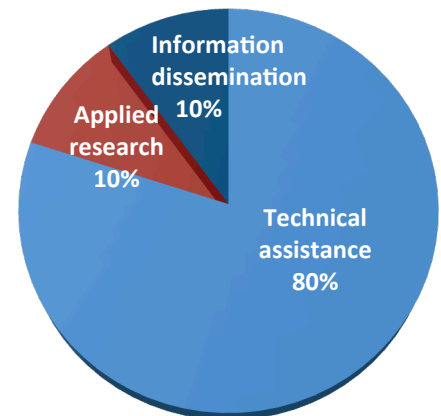
Because the Center believes that being involved in the community is very important to economic development, it focuses on going out into the community to find and work with champions for economic development. To that goal, the Center provides assistance to regional communities through seminars and workshops on

issues related to economic, business, and regional development.

The Center also partners with the wet-lab incubator on campus to provide support to entrepreneurs through activities such as business plan writing.

Leveraging

The Delta Center leverages the analytical expertise of faculty members, especially economists, to help it perform its analysis. Faculty work out of professional courtesy, but if the project is large and the client has some resources, the faculty member may be paid at much less than the market rate. The Center also leverages students by placing them in internships with companies. The Center leverages the campus EDA-funded technology incubator and the Arkansas Biosciences Institute by partnering with the lab to provide services such as business plans, while the incubator provides the physical location.

Success

Powering Rural Development

The Powering Rural Development Program assists small cities through county-led economic development strategic planning. The project is co-funded by the Electric Cooperatives of Arkansas, which shows regional commitment to the program. The counties receive on-site training, technical assistance, and coaching in organizational development, collaboration, and project management provided by economic professionals from the Center.

Center staff members visit the region and survey the citizens, asking questions such as: What is special about this place? What is new in the county? Are there signs of innovation and risk-taking in the area? How is the Internet being used in this area of the county? Who are the key groups and institutions in the area that would be willing to partner as goals are developed? The Delta center compiles the results and shares them with the region's steering committee.

Many Delta communities struggle with the planning process and often do not have a comprehensive plan in place. Their planning is too local (small town only), thus they cannot attain the critical mass of community capital necessary to be effective or competitive. The goal of this program is to support the development of a plan to foster a true regional economy by aggregating small communities.

AUBURN
TECHNICAL ASSISTANCE CENTER

Center Activities
- Incubator services
- Product design assistance
- Entrepreneurship support
- Innovation and commercialization support
- Lean government training
- Strategic economic plans

Clients
- Entrepreneurs
- Start-ups
- Existing businesses
- Local governments

Assessment Techniques
- Feedback from staff
- Client video interviews
- Case studies
- Client economic impact studies

Contact Information
auburnworks.org/
mixsoad@auburn.edu

Auburn University's Auburn Technical Assistance Center provides technical assistance and training in the areas of research commercialization, innovation and entrepreneurship, and development of a high-skilled workforce. The Center strives to help "bridge the gaps" in Alabama's innovation ecosystem. The Center supports and leverages Auburn University's Commercialization Initiative to create a more intentional approach to developing Auburn's innovation ecosystem and the state's efforts of aligning external economic development partners. The Center is supported by the grant, the University, and local and state government funding. In addition, the Center leverages federal funding from the NIST Manufacturing Extension Partnership.

Activities

In partnership with the University's Industrial & Graphic Design Department and the Economic Development Partnership of Alabama, the Center seeks to accelerate the commercialization of Alabama start-ups with University resources through assistance to innovative start-ups by providing product and graphic design support (see success box). In addition, the Center works with Auburn University's Office of Technology Transfer to help identify potential faculty start-ups. The Center also aims to spur student entrepreneurship by providing early stage concept evaluation and assistance as well as early stage due diligence regarding
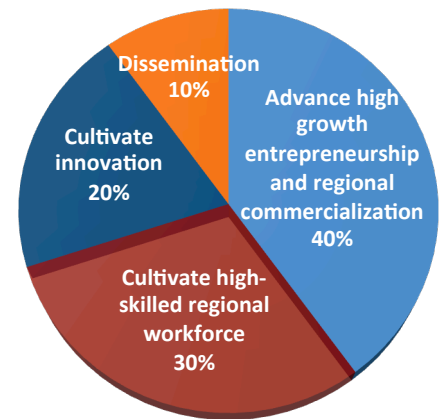
potential licensing of start-ups associated with a discovery.

The Center provides existing businesses with Six Sigma quality training and implementation assistance that helps manufacturers reduce variance in their products or processes and helps them remain competitive.

The Center strives to spur innovation in distressed areas and areas without innovation activity by working with existing businesses to create, communicate, and commercialize new or existing ideas.

In addition, the Center works with government to provide local officials assistance and training in lean government systems to spur process improvement and increase management efficiencies. The Center also assists towns affected by disasters by joining Economic Recovery Task Force efforts to identify financing sources and rebuilding priorities.

Leveraging

The Center leverages extensively Auburn's Office of Technology Transfer and the Auburn University Business Incubator. Through these organizations, the client has an

> *"The center is proactive in helping local communities and takes a strong role in promoting economic development. They are willing to work with University research centers in creating new knowledge that could be used to spawn companies."*
> *-- Center Stakeholder*

increased the probability of success because each partner is able to provide a piece of help where the sum is greater than its parts. The Center leverages other resources within the University, including students and faculty that provide design services and University-provided data and special equipment. Outside the University, the Center leverages its 16-year relationship with the statewide Alabama Technology Network to better understand community and business needs, challenges, and partnership opportunities. In addition, the Center leverages its existing relationships with economic development organizations and other public institutions.

Success

Advancing innovation in existing companies in Alabama's distressed communities

Auburn Technical Assistance Center (ATAC) is closing innovation ecosystem gaps by delivering technical assistance on innovation to existing manufacturing companies in distressed regions. ATAC has integrated Auburn University's highly ranked Industrial Design and Graphic Design Department with the center's outreach services to existing businesses. The Center uses carefully supervised student teams to combine traditional market research, manufacturing process research, user research, and form and function research with product design. This industrial design research is offered to Alabama businesses at a substantial cost savings. In addition, the Center has partnered with the Economic Development Partnership of Alabama Foundation to support the ALABAMA Launchpad Business Plan Competition, which supports new and innovative ventures in the seed or early-growth stages and existing businesses moving into a new high-growth market. Launchpad is a competition where winners have access to business advice and start-up and development capital.

An example client is Medsnap, a high-tech start-up located in Birmingham's Innovation Depot, which is solving a key problem of medication adherence to reduce hospital readmissions and healthcare costs. To help the company launch its offering, Auburn's Center provided key research and product design for a medicine tray through their Industrial Design Department.

Auburn Technical Assistance Center has shown how both students and external clients can be served by a program that is targeted on client need, carefully directs student contributions, and has an impact on both new and existing businesses and communities.

Mass. DiGi
Digital Games Institute

University
Becker College

Center Director
Timothy Loew

Center Location
Outreach unit

Center since 2011

Center Activities
- Entrepreneur coaching
- Matchmaking
- Networking
- Student internships
- Incubation
- Applied research

Clients
- Entrepreneurs
- Start-ups
- Existing businesses
- Students

Assessment Techniques
- Feedback from staff
- Client interviews
- Case studies

Contact Information
http://www.massdigi.org/
timothy.loew@massdigi.org

Massachusetts Digital Games Institute

MassDiGI University Center strives to facilitate strong links among the digital games industry, higher education, and the public sector to strategically foster job growth and economic development in Massachusetts. The Center mobilizes an existing network of synergistic and complementary organizations and leverages the state's unique competitive strengths to create jobs and focus on broader prosperity. The MassDiGI Center's goal is to build on the Commonwealth's primary asset – its knowledge-based economy – to nurture and expand the digital games industry in Massachusetts through academic support, product development, technology commercialization, and targeted activities that cultivate entrepreneurship. The Center is supported by the grant, matching funds from the University, state government funds, foundation and nonprofits funds, and program fees, as well as corporate support.

Activities

The Center's activities focus around increasing the amount of video games published in the region and on training students in the state of the art skills required in this fast moving industry. One way the Center trains students is through a Game Jam where students come for 24-48 hours and work with a group of fellow students to develop a game. The games are judged and the best ideas are developed further during the summer internship program (see success box). The internship
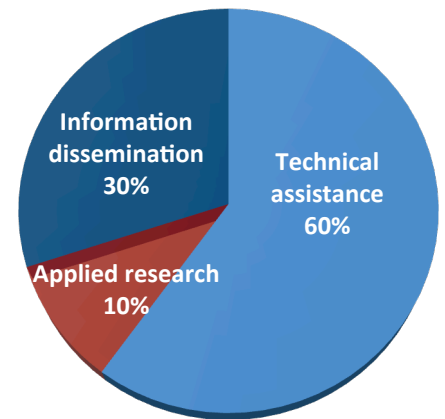
develops the game through technical and business mentoring and also trains students in real-world game development.

The Center promotes the industry to stabilize small- and medium-size developers in the region through public policy efforts, appearances and talks

(both in person and in print), and attendance at a wide variety of conferences and industry events. In addition, the Center's applied research activities include an industry survey on skills needed or technology used that feeds into the college courses at Becker and in the region.

Leveraging

The Center extensively leverages its connections in the digital gaming industry cultivated by the director and his staff. One staff member has many years of experience in the digital game industry. The Center also works closely with higher education institutions throughout Massachusetts, including Worcester Polytechnic Institute, as well as throughout the region. In addition, the Center leverages both university students and faculty to make a connection between training and industry needs, as well as to cultivate entrepreneurship through its programs.

Success

MassDiGI leverages its connections across the gaming sector as well as academic institutions to align student training with industry needs.

The Massachusetts Digital Games Institute (MassDiGI) holds an 11-week summer internship program called the Summer Innovation Program. The program accepts around 20 students, who are given room and board and a stipend. Students are placed on teams to work on a sponsored game idea as a simulated independent studio. Students work on all aspects of the game development cycle from design and planning to coding to business models and project management. Industry representatives evaluate the projects throughout the summer and serve as mentors by giving students advice about next steps for their project and next steps in their careers. The internship simulates a real job and gives students experience that prepares them for their future career. The first Summer Innovation Program (SIP) produced one entertainment game that was provided through Apple's App Store and one non-entertainment game that won an international award.

MassDiGI has aligned itself with one core strength of Becker College (digital game education) and uses its deep connection to industry to align student training with key entrepreneurial skills as well as the needs of future employers.

"I believe the Mass DiGI program to be a great opportunity for students to try their hand working in a semi-real world situation. Because my team and I worked towards the release of our game at the end of the SIP program, we were able to see our work as more than a few scattered assignments for a grade, just like a project would be in the industry. In my opinion, the Mass DiGI SIP program provides better insight into industry work experience than college courses alone can, and it's an experience that every game design student should be allowed to have at some point during their college career."

--Center Client

University

Boise State University
University of Idaho
Idaho State University

Center Director

Steve Hatten

Center Location

College of Engineering

Center since 1996

Center Activities

- Assessments related to economy, energy, and environment programs
- Training and workshops
- Assistance related to standards
- Export assistance

Clients

- Existing businesses
- Entrepreneurs

Assessment Techniques

- Client satisfaction surveys
- Case studies
- NIST MEP surveys

Contact Information

www.techhelp.org
shatten@boisestate.edu

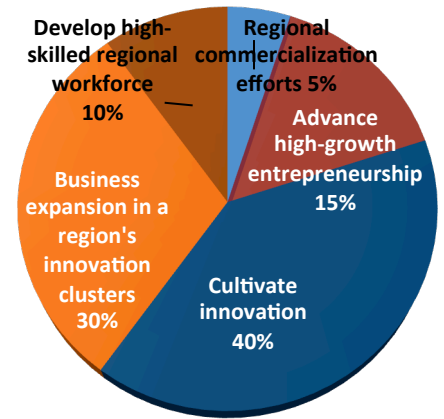# TECHHELP

SOLUTIONS FOR MANUFACTURERS

TechHelp

TechHelp, the EDA University Center hosted at Boise State University (BSU) in Idaho, assists Idaho manufacturers to be more innovative to grow revenue, improve productivity, and add jobs. From offices in Boise, Post Falls, and Pocatello, TechHelp specialists and its network of public and private third party partners provide technical and professional assistance to Idaho manufacturers, food and dairy processors, and inventors with the goal of strengthening their global competitiveness through continuous innovation on new and improved products, markets, and processes. The Center focuses on increasing productivity and competitiveness through process improvements and on increasing export sales by Idaho firms. In addition, the Center strives to drive product and service innovation throughout the state. The Center is supported by the grant, the state government, the NIST Manufacturing Extension Partnership (MEP) program, the University, and program fees.

Activities

The Center provides Idaho manufactures with an assessment of potential energy, environmental, and efficiency (e.g., lean) savings, which is followed by training. Then the Center provides implementation support to realize those savings and improve economic performance.

Food and dairy safety are a concern to many state firms and the Center

Pie chart:
- Regional commercialization efforts 5%
- Advance high-growth entrepreneurship 15%
- Cultivate innovation 40%
- Business expansion in a region's innovation clusters 30%
- Develop high-skilled regional workforce 10%

provides training to food and dairy processors to enhance their food safety systems in order to meet requirements established by their customers and by the Food and Drug Administration. The Center holds public workshops and private in-plant food safety technical training and assistance for company leadership,

managers, and employees.

The Center also helps firms grow revenue through commercialization assistance such as public and private innovation workshops, innovation process and structure support, and implementation support. It also provides assistance with product

"Tech Help is critical to the development of the Dairy Industry in Idaho. It provide excellent training initiatives and contacts with the University of Idaho faculty." --Center Client

design, rapid prototyping, and testing services through the New Product Development Lab at Boise State University.

Leveraging

The Center leverages their network of experienced staff and proven partners from private industry, Idaho's universities, and the National MEP network to develop trusted and lasting relationships with Idaho companies and communities. In addition, the export program

leverages the Center's relationship with the Idaho District Export Council and its members, as well as with international business students who help with the project. In addition, engineering students are highly engaged in the Center's commercialization/new product development assistance projects. The Center leverages university resources including data sources, analytical expertise, specialized equipment for commercialization assistance, and the technology transfer office.

Success

Leveraging extensive partnerships and outside resources to reach companies statewide

TechHelp provides the state's important manufacturing sector with a complete suite of services and brings expertise and best practices to the state's distressed communities. For example, in 2011 Rekluse Motor Sports was selected for Idaho's 2011 Export Excellence Program to receive help in assessing and entering global markets. A Boise State international business student and a Council member worked with the company to develop an export action plan for the company's automatic clutch for dirt bikes (which had been developed with help from TechHelp in 2002). From this plan, Rekluse developed a

Strategic Export Action Plan designed to strengthen its EU distribution network and increase EU sales by 25% in 2012. In addition, Rekluse moved to a new modern plant in Boise in early 2012, and former student engineer of TechHelp and Boise State went on to become their R&D Manager.

A key element in this success has been TechHelp's active leveraging of partnerships and outside resources to implement its programs. TechHelp is a partnership of three universities – Boise State University, University of Idaho, and Idaho State University. The Center can draw upon numerous colleges and departments within the three universities to meet client needs. This arrangement also allows

it to operate offices in four different regions around the state to better serve its clients in distressed and rural regions. In addition to serving as an EDA University Center, TechHelp is also an affiliate of NIST's Manufacturing Extension Partnership, allowing it access to a wide range of advanced manufacturing best practices and expert consultants.

TechHelp uses a heavily collaborative approach to providing technical assistance throughout the state by drawing upon the resources and expertise of three universities and by leveraging multiple federal funding sources.

Rural Universities Consortium University Center

The Rural Universities Consortium (RUC) University Center is a joint endeavor of Bowling Green State University's (BGSU) Center for Regional Development and Ohio University's (OU) Voinovich School of Leadership and Public Affairs. The two partners are located in very different regions within Ohio, each facing very different issues – fairly densely populated northwest Ohio and rural, sparsely populated southeast Ohio. Through programs that address gaps in services for entrepreneurs and small businesses, local economic data, and channels for information sharing, this Center is meeting the disparate needs of two economically distressed regions within the state of Ohio.

Goals & Activities

The Center's activities focus on coordinating and filling gaps in the economic infrastructure that supports small business growth, innovation, and entrepreneurship in its two regional service areas. The Center provides technical assistance to entrepreneurs and small businesses through both one-on-one counseling and group seminars, which focus on topics such as feasibility studies, business plan development, market research, loan application assistance, and other needs. These activities aim to help businesses and entrepreneurs – especially in priority and emerging clusters – to acquire the resources they need to grow and thrive. Since its inception, the Center has assisted 17 companies. Seven of these have
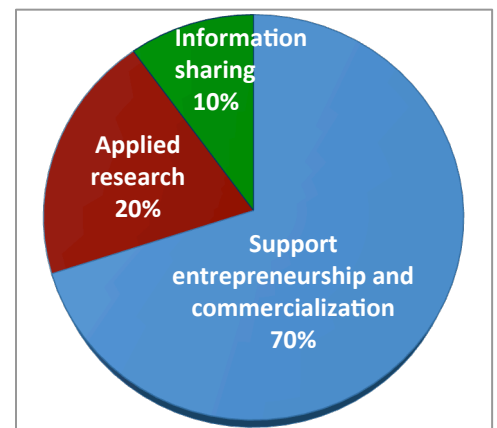
secured grants or pre-seed investments totaling $625,000, two have secured traditional bank financing, and several have experienced significant year-on-year revenue growth.

An additional focus of the Center is applied research and information

dissemination activities that address critical regional gaps in the economic information and data needed by economic developers and businesses. The Center is building an online, GIS-based toolbox that will provide extensive workforce data on occupations, skillsets, commuting patterns, layoffs, and other areas, both for its service region and the state as a whole.

> *"Direct guidance and assistance which improved our business."* --Center client

Leveraging

The Center leverages, complements, and fills gaps in the economic development infrastructure within its two service areas. The Center actively partners with economic development organizations, and by doing so, these organizations become the source of many referrals to the Center for hands-on entrepreneurial assistance.

The Center also provides business support and commercialization services to rural-based innovators that fall outside other technology-based venture development organizations (most of which have an urban focus or serve university- and corporate-based innovators). Additionally, the Center borrows from the toolkits and experience of several other EDA-supported programs in the region and seeks to fill gaps in these programs.

Success

State of the Region Conferences

The RUC Center is addressing the unique challenges in the two regions it services by holding annual meetings focused on regional information sharing, panel discussions, and networking. Participants are a cross-section of regional businesses, public officials, economic development practitioners, academic stakeholders, media, and others.

While the issues to be discussed in each region are vastly different, the State of the Region conferences have been a big success in both regions because regional stakeholders are eager to hear reliable local economic information that is not available from other sources. Additionally, the networking portion of the events is very popular as it provides a forum for people to make new connections and to forge new partnerships and collaborations.

The RUC Center supports information sharing and partnership building in two regions that lack strong networks and informational resources by sponsoring widely popular annual conferences for local stakeholders to discuss issues of local concern.

Online, Real-Time Workforce Tool

There is a fundamental need in NW and SE Ohio to support data-driven decision-making by regional economic and workforce development professionals. To address this gap, the Center is building a suite of online geo-spatial tools that provide key workforce, occupational, and skill set data for its service region and for the state as a whole. The toolbox is currently at the prototype stage, and the goal is to have the entire suite of tools ready by 2016. This kind of information is invaluable for investment attraction, business location decisions, and alignment of workforce programs.

An online GIS-based workforce toolkit developed by the RUC Center will provide the up-to-date data required by businesses and economic developers to make informed decisions about investment, growth, and training opportunities and needs.

CED

Center for Economic Development

University
California State University, Chico
California State University, Fresno

Center Director
Dan Ripke

Center Location
CSU Chico's Center for Economic Development and CSU Fresno's Office of Community & Economic Development

Center since 1986

Center Activities
- Technical assistance
- Applied research
- Entrepreneurial support
- Information dissemination

Clients
- Businesses
- Entrepreneurs
- Targeted industries
- Public agencies
- Research institutions

Assessment Techniques
- Client interviews
- Client surveys
- Case studies

Contact Information
www.cedcal.com
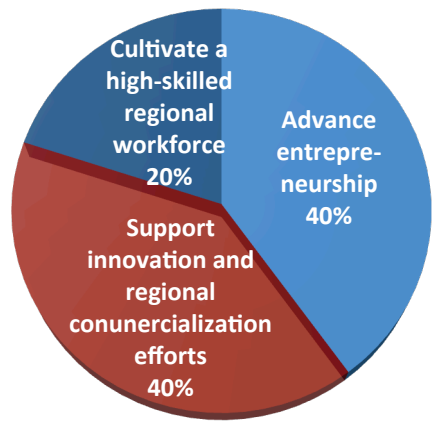dripke@csuchico.edu

Center for Economic Development

The Center for Economic Development (CED) is a partnership between California State University, Chico (CSU Chico) and California State University, Fresno (CSU Fresno), serving 31 counties in California's Great Central Valley. CED is committed to helping Northern California communities and businesses prepare and plan for their future growth through technical assistance, applied research, and competitive intelligence products.

Goals & Activities

CED provides a variety of services that promote community and economic development in northern California (and throughout the state), with a particular focus on cultivating innovative industry growth in targeted high-growth sectors (including agriculture, clean energy, healthcare, and water).

CED supports industry cluster development through its applied research services, including conducting an all-inclusive cluster analysis for the State of California through the California Regional Economies Project. Ongoing work is focusing on applying cluster/asset mapping and strategic planning for local areas within the service region, working with local partners. Other applied research activities draw upon the universities' technical data services and GIS mapping capabilities to address specific needs of regional communities. Webinars and training are also offered for regional partners

to support capacity building in technology commercialization, cluster development, and other areas.

CED supports entrepreneurship and innovation through a variety of services, including developing a regional Entrepreneur Pathway (from

FY 2012

high school to university level) offering training and technical assistance for entrepreneurs and early stage businesses, developing funding networks, providing training and information resources to support SBIR/STTR applicants, and expanding an entrepreneur academy accelerator program.

"CED staff have been exceptional to work with in responsiveness, depth and quality of information/services provided."
--Center client

CED's technical assistance services are delivered through a 4-tier structure that provides both broad services that can assist a large number of businesses and customized, one-on-one support designed for a narrower range of businesses. Assistance is delivered by students/interns and by experienced faculty/researchers.

Leveraging

CED leverages a variety of data resources, analytical expertise, student labor, and technology

transfer from CSU to deliver its services. Each partner brings complementary capabilities: CSU Chico specializes in analysis of economic and demographic data, while CSU Fresno has functional expertise in water, transportation, and storage. The Center also leverages a wide network of regional collaborators and partners with CSU Fresno's Lyles Center for Innovation & Entrepreneurship to deliver entrepreneurial and commercialization support services.

Success

Customer Relationship Management Software

During its 25-year tenure as a University Center, CED has interacted with hundreds of clients through its business and industry technical assistance services. For the past 10 years, CED has used an off-the-shelf Customer Relationship Management (CRM) software. This software has proven to be very helpful in managing the Center, especially in situations involving interns or staff members who may no longer be working there when a problem or repeat request from a client is received. The software is used to log every client interaction. All Center employees have been trained to include the details describing the interaction and the work product provided to the client.

Analyzing client purchase patterns has allowed the Center to predict when certain clients are likely to request specific kinds of data. It also provides an audit trail that is useful for problem solving.

By utilizing software-based tools to manage client interactions, CED maintains consistency and high quality of service in its interactions with its clients.

Technical Assistance for Health Centers

CED has applied its technical data and GIS mapping capabilities to provide critical information and data needed by health centers throughout the State of California. CED worked with 28 health centers in the state over a 6-month period.

Its services have assisted these health centers in understanding the socioeconomics, demographics, and geographical extent of their service areas, through tools such as mapping of patient addresses, thematic mapping, and data collection for needs assessments and grant applications. Work with additional health centers will continue over the coming months

By applying its advanced data, mapping, and research tools to address the unique needs of health centers, CED is helping them become more competitive in their grant applications and to expand their services in neighborhoods where employment is needed.

Maxine Goodman Levin
College of Urban Affairs
Center for Economic Development

University
Cleveland State University

Center Director
Ziona Austrian

Center Location
Research Center within CSU's
Levin College of Urban Affairs

Center since 1985

Center Activities
- Applied research
- Technical assistance
- Industry cluster development
- Entrepreneurship & innovation support

Clients
- State/regional economic development/industry partnerships and organizations
- Public agencies
- Entrepreneurs
- Start-up companies

Assessment Techniques
- Client interviews
- Informal feedback

Contact Information
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Center for Economic Development

Cleveland State University's (CSU) Center for Economic Development provides applied research, technical assistance services, and dissemination to regional, statewide, and national economic development organizations that drive innovation, entrepreneurship, and regional collaboration. The Center's contributions are strongly linked to its network of partners – influential organizations that seek to create innovation clusters and to develop regional talent, entrepreneurship, and business expansion.

Goals & Activities

The Center's activities are heavily focused on providing applied research services that support other organizations whose focus is on advancing innovation, entrepreneurship, and target cluster development in northeast Ohio and statewide. For example, the Center has conducted a statewide target industry study in partnership with JobsOhio, to support the state's job creation/retention efforts in strategic industries. The Center also conducted trend and impact analysis on the state's bioscience industry, and prepared a database of bioscience companies, working with BioOhio. Other applied research activities have focused on specific high-tech sectors that are important in northeast Ohio, such as advanced energy (working with the Ohio Shale Coalition), and manufacturing (working with the region's Manufacturing Advocacy &

Cultivate a high-skilled regional workforce 20%

Work to advance entrepreneurship 40%

Support innovation and regional commercialization 40%
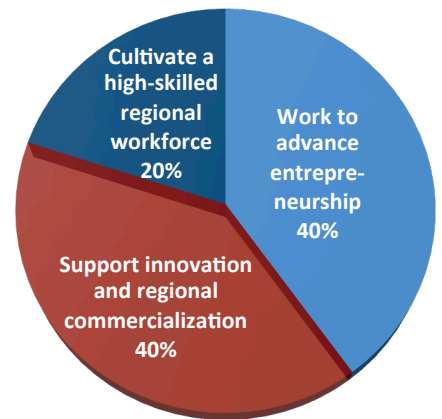
Growth Network). In addition to these types of partner-driven research studies, the Center produces an annual dashboard of economic indicators that tracks and disseminates information about the region's competitiveness.

In addition to its research activities, the Center provides technical assistance to

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start-ups and entrepreneurs, primarily working through a partner organization Shaker LauchHouse (a business incubator), by placing graduate assistants on-site to work directly with start-up companies to provide complimentary market research and other business services.

Leveraging

CSU's Center for Economic Development is fully integrated into the Levin College of Urban Affairs, accessing its technology and website capacity, data and GIS capabilities, faculty expertise, and administrative functions including budget and human resources. The Center also collaborates with the College of Business Administration on joint research and technical assistance projects. Most Center activities leverage a wide network of regional and state organizations, including other universities, local/state government, industry associations, non-profit organizations, and others. The Center's strategic research, analysis, and guidance help advance the industry and innovation-focused activities of these partner organizations.

Success

Data Mining to Advance Partner Programs

JobsOhio, a private, nonprofit organization that promotes job creation and economic development for Ohio, needed reliable data and information to underpin its statewide efforts to attract and retain jobs in strategic industry sectors. To support this endeavor, JobsOhio sought assistance from Cleveland State University's Center for Economic Development to define and analyze target industries for the state. The Center produced 13 detailed reports on target industries and business functions, and it supported JobsOhio in presenting the target industry data to its Board and to the Governor. The Center also developed a list of international companies in each target industry, as well as a general list of Ohio companies with estimated employment and sales data. The Center's work was instrumental in preparing JobsOhio to lead in Ohio's job creation efforts.

By applying its specialized expertise in data mining and working with large federal datasets, CSU's Center for Economic Development is able provide partner organizations with the information they need to implement well-grounded, effective programs that advance innovation, entrepreneurship, and economic development in Ohio.

"The Center has been very responsive to the project needs and has been flexible as the parameters of the project have evolved. I have every confidence that we will be getting a good product."

--Center client

Nebraska

University
Creighton University School of Law

Center Director
Milo Alexander

Center Location
School of Law

Center since 2007

Center Activities
- Business legal matters counseling
- Training and workshops
- Applied research

Clients
- Entrepreneurs
- Microenterprises
- Nonprofits

Assessment Techniques
- Feedback from workshops
- Client satisfaction surveys

Contact Information
http://www.creighton.edu/law/clinics/communityeconomicdevelopmentclinic
miloalexander@creighton.edu

Creighton University School of Law Community Economic Development Clinic

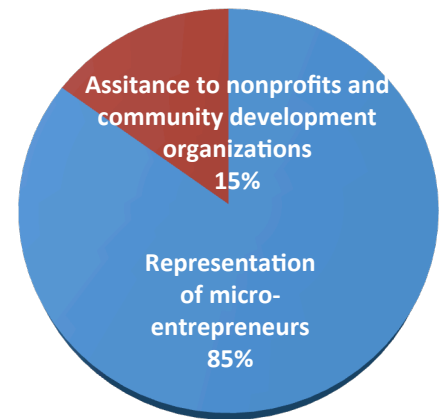## Community Economic Development Law Clinic

The Community Economic Development Clinic is the University Center at the Creighton University School of Law. The grant supports this clinic, which requires students to work about 16 hours a week to assist entrepreneurs, microenterprises, and nonprofits with legal matters. The clients are mainly from distressed rural areas and urban pockets of poverty where major employers are few and employment trends are negative.

Activities

The Center provides business attorney services in the form of business planning and organization. Business organization services assist clients in the choice of business form, which has substantial consequences in terms of self-employment taxes, ease of operation, personal liability, and allocation of revenue and duties among owners. In addition, the Center helps clients with contracts tailored to the enterprise's specific needs and with tax planning. The Center also hosts business law workshops addressing law-related

concerns of particular interest to micro-entrepreneurs, enabling them to operate more efficiently and maximize profits. Finally, the Center has published a handbook for microentrepreneurs.

The Center conducts applied research on the impact of access to attorneys on microenterprises by following their own clients.

Assitance to nonprofits and community development organizations 15%

Representation of micro-entrepreneurs 85%

Leveraging

The Center leverages the students and faculty extensively. Students provide the bulk of the work to the clients, while supervised by the Clinic faculty. The Center leverages its relationship with the Rural Enterprise Assistance Project (REAP), a rural Nebraska

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microenterprise development fund. REAP refers graduates of its micro-enterprise development program and entrepreneurs working with REAP business counselors to the Clinic. In addition, the Center leverages partnerships with Catholic Charities Microbusiness Training and Development Program and the Midlands Latino Community Development Corporation to provide workshop and classes on business issues related to legal issues.

> *"The Center is needed to help and assist small start-ups with legal business recommendations at a reduced cost. I love working with the Center. I think giving students the opportunity to work on "real" project in a safe environment is a win/win for all involved."*
>
> *--Center Client*

Success

Creighton University's Community Economic Development (CED) Law Clinic provides high-quality legal services to entities that would not be able afford the same quality of services elsewhere

The Center began working with No More Empty Pots™ (NMEP) in January 2009. NMEP's founders, Nancy Williams and Susan Whitfield, came to the Center with an ambitious vision of addressing food insecurity in North Omaha while simultaneously promoting economic development around food-related ventures. Two semesters worth of students worked closely with Nancy and Susan to incorporate NMEP and obtain IRS recognition as a tax exempt 501 (c) (3) public charity. Recognition as a 501 (c) (3) is important for a nonprofit because it means that contributions to it are tax deductible for the donors. It also makes the nonprofit eligible for foundation grants, which are ordinarily limited to 501 (c) (3) organizations. The process of incorporation and IRS recognition of NMEP was complete by the end of 2009.

Since then, NMEP has worked to promote self-sufficiency, food security, and economic development by creating and leading a coalition of people and groups interested in urban agriculture, access to fresh produce from local farmers, development of a commercial kitchen, and other food-related issues. Almost a thousand people have attended community education, organizing, and other events sponsored by NMEP.

Creighton University's CED has shown how students and external clients can both be served by a program that is targeted to client needs and which closely directs student contributions.

Center Activities
- Technical assistance
- Building networks and partnerships

Clients
- Businesses
- Government
- Economic development organizations

Assessment Techniques
- Tracking economic impact and other indicators
- Case studies
- Client interviews
- Client satisfaction surveys

Contact Information
mcasson@desu.edu

Delaware State University
University Center for Economic Development and Trade

University Center for Economic Development and Trade

The University Center for Economic Development and Trade (UCEDT) was created with the goal of promoting and supporting entrepreneurship and workforce development. Founded in 2011, UCEDT is working to build the relationships that will help it to serve businesses, governments, and economic development agencies in the State of Delaware. The Center is located in Delaware State University's College of Business, from which it receives matching support for the EDA Center grant. The Center also is supported by program fees.

Activities

As a new University Center, building relationships and connections to help Delaware State University and UCEDT become stakeholders and resources for economic development and planning in the state is an important Center priority. This work will serve as a foundation for future collaborations and technical assistance projects.

The Center provides technical assistance to local governments, such as the feasibility and impact study in-

progress for the City of Dover, as well as strategic support and guidance on international trade initiatives for companies such as First State Manufacturing, Sanmak Solar Systems, and Mold Masters. The Center has also been working to establish First State Moves the Nation, a jobs and business accelerator, in collaboration with First Aid Manufacturing and the City of Milford.

Pie chart: Advance entrepreneurship 70%, Workforce development 30%
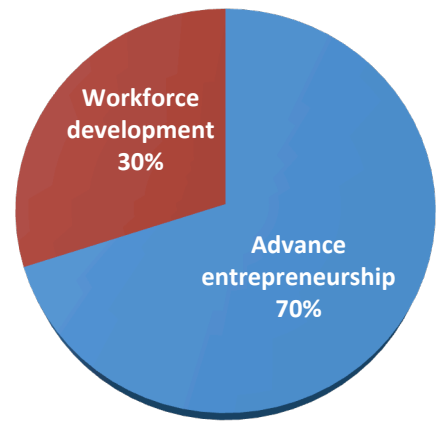
Leveraging

In addition to receiving salary match and workspace from the College of Business, UCEDT has been utilizing students to assist with data collection for the Center. Also, while located in

the College of Business, the Center has broad buy-in from across the University. The Center leverages relationships with the Small Business Administration, Delaware Center for Enterprise Development, Delaware Department of Labor, Delaware Economic Development Organization, and county economic development agencies. In addition, the Center works collaboratively with the University's Adult and Continuing Education Division, Center for IT Services, and Extension Agriculture and Natural Resources Program. The Center also leverages university data sources, faculty expertise, and student labor.

Success

First State Moves the Nation

The University Center for Economic Development and Trade has formed a relationship with First Aid Manufacturing and the City of Milford toward the development of a jobs and business accelerator, First State Moves the Nation. The Center has been involved in the planning process and will provide technical assistance in the form of legal services and/or the creation of a virtual accelerator to enhance the project

An accelerator in the City of Milford makes use of a repurposed building in a distressed area.

Center Activities
- Technical assistance
- Small business competition
- Training of students as green auditors

Clients
- Small businesses (green and traditional)

Assessment Techniques
- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Client satisfaction surveys

Duquesne University Center for Green Industries and Sustainable Business Growth

The Duquesne University Center for Green Industries and Sustainable Business Growth seeks to impart upon the regional populace a working knowledge of the benefits of incorporating sustainable practices into business operations and to increase profitability and competitiveness within the green sectors. It is supported by the EDA University Center program, the University, and partner funds. The Center focuses on providing technical assistance to small businesses, specifically by helping sustainable businesses to grow and by making traditional small businesses more sustainable. Working closely with university and community stakeholders is a key strategy for the Center, allowing it to reach more clients and better leverage all resources available.

Activities

The primary goal of the Duquesne University Center for Green Industries and Sustainable Business Growth is to help small businesses that have the capability to expand and grow in the green market. The Center also works with small businesses in all sectors (whose central business focus is not environment-related) seeking to increase the sustainability of their operations.

The Center's work with small businesses includes one-on-one consulting and regular training workshops. Center consulting services help businesses to identify target

Commercialization 20%

Advance entrepreneurship 80%
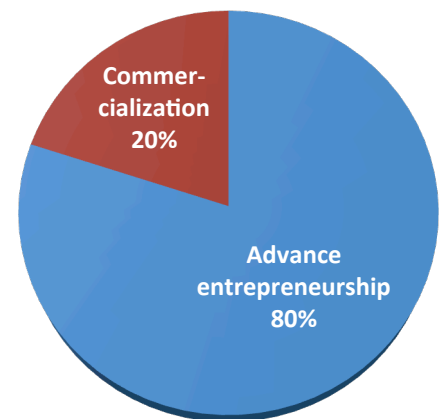
markets, and also provide advice on financing and cash flow, exporting and international trade, and technical/engineering problems. Regular trainings and conferences cover topics such as business start-up, business development, sustainability, green project funding, marketing,

export opportunities, and procurement. During the first seven quarters, the Center has presented 58 workshops and has provided no-cost consulting services to 122 small business clients.

The Center has also developed over ten manuals on topics relevant to sustainability and growth for small businesses, which are utilized in their trainings and consulting work. In 2012, the Center created the Pennsylvania Sustainable Small Business Award and Sustainability Champion Award. In collaboration with Green Seal, the Center is currently working on a small business certification process that will utilize university students as auditors.

> *"My counselor was very helpful in guiding me in the business planning process and the money aspect of my start-up business. Writing realistic goals steps to attaining those goals."*
>
> *--Center Client*

Leveraging

The Duquesne University Center for Green Industries and Sustainable Business Growth has been successful in mobilizing university resources. The University's commitment to sustainability complements the Center's work, and faculty and students from the Center for Environmental Research and Education and the MBA Sustainability program are eager to be involved with the Center. The Center leverages other university resources, such as data and the technology commercialization office. The Center leverages its relations with the Pittsburgh Green Innovators and the Pittsburgh Central Keystone Innovation Zone, which provide funding for the Center's match.

Success

The Pennsylvania Sustainable Small Business Award

The creation of the Pennsylvania Sustainable Small Business Award and Sustainability Champion Award have played an important role in raising the visibility of the Center in the small business community by recognizing achievement in line with the Center mission, and by convening sustainability and small business stakeholders during the selection process.

The Pennsylvania Sustainable Small Business Award was given to ReAxis Inc., a chemical manufacturer committed to environmental sustainability, a diverse workplace, and the community. In addition, ReAxis has achieved a number of rigorous industry certifications, making the company an excellent example of how a business can be "small, sustainable and profitable at the same time," according to Center Director Mary McKinney.

Highly visible awards and technical support have brought sustainability to a hard-to-reach constituency of small and medium businesses.

Sustainability Champion Award

A second award for Sustainability Champion was presented to the Green Building Alliance, a nonprofit that has played a laudable role in the local community through its practice and promotion of sustainable business practices.

North Carolina

University
Fayetteville State University

Center Director
Pamela Jackson

Center Location
College of Business

Center since 2012

Center Activities
- Making connections between clients and resources
- In-depth diagnostic assessments
- Market opportunity analysis
- Workforce assistance

Clients
- Existing business
- Entrepreneurs
- Veterans

Assessment Techniques
- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Client satisfaction surveys

Contact Information
www.uncfsu.edu/eda-university-center
pjackson@uncfsu.edu

FAYETTEVILLE STATE UNIVERSITY

EDA University Center

FSU University Center

Fayetteville State University's University Center focuses primarily on accelerating business expansion in regional innovation clusters by proactively linking existing firms with the knowledge, resources, and technical assistance that will enable them to effectively introduce new products, win new contracts, improve efficiency, and create high paying jobs. The Center strives to address resource gaps that may have hindered prior growth by recruiting new sources of capital and new sources of technical and business expertise to build upon and enhance the resources already available in the region.

Activities

In support of its mission, the Center assembled a comprehensive resource database to facilitate the process of matching entrepreneurs with resources. The Center compiles regional market opportunity reports to assess customer requirements, unmet needs, competitive positioning, and opportunities for growth in emerging sectors within the defense, energy, and agriculture industries. The Center connects with local community development organizations to proactively identify and support companies in targeted segments that have the potential to be scaled to drive significant job growth as well as to connect with local entrepreneurs that need help.

The database offers entrepreneurs comprehensive information about the resources available in the region to

High-growth venture support 30%

Accelerate business expansion 70%
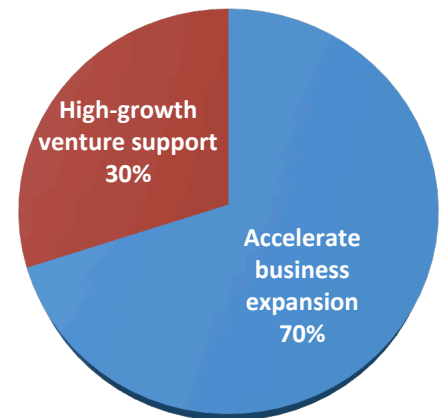
help launch and grow new companies, new products, and new services. Key database elements include information about innovation accelerators, sources of capital, organizations providing mentoring and business guidance, manufacturing and office space availability, professional services (such as specialized legal and marketing

services), and science & technology researchers. Although this database is just getting started, the Center's goal is to provide an up-to-date complete resource.

Leveraging

The Center leverages many university assets including data sources, analytical expertise, and student labor. In particular, the Center leverages students in two ways. First, student interns are used to build the database. Second, student teams, supervised by Center faculty, develop business plans for local farmers related to prospective alternative energy markets. In addition to these assets, the Center leverages the Veteran Business Outreach Center to provide services to high-skilled veterans.

"After meeting with [the Center], I felt any help connecting the dots for businesses would be beneficial for the area. Many organizations offer business assistance locally. Having a website and/or organization to bring those resources together would be beneficial to businesses and business centers/organizations. As a non-profit we are always looking for additional marketing opportunities. The database seems like an effective way to see what the area has to offer potential clients/businesses in addition allowing business resource centers to see what else is being done in the area and help cross promote."

--Center Stakeholder

Success

Connecting entrepreneurs and businesses with resources, market information, and financing to accelerate regional business expansion

The Fayetteville State University EDA University Center put together a team of students and faculty to develop a business plan for regional farmers to generate electricity from capturing and burning methane gas from their hog waste, and then selling their excess electricity to the utility company. This project is especially applicable to the region because of the density of hog farmers, environmental restrictions on hog farming, and North Carolina's goal of obtaining energy from hog waste. The team won second place with their business plan at the UNC Social Business Competition.

The technical assistance provided (in part) by students, in response to a very specific regional need serves clients, students, and a policy goal of the state.

Georgia Tech
Enterprise Innovation Institute (EI^2)

University
Georgia Institute of Technology

Center Director
Charles Ross

Center Location
Business outreach arm of the Institute

Center for >30 years

Center Activities
- Technical assistance
- Early-stage/ entrepreneurship support
- Economic development assistance
- Applied research

Clients
- New ventures
- Faculty start-ups
- Entrepreneurs
- Communities
- Non-profits

Assessment Techniques
- Case studies
- Program staff feedback
- Client interviews

Contact Information
innovate.gatech.edu/
charles.ross@atdc.org

Enterprise Innovation Institute (EI^2)

Enterprise Innovation Institute (EI^2) is Georgia Institute of Technology's EDA University Center. Supported by the grant, state money, and program fees, Dr. Charles Ross leads a wide range of outreach activities that seek to promote job creation, development of high-skilled regional talent pools, business expansion in innovation clusters, and to create and nurture regional economic ecosystems in the state of Georgia. In addition, the Center seeks to conduct technology-related economic and policy research that will enhance Georgia's competitive position.

Activities

The Center provides assistance and research to a wide client base through its support for local entrepreneurs and start-ups, the innovation culture in general, and economic development support for communities. The Center also offers services to entrepreneurs and start-ups through VenutreLab, which provides many services such as developing business models, connecting new entrepreneurs with existing entrepreneurs (mentoring), helping locate sources of early-stage financing, and preparing new companies for global markets. The Center performs applied research in benchmarking university technology transfer programs, and the staff uses the results to advise others in setting up technology transfer programs. As part of its wider state economic development goal, EI^2 provides assistance to communities through

Strategic economic development support 28%

Innovation-based ecosystem support 72%
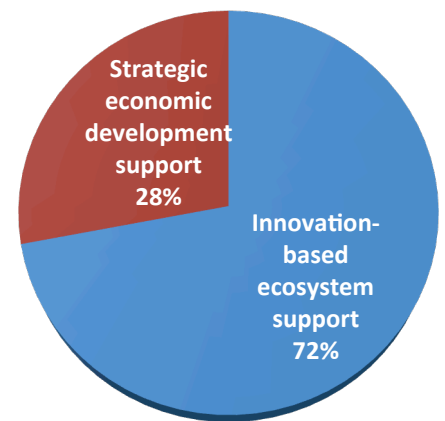
strategic economic development support for the development of Comprehensive Economic Development Strategies (CEDS) to help communities increase their utilization of the state's resources and to target new industries that can profitably use

those state resources.

The Center also works with nonprofits to help bring targeted industries to their communities through research on best practices of community efforts to attract the target industries.

Leveraging

EI^2 leverages university resources such as data, analytical experience, and student labor. In addition, the Center leverages the extensive resources of the Advanced Technology Development Center, a start-up accelerator that helps technology entrepreneurs in Georgia launch and build successful companies. The Center would not be able to help as many companies through VentureLab at the level that is does without leveraging the resources of the accelerator.

In addition, EI^2 provides assistance in support of innovation-based ecosystems for start-ups and entrepreneurs by partnering with entities such as universities, federal labs, research institutes, nonprofits, and companies to provide a wide range of services to meet their client's needs.

> *"Center provided timely helpful assistance that helped move [our company] forward. Staff was accessible when we needed their help and input."*
> *--Center Client*

Success

VentureLab Incubator

In the present grant cycle (12 months) EI^2 has supported successful start-ups through its innovation-based ecosystem incubator, VentureLab. One example is Novana, Inc., which makes high-value added, functional, polymeric composites from renewable resources, Softwear Automation, which produces completely automated sewing equipment for use in the fabrication of military garments and other products, StarMobile, a rapid application, mobilization solution targeted towards enterprises, and ST Carbice Nanotechnologics, Inc., which produces thermal interface materials (TIMs) based on carbon nanotubes. Building on these experiences EI^2 has set out to transfer knowledge and best practices around innovation ecosystems to other institutions. Institutions at a certain scale receive an adequate flow of research dollars but fail to convert that flow into IP and new ventures. EI^2 has engaged Utah State, Brigham Young University, the University of South Alabama and North Carolina A & T State University in uncovering their current practices and assisting them in growing innovation-based ecosystems.

EI^2 has leveraged a larger start-up accelerator to provide technical assistance to university-based research.

University commercialization benchmarking

Through the experience gained in supporting start-ups in the VentureLab incubator, and through applied research on the start-up yield at small universities, EI^2 is building a tool-box to support other institutions as they develop their own innovation-based ecosystems.

By building on a distinctive synthesis of experience and applied research, EI^2 has put itself in a unique position to support start-ups directly and also to support other institutions interested in similar activities.

University
Iowa State University of Science & Technology

Center Director
Mike O'Donnell

Center Location
Outreach Unit

Center since 1980

Center Activities
- Regional assessments
- Regional strategic plans
- Improving sustainability and innovation
- Triple bottom line analysis
- Applied research

Clients
- Regional communities
- Businesses
- Nonprofits

Assessment Techniques
- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Client satisfaction surveys
- Case studies

Contact Information
www.ciras.iastate.edu/eda/
modonnll@iastate.edu

CIRAS EDA University Center

Center for Industrial Research & Service

Iowa State University of Science & Technology's University Center is hosted by the Center for Industrial Research & Service. The Center's work focuses on Regional Trade Centers (RTC), which are typically micropolitan-based regions, composed of numerous smaller cities that are economically linked. The Center uses a data-driven scientific approach to identify and select RTCs with a core population between 5,000 and 10,000 and that have the potential for growth. Then the Center works at the community and business level to develop and implement plans for long-term sustainable regional economic growth. The Center uses the triple bottom line concept to help community and business leaders develop and implement plans with the goal of ensuring sustainable people, planet, and profit in the RTC. Over the past decade, the Center has shifted from a focus on engineering technical assistance to manufacturers to involving regional manufacturing economic analyses to improve direct technical assistance.

Activities
The Center's main activities fall under its Sustainable Economies Program. This program works with five RTCs and relies on the concept of the "triple bottom line," which integrates environmental, financial, and societal needs. In the program steps, staff develop networks of key regional leaders, help assess economic development capacity and capabilities, and locate economic development
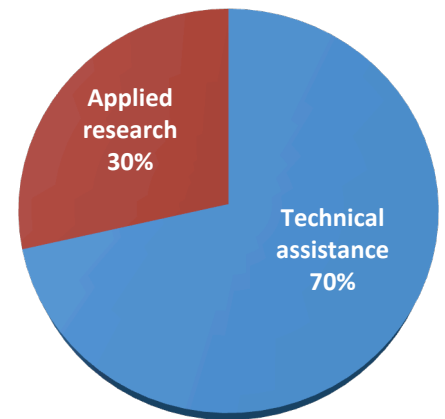
resources. In addition, the staff use data to define the size of the region based on economic and workforce data, determine the industrial drivers, and understand the fiscal capacity of the region. For the triple bottom line assessment, data are gathered on workforce, wages, and quality of life

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issues for the societal analysis; environmental issues and infrastructure for the environmental analysis; and economic drivers for the financial analysis. In close coordination with regional leaders, an economic development strategy is written for the RTC. Center staff then works with the selected institution and business leaders to develop entity-specific plans to address their triple bottom line sustainability needs. Finally, the Center assists in plan implementation.

Leveraging

The Center leverages their long history of providing engineering technical assistance to Iowa businesses as well as the network they have built during that history. In addition, the Center leverages university data sources and analytical expertise. In addition, the Center employs graduate student interns who assist on projects for clients and gain expertise.

"CIARS was responsive and provided knowledgeable, pleasant, and interactive professionals to our project. The analyses they provided gave new insights into the assets of the region, helped us reveal gaps, and/or gave foundation to what we had believed to be true. CIARS was patient in their dealings with our local groups and let the project evolve natually without inserting themselves into the process. Their work was appreciated by all attendees and CIRAS staff were universally held to be interesting, interactive, and helpful." -Center Client

Success

A coordinated and targeted approach for delivering technical assistance to regions, institutions, and businesses

CIRAS's Sustainable Economies Program uses a unique, data-driven approach to coordinate technical assistance in a way that addresses each region's unique vision and long-term economic development needs. After evaluating past Center work in terms of what has and has not been successful, CIRAS has recently changed its focus – instead of only providing one-on-one technical assistance directly to specific companies, the Center is now taking a more holistic approach to providing its technical assistance. The Center's Sustainable Economies Program, launched in 2010, provides identified "Regional Trade Centers"

in rural Iowa with an in-depth economic assessment of their financial, social, and environmental well-being. The Sustainable Economies Program team selected the Regional Trade Center of Carroll, Iowa, as the first location for this new program. CIRAS analyzed indicators related to the environment, economy, and society, and presented them as a dashboard gauge comparing the county's performance to peer cities. By combining statistics with visual cues (progressing from orange to green), Regional Trade Centers can quickly isolate environmental, economic, and social assets, strengths, and issues across the major domains. Based on the indicators, the team identified four new approaches to grow the area: business start-up

support through a SCORE chapter, a regional diversity campaign, a new regional marketing approach, and new ways to market employment opportunities.

Through its holistic approach to economic development that includes industry surveys, economic development planning, strategically targeted assistance, careful engagement with the community, and analysis of data, CIRAS was able to provide a more valuable service to the region than simple direct engineering-based technical assistance.

ADVANCED MANUFACTURING INSTITUTE

Engineering Success

Kansas Opportunity Innovation Network | Advanced Manufacturing Institute

The University Center at Kansas State University, hosted by the Advanced Manufacturing Institute (AMI), established the Kansas Opportunity Innovation Network (KOIN). Its mission is to enhance the global competitiveness of rural businesses by providing access to innovative ideas, new markets, expertise, capital, and collaborations, independent of close geographical proximity. KOIN developed new regional innovation tools and uses this knowledge to support local and regional businesses and to identify and exploit business growth opportunities through in-depth market analyses that complement the large-scale new product development services for which the AMI is widely known. These complementary services allow AMI/KOIN to enhance the global competitiveness of rural/distressed companies and regions in Kansas.

Activities

In support of its mission, KOIN's strategy includes profiling the innovation competencies, assets, capabilities, and needs of regions,

communities, and local companies to scout new opportunities (especially global opportunities) outside existing markets where clients may have little to no connections. KOIN also maps networks of technology providers, expertise, capital, and potential business partners possessing complementary competencies who can enable center clients to respond in a competitive manner to readily connect and combine opportunities,

Applied research 30%

Technical assistance 70%
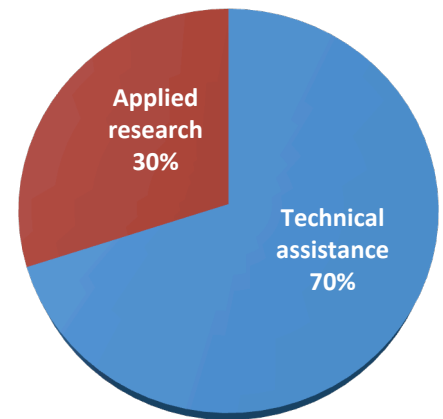
companies, communities, and regions in innovative ways. KOIN's work has included a quantitative key industry analysis and a quantitative regional innovation assessment for Kansas counties. One study mapped where workers reside versus where they are employed to illustrate that regional

interconnectedness produced unique data visualization of industry concentration, including location, number of firms, employment, and sector. KOIN supports community and regional strategic planning, and conducts feasibility analysis and business plans for proposed accelerators and redevelopment sites.

> *"The Center has shown outstanding leadership. The connections they make are invaluable and the data analysis they provide really allow people to see what is going on in their region.""* --Center Client

KOIN continues AMI's long history of early-stage development services to companies. AMI has technical expertise and equipment for prototype development and testing to bring competitive products and services to market. Because KOIN spans the boundaries between economic development organization and new product development, it is able to make connections between companies and opportunities that may have been missed.

Leveraging

KOIN at AMI leverages a wide variety of partner organizations that also support the Center through matching funding. Partners include the University, the state department of commerce, state community development organizations, local and regional planning authorities, and local workforce investment boards. KOIN also leverages university data sources and faculty expertise. In addition, students serve as interns in the Institute, providing services to clients and receiving real world experience. KOIN has also leveraged other federal programs such as the National Science Foundation's Partnerships for Innovation grants.

Success

Leveraging AMI's integrated technology development and business development planning services

The Advanced Manufacturing Institute (AMI) has a long history in working with existing manufacturers and entrepreneurs in new product development. AMI strives to put new innovations into the marketplace by not only focusing on the technical aspects of product development, but also by determining whether there is a significant market for a product, identifying the target audience, generating specific plans to develop a business opportunity, and helping entrepreneurs and existing businesses be successful in executing business plans. An example is AMI's work with DT Search and Designs and Kansas Livestock Association to form Kansas Environmental Management Associates (KEMA) to sponsor the project and commercialize the technology. AMI started by developing a phosphorus recovery process on the bench in a laboratory. Upon success, AMI created a pilot scale version that operated on a K-State feeding operation pond, and then moved to a fully automated farm-scale process at a feedlot in Kansas. The system AMI implemented helps feedlots cost effectively remove phosphorus to meet EPA regulations and the granules that are produced allow for more efficient phosphorous distribution.

AMI has shown how expanding its mission to focus on market feasibility analyses, technical feasibility analyses, and making connections around the country as well as in Kansas has positioned AMI and its clients for success.

Texas

Center for Innovation and Commercialization Outreach

University
Lamar University

Center Director
Paul Latiolais

Center Location
College of Engineering

Center since 2010

Center Activities
- Technical assistance
- Entrepreneurship support
- Innovation and commercialization support
- Information dissemination

Clients
- Entrepreneurs
- Small technology-related businesses
- Established industries
- Faculty

Contact Information
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Lamar Center for Innovation & Commercialization Outreach

The focus of the Lamar University Center for Innovation & Commercialization Outreach (LCICO) is to serve eastern and southeastern Texas by supporting the establishment of new technology-based businesses, helping small technology-based businesses grow, and supporting efficiency improvements in mature industries. The Center seeks to provide resources and connections that will enhance the economic development capacity of the region, which is suffering from the effects of two hurricanes and is largely dependent on natural resources.

Activities

LCICO has a strong focus on identifying and nurturing technology-based research developed at the university and preparing it for the marketplace. It works with Lamar faculty and in university laboratories to identify university-based research technologies that have the capacity to become skeletal products, and it has identified 35 such technologies with commercial potential. In the wider region, LCICO seeks to connect technology-based entrepreneurs and companies with the resources they need to succeed and grow – such as partnering with faculty researchers to pursue external R&D funding, connecting with the university's materials characterization facility for joint projects, and connecting with out-of-region resources as needed. The Center hosts regular informal meetings of aspiring technology entrepreneurs
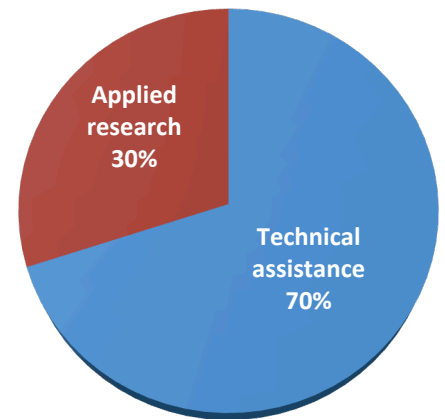
for networking. It supports expert faculty with technical assistance and also provides consulting to technology-based businesses. LCICO is collaborating with regional partners to develop a program that will support and train women entrepreneurs. Its annual Innovation Fair disseminates

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information about resources available to assist technology entrepreneurs and businesses. LCICO is also working on plans to construct the region's first technology incubator.

Leveraging

To support the incubation and commercialization of university-based technologies, LCICO leverages a wide range of university resources for market analysis, prototyping, and other activities, including the Small Business Development Center, the College of Business's Institute for Entrepreneurial Studies, the Texas Center for Technology Incubation research centers, and other resources. LCICO actively seeks to build partnerships and leverage external resources by participating in many regional business, economic development, and technology-focused events and organizations, such as the Greater Beaumont Chamber of Commerce, Southeast Texas Economic Development Foundation, and others. It also connects entrepreneurs with resources outside the region, such as the Rice Alliance, the Houston Technology Center, and the Greater Houston Partnership.

Success

Connecting university research with local companies

LCICO believes in leveraging the strengths in the local economy while targeting adjacent markets for new growth. The region has a rich petroleum refining and processing history with a port and pipelines, but not much R&D activity. There is need for economic diversification into emerging clusters that are good fits with local assets and know-how, including energy engineering, advanced materials, and environmental sustainability. To support this aim, LCICO works within the university to identify technology-based research and nurtures it with prototype assistance, market analyses, business plan development, venture capital contacts, and staffing assistance to bring it to the point of new company formation. The Center also hosts monthly Advancing New Technology (ANT) meetings for senior-level staff from local companies. At the meetings, the Center reports on recent university commercialization activities and profiles new university technologies of potential interest to the local companies. LCICO then seeks advice from the ANT advisory council on approaches for moving these new technologies forward.

By establishing regular, formal communication channels with local companies, LCICO is facilitating commercialization of university research that can advance economic diversification in the region.

Louisiana

The Enterprise Center

Louisiana Tech Enterprise Center

As the primary business support and development outreach arm of Louisiana Tech University, the Enterprise Center is designed to facilitate and promote the growth of new and existing ventures of the enterprises related to innovation along the I-20 corridor of Louisiana. The Enterprise Center houses the Louisiana Tech Technology Incubator, the Technology Business Development Center, and the Enterprise Center Art Gallery. Recently, the Enterprise Center also has taken a lead role in the development of the new Louisiana Tech Enterprise Campus – a commercial research and development park designed to support the growth of technology-based businesses and to foster the relationship of those businesses with activities of the University.

Activities

The main technical assistance the Center provides is business development support to new ventures, which includes incubator services, start-up coaching and mentoring, networking and investor relationship assistance, and business growth and expansion support. The Enterprise Center plays the lead role in developing private sector partnerships to support the technology development projects and speed successful commercialization of new technologies into the private sector. The Center strives to connect new ventures with funding, to the point of facilitating the formatting of a local

Applied research 30%

Technical assistance 70%
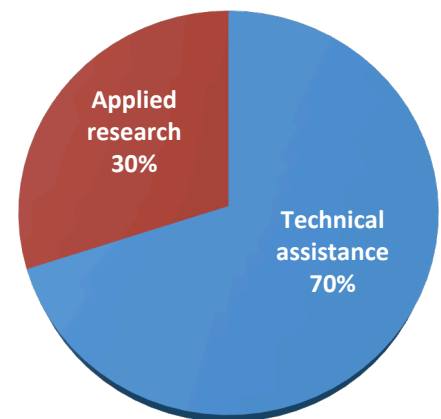
seed capital fund (see success box). The Center administers the grants from the Innovation Enterprise Fund, the regional angel/venture funding group. The grants are designed to dramatically accelerate the movement of innovation from the research lab to the marketplace and fill critical gaps in

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funding opportunities for early-stage companies.

Outside of business support, the Center supports the creative economy through the Art Entrepreneurship Program, which seeks to integrate art and technology entrepreneurship through the hosting of art exhibits.

The Center also conducts applied research on economic development topics relevant to north Louisiana and the innovation economy. Specific projects have focused on a gap analysis and a needs assessment for the regional information sector workforce.

Leveraging

The Center leverages the intellectual property from the University's research programs through the technology transfer office. The Center leverages other university resources including data sources, analytical expertise, and specialized equipment.

The Center also uses graduate students for its applied research. The Center leverages extensively its relationships with regional entrepreneurs though the Regional Innovators Network, as well as through other centers in the Enterprise Center umbrella, including the Center for Entrepreneurship and Information Technology, the Technology Business Development Center, the Enterprise Campus, and the Rural Development Center.

"This organization has helped a large number of young people who have a view of a visionary future get through the hard knocks of making mistakes in business. Taking a product from ground zero to manufacturing is a task with a lot of holes to fill in." -- Center Stakeholder

Success

Making connections where connections are sparse

In an effort to promote entrepreneurship and technology commercialization in a rural setting where lack of access to networks of other entrepreneurs, resources, and investment capital can hamper growth, the Enterprise Center created a Regional Innovators Network consisting of over 600 individual members, businesses, and communities from northern Louisiana. This network spawned an early-stage seed capital fund named the Innovation Enterprise Fund. The Enterprise Center has helped raise over $250,000 and has the goal of raising $1 million. The Center also administers the fund's small grants, which are awarded to early stage companies that are spin-offs from the Louisiana Tech's technology transfer activities. Companies apply for the funding and priority is given to companies that appear likely to have a substantial local or regional impact. Two rounds of funding have been completed.

By creating a network and building community relationships, the Enterprise Center played a major part in meeting a critical need for the growth of innovation in the region.

West Virginia EDA University Center

West Virginia EDA University Center

Marshall University and Concord University's West Virginia EDA University Center provides resources and services to implement regional strategies that support job creation, the development of high-skilled regional talent pools, and business expansion in the region's innovation clusters.

Activities

The Center provides direct technical and business assistance to small businesses and entrepreneurs throughout the state in areas of need, including feasibility studies, market analysis, business planning, commercialization support, prototype design/development, and manufacturing/quality control program development. For example, university researchers are given advice on marketing and inventors are given prototyping advice. The Center also provides business skills training and assistance to help new and existing businesses maximize their revenue potential and incorporate management, quality control, and lean manufacturing practices.

Leveraging

The Center leverages extensively the formal relationship of Marshall University Research Corporation, Concord University Research & Development Corporation, and the Robert C. Byrd Institute for Advanced Flexible Manufacturing. Through this trio of service options the Center is able to provide a wide range of complementary services to their clients. In addition, Marshall University

Regional workforce 20%

Regional commercialization 30%

Advance technical assistance and entrepreneurship 50%
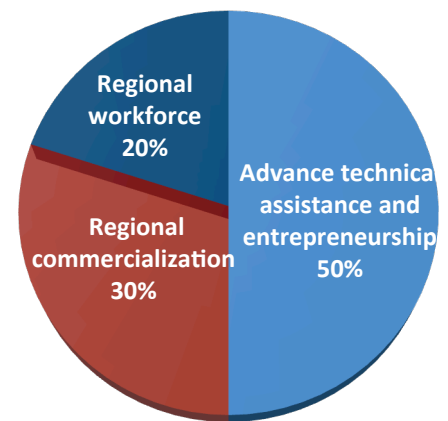
and Concord University have rich pools of academic scholars and students with the capacity to support R&D projects in numerous disciplines relevant to key economic industries, such as biomedical sciences, engineering, and recreation/tourism education. The Robert C. Byrd Institute has centers in

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West Virginia

University
Marshall University
Concord University

Center Director
Tom Minnich

Center Location
Outreach Unit

Center since 2011

Center Activities
- Business counseling
- Feasibility studies
- Market analysis
- New product development

Clients
- Small businesses
- Entrepreneurs

Contact Information
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Huntington, Charleston, Bridgeport, and Rocket Center that currently serve technical government and commercial manufacturers through advanced equipment and staff expertise.

Success

Innovate West Virginia: Leveraging existing resources for a quick start-up

In partnership with the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) at Marshall, the Center hosts an application-based grant program to provide technical assistance in the form of services at specific funding levels. The grants are awarded competitively for defined projects. The services offered include computer-aided design, rapid prototyping, reverse engineering and fabrication, and other computer-controlled machining services. Specifically, the program is designed to help small manufacturers/inventors utilize the first-class facilities at RCBI to turn their good idea into a working model. Although still in the first round of awards, five companies have made use of the Center and its partner's services and have attributed the creation of six jobs to work expanding their product lines.

The Center leveraged existing resources to enable quick service to their service area. The Center was able to market Innovate West Virginia to many companies that may not have heard about it.

University Center for Regional Economic Innovation

University
Michigan State University

Center Director
Rex LaMore
Jennifer Bruen

Center Location
University Outreach and Engagement

Center since 2011

Center Activities
- Applied research
- Technical assistance
- Knowledge transfer and capacity building
- Entrepreneurship support

Clients
- Businesses/entrepreneurs
- Higher education institutions
- Economic development/ workforce organizations and professionals
- Public agencies

Assessment Techniques
- Client interviews
- Client surveys
- Informal feedback
- Social media analytics

Contact Information
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Center for Regional Economic Innovation

Michigan State University's (MSU) Center for Regional Economic Innovation (REI) is working to build a new economic development ecosystem by leveraging higher education assets to support the co-creation, co-application, and dissemination of innovative economic development strategies that will yield high-growth entrepreneurship, job creation, and economic innovation throughout the state. Community engagement, strategic partnerships, collaborative learning, and networking are at the center of REI's approach.

Activities

The REI Network is a responsive virtual community of over 700 members from the public and private sector that are engaged in strategic partnerships and collaborative learning. At the "hub" of this network is a Consultative Panel of 40 statewide knowledge-based and experienced experts, who provide counsel and advice to REI faculty and staff. Six virtual networks – focusing on topics such as regional talent, innovation

infrastructure, etc. – draw membership from diverse stakeholders to leverage higher education resources, build linkages, identify promising economic development strategies, and advance growth and entrepreneurship. Communication in these networks is driven by social media tools such as Twitter and LinkedIn. Through these networks, webinars, and other tools, REI supports peer learning, knowledge transfer, and capacity building to
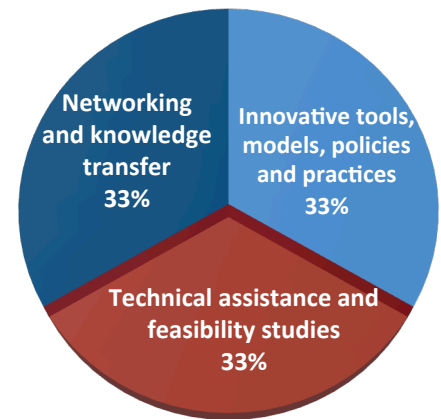
strengthen the state's economic development organizations and professionals.

In addition to its networks, REI provides technical assistance and feasibility studies to support local economic development via student-led/faculty-guided projects. It supports

co-learning projects between university faculty and partners to identify innovative economic development practices and strategies, and supports applied research and "info briefs" to document local innovation in economic development. REI facilitates knowledge transfer via webinars, social networking, and an annual Innovation Summit.

Leveraging

REI's formalized network structure allows it to leverage the experience and assets of other Michigan higher education institutions, economic development organizations, and other experts in an organized and productive way. REI also actively draws upon resources from within MSU, including faculty expertise, data resources, and especially the use of student labor. REI's co-learning projects are another critical way to leverage resources, as these draw upon the aggregate knowledge and experience of practitioners, scholars, and others to create actionable knowledge and design innovative development strategies – it sponsors 3-5 of these endeavors each year.

> *"Excellent, professional, supportive services; prompt responses; and a valuable source of innovation for the region."*
>
> *--Center Client*

Success

Co-Learning to support garage-basement entrepreneurs

REI supports co-learning projects between university faculty and partners to identify successful tools, models, policies, and practices that advance innovative economic development. In one recent co-learning project, REI has facilitated research on how to support "garage-basement" inventors. Identifying these entrepreneurs and building their interest in working with a university-affiliated organization can be challenging. To overcome these obstacles, REI worked with a few garage-basement inventors to develop a co-learning plan for taking their innovative ideas to commercialization. Through the co-learning endeavor, REI then gathered feedback from the inventors about where they ran into problems and what types of assistance would help them over those hurdles. REI has assisted this group in building a supportive network among garage-basement inventors, in gaining recognition, and in creating an identity and a logo for the network. REI is now helping the network to organize an inventor expo.

Through its co-learning process, REI is leveraging wide knowledge and expertise to address specific client needs while identifying actionable and innovative economic development strategies.

Social Media to Build Networks

REI is using social media to build its network and to communicate with its members. It maintains a network of over 700 listserv members and communicates with them through e-mail, Twitter, and LinkedIn. The REI network is composed of six different sub-networks focusing on key topics of importance to participants, and members, including educational institutions, policymakers, business leaders, economic development professionals, and others, who work collectively to identify and develop unique economic development tools, models, policies, practices, and programs.

REI's strategic use of social networking tools facilitates collaboration and knowledge transfer among diverse partners statewide.

MISSISSIPPI STATE UNIVERSITY

Technology Resource Institute

Center Activities
- Marketing studies
- Feasibility studies
- Training in entrepreneurship
- Strategic economic development plans
- Applied research

Clients
- Entrepreneurs
- Start-ups
- Existing businesses
- Local and regional communities

Assessment Techniques
- Feedback from staff
- Client interviews
- Client satisfaction surveys
- Case studies

Contact Information
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research/tri/
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Technology Resource Institute

The Technology Resource Institute (TRI) at Mississippi State University (MSU) hosts the University Center. Supported by the grant, the University, and program fees, the Center strives to build and sustain a statewide economic ecosystem through outreach programs. The goals of the program include business expansion within the state's innovation clusters, advancing high-growth entrepreneurship, and supporting technology commercialization efforts. In addition, the Center strives to cultivate innovation by "building out the last mile" of entrepreneurship in rural and distressed counties, including the Mississippi Delta, and among underserved groups.

number of student entrepreneurs at MSU. The majority of the Center's activities start with the assignment of research and consulting projects to MBA or Business Information Systems teams, drawing upon the expertise of MSU faculty and external consultants, coordinating and cosponsoring training and educational opportunities, and utilizing communication and networking activities to connect internal and external partners in

Pie chart:
- Business expansion within state's innovation clusters 35%
- Cultivate innovation 25%
- Technology commercialization efforts 15%
- Advance high-growth entrepreneurship 25%

Activities

The Center exists to help the businessperson or industry representative, the community agency, or the local government agency obtain the assistance, research, consulting, analysis, service, or information they seek. TRI also provides assistance to the growing

unique ways to generate change in the status quo and fill ecosystem gaps. Assistance includes enhancing the viability of existing businesses by assessing and building capabilities in areas such as strategic and human resource management, information systems, and sustainable

manufacturing processes. Other assistance strives to advance high growth entrepreneurship by evaluating products and market opportunities, providing assistance in developing business and market plans, preparing financial analyses, and facilitating opportunities to meet with investment partners as needed. This assistance aids commercialization and innovation efforts by providing technical assistance on licensing, filing patents, researching customers and markets, assessing business models, and finding seed money as appropriate. The Center also strives to cultivate innovation in sparse environments and among underserved groups by building partnerships and providing training and information in local settings.

> *"The project was very beneficial to us by giving us "fresh eyes" to analyze our business and marketing approach. We are impressed with the amount of data that was gathered. We couldn't have accomplished the work with our staff due to their current work load."*
>
> *--Center Client*

Leveraging

The Center leverages the University's extensive network of research and outreach programs, such as the Thad Chochran Technology and Research Park on campus. In addition, the Center leverages university data sources and the technology transfer office. The Center's leveraging of students and faculty teams is a core element to its assistance.

Success

Technology Resource Institute (TRI) has brought together various political, academic, and business resources to solve problems for businesses and entrepreneurs and to provide critical training for MSU students

A professor in MSU's College of Business spotted a student she felt had potential and referred him to TRI. The young man had a solid business idea but had little business experience. TRI worked with the student on his business concept, eventually putting him in touch with a CPA, an attorney, a bank president and an angel investor. After successfully launching and growing that business, the student became a serial entrepreneur, creating a high-end food products business and an app for music fans.

TRI supports these students by providing mentoring and technical assistance. TRI also helps the students get connected to key players in Mississippi's business community.

A steel fabricator in Mississippi that employs over 600 workers was facing layoffs due to the global slow-down in heavy construction. The company founder was looking for a new business to keep people on the job and came up with the idea of manufacturing after market truck bumpers using existing machinery at the plant. The challenge was the company had a complete lack of knowledge of the sector. The company approached TRI to do research on competition, pricing, distribution, and barriers to entry into the truck bumper market. After months of research by a team of MBA students, a formal report was presented to the company outlining the best path to success. Several months later the company reported that not only did the new product keep it from laying off welders but backorders for the bumpers allowed the hiring of additional workers.

TRI has shown how students and external clients can both be served by a program that is targeted on client need and that closely directs student contributions.

Montana

University Technical Assistance Program Montana Manufacturing Extension Center

University
Montana State University
University of Montana

Center Director
Mark Shyne

Center Location
Outreach Unit

Center since 1986

Center Activities
- Business and technical counseling
- Stretegic marketing assistance
- Market analysis
- SBIR/STTR grant writing support
- Training and workshops

Clients
- Entreprenuers
- Start-ups
- Exisiting businesses
- Community development

Assessment Techniques
- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Client satisfaction surveys
- Case studies
- MEP surveys

Contact Information
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University Technical Assistance Program/Montana Manufacturing Extension Center

Montana's University Center is led by Montana State University (MSU) and strives to foster the creation and retention of high-wage jobs and enhance the competitiveness of Montana manufacturing and science and technology firms in the state, nation, and globally. The consortium combines the expertise of three leading Montana University System programs: (1) University Technical Assistance Program (UTAP), an MSU center specializing in engineering and management assistance for manufacturers; (2) TechLink, an MSU center specializing in technology transfer and the commercialization of leading-edge new technology through Small Business Innovation Research (SBIR) assistance; and (3) the Montana World Trade Center (MWTC), a School of Business Administration center at the University of Montana specializing in strategic business marketing assistance. The Center is supported by the grant, the University, and program fees.

Activities

The Center provides engineering technical assistance, marketing support and SBIR assistance to Montana's manufacturers and science and technology firms. The Center assists entrepreneurs and small businesses to grow and innovate through commercialization of technologies and process improvements, which help competiveness and raise employee skills levels. UTAP offers the innovators advice and referrals to experts in research, development and
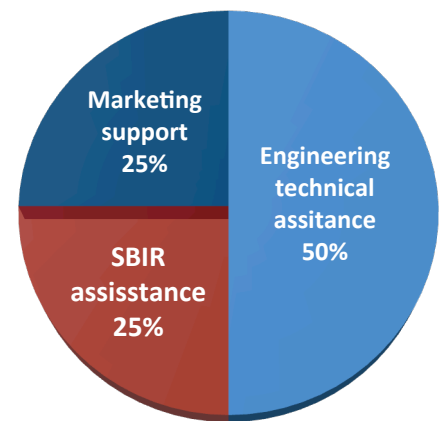
patent protection; testing labs; marketing specialists; export assistance; and funding sources.

The World Trade Center program provides strategic industrial marketing through student teams, who research and develop a plan for Montana companies. Companies are not charged

for this assistance, but are required to invest in the marketing strategy developed by the team.

The Center provides SBIR/STTR assistance to Montana firms by educating clients about the program and about program differences among agencies; by providing technical insight into military and commercial applications of technologies and capabilities; by helping the firms develop viable commercialization strategies; and by helping them partner with both university researchers for better R&D capabilities and with other businesses and large prime contractors for improved commercialization capabilities. In addition, the Center provides proposal review with the help of a national SBIR/STTR consultant.

Leveraging

The Center leverages its long history of providing assistance to Montana firms. From that history, the Center has developed a close working relationship with the Northern Rocky Mountain EDD and the NIST program. In addition, graduate students supervised by faulty assist in a lot of client work, especially in the marketing assistance program. The Center also leverages university resources such as data sources, analytical expertise, and the labs and machine shops for assistant to clients.

Success

Business support aids move when garage no longer cuts it

Headwaters Seat Covers LLC started in the family garage but experienced more demand than its manual fabric cutting system could handle. Its owner began exploring commercial space that would successfully accommodate a large CNC cutting table enabling automation of fabric cutting processes. The University Technical Assistance Program initially referred the business for no-cost Break Even Analysis provided by the Montana State University College of Business (MSU-COB) student program. During the next phase of expansion, the owner sought the expertise of the student engineers at UTAP for an efficient plant layout that would optimize flow and output from a new cutting table that would use about a third of the 1,200 square feet of floor space. Space for materials handling, a restroom, and an office were included in the design. Center staff reemphasized the importance of Lean Manufacturing concepts in the facility layout.

Two-pronged approach transitions technology company

A blend of technical and marketing assistance builds a strong foundation for business growth as companies move from start-up to robust role in economic development.

Along with learning to actively market its highly specialized laboratory instrument, the concepts from Lean Manufacturing were very beneficial when Montana Instruments transitioned from research and development to steady production. In a two-pronged approach, the Center's assistance helped make the transition smoother. Technical assistance cut management hours needed to analyze, locate job problems, and expedite orders. It also cut lead times by two-thirds and reduced the cost of goods sold. UTAP's marketing B2B service brought customer perspectives to marketing in the technology company. It also assisted with writing a selling script for cold calling, segmenting (defining and categorizing) potential customers by specialty, and characterizing the best customer. The company's tag line, "Cold Science Made Simple," is an outcome of UTAP/B2B marketing meetings.

Northeastern University
School of Law

Business Legal Clinic University Center

The goal of the Northeastern University School of Law's Business Legal Clinic University Center is to advance entrepreneurship in the regional economic ecosystem that comprises the Boston metropolitan statistical area and nearby gateway cities. The Center also focuses on regional commercialization efforts, the development of a high-skilled regional workforce through the provision of legal services relating to the protection of intellectual property, and the development of skills by new entrepreneurs that will be translatable to other employment settings. Although the Center's area has many resources available to entrepreneurs, these resources are not always available to student entrepreneurs, disadvantaged entrepreneurs, or to nonprofit organizations. The Center strives to fill this gap by providing business legal services to clients needing assistance in understanding, satisfying, and sometimes challenging the regulatory regimes they confront and in identifying and protecting the intellectual property assets that provide a competitive advantage.

Activities

The Center uses law students, supervised and supported by experienced law faculty, to provide legal services to entrepreneurs and nonprofits. Students work to overcome regulatory barriers by researching barriers to the start up of small businesses in new innovation
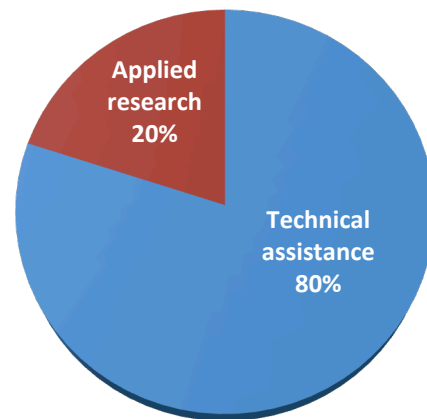
industries (such as green construction); by drafting of contracts and other documentations to work around and/or remove such barriers; and by identifying, developing protocols for working with, and removing regulatory barriers in new industries. In addition, the Center assists clients in drafting, reviewing, and negotiating documents

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related to licenses, permits, zoning, and leases. A large part of the Center's work is the preparation of organizational documents and intellectual property rights to reduce risk and maximize asset value. The Center also assists clients in drafting, reviewing, and negotiating service agreements and contracts for services.

The Center holds training and workshops for entrepreneurs to help them understand legal issues specific to them, including worker status (e.g., independent contractor vs. employee). The Center's applied research focuses on developing more exact information about the barriers to entrepreneurial success and the criteria that most often lead to such success though a longitudinal survey of Center clients.

> *"The Center's student was very proactive and thorough. Their quality of work was very high. "*
> *--Center Client*

Leveraging

The Center leverages both university faculty and students in pursuit of its goals. It would not be able to provide the level of service to clients without the student labor. In addition, the Center leverages other faculty in the College of Criminal Justice in support of its applied research work. Outside the University, the Center leverages its professional connections with nonprofit organizations that serve disadvantaged entrepreneurs.

Success

Supporting micro-entrepreneurs

Andy Brooks launched a composting business out of his backyard. Within a few short months his idea grew so popular that he had more than 100 customers throughout the greater Boston area. Client numbers exploded after Igor Kharitonenkov made a video about the innovative company, and Brooks asked Kharitonenkov to join him as a business partner. At that point, the pair realized it was time to treat Bootstrap Composting as a real company, which meant they needed written contracts with customers. They worried about losing the grassroots feel of Bootstrap by presenting customers with long pages of legal jargon. Brooks and Kharitonenkov learned of the clinic through a friend and signed up. A student assigned to them spent hours talking with them about the company and preparing their customer contract.

The experience was such a success that Bootstrap Composting returned to the clinic this spring for assistance with drafting a shareholders' agreement to provide for the company's future under various scenarios, such as the death of one of the partners. Relying on the clinic saved Bootstrap money.

Bootstrap Composting is now up to 450 clients and has diverted more than 200,000 pounds of food scraps headed for landfills into compost, helping Bostonians grow their own food and supporting a more sustainable food system while keeping the planet green. And, when future legal needs arise, the company will return to the clinic. "For young companies and startups, these kinds of programs are so important," says Kharitonenkov.

Bootstrap Composting demonstrates the University Center Business Legal Clinic's ability to provide high-quality legal services that are uniquely tailored to the needs and circumstances of small businesses, while also teaching these important legal skills to the next generation of lawyers.

NORTHERN ARIZONA UNIVERSITY
The W. A. Franke College of Business

Alliance Bank
Business Outreach Center

University
Northern Arizona University

Center Director
Wayne Fox

Center Location
Outreach Unit

Center since 2012

Center Activities
- Applied research
- Technical assistance
- Entrepreneurship support
- Information dissemination

Clients
- State/local governments
- Economic development organizations
- Indian tribes
- Communities
- Other NAU centers/programs

Assessment Techniques
- Client interviews
- Case studies
- Informal feedback

Contact Information
franke.nau.edu/business-outreach/
wayne.fox@nau.edu

Alliance Bank Business Outreach Center

Northern Arizona University's (NAU) EDA University Center is housed within the Alliance Bank Business Outreach Center (ABBOC), the outreach arm of the Franke College of Business. ABBOC provides high-quality training, technical assistance, support services, and information resources to businesses, nonprofits, tribes, and public agencies throughout Arizona's rural and northern communities. The Center strives to provide competent and unbiased economic analysis, impact studies, and consulting. It collaborates with other ABBOC units – including the Arizona Hospitality Research & Resource Center and the Center for American Indian Economic Development – to deliver its services.

the state by providing outreach, training, and assistance that will allow them to acquire the data they need to pursue external resources such as federal contracting opportunities. These activities also include providing research support to the Northern Arizona Center for Entrepreneurship & Technology's (NACET's) Native America program, which brings incubator expertise to tribal communities. The Center works with the Arizona

Pie chart:
- Information dissemination 10%
- Technical assistance 50%
- Applied research 40%

Activities

NAU's University Center aims to strengthen and expand successful innovations in Arizona's cluster economy, especially through applied research, analysis, and technical assistance services that draw upon other centers and programs within ABBOC. One key focus is on supporting American Indian tribes in

Hospitality Research & Resource Center to conduct a variety of surveys, visitor studies, and impact studies supporting sustainable tourism projects throughout the region. The Center works with the Rural Policy Institute and public/private/tribal partners to conduct surveys, economic

impact studies, policy analysis, data analysis, and other studies that support regional and rural economic competitiveness. The Center disseminates information about its activities through an annual regional Economic Outlook Conference, as well as through other conferences, published research, press releases, and other channels.

ABBOC and its University Center draw upon the data resources, analytical expertise, student labor, and

> *"The Center has been highly responsive and innovative in shaping policy and programs in support of sustainable economic development in our region. A major and effective partner!"*
>
> *--Center Client*

technology transfer office & commercialization center within Northern Arizona University. It

frequently conducts impact studies requested by the President's Office. As described above, the Center's activities actively leverage the other existing centers and capabilities within the ABBOC (hospitality research, rural policy institute, etc.) by providing research services that support their activities. Through these projects, the Center works with economic development organizations, local and state governments, regional businesses, and 15 of the state's recognized American Indian tribes.

Success

Advanced survey expertise supporting sustainable tourism development

One key area of focus for the NAU University Center's applied research activities is on advancing the tourism industry statewide, working in partnership with the Arizona Hospitality Research & Resource Center (AHRRC). AHRRC has especially strong capabilities in survey research, supported by two unique software programs: Teleform™ (a software scanning program that customizes professional looking paper forms for household and intercept surveys), and Qualtrics™ (a sophisticated e-survey program for large online survey samples). The Center and AHRRC have applied these survey

tools to conduct tourism surveys and visitor studies that support the needs of a variety of tourism stakeholders in the state. For example, they conducted an online survey for the National Association of RV Parks & Campgrounds using Qualtrics™ to stratify the national sample by park size and ownership. At a more local level, they conducted a survey/study of visitors to Ajo, Arizona that is being used by local tourism professionals to support marketing efforts, product development, and advocacy efforts. Many similar local surveys have been conducted for local clients and tribal entities around the state, including Cochise County (southeast Arizona), the Pinetop-Lakeside region, the Hualapai Tribe, the Hopi Tribe, and

many others.

The University Center and ARHHC's joint work using advanced applied research and survey capabilities is helping support local and regional growth of tourism, which is historically one of Arizona's strongest and most sustainable industries and an industry that is especially important for the rural and tribal areas of the state.

Northern New Mexico College's NNMC University Center

NNMC University Center

The University Center at Northern New Mexico College (NNMC) provides technical assistance and applied research activities that support capacity building for economic and workforce development in north central New Mexico, a largely rural and disadvantaged region that is home to a number of Native American pueblos and tribes. The Center's activities focus particularly on increasing opportunities for higher-skill and higher-wage jobs in the region through the development of value-added sectors that build on existing capabilities and industries.

Activities

NNMC University Center offers a variety of technical assistance and applied research services that support workforce and industry development in key sectors. The major focus has been on business plan development, advisory committee development, and other applied research to support creation of new programs in Career Technical and Heritage Arts fields. These fields include automotive technology, construction trades, cosmetology, hazmat sciences, Rio Grande-style weaving, fiber arts, Spanish Colonial furniture, and so on. The Center has provided extensive support, including business/marketing planning, to the Sostenga Center for Sustainable Food, Agriculture, & Environment, which aims to preserve and expand the agricultural/cultural-based opportunities and benefits in small farming communities. It has supported military skill realignment

Pie chart: Technical assistance 50%, Applied research 40%, Information dissemination 10%
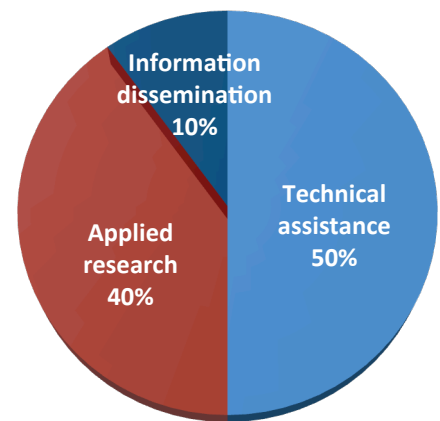
efforts through business planning for NNMC's Veteran's Green Jobs Academy. To date, the Center has partnered with others to initiate five new training/certification programs that directly address technical capacity and workforce development. These programs will support increased

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employability and entrepreneurship opportunities for the region's population. A variety of other applied research activities conducted by the Center have addressed topics such as an economic impact study for NNMC; re-purposing of a historical, rural satellite campus of NNMC; and development of a Solar Research Park and Academy (and related career pathways/training).

Leveraging

NNMC University Center depends upon a broad array of partnerships to advance its Career Technical and Heritage Arts program development initiatives, including partnering with the regional development corporation, the regional university consortium, and other organizations in relevant fields (e.g., Espanola Fiber Arts Center, Spanish Colonial Heritage Society, Plumbers & Pipefitters Union, and many others). Other key partnerships include the on-site Small Business Development Center, tribal development corporations, the North Central Economic Development District, and the Los Alamos National Laboratory. The Center also leverages data resources, analytical expertise, and student labor, and specialized equipment from within NNMC to deliver its programs and services.

Success

Technical assistance to bring value-added to a traditional agricultural sector

NNMC is located in a predominantly rural region where the majority of jobs are in low-paying and seasonal service and agriculture industries. To address this challenge, the NNMC University Center provides technical assistance to programs that build upon existing assets to identify and expand higher wage/skill opportunities for the region's residents. One major target of this technical assistance has been the Sostenga Center for Sustainable Food, Agriculture, & Environment – a nonprofit, student- and community-based program that preserves regional agricultural/cultural heritage and promotes value-added food production. The Center's assistance to Sostenga has included developing and implementing business and marketing plans to launch the center, providing technical assistance in areas such as regional farming and cooperative marketing, and building collaborations with community members to support knowledge transfer and a broader impact. As a result of the Center's technical assistance and collaboration, the College developed a new environmental science baccalaureate degree (much needed by regional employers) and launched a new health food production company (providing new higher-skill jobs) and two local natural food cooperatives.

Through its continued targeted **technical assistance and capacity building activities, NNMC University Center is supporting the transformation of the region's rural, agriculture-based industry toward value-added production and higher-skill job opportunities, while simultaneously preserving the region's unique food and cultural heritage.**

PCRD
Purdue Center for Regional Development

University
Purdue University

Center Director
Ed Morrison

Center Location
Office of Engagement

Center since 2005

Center Activities
- Technical assistance
- Applied research
- Entrepreneurship support
- Commercialization support

Clients
- Local/regional decision-makers
- Public officials
- Business leaders
- Purdue faculty/staff

Assessment Techniques
- Client interviews
- Case studies
- Informal feedback

Contact Information
www.pcrd.purdue.edu
edmorrison@purdue.edu

Purdue Center for Regional Development

Purdue's EDA University Center, part of the Purdue Center for Regional Development (PCRD), focuses on mobilizing a broad range of assets – especially those of Purdue University – to create, activate, and nurture regional economic ecosystems and innovation clusters. PCRD aims to advance regional entrepreneurship and commercialization through a variety of technical assistance and applied research activities.

Activities

A cornerstone of PCRD's activities is deploying foundational, technology-based tools that advance regional innovation and entrepreneurship efforts. The Center's applied research has supported the expansion of the PCRD "Local Decision Maker," a dynamic, spatial-based decision support platform for regional/local comprehensive planning. The Center has added new innovation and entrepreneurship data to this tool and provides training and technical assistance to regional planning councils on utilizing the tool in strategic planning and decision-making. Other regional technical assistance and training activities include webinars on advancing innovation, "Strategic Doing" workshops, and assistance in preparing CEDS. Another technology-based platform developed by PCRD is the "Leading Edge Practices in Regional Development" web tool, which catalogues "success" stories in regional economic initiatives and provides networking tools for information
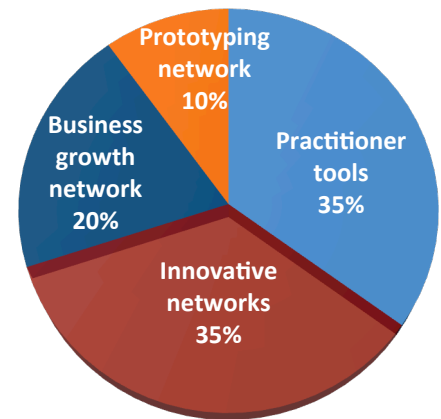
sharing and collaboration. PCRD's support for commercialization and innovation includes development of a network of public prototyping assets, equipment, and services to help early stage companies test their innovative ideas, as well the development of a network for certified technology parks in the state. PCRD also supports

business growth and entrepreneurship through a wide variety of technical assistance activities, including developing a youth entrepreneurship camp and related classroom curriculum and supporting a Technical Assistance Program (TAP) that has trained 220 individuals in 40 businesses in distressed regions, addressing key topics that will facilitate growth and expansion.

"An amazing resource for my project… a wealth of knowledge about regional economic development strategies and best practices."   *--Center Client*

Leveraging

PCRD has established a reputation as an entity that thrives on partnerships and collaborations. The Center partners with a long list of statewide, national, and international partners including the Fraunhofer Institute, the International Economic Development Association, the National Association of Development Organizations, Rural Policy Research Institute, University Economic Development Association, various federal agencies, the Indiana Association of Regional Councils, the Indiana Association for Community Economic Development, Purdue Extension Office, and SBDCs. PCRD also collaborates with other universities and EDA Centers, for example working with Michigan State University on applications of Strategic Doing, and collaborating with Indiana University on building the Indiana Innovation Platform.

Success

Strategic Doing – Building skills for regional collaboration

Over the last 15 years, Purdue has developed a model for Open Source Economic Development that represents a new approach for economic development in a global economy that depends on networks. "Strategic Doing" is a key element of this new model, and can be used to quickly develop sophisticated collaborations to speed "open innovation" across organizational and political boundaries. It provides a simple discipline that allows people in loosely joined open networks to think and act strategically. PCRD is providing technical assistance and training throughout the state on utilizing this model – including half-day skill-based workshops for economic development practitioners, training on facilitation, and a certification program for economic development organizations on network building. The "Strategic Doing" model has many applications. For example, it has provided a successful framework to guide and accelerate collaborations between Purdue University and Indiana University (IU). Using the "Strategic Doing" process, staffs of the two universities are exploring how to integrate the innovation and entrepreneurship assets across the IU and Purdue systems. As a result, the participants developed a path-breaking proposal to establish an Indiana Innovation Platform, which reimagines the role of regional campuses within a statewide university system. They are currently exploring funding sources for this initiative, which could serve as a model for other states. Also, for the first time, the two schools are exploring how to combine their innovation and entrepreneurship assets into a common pool in order to streamline client/company access to these assets.

By applying its innovative "Strategic Doing" model to facilitate collaborations across a variety of stakeholders at the state and regional levels, PCRD is helping to close gaps in Indiana's innovation and economic ecosystem and is improving access to key assets that support innovation, entrepreneurship, and growth.

Rogers State University Innovation Center

University
Rogers State University

Center Director
Jeri Koehler

Center Location
Outreach Unit

Center since 2010

Center Activities
- Entrepreneurship support
- Economic gardening
- Technical assistance
- Applied research
- Information dissemination

Clients
- Communities
- Entrepreneurs
- Small businesses
- County/city officials
- Economic development organizations

Assessment Techniques
- Client surveys
- Client interviews
- Case studies
- Informal feedback

Contact Information
Rogers
www.rsu.edu/innovation/
innovation@rsu.edu

RSU Innovation Center

Rogers State University's (RSU) EDA Center is housed within the campus's Innovation Center, which is charged with fostering economic development and addressing the educational needs of area business and industry. The Innovation Center provides business counseling services and training for area entrepreneurs and expanding businesses in northeastern Oklahoma.

Activities

The Center has a focus on entrepreneurship, and it delivers services both to communities and to entrepreneurs/small businesses. At the community level, the Center has launched an Entrepreneur Ready Community Development Program, which aims to create a corridor of certified entrepreneur ready communities in the region. This program includes multi-stage process technical assistance and training that leads to certification, with the goal of certifying one community per year. The Center hosts an annual conference to train and disseminate information to communities about the importance of entrepreneurship and economic gardening.

For small businesses and entrepreneurs, the Center provides technical assistance and support services to help them become sustainable, job-creating entities. This assistance is delivered through a variety of channels, including business skills workshops, an online Entrepreneur Development program, customized business-/industry-specific
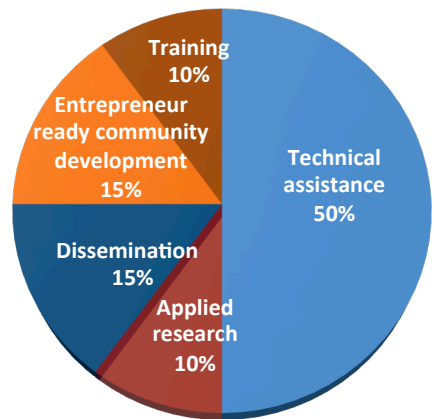
training, and individual counseling sessions (in person or via the Internet). The Center also conducts applied research to support specific needs of businesses, nonprofits, and/or industries, including support for feasibility studies, grant proposals, and public policy decisions. The Center's

information dissemination is done through a monthly report of regional economic indicators, county profile reports, social media, and other channels.

Leveraging

Alliances with community leaders and a variety of local public and private stakeholders are essential for delivering the Center's Entrepreneur Ready program. The Center partners with a wide variety of agencies (such as the Northeast Technology Center, the Cherokee Nation, and Northeast OK A&M College) to deliver small business training and workshops, applied research, and other assistance services. The Center has formed an alliance with local economic development organizations and the National Center for Economic Gardening to deliver its assistance to second-stage businesses in the region, and it utilizes SCORE counselors with industry-specific expertise to deliver business counseling.

> *"Timely and responsive with the key information we were seeking. Understood our need and helped us where we couldn't help ourselves."*
> *--Center Client*

Success

Entrepreneur-Ready Community Certification Program

RSU's Innovation Center offers an Entrepreneur-Ready Community Certification Program that provides planning assistance and training to communities to create entrepreneur friendly environments. The target audience is communities of less than 20,000 residents in an economically distressed region of northeastern Oklahoma. The first community, Claremore, went through the 15-month process and obtained certification in January 2013. The Center led the community's strategic planning activities and provided technical assistance in the areas of local finance, workforce, and entrepreneurship mentoring. Entrepreneurial support training was provided for community leaders and linkages were strengthened with regional, state, and federal resource providers. Claremore's local entrepreneurial support system was strengthened through the establishment of a one-stop office to coordinate and conduct business development programs and to work directly with local entrepreneurs. When a community or region receives certification, it can begin using the certification in marketing programs, business recruitment, and other appropriate venues. In the case of Claremore, the town needed to change its business unfriendly image, and a very public celebration of the certification was planned to explain the benefits and secure media coverage of the rebranded image. According to Claremore Mayor Mickey Perry, "We believe this will help us grow and support more businesses and send the message that businesses are welcome and appreciated in Claremore."

RSU Innovation Center's Entrepreneur Ready Community Certification Program provides the guidance and support needed by communities to reap the benefits of entrepreneurial activity, including job creation, attraction of entrepreneurs, and retention of talent and money that might otherwise leak away to other communities.

Rutgers University Technical Assistance Program

University
Rutgers, The State University of New Jersey

Center Director
Gene Slowinski

Center Location
Business School

Center for >30 years

Center Activities
- Training
- Early-stage/ entrepreneurship support
- Applied research
- Information Dissemination

Clients
- Existing businesses (large and small)
- Entrepreneurs and new ventures

Assessment Techniques
- Client interviews
- Feedback at regional workshops
- Case studies

Contact Information
business.rutgers.edu/rutap
slowinski@andromeda.rutgers.edu

Rutgers University Technical Assistance Program

The Rutgers University Technical Assistance Program (RUTAP) is a long-standing center supported by the EDA University Center grant and matching university funds. RUTAP is located within the Rutgers Business School, but the Center works with a variety of stakeholders across the University and the State of New Jersey. The Center's efforts strive to build on regional and national strategic priorities to support regional economic ecosystems, industry clusters, global competitiveness, and the commercialization of federally funded technology.

Activities

RUTAP is designed to be New Jersey's "one-stop-shop" for technical assistance. RUTAP specializes in technical assistance for high-technology commercialization. For many projects, the Center leads teams of MBA (and sometimes PhD) students with technical, business/marketing, and legal expertise to take university IP to the next level of commercialization. The Center also provides trainings and one-on-one technical assistance to companies and entrepreneurs on commercialization, such as through its Open Innovation training program given to area companies.

The Center also facilitates connections with university faculty, IP, and other resources, not only at Rutgers but also at other research universities throughout the state. This program serves ventures and businesses of all
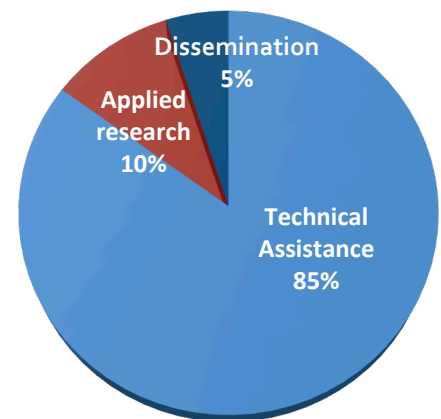
sizes and stages, including major companies such as General Electric and Verizon.

In addition, the Center partners with the Center for Urban Entrepreneurship & Economic Development to provide intensive, practical training, step-by-

step coaching, and numerous networking and financing opportunities to first-generation entrepreneurs in New Jersey.

The Center conducts applied research on a variety of commercialization topics (e.g., allocating rights of patents, working with federal laboratories) and strategic economic development topics (e.g., high-speed rail, strategic metal recovery). The Center is actively pursuing applied research in the area of technology commercialization and has published over twenty articles on the topic.

Leveraging

RUTAP leverages the intellectual property produced by New Jersey universities for commercialization, and relies on strong tech-transfer systems that help to maximize the usefulness of the value created by universities. RUTAP has strong working relationships with Tech Transfer Offices not only at Rutgers, but across the state. In addition, university students play a large role in the deliverance of technical assistance. Outside the university, the Center leverages a variety of strong partnership with organizations such as private capital, city planners, lenders, and nonprofits (e.g., Greater Newark Business Development Consortium).

> RUTAP provided "a rapid introduction to what it takes to have a start-up."
> --Center Client

Success

Demanufacturing in New Jersey

In New Jersey's urban economies, the RUTAP demanufacturing project set out to "provide technical assistance for a start-up demanufacturing firm based in New Jersey." As a part of this effort the Center assisted in economic development planning for Union County, helped to develop a public-private partnership for demanufacturing in New Jersey, and engaged in outreach ranging from academic publication to a video disseminated to primary school students. RUTAP also worked with the Environmental Protection Agency's Common Sense Initiative on related public policy issues, and developed the Demanufacturing Partnership Program, which helped the initiative to gain traction through a series of conferences.

The Rutgers University Technical Assistance Program (RUTAP) was instrumental in recognizing the economic potential for demanufacturing (the disassembly and recycling of obsolete electronics). As a result of the project, the State of New Jersey has become a leader in the U.S. demanufacturing industry.

South Dakota Economic Development Administration University Center

SDSU University Center

The goal of the South Dakota State University EDA University Center is to build sustainable and economically robust supply chain networks linking agriculture, manufacturing, and construction that will retain and grow existing agribusinesses, enable the startup and the expansion of manufacturing and construction firms, and increase private venture capital investments in research innovations within the state. The Center strives to produce new higher-skill workplace opportunities for their young educated workers, economically sustainable higher-wage green jobs for the South Dakota economy, and investment opportunities for private venture capitalists.

Activities

The Center provides technical assistance, primarily for the biotechnology and energy industry sectors, to identify ways to increase productivity, to embrace Lean-to-Green manufacturing applications and green construction practices to conserve natural resources, and to leverage existing assets in biofuels,

wind, and solar energy. This assistance focuses on quality management consulting, decision-making and risk assessment, and process assessments. In addition, the Center holds workshops that provide training on management techniques.

The Center also provides assistance to existing businesses for faculty/student teams to perform productivity, energy audit, and supply chain systems
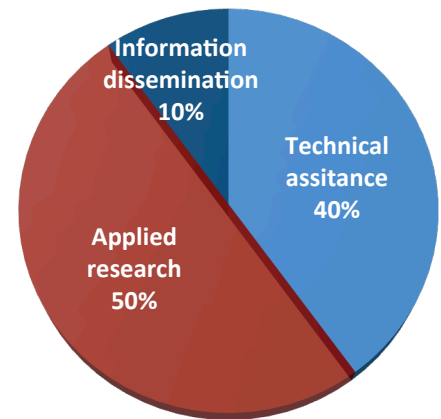
analysis for South Dakota manufacturers and construction companies. In addition, the Center places interns in companies to assist with production quality projects. In many cases, these interns are hired full time. The Center also provides technical assistance to an Indian tribe

related to constructing sustainably-built, affordable housing on state reservations.

Finally, the Center directly supports scientific research to promote the transition of innovations from biomaterials research into viable products made in South Dakota. For example, the Center supports research on sunflower cellulosic materials to enable engineering solutions to prevent the plant fires that tend to occur due to the combustibility of the dust produced from the sunflower harvest and to explore the potential of using sunflowers for biofuels.

Leveraging

The Center leverages extensively the network it has built over the years with manufacturing, construction, and agriculture-business sectors. This network provided access, generated requests, and opened doors to provide assistance. In addition, the Center leverages faculty expertise both for direct client consulting and to lead the student teams. The Center also leverages the research capacity of university faculty in funding research projects that strive to solve important problems for its target industries.

"The project team was of great benefit to a productivity project we needed in our manufacturing facility. The team was dedicated to the reduction of waste and stayed with the project through completion. Changes that were implemented are still in place today and working well."

--Center Client

Success

Setting the incentives right for faculty and students allows the Center to effectively and quickly serve clients.

One difficulty that may arise when working with university faculty is the multiple pulls on their time during the school year. South Dakota State University 's University Center has met this challenge by nurturing strong relationships with faculty. In exchange for summer support through the SDSU University Center, faculty make it a priority during the school year to work on Center projects. Clients appreciate the quick turn around by experts. Faculty, who are only paid by the school for 9 months a year, are more willing to help if they are compensated for that work in the summer when they are not paid by their regular contract.

Through the creative use of rewards for faculty and students' time, SDSU University Center is able to meet the needs of its clients in a timely fashion.

SWOSU Center for Economic & Business Development

University
Southwestern Oklahoma State University

Center Director
Marvin Hankins

Center Location
Outreach Unit

Center since 2004

Center Activities
- Technical assistance
- Applied research
- Small business support
- Workforce development
- Information dissemination

Clients
- Small businesses
- Entrepreneurs
- Students
- Industry and nonprofit organizations
- Economic development organizations
- Higher education institutions

Contact Information
www.swosu.edu/cebd/
cebd@swosu.edu

SWOSU Center for Economic & Business Development

The EDA University Center at Southwestern Oklahoma State University (SWOSU) is housed within the Center for Economic and Business Development (CEBD). The Center builds partnerships throughout the region to deliver its technical assistance and applied research services that both meet immediate business needs and expand businesses' capacity to grow and create jobs.

Activities

One major component of CEBD's outreach and assistance is support for the Southwest Oklahoma Impact Coalition (SOIC), a voluntary association of education, public, and private partners that fosters business and economic growth and addresses economic development challenges in southwest Oklahoma. The SOIC Front Line Team delivers technical assistance directly to existing businesses and entrepreneurs. CEBD actively uses students to deliver services while simultaneously providing learning opportunities for these students. For example, teams of

student interns provide technical assistance to small businesses, working on projects such as business planning, strategic market analysis, and loan package development. The Center also supports an active student intern program that initiates post-secondary internships that provide the students with real world experiences while simultaneously assisting businesses with their needs and promoting economic development. CEBD supports
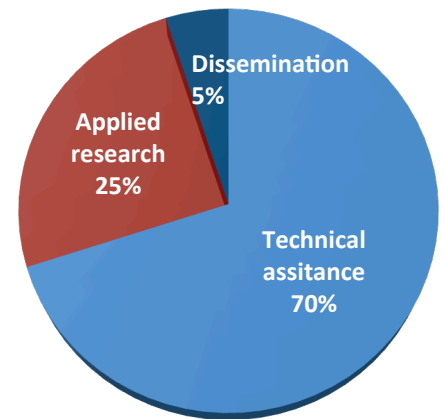
workforce development through a variety of initiatives, including a career pathways pilot program, nursing/healthcare programs that bring medical simulators (and related community partnerships) to higher education institutions, and a conference for Veteran entrepreneurs. The Center also conducts a wide

variety of applied research studies and disseminates data on topics of interest to local businesses and stakeholders, including economic impact studies for SWOSU and for the state's manufacturing industry, as well as regional economic indicators and business/industry data series.

Leveraging

CEBD partners with a wide range of organizations at the state, regional, and local levels – especially working through the Southwest Oklahoma Impact Coalition, whose membership includes five regional universities and colleges, as well as six career technology centers, the regional Governments Association, and the regional Development Authority. Other partners include the Oklahoma Manufacturing Alliance, the Engineering Extension Service of Oklahoma State University, the Great Plains Resources Conservation and Development Association, and the Oklahoma Southwest Association. CEBD leverages university resources including data resources (such as REMI), student labor (for delivering technical assistance and planning events), and its internship program.

> *"Professional and knowledgeable staff that are intricately involved in economic development efforts… always willing to "go the extra mile" to assist business and industry."* --Center Client

Success

Career Pathways Program

Retention of young people and improvement in the preparation and training of the young workforce are two key issues in southwestern Oklahoma. SWOSU's Center for Economic and Business Development (CEBD) – through its partner the Southwest Oklahoma Impact Coalition (SOIC) – has launched an initiative called Career Pathways that is intended to provide a comprehensive approach to providing students and incumbent workers the knowledge they need to choose and train for a career. The Career Pathways program is modeled after a program developed in Virginia, but it has been customized for the Oklahoma environment. Beginning in August 2012, SOIC partnered with the Duncan Public Schools to launch the state's first Career Pathways program, starting in the community's middle schools. Duncan was selected because it has a robust manufacturing sector as well as a strong healthcare community. Duncan also has a technology center, a branch campus for higher education, and a competent economic development organization. As part of the Duncan pilot program, eighth grade teachers toured local industrial plants so that they could help their students connect what is being learned in the classroom today with future local employment options. SOIC conducted a Career Pathways Education and Workforce Summit for community members and businesses, as well as an all day training session for Duncan teachers, counselors, instructional coaches, and curriculum development staff. Based upon the results from the pilot program in Duncan, the Oklahoma Department of Commerce is interested in having CEBD/SOIC offer the program statewide and will provide financial support.

Through the Career Pathways program, CEBD is helping create a systemic and sustainable process to enhance Oklahoma's workforce/economic development, job creation, and quality of life.

University
Syracuse University

Center Director
John Liddy

Center Location
Outreach Unit

Center since 2011

Center Activities
- Early-stage/ entrepreneurship support
- Technical assistance
- Training of students as entrepreneurs
- Dissemination

Clients
- Student venture teams
- Regional universities

Assessment Techniques
- Informal client interviews
- Feedback at regional workshops

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RAYMOND VON DRAN

Id3A

EDA UNIVERSITY CENTER

Raymond von Dran Innovation and Disruptive Entrepreneurship Accelerator

The Raymond von Dran Innovation and Disruptive Entrepreneurship Accelerator at Syracuse University is run in collaboration with the CenterState Corportaion for Economic Opportunity (CenterState CEO) and is supported by the EDA University Center grant along with university, public, and private funding sources. The Center focuses on supporting student entrepreneurship and venture creation, as well as providing technical assistance and disseminating information across regional universities.

Activities

The goal of the Raymond von Dran Innovation and Disruptive Entrepreneurship Accelerator at Syracuse University is to foster an entrepreneurial environment that will increase venture activity, especially by university students. It aims to incubate ventures that will grow into revenue-generating businesses and to build the presence of entrepreneurs in the region.

The Center's core project, the Syracuse Student Sandbox, provides early-stage/entrepreneurship support to student ventures, including incubation space, technical assistance from the Center's Entrepreneur in Residence and mentor teams, and a step-by-step incubation program. The Center also provides technical assistance to regional universities, including Le Moyne College, Cayuga Community College, and Mohawk Community

Technical assistance/ dissemination 20%

Early-stage/ entrepreneurship support 80%
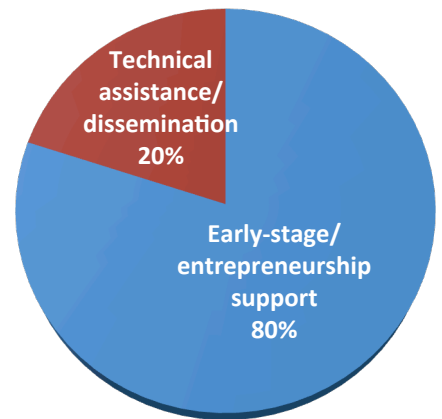
College. The Center's Entrepreneur in Residence works to help these institutions create an entrepreneurial environment, especially for students. The Student Sandbox program is open to students from all regional institutions. The Center has also

worked to disseminate Syracuse University's entrepreneurship curriculum to other universities in the region.

Leveraging

The Center's EDA University Center funding is leveraged by a $1.7 million cash commitment from the Syracuse University Raymon von Dran Innovative and Disruptive Entrepreneurship Accelerator (RvD IDEA) Fund. It also receives in-kind support form partners, such as the

space and support services provided for the Student Sandbox by CenterState CEO at their Tech Garden Incubator.

The value of the participating colleges and universities, as well as CenterState CEO's Tech Garden, is leveraged by the students and faculty mentors participating in the Student Sandbox.

> *"The effort continues to impress all who visit - regardless of region or location in the world. It remains a unique approach that addresses multiple fronts - pedagogy, community relations, economic development, job creation, alumni relations, wealth creation, etc."*
>
> *--Center Stakeholder*

Success

The Syracuse Student Sandbox

The principal activity of the Center is the Syracuse Student Sandbox, a business incubator for student entrepreneurs. The Center is only in its second year, but credits a strong start to the use of a comprehensive "people, program, place" approach, as well as an emphasis on diversity of expertise within both student and mentor teams.

People: Each student team is assigned 5 mentors, each with a different area of expertise, including professors, entrepreneurs, lawyers, and subject-matter experts.

Program: In the coursework that precedes the Sandbox as well as during incubation, the Center takes students through the various stages in the process of business creation. This includes a demonstration day with investors, weekly team meetings, and access to other resources.

Place: Student teams get space in the Student Sandbox, an incubator located within the larger Tech Garden Incubator (which is run by CenterState CEO).

In year 1, the Student Sandbox incubated 48 student ventures with

the participation of 91 students and 173 mentors. Moving forward, the program hopes to show measurable outputs in terms of companies, revenue, jobs, and "cubicles avoided."

A "People, Program, Place" approach to student venture incubation and the mixed teams of mentors that lie at the heart of the sandbox is a crucial differentiating factor in the program's success.

University

Temple University | Clark University

Center Director

Younjin Yoo

Center Location

School of Business

Center since 2011

Center Activities

- Early-stage/ entrepreneurship support
- Technical assistance
- Training of students

Clients

- High school, college and graduate student entrepreneurs
- Existing businesses
- New ventures

Assessment Techniques

- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Case studies

Contact Information

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Urban Apps & Maps Studios

Urban Apps & Maps Studios at Temple University and Clark University is a program designed to connect business, engineering, and computer science faculty with web map and geovisualization expertise across two universities to "build a sustainable ecosystem for urban economic development." The program provides early-stage/ entrepreneurship support for students and start-ups, which in-turn provides technical assistance to clients through applications for smart phones ("apps") and map development. The Center is supported by the EDA grant, the universities, foundations, nonprofits, and program fees.

Activities

Urban Apps & Maps Studios aim to utilize high-technology in an urban setting to support economic development. The Center seeks to foster a sustainable ecosystem for urban development in northern Philadelphia at a university with a large proportion of first-generation college students. The Studios provide

early-stage/ entrepreneurship support for the development and commercialization of Apps & Maps through a "design, develop, incubate" process. Elements of the program include a design challenge, a course entitled "Designing Digital Urban Start-Ups," design workshops, a fellowship program, and incubation support. As a part of this process, the program provides technical and entrepreneurial training to high school, college, and

Early-stage/ entrepreneurship support 50%

Technical assistance 50%
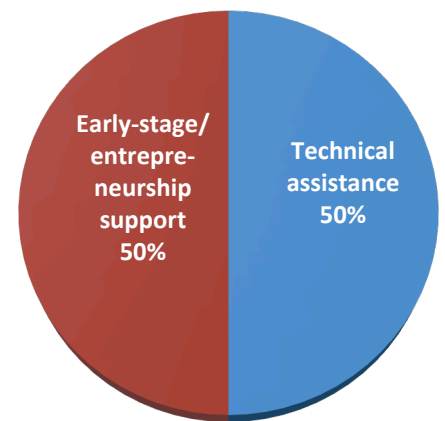
graduate students.

The Studios provide technical assistance to partners and clients in the form of App & Map development, such as projects in collaboration with the City of Philadelphia, the Southeast Pennsylvania Transit Authority, Temple

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Medical School, and other community and university stakeholders. In the future, the Center will engage in applied research and publications related to the project and to how universities can serve as models for economic development.

Leveraging

In addition to leveraging in-kind support from the university, the Urban Apps & Maps Studios have successfully attracted outside support from the Knight Foundation, which is allowing them to fund summer programs for high school students and to bring in additional faculty members and a dedicated program manager. The program also leverages university faculty expertise across several departments, including business, computer science, and engineering.

"Outcomes of this center include students [that] received education and skills through an internship."

--Center Stakeholder

Success

The Urban-Farming App

The Urban Farming App project is based on an idea developed by four students as part of the Urban Apps & Maps Design Challenge, a competition that generates a pool of ideas for the studio to select from. After winning the challenge, the students were awarded fellowships to continue working on the project under faculty supervision and in partnership with the City of Philadelphia, the Philadelphia Horticultural Society, and Temple's Community Garden Program. A design workshop, which included relevant experts and community stakeholders, was then held to further refine the app concept. The student fellows and high school students built a prototype with an environmental monitoring system over the summer, and the team now continues to refine the app to better meet the needs of urban growers. A prototype from the project won one of the top six prizes in the world-wide Google Places API developer competition.

The Urban Farming App currently under development at the Urban Apps & Maps Studio is just one example of several ongoing projects. While the university center is still relatively new (funded since September 2011), the strong support and participation of students, clients, and community stakeholders and the studio's success in leveraging EDA funding to expand the program's size and impact demonstrate a promising start.

Urban Health Warriors

The Urban Health Warrior project is designed to help community members successfully manage health conditions such as diabetes and hypertension. Undergraduate and high school students have worked to develop preliminary designs of an app that will incentivize competition [between Health Warriors] to eat healthy, exercise, and monitor blood sugar and pressure levels. The Temple School of Medicine, Philadelphia community ambassadors, and the Strawberry Mansion JROTC are partners in the project.

Texas

University
Texas A&M University, Corpus Christi

Center Director
Bill Cone

Center Location
College of Business

Center since 2010

Center Activities
- Applied research
- Technical assistance
- Entrepreneurship support
- Commercialization support

Clients
- Start-ups and entrepreneurs
- Local governments
- Local economic development organizations
- Venture/angel investors

Assessment Techniques
- Client interviews
- Client surveys
- Feedback at regional workshops

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TEXAS A&M UNIVERSITY CORPUS CHRISTI

COASTAL BEND BUSINESS
INNOVATION CENTER
AN EDA UNIVERSITY CENTER

Coastal Bend Business Innovation Center

The EDA University Center at Texas A&M University, Corpus Christi (TAMU-CC) is part of the school's Coastal Bend Business Innovation Center (CBBIC). CBBIC promotes cross-disciplinary academic and entrepreneurial programs across the University, including business incubation services and executive/professional education. The University Center's primary aim is to develop data resources that promote long-term economic development in the Coastal Bend region, as well as assisting businesses that will strengthen existing and emerging innovation clusters.

Activities

The Center's activities primarily focus on two components: technical assistance to businesses through incubation services and dissemination of research on regional economic topics. CBBIC, which houses the University Center, provides business incubation facilities that supply technical assistance and commercialization support to businesses in targeted industries.

Around 40 active companies in at least 13 industry sectors are currently housed in the incubator. The incubator especially focuses on assisting innovative businesses that can achieve primary employer status and create high-paying jobs in the region. The Center is supporting efforts to form a regional angel investor group to help address funding gaps for entrepreneurs.
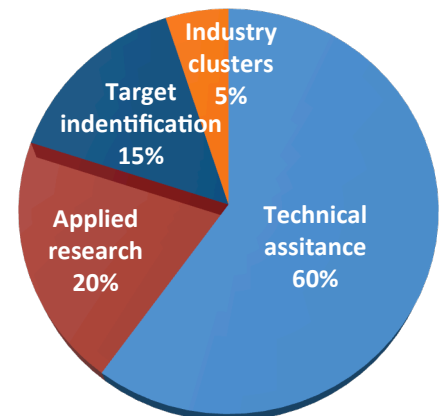
In addition to its incubator, the Center also focuses on creating a vibrant "Economic Resource Hub" which serves as a gateway to data and research about the Coastal Bend region. This tool compiles and disseminates economic and business data from community stakeholders and other sources for the benefit of public

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and private sector stakeholders. Other applied research activities include analysis of regional clusters; regions', strengths, weaknesses, opportunities, and threats; and innovation analyses to help identify and support targeted innovation clusters.

Leveraging

A strong cadre of university faculty

and graduate student workers and volunteers from sciences, engineering and technology, and business support CBBIC staff in providing assistance to incubator companies. CBBIC also

> *"The Center has been very successful and exceeded our expectations. It created an environment for clients to do better and learn business and other skills while providing an opportunity for students and faculty to practice and sharpen their skills in a live laboratory."*
>
> ----Center Stakeholder

facilitates direct contact between incubator clients and the TAMU-CC

Associate Vice President for Research to access university research experts and the technology commercialization expertise of the broader Texas A&M University System. Other external partners include Corpus Christi Regional Economic Development Corporation, Chambers of Commerce, Coastal Bend Council of Governments, Port & Port Industries of Corpus Christi, and Del Mar College.

Success

Targeted innovation cluster growth through incubation services

CBBIC's business incubator offers a 2- to 5-year incubation program supported by faculty, staff, student interns, graduate students, a resource network of local businesses, and a nearby SBDC. When CBBIC first launched in 2009, its large client base was primarily "lifestyle" companies with low potential for scalability and job creation. Learning from this, the incubator now focuses on businesses that show high growth and job creation potential, especially businesses in the Coastal Bend region's targeted innovation clusters (which have been identified through the applied research activities of the University Center). Most firms in the CBBIC are in the high-tech and

alternative energy sectors, which have higher growth potential than the region's traditional manufacturing and service sectors. The incubator also intentionally maintains a low client base, focusing on businesses that have reached the start-up stage, so that it can provide productive hands-on assistance – including providing an Advisory Board member as a mentor to every business, along with a mentor. One recent client, SCORGolf, came to CBBIC after developing and marketing a new product for golf's short game (the first real reengineering of wedges for the short game in the last 40 years). SCORGolf had a provisional patent on their system, and wanted CBBIC to assist them with finding investors and with their website and e-

commerce applications. CBBIC was able to introduce the company to some angel investors, and it is continuing to attract investors as its performance improves. Since becoming a client, SCORGolf had its first six-figure sales month and subsequently doubled those sales over the following months.

Over a three-year period, CBBIC clients have secured $4.5 million in funding, created over 50 full-time jobs, and generated $2.3 million in salaries. Texas A&M University, Corpus Christi University Center's targeted assistance for startup companies through its incubator program is facilitating business growth and job creation in the region's key innovation clusters.

PENNSTATE
1855

College of Engineering

The Pennsylvania State University Center

The Pennsylvania State University Center (PS UC) is primarily focused on engineering innovation by connecting university resources to entrepreneurs and companies to spur regional commercialization activity. The Center is funded by the EDA grant and matching university funds. It provides technical assistance to university and private-sector clients to accelerate the translation of ideas into new products and processes and bring them to market via collaborative projects between industry clusters and university resources; to enhance regional innovation ecosystems by encouraging companies in allied industries within defined regions to work together with research performers to accelerate the process of bringing ideas to market; and to increase the competitiveness of distressed regions in the Commonwealth by providing direct assistance to those small and medium enterprises and manufacturing firms that drive their regional economy.

Activities

The Center provides technical assistance in engineering innovation to companies and entrepreneurs who are seeking to bring new products to market, to bring existing products to new markets, to re-invent processes, and to gain necessary certifications for new markets. This is accomplished by technically developing projects, which ultimately result in opportunities for clients to engage College of Engineering faculty and resources.

Cultivate high-skilled workforce 5%
Entrepreneurship 20%
Regional Commercialization 75%
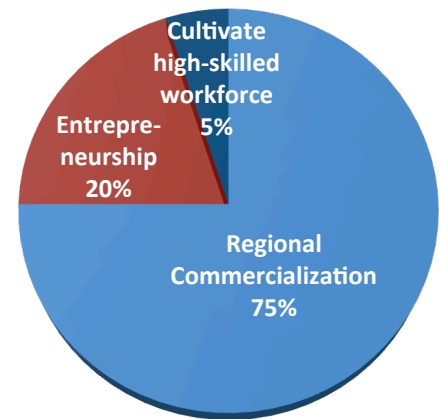
The Center also provides technical assistance to the Engineering Innovation Program at Penn State and its components, such as the Learning Factory and Integrated Design Solutions. The Center regularly engages in outreach and information dissemination to partners and

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sponsors. Another form of technical assistance provided by the Center is the inception and funding of various innovation-related projects, such as the recently-funded National Additive Manufacturing Innovation Institute (NAMII).

Leveraging

With over 350 tenured/tenure-track faculty and over $150 million in annual research expenditures (2012), the College of Engineering at Pennsylvania State University is a substantial resource the Center leverages for the generation of economically valuable engineering innovations and solutions. The Center engages university students in these projects through the senior design capstone project; these are primarily engineering students, but the Center also works with business, art, and architecture students. The Center leverages the strengths of the Penn State College of Engineering and its faculty expertise and specialized equipment in addition to other Penn State units, economic development organizations, and private industry.

> *"Students were professional, dedicated, creative and talented… [they] successfully helped us create a better and more sustainable design."* --Center Client

Success

Taylor Energy Alternatives

Taylor Energy Alternatives (TEA) needed design, manufacturing, and commercialization assistance, as well as business planning and financial assistance. TEA initially was introduced to the Penn State University Center through PennTAP which was conducting a New Energy Idea Contest. The project was to assist in a variety of ways to prepare for commercialization of a hydroelectric product.

Penn State University Center made connections with faculty from PSU Harrisburg, and initiated a project to develop a mechanical design of the hydroelectric turbine assembly. It also engaged faculty from Penn State University Center's Integrated Design Services program to assist with building of an initial 30KW prototype. Manufacturing resources were identified to build various components of the assembly, including molds. A preliminary design for the hydro inlet and penstock was developed in a student project based at the Penn State Hazleton Campus. The design concept was approved and a follow-on project for detailed design was initiated through Penn State's Learning Factory.

The Clean Technology Center at the Penn State Small Business Development Center is providing financial and business planning assistance. The design concept has been developed into CAD drawings, and plans are now in place for the first prototype unit to be built. In addition a demonstration project is under development.

Buznet™: Real-Time Locating System

Buzby Networks was in need of a prototype for a new, innovative plastic enclosure for Buznet™ routers, producible by plastic injection molding. Working with a student team from the Learning Factory and with the support of the University Center, the design produced was more attractive and less intrusive, mass-producible, and easily installed on multiple ceiling types. The new design is being phased into the standard product line.

Alaska

University
University of Alaska

Center Director
Christi Bell

Center Location
College of Business and Public Policy (but represents the entire U of AK system)

Center since 1992

Center Activities
- Technical assistance
- Entrepreneurship support
- Applied research
- Information dissemination

Clients
- Economic and regional development organizations
- Alaska native corporations
- Tribal/village councils
- Local governments

Assessment Techniques
- Client interviews
- Client surveys
- Case studies
- Informal feedback
- Advisory groups

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university of alaska Center for Economic Development

a university-based partnership promoting economic development in Alaska

University of Alaska Center for Economic Development

The University of Alaska Center for Economic Development (UACED) mobilizes resources from throughout the University of Alaska system to increase the ability of Alaska's communities to engage in sustainable economic development. The Center aims to promote a more favorable business environment in Alaska by encouraging capacity-building and higher-skill attainment that will lead to higher-wage jobs and attract greater levels of private capital investment.

Activities

UACED serves as a thought leader and a bridge between internal and external stakeholders to accomplish its activities. It primarily works through public and private agencies and partnerships that touch economic development, rather than working directly with private businesses. UACED delivers a wide variety of technical assistance to address the needs of a number of key client/stakeholder groups. For example, the Center supports rural communities and public entities by conducting feasibility assessments, business plan development, economic development assessments, market analyses, and strategic planning to support local development projects. For economic development personnel, the Center provides technical assistance and capacity building by partnering with organizations such as the International Economic Development Council and the National Association of Development

Economic development capacity building 20%

Entrepreneurial capacity building 20%

Technical assitance 60%
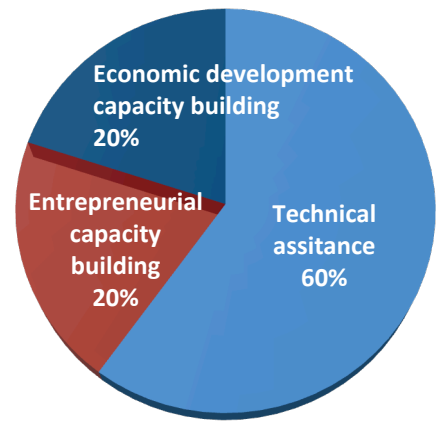
Organizations to offer training courses in areas such as business retention, business expansion, and basic economic development. UACED focuses especially on strengthening Alaska's entrepreneurial ecosystem by providing business plan development, market studies, and other technical

assistance to help small businesses in communities to innovate and grow. Other entrepreneurship support includes developing a virtual referral center (AKSourceLink), a youth entrepreneurship program (Lemonade Day), and other training and outreach activities. Applied research and information dissemination activities include collecting and publishing a series of indicators on Alaska's economic condition and trends.

Leveraging

UACED partners with a wide range of regional/local organizations in the communities where it provides technical assistance, including economic development districts, local government, tribal organizations, community colleges, chambers of commerce, and others. It also partners with external, national organizations (e.g., IEDC, NADO) and other university centers (Purdue) to deliver its training courses for economic development professionals.

UACED also leverages and contributes to a wide variety of complementary regional and national economic/business-related organizations by serving as a board member, participating in conferences, and affiliating/partnering with these entities.

"We would be at a loss without the services provided by the Center. Our readership depends on seeing the Alaska economic data every month; it is one of our most popular mainstays."

---Center Client

Success

Lemonade Day Alaska

Launched in Alaska in 2011, the annual Lemonade Day event is designed to teach youth business and leadership lessons using lemonade stands. The University of Alaska Center for Economic Development brought this program to Alaska as a means of supporting a stronger entrepreneurial climate, by seeding development of future entrepreneurs. From the first to the second year of the program, Lemonade Day Alaska doubled the number of stands to 2,536, and in the third year the number of stands expanded to 3,800. This expansion was done through increased cooperation with community partners, as well as through expanding registration and

community efforts. Lemonade Day Alaska also expanded from just Anchorage to become a statewide effort. The young entrepreneurs generated $287,000 and donated nearly $70,000 to charity. Alaska Lemonade Day was a finalist for the University Economic Development Association's 2012 Awards of Excellence in the Talent Development category, which recognizes initiatives that promote 21st century skills.

Through the Lemonade Day program, University of Alaska's Center for Economic Development is bringing essential entrepreneurial skills to the state's future workforce.

UALR INSTITUTE FOR ECONOMIC ADVANCEMENT

University
University of Arkansas at Little Rock

Center Director
Jim Youngquist

Center Location
College of Business

Center since 1996

Center Activities
- Technical assistance
- Economic analysis
- Economic development training
- Disaster preparedness training
- Applied research

Clients
- Local government
- State government
- EDA planning districts
- Community development organizations
- Existing businesses

Assessment Techniques
- Program staff feedback
- Client Interviews

Contact Information
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Institute for Economic Advancement

Institute for Economic Advancement (IEA) is the University of Arkansas at Little Rock's EDA University Center. Supported by the EDA grant, university money, local and state government money, and other federal grants, Jim Youngquist leads a wide range of outreach activities that seeks to provide research, training, and technical assistance to public and private sector entities and individuals. These activities strive to enhance and advance community economic development throughout Arkansas. The Center's activities have an added emphasis on building public-private collaboratives that help address opportunities and challenges facing communities.

Activities

The Center provides assistance and research to many local, regional, and state governments, community development organizations, and nonprofit institutions. The Center has a large and widely respected training program on a variety of topics. Training on the basics of economic development is offered to local elected officials. In addition, the Center has focused on helping Arkansas businesses and governments prepare for natural disasters, which occur often in Arkansas. Through workshops and resource guides, the Center has positioned Arkansas well for a smooth recovery after the next event.

The Center works closely with EDA economic planning districts and local community development organizations

Pie chart: Technical assitance 25%, Information disemmination 25%, Training 25%, Applied research 25%
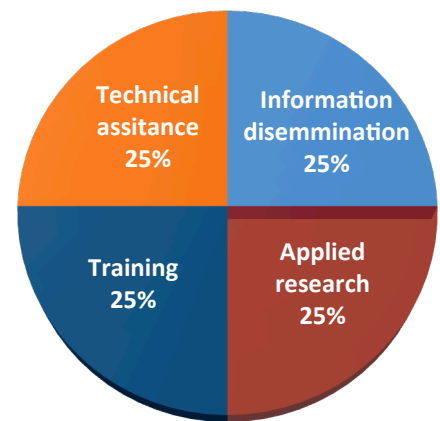
by providing economic data and analysis, workforce data, GIS maps, and website hosting. For example, to assist with strategic planning, IEA produces reports on major demographic and economic trend analysis, retail analysis, and workforce analysis. In addition, the Center acts as

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a facilitator of community meetings for communities' strategic planning processes focusing on private-public partnerships. During these meetings, IEA helps attendees by addressing the barriers that keep a strong public-private partnership from taking place. IEA also provides the community development organization of the Arkansas Economic Development Commission GIS analysis for their spatial analysis services, from potential site location to evaluating current sites considering expansion. The Center has an active applied research program in general economic trends and produces both a "state of the region" report card and a state of the state report named Aspire Arkansas.

> *"This Center is a role model for all Centers – it is highly connected in the community."*
>
> *-- Center stakeholder*

Leveraging

IEA leverages university support in the form of funding as well as office space and utilities. In addition, IEA leverages university data sources and analytical expertise. Student labor is utilized in the GIS lab, and enables the Center to provide geographically-based analysis to its clients. IEA leverages Center money to obtain other EDA grants, which are used to design a state-wide comprehensive development strategy and for the development and analysis of a statewide regional innovation clusters initiative. IEA also provides research, technical assistance, and training supported by grants, partner contributions, and fees for services.

Success

Natural disaster recovery and preparedness – engaging the community

Natural disasters are often the final straw forcing local businesses to close. Businesses still operating suffer damage, disruption to supply lines, loss of sales, and the interruption of operations. When businesses and industries fail or falter, the communities they serve can be severely disadvantaged.

Working closely with Arkansas's eight Planning and Economic Development Districts (PDDs/EDDs) and the Arkansas Economic Development Commission (AEDC), the Institute for Economic Advancement (IEA) facilitated a two-phased "bottoms up" planning process that allowed local officials, business people, first responders, regional planners, and others to share their experiences and ideas on improving disaster preparation and recovery. During the first phase of meetings or "understanding sessions," the chronology of events in a natural disaster and the limitations for disaster planning and recovery were identified. At the second wave of sessions, participants developed a wide range of actions and strategies at the local, state, regional, and federal level to improve planning and recovery for local business and industry. As they proceeded through these phases, a reference plan evolved for the state.

In an attempt to keep disaster preparedness on the forefront of planning, IEA engaged staff from the Texas Engineering Extension Service to provide additional disaster preparedness training for local elected officials and leaders in the eight regions. The trainers from Texas traveled to the eight regional offices in Arkansas to provide the training sessions. Each region was responsible for getting a minimum of 15 participants involved.

IEA has been successful in part due to its strong and successful engagement with the community, achieved by a willingness to bring services directly to clients.
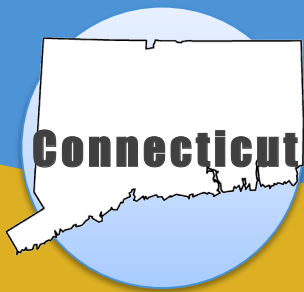
Technology Exchange Portal

University
University of Connecticut

Center Director
Rita Zangari

Center Location
Outreach Unit

Center since 2005

Center Activities
- Technical assistance
- Early-stage/ entrepreneurship support
- Outreach/information dissemination

Clients
- Businesses
- Entrepreneurs
- University researchers

Assessment Techniques
- Client interviews
- Feedback at regional workshops
- Case studies
- Faculty focus groups

Contact Information
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rita.zangari@uconn.edu

Technology Exchange Portal

The Technology Exchange Portal (TEP) is the "relationship master" within the University of Connecticut's Office of Economic Development. It serves as an entry point for making connections with faculty, researchers, and university resources. The TEP provides technical assistance, new venture support, and outreach in order to promote regional commercialization, entrepreneurship, and workforce development.

Activities

The Technology Exchange Portal is designed, in partnership with the Office of Technology Commercialization and Central Connecticut State University Institute of Technology and Business Development, to accelerate the pace of technology commercialization and innovation for the state's innovation cluster businesses.

TEP provides technical assistance as a liaison between industry, entrepreneurs, university faculty, and core research facilities helping to create connections and build productive public-private partnerships. For example, TEP has recently been working with the Schools of Agriculture and Engineering to connect promising research of commercial interest to BASF, Dupont, and Montsanto, as well as local start-up companies. The Center also engages in extensive outreach and information dissemination to entrepreneurs and companies, raising awareness of university resources and capabilities

Workforce development 20%
Advancing entrepre-neurship 40%
Regional commercialization 40%
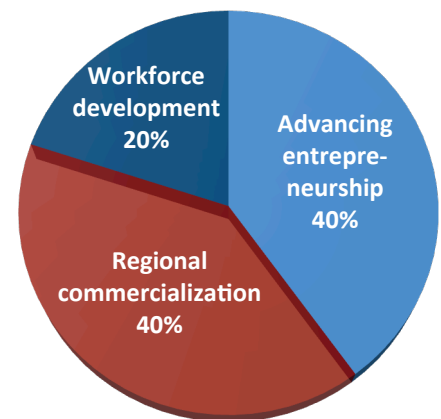
through targeted outreach, conference attendance, marketing, and networking.

The Portal provides entrepreneurship support through the identification of business development opportunities that can simultaneously provide

entrepreneurial learning experiences for students and support industry needs. The Center is currently involved in a project to develop a former Pfizer R&D facility as a technology company incubator or technology service provider colonization. The Center has also been a contributor to the SECT-Technology Center (SECT-Tech), an extension of the CT Innovation Ecosystem Initiative, which supports entrepreneurs and recent start-ups. SECT-Tech is a southeastern

Connecticut focused effort to provide an alternative source of employment for downsized corporate employees, particularly life science and ex-Pfizer researchers and business experts.

Leveraging

The primary role of TEP is one of leveraging the value created by faculty and the University. The state and University of Connecticut have recently made major investments to expand that core value, including plans for a new technology park, 300

new faculty, and expansion of the medical school. The current state initiative to support a series of "innovation hubs" was developed with the support of TEP. State investments in the University have helped to attract private partners including GE, the Fraunhofer Institute, Pratt & Whitney, Honeywell, and Comcast.

Success

Early stage company support

A new MOU has been executed between the state Department of Economic and Community Development (DECD) and the University of Connecticut (UConn) to provide early stage support to two specific companies that are building new relationships at UConn. One is a biotechnology company that is moving to the University incubator from a California location based on its relationship with UConn faculty and its desire to develop formulations in preparation of FDA approval for manufacturing of a vaccines. The second is an aerospace firm that is in a highly competitive situation to retain and grow contracts in Connecticut and needs to quickly develop skills and materials to support its ability to

satisfy specific OEM requirements. In both cases funds provided to UConn through the DECD-UConn Prototype Program will be spent on company needs (both at the University and within the company) to ensure their success on these capital and time sensitive efforts. UConn's involvement offers expertise not resident in state offices to make milestone payments and provide oversight and the critical technical expertise that can better support the success of these endeavors.

Manufacturing Technical Assistance Program

Last year, the Manufacturing Technical Assistance Program provided a $250,000 allocation in the state budget to undertake collaborative projects at UConn for

R&D and problem solving needs of companies with 100 W2 employees or less. The program was proposed to state legislators as a result of TEP lessons; TEP found that many small companies were contacting them for assistance, but had little capacity to fund R&D or raise funds for R&D to support the solutions UConn may provide. This program allows a select group of worthy projects to have access to unique resources at the University (faculty, graduate students, and research facilities).

Lessons learned via the TEP have lead to the creation of new state-supported programs for small and midsized firms that may not have ready access to resources to support R&D relationships.

UF TechConnect®
An EDA University Center

UF Tech Connect®

The primary focus of the EDA University Center UF Tech Connect® program is to accelerate regional and statewide economic growth by creating new technology-based companies that create high-wage jobs based on the commercialization of innovative inventions of university researchers in medicine, biotechnology, engineering, health, information systems, and more. In so doing, the Center also focuses on advancing high growth entrepreneurship and cultivating a culture of innovation.

Activities

The Center provides start-up companies with industry consulting expertise in such areas as business plan development, entrepreneurial strategy, management assistance, and potential strategic partnerships. Center clients also have access to the Florida Innovation Hub Resident Partners who provide a limited amount of pro bono assistance. They include law firms specializing in patent law and corporate law, an accounting firm, a multi-disciplinary design and development studio, and three early growth stage investment firms. In addition, the Center conducts a Technology Entrepreneur Bootcamp, Elevator Pitch workshops, SBIR workshops and other training programs, providing essential technical knowledge for early stage companies.

The Center also supports entrepreneurial faculty members interested in start-up companies to

Pie chart:
- Cultivate innovation 20%
- Advance high-growth entrepreneurship 30%
- Regional commercialization efforts and business expansion 50%
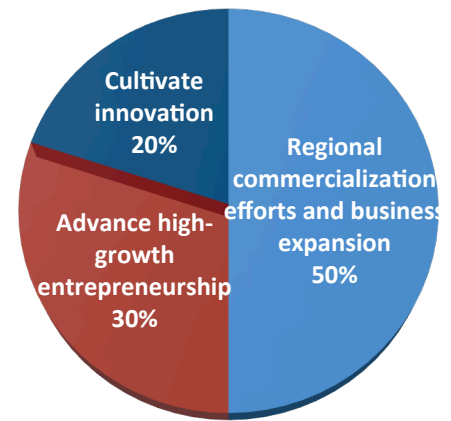
facilitate transfer of their discoveries from the laboratory into commercial entities where they can focus on the applied research necessary to get them into the marketplace. Specifically, the Center pairs faculty inventors with entrepreneurs to write business plans based on their technologies, to

conduct market feasibility studies, to help identify resources to assist in proof of concept, and to make connections with potential funding sources.

Leveraging

The Center leverages its position within the University of Florida's Office of Technology and Licensing where University researchers disclose over a third of the state's new inventions (approximately 300 annually). In addition, 75% of all research conducted at Florida universities is located within a two hour radius of the Center.

> *"Great program for promoting local talent and university intellectual properties."*
>
> *--Center Client*

The Center takes advantage of this strong position to help commercialize university research in the region. In addition, the Center has strong partners with government, private, and academic organizations, such as The Florida Institute for the Commercialization of Public Research, Florida Works (the regional workforce), Florida High Tech Corridor, Florida Research Consortium, Bioflorida, and other state-wide organizations. The Center also has strong relations with businesses that provide legal, design, and prototyping services to clients.

Success

Leveraging university expertise, resources, and partnerships to support new startups and spinoffs

The University of Florida (UF) is home to approximately one-third of all research conducted at Florida universities. UF researchers disclose one-third of the state's new inventions, and UF generates the majority of all university start-ups in the state. In addition, 75% of all research conducted at Florida universities is located within a two-hour radius of UF. UF Tech Connect® is therefore uniquely positioned to capitalize on these advantages to provide tailored and targeted support for entrepreneurs and start-ups, including services such as business plan development, entrepreneurial strategy, management assistance, workshops and training programs, and making connections with outside partners. One successful start-up based on University research is Shadow Health, a software training program that uses avatar technology to train medical students. In 2011, Shadow Health was an inaugural tenant in the Florida Innovation Hub, an EDA-funded incubator where Tech Connect® provides many networking and other entrepreneurial support functions. The company graduated from the incubator after 9 months, having outgrown capacity; it added over 20 employees during its tenancy in the incubator. The company then moved to a downtown location half-a-mile from the incubator into a formerly unoccupied building, which it revitalized. In less than two years, the company has grown to over 40 employees, received two rounds of financing totaling more than $1 million, conducted extensive beta testing on three prototypes, and launched its signature products.

As the home to a large share of Florida's research and innovation capacity, UFTechConnect leverages significant expertise to aggregate resources and forge partnerships to spinoff new companies that create high-wage jobs. Since launching in 2002, UF Tech Connect® has helped to support 135 start-up companies, and assists over 80 companies in the community annually.

PBCP
PACIFIC BUSINESS CENTER PROGRAM
UNIVERSITY OF HAWAII

University
University of Hawaii

Center Director
Failautusi Avegalio Jr.

Center Location
College of Business

Center since 1980

Center Activities
- Technical assistance
- Entrepreneurship support
- Workforce development
- Innovation support
- Applied research

Clients
- Distressed communities
- Entrepreneurs
- Small businesses
- Government and community agencies
- Faculty/researchers

Assessment Techniques
- Client interviews
- Client surveys
- Case studies
- Informal feedback

Contact Information
pbcphawaii.com
pcbp@hawaii.edu

Pacific Business Center Program

The Pacific Business Center Program (PBCP) at the University of Hawaii aims to help indigenous island economies help themselves by adapting the resources of the University to support Pacific island economic, business, and community development in a manner that is holistic and responsible, and that builds local island capacity. PBCP works with private businesses, government agencies, and community development organizations to enhance economic diversification and develop new opportunities for businesses.

Activities

PBCP is unique among university centers in that its service area covers not only the entire State of Hawaii but also the American Affiliated Pacific Islands (which together cover a geographic region larger than the continental United States). The Center focuses on providing technical assistance to entrepreneurs and small businesses in these regions through a variety of mechanisms, including entrepreneurship workshops,

business counseling, industry/market research, product development, supply chain connections, access to markets, operational analysis, feasibility/ business/marketing/strategic plans, and access to financing. PBCP also provides technical assistance to government agencies, non-governmental organizations, and distressed communities in the region, with the overall goal of raising standards of living. This assistance

Disseminate information 25%
Technical assistance 45%
Applied research 30%
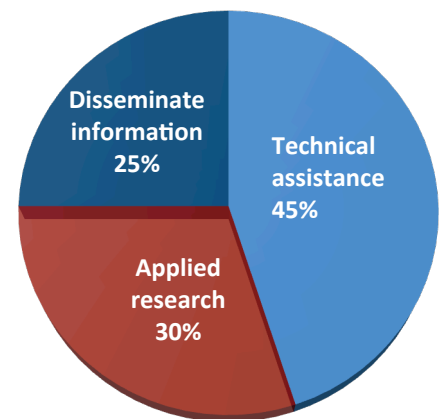
includes comprehensive economic development strategies, new industry feasibility/development plans, private sector driven export development strategies, labor studies, workforce development plans, and recovery plans. The Center collaborates with federal and state Departments of

FY 2012

Labor in Hawaii, American Samoa, and Guam to support workforce planning efforts. It supports disaster preparedness and recovery efforts through technical assistance and training to businesses and public agencies. Applied research activities focus on economic/industry topics of interest to specific clients and partners, such as collecting tourism statistics for the State of Hawaii.

Leveraging

PBCP draws upon the resources of the entire 10-campus system of the University of Hawaii. It is an active partner with university departments that bring economic development services and technical expertise to the region, such as the College of Tropical Agriculture & Human Resources. Other relationships include the Institute of Tropical Food Research and Development, University Office of Technology Transfer and Economic Development, the Center for International Business Education and Research, and the University National Disaster Preparedness Training Center. Externally, key partnerships include SBDCs, Pacific Asia Center for Entrepreneurship and E-Commerce, Minority Business Development Agency, Hawaii Venture Capital Association, Hawaii Technology Development Corporation, Barstow Foundation, and others.

Success

Gluten-free breadfruit flour manufacturing

Pacific Business Center Program is creating sustainable private sector employment opportunities and economic diversification in American Samoa through the commercialization of breadfruit production. Through collaborations with public agencies, researchers, and other partners (such as the National Tropical Botanical Garden), PBCP is providing technical assistance to support the manufacture and export of gluten-free breadfruit flour. American Samoa will import breadfruit grown on the independent Island State of Samoa, and will then process, manufacture, and export the breadfruit flour to the U.S. market. A leading distributor and logistics company with national/international capabilities has been identified to assist with export and distribution of the product. The goal is to export packaged gluten-free breadfruit flour by 2015. PBCP met with experts in the field and gathered available research on breadfruit flour and the market for gluten free products. PBCP also organized the world's first Breadfruit Summit, held in American Samoa. Breadfruit flour production will support new economic opportunities in American Samoa by complimenting and potentially replacing the current tuna export industry. Developing a new food processing industry will also significantly accelerate the post-disaster economic recovery of American Samoa from the devastation of the 2009 tsunami.

PBCP's advocacy and technical assistance is drawing upon existing local resources for economic development to support diversification, self-reliance, and job creation in American Samoa.

Illinois

East Central Illinois University Center

East Central Illinois University Center (ECIUC) is a partnership among local educational institutions and business development resources with the goal of promoting and fostering entrepreneurship. The program's mission is to create a growing pipeline of long-term innovative and vibrant business activity within the region through entrepreneur education, start-up assistance, incubation, growth support, and investment.

Activities

ECIUC works to leverage an already strong base of technology development and commercialization at the University of Illinois (UI) through partnerships that will bring the benefits of entrepreneurship and innovation to the economically distressed region where it is located. The Center's programs focus primarily on supporting entrepreneurship, innovation, and commercialization. Support for regional entrepreneurs includes FastTrac Courses, which are a hands-on comprehensive business development program for entrepreneurial skills designed for

residents of the EnterpriseWorks Incubator and start-ups in the broader region. The Center offers Entrepreneur-In-Residence counseling services to University Center and Research Park clients, as well as researchers. A student-led program supports entrepreneurs by providing Center clients shared services such as market assessments, web development, business plan development, lab setup, and graphic
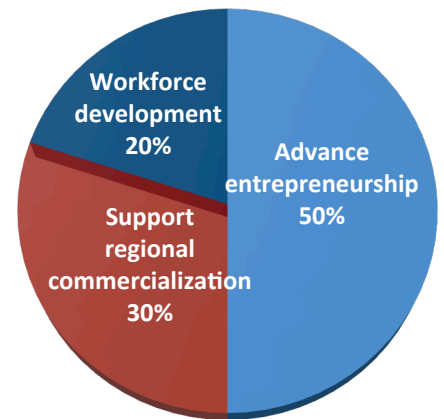
design. ECIUC facilitates commercialization of innovative ideas generated at the Incubator and Research Park by providing SBIR/STTR technical assistance, helping entrepreneurs and companies apply for these awards. The Center is also working to extend the availability of

new community incubator programs and facilities for entrepreneurs in its service region to strengthen the innovation ecosystem (e.g., launching a new community incubator and FastTrac courses in the Village of

> *"The University Center has been great to work/participate with. It has been a tremendous help in working with new business potential and has assisted in developing new and beneficial contacts and partnerships."*
> *--Center Stakeholder*

Rantoul). Applied research activities support this goal by cataloguing regional resources, identifying gaps, and creating action plans to expand incubation facilities.

Leveraging

ECIUC relies upon UI and other partner colleges for data resources, analytical/faculty expertise, student labor, and technology commercialization services. Many Center clients reside within the UI

Research Park and its EnterpriseWorks Incubator. The extension of Center services in the broader region requires a range of local partnerships, such as Village of Rantoul and Rantoul Business Center to establish incubation services there. Other external partnerships for program and service delivery include UI-Parkland College, Champaign County EDC and SBDC, and Champaign County Regional Planning Commission.

Success

Entrepreneur-In-Residence services for start-ups

ECIUC provides Entrepreneur-In-Residence (EIR) counseling services to University of Illinois (UI) researchers and clients of the UI Research Park. The program hires local experienced technology entrepreneurs to provide monthly consulting to new startup ventures and prospective technology entrepreneurs. By sourcing this talent from the local region, the program selects peers who have faced similar challenges in commercializing research/early stage technology. Cazoodle – a graduate of the UI EnterpriseWorks incubator – benefited from the EIR program. Advice and insights from three EIRs helped the company develop revenue streams, solidify a

pitch for potential investors, and fine-tune its focus.

By drawing upon deep regional expertise in entrepreneurship to help other new startups, the Center is supporting the region's pipeline of innovation talent to become viable, job-creating business activities.

SBIR technical assistance for start-ups

The SBIR program encourages entrepreneurs to apply for federal grants by giving free guidance to small businesses interested in submitting proposals. A consultant provides training two times a year on the overall SBIR/ STTR program and shorter workshops with specific topic areas. Through this program

entrepreneurs can become familiar with SBIRs, search solicitations, learn best practices for applications, talk with program managers, draft a budget, write a commercialization plan, or execute an award agreement. The program has also worked in collaboration with UI Credit Union to develop an innovative lending program for companies that have been awarded Phase II SBIR/STTR Grants.

The SBIR assistance is in great demand from local entrepreneurs. Since launching this service in July 2012, 32 companies have been served by the SBIR consultant. In 2012, more than $5.4 million in SBIR/STTR funds were received by 12 incubator companies through 17 awards.

University of Illinois, Urbana-Champaign | East Central Illinois University Center

Kansas

KU ENTREPRENEURSHIP WORKS FOR KANSAS
The University of Kansas

University
The University of Kansas

Center Director
Wallace Meyer

Center Location
School of Business and the Institute for Policy & Social Research

Center since 2008

Center Activities
- Technical assistance
- Training of students through client projects
- Early-stage/ entrepreneurship support
- Applied research

Clients
- Existing businesses
- New ventures
- Local and regional governments
- Community development organizations

Assessment Techniques
- Customer satisfaction surveys
- Follow-up calls
- Program staff and regional workshops feedback

Contact Information
www.ipsr.ku.edu/KUforKS/
ipsr@ku.edu

Entrepreneurship Works for Kansas

Entrepreneurship Works for Kansas is The University of Kansas's EDA University Center. Supported by the EDA grant, university money, and donations, the director leads many activities focused on enhancing economic conditions and driving employment in Kansas and the Midwest through pragmatic programs in entrepreneurship, the biosciences, and technology. The Center's programs focus on enhancing the regional economy by (I) harnessing business development expertise to identify, analyze, and prepare new business opportunities; (2) providing information and analyses to support regional economic development initiatives; and (3) identifying and incubating new businesses concepts that will be staffed by Center personnel to achieve job growth.

Goals & Activities

The Center provides technical assistance to a wide-range of clients through its Jayhawk Consulting program, which is an application-based class that undertakes real-world projects for clients. Jayhawk

Consulting gives University of Kansas (KU) students the opportunity to acquire hands-on experiential learning. Over the six years since its inception, Jayhawk Consulting has provided pro bono consulting assistance to over 72 organizations with diverse business models and challenges. Past clients have included General Motors, Black & Veatch, Towne Park, Shelton Land & Cattle, and Children's Mercy Hospital. Those projects included market

Applied research 30%
Technical assistance 70%

feasibility and research, business plan development, economic impact analysis, and private equity investment research. In addition, the Center provides similar services to clients of the KU's Bioscience & Technology Business Center through MBA student interns.

FY 2012

The RedTire program is designed to address the shuttering of small/medium sized businesses due to the owner's lack of a successor, a national problem and particularly calamitous in rural America where the loss of an essential business can mean the economic end to the community. A team from the KU Center works with the business owner to value the business, find a potential buyer among students and alums, help arrange financing, and provide ongoing mentoring support to the new owners from RedTire's experienced Advisory Board. The program was created under the EDA grant and following its successful beta test in Kansas, the KU Center is planning to distribute how-to materials to all Centers for local implementation.

> *"This Center does an excellent job of cutting across the different university departments on campus."* --Center Stakeholder

Leveraging

The Center leverages many university resources including the on-campus technology incubator, university data sources, and faculty expertise. The center highly leverages the university students, who provide much of the research and analysis (with faculty guidance) for the customers of Jayhawk Consulting.

Success Stories: Dual Client Models

Northern Flyer Alliance

Jayhawk Consulting performed an economic impact study for the North Flyer Alliance in 2009, which has resulted in legislation being passed in Kansas in support of passenger rail.

The Northern Flyer Alliance is a group of 49 cities, 6 counties, and 19 Chambers of Commerce along the I-35 corridor stretching from Kansas City to Fort Worth that have joined together to promote the reintroduction of passenger rail in their communities and the Tri-State Region that includes Kansas, Oklahoma and Texas. In 2009, the group needed an economic impact study to ascertain the economic justification for renewing passenger rail between Kansas City and Oklahoma City. After hearing the Center director present at a regional conference, the Alliance decided to engage with Jayhawk Consulting for their study. A group of seven students from Jayhawk Consulting who were supervised by Mr. Meyers met with the client to discuss the project, collected and updated feasibility studies, and developed hypothetical marking plans. Using these data, the team estimated the economic impact using IMPLAN software and added enhanced value and cost avoidance. The analysis revealed a 3.58 return on investment over a 10-year period. This analysis was presented to the client by the students and was used to inform Kansas legislation.

Entrepreneurship Works for Kansas has shown how students and external clients can both be served by a program that is targeted on client need and which closely directs student contributions.

Entrepreneurship Education for All

KU's Entrepreneurship four course sequence, which culminates in a Certificate in Entrepreneurship, provides students with the requisite knowledge base to start their own businesses. This program has been offered outside of the business school to reach 125 students.

Entrepreneurship Works for Kansas is working to meet a regional need in the community as well as serving students.

University
University of Kentucky

Center Director
Dean Harvey

Center Location
Outreach Unit

Center since 2002

Center Activities

- Incubator programming
- Assistance with business plans and market and other analysis
- Workshop on starting a business
- Making connections to funding

Clients

- Entrepreneurs
- University researchers
- Start-ups

Assessment Techniques

- Feedback from program staff
- Informal client interviews
- Feedback at regional workshops
- Case studies

Contact Information
www.uky.edu/econdev/von-allmen-center-entrepreneurship
harvey@uky.edu

Von Allmen Center for Entrepreneurship

Von Allmen Center for Entrepreneurship

The mission of the VonAllmen Center for Entrepreneurship (VAC) at the University of Kentucky (UK) is to strengthen Kentucky's economy through entrepreneurship, business outreach and commercialization of university research. The VonAllmen Center is focused on accelerating the growth of technology-based businesses and jobs in the Commonwealth by providing support services to scientists, clinicians, and entrepreneurs with scalable business concepts that will form the foundation for a high growth sustainable economy. The Center is supported by the EDA grant and university funds, as well as funding from local and state governments.

Activities

In support of its mission, the Center provides technical assistance to entrepreneurs and start-ups through one-on-one counseling, group educational events, and matchmaking between people and people and between people and resources. The Center provides technical and business services to regional early-

stage, technology-based companies. These services include an assessment of the market potential of research discoveries at the University and guidance to scientists and engineers in the development of business plans. In addition, the Center holds several workshops related to starting a business on topics such as company formation, intellectual property protection, business plan development, marketing, and funding,

Existing businesses 10%
Start-ups 50%
Pre-start-ups 40%
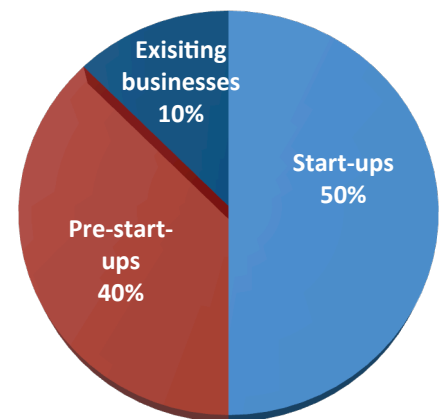
and on the transition between post-doc and start-ups. Access to funding is a common challenge, so in addition to the workshops, the Center provides direct assistance to entrepreneurs in accessing funding, writing grants, and refining their investor pitch. The Center also holds a research preview

event during which university research is presented to investors. The Center not only provides students with real experience but serves entrepreneurs as well through the use of MBA student teams that work with Center clients to create early business plans.

Leveraging

The VonAllmen Center leverages its close working relationships with regional public and private funding sources including state funding programs (SBIR/STIR match program, Kentucky Enterprise Funds, and Commonwealth Seed Capital), regional angel investor groups, and regional venture capitalists. In addition, the Center leverages university assets such as university data sources and students. Center staff members are able to make connections with potential clients through the Center's close relationship with the University's technology transfer and commercialization office. About half of the Center's clients are commercializing University of Kentucky research; almost three-fourths of those clients are biotechnology companies.

> "The Center has fostered a rich entrepreneurial climate in which our business has flourished, thanks to the contacts forged through the Center. It accounts for 95% of why we adore Lexington as a business headquarters. We feel fully immersed and energized by the amazing strengths of these advisers, co-developers, and friends. We've attracted a couple other businesses to move here, based on our fabulous experience and joy through this move to KY. We just won 3 NIH grants last month, all with sub-awards to UK... because Dean Harvey helped us find the right UK collaborators.
>
> --Center Client

Success

Combining technical assistance with a local angel fund increases the chance of success.

For many companies and entrepreneurs, the Center provides not only technical assistance in business planning, etc., but also connects entrepreneurs to pubic and private funding sources such as Bluegrass Angels, an important source of early-stage funding that the Von Allmen Center catalyzed. One company the Center has helped is Seikowave, which was founded in 2010 based on research in UK's Visualization Center. As a platform technology, Seikowave has many medical and industrial market opportunities. The Von Allmen Center worked with UK faculty researchers for two years prior to the company being formed. Seikowave secured $1.5 million in seed funding from the Bluegrass Angels, two state funding programs, and a corporate investor in Japan.

By leveraging the Center's expertise in technology-based start-up counseling and its connections to regional public and private resources in the community, the UK Von Allmen Center for Entrepreneurship has enabled success in commercializing university research.

University Center at University of Maryland and Morgan State University

The University Center

The University Center at University of Maryland and Morgan State University is designed to leverage university assets in urban and regional planning to augment current economic development efforts in the state. The Center is already providing technical assistance in the City of Baltimore but, as a new Center, much of the Center's efforts are currently focused on applied research and the development of a database which will eventually be utilized as an innovative tool for technical assistance.

Activities

The University Center at University of Maryland and Morgan State University aims to serve the State of Maryland in advancing entrepreneurship, commercialization, and workforce development through applied research and technical assistance.

At present, the primary focus of the Center is an applied research project in entrepreneurship and innovation networks: the building of the Maryland Entrepreneur & Innovation Network Information System (MENIS). Upon completion, MENIS will be utilized to provide technical assistance in economic development projects with interested parties such as the Maryland Department of Labor, the Governor's Office, and the City of Baltimore.

Another core activity for the Center is the provision of technical assistance in economic development planning. The
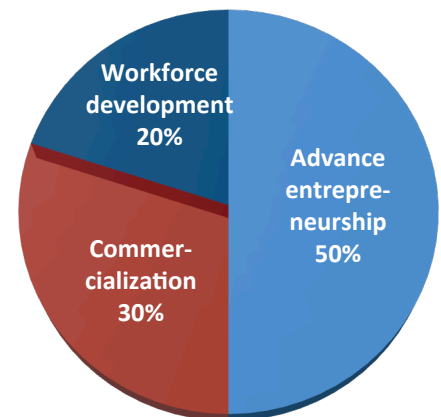
Center has been working closely with the local community surrounding Morgan State University, the "Morgan Mile," on a project to revitalize and stabilize the area within a one-mile radius of the University. A group of master's students, as a part of a 6-credit Community Planning Studio course, have also provided technical

assistance to the City of Baltimore by examining the relationship between industrial land use and development at the local and regional level around the Port of Baltimore.

In the future, the Center plans to create a series of online "how to" modules on topics such as economic analysis.

Leveraging

In addition to the matching funds provided by the School of Architecture, Planning and

Preservation, last year the Center received a seed grant from the University's Office of Research in order to accelerate the development of the MENIS database. Access to students has also been leveraged by the Center through the 6-credit Community Planning Studio.

The University Center's work "is helping us make connections between strengths we perceived, and those revealed by the data. Our CEDS will be a stronger, more useful document as a result."

Success

The Morgan State Mile

The Morgan Mile is a university-wide project, with the goal of revitalizing and stabilizing the area within a one-mile radius around Morgan State University, which is currently economically depressed. While the project is still in progress, the dramatic increase in meeting attendance, participation, and communication between the community and the university project team is seen as an important signal of success. The relationships and trust built by the extensive outreach effort are viewed as an important foundation for the

implementation of the plan, which is currently nearing completion.

This project built on the presence of a campus in order to rebuild a community.

City of Baltimore CEDS

The University Center recently completed a detailed evaluation of Baltimore City's existing Comprehensive Economic Development Strategy (CEDS) and the potential impact of investment of different demographic and economic indicators. The Center also provided recommendations for

strategic improvement to the processes and evaluation methods for economic development in the city.

The evaluation is part of a project aimed at improving the effectiveness of economic development planning in the city, being carried out in collaboration with the city of Baltimore's Department of Planning and Office of Research and Strategic Planning.

The results of the University Center's evaluation will serve as an important input to the city's CEDS planning process.

The EDACENTER
at the University of Minnesota, Crookston

Center Activities
- Technical assistance
- Applied research
- Workforce development
- Entrepreneurship support

Clients
- Local/rural economic development organizations
- Local governments
- University stakeholders
- Indian tribes

Assessment Techniques
- Client interviews
- Case studies

EDA Center at the University of Minnesota, Crookston

The mission of the EDA Center at University of Minnesota (UMN) Crookston is to engage university faculty, staff, and students with local, county, and regional economic development agencies in support of Minnesota's rural economy. The Center focuses on utilizing UMN Crookston's capacity – in partnership with economic development agencies – to support job creation, capital investment, business recruitment, and job retention.

Activities

UMN Crookston's EDA Center focuses primarily on working with local economic development organizations as partners and intermediaries to deliver services. The aim of this approach is to help partners in rural/distressed regions create a culture and environment that is truly supportive of entrepreneurship and innovative cluster development. Minnesota public, tribal-supported, and/or nonprofit economic development agencies supporting rural areas can apply for EDA technical assistance in projects that

advance entrepreneurship and innovation, such as delivering entrepreneurship training, assisting clients with product development services, creating an entrepreneurial mentoring network, and enhancing development of renewable energy cluster in rural regions. The Center works with UMN Crookston Extension and Business programs to deliver workforce development and educational programs, such as online

Applied research 30%

Technical assistance 70%
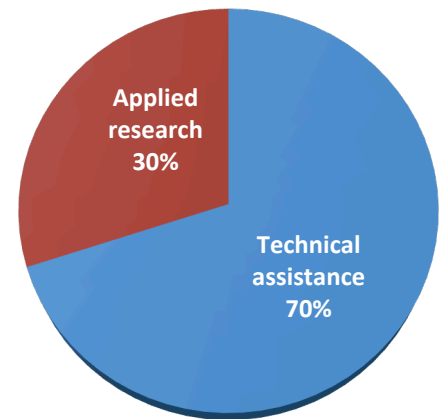
business/entrepreneur training courses. Digital literacy is a key focus of the Center's workforce programs, and it is a key partner in the "Minnesota Rural Intelligent Communities" project, which provides digital literacy curricula and workshops in rural areas of the state. The EDA Center also conducts

applied research on a variety of topics that impact the rural economy, such as digital literacy/utilization in rural businesses, impacts of broadband deployment in rural communities, rural industry cluster studies.

Leveraging

Because the Center's model for delivering technical assistance is by working through local partners, the Center leverages the resources and networks of economic development organizations in rural areas across the state, such as economic development districts. The UMN Extension Service is a key partner and vehicle for connecting with rural partners and delivering services, as there are 14 regional Extension offices throughout the state. The Center draws upon resources from all five UMN campuses, including data sources, analytical expertise, student labor, and specialized equipment. Some Center projects, such as rural broadband and digital literacy work, leverage the programs and funding of wider initiatives supported by the National Telecommunications and Information Administration (NTIA), American Recovery and Reinvestment Act, and others.

> *"Superb level of analysis… timeliness of response… just plain wonderful folks to work with."*
> *--Center Client*

Success

Collaborative approach to increasing rural digital literacy

Over the past two years, the EDA Center at UMN Crookston has been engaged in the Minnesota Rural Intelligent Communities (MIRC) project, a $6.3 million NTIA-supported sustainable broadband adoption initiative. This project is focused on making digital tools available to low-income residents, on training residents in digital literacy to enhance the workforce, and on providing technical assistance to rural businesses. The project is focused on eleven rural demonstration areas, but it has statewide impact. Multiple digital literacy curricula have been created by a variety of initiative partners and continue to be delivered. These include short-course workshops for unemployed individuals seeking employment, training for small business owners wishing to digitally expand their markets and enhance their web presence, and curricula to enhance the digital literacy of the incumbent workforce of existing small rural businesses. Through this project, over 2,000 computers were delivered to low-income families, over 56,000 rural broadband subscriptions were made, over 7,000 rural residents received training, and 2,000 small businesses received training and assistance. The project has had a significant impact on broadband penetration in rural areas – the broadband adoption rate is 29.8% faster in MIRC partner communities when compared to the rest of rural Minnesota. The Minnesota High Tech Association presented the MIRC project with its 2012 "Innovative Collaboration" award at its annual banquet.

The EDA Center's support for this highly collaborative endeavor Is addressing key challenges to workforce/economic development in distressed regions of the state, including lack of digital literacy, broadband adoption, and computer ownership.

Missouri

Center Activities
- Assistance to small businesses
- Early-stage/ entrepreneurship support
- Economic data analysis
- Community organization
- Export assistance
- Applied research

Clients
- Small businesses
- Entrepreneurs
- Regional economic development organizations
- Local governments
- Existing businesses

Assessment Techniques
- Client satisfaction surveys
- Informal partner surveys

University Center for Innovation and Entrepreneurship

University Center for Innovation and Entrepreneurship is the University of Missouri's EDA University Center. Supported by the EDA grant, matching funds university funds, the state government, and partner organizations, the Center Director leads a wide range of outreach activities that seeks to support job creation and retention in two parts of the state with diverse audiences, coupled with a robust research agenda to assist communities throughout the state and to encourage the development of high-growth firms.

Activities

The Center provides technical assistance focused on services such as business management counseling that will improve entrepreneurs' probability of success and businesses' competitiveness by accessing resources in financing, management, marketing, technology and commercialization. For example, EDA business development specialists provide technical assistance to help firms assess their readiness for

exporting through educational offerings on international trade. Center seminars cover marketing, human resources, finance, loan programs, IRS and tax issues, and bonding issues. In addition, the Center works with small businesses in the areas of capital access, market research, and management consulting.

The Center assists regional planning commissions with the creation of their
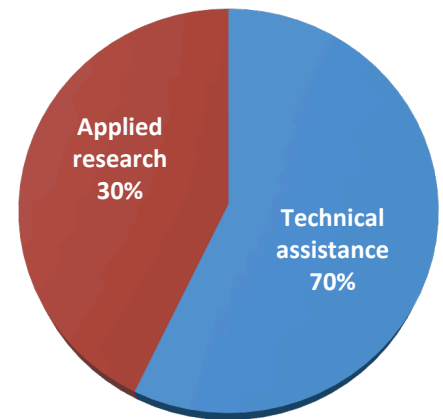
Comprehensive Economic Development Strategy reports and grants with decision-support software. The Center uses the Community Issues Management tool, which is a web-based, data driven, decision-making tool that uses multiple layers of data mapped to a GIS platform that allows

multiple users to come together in one virtual space, "see" the forces that are coming to bear on a particular community issue, and work together in the virtual workspace to address the issue.

The Center also has a very active applied research program, which strives to better understand high-growth business development and to inform key decision makers in their strategic planning efforts.

Leveraging

The Center for Innovation and Entrepreneurship leverages university data resources as well as analytical expertise. The Center is involved in the on-campus incubator, and provides services to clients while the incubator provides space. The Center uses graduate student research assistants as an integral part of its research on fast-growth enterprise. In addition, the Center calls upon its regional partners to help with its mission. The Center's large organization is supported by grants for a Procurement Technical Assistance Center, Small Business and Technology Development Center, and funds for extension services. These grants enable the larger center to have many different experts on hand to serve the small number of clients supported by the EDA grant.

> *"Prompt assistance from qualified professionals who took a genuine interest in our success."*
>
> *--Center client*

Success Story

Chasing Cheetahs: Lessons from Missouri's fastest growing businesses.

To better inform policy efforts, the Center gathered information on companies that are growing rapidly in Missouri. The population for that study was more than 5,000 firms that fit the growth and size profile. The response rate was 72 percent, resulting in more than 2,300 completed surveys. Firms were identified based on two primary criteria: 100 percent growth in the number of employees over a five-year period ending in 2006 and having 3-100 employees at the start of that period. The study filled an existing research gap by providing economic developers and policymakers in the state with systematically collected data on the needs of fast-growth firms. Through this report's extensive data collection effort, new insights detailed the issues faced by Cheetahs and the types of assistance that could be developed for the promotion of entrepreneurship and small business success in Missouri.

The Center is able to direct its assistance to small businesses in a very targeted way because of the detailed analysis and rich understanding it has of the needs of its clients. This data-based approach will lead to greater effectiveness in Center activities.

University of Nevada, Reno
Center for Economic Development

The University of Nevada, Reno

The University Center for Economic Development (UCED) at the University of Nevada, Reno (UNR) is supported by an EDA grant matched by university funds from the College of Business, the University of Nevada Cooperative Extension, and the Nevada Agriculture Experiment Station, all of which play an important role in the work of the Center.

Director Tom Harris and his staff work to provide technical assistance, applied research, training and outreach, supporting business expansion in regional innovation clusters as well as commercialization efforts throughout the state of Nevada and often beyond.

Activities

The Center was created with the goal of improving access to university, government, and private sector talent and resources in order to promote community and economic development in the state of Nevada. UCED therefore plays an important role in building networks and making connections, in addition to directly providing a broad range of technical assistance and applied research to foster the expansion, productivity, and the competitiveness of existing firms. The Center is also actively involved in applying various analytical planning and development tools to promote comprehensive regional growth throughout the state.

The University Center provides technical assistance to communities,

Commercialization support 50%

Growth in regional innovation clusters 50%
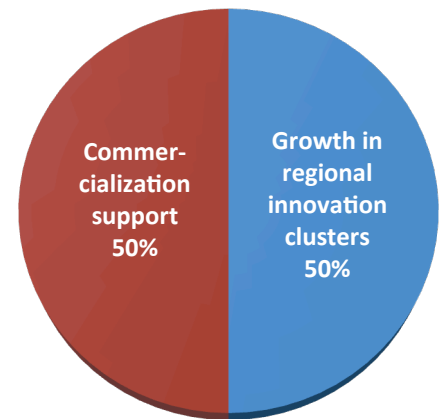
municipal and county governments, and economic development organizations of strategic planning and implementation. Recent partners and clients include the Western Nevada Development District and a number of rural Nevada communities.

The Center also provides technical assistance in the form of economic analysis to local, regional, state and national government entities, private companies, and other organizations. Center outreach includes technical assistance to Native American tribal communities, including trainings and one-on-one assistance related to business and agronomic management.

The Center is involved in small business and workforce development, including the Small Business Procurement Program, a training course in procurement for small businesses interested in working with Clark County and other government agencies.

> *"Tom Harris is the most well-known faculty member at the university."* --Center Client

Success

Lander County, Nevada

The University of Nevada, Reno University Center for Economic Development has been instrumental in recent economic development efforts in Lander County, Nevada, providing technical assistance in the form of facilitation and capacity building, economic analysis, and asset inventories.

Project F.I.N.D.

The Future Industrial Needs Discovery (Project F.I.N.D.) seeks to capitalize on legacy infrastructure assets (from mining), using a community-driven methodology to attract businesses well suited to the county's assets with the goal of economic diversification. The project includes an asset inventory,

strategic planning, and marketing. Given the extensive presence of mining on public lands in Nevada, the project has attracted attention as a potential model in other communities throughout the state.

Area Sector Analysis Process

In addition to the novel effort to re-purposing mining infrastructure, Lander County utilized a procedure developed as a joint effort between the Western Rural Development Center and the University Center for Economic Development: the Area Sector Analysis Process (ASAP). The ASAP model uses two indices, desirability and compatibility, to help Lander County rank potential matches for industrial targeting under the FIND. In addition to

Lander County, the model has been employed with promising results in Laughlin, Nevada as well as in communities in Montana and Arizona.

Cooperative Extension

The University Center has close ties to UNR's Cooperative Extension program and most of the state's Extension Educators have a small percentage of their time dedicated to Center activities. This connection with Cooperative Extension faculty has been an important entre to rural communities for the Center, and is how UCED became involved with Lander County and Project FIND.

THE UNIVERSITY *of* NEW ORLEANS

University
University of New Orleans

Center Director
Ivan Miestchovich

Center Location
Outreach Unit

Center since 1978

Center Activities
- Strategic and comprehensive planning assistance
- Business plan support
- Applied research on local real estate
- Conferences on regional economy

Clients
- Non-profits
- Local/state/regional governments
- Community development organizations
- Businesses

Assessment Techniques
- Feedback from program staff
- Client interviews
- Feedback from regional workshops

Contact Information
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imiestch@uno.edu

Center for Economic Development

The Center for Economic Development at the University of New Orleans (UNO) is an interdisciplinary public service and outreach unit of the College of Business Administration providing a broad range of technical assistance and applied research services. The primary focus of the Center's services are businesses, community organizations, local and regional governments, and nonprofit agencies whose interest and efforts are devoted to economic development. Supported by the EDA grant, matching university funds, state government funds, foundation/non-profit organization funds, and program fees, the Center serves as an access point to and conduit for delivery of university-based resources to address the needs of distressed and underserved communities in its service area.

Activities

The Center strives to reach its goals through facilitation of economic development strategic planning initiatives such as the planning and feasibility analysis of a business incubator of an economic development foundation and a processing facility for a local region. The Center also assists in formulating economic redevelopment strategies for local governments, particularly in regard to the disasters the area has experienced over the past decade. The Center strives to stay connected through out the region in economic development by routinely participating in or facilitating meetings focused on some
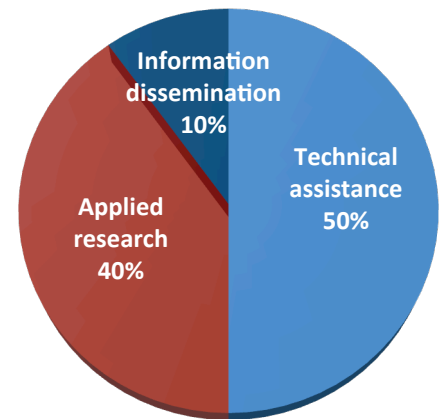
aspect of recovery and rebuilding at the regional or local level. These meetings encompass representatives of the business, civic and governmental communities.

One of the Center's larger on-going applied research projects is the publication of an annual report on

economic and real estate trends and the hosting of an annual conference focusing on the outlook for the regional economy and real estate market. The 100+ page report includes extensive analysis of on occupancy, absorption, and price/rent trends as well as a review of demographic, economic and construction patterns in the region. The reports are used extensively by public and private entities engaged in a wide range of projects related to the region's continuing rebuilding process.

> *"The UNO Real Estate Market Data Center has been a valuable resource in the Louisiana market ever since I went into business 30 years ago. The university's ability to gather data, analyze it, and provide a historical prospective has been a key access into my organization's decision making."*
>
> *--Center client*

Leveraging

The Center for Economic Development leverages university assets such as data, expertise, and student labor. The Center uses students extensively for business planning for non-profits, which is part of a course. In addition, students are used as interns to support the applied research of the Center. Faculty expertise is leveraged by the Center through faculty participation in Center projects.

Success Stories

Training students and helping nonprofits

In the class, the Financial Administration of Nonprofit Organizations, teams of students are paired with local nonprofits to help write business plans. Over the past three years, this initiative has resulted in the preparation of nine nonprofit business plans and the preparation of supporting documents needed to incorporate, organize and secure tax exempt status. Most clients are small to medium sized nonprofit organizations focused on neighborhood revitalization, small business and entrepreneurship and local economic development.

By sending students to work with local non-profits as part of their preparation for non-profit concentrations in university degree programs, UNO's Center for Economic Development illustrates how a program can serve both students and external clients, achieved by closely directing student contributions.

Becoming a reliable source of timely information

Since its inception the UNO Center has published a comprehensive analysis of the regional real estate market covering the full range of residential, commercial and industrial properties. These published reports are widely circulated and attract significant media coverage locally as well as from regional and national outlets.

In addition to those having direct interests in real estate, the publications are used by local and regional EDO's and site selectors. The Center also leverages the investment in maintaining its extensive database by attracting contracted applied research projects.

The Center leverages its expertise in real estate to attract outside support for the Center beyond the government and university investments.

Center for Strategic Economic Growth

Center Activities
- Network building
- Early-stage/ entrepreneurship support
- Applied research

Clients
- Economic developers
- Entrepreneurs

Assessment Techniques
- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Client satisfaction surveys
- Case studies

The Center for Strategic Economic Growth

The Center for Strategic Economic Growth (CSEG), funded through the EDA University Center program and Frank Hawkins Kenan Institute of Private Enterprise, was launched in 2012 with the goal of helping to transform an economically distressed, 18-county region in eastern North Carolina by spurring high-growth entrepreneurial activity. The Center's primary activity over the 5-year period will be technical assistance to businesses and communities throughout the region.

Activities

The focus of the Center for Strategic Economic Growth is to promote entrepreneurship, creating a "thriving, globally competitive economic system in eastern North Carolina by providing business development services for high-growth entrepreneurs" though a variety of networking, technical assistance, and applied research activities.

As a new university center, CSEG has been working to establish the networks and relationships that will enable them to provide technical assistance to eastern North Carolina counties, such as assistance with economic development research, planning, and initiatives. In order to identify the right partners and clients, the Center is working on applied research to identify existing growth companies, entrepreneurs, and potential investors in the region.

CSEG is also working to support early
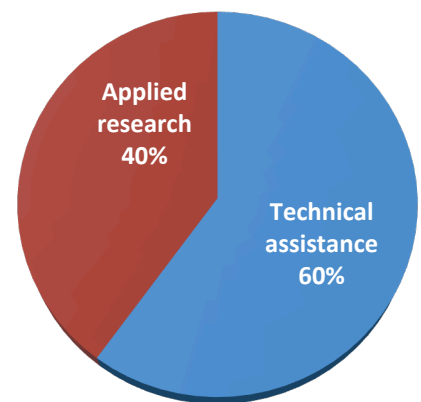
stage/entrepreneurship by developing training programs for regional entrepreneurs in collaboration with the business school, the Small Business and Technology Development Center (SBTDC), and the Small Business Development Center (SBDC).

Leveraging

In addition to matching funds from the Kenan Institute of Private Enterprise, the Center for Strategic Economic Growth is able to leverage the faculty expertise and students of the Kenan-Flagler Business School and the Department of City & Regional Planning. The Kenan Institute also staffs economic development analysts who work on various projects, including with the Center.

"It is a pleasure to work with good, professional and experienced people." --Center Client

Success

Identifying Eastern North Carolina's high potential companies and partners: Eastern North Carolina Initiative

Identifying and building relationships with high-potential companies, investors and economic development partners has been an important focus of the Center for Strategic Economic Growth. To facilitate this, the center launched a year-long applied research project to identify existing growth companies, promising entrepreneurs, and potential investors in the eastern North Carolina region. EDA funds have allowed the Center to purchase the data necessary to identify regional companies in the top 5% for growth in the state, as well as investors and networks with existing connections to the region. Moving forward, the Center plans to reach out to these potential partners in order to help catalyze growth in the region.

Engagement based on solid data will allow targeted work with high-potential clients and partners.

North Dakota

University

University of North Dakota
North Dakota State University

Center Director

Brenda Wyland

Center Location

Outreach Unit

Center since 2010

Center Activities

- Entrepreneurial coaching and workshops
- Networking events
- Business plan competitions
- Strategic planning
- Market and feasibility studies

Clients

- Entrepreneurs
- Start-ups
- Small businesses

Assessment Techniques

- Feedback from staff
- Client interviews
- Client satisfaction surveys
- Impact analysis

Contact Information

www.innovators.net/innovators/public_html/
www.ndsuresearchpark.com/Pages/default.aspx
brenda@ndsuresearchpark.com

NDSU | RESEARCH AND TECHNOLOGY PARK

Red River Valley Research Corridor University Center

The focus of the Red River Valley Research Corridor University Center is to develop public-private partnerships and leverage the resources of North Dakota's two major research universities, University of North Dakota (UND) and North Dakota State University, (NDSU) to build a rural and urban statewide, technology-based economy. The Center's goal is to facilitate the generally accepted required elements for a vibrant tech-based economy including intellectual infrastructure, mechanisms for knowledge transfer, infrastructure, highly skilled technical workforce, sources of risk capital, and an entrepreneurial culture. The Center uses the EDA grant along with state government funds and program fees to support their activities to reach this goal.

Activities

The University Center serves North Dakota technology-based companies and entrepreneurs that require highly skilled talent by connecting them to university researchers, which provides a competitive advantage in the marketplace. The Center consists of an incubator near the North Dakota State University Campus plus services offered through the University of North Dakota. Both sites offer entrepreneurial and start-up support consisting of networking and matchmaking events focused on connecting entrepreneurs to resources (funding, knowledge, and assistance). Both students and community

Existing businesss 30%
Start-ups/ entrepreneurs 70%
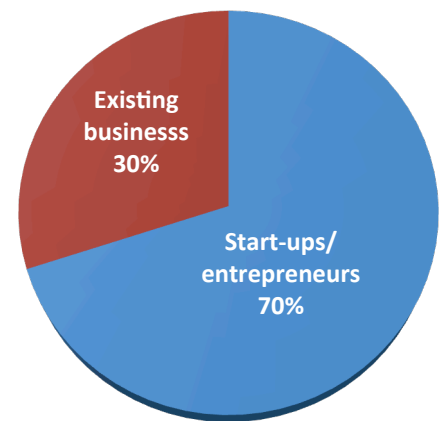
members attend these events. In addition the Center staff assist with business plan writing, grant writing, and entrepreneur coaching. One way the Center does this is through supporting the InnovateND program, a statewide competition that engages

emerging entrepreneurs in an intensive six-month venture building process that includes online entrepreneur education, business planning tools, entrepreneur coaching, mentoring and feedback from investors serving as competition judges, and the matching of InnovateND entrepreneurs with investors as angel and venture capital funds expand.

The Center assists entrepreneurs with market and feasibility evaluations and strategic plans. The Center also assists entrepreneurs with commercialization and licensing of technologies by performing commercialization feasibility analyses of potential research results. In addition, the Center hires interns who will help identify opportunities for researchers and entrepreneurs.

Leveraging

The Center leverages the North Dakota Department of Commerce, which provides the cash match for the grant, but which also facilitates statewide collaboration. The Center leverages student labor through internships in the Center that provide the students training as well as benefits to the clients.

> *"The opportunities that the NDSU Research and Technology park have provided our company with are, and will be key to our early stage growth. Their access to key business leaders, state legislators and business service professionals has been instrumental with several aspects of our business development."*
>
> *--Center client*

Success

Successful commercialization of university research through entrepreneur support services combined with incubator services

Myriad Devices makes mobile device applications, and was started with NDSU professors and students. The company has now grown to 17 employees who write mobile applications for many businesses. They value the time the company spent in the incubator because of the business mentors and education programs. The incubator's programs helped them obtain the required resources and identify the market direction needed for success.

UND Center for Innovation and the NDSU Research & Technology Park are leveraging the assets of their respective universities to help entrepreneurs succeed in North Dakota.

Oregon

University of Oregon Economic Development Center

University
University of Oregon

Center Director
Robert Parker

Center Location
Outreach Unity

Center since 2009

Center Activities
- Technical assistance
- Entrepreneurship support
- Innovation support
- Applied research

Clients
- Local governments
- Indian tribes
- Existing businesses

Assessment Techniques
- Client interviews
- Client surveys
- Case studies
- Program staff feedback

Contact Information
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University of Oregon Economic Development Center

The University of Oregon Economic Development Center (UOEDC) aims to link University of Oregon (UO) resources with communities for the purpose of enhancing regional sustainable economic development – especially in distressed communities throughout the state. The Center especially focuses on local job creation and entrepreneurship in the following areas: (1) agriculture and local food systems; (2) renewable and distributed energy systems; (3) sustainable infrastructure (water, wastewater, transportation, and other public services); and (4) value-added wood products.

Activities

A foundation of UOEDC's approach is building local capacity in communities to set strong, forward-looking policies, develop collaborative networks, and mobilize new investment resources. Program delivery incorporates a strong service learning component, and students are involved in all Center activities. For example, the Center provides technical assistance to rural areas

through the RARE program, which places 20-25 students in rural communities each year to complete economic development projects. The Center supports a variety of community-initiated demonstration projects via teams of graduate students/faculty working on feasibility studies, financial analysis, public facility plans, and other efforts. The Center has a Latino Business Development initiative that includes a range of
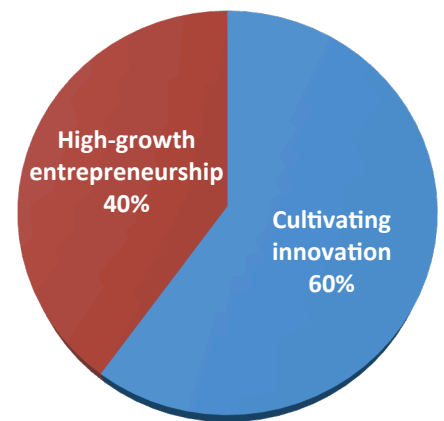
technical assistance and applied research services, such as researching the impacts of Latino businesses on community development. Other areas of focus include disaster preparedness assistance for communities and support for communities to implement electric vehicle development and the

"Drive Oregon" initiative. Other UOEDC technical assistance and applied research services support specific local- and state-level economic development projects, such as developing a regional innovation and accelerator network, evaluating the impacts of a free parking program, and evaluating economic impacts of the state's ski industry.

Leveraging

UOEDC delivers its services through a collaboration of the University of Oregon Community Service Center; Department of Economics; Oregon Small Business Development Center Network; faculty/students from the UO Department of Planning, Public Policy, and Management; and other UO departments. In addition to leveraging university data sources, analytical expertise, and student labor, the Center makes use of federal-university programs such as RARE (Americorps) and the Oregon Partnership for Disaster Resilience (FEMA). The Center has a long history of working with regional, state, and national economic development stakeholders including: EDA, Department of Land Conservation and Development, Oregon Economic Development Association, Oregon EDDs, Councils of Government, local governments, and Rural Development Initiatives.

> *"Access to students was great. Lots of great new ideas, but also core research ability to complete the identified questions. Great collaboration."*
> *--Center Client*

Success

Latino Small Business Development

In many Oregon communities, Latino-owned businesses have been rapidly emerging in neighborhoods that were experiencing economic difficulties, contributing to the revitalization of these areas. UOEDC is seeking to support this emerging minority business community and understand its economic contribution in rural communities through a Latino Small Business Development initiative. In the first phase of the project, UOEDC partnered with the City of Woodburn to complete a detailed analysis of the community and economic impacts of Latino-owned businesses in the downtown district. Research efforts included a literature review on issues facing Latino businesses, data collection on the number and location of these businesses in the state, and interviews with experts/practitioners in the field of Latino small business development. In the City of Woodburn, more than 20 local business owners and community representatives were also interviewed. This research identified the barriers and opportunities for further development of Latino business enterprises in Woodburn. The project culminated with a presentation to Woodburn business leaders and city officials. Findings from this initial phase of work are informing the approach for UOEDC's ongoing strategy to assist Latino businesses, such as having Latino interns/faculty participate in delivery of technical assistance programs to the Latino community.

By developing a technical assistance program that specifically targets the needs of a minority business community in the state, UOEDC is ensuring that needed resources and assistance are delivered to meet the unique needs of businesses that are contributing to rural community revitalization and growth.

Puerto Rico

University
University of Puerto Rico, Mayaguez Campus

Center Director
Jose I. Vega Torres

Center Location
College of Business

Center since 1986

Center Activities
- Entrepreneurship support through business counseling
- Innovation/ commercialization support
- Feasibility, market, and planning studies
- Education through workshops, conferences, and certifications

Clients
- Entrepreneurs
- Early-stage businesses
- Local/regional governments
- Nonprofits

Assessment Techniques
- Feedback from program staff
- Client satisfaction surveys
- Case studies

Contact Information
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Business and Economic Development Center

The Business & Economic Development Center is University of Puerto Rico's EDA University Center and is hosted at the Mayaguez Campus. The Center focuses on advancing entrepreneurship by addressing gaps in the existing economic ecosystem and exploiting development opportunities as identified by the Commonwealth's Comprehensive Economic Development Strategy and other complementary studies such as the Report by the President's Task Force on Puerto Rico's Status. The Center is supported by the grant, matching university funds, foundation/ nonprofit organization funds, and program fees.

Activities

The Center's core full-time staff manages complex collaborations with the private sector and local governments and the Center serves as an intermediary between the two. The Center serves a wide variety of clients ranging from government leaders to nonprofits to entrepreneurs and early-stage businesses. The Center provides training to leaders in institutional capacity development and program management. In addition, the Center hosts short courses for the continuing education of development practitioners.

In effort to promote a strong local entrepreneurial base, the Center hosts workshops for seasoned and potential entrepreneurs in technology and social
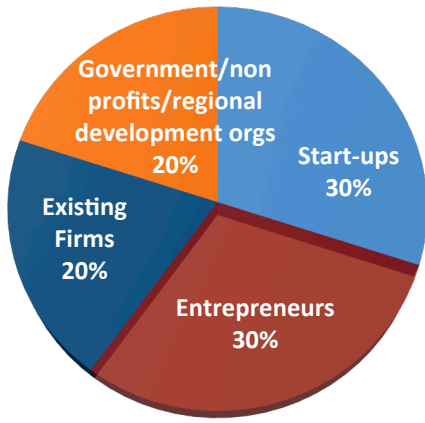
enterprises. These workshops have covered topics including effective marketing for small businesses, economic analysis tools to increase business competitiveness, analysis of the feasibility of microenterprises, writing of business plans, and internal controls to prevent fraud in social

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enterprises. In addition, the Center promotes business plan competitions and helps prepare clients for participation.

The Center also supports the College Innovation Alliance, which integrates internal and external partners to create an innovation support ecosystem to facilitate the commercialization of intellectual property and technology developed at the University and its partners. This emerging technology enterprise is driven by talent recruited on campus.

The College Innovation ecosystem

"Valuable assistance in the business plan writing process and effective and efficient aid in the identification of funding sources and management strategies." --Center Client

delivers one-on-one technical assistance to innovators, facilitates workshops on licensing and intellectual property, promotes new courses addressing technology transfer skills within the Schools of Business and Engineering, connects innovators with business mentors, facilitates recruitment of technical talent, and provides pre-incubation support and coaching. In addition, the alliance developed the first promotional booklet of patents owned by faculty and students and coordinated a Collaborative Initiatives Symposium to promote interdisciplinary and

multi-campus research and development. Several start-up companies that have received technical assistance and are housed in affiliated business incubators have also won national business plan competitions.

Leveraging

The Business and Development Center leverages a wide variety of university resources. The Center leverages the business incubator at the Business College to provide support services to university-based ventures. In addition, the Center leverages university data sources and student labor. The Center also leverages the University's technology transfer office/commercialization center for client referrals for services.

Success

Promoting a strong local entrepreneurial base through partnerships
Partnerships and business plan development form the basis of an entrepreneurial culture; therefore the Business and Economic Development Center (BEDC) promotes an entrepreneurial culture through workshops and counseling on business plan creation and promoting business plan competitions such as the EnterPrize 2012 Business Idea Competition and

InnoVenture Business Plan 2012 Competition. One client, Cutting Edge Superconductors, Inc. won first place in the national business plan competition of EnterPrize 2011 and second prize in InnoVenture 2012. By winning, the company received media coverage in major newspapers, a seed investment prize of $30,000, a $15,000 prize for SBIR proposal development counseling and in-kind support such as free incubator space to house the

company and pro bono legal services. Cutting Edge Superconductors was founded by Dr. Yong-Jihn Kim, a Physics Professor at the University.

By providing business counseling services as well as connections to business plan competitions, BEDC leverages its Center money and regional connections to enable businesses to obtain other sources of funds and services.

innovista
UNIVERSITY OF SOUTH CAROLINA

Innovista Center for Product Realization

Innovista Center for Product Realization is the University of South Carolina's University Center. The director, Greg Hilton, is a seasoned entrepreneur and is seeking to cultivate an entrepreneurial culture in the Columbia region, which has more than $250 million in sponsored research. The Innovista Center's goal is to take an interdisciplinary, collaborative, and holistic approach to helping technology-based start-ups innovate, design, develop, and deploy new and novel technology-based products and services. This current focus of Innovista started with the current EDA grant, begun in 2012.

Activities

The Innovista Center works with new technology-based start-ups with product ideas to convert those ideas into whole-product concepts and prototypes. The Center strives to help the companies become much better positioned to raise capital for launching and scaling their new products. To this goal, the Center has focused on creating an entrepreneurial culture both on campus and in the surrounding area. In 2012, the Center launched an on-campus entrepreneurial competition to identify and accelerate innovative business concepts. The Center also holds an Introduction to Tech Commercialization Workshop for faculty and student researchers aimed at increasing the knowledge of university faculty around technology commercialization strategies, resources, and opportunities. In

Cultivating innovation 30%
Supporting regional commercialization 50%
Advancing high growth entrepreneurship 20%
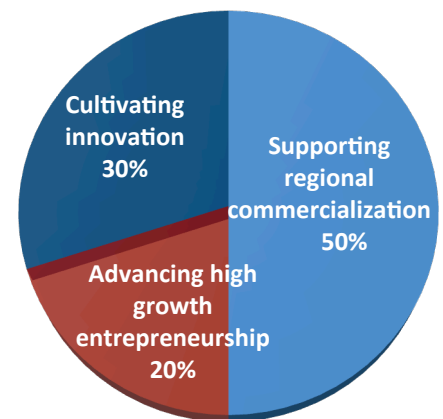
addition, the Center holds SBIR/STTR training workshops on campus.

To reach off-campus entrepreneurs, the Center started the Start! Innovation Series, which is a monthly networking series for entrepreneurs and innovators to connect, learn, and

grow their ventures. The series has reached over 500 entrepreneurs, innovators, and early stage firms. Topics have included Start-up Funding Trends Shaping 2013.

Leveraging

The Innovista Center has been able to start up its services quickly due to its leveraging of the existing University of South Carolina's Center for Entrepreneurial and Technological Innovation. The capacity and expertise that exists on campus

allowed the Center to deploy its programs earlier than anticipated. In addition, the collaboration between the two Centers and the Faber Entrepreneurship Center resulted in the very effective and well-attended entrepreneurial competition.

The Center also uses the limited funds of the University Center grant to highly leverage other new product development resources in the region. For example, the Center provides very small grants to local entrepreneurs to

help offset the cost of product development work at other regional product development centers, such as the Western Carolina New Product Development Center (a fellow university center).

Success

The Proving Ground

The Proving Ground is the University of South Carolina's (USC) signature entrepreneurial competition to identify and accelerate innovative business concepts. Teams of students competed for over $40,000 in seed money, start-up support, and the chance to turn their ideas into a reality. The program was a partnership between CETi, USC's Startup Center, the USC Technology Commercialization Office and the Faber Entrepreneurship Center. The program was launched in early September 2012 and culminated with a live pitch competition with seven finalists on November 14th during Global Entrepreneurship Week. The competition had 50+ submissions in the categories of Technology, Innovation, and Social

Impact. Submissions came from four campuses across the state. More than 20 entrepreneurial judges and coaches judged the submissions and awarded $30,000 in seed funding. $70,000 in follow-on funding was secured by finalists, and four new ventures formed as a result of the competition. One of the winning entries was Watsi, which is a crowdfunding platform for medical treatments in third world countries. Recently Watsi was accepted as the

first ever nonprofit in the globally recognized Y-Combinator in San Francisco. The start-up was recently profiled in the CNN 10: Start-ups to watch.

Innovista Center for Product Realization has shown that leveraging and aggregating many resources/units from across the campus resulted in a quick start-up for a new Center leading to quick results.

THE **PROVING GROUND 2013**
USC'S ENTREPRENEURIAL CHALLENGE

Maine

Maine Center for Business and Economic Research

University
University of Southern Maine

Center Director
Matthew Dean

Center Location
School of Business and Muskie School of Public Service

Center since 1974

Center Activities
- Technical assistance in regional cluster building
- Connecting research to businesses
- Forecasting

Clients
- Economic development districts
- Entrepreneurs
- Existing businesses
- Local/regional/state governments
- Nonprofits

Assessment Techniques
- Informal client interviews
- Feedback at regional workshops

Contact Information
http://usm.maine.edu/mcber/
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Maine Center for Business and Economic Research

The University of Southern Maine's Maine Center for Business and Economic Research (MCBER) focuses on monitoring, assessing, and identifying opportunities to support the development and growth of regional innovation clusters and technology commercialization. The Center strives to contribute to the advancement of entrepreneurship by identifying gaps in regional ecosystems, some of which can serve as attractive investment opportunities for entrepreneurs and workforce development organizations. The Center is supported by the grant, the University, local governments, and fees for services.

Activities

The Center is working with the Economic Development Districts and the Maine Technology Institute on the Mobilize Maine Cluster Development project, which focuses on supporting the planning and implementation needs of Maine's seven economic development districts. Through surveys, the Center seeks a better understanding of the activities and relationships that might foster cluster formation, the networks and connections that currently exist and how they may be enhanced, and the extent to which innovative new products and services are being created. In addition, the Center provides economic development assistance to the National Science Foundation-funded Experimental Program to Stimulate Competitive Research (EPSCOR) program

headquartered at the University of Maine. The Center helped the EPSCOR project develop a strategic plan for its economic development effort and assisted in the designation of a point person to lead the economic development efforts.

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The Center also produces several forecasts a year. The Center performs the software development and documentation of a statistical time-series forecasting system for a variety of subjects ranging from economic forecasting to traffic forecasting. In addition, the Center performs market research, statistical analysis, and strategic-planning assistance for nonprofits, along with giving several state of the economy presentations every year.

Leveraging

The Center leverages extensively its 37-year history of delivering economic analysis and data to the public and private sectors. In addition, the Center leverages its working relations with Maine's Economic Development Districts (EDDs), E2Tech (the 700-member trade association of companies in the environment and energy-technology and service industries), the Maine Technology Institute (MTI) and the University of Maine's Department of Industrial Cooperation. The Center leverages the University of Southern Maine's faculty, students and staff in addition to personnel from the other six campuses of the University of Maine System. The Center also uses student labor and university data sources in its projects.

Success

Evaluation of state R&D-based economic development strategies

For nearly a decade, MCBER has conducted regular evaluations of Maine's innovative programs in research and development assistance, including programs that directly funded R&D activities and which seek to spur the growth of innovation clusters in Maine's economy. The Center developed and implemented an online reporting system to track the activities of nearly 300 recipients of state support from the Maine Technology Institute and provided four evaluation reports to the legislature of the state's R&D assistance. The Center also conducted three separate detailed evaluations of the cluster enhancement program administered by the Institute. The evaluations of the grant programs led to the legislature continuing to support these economic development efforts even during tight budget years and helped MTI better focus its efforts and its grant making procedures to increase effectiveness.

The University of Tennessee University Center

University
University of Tennessee

Center Director
Beth Phillips

Center Location
Outreach Unit

Center since 2006

Center Activities
- Training for community leaders
- Assistance in strategic planning
- Connecting people to university resources
- Grant writing support
- Commercialization services

Clients
- Economic development organizations
- Local and regional communities
- Entrepreneurs
- Existing businesses

Assessment Techniques
- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Client satisfaction surveys
- Case studies

Contact Information
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beth.phillips@tennessee.edu

University of Tennessee EDA University Center

University of Tennessee EDA University Center (UTUC) strives to address gaps in Tennessee's innovation ecosystem and promote economic development across the state. Supported by the EDA grant, state government funds, and university funds, the center's three focus areas include cultivating regional innovation capacity, helping companies innovate and expand, and advancing entrepreneurship and technology commercialization.

Activities

The Center supports business and industry by providing assistance in improving productivity and profitability, research and development, and business growth and transformation. For example, UTUC helps companies identify new markets and engages university faculty to design and implement process improvements.

The Center also supports entrepreneurship and technology transfer through training and technical support to access SBIR/STTR

funding; access to federal and university-based research; development assistance; and support to rural-urban entrepreneurial support systems. Currently, UTUC is providing outreach, networking activities, technical assistance, and technology deployment activities at its regional accelerator projects. In addition, the Center connects university faculty and research resources with technology-based companies to participate in

proposals for SBIR/STTR awards. The Center also holds training workshops for SBIR/STTR grant writing.

Finally, the Center supports regional capacity building through economic development strategic planning and implementation assistance, supporting

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regional economic development efforts, providing economic development training, and providing economic research and analysis. For example, UTUC has led the development and deployment of a new economic development training certificate program for Tennessee. The Tennessee Certified Economic Developer (TCED) Program, administered by the University of Tennessee Center for Industrial Services, provides high quality training, continuing education and professional development

opportunities to Tennessee's economic and community development practitioners and community leaders. The TCED program is tailored to give

"The Center...has made significant strides with respect to strengthening Tennessee's ability to create, retain, expand and attract businesses through effective technical support to a combination of firms, community leaders and communities." --Center Stakeholder

participants a broad based knowledge of economic opportunities and trends, core components, and tools required to compete in today's global economy, with a focus on economic development in Tennessee.

Leveraging

The Center leverages over $4 million dollars in federal grants (MEP, SBA, USDA, Regional Jobs Accelerator), which enables the Center to have greater capability to serve its clients than it would have with the EDA grant alone. In addition, the Center has access to a wide variety of information from the other programs supported by those grants. In addition, the Center leverages university data resources, faculty expertise, student labor, and the technology transfer office.

Success

Creating a Rural Entrepreneurial System in Tennessee (CREST) – Engaging communities in strategic planning that emphasizes entrepreneurship brings a new perspective on economic development to rural areas.

University of Tennessee EDA University Center (UTUC) partnered with UT Extension, and the Tennessee Department of Economic and Community Development to assist targeted rural communities in strategic planning and implementation to help

communities "become more entrepreneur friendly." Through programs facilitated by UTUC, the CREST program provided training to community members, local officials, economic development professionals, and local entrepreneurs in the economic importance of entrepreneurship, finding and interpreting data, asset mapping, strategic planning, creating community buy-in, and best practices in entrepreneurial development. The pilot program wrapped up in 2012 and was

successful in getting communities to establish effective working committees and make entrepreneurship resources available to their citizens.

By leveraging funds and agency relationships, UTUC helped create a more supportive atmosphere for entrepreneurship through education and the creation of relationships.

Wisconsin

Wisonsin

Wisconsin Center for Commercialization Resources
Got ideas? We can support you from concept to launch!

University
University of Wisconsin, Milwaukee

Center Director
Carmel Ruffolo

Center Location
Outreach Unit

Center since 2011

Center Activities
- Commercialization support
- Entrepreneurship support
- Technical assistance
- Information dissemination

Clients
- Early-/second-stage companies
- Entrepreneurs
- Faculty inventors
- Existing businesses

Assessment Techniques
- Client interviews
- Client surveys
- Informal feedback
- Measurement of client outcomes

Contact Information
wi-wccr.com
ruffoloc@uwm.edu

Wisconsin Center for Commercialization Resources

The Wisconsin Center for Commercialization Resources (WCCR) is a consortium of five universities – led by the University of Wisconsin (UW), Milwaukee, and includes Milwaukee School of Engineering, UW-Whitewater, Marquette University, UW-Milwaukee, UW-Parkside Small Business Development Center (SBDC). This consortium aims to facilitate technology commercialization in southeastern Wisconsin. The five institutions bring together their assets to streamline the entire commercialization process, especially at critical stages, by providing a planned framework for moving a project through various stages from idea to proof of concept to launch.

Activities

WCCR provides assistance to faculty inventors, nascent entrepreneurs, and second stage companies, primarily during the initial stages of technology commercialization, in which the pathway to the market and evaluation of the technology are most needed to avoid costly mistakes and to properly assess project feasibility. It targets key clusters in the region, including water technology; health and biosciences (including medical devices); and energy, power, and controls. Specific technical assistance services are targeted at the four phases of the commercialization process (discovery, analysis, development, and commercialization) and draw upon existing resources and programs from the partnering schools. The types of

services provided include: product evaluation/feasibility analysis, business planning, financial planning, product development planning, securing financing, and identifying strategic partners/clients. WCCR has also developed a web portal that will serve as a one-stop-shop for regional

resources and information about technology transfer and commercialization.

Leveraging

As a five-university consortium, WCCR is designed to leverage the individual assets and capacities of its partnering institutions. The advantage of this arrangement is that WCCR can harness the expertise of more than one institution to provide a comprehensive set of services. Key assets of the partner schools include: the Applied Technology Center (includes the rapid prototyping center) at Milwaukee School of Engineering; the LaunchPad Program at UW-Whitewater; the Kohler Center for Entrepreneurship at Marquette University and intellectual property assistance from its law school; the UW-Milwaukee Innovation Accelerator and its Research Foundation; and the UW-Parkside SBDC. External partnerships include a variety of regional/state economic development organizations, such as Milwaukee 7-M7, Wisconsin Energy Research Consortium, BizStarts, Wisconsin Entrepreneur's Network, the Milwaukee Water Council, Clinical and Translational Science Institute, Greater Milwaukee Committee, Wisconsin Entrepreneur's Network, Wisconsin Innovation Network, Wisconsin Economic Development Corporation, and Gateway Technical College. WCCR has also collaborated with other EDA university centers at Purdue University and University of Illinois.

Success

Leveraging assets of five universities to assist entrepreneurs

The Wisconsin Center for Commercialization Resources acts as a "one-stop-shop" for university resources and knowledge by establishing a collaboration across five partner universities to support commercialization activities. The desire to work together and make resources from all the participating institutions available to WCCR clients is a common goal that holds the group together, and the partnership is structured so that there is minimal overlap in the competencies of the partnering institutions. Through this collaborative process, WCCR has provided technical assistance to an entrepreneur – and avid fisherman – who created Glo-Pro Lures in his garage in 2009. The inventor hand fabricated and tested the lures, but had no expertise in engineering design for manufacturing. With WCCR's assistance, Glo-Pro Lures connected with the Milwaukee School of Engineering's Rapid Prototyping Center to design and prototype its entire family of lures, which were released in spring 2013 for fishing season and a major fishing show. The company is now in the process of seeking additional startup funding to acquire manufacturing tooling, and has made significant progress toward a full, manufacturable product line.

WCCR's collaborative structure allows it to bring together the resources of five partnering institutions for the first time, harnessing these assets to facilitate commercialization in a more streamlined way.

WTBC Wyoming Technology Business Center

University
University of Wyoming

Center Director
Christine Langley

Center Location
College of Business

Center since 2007

Center Activities
- Entrepreneur coaching
- Business plan support
- Networking
- Feasibility studies
- Incubator services
- Applied research

Clients
- Entrepreneurs
- Start-ups
- Existing businesses
- Local/regional economic development organizations

Assessment Techniques
- Feedback from staff
- Client interviews
- Case studies
- Client economic impact studies

Contact Information
www.uwyo.edu/wtbc/
clangle1@uwyo.edu

Wyoming Technology Business Center

Wyoming Technology Business Center (WTBC) is University of Wyoming's University Center. WTBC's goal is to develop early stage, technology based, and high growth companies throughout the state of Wyoming and to improve the climate for the start-up and growth of entrepreneurial companies. The Center is supported by the EDA grant, university funds, and state government funds.

Activities

The Center focuses on developing "entrepreneurial nodes" throughout the state made up of a number of technology-based, high-growth companies through its e2e prorgam, which is a networking and educational group that matches entrepreneurs and people interested in entrepreneurship in order to help them get to know each other and learn about issues related to starting and growing a high-growth company.

The Center supports many types of conferences. One type identifies technology companies within the area (such as biotechnology companies); a second type strives to help stimulate entrepreneurs by showing them how to develop a technology business. A third type targets individuals who might not be interested in attending a general networking event. At these conferences the WTBC brings in entrepreneurial companies as well as large, established corporations, to talk about the start-up process and share their experiences.
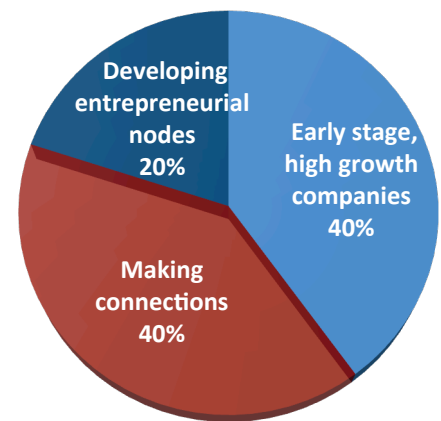
Beyond the conferences, the Center provides one-to-one counseling programs to early stage, high growth companies. The Center determines first the stage of the company and conducts a needs analysis. Next, the Center provides an appropriate mix of business advising (strategic planning,

financial planning, business plan) and executive coaching. Some of these clients are residents in the partner incubator, though residency is not a requirement.

Leveraging

The Center extensively leverages its connections to local economic development groups, which are essential to establishing new e2e groups around the state. In addition, the Center leverages its connection with the University of Wyoming incubator. The Center provides services while the incubator provides space. The Center also leverages university data sources and the technology transfer office and utilizes student labor through a variety of internships.

Success

Supporting and keeping entrepreneurs

By building a local entrepreneurial culture, the Wyoming Technology Business Center (WTBC) helps ensure that local start-ups stay local. The WTBC provides incubation services to many small companies and entrepreneurs. One recent graduate is Firehole Composites, which specialized in design software for composite parts. The company was based on an idea that originated at the University in the Department of Engineering. After several years in the incubator as an original client, the company moved to the local downtown area in 2008. In 2013, Autodesk, a Fortune 350 company that focuses on 3-D design, engineering, and entertainment, acquired Firehole Composites.

Though Autodesk is based in San Francisco, this new division will remain in Laramie, WY. The former CEO of Firehole has stayed with the new division and participates in WTBC's e2e entrepreneurial node education networking program.

WTBC makes connections in the community between entrepreneurs to nurture an entrepreneurship atmosphere in rural America and help successful entrepreneurs stay in the region.

Virginia Rural Competitiveness Project University Center

University
Virginia Polytechnic Institute and State University

Center Director
John A. Provo

Center Location
Outreach unit

Center since 1980

Center Activities
- Technical assistance
- Early-stage/ entrepreneurship support
- Information dissemination

Clients
- Existing businesses
- New ventures
- University faculty and stakeholders

Assessment Techniques
- Feedback from staff
- Client interviews
- Case studies
- Impact assessments

Contact Information
http://www.econdev.vt.edu/
jprovo@vt.edu

Virginia Rural Competitiveness Project University Center

The Virginia Rural Competitiveness Project University Center, funded by the EDA University Center program and matching university funds, is focused on the "technology pull" model and works primarily with existing industry in a "cluster-network-capacity" effort designed to maximize the benefit of university capabilities and resources to the regional economy. The work of the Center includes technical assistance to promote commercialization, cultivate a high-skilled workforce, and support entrepreneurship.

Activities

The Virginia Rural Competitiveness Project was designed to develop innovation assets around regional anchor institutions in order to promote commercialization, workforce talent, and entrepreneurship. The Center has set the ambitious target of creating/retaining 900 jobs and generating $20 million in investment during the 5-year tenure of the EDA grant. In order to achieve this goal, the Center provides an array of technical assistance services to different partners and initiatives, as well as playing an important role in networking and partnership building.

The Center provides businesses with linkages to university resources and faculty to aid businesses in assessing private sector demand for technology and services. The Center supports entrepreneurship by facilitating projects that contribute to the regional
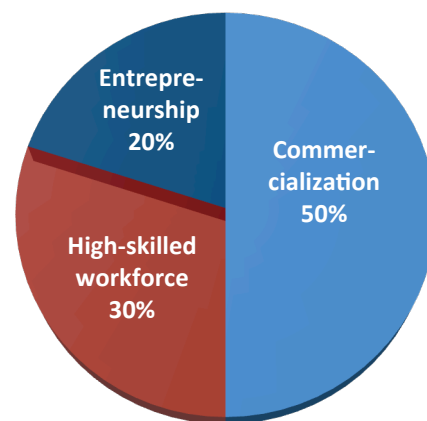
innovation ecosystem, such as the development of business accelerators modeled after the existing campus-adjacent accelerator, the first of which will be in Danville, VA.

The Center is also a collaborator in cultivating a high-skilled workforce,

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facilitating dialogue and collaborations amongst companies, faculty and communities.

Information dissemination of best practices related to the Center's work is also a priority for Center staff.

Leveraging

While the Center's director and staff of analysts allow the Center to provide many technical services internally, many projects leverage university faculty and resources outside of the Center. The Center provides assistance in facilitating collaborative projects between companies, faculty, and communities, such as with the National Tire Research Center. Other collaborative projects include convening the Virginia Tech Economic Development Leadership Team, promoting research commercialization at the Institute for Advanced Learning and Research, university-industry collaboration with the Center of Advanced Engineering and Research, and a Regional Innovation Blueprint project.

"The UC has 'a highly skilled staff that is willing to collaborate in creative ways.'"

--Center client

Success

University networks for economic development

To ensure the systematic interaction necessary to guide projects and generate new ideas, the Center convenes a policy group of senior university leaders, the Virginia Tech Economic Development Leadership Team, and a parallel technical group, the Virginia Tech Economic Development Allies network. Positioned in the cross-cutting Office of the Vice Provost for Outreach and International Affairs, the Center has been able to regularly convene meetings between high-level university leadership and stakeholders from organizations including the National Tire Research Center and the U.S. Council of Competitiveness, and to hold targeted working sessions to strengthen the University's industrial affiliate programs and discuss the new Virginia Tech Arlington Research Center.

The ability to play a role as broker and convener, made possible in part through its institutional location, allows the team to help initiate and support successful regional projects.

Many of the Virginia Rural Competitiveness Project's successful initiatives rely on the Center's ability to access and connect university leadership and resources.

WSU Economic Development Administration University Center

Center Activities
- Technical assistance
- Applied research
- Innovation and commercialization support
- Entrepreneurship support

Clients
- Existing businesses
- Start-ups
- Entrepreneurs
- Economic development organizations

Assessment Techniques
- Client interviews
- Client surveys
- Case studies

WSU University Center for Innovation & Value Creation

Washington State University's (WSU) University Center for Innovation and Value Creation makes the full resources of the University available to the public to provide technical assistance to emerging small businesses; commercialize new technologies; and build a more diverse, resilient, and sustainable economic ecosystem in Washington and western Idaho. The Center's objective is to assist in problem solving and human development leading to economic development, especially in distressed regions.

Activities

WSU's University Center focuses especially on advancing innovation, entrepreneurship, and commercialization through a variety of technical assistance and applied research activities. Through its Innovation Assessment Center, the Center provides fundamental research on markets, competition, and product worthiness to inform entrepreneurs, inventors, and start-ups about whether an idea/concept has enough depth to warrant further

development. For entrepreneurs, start-ups, and established businesses, the Center provides hands-on technical assistance and consulting on topics such as accounting, finance, marketing, human resources, manufacturing, and management. The University Center supports regional and local development groups by providing technical assistance on economic development and industry and business development efforts. It also
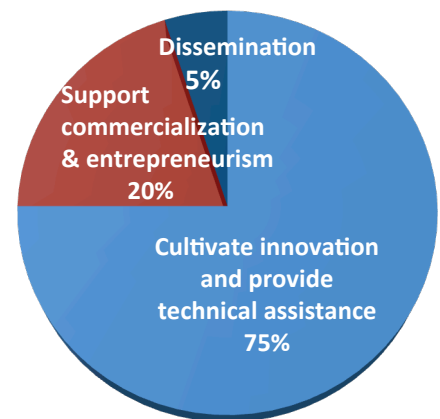
supports education opportunities for students through collaborative student research and distance education initiatives. The Center's applied research activities leverage WSU R&D along with external resources to build new capacity in key sectors such as healthcare, energy efficiency and

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production, agriculture, and manufacturing. The Center collaborates with several WSU departments to advance new technologies and support commercialization in these sectors.

Leveraging

The Center's technical assistance services are delivered through partnerships with the WSU Extension Offices and with local and regional organizations, such as regional planning commissions, industry associations, Small Business Development Centers, chambers of commerce, and investor groups. The Center provides its clients with access to the investigators and innovators within the university system, while also allowing faculty and staff to access the avenues of commercialization available within the region. Within WSU, the Center collaborates with a variety of academic departments – the WSU Foundation, the WSU Economic Development Offices, WSU Technology Transfer and Office of Intellectual Property, the Frank Institute, and others – on commercialization services. The Center frequently draws upon student labor to support projects.

"We are so impressed with [the] knowledge and professionalism, respect for our business… The resources made available were amazing!!" --Center Client

Success

Feasibility assessment service to support successful entrepreneurship

Washington State University's University Center works closely with the university's Innovation Assessment Center (IAC) to assist aspiring entrepreneurs/innovators to evaluate their business concepts and move them toward commercialization. The assessment process provides research on markets, competition, intellectual property, and product worthiness of a new concept or idea to determine whether it is worthy of further development. Clients pay a $795 fee for the service, which ensures that they have a serious interest in moving forward. The research work is done by upper division business majors, supported by outside reviewers with specialized expertise in a particular technology or relevant market knowledge. The output of the feasibility assessment is a detailed report that covers the uniqueness of the technology, the market pull for the product or service, and specific recommendations for managing the commercialization process.

IAC currently conducts about 25 of these assessments each year, and demand for the service is growing rapidly. Of the concepts evaluated by the IAC, about 10% are ready to move forward, 30-40% require significant refining before they are ready to move forward, and the remainder have fatal flaws that need to be addressed. It is not unusual for innovators to repackage their technology or to target a different market niche based upon the outcome of the initial feasibility assessment. Once the concept is ready to move forward, it can be passed to the University Center to develop a full business plan at no charge.

By making innovators aware of the most obvious pitfalls before investing large amounts of time and resources, the WSU University Center and IAC are helping innovators/entrepreneurs optimize their potential for success.

West Texas A&M University
Enterprise Center

University
West Texas A&M University

Center Director
David Terry

Center Location
College of Business

Center since 2010

Center Activities
- Technical assistance
- Entrepreneurship support
- Innovation and commercialization support

Clients
- Entrepreneurs
- Start-ups
- Existing businesses
- Faculty and students

Contact Information
www.incubationworks.com
david@incubationworks.edu

West Texas A&M University Enterprise Center

The West Texas A&M University (WTAMU) Enterprise Center applies the principles of business incubation as a catalyst for innovation and entrepreneurial development in order to foster economic growth for Amarillo and the Texas panhandle region. The Center seeks to be a leader in providing business resources and linkages among economic development organizations in the broader community.

Activities

The Enterprise Center's focus is facilitating technical assistance and training for entrepreneurs through a variety of programs and services. It especially targets growth-oriented, basic industry businesses that export goods and services outside the region. Its primary program is providing incubator facilities for entrepreneurs and start-ups – including office space, production space, co-working space, and a commercial kitchen. Services are provided from the pre-incubation to graduation phase. Since its founding, incubator clients have brought over $5 million in capital

investment and 300 jobs to the region. The Enterprise Center also delivers its services in the wider community. For example, it uses consultants who travel to rural communities weekly to provide technical assistance and consulting for aspiring and existing entrepreneurs. The Idea Village program uses group coaching and training to teach technology transfer and commercialization skills to entrepreneurs in the pre-incubation

Pie chart:
- Incubator facilities and services 40%
- Technical Assistance 35%
- Training 25%
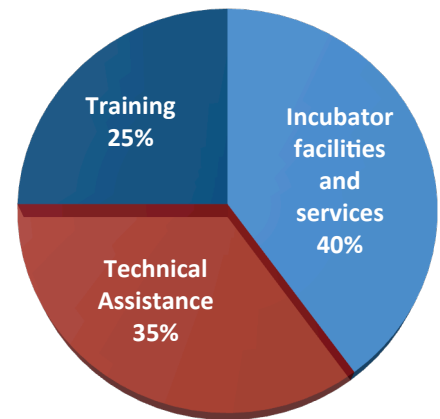
stage. Entrepreneurs can also apply for matching scholarship dollars to assist them with bookkeeping, legal assistance, marketing, and other needs. Other services include monthly "Lunch & Learn" entrepreneur networking events and the Amarillo EnterPrize Challenge business plan

competition (which provides up to $500,000 in capital funding grants for entrepreneurs seeking to expand or launch a business). The Center also focuses on building an entrepreneurial culture among youth, through programs such as a youth entrepreneurship fair, a student business plan competition, and a youth internship program.

Leveraging

The Enterprise Center collaborates with over 65 services providers and resources for entrepreneurs in the region and worldwide. Regional partners that assist in program and service delivery include the Amarillo Chamber of Commerce, Amarillo EDC, Amarillo College, WTAMU SBDC, West Texas Angel Network, Texas Panhandle Regional Development Corporation, and others. Membership and collaboration with business incubation professionals in the National Business Incubation Association (NBIA) provide the Center and its clients with access to a wide network of resources and best practices.

> *"Wonderful to have experienced minds helping me avoid pitfalls."*
> *--Center Client*

Success

Culinary Co-op incubator facilities and support

A recent addition to the incubator space at WTAMU's Enterprise Center is the Culinary Co-op. This commercial kitchen, which opened in June 2012, offers a shared-use kitchen available to rent 24 hours per day. This is the first shared-use commercial kitchen in the region. Culinary Co-op is designed to provide culinary entrepreneurs with kitchen space and the necessary tools to develop and successfully commercialize food products. Its range of services extend from pre-incubation to post-graduation, and facilities include a shared-use distribution warehouse space and collaborative co-working area in addition to the health department approved, fully-equipped commercial kitchen. A developing partnership with the Dallas Market Center is expected to connect food entrepreneurs at the Culinary Co-op with broader distribution resources and channels. One client of the Culinary Co-op, Fanelli's Finest, has received a patent for its lasagna sauce and now has products in more than 700 stores nationwide. This family-based business produces, bottles, and labels all of its products at the Culinary Co-op.

By providing the specialized facilities required by entrepreneurs in the food sector, combined with specialized entrepreneurial training and support, WTAMU's Enterprise Center is supporting entrepreneurial growth and catalyzing an emerging food cluster in the region.

THE CENTER FOR rapid PRODUCT REALIZATION

University
Western Carolina University

Center Director
Patrick Gardner

Center Location
College of Engineering

Center since 2009

Center Activities
- New product development
- Business plan assistance
- Networking
- Process improvements
- CEDS assistance

Clients
- Entrepreneurs
- Start-ups
- Existing businesses
- Local and regional communities

Assessment Techniques
- Feedback from staff
- Client interviews
- Feedback at regional workshops
- Client satisfaction surveys
- Case studies

Contact Information
rapid.wcu.edu
pgardner@wcu.edu

The EDA University Center of Western Carolina University

Western Carolina University's (WCU) University Center is host by the Kimmel School's Center for Rapid Product Realization in collaboration with the Small Business and Technology Development Center and the Center for Entrepreneurship and Innovation. The Center strives to facilitate the commercialization of new products or services that retain current jobs and/or add new jobs for existing businesses, as well as create new jobs in emerging entrepreneurial ventures.

Activities

The Center provides assistance to inventors and businesses though a commercialization process that has two major phases: a proof of concept phase and an implementation or launch phase. Specifically, the Center provides clients with business creation and growth services during the proof of concept phase by the counselors at the Small Business and Technology Development Center and the faculty and students affiliated with the Center for Entrepreneurship and Innovation. Services include

market and economic feasibility studies that demonstrate the need for and the efficacy of new products and services. For those commercialization clients that require technical assistance, the Rapid Center offers engineering services including design, reverse engineering, prototyping, quality testing, and manufacturing.

In the implementation phase, the Center provides assistance in preparing

Develop high-skilled, innovative engineering and business professionals 20%

Support regional commercialization of products and processes 80%
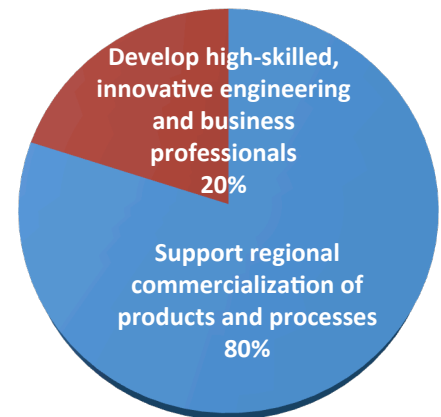
business plans and pro forma financials needed for the client to successfully obtain financing to begin or expand operations. In addition, the Center connects client to funding sources as well as prepares them to present to these funding sources. The Center also provides assistance to existing business

with implementing improvements in productivity and quality and provides technical assistance in energy management and efficiency improvements.

Leveraging

The Center extensively leverages the expertise of its partners, the Small Business and Technology Development Center and the Center for Entrepreneurship and Innovation. These partnerships allow the Center to provide expertise to its clients that it may not be able to support on the EDA grant alone. In addition, the Center leverages relationships with a local angel investor group to help their clients find venture funding.

> *"This is a vital program which has benefited my company greatly, it should be duplicated around the country to assist other entrepreneurs and inventors like myself."*   *--Center Client*

The Center leverages university resources such as data sources and the technology transfer office. The Center draws from leadership expertise in the College of Business (market assessment, market strategy, business planning) and both the College of Health and Human Science (medical rehabilitation, physical therapy applications) and the College of Arts and Sciences (biology, chemistry, and physics). The Center extensively leverages student labor through the organizing of engineering capstone projects, where teams of students are lead by faculty to solve a problem for a company or create a market study or business plan.

Success

Using student and faculty teams to do more

The Center for Rapid Product Realization has a strong history of using its student, faulty, and staff teams to help clients refine existing products, develop new products, and improve business practices. One successful project was recently profiled on the UNC snapshots blog of The University of North Carolina. The project was with the Murphy, NC-based Moog Components Group, which makes precision motors. Precision motors' quality requirements are very high, so each one must be tested before it is shipped. The company worked with the student team to design and prototype a faster way of certifying each electric motor. The procedure will allow Moog to ship motors more quickly, which may open the door for expansion. The client needs are met, and the students have learned from a real world problem.

The Center has shown how students and external clients can both be served by a program that is targeted on client need and which closely directs student contributions.

Providing assistance with energy management and efficiency improvements saves jobs

Stanley Furniture's Robbinsville, NC site is the only large employer for economically distressed Graham County and when discussions on relocating the plant surfaced, WCU's center worked with local, county and state partners to provide guidance and technical assistance, which helped retain the plant and 42 jobs. The plant's energy needs and requirements were assessed and a thorough analysis was delivered to management to demonstrate practical methods to reduce energy costs and improve the profitability of the plant. Today, the plant is still the only major employer and economic driver in Graham County.

Appendix B: Information Survey

An information survey was launched in December of 2012 with an email invitation to every university center contact. This overview survey gathered contact information for each center as well as basic information about the center's goals, activities, partner organizations, demand levels, and beneficiaries. In addition, respondents provided information on grant matching sources, other funding sources for the center, and university resources leveraged by the center. The survey also asked about assessment tools and metrics used by the center as well as what respondents considered to be their center's outputs, outcomes, and best practices. The results of the survey were used to inform the creation of detailed data collection instruments used in later steps of the project. The information survey had a 95% response rate: 55 out of the 58 centers responded to the initial survey. The survey instrument and descriptive statistics are included here in Appendix B. Closed-ended questions were analyzed using SAS software, while the open-ended responses were coded into major themes. The results also directly informed the University Profiles contained in Appendix A as well as subsequent chapters of this report.

This appendix presents the survey instrument along with the survey responses. Where it made sense, responses to open ended questions have been condensed into word cloud, which give greater prominence to words that appear more frequently in the answers. This made sense for questions with one or two word answers. Many of the open-ended questions' responses in this survey could not be represented in that form, so the text is provided. The text was cleaned for obviously identifying information.

Appendix B

Dear _____,

The U.S. Economic Development Administration (EDA) has partnered with SRI International to conduct a review and identify best practices within the EDA University Center (UC) program. The results from this short informational survey will be an important input to identify the activities that the project team should further examine over the next 6 months as they conduct a thorough review of the program and identify best practices. The project team, SRI International and Taratec Corporation, will be contacting all University Centers and many of their clients and stakeholders in order to obtain a more complete picture of the program's successes and impact through a variety of methods, including site visits and telephone interviews.

Your input is vital to this project. Please complete this survey to provide the research team important basic information about your UC.

All survey responses will be confidential; only aggregated findings from this survey will be shared with EDA and other parties.

 The survey can be found at:

Survey instrument and descriptive statistics

Preamble

Thank you for taking the time to participate in a brief informational survey about your EDA University Center. The U.S. Economic Development Administration (EDA) has partnered with SRI International to conduct a review and identify best practices within the EDA University Center (UC) program. The results from this short informational survey will be an important input to identify the activities that the project team should further examine over the next 6 months as they conduct a thorough review of the program and identify best practices. The project team, SRI International and Taratec Corporation, will be contacting all University Centers and many of their clients and stakeholders in order to obtain a more complete picture of the program's successes and impact through a variety of methods, including site visits and telephone interviews.

Your input is vital to this project. Please complete this survey to provide the research team important basic information about your UC.

All survey responses will be confidential; only aggregated findings from this survey will be shared with EDA and other parties.

Contact Information

Q1. Is the following information correct?

UC Name, Location {*will be populated by survey software*}

Please tell us who is the best person to contact during the course of this project to obtain more information on the topics covered in this survey.

(December 2012-November 2013)

Name: _____

Title:_____

Phone: _____

Email:_____

Your University Center's Goals

Q2. *What do you consider to be the most important goals of your University Center? Please add to the suggested goals below so that the resulting list fully represents your Center.*

□ Promote job creation

□ Promote the development of high-skilled regional talent pools

□ Promote business expansion in your regional innovation clusters[1]

□ Create and nurture regional economic ecosystems

□ Other: _____

□ Other: _____

□ Other: _____

[1]Regional innovation clusters are geographically-bounded, active networks of similar, synergistic, or complementary organizations that leverage a region's unique competitive strengths to create jobs.

Goal (Respondent choose as many as applicable)	Percent who indicated this goal
Promote job creation	84%
Promote the development of high-skilled regional talent pools	51%
Promote business expansion in your regional innovation clusters	80%
Create and nurture regional economic ecosystems	84%
Other (1)	69%
Other (2)	33%
Other (3)	15%
Total respondents	55

Opened-ended responses to *other* choices word cloud

(b)Rank the top five goals in order of importance, with 1=most important and 5=least important.

Rank	Promote job creation	Promote the development of high-skilled regional talent pools	Promote business expansion in your regional innovation cluster	Create and nurture regional economic ecosystems	Other (1)	Other (2)	Other (3)
1	36%	13%	38%	33%	30%	18%	18%
2	18%	13%	25%	21%	38%	18%	18%
3	15%	17%	13%	31%	8%	35%	35%
4	18%	39%	15%	5%	19%		13%
5	9%	17%	8%	10%	5%	29%	13%
6	2%		3%				
Total respondents	44	23	40	42	37	17	8

Your University Center's Activities

Q3. *What activities does your UC conduct to attain your goal(s)? Please add to the suggested goals below so that the resulting list fully represents your Center*

☐ Assist communities in identifying and defining their workforce talent pool, entrepreneurial capacity, and growth strategies

☐ Support or accelerate technology commercialization and entrepreneurship

☐ Assist entrepreneurs in the establishment of innovation-based companies

☐ Assist existing businesses in increasing productivity and quality

☐ Provide workforce development assistance, professional and leadership development, and core business training

☐ Other _____

Appendix B

□ Other _____
□ Other _____
For the next question to work properly, please check the Other box if applicable before typing in the text box.

Activity (Respondent choose as many as applicable)	Percent who indicated this activity
Assist communities in identifying and defining their workforce talent pool, entrepreneurial capacity, and growth strategies	75%
Support or accelerate technology commercialization and new product development	80%
Assist entrepreneurs in the establishment of innovation-based companies	82%
Assist existing businesses in increasing productivity and quality	75%
Provide workforce development assistance, professional and leadership development, and core business training	58%
Other (1)	51%
Other (2)	22%
Total respondents	**55**

Opened-ended responses to *other* choices word cloud

(b) Rank the top five activities in order of time spent, with 1=most time spend and 5=least time spent.

Rank	Assist communities …	Support or accelerate technology commercializ ation…	Assist entrepreneu rs…	Assist existing businesses…	Provide workforce…	Other (1)	Other (2)	Other (3)
1	27%	41%	33%	15%	4%	30%	9%	20%
2	8%	17%	28%	31%	25%	22%	55%	40%
3	41%	12%	21%	26%	14%	22%	18%	20%
4	14%	10%	9%	21%	29%	11%	18%	20%
5	8%	20%	7%	8%	21%	15%		
6	3%		2%		4%			
7					4%			
Total respondents	37	41	43	39	28	27	11	5

Q4. *Which of the following other organizations do you partner with to provide economic development services? Please select all that apply.*
    □ Community colleges
    □ Other universities
    □ Local/regional economic development district (EDD)
    □ Local government
    □ State government

□ Regional businesses
□ National organizations (i.e., NADO, IEDC, etc.)
□ We do not partner with other organizations
□ Other(s) _____

Partner (Respondent choose as many as applicable)	Percent who indicated this goal
Community colleges	67%
Other universities	80%
Local/regional economic development district (EDD)	87%
Local government	87%
State government	75%
Regional businesses	78%
National organizations (i.e., NADO, IEDC, etc.)	49%
We do not partner with other organizations	2%
Other	47%
Total respondents	**55**

Opened-ended responses to *other* choices word cloud

Q5.
(a) *How much demand, overall, do you experience for your University Center's services? (Please select only one.)*
□ A great deal
□ A moderate amount
□ A slight amount
□ Very little

How much demand?	Percent
A great deal	81.8%
A moderate amount	16.4%
A slight amount	1.8%
Very little	0%
Total respondents	**55**

(b) *To what extent are you able to meet demand for the services your University Center provides? (Please select only one.)*
□ all of the demand
□ most of the demand
□ some of the demand
□ little of the demand

Ability to meet demand	Percent
All of the demand	14%
Most of the demand	67%
Some of the demand	18%
Little of the demand	0%
Total respondents	**55**

Clients or Beneficiaries

Q6. *Who benefits from your University Center's activities? (Please select all that apply.)*

　　　□ Local governments
　　　□ Local economic development district (EDD)
　　　□ Individual firms in the region
　　　□ Venture development firms in the region
　　　□ Other portions of your university
　　　□ Indian tribes
　　　□ Other(s) _____
　　　□ Other(s) _____

Clients or beneficiaries (Respondent choose as many as applicable)	Percent who indicated this client or beneficiary
Local governments	93%
Local economic development district (EDD)	84%
Individual firms in the region	96%
Venture development firms in the region	45%
Other portions of your university	78%
Indian tribes	27%
Other	44%
Total respondents	**55**

Opened-ended responses to *other* choices word cloud

Center Funding

Q7. *For your current University Center grant, what sources of funds are utilized to meet the required EDA match for your grant award? (Please select all that apply.)*

　　　□ Local government
　　　□ State government
　　　□ Other Federal programs
　　　□ Foundation/non-profit organizations
　　　□ University
　　　□ Program fees/fees for services
　　　□ Other(s) _____

Sources of funds are utilized to meet the match (Respondent choose as many as applicable)	Percent who indicated this source
Local government	11%
State government	33%
Other Federal programs	4%
Foundation/non-profit organizations	25%

University	91%
Program fees/fees for services	22%
Other(s)	16%
Total respondents	**55**

The other(s) answers were:
- Community college; Economic Development Corporation
- Corporations
- Enterprise operations established for workforce training at the institution.
- In kind contribution REAP
- In-Kind Services by Business
- Private contributions
- Rural electric cooperative association
- Internal center resources/other College of Business
- Private funding

Q8. *In addition to the funding received from EDA and the required match, what type(s) of additional funding does your University Center receive to support the activities of your Center? Please select as many as apply*.
□ No additional funding
□ Local government
□ State government
□ Other Federal programs
□ Foundation/non-profit organizations
□ University
□ Program fees/fees for services
□ Other(s) _____ (please specify in the text box below)

Additional funding sources outside the match (Respondent choose as many as applicable)	Percent who indicated this source
No additional funding	20%
Local government	27%
State government	45%
Other Federal programs	25%
Foundation/non-profit organizations	33%
University	47%
Program fees/fees for services	53%
Total respondents	**55**

Q9. *What University resources are leveraged by your center?*
□ Data Analysis
□ Analytical expertise
□ Graduate/undergraduate students
□ Specialized equipment
□ Technology transfer office/commercialization center
□ Other EDA-funded programs, please specify:_____
□ Other federally funded programs, please specify:_____
□ Other(s) _____

University resources are leveraged (Respondent choose as many as applicable)	Percent who indicated this resource
Data sources	82%
Analytical expertise	84%
Graduate/undergraduate student labor	96%
Specialized equipment	42%
Technology transfer office/commercialization center	60%

Other EDA-funded programs	16%
Other federally funded programs	35%
Other	29%
Total respondents	**55**

Other EDA-funded programs write-in:
- EDDs, have also helped other groups apply to other EDA programs, Rural Jobs Accelerator program
- Federal EDA TA grant
- Funding for feasibility studies
- Innovation Clusters, Disaster Preparedness, Statewide CEDS
- Northern Rocky Mountain EDD
- Oregon's UC
- Rural Acceleration Concentrating on Entrepreneurship
- Regional planning organizations

Other federally funded programs write-in word cloud:

Manufacturing Extension NSF RARE NSF–PFI Partnership STTRs Oregon NOAA Energy USARC program SBDC Regional Disaster Assistance EPA Authority Jobs FAA Procurement FEMA Technical PTAC Program SBTDC Outreach SBA FAST Cooperative SBIRs Center DLA DOE DHLS Development Accelerator Americorps NIH Dept NIST USDA Rural Veteran Resilience Funding Delta Business RBEG MBDA

Other university resources write in:

state shop instruction machine vice president university alumni extension installations business school park commitment incubator service public specialists funding law nonprofit university's communications experts services faculty outreach business office space teleconferencing mentors accelerator technical exporting labs dean SBTDC instructors tech

University Center Assessment
(a) *What tools do you use to assess your University Center's activities? (Please select all that apply.)*
  □ Feedback from program staff
  □ Informal client interviews
  □ Feedback at regional workshops
  □ Client satisfaction surveys
  □ Case examples of the impacts or outcomes of Center services

□ Other(s) _____

Tools used for assessment (Respondent choose as many as applicable)	Percent who indicated this tool
Feedback from program staff	75%
Informal client interviews	80%
Feedback at regional workshops	60%
Client satisfaction surveys	55%
Case examples of the impacts or outcomes of Center services	58%
Other	38%
Total respondents	**55**

Other answers:
- Amount of demand for services
- Client economic impact surveys
- Continued engagement with the Center's partners
- Economic benefit evaluation directly from the client
- Feed back from traditional leaders, successful cross regional collaboration, number of local contacts for per jurisdiction to facilitate projects and negotiations
- Formal project evaluation timed with GPRA reporting
- Longitudinal study
- NIST - MEP survey process
- NIST MEP Client surveys
- Nothing yet. We just finished year one and this will happen in the coming year
- Number of Impacts and Business start-ups
- Repeat clients
- Student class evaluations each semester.
- Technical reports from student interns
- Tracking funding acquired by clients
- We collect feedback from client companies directly and from partners informally
- Advisory input, best practices learned from other centers,
- Faculty focus groups
- Metrics tracking/reporting
- Social media analytics, network sign-ups
- Video testimonials/blogs

(b) *What metrics do you use for assessment of your UC? (Please select all that apply.)*
□ None
□ Jobs created/retained
□ Number of clients assisted
□ Number of workshops conducted
□ Number of businesses served
□ Increased capital investment by regional firms
□ Increase in regional venture capital
□ Increase in average wage levels
□ Increase in skill levels of regional workforce
□ Other(s) _____
□ Other(s) _____

Metrics used for assessment (Respondent choose as many as applicable)	Percent who indicated this metric
Jobs created/retained	76%
Number of clients assisted	89%
Number of workshops conducted	60%
Number of businesses served	84%
Increased capital investment by regional firms	51%
Increase in regional venture capital	25%
Increase in average wage levels	13%
Increase in skill levels of regional workforce	18%
Other	45%
Total respondents	**55**

"Others" write in:
- # Of Network Members, # Of Jobs Created Per Co-Learning Plans, # Of Business/Inventors Served, # Of Webinars Conducted, # Of Participants For Events (Webinars And Summit), # Of Referrals For Inventors And Other Network Members
- Business Diagnostic Assessments Conducted
- Businesses implementing sustainability improvements
- Client payroll numbers
- Conference attendance, publications sold
- Data from longitudinal study
- Feedback from students via course evaluation each semester.
- Increase in public sector funding for economic development
- Increased retained sales, cost savings
- New and retained sales, cost savings and cost avoidance
- Organizations keep asking us to help
- Public sector investments
- Reports disseminated
- SBIR application successes
- Scale of projects beyond jurisdiction across regional, number of traditional leaders met per project, number of new ventures introduced
- Students in courses
- Systematic survey of clients
- The quality and importance of the clients being served. That means clients that affect the ed trajectory of the region.
- Web usage of gis tools
- Cost savings, costs avoided, new sales, retained sales
- Investments raised for client companies, increased sales for client companies, research reports created,
- # of clients visiting the website; # of clients passed on to university resources
- # of projects launched completed
- # of start-up companies
- Others

Q10.
  (a) *What would you consider to be the outputs of your University Center? Outputs are defined as University Center services delivered (e.g., number of conferences held, number of cluster studies performed, number of clients served).*

- # of clients assisted hours of assistance provided actions taken by clients as a result of assistance actions taken that achieved results # of distressed communities impacted
- # of clients served # of new firms established amount of new sales amount of retained sales Certifications gained for the company Certifications gained for the products Workforce training workshops completed Impacts of projects completed, via client survey # of student workers employed by the UC # of jobs created # of jobs retained
- Number of presentations * Number of cluster studies performed * Number of clients served * Number of potential clients (i.e., leads for new business) per time period * Number of reports, papers, etc. generated from the applied research projects

Appendix B

- Evaluation of new products' feasibilities. (Tech Assistance) 2. Workforce assistance--number of interns and hours per intern. 3. Number of businesses seeking assistance; number of businesses using our services after initial contact. 4. Number of clients served 5. Number of Economic Impact Analyses performed 6. Number of grants or amount of funding received by third parties (clients) for economic development with University Center assistance (proposal prep., project design, etc.)
- e2e educational networking groups are held five times per year in three markets in Wyoming (Laramie, Sheridan, Gillette). Additionally, Center organizes an annual two-day Statewide conference. 2. center conducts one-to-one counseling with an average of 30 client companies annually. 3. Overall client revenues: $30,884,600 4. Overall client (FTE) Employees: 218
- Technical assistance to businesses and local government around a range of economic development topics--mostly in the form of reports 2. Linking university resources to community needs (e.g., number of needs that we find resources for) 3. Number of clients served 4. number of students that participate in the UC 5. convening meetings of various organizations around local/regional topics
- 48 ventures 91 students 173 mentors 28 interns 8 hires
- Analysis of socio-economic data that can help local economic development practitioners to understand trends and opportunities in their local economies. Also provide information as to potential business expansion opportunities and accompanying fiscal impacts to state and local government. We usually have 6 workshops a year and work with ten clients.
- Assistance and services provided by the UTUC include: 1. Assistance to business and industry • Assistance in improving productivity and profitability • Access to research and development assistance • Business growth and transformation assistance 2. Entrepreneurial Support and Technology Transfer • Training and technical support to access SBIR/STTR funding • Access to federal and university-based research and development assistance • Support to rural-urban entrepreneurial support systems 3. Regional Capacity Building • Economic development strategic planning and implementation assistance • Support to regional economic development efforts • Economic development training • Economic research and analysis Outputs include: Number of companies assisted, number of people trained, number of organizations assisted, number of collaborative initiatives, number of studies performed.
- Being the support, research, technical assistance, and training outreach unit with a statewide mandate to enhance economic development in Arkansas and where applicable, beyond.
- Businesses created Business expanded Jobs Created Jobs Retained Skills/Knowledge Transfer
- Creating companies that are creating jobs. Commercializing university research discoveries.
- Clients counseled Clients served Business planning Matchmaking events (e.g., clients with investors) New projects launched/completed New products generated Jobs created New regional investment
- Clients served Jobs created Successful start-ups Workshops conducted Increased business investment
- Combined FY 2010 and 2011: Assisted creation or maintenance of 121.5 jobs. Extended legal representation to 213 clients. Conducted 58 workshops in collaboration with Microenterprise Development Organizations, Community Colleges, and local government entities. Advice (workshop participants and handbook users)to 1,038 clients. Education of 32 law students re practice on behalf of microentrepreneurs and community nonprofits, especially in rural and disadvantaged communities.
- Commercialization assessments of university IP Individual client meetings with scientists, clinicians, and entrepreneurs Creation of new technology-based businesses and jobs in the Commonwealth Close partnerships with local & state economic development teams Workshops & networking events Expansion of early-stage capital in the Commonwealth
- Entrepreneurial technical assistance (market analysis, business planning)- 7 to 10 clients per year Rural Development technical assistance (feasibility studies, business plans, EDA assistance to projects) - 15 to 20 public sector clients Innovation and Entrepreneurship Events - 100 to 150 students reached yearly Mentorship (management support) 5 to 10 businesses annually Cluster development activities - engage with EDD's and private sector groups to address University engagement across state AK SourceLink - 3,500 searches annually - supporting 350 business starts Economic Development practitioner capacity building - 30 to 50 students per course and 1 to 2 courses per year
- Expertise, connections, programs
- For our first project year 2011-12 1. 600+ network members 2. 400+ Twitter followers 3. 200+ LinkedIn Members 4. Established a Consultative Panel of approximately 40 distinguished representatives from across the state 5. 10 Student-Led Technical Assistance projects 6. 10 Co-Learning Plans on innovative economic development tools, models, policies, practices and programs 7. 19 Summit presentations 8. 10 Summit inventor exhibits 9. 150+ Summit participants 10. 9 Webinars please visit our webpage www.reicenter.org
- In no particular order: State of the Region conferences Profit mastery workshops Clients and businesses served Number of academic publications
- Jobs created/retained; new ventures and industries created.
- Jobs, Capital and Business starts
- Local capacity building associated with the number of UC interns recruited from the service area of the Pacific that graduate and return to their island homes to serve their people and governments. Number of clients served Number of projects initiated in the US Territories Number of Projects serving under represented groups, i.e., native peoples, ethnic minorities, women, etc. Number of joint projects between US Mainland & US Territories Number of projects in Island State of Hawaii Number of total Territorial governments served Number of projects requiring broad collaboration between higher education, village leadership, businesses and local government Number of pan regional projects, i.e., Pacific and Caribbean regions Number of projects that are replicable Number of articles and publications about economic development in the Pacific for business opportunities and effective development in the region Number of collaborations and partnerships with local, regional, national and international

Appendix B

- Multiple clients served through the SBIR technical assistance program; client moved into the incubator; regional clients served by the SBDC; increased mobile app development skills within the community from University Center courses; regional aspiring entrepreneurs participated in FastTrac program; regional entrepreneurship ecosystem study.
- New/improved products and technologies. Graduates with experience in integrated engineering and business projects. Enhanced innovation capacity within a region.
- Number and role of clients served Number of studies performed Number of studies performed that affect regional and state ED policy Number of presentations to policy makers and others Number of downloads of the Center's reports via the university's website Number of citations in regional and state newspapers and other media using our research and general expertise. Number of testimonies before Ohio's legislatures
- Number of Regional Trade Center Assessments and follow-up Plans Developed Number of technical assistance projects/workshops provided in support of economic development. Number of technical assistance projects/workshops provided in support of economic development. Number of publications.
- Number of clients served Hours of time spent with client companies Number of jobs created/retained Capital investment by client companies Number of workshops held Number of attendees at workshops Number of attendees at annual conference
- Number of clients served Number of economic impact studies Number of feasibility studies Number of business trained in international trade Number of workshops
- Number of clients served Number of workers trained Number of training sessions
- Number of clients served by consulting services Number of clients served by training programs Number of clients responding to an economic impact survey (NIST MEP) and quantifying economic impact (jobs, sales, savings or investment) Magnitude of economic impact reported annually by clients
- Number of industry-based projects completed; number of attendees at conference/workshops; number of companies served; number of interns placed in industry projects; number of disclosures from applied research; number of technical-research-other publications.
- The primary output of our activities are: 1. The completion of direct technical assistance projects to these economic development agencies. 2. The completion and dissemination of applied research projects to benefit economic development agencies. 3. Information dissemination through a monthly newsletter. 4. Information dissemination through our website at edacenter.org
- Programs administered Companies supported Entrepreneurs funded. Strategic plans conducted
- Project based applied research project reports. Annual reports analyzing the regional economy and real estate market. Completed business plans for nonprofit organizations. Conferences and seminars which bring together decision makers and business and government leaders. Completed strategic plans for local communities and organizations.
- RUTAP works with teams of MBA students to assist technology based firms. Our goal is to move them to the next phase of commercialization
- Referrals to services   Assessments   Centralization of other specialized resources. Advancement of the client in the commercialization continuum
- Technical assistance
- The Center has hosted 15 workshops and collaborated on 3 conferences, providing over 450 attendees with valuable information on a range of topics. They included sustainability basics, export markets, green team establishment, and green certifications. A total of 78 clients have been provided with specialized consulting services in the areas of sustainability, exportation, and general business fundamentals and were given the knowledge and tools necessary to incorporate their lessons learned into their own business ventures. The Center has produced and published six manuals: Top International Markets for Environmental Management Companies, Top International Markets for Renewable Energy Companies, Top International Markets for Green Building, Trade Financing, Guide to Sustainable Business Practices, and Federal Government Procurement of Green Products and Services. The Center has also built and maintained a website which showcases the Center's client services, businesses successfully incorp
- The University Center was recently funded; therefore, we are unable to report outputs this time. It is anticipated that by the conclusion of Year 1 funding, we will have achieved the annual goals listed below: Number of new entrepreneurial funding sources identified - 5 Number of business mentors identified - 25 New ecosystem partnerships established - 10 Number of referrals made - 300 Number of In-Depth Business Diagnostic Assessments Conducted - 20 Number of veteran entrepreneurs assisted in growing businesses 10% of VBOC clients Attendance at proposed regional collaborative review sessions 30 per session Number of new jobs created by companies served - 250 Number of unemployed who obtain employment at these new jobs - 10% of jobs created) Number of new businesses started by entrepreneurs served - 25
- The UC is currently working with six clients in the business and workforce development phase. The NNMC UC actively partners with the Regional Development Corporation and the regional university consortium which has resulted in five (5) new academic programs that directly address increased technical capacity and workforce development.
- The outcomes of our University Center include: number of design challenges held number of new start-up concepts developed number of jobs (both part-time and full-time) created number of design workshops held number of civic start-ups launched number of community fellows trained
- Training on economic development for community leaders Technical assistance to economic development organizations Applied research
- We are just getting the center launched, so we have not gone through our first round of performance metrics. We will be tracking almost all of the performance metrics mentioned above, including: - # of consultation held - # of program participants - # of programs held (seminars, workshops, networking) - # of referrals made to partners - # of hours of technical assistance provided

- We have dozens of outputs each year. We run workshops/conferences, conduct surveys, convene groups, support entrepreneurs, interact with students and faculty, prompt business formation and much more. As the leading voice in MA for the game development ecosystem we also provide a lot of communications, public relations and advocacy outputs we well.
- We have multiple initiatives under our UC grant, each with output metrics.
- We have served over 100 clients since inception in 2009 We have hosted 10 conferences on various subjects from patents to funding sources. We have clients from 13 difference industry groups and focus on the energy (including renewables), water treatment and conservation, and manufacturing clusters. Clients to date have brought over $4,000,000 into the area in the form of grants, loans, and equity investment.
- We solve specific technical questions for center clients (i.e. studies). We also align resources inside and outside of the university, we convene partnerships and add intellectual support to the convening's of others, to instigate activities that solve problems and pursue opportunities. These may embed studies, workshops, or other activities.
- Workshops and other community education meetings, number of clients served, individual client service, support of community development organizations, longitudinal study, market study, integration of legal services into business development
- Cultivation of business growth opportunities for entrepreneurs/companies and attachment of entrepreneurs and faculty ideas alike with funding, business plan improvement and industry partnership. This activity/output creates a network of clients inside and outside the university
- Technical assistance to Economic Development organizations (i.e. RPCs) on ED projects requiring data, data analysis, and virtual decision making needs leading to economic growth in local communities. primary research on high growth firms' characteristics technical assistance to individual firms in the areas of funding, market research, strategy, and deal brokering. technology commercialization for clients involving University-based business and technology.
- Trainings, courses, individual counseling, pre-incubation assistance, technology transfer, entrepreneurship educational materials, among others.
- Workshops one-on-one sessions networking/partnership initiatives investor outreach regional economic analysis studies technology incubation services

(b) *What would you consider to be the most significant outcomes of your University Center? (Outcomes are defined as the impacts on social, economic, or other indicators arising from the delivery of outputs (that is, measures of University Center goal attainment; e.g., job creation, new business formation, increases in workforce skills and/or average wage levels).*
- Economic impact to the various edds * Diversity and size of the various presentations across the state of Maine * Financial savings for clients * Efficiency gains for clients
  - o Awareness and interest in technology businesses. 2. Increase in jobs and revenue. 3. Awareness and interest in entrepreneurial nodes.
- Connecting entrepreneurs to university assets (assets include technical R&D and the talents to develop these into street-ready products and services). 2. Integration of university-wide ideas to commercialize technology. 3. Bringing interns in from diverse universities to focus on single outcomes: value creation. 4. Bridging the technology-business development gap in a city-rural system that is changing quickly 5. Integrating emerging opportunities to serve a bigger community and several rural areas. 6. Building economic analyses to capture the effects of the largest of major industries to the smallest impacts of cultural significance. (For example, how does the street fair affect the economics of downtown in the summer-a smaller impact than a new airplane manufacturing operation in the same town). 7. All of these factor into job creation (short term) and value creation (long-term).
- Job creation 2. Partnership creation 3. Student skills and experience
- Bridging access to University resources and linking and aligning public and private sector entities with the University. Examples may include engaging staff, faculty and student in applied public service and learning activities; aligning university research with industry cluster group needs, or bringing research questions back to the University; develop classes to support and broaden economic developer practitioner thinking and learning.
- Competent and unbiased economic analysis, impact studies and consulting. Our center is the recognized expert for this type of support in Northern Arizona.
- Continuing to be asked to take on the role describe in the previous question
- Contributions to creation of new technology businesses with high salaries Focus on commercialization of UK IP through startup companies Role in formation of the Bluegrass Angels and Bluegrass Angel Venture Funds Formation of the Bluegrass Business Development Partnership
- Development and launch of the RedTire program: a service to match owners of small/medium sized businesses providing essential services to their communities with university graduates or alums to avoid shuttering of those businesses and saving existing jobs, particularly in more rural areas. It is a nationally unique initiative and might not have been developed without the support and direction from the EDA.
- Education
- Establishment of a new economic development ecosystem broadly represented of economic development stakeholders. Development of a model that supports innovation and continous improvement in economic development tools, models, policies and practices. Topics have addressed: Microenterprise financing Open Education Resources/skill development Strategies to increase the use of internet based technology for small rural Michigan based businesses, this resulted in a 50k award to Connect Michigan (our co-learning plan author) Global Review of Innovative Practices for Rural SME FDI Implementation of a knowledge generation and transfer ecosystem.

- Helping technology-based businesses improve their competitiveness.
- High growth companies supported to create more jobs
- In no particular order: job creation and rention Increased sales Businesses formed Capital investment Business efficiencies gained through workshops
- Job creation. Private investment into our companies. Public funding into our companies.
- Jobs Added/Retained Aggregate Financial Impact to Business (Sales, Investments, cost savings etc.) Aggregate Financial Impact to Communities (Funding, Investments, cost savings etc.) Distinct Clients Served.
- Jobs Retained/Created New business formation and nurturing Cost Savings Jobs saved/retained Improved Efficiency/Productivity Increased/retained sales
- Jobs, businesses engaged, economic impact
- Level of attainment and realization of the UC mission. The ability to customize and bridge technical assistance utilizing the vast resources of the University to meet the unique needs of clients in the US Territories and State of Hawaii within the context of cultural and traditional protocols. Being the face of the United States and University of Hawaii when working collaboratively with US Territories and independent island nations on joint agricultural, marine and technology projects of common interest. A significant outcome of our UC strategy is associated with scale. Focus on industry development using local resources and capacity with potential employment of hundreds of workers within a two and a half to three year window. Entrepreneurial activities on an average in the same time frame will result in success and employment opportunities for a fraction of that total. In depressed areas where complete economic recovery is the reality (i.e., from tsunami, typhoons, earth quakes, global warming, etc.)
- Local/regional job creation Successful and sustaining new businesses Regional business growth Increase in manufacturing based business
- Measures of regional economic development including: jobs created, improvements in regional innovation index, increase in per capita income, increase in educational attainment.
- New economic development organizations Stronger existing economic development organizations Community leaders trained in economic development Strategic plans for regional economic development organizations Special studies for regional economic development organizations Businesses and individuals completing a course of study for business improvement Seminars, conferences, workshops and business meetings hosted Businesses completing a contract of tenancy at off-campus incubator Businesses completing a contract of tenancy at on-campus incubator
- New ecosystem partnerships established Number of referrals made Number of In-Depth Business Diagnostic Assessments Conducted Number of new jobs created by companies served Number of unemployed who obtain employment at these new jobs
- New private sector employment opportunities. Skilled and qualified workforce. Increased entrepreneurial business development.
- Number of jobs created in rural businesses Number of businesses assisted
- Our UC is designed to develop and test new frameworks and tools appropriate for network-based economic development. We are developing the foundation for the national deployment of these tools through two foundations: a network of universities committed to deploying Strategic Doing and a sophisticated GIS platform that we call Regional Decision Maker. Together these two approaches are shifting how regional development is done in this country.
- Our entrepreneurship training program Economic development assistance for rural communities MBA field research teams University technology transfer
- Our fall 2012 MA game development ecosystem survey was out most recent significant outcome. In addition, our winter 2012/2013 partnership with the Boston Globe/Boston.com is another important outcome. In a nutshell, we produce at least one significant outcome a month, on average.
- Over 100 clients served per year Clients report over $100,000,000 in annual economic impact (sales, savings investment) Clients report over 500 jobs created and retained
- Provide a process and resources to enable commercialization
- Public private partnership to start business accelerator International trade conference - partnership with State Feasibility study. The above will lead to job creation
- Since 2005 the agenda for our UC has largely been molded and directed by the needs of the region following Hurricane Katrina. Our center has been called upon by a wide variety of agencies and organizations to assist in the rebuilding and redevelopment process. We have facilitated and participated in numerous strategic and comprehensive planning projects. We have provided reams of primary research information to parties from throughout the region and US who have participated in the post-Katrina rebuilding and redevelopment efforts and been a source of materials used to cover the disaster, its aftermath and effects on the local community and real estate market and the progress of the rebuilding process by news agencies throughout the US and several foreign bureaus. We do not try, nor have we ever tried to link our services to specific job creation, saving or capital investment numbers. The problem is, and has always been, attribution. If we could honestly say we were the primary cause, we would. But we know better.
- Strong, competitive regional small businesses.
- The Center seeks to impart upon the regional populace a working knowledge of the benefits of incorporating sustainable practices into business operations, and to increase profitability and competitiveness within the green sectors. Through training sessions, published manuals, and published articles, the staff has been active in working to swing the tide of public perception in favor of sustainability. Our programming has been instrumental in training workers in the areas of micro and macro sustainability initiatives, exporting, technological commercialization, certifications, and business startup and growth. This has been an uphill battle in the region, but the Center has been a primary force behind the development of 17 new technologies and the creation of 12 new businesses, all of which are utilizing the

knowledge and training they received from the Center staff, and has provided sustainability consulting services to 25 established businesses. The Center also consulted with 31 firms in other specialized

- The EDA University is viewed as a critical asset to the economic development community in Northeast Ohio and many rely on our research, analysis, and information to inform their decisions including resource allocation to different initiatives that will transform the region into an knowledge based economy. At present, our work informs many parts of the Regional Economic Competitiveness Strategy (RECS)currently under development including setting recommendations for actions for driver industries, emerging industries and entrepreneurship. The Center is also guiding the discussion on overall goals for RECS and their measurements. We also provide strategic guidance and analysis to Jobs Ohio in their work on business attraction. We are also a part of thought leadership for Ohio and some national organizations on national issues including state of manufacturing, oil and gas shale development, and energy and water policy and innovations. In addition, we provide training to

- The center has promoted a long-term commitment to the distribution of university intellectual capital into a series of engagements in regions around our state. That manifests in a variety of physical or programmatic commitments that support regional clusters and regional innovation ecosystems. These have been critical to enhancing the productivity and "value-add" those communities contribute to the global economy leading to public and private capital investment, as well as job creation.

- The clients have created over 100 permanent jobs in the area. The client revenue is over $4,000,000 annually. The $4,000,000 in debt, equity, and grants is also important. In partnership with two of our clients, TAMUCC has received two grants approximating $1,400,000.

- The creation of a planning process in the neighborhoods around Morgan State, the building of a statewide innovation data set, technical assistance to city of Baltimore in the creation of their CEDS.

- The most current outcome was working with the Western Nevada Development District in helping them gather and analyze data for their CEDS and showing regional and labor linkages of the rural WNDD with urban Washoe County (Reno). This was successful in that Washoe County has become a member of WNDD and thereby solidifying the economic linkage between urban and rural WNDD. Have completed studies to help bring firms into areas so that wages and employment can increase. Assisted Lander County, Nevada in developing economic strategies to use abandoned mine sites for economic development opportunities. Usually these mines on public lands have gone back to original state and the accompanying infrastructure has been destroyed. This has increased employment and green energy opportunities.

- The most significant impacts are the result of direct technical assistance projects. Second, would be the policy impacts of our applied research projects.

- The most significant outcomes of the Center include: - the development of community's capacity to create and launch sustainable urban start-ups in order to address pressing urban challenges - the development of a new model of community engagement of research university by building a new civic start-up ecosystem that connects university, local governments, non-for-profits, corporations, start-ups and VCs, community members, and students. - the creation of new kind of civic start-ups based on citizen entrepreneurship model and citizen entrepreneurs

- The positive impacts on business; allowing the companies to hire more people at high wages, and helping them develop new products and processes in order to grow the business in a sustainable way. New or retained jobs of approx. 100 Capital Investment greater than $6,000,000 (estimated) Over 200 clients served New SBIR/STTR funding received in excess of $8,000,000

- Together with its partners, the Center has contributed to stability and opportunity in rural communities struggling with a century of out-migration and in disadvantaged Latino and African American urban communities hampered by poverty, relative lack of education, and language barriers. We have also aided other clients. Our students give private and social entrepreneurs the legal tools they need to plan and operate more effectively. Communities benefit not only from increased jobs and wealth, but through retaining and nurturing local talent and leadership.

- We are just getting the center launched, so we have not gone through our first round of performance metrics. We will be tracking almost all of the performance metrics mentioned above. The outcomes we are targeting are: - Job Creation - Capital formation and deal flow - New venture formation - New Product Development - New market penetration

- We have been able to provide much needed outreach to companies in the state to improve productivity, process quality, grow /retain jobs. Our applied research efforts are producing IP disclosures that will increase competitiveness of the ag-business sector in the state. Lastly, we have raised awareness of the support EDA is able to provide to constituents through workshops, publications, and presentations.

- We have created an entrepreneurial ecosystem that assists students from multiple institutions in their pursuit of venture creation.

- Connection of entrepreneurs and companies with business expertise, collaborators by a Center with technology savvy. Support of CT entrepreneurs and companies to support their businesses and to start companies connection of students with internship opportunities to train in their areas of expertise eg. Marketing, social media, stem cell research,

- Increased mobile app development skills within the community from University Center courses; increased business development knowledge among regional entrepreneurs; expansion of awareness and provisioning of SBDC services; increased knowledge among economic development service providers of regional entrepreneurship needs; clients received SBIR technical assistance and had successful SBIR applications

- Jobs and investments, new businesses and business expansions, capacity building of development organizations, patents, invention disclosures and new products commercialization, among others.

- Jobs created jobs retained private investment generated public investment generated

- New business formation, business longevity and sustainability, integration of legal services into business development, job creation

- Primary research on high growth firms. Job creation investments/funding for client firms increased sales high tech startups

- Same as above
- Start-up companies company expansions new products/product lines commercialized

Best practices

Q11. *Given your University Center's experiences over the years in responding to demand for services, what would you consider to be the two or three most effective strategies you have found for achieving your UC's primary goals?*

- Design workshop for a specific problem with a strong local non-for-profit partner and community members - design inquiry as a method of identify urban problems and transform them into sustainable urban start-up concept - an interdisciplinary model of faculty and student engagement program that is based on a three stage "design-develop-incubate".
- 1). Be highly selective regarding the projects undertaken: there is much need and only scarce resources to apply to those needs. 2). Work closely with other university centers to obtain their perspective and input. 3). Utilize the annual showcase events to obtain feedback and cement relationships with other UC personnel.
- Be visible. Whenever we show our faces in public and talk about what we do, we see more interest in our services.   2. Keep students involved but demand excellence from them. Students can help meet goals but also require coaching.   We generally invest the time and provide training in applied skills, and usually get high quality results.   3. Always consider, with the potential clients, the projects they need and the skills you have. These may be a total mis-match, but often new projects offer the opportunity to expand skill sets. Our center is about value creation, and that includes improving the value of the center by learning more.
- Partnerships with other public and private organizations with similar missions are critical to our success. For example we partner with the Idaho district export council each year to deploy export excellence, which has resulted in significant economic impact to participating companies. 2. With all our services we engage clients in ways that enable them to continue on their own without us. Using this methodology of enabling clients, we have been effective deploying proven best practices in lean manufacturing, energy efficiency, environmental waste reduction, new product development and innovation, and in food and dairy processing safety. 3. A combination of public training and one on one, in-company consulting has been an effective strategy for assisting companies to implement new practices into their facilities, which help them grow revenues, add jobs, and save costs.
- The UC's business advisory and management counseling program helps companies grow larger and faster than they would otherwise. 2. Development of e2e as a networking educational group has increased the awareness and interest in entrepreneurship.
- Being flexible and responsive to situations and conditions unique to our region/service area. 2. Maintaining information and databases that are unique for decision makers who invest through place-based development and redevelopment projects. 3. Staying ready to fill niches of service opportunity which others have overlooked or chose to ignore. 4. Avoid getting caught up in the "buzzword world" of economic development, which is driven by money and not mission. 5. Using common sense and trying to be the "adult in the room" when conflict arises over economic development issues and initiatives.
- 1. Continuous networking. Quite often you can solve a problem by bringing various political/academic/business resources to bear. Being the largest university in the state we have the relationships and credibility to take the lead. 2. Do as much work as possible at the business or in the community you're helping. We have seen a marked increase in our successes by going to the customer versus having them come to us. There is a comfort level having comfortable surroundings.   3. Do quality work. We are a small state, when we do a good job word travels and the phone rings. In the past two years our requests for services has exceeded our demand.
- Develop and maintain strong relationships with partners such as EDD, local EDO'S, chambers, career tech centers, tribal government, etc. 2. Provide services to clients efficiently. We strive to be an 'entrepreneurial' organization in that we move quickly and efficiently and try to remove any bureaucracy that might exist in order to garner respect by the client companies we serve.   3. Leverage best practices of other centers across the country and adjust those to meet the unique criteria of the region we serve.
- Effective communication with EDDS and economic development agencies. 2. While we are located on a small rural campus, our partnership with the u of m extension provides us with a statewide footprint through their 14 regional offices. 3. Our website is quite effective in allowing economic development agencies to request technical assistance 24/7/365.
- The center's collaboration with microenterprise development organizations, community colleges, and local government agencies has been key to our success. These organizations provide core business training and financing to many of our clients, which we supplement with legal representation and advice. The collaboration leverages the expertise, connections, and funding of all the partners. 2. The use of third year (senior) law students under attorney supervision benefits clients, students, and the center. The center draws on the skills and knowledge acquired by students in their first two years of law school while giving students valuable hands-on experience in representing real clients with real goals and problems. Clients get free, high-quality legal representation, which constitutes a valuable form of business planning for small, closely held businesses. Third year students are eager for this kind of experience, so the center benefits the law school as well.
- Close collaboration with our regional EDDS 2. Annual project concept solicitations 3. Partnerships with governments and trade organizations 4. Use of students to implement the uc mission
- Becoming the region's think tank in economic development. Working closely with our partners and understanding their needs and the value added our center can provide them. Being involved in regional and national conversations on specific economic development topics. Utilize the expertise of faculty in economic development.
- Being active in regional economic development groups to generate deal flow. Working with regional economic development partners to connect with entrepreneurs and businesses. State of the region conferences
- Being involved in the community, not just with a community: & we'll come to you.; finding and working with champions for the project; not getting the push of our services ahead of their pull for our services.

Appendix B

- Close integration with community organizations and use of governmental contacts for client development serving small businesses with growth potential
- Close local partners aligning programs with the needs/requests for private business owners
- Collaboration, cooperation and partnerships are our three core strategies - all wrapped up in a communications flow that serves our constituents needs. Our focus to always be relevant connected and engaged with our ecosystem.
- Current program manager has less than six months of experience in managing the university center.   With that said, effective strategies used to date include: client/project diversification securing commitment ("skin in the game") and prioritization of technical assistance from client
- Delivering quality research from student workers has been a high value added service to our clients. Establishment of a pre-incubation program last year is already paying dividends. Leveraging the talent at the university and including them in our program has been very valuable to the client.
- Early involvement with university researchers to identify commercialization opportunities building close local & state partnerships with common goals formation of active angel groups to provide early-stage capital and mentoring to startups
- Education through seminars technology transfer exporting
- Embedding the center in a larger office a number of years ago provided deeper connections to the fullest range of university assets. We are able to show those assets the mutual benefit from these engagement and increase the center's impact and ability to deliver value to regions across our very large service area.
- Engaging a broad cross-section of collaborating organizations (ED funders and technical assistance providers) to ensure limited duplication of services and maximum level of coordination leveraging the many assets of the university to support program sustainability - financial, human and technical operating the program with a very innovative and entrepreneurial mindset - as federal resources are insufficient to achieve program objectives and goals on their own focusing on distressed areas - those regions of our state that have limited local resources and economic development capacities
- Entrepreneurship development programs rural economic development strategic planning and implementation
- First and foremost has been utilizing our network we have built over the years with manufacturing, construction, and ag-business sectors. This has provided access, generated requests, and opened doors to provide assistance. The second strategy is leveraging faculty & staff time during the academic year when most service requests are made. We have found a way to support summer funding in exchange for their time during the semester. The quick turn-around time on projects has been much appreciated by industry and the faculty are more willing to do projects if they know there is summer support available for them.
- Focused regional trade center activities over a moderate time duration creates momentum for public and private groups to work together following a clear strategy. This approach will lead to more long-term impact than point solutions distributed over larger areas. Encouraging a diverse group of stakeholders in a community (local officials, economic developers, businesses, non-profits) to agree on clear goals and regional success indicators provides a base to begin resolving local issues.
- Groundbreaking collaboration among public and private universities   collaboration mechanisms with non-profits
- Interdisciplinary and interagency collaborations are the foundations of coherent entrepreneurial support ecosystems university students are a major source of entrepreneurial talent and university installations a nurturing environment for venture breeding a core full time staff is necessary to manage complex collaborations and intermediate in a timely manner with the private sector
- Leveraging university center resources with those of other partner agencies to accomplish shared objectives (ie. Regional jobs and innovation projects) leveraging university center resources to support other programs and initiatives within the university (ie. Tennessee NIST MEP program) building community capacity for economic development by providing training to economic development practitioners at local, regional and state levels in key principles and practices of economic development.
- Marketing by giving presentations at major industry conferences and active participation in industry associations
- Meeting directly with private sector businesses, the academic units, and the primary stakeholders in order to best define what they will ensure will work toward the development of our economic infrastructure.
- Our university center was established on October 1, 2011. Strong partnerships with our EDDS strong networks with key stakeholders strong, capable and supportive project advisory committee (consultative panel) that is fully engaged in all aspects of the project... Leverage, leverage, leverage!
- Partnering with community college system partnering with state and local economic development organizations repeat and referred business from existing customers internal university referrals being a player in social media (blogs/videos) and having an active website
- Provide business counseling to inventors use our rapid prototyping center for proof of principle/concept combining engineering and business services at the university
- Public-private partnerships
- Strategies have two components: an outcome and a pathway. Our strategies are geared toward developing an integration of theory and practice in regional development. We are focused on new frameworks required by open, loosely joined networks.   Our u center seeks to change the game in regional development by focusing on new strategy frameworks and tools that are scalable, replicable and sustainable. We will achieve our outcomes when other universities join our emerging networks. We are targeting to have 30 universities engaged by the end of our grant period. We are currently beginning year 2.   To achieve this outcome, the following initiatives have been most useful: 1) workshops and presentations; 2) training and certifications; and 3) collaborative development activities with other universities.
- The center for green industries entered a market in which there was only a small, but strong number of organizations working to disseminate information on sustainability and encouraging businesses to adopt new practices.   The center aligned itself with three of them (greenerpittsburgh.com, green building alliance, Pittsburgh green innovators) and has forged strong, mutually beneficial collaborative relationships. Common projects have included training sessions, research efforts, and green certification standard establishment.   The center

has also been effective in recruiting entrepreneur clients via traditional networking and referencing, as well as marketing of the services provided. We have hosted small business owner/operator roundtable discussions to gauge what areas of need exist within the regional business community and have involved them in the creation and development of the services we offer today. A total of 78 new clients have worked with center staff to address their goals and needs and how

- The fsu university center was funded in 2012. We will measure the effectiveness of our strategies at the end of year 1.
- The university centers the extension service. Given extension offices in all counties of the state of Nevada, this gives the university center access to all areas of the state and information as to economic development opportunities that the center can assist. The center has also worked with the new Nevada governor's office of economic development to assist the office in its initial economic development objectives.
- The key to our effectiveness is the capacity to weave traditional wisdom with modern knowledge in a very culturally and geographically diverse region. UC's service area includes nine different cultures and political entities that include six territorial governments and the state of Hawaii. The geographical area is larger then the 48 contiguous states. Introducing and building upon modern knowledge and science particularly with renewable and alternative energy, fiber optic and low satellite communications, etc. Requires a sensitivity and trust level that can transcend the horrors of the pacific war and atomic testing that has seared the memories and biology of people who trusted technology in the past. Most effective strategy is predicated on the ability to bridge UC technical assistance to regional government, traditional leaders and clients using the understanding of traditional protocols, history and kinship ties that form invisible networks linking all of the islands within the us pacific territories a
- Underpromise and overdeliver. Developing strategic partnerships.
- We are just completing year one.
- We are very well connected and recognized by the regional public and private leadership
- We have engaged the students to endeavor to understand how to best market and serve them. The closer we get to our customer, the better we perform.
- With previous centers, it is clear that the following three key strategies to achieving our entrepreneurship goals: 1) increase the overall level of activity around new venture formation (events, programs, competitions, marketing) 2) establish programs that help to identify high potential entrepreneurs, technologies/products, and new ventures 3) develop programs to accelerate the growth of these high impact firms by 1) preparing them to access capital and enter the market and 2) increasing their access to capital for growth
- Working closely with others in economic development in order to assure we obtain the right referrals and find the firms that need us the most. Building trusting relationships through understanding the clients' needs and providing relevant services with industry and with companies in Montana, in order to become the trusted source of assistance. Assisting high potential client to maximize our output since we have very little to work with (resources are very thin).
- Focusing on the highest performing teams/entrepreneurs intense mentoring and coaching of students and entrepreneurs in the cultivation of their ideas sharing entrepreneurial experiences
- Http://www.research.ufl.edu/otl/techconnect.html http://www.floridainnovationhub.ufl.edu/
- Leveraging the resources inside the university (e.g. Research capability, databases, project management), resources outside (e.g. personnel and projects, external research partners, networks of investors and entrepreneurs) with EDA UC resources to accomplish larger and more robust results by bringing resources together in synergistic ways toward the end of creating economic gain for local communities, creating jobs and wealth for locals.
- Partnering and leveraging other programs, focusing on most needed services
- See previous two questions
- Sharing program information among university center partners; collaborating with university center partners to promote the center; leveraging partner strengths and resources
- Workshops and one-on-one business assistance investor/funding partner outreach

Q12. *Do you have any other feedback or information about your University Center's activities or goals you would like to share?*

Only relevant responses are included below.
- Businesses come and go. What remains are the people. We are strong advocates for internship programs unitizing students from the service areas of the Pacific. The business, economic and technology exposure is tempered within the context of the Pacific Business Center environment that creates a synthesis of the best of both traditional Pacific world and Western World. We combine the best of both worlds creating a third option with value added.
- Collaboration between the two universities has been very beneficial to our regions. The two front doors allow for a greater diversity of clients to be served.
- Dollar for dollar I feel the University Centers offer a real value proposition to the tax payers. We are doing meaningful work on the front lines of economic development for a relatively small amount of money. This is especially easy to see in a small state like ours where the results are often quick and tangible.
- EDA funding is critical for us since it provides us with sustainable funding support that then allows us to engage in fee-for-service activities with economic development intermediaries in the region and state with the goal of creating regional economic ecosystem and the development of innovation clusters. The center's designation as am EDA University Center helps to increase the Center's reputation and prominence.

- EDA's move to provide a commitment of five years versus three years of funding has been essential to leveraging other non-federal funding EDA's funding per University center is not enough to support more than one position - yet goals and expectations of University Centers are ever increasing - federal funding has been flat at around $130,000 per year since inception yet our CED serves an area 1/6 the size of the continental US and adequately serving the entire state is challenging National programs such as the University Economic Development Association and the Educational Association of University Centers are essential to University Center collaboration, learning, and communications. University Centers spend a lot of time aiding local economic development organizations and EDD's in developing the tools and resources they require to meet the needs of the areas they serve
- For what it is worth, i find the diversity of activity across University Centers to be a real strength of the program. No two University Centers are created in a cookie-cutter fashion.
- Formalize relationships with Economic Development Districts
- In pursuit of long-term economic growth for a distressed region, many of the key activities focus on achieving basic stability and a long-term strategy for both regions and businesses. Many of these immediate activities do not directly connect to near-term job creation, but rather provide a foundation for regional economies to create jobs that match their core competencies. These long-term jobs are much more sustainable than could be obtained through other methods. As a result, metrics that are too focused on job creation within 1-2 years may create a focus that is not in the best long-term interest of the regional economy.
- In recent years we have added more students to our company engagements and have found the company responses to be overwhelmingly supportive. For example, each company that participates in Export Excellence is assigned an International Business The students are assigned to companies based on their experience, background, languages spoken, etc. Collaboration has been a buzzword for many years, and it seems like we're finally gaining traction with other university and public and private organizations. These collaborations are critical to us meeting our EDA University Center mission.
- Like anything, having support at the highest levels is key as is hiring talented people. If you have the brains and energy, you will get the outcomes you are looking for!
- Our UC is one of four closely linked programs of the Community Service Center. We deliver economic development services through all of the programs. Moreover, our center mission is to provide service to communities and educational experiences for students. Of the UC's in our region, ours appears to have the strongest service learning focus. I hope that you will share the results of this survey; I've found sharing experiences with other UC's to be incredibly useful in our activities. Thanks.
- Small and consistent successes can be significant. Start-up businesses have a higher probability of success with UC guidance - they don't know what they don't know. Combining strengths of multiple regional UCs should be reviewed.
- Strong commitment to distressed areas (communities and regions)
- The EDA UC program, in combination with the Innovation and Commercialization Center Program, has provided the funding critical to supporting the creation of high salary, technology jobs through the commercialization of university IP and support for community entrepreneurs. Since 2006, in the Bluegrass Region... - SBIR/STTR awards have increased five-fold - Venture funding has doubled - Technology jobs in early-stage companies has more than doubled
- The UC is a new incarnation of the previous centers. This center was funded in July 2012 and will continue through 2017. Our metrics are not as specific at the moment because we are still defining them. However, we feel that metrics such as "job creation" etc. are extremely limiting in demonstrating the effects of the Center on communities in the service area. We'll be developing metrics to better capture the things we'll do and the results we'll see.
- The Western Nevada Development District Executive Director has often said we are the most responsive Center he has been affiliated. We have actively participated with Lander County in exploring how to create economic development opportunities on abandoned mine sites on public lands. This has produced joint effort with local, state, and federal agencies as well as private industry. Also the University Center has developed import substitution programs for economic development. The Clark County (Las Vegas) Center activity has centered on expanding procurement opportunities for businesses in Clark County.
- The public opinion climate of the Greater Pittsburgh region has proven to be a tough sell when it comes to adaptation of "green" business practices, but through diligent outreach and education, the Center has been successful in establishing itself as a leader in the community with regards to sustainability and business. New and exciting projects are planned and we hope to be able to capitalize on the progress we have made in our still-short life. New partnerships have been formed with other leaders and work-products of high value to the community will be produced and made available. Continuance of successful strategies is as important as exploration of new methods of educating and training, and we look forward to what the future holds.
- The regional UC Showcase event is an excellent way to learn from others in the UC programs, and a good way to get constructive feedback from the panel.   The students who work in the UC program become high performing, highly sought after business professionals; a benefit to all involved.   We can do more good work for the EDA with additional funding. Our current program has a small percentage of time from 3 very skilled professionals in industry (we wear many other hats).   Reporting data is usually not available when the reports are due to the EDA, making it more difficult to provide a good picture of our work results. This past year the detailed, monthly financial reports have become more burdensome to us than in past years, which takes away from our service delivery time and causes difficulty in meeting the reporting deadlines.
- This is our 3rd year as a UC and the learning curve has been steep for this director and the staff. In my perspective, results achieved over this time frame are tangible, worthwhile, and have had a significant impact on the state.
- Universities need to act like and with the private sector in order for these types of programs to be successful. It is not a part of their nature and an entrepreneurial culture/mentality must be infused into universities environments.

Appendix B

- University Centers are perhaps the best example of an underfunded effort that still yields the highest leveraging and mobilization of diverse resources in support of economic development efforts. They are also a prime development experience to produce a pool of competent economic development professionals.
- We have learned that we cannot incubate an idea -- we must have a business in place to incubate. This is one reason we have a pre-incubation program to help people with great ideas develop an intelligent road map to get their business started.
- We have won numerous awards on our project work over the years, which increases our credibility. Participate in state and regional economic development conferences
- We publish all our applied research in journals. This leverages RUTAP's expertise and provides assistance nationwide.
- Additional resources for well-placed internships to cultivate the work force, to help start-up companies and to build avenues for the University Center to build bridges into the community.

Appendix C: Center Interviews

During our interviews with regional staff, the team asked each regional staff member for a recommendation of an exemplary or especially interesting university center for our team to visit. We weighed their recommendations with the information collected from the background survey to create a site visit list that we felt covered all the different types of UC programs in terms of activities (e.g., tech transfer/commercialization, capacity building, entrepreneur services) as well as type of institution (e.g., land-grant university, private university, small institution). The site visit list included the following institutions and their relevant characteristics along with the dates for scheduled visit:

- Georgia Institute of Technology (March 7 and 8)
  - Mid-size public school
  - Commercialization/technology transfer focus (80%)
  - Atlanta region
- University of Arkansas at Little Rock (March 13 and 14)
  - Mid-size public school
  - Economic development training, data support, capacity building
  - Austin region
- University of Nevada at Reno (March 28 and 29)
  - Mid-size land-grant institution
  - Economic development training, data support, capacity building
  - Seattle region
- Bowling Green University (joint grant with Ohio University) (March 26)
  - Public University
  - Assist entrepreneurs in the establishment of innovation-based companies
  - Chicago region
- Northeastern University (April 3)
  - Smaller, private university

  - Legal services to disadvantaged entrepreneurs
  - Philadelphia region
- Becker College (April 2)
  - Very small, private university
  - Philadelphia region
- University of Kansas (May 1)
  - Large land grant
  - Services to existing business
  - Denver region
- Kansas State University (April 30)
  - Large university
  - Advanced Manufacturing Institute
  - Denver region

For each site visit, the site visit protocol was used to guide the interviews and the guide was refined based on our experiences. After two site visits, the protocol was finalized and used by team members for the telephone and other in-person interviews.

The regional office in Philadelphia organized a center day where four local universities came into the office for in-person interviews with our team. (Delaware State University, The Pennsylvania State University, Temple University and Rutgers, The State University of New Jersey.) In addition, a regional roundtable was conducted where all the UCs came together, in person and by phone. Each UC was given the opportunity to talk about their activities of the past quarter and what they think makes them successful, and each had suggestions about new directions for the program.

The phone interviews of all UCs that did not receive site visits were begun in March, with the bulk of the interviews occurring in April, May, and June.

University Center Interview Protocol

This document is designed to be used as a guide for interviews conducted with University Center staff, clients, and stakeholders. It is not intended to be used as a structured interview. Topics will not necessarily be addressed in the order presented below. Interviewers will probe and follow-up as needed. The purpose of this guide is to help ensure that a series of similar topics are addressed in all interviews. We expect that the general topics will be addressed and details will be collected where applicable.

University Center site visit and interview protocol

I.   Purpose of study
Thank you for agreeing to be interviewed as part of our project, which has three goals:
1.   *A complete inventory of activities engaged in by the EDA's University Centers (UCs);*
2.   *The identification of activities with the greatest impact on local economic development; and*
3.   *The diffusion of best practices among UC practitioners.*

We began the project with a short web survey that collected basic information about the University Centers. Using that information source, among others, our team has decided to visit about 10 centers, including this one. We would like to use this time to gather information about the center you are affiliated with. We will also be gathering information from the clients and stakeholders of your center during this visit and through the use of a web survey to obtain more information about the impacts of your UC's activities. Ultimately we hope to produce two things:
1.   *A web-based sharing site where UC staff can review and comment on other centers' "best practices". We will speak more about how you can participate in this later.*
2.   *A report to the EDA highlighting the best practices by UCs as well as providing an inventory of UC activities and benefits.*

If you do not object, we would like to record our interview with you. The information you provide during the course of this interview will not be attributed to you personally in our report. Any attribution would be made in a generic form such as "A current official suggested…." or "A representative reported that…."

Do we have your permission to record the interview?

Do you have any questions before we begin?

II.   General Information
First I have some general questions about your center
1.   How long has this center been funded by the EDA's UC program?
2.   Please tell us about the match requirement (What kind is it, where does it come from?)
3.   Other forms of support?
4.   Where is the center housed within the university? (Is it in a university department, or a non-academic unit? Is it tied together with some other kind of center? Where does it fit within the university's reporting structure? How independent is the Center from daily oversight?)
5.   Who makes up the staff of your center? (Probe: Is there a professional administrator that oversees the EDA UC projects as part of his or her job? Do you have any/enough administrative support?)
6.   Roughly how much work does each staff member devote to EDA UC-supported projects? (10%, half, most?)
7.   Do you have any volunteer labor in the center?
8.   Do you use an advisory committee? If so, what is the role they play?
9.   Do you work on the neighborhood level? Regional level? Both? Somewhere in between?

III. Goals & Activities

1. You indicated the following goals on the web survey {Insert goals} Do you want to add or expand on any of them?
2. You indicated the following activities on the web survey {Insert activities}. Do you want to add or expand on any of them?
3. Can you explain how each type of activity connects back to your goals?
4. How much time do you spend on each type of activity? (Rough estimates are fine.)
5. Whom do these activities serve?
6. Is there a specific type activity that you spend a great deal of your time on? Why?

IV. Best Practices

1. In your opinion, what activity or set of activities that you perform has the greatest impact on the achievement of center goals?
2. In your opinion, is there an activity or set of activities that you perform that you consider to be a best practice? If so, could you please tell us about it? Probe: Why do you consider this a best practice? What did implementation involve? What problems/barriers did you encounter? How were they dealt with? What recommendations would you give to other UCs if they were to try to implement a similar program?
3. Would it be okay for us to post this on the UC share site? Alternatively, would you like to post it? (*Explain the share site as a private website which we will email them information about. On the site UCs can share information about their activities as well as learn and comment on other UCs' activities.*)

V. Outputs

1. You indicated on the web survey that {…} are the outputs of your center. Do you have any to add or want to discuss further?
2. What do you consider to be the center's most important output if you had to pick one?

VI. Outcomes

1. You indicated on the web survey that {….} are the outcomes of your center, Do you have any to add or want to discuss further?
2. What do you consider to be the most important outcome if you had to pick one?

VII. Assessments & Metrics

1. How do you define and measure your success in achieving center goals?
2. You indicated on the web survey that you use the following types of assessments {….} Do you have any other to add?
3. Would you be willing to send us any assessments or reports you have done?
4. How much effort do you devote to assessment?
5. How often do you assess projects?
6. How much information do your clients provide in your assessments? (i.e. – summary answers or in-depth details?)
7. How is the information collected (for example, by a survey or through a site visit?)
8. What types of evaluations do the regional office do? What value do you find in that?

VIII. Leveraging of university resources. *Clarify for centers with multiple partners where the resources come from. (i.e, work-study students/interns from some, money from others…)*

1. What is the nature of university faculty involvement at the center—research, consultation etc.? What types of faculty are involved? What benefits do they gain from the connection?

2. Are students involved in the center? If so, what activities are performed by the students, and at what level of effort? How are they rewarded (money, recognition, contacts etc.)

IX. Clients & Stakeholders

1. Who do you consider your clients to be?
2. How do clients hear about your services?
3. Do you feel you reach all those that could benefit from your services?
4. Who do you feel your stakeholders are (people who are not clients, but who have an interest in your clients' success?)
5. In your opinion, what are your most effective methods for informing potential clients of your services?
6. Is there a specific type of client that you devote a great deal of your time to? Why?
7. You indicated on the web survey the following groups and organizations benefited from your activities… Do you have any to add? Which ones directly receive services (for example a specific business)? Which ones benefit indirectly (for example, a community in which a client is located?).

X. End

1. If you have knowledge about other EDA university centers, is there a set of activities that sticks in your mind as a best practice? If so, please tell us about it? (Probe – what and why?)
2. Would you provide us with a list of clients, beneficiaries, and other stakeholders that we can contact for a stakeholder survey?
3. Do you have any other feedback or information you would like to share?
4. May we follow-up with you if we have any other questions?

Client and stakeholder site visit interview questions/protocol
The goal of these interviews is to be short, but detailed.

I. **Purpose of study**

Thank you for agreeing to be interviewed as part of our project, which has three goals:
1. *A complete inventory of activities engaged in by the EDA's University Centers (UCs);*
2. *The identification of activities with the greatest impact on local economic development; and*
3. *The diffusion of best practices among UC practitioners.*

We began the project with a short web survey that collected basic information about the University Centers. Using that information source, among others, our team has decided to visit about 10 centers, including this one. We would like to use this time to gather information about the center you are affiliated with. We will also be gathering information from the UC staff during this visit and other clients and stakeholders through the use of a web survey to obtain more information about the impacts of your UC's activities. Ultimately we hope to produce two things:
   a. *A web-based sharing site where UC staff can review and comment on other centers' "best practices". We will speak more about how you can participate in this later.*
   b. *A report to the EDA highlighting the best practices by UCs as well as providing an inventory of UC activities and benefits.*

If you do not object, we would like to record our interview with you. The information you provide during the course of this interview will not be attributed to you personally in our report. Any attribution would be made in a generic form such as "A current official suggested…." or "A representative reported that…."

Do we have your permission to record the interview?

Do you have any questions before we begin?

II. General Information
1. Have you received a service from the University Center?
   a. If so, please describe the type of assistance you received from the University Center. {{Respondent is classified as client}}
   b. If not, please tell us about your interaction with the center. {{Respondent classified as non-client.}}
2. {Both} Please tell us about your company or organization (probes: location, nature of product or service, or mission (non-profit & public sector) sales volume (if any) size (employees), characteristics of the market, social needs, policy space served).

IIIA. Client assistance experience
3. What was the main reason you worked with the center?
4. What kinds of benefits did you achieve as a result of this activity? (Probe: how did you derive these benefits? Current versus planned benefits)
5. How has the connection affected your firm's/organization's capabilities?
6. What were your expectations about working with the center beforehand? How did the actual experience compare?

IIIB. Non-client experience
1. How did you hear about the center and its activities?
2. Have you had direct experience of working with the center? If so, was it a positive or negative experience (probe for details)?

3. Have you learned much about the experience of other businesses/organizations with the center, positive or negative?
4. How would you judge the impact of the center on the economy/community etc.?

IV.   End
  a. Are there other individuals knowledgeable about the center and especially about the economic impacts they may have had, with whom we should speak?
  b. Do you have any documents that describe some of the specific outcomes of these programs that you could share with us?
  c. Would it be okay for us to post your experience on the UC share site? Alternatively, would you like to post it**?** (*explain the share site)*
  d. Is there anything you want to tell us about that we have not covered yet?
  e. May we contact you again if we have additional questions?

Appendix D: Client and Stakeholder Survey

Each university center was asked to provide for a representative list of clients and stakeholders for SRI to survey. For the majority of centers visited in person, at least three clients were interviewed in person using the protocol included in Appendix B. These interviews explored how clients hear about the center; the services clients receive from the center; and the client's the satisfaction and outcomes. The protocol was revised based on these interviews into a web-based instrument. The instrument was tested with three economic development professionals.

The survey instrument and descriptive statistics are included below. Where open-ended responses could be coded into themes or had meaningful single words or small phrases, those word clouds are included. Questions that required more in-depth responses, the responses are not included due to confidentiality issues (but are used in our analysis).

The survey had a 62% response rate – 485 of the 785 invited persons responded.

The [insert UC aka name here] has identified you or your organization as a client or stakeholder of their organization, which is in part supported by a University Center grant awarded by the Economic Development Agency (EDA) of the U.S. Department of Commence.

SRI International has partnered with U.S. Economic Development Administration (EDA) to conduct a review of the EDA University Center (UC) program.

Your input is vital to this project. Please complete this short survey to provide the research team important information about your experiences with [insert UC aka name here].

All survey responses will be confidential; only aggregated findings from this survey will be shared with EDA and other parties.

1. Please check the appropriate box below to identify yourself or your organization as either a client or a stakeholder of the _____:

    ○   Client: people or organizations that have received direct services from the Center.

    ○   Stakeholder: people who are not clients, but who have an interest in the Center's success.

    ○   Other _____

Answers (Respondents had to choose one)	Percent
Client: people or organizations that have received direct services from the Center.	65%
Stakeholder: people who are not clients, but who have an interest in the Center's success.	32%
Other	3%
Total Respondents	486

[The survey split at this point between client and stakeholder respondents; those that choose other were classified as stakeholders.]

[Client items]:

2. *What kind of organization do you belong to? (Please click on the appropriate box(es) below.)*
    ○   Local government
    ○   State government
    ○   Federal government
    ○   Local Economic Development District (EDD)
    ○   Regional organization
    ○   Individual firm (existing business)
    ○   Early stage business (i.e., start-up)
    ○   National organization (e.g., NADO, IEDC)
    ○   Indian tribe

○ Other (please describe) _____

Organization (Respondents could choose multiple)	Percent
Local government	9%
State government	9%
Federal government	1%
Local Economic Development District (EDD)	11%
Regional organization	10%
Individual firm (existing business)	29%
Early stage business (i.e., start-up)	19%
National organization (e.g., NADO, IEDC)	0%
Indian tribe	3%
Other	21%
Total Respondents	**315**

Twenty-two of the other answers listed a nonprofit affiliation, while 16 listed an affiliation with a higher education institution. The word cloud for all the answers is presented below.

3. How did you hear about the center?

○ Referral from economic development organization (planning district, etc.)

○ Word of mouth – I know another client

○ Word of mouth – general knowledge

○ Referral from university staff

○ Other: _____

Where heard about center (Respondents could choose multiple)	Percent
Referral from economic development organization (planning district, etc.)	21%
Word of mouth – I know another client	11%
Word of mouth – general knowledge	30%
Referral from university staff	26%
Other	24%
Total Respondents	315

The relevant answers to "other" were coded are displayed in the word cloud below.

Outreach

Referral
University
Partnership
Previous Client

Chamber of Commerce
SBDC

Startup
Word of Mouth
employment

Internet Research
Co–worker
Former student

Economic development organization

Government
Billboard

Referred
Internet research
Advisory Council member
Publications
SDMTS
incubator   Other client
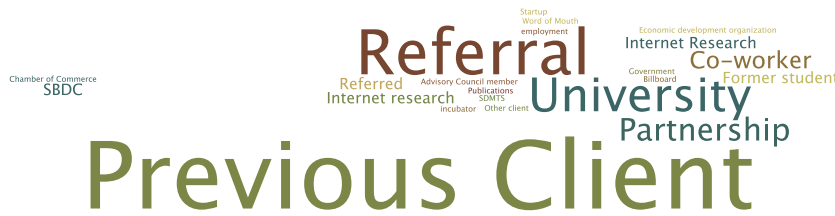
4. What type of service(s) or other form of support have you received from the Center during the past two years? (Click on all types that apply.)

○ Building economic development strategies, for example through workforce analysis, measurement of entrepreneurship and innovation, general analysis of regional economic data, economic impact analysis.

○ Early stage entrepreneur support services, such as business plan writing, locating capital, pitch coaching, incubator space, entrepreneurship mentoring.

○ Direct legal support or legal education such as negotiating intellectual property terms, legal help with business incorporation, workshops on legal issues.

○ Training in economic development practices, grant writing, and other capacity building.

○ Assistance in new product development – market studies, feasibility studies, prototype development.

○ Process improvement or core business training for existing businesses

○ Education via an internship or other student support

○ Other (please describe)

○ Other (please describe)

Services (Respondents could choose multiple)	Percent
Building economic development strategies, for example through workforce analysis, measurement of entrepreneurship and innovation, general analysis of regional economic data, economic impact analysis.	44%
Early stage entrepreneur support services, such as business plan writing, locating capital, pitch coaching, incubator space, entrepreneurship mentoring.	30%
Direct legal support or legal education such as negotiating intellectual property terms, legal help with business incorporation, workshops on legal issues.	10%
Training in economic development practices, grant writing, and other capacity building.	16%
Assistance in new product development – market studies, feasibility studies, prototype development.	25%
Process improvement or core business training for existing businesses	18%
Education via an internship or other student support	14%
Other (please describe)	21%
Other (please describe)	3%
Total Respondents	315

The relevant answers to "other" are displayed in the word cloud below.

5. What outcomes could be attributed (wholly or in part) to this service?

○ Connections to other entities that you may not have made without the center

○ Avoidance of a misstep due to feasibility studies and market analysis

○ Cost savings, increased productivity, etc. due to process improvement

○ Growth in the strength of the business – including increased sales, new jobs created, jobs retained, increased wages, increased access to capital

○ Graduate(s) hired that received training through the center

○ Grant received that enabled regional economic development

○ Creation or refinement of an economic development strategy based on data and analysis received from the center.

○ Access to capital or financing for business ventures

○ Other (Please describe)_____

Outcomes (Respondents could choose multiple)	Percent
Connections to other entities that you may not have made without the center	53%
Avoidance of a misstep due to feasibility studies and market analysis	36%
Cost savings, increased productivity, etc. due to process improvement	32%
Growth in the strength of the business – including increased sales, new jobs created, jobs retained, increased wages, increased access to capital	25%
Graduate(s) hired that received training through the center	8%
Grant received that enabled regional economic development	16%
Creation or refinement of an economic development strategy based on data and analysis received from the center.	35%
Access to capital or financing for business ventures	10%
Other	15%
Total Respondents	**315**

6. How satisfied, overall, were you with the service(s) you received from the Center? (Click on the appropriate box in the following scale.)

Very Dissatisfied	Dissatisfied	Neither Satisfied or Dissatisfied	Satisfied	Very Satisfied

[Set up skip pattern so that if the respondent is moderately or extremely satisfied, Q 4a follows; if respondent is not satisfied, Q4b follows.]

Client satisfaction with services	Percent
Neither Satisfied or Dissatisfied	3%
Very Dissatisfied	3%
Dissatisfied	0%
Neither Satisfied or Dissatisfied	3%
Satisfied	24%
Very Satisfied	70%
Total Respondents	**301**

6a. What accounts for your overall satisfaction with the Center's assistance?

6b. What accounts for your overall dissatisfaction with the Center's assistance?

[Skip to Q5]

7. A Center's connection to a university has its advantages and its disadvantages. Please check any of the advantages and disadvantages from the list below that you may have observed.

What would you consider to be the major value (if any) of a university-based source of assistance (like the Center) with economic development-related problems faced by organizations such as yours? (Please comment briefly below if desired)

Advantages	Disadvantages
Leveraging faculty expertise	*Bureaucracy*
Leveraging student involvement and/or providing access to student graduates	IP/Contractual issues
Independent view that comes from a connection to a university (i.e. "honest broker")	Timeliness
Access to university intellectual property	
Other	Other

Advantages	Percent
Leveraging faculty expertise	69%
Leveraging student involvement and/or providing access to student graduates	56%
Independent view that comes from a connection to a university (i.e. "honest broker")	56%
Access to university intellectual property	31%
Other	10%
Total Respondents	**315**

Disadvantages	Percent
Bureaucracy	14%
IP/Contractual issues	9%
Timeliness	13%
Other	15%
Total Respondents	**315**

Comment box:

8. Please add below any additional comments or observations you might have about the Center's role in serving clients like you and/or in promoting regional economic development generally.

Thanks very much!

[Stakeholder items]:

2. What type of organization do you represent? (Please click on the appropriate box below.)

○ Local government

○ State government

○ Federal government

○ Local Economic Development District (EDD)

○ Regional organization

○ Individual firm (existing business)

○ Early stage business (i.e., start-up)

○ National organization (e.g., NADO, IEDC)

○ Indian tribe

○ University/Community College

○ Other (please describe) _____

Organization (Respondents could choose multiple)	Percent
Local government	8%
State government	15%
Federal government	4%
Local Economic Development District (EDD)	10%
Regional organization	18%
Individual firm (existing business)	12%
Early stage business (i.e., start-up)	2%
National organization (e.g., NADO, IEDC)	2%
Indian tribe	3%
Other	37%
Total Respondents	**171**

Thirteen (13) of the other answers listed a nonprofit affiliation, while 24 listed an affiliation with a higher education institution. The word cloud for all the answers is presented below.

3. What types of service or other forms of support do the kinds of Center clients you are most interested in receive? (Click on all types that apply.)

○ Building economic development strategies, for example through workforce analysis, measurement of entrepreneurship and innovation, general analysis of regional economic data, economic impact analysis.

○ Early stage entrepreneur support services, such as business plan writing, locating capital, pitch coaching, incubator space, entrepreneurship mentoring.

○ Direct legal support or legal education such as negotiating intellectual property terms, legal help with business incorporation, workshops on legal issues.

○ Training in economic development practices, grant writing, and other capacity building.

○ Assistance in new product development – market studies, feasibility studies, prototype development.

○ Process improvement or core business training for existing businesses

○ Education via an internship or other student support

○ Other (please describe) _____

○ Other (please describe) _____

Services (Respondents could choose multiple)	Percent
Building economic development strategies, for example through workforce analysis, measurement of entrepreneurship and innovation, general analysis of regional economic data, economic impact analysis.	75%
Early stage entrepreneur support services, such as business plan writing, locating capital, pitch coaching, incubator space, entrepreneurship mentoring.	66%
Direct legal support or legal education such as negotiating intellectual property terms, legal help with business incorporation, workshops on legal issues.	17%
Training in economic development practices, grant writing, and other capacity building.	57%
Assistance in new product development – market studies, feasibility studies, prototype development.	49%
Process improvement or core business training for existing businesses	42%
Education via an internship or other student support	49%
Other (please describe)	13%
Other (please describe)	4%
Total Respondents	**171**

Relevant other answers:

• Analysis that leads to economic development strategies
• Business sustainability consulting and training
• Collaboration among other similar organizations
• Community Outreach and Planning
• Coordinating a network
• Export assistance and advice
• Fostering University - Community collaboration.
• Integration into local business commumty
• Logistics data support
• Networking with agencies and associations for best practices and additional economic assistance for their clients.
• Support research by academic units
• Sustainability Award for regional SMEs
• The Center really encompasses all of these attributes. The main goal is to take new technology into the market place and make it commercially viable while building the overall economic base of our community.

- The University Center has been established to about sustainable supply chain development and technology-centered innovation to serve the needs of agribusiness, manufacturing, and construction industries in South Dakota to retain and create jobs.
- Business incubator and related services
- Community development support
- Education re sustainable business practices
- Financing/financial business development advice
- Helping place business resources together for current business owners and potential business owners
- Helping to create an entrepreneurial environment in Kentucky
- Innovation
- Website and facebook assistance
- Extensive work with EDOs (economic development organization) that shapes strategy and execution
- MBA Fellowship opportunity to work within the Center
- Market analysis
- energy efficiency - E3
- program /econ dev't marketing

4. What are the outcomes have you seen from those services provide?

- ○ Connections to other entities that you may not have made without the center
- ○ Avoidance of a misstep due to feasibility studies and market analysis
- ○ Cost savings, increased productivity, etc. due to process improvement
- ○ Growth in the strength of the business – including increased sales, new jobs created, jobs retained, increased wages, increased access to capital
- ○ Graduate(s) hired that received training through the center
- ○ Grant received that enabled regional economic development
- ○ Creation or refinement of an economic development strategy based on data and analysis received from the center.
- ○ Other (Please describe)_____

Outcomes (Respondents could choose multiple)	Percent
Connections to other entities that you may not have made without the center	75%
Avoidance of a misstep due to feasibility studies and market analysis	53%
Cost savings, increased productivity, etc. due to process improvement	47%
Growth in the strength of the business – including increased sales, new jobs created, jobs retained, increased wages, increased access to capital	56%
Graduate(s) hired that received training through the center	34%
Grant received that enabled regional economic development	42%
Creation or refinement of an economic development strategy based on data and analysis received from the center.	55%
Access to capital or financing for business ventures	28%
Other	6%
Total Respondents	**171**

5. A Center's connection to a university has its advantages and its disadvantages. Please check any of the advantages and disadvantages from the list below that you may have observed.

What would you consider to be the major value (if any) of a university-based source of assistance (like the Center) with economic development-related problems faced by organizations such as yours? (Please comment briefly below if desired)

Advantages	Disadvantages
Leveraging faculty expertise	*Bureaucracy*
Leveraging student involvement and/or providing access to student graduates	IP/Contractual issues
Independent view that comes from a connection to a university (i.e. "honest broker")	Timeliness
Access to university intellectual property	
Other	Other

Advantages	Percent
Leveraging faculty expertise	84%
Leveraging student involvement and/or providing access to student graduates	76%
Independent view that comes from a connection to a university (i.e. "honest broker")	63%
Access to university intellectual property	51%
Other	9%
Total Respondents	**171**

Disadvantages	Percent
Bureaucracy	40%
IP/Contractual issues	28%
Timeliness	29%
Other	11%
Total Respondents	171

6. Please add below any additional comments or observations you might have about the Center's role in promoting regional economic development generally.

Thanks very much!