

# Strengthening Analysis of Key Technologies and Supply Chains

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# IMCP overview

- Create a “race-to-the-top” in manufacturing economic development
- Build durable “industrial ecosystems,” with integrated development of workforce, innovation, supply chains, capital access, infrastructure, and trade
  - This integrated development creates assets that are shared across
- Coordinate across the federal government to help applicants and designees to build broad-based prosperity
- Contrasts with ‘smokestack-chasing’ (incentives to individual firms)

# Strengthening Key Technology and Supply Chain Analysis

- Principle underlying IMCP:
  - Building on a community's historic strengths can help it secure a lasting advantage in fostering economic development.
- Sophisticated analysis of a community's existing key technologies and supply chains can help reveal these foundations.

# Evidence

- Stronger industry clusters lead to more growth in:
  - employment,
  - wages,
  - patenting, and
  - new regional industries
    - » Delgado, Porter, and Stern, 2012
- Brief example: Silicon Valley
- In-depth examples:
  - SE Michigan, Rochester, NW Georgia

# IMCP Top-Third Requirement for KTS

- Applicants are required to provide evidence that their chosen key technology or supply chain (KTS) ranks in the top-third in the nation.
- Why?
  - Top-third ranking for KTS ensures that regions are building on existing strengths
  - A positive-sum game – all communities can benefit
  - *Not* ‘poaching’ or ‘smokestack chasing’, which can lead to a race to the bottom in ability to provide services

# Providing Evidence that Your KTS Is in the Top-Third in the Nation

Applicants are encouraged to provide as much evidence as possible that points to the importance and growth of their KTS compared to other similar regions and the nation. Top third ranking can be demonstrated by:

- location quotient for either employment or firms in the KTS, or in terms of employment or firm numbers. If a community is using location quotient exclusively, this quotient must be in the top third in the nation and be greater than one.
- Other metrics can be used to determine a top-third national ranking in the applicants KTS region, but data sources and methods used to calculate the top-third ranking must be well-documented in the application.
- Communities may choose to focus on more than one KTS—but they should show how the needs of these sectors are closely related, and benefit from the same shared assets
- The region should be large enough to contain critical elements of the prioritized KTS, but small enough to enable close collaboration (i.e., larger than a city but smaller than a state).

# Calculating Your Location Quotient

- Location quotients (LQ) compare the concentration of an area's employment or establishments in a detailed NAICS industry to the national concentration.
- Generally, an LQ is a measure of an industry's level of concentration within a location compared to a larger region, with an LQ greater than 1 (LQ>1) indicating a higher than average concentration in that location.
- An LQ greater than 1 indicates that an area has proportionately more workers or firms than the larger comparison area in a specific industry sector. For example, calculating an LQ for employment is based on the following calculation:

$$LQ = \frac{\left( \frac{\text{Region's Industry Employment}}{\text{Region's Total Employment}} \right)}{\left( \frac{\text{U.S. Industry Employment}}{\text{U.S. Total Employment}} \right)}$$

# Tools for Identifying a KTS/Manufacturing Cluster (continued on next page)

- **Census' IMCP Data Tool** (<http://www.census.gov/fastfacts/imcp/>)
  - Provides regional data, and data resource links, to help communities assess the KTS and community strengths of their defined regions.
  - Provides LQs for 2011-2012, ranked by county and state, for 4-digit NAICS manufacturing industries
  
- **Bureau of Labor Statistics**
  - BLS provides more timely data on LQs (2013):  
(<http://www.bls.gov/cew/cewlq.htm>)
  - BLS data based on occupational classifications can be used to calculate LQs, which may conform better to a region's KTS than LQs based on NAICS manufacturing codes



# Tools for Identifying a KTS/Manufacturing Cluster (continued)

- **Harvard Cluster Map** (<http://www.clustermapping.us/>)
  - Delgado, Porter and Stern, “Defining Clusters in Related Industries.” NBER Working Paper. Project was funded by a grant from the Economic Development Administration (EDA)
  - Useful tool for identifying a region’s industry cluster and comparing to other regions.
  - “Across the country, our cluster mapping tool gives us the ability to reinvent and modernize economic development strategies – all driven by open data.” **U.S. Secretary of Commerce Penny Pritzker**, July 14, 2014 (see <http://www.clustermapping.us/about>)
- **StatsAmerica** (<http://www.statsamerica.org/>)
  - A portal to U.S. data that is supported by EDA
  - “The goal of StatsAmerica is to provide actionable data for economic developers to use in site requests, developing metrics, grant writing and strategic planning.”

# Key takeaways

- **Why** build a KTS?
  - Density within a key technology or supply chain promotes economic development by promoting investment in shared assets
  - Shared assets include workforce, suppliers, universities with skills that improve the capability of the KTS
  - Investment in these shared assets provides firms with benefits they can gain access to only if they stay in the region
  - This “stickiness” allows for the development of broad-based prosperity
- **How** build a KTS?
  - Gaining these benefits requires identifying areas of common interest, even among competitors
  - Strengthen measurement
    - Iterate between key stakeholders in your region, and data on NAICS codes, occupations, trade associations, etc.