

# Executive Summary:

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## Overview

Economic development and workforce partners in Iowa's Creative Corridor place a priority on the core abilities of workers with the advancing and evolving needs of emerging or growing industry clusters, major employers and emerging new businesses. The quality, capability and availability of the workforce are critical factors for the region's economic advancement. Systematic workforce planning is a key element in developing regional capability and capacity. Through this targeted process, the region gains a greater understanding of the workforce characteristics and needs of its key industry clusters. This information enables economic development organizations, educational institutions and employers to better assist industry clusters, existing regional businesses and prospective businesses in those clusters.

As part of this planning process, the region has deployed a series of "Skills and Employer Reports," an evolving set of surveys and assessments of the region's industry sectors, occupational categories, projected employment needs, and current supply chain needs within the seven county region known as Iowa's Creative Corridor. Numerous reports have studied the immediate and projected employment needs of a representative cross-section of large and small employers in both the public and private sectors and representative industry clusters. Subsequent studies enlarged, refined and revisited the aspects of earlier studies, while noting progress or inaction in key areas of employee knowledge, needed skills and recruitment needs across the region.

Working in collaboration with economic development groups and Kirkwood Community College, a follow-up study built on these original study models was recently commissioned. This study revealed wider employment and workforce development needs through a detailed review of the region's composition and labor characteristics within thirteen primary industry clusters based on key employers in the region and the known cluster interactions among those industries. For these thirteen industry clusters, the cluster composition, occupational staffing patterns, the cluster's relative concentration and demand growth were identified and examined.

## Key Findings

### Industry Clusters

- In Iowa's Creative Corridor, thirteen industry clusters were classified through identification of key employers, known cluster interaction, and supply-demand linkages. The thirteen industry clusters included:
  1. Durable Goods
  2. Educational Testing and Support Services
  3. Electronics Engineering and Manufacturing
  4. Energy Generation and Distribution
  5. Financial Services and Customer Services
  6. Food and Food Ingredients
  7. Industrial Biotechnology
  8. Medical Devices and Services
  9. Non-Durable Goods
  10. Production Advanced Manufacturing
  11. Renewable Energy and Sustainable Tech Products – Solar Components Manufacturing
  12. Renewable Energy and Sustainable Tech Products – Wind Manufacturing
  13. Software and IT Development/Computer Modeling and Simulation
- Five of these industry clusters are determined to be foundational to the region. These industry clusters employ a large percentage of the region's workforce and their compounded annual growth rates are relatively stable. An additional five industry clusters are determined to be 'growing' or 'emerging' as characterized by stronger compounded annual growth rates. The Foundational and Emerging or Growing clusters are:

#### Foundational

- Durable Goods
- Educational Testing and Support Services
- Electronics Engineering and Manufacturing
- Non-Durable Goods
- Production Advanced Manufacturing

#### Emerging or Growing

- Financial Services and Customer Services
- Food and Food Ingredients
- Industrial Biotechnology
- Medical Devices and Services
- Software and IT Development/Computer Modeling and Simulation

- Nine of the thirteen industry clusters had location quotients in 2012 that were higher than 1.50, which indicates the region has some level of specialization related to these nine clusters.
- The region's priority industry clusters are: Financial Services and Customer Services; Electronics Engineering and Manufacturing; and Software and IT Development/Computer Modeling and Simulation. Priority industry clusters were determined based on several factors including:
  - a. Existing regional employers in these sectors show new product development and innovation ahead of national trends, based on annual existing industry surveys
  - b. Alignment with educational offerings and an established pipeline for graduates in these disciplines
  - c. Input from regional economic development organizations on project inquiries from companies and site selection consultants in these domains
  - d. Research on forecasted industry growth trends conducted by MBA students at the University of Iowa

## Occupational Outlook

- The Creative Corridor has a rich diversity among the thirteen industry clusters as well as within the clusters. The employment levels for the clusters range in size from just over 400 to over 11,000 jobs. Some clusters are dominated by one or a few employers, such as the Electronics Engineering and Manufacturing cluster, and other clusters do not have a single dominant employer, such as the Financial Services and Customer Services cluster.
- Seven of the thirteen industry clusters experienced employment growth from 2002 to 2012. Among those seven industry clusters, five clusters had higher growth rates compared to the clusters' growth rates nationally.
- The Software and IT Development cluster had a very low average establishment size, based on the number of employees, relative to the other clusters where industries are dominated by a few large employers. This would reflect that a more entrepreneurial establishment exists within the cluster. Thus, a greater amount of innovation and flexibility may exist and may mean that the targeted workforce programs designed to nurture this cluster will need to be developed differently.
- The Software and IT Development cluster also had the highest average wages, even among entry-level jobs, but also required the most training and education. There were far fewer entry-level occupations in this cluster that required only a high school education compared to other industry clusters. The projected rate of employment growth in this cluster was also the highest among all thirteen industry clusters. The higher wages and employment growth make this a priority cluster and accretive target for economic development.

- Among the 538 occupations represented by the thirteen industry clusters studied, 102 of them have an estimated employment level of 100 or more in 2012. There are five occupations that have employment levels of 1,000 or higher (customer service representatives, team assemblers, computer software engineers [applications and systems software], and telemarketers). The employment level of management analysts was slightly below 1,000.

## Workforce Capability

- There is a significant gap in the skills that exist in the Software and IT Development cluster between the average worker and the needs of entry-level positions. The career ladder for the cluster may need to be extended to include workers from other, less skill/educationally intensive clusters to help workers up-skill into entry-level IT positions.
- The Financial and Customer Services cluster was characterized by the second-highest paying cluster and had a very gradual increase from the lowest-paying jobs to the highest. The lower requirements for skills and education in the feeder occupations make it an easier cluster for a worker to enter and progress than clusters like Software and IT Development. Though many of the skills and education are shared, there is a distinct difference between the customer service and financial services occupations. Training and development programs for entry-level workers hoping to progress through the career ladder will need to address this gap with a focus on financial topics like mathematics and accounting.
- Across the thirteen industry clusters, the most common occupations are production occupations with 22.0 percent of the thirteen industry cluster jobs in 2012. Another 18.6 percent were in office and administrative support occupations and 11.4 percent were in computer and mathematical occupations. Twenty-one occupations are identified as cross-cluster employment occupations; these are the most common occupations found across all industry clusters. This highlights the variety of skills, education and training required to staff the industries that make up these clusters.
- Industry clusters where the capability of the region's workforce is not meeting the required level of skill needed by these occupations include Production Advanced Manufacturing, Medical Devices and Services, Software and IT Development/Computer Modeling and Simulation, Financial Services and Customer Services, and Industrial Biotechnology.
- The most common experiential and educational needs across the clusters were in mathematics, interacting with computers, making decisions and problem solving.