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Fueling the talent that drives our economy.

TECHPOINT

CENTRAL INDIANA TECH WORKFORCE STUDY

EXECUTIVE SUMMARY

APRIL 2015

Hire Up, in partnership with TechPoint, reviewed real-time labor market data and completed surveys with 71 Central Indiana companies to understand the talent demands of our tech sector and determine how well our computer and IT talent is prepared to succeed. We found good news and identified both challenges and opportunities to develop more qualified technical talent for one of the fastest evolving industries in the nation.

THE OPPORTUNITY TO BUILD COMPUTER AND IT TALENT

If current rates of growth in Central Indiana's tech sector continue as expected, Central Indiana could soon surpass the rest of the nation's concentration of tech employment.

This represents a significant opportunity to grow existing and new companies and increase job opportunities for those with the right skills and knowledge. And, equally important, these jobs carry salary levels significantly higher than jobs in most other sectors of the regional economy.

The good news is as demand for computer and IT talent has grown in Central Indiana, local educational institutions offering associate, bachelor's and master's degree programs have ramped up the production of graduates with degrees in tech fields. Employers applaud this increase and generally agree colleges are providing students the basic skills needed for employment within the sector.

The quantity, however, of properly trained college graduates is insufficient to meet current and future industry needs. Employers need more talented people to join the tech workforce, and in particular, they want more people who hold the right skill sets in specific technologies. They need workers who can apply broad content competencies, demonstrate work-based experience in applying concepts and technologies, and use specific tools and technologies.
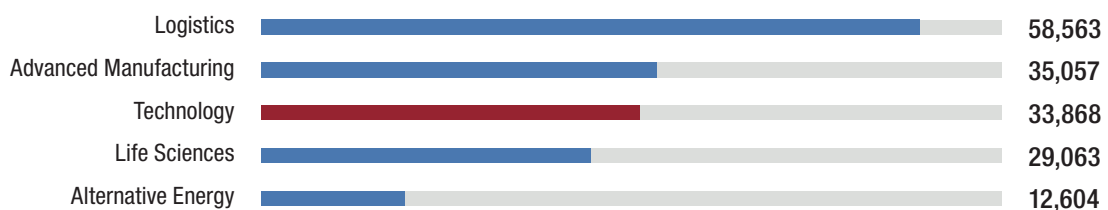
The tech sector holds unique challenges in talent development. Employers note the difficulty associated with keeping up with rapidly changing technologies and sector needs. Changes in technology and tools to produce new products and services sweep through the sector as new products and services appear. Change in this sector is measured in months as opposed to years or decades. Central Indiana's tech sector also spans the regional economy. Computer and IT workers are critical components of tech product and IT services companies as well as tech-enabled companies; in healthcare, manufacturing, and financial services. When it comes to developing the right talent for this sector, we need to predict industry needs, respond to the diversity of demand from companies, and equip talent with the skills to adjust to real-time technology advancements.

RESEARCH SUMMARY
CRITICAL INDUSTRY SECTOR

Our data show the rising importance of the tech sector and the pressing need for more talent for these companies. The number of graduates in computer

Chart 1

Total Employment by Key Wealth Drivers in Central Indiana 2014

Logistics	58,563
Advanced Manufacturing	35,057
Technology	33,868
Life Sciences	29,063
Alternative Energy	12,604

Source: EMSI, BLS Quarterly Census of Employment and Wages (QCEW), 2014.

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and IT related programs is also growing, but the increasing numbers are only part of the story.

A critical wealth driver in Central Indiana, the tech sector includes 33,868 computer and IT jobs, making it one of the leading sectors in the region (See Chart 1).

The tech sector also pays almost double the average wage in Central Indiana and is growing twice as fast as the rest of the economy. It has caught up to the rest of the nation in terms of its concentration in the economy, although it still lags behind the average of other top metros in terms of percentage of occupations in the economy.

SECTOR DIVERSITY

Overall, there are more computer and IT jobs in tech-enabled companies than there are computer

### Percent of Computer and IT Occupations in Economy 2009-2014
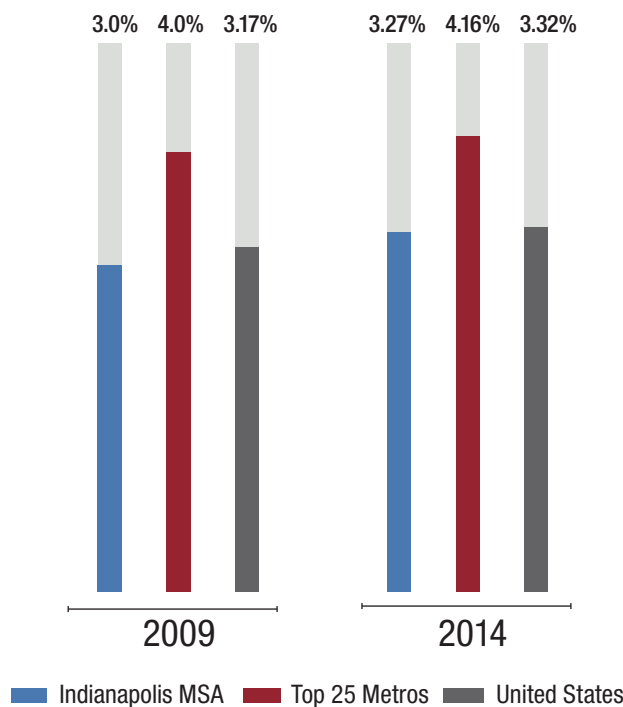
Source: EMSI QCEW, 2009-2014

and IT jobs in companies producing tech services and tech products. This is not to discount the growing attractiveness of Central Indiana as a location for new tech service/product start-ups and companies looking to grow, but rather an indication that IT jobs also are growing in companies of all types.

Total Computer and IT-related Occupational Jobs by Industry Segment in Central Indiana 2014

Total Computer-related
Occupational Jobs, N=33,868
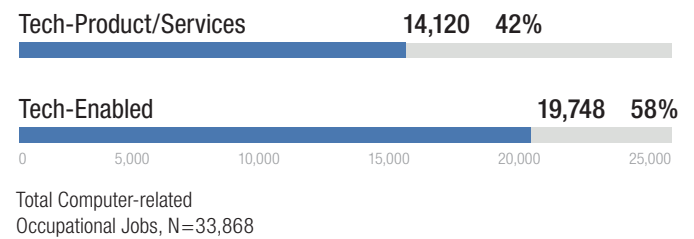
Source: EMSI, BLS Quarterly Census of Employment and Wages (QCEW) Inverse Staffing Patterns, 2014.
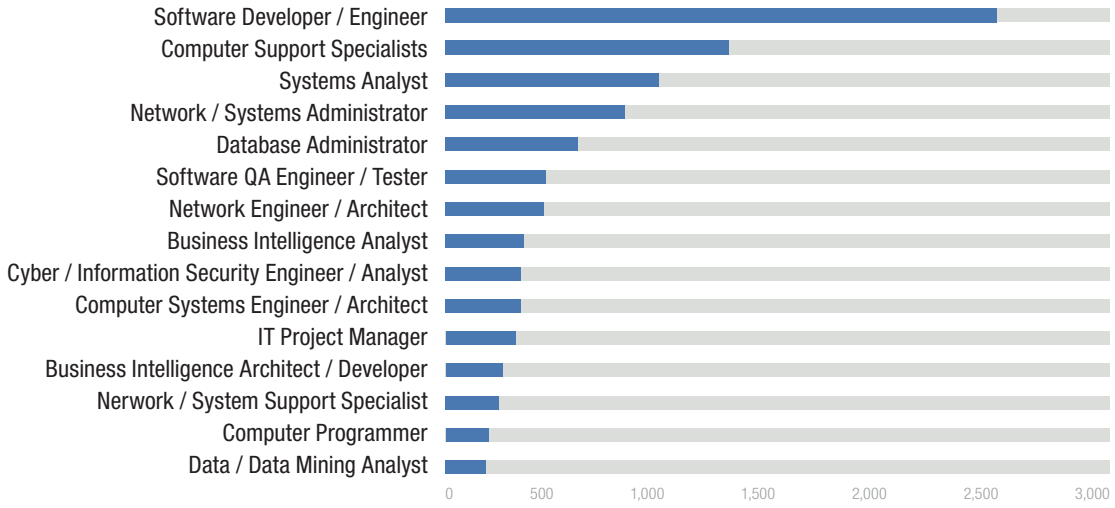
GROWING DEMAND FOR COMPUTER AND IT TALENT

Overall demand for computer and IT talent is strong and growing; there were more than 10,000 computer and IT job openings posted by Central Indiana companies in the last year alone, representing a 54.5 percent increase in the last 4 years.

Tech companies say they need specific talent and capabilities to meet growth and production within their unique market and area of technical focus. There is very high demand among companies seeking talent related to software, network and systems, and computer support specialists, and there is increasing demand for new kinds of talent related to open, agile, and integrative languages and platforms (see Chart 4). In addition, most companies hiring computer-skilled talent are looking for highly educated workers. More than 80 percent of computer-related job postings require a bachelor's degree or higher.

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Chart 4

Top Computer Positions in Demand by Job Postings in Central Indiana 2014

Horizontal bar chart showing, from top to bottom:
- Software Developer / Engineer
- Computer Support Specialists
- Systems Analyst
- Network / Systems Administrator
- Database Administrator
- Software QA Engineer / Tester
- Network Engineer / Architect
- Business Intelligence Analyst
- Cyber / Information Security Engineer / Analyst
- Computer Systems Engineer / Architect
- IT Project Manager
- Business Intelligence Architect / Developer
- Nerwork / System Support Specialist
- Computer Programmer
- Data / Data Mining Analyst

X-axis: 0, 500, 1,000, 1,500, 2,000, 2,500, 3,000

Source: Burning Glass Labor Insight, 2014. N = 10,628

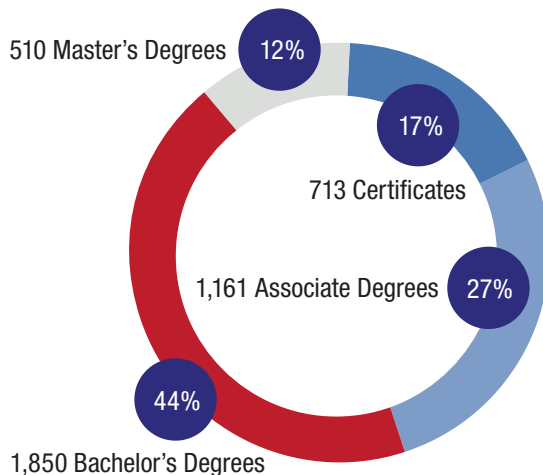## QUANTITY AND QUALITY OF COMPUTER AND IT TALENT

In the last four years, the overall quantity of computer and IT graduates and certifications has almost doubled. Most of the increase among computer graduates can be attributed to more people attaining bachelor's degrees. Growth did not occur at the same rate among computer-related programs that require less than four years of study. There may be an opportunity to grow this sub-baccalaureate level of computer degree to help meet demand. While businesses agree the quality of graduates is good, they still say finding talent with the right skill sets is difficult and competition is fierce.

It's worth noting that over 20 percent of companies surveyed rated the quality of graduates from colleges serving Central Indiana as fair or poor.

Chart 5

Total Computer-related Degrees Awarded in 2013

Donut chart:
- 510 Master's Degrees — 12%
- 713 Certificates — 17%
- 1,161 Associate Degrees — 27%
- 1,850 Bachelor's Degrees — 44%

Source: NCES, IPEDS, 2014.

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A REGIONAL SOLUTION

Central Indiana is at a crossroads, and the region has an opportunity to respond.

Central Indiana companies have told us that tech talent needs to be pushed to the next level to keep up with the high growth, variability and changes in technology and the tech sector.

Businesses said they need:

1) newly minted graduates with exposure to and experiences with real world technology application;

2) an existing tech workforce that has continuous opportunities for upskilling to keep pace with change;

3) a tech workforce that can apply specific emerging technologies in the market; and

4) an opportunity to engage with educational institutions and training providers to further cultivate a technically skilled workforce.

The opportunity to elevate, catalyze and grow our region's talent development efforts is enormous. In response, Hire Up will help students and adults choose career paths in the tech industry, ensure higher education curricula and training match industry needs and open multiple access points to accelerate degree and credential completion through Smart Choices, Skills that Matter and Talent Highways:
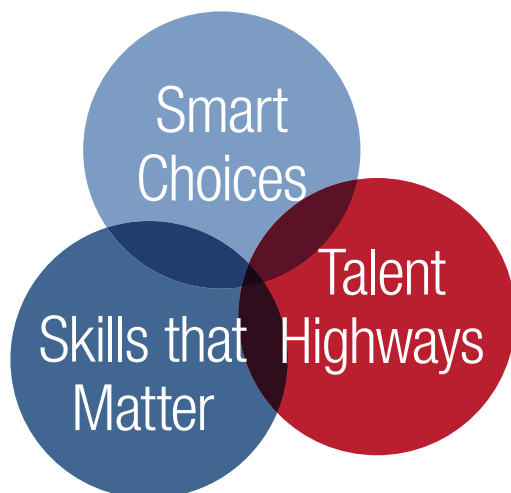
SMART CHOICES

- Hire Up will identify ways to influence more students to enter and complete pathways that prepare them for careers in the tech sector.

SKILLS THAT MATTER

- Hire Up will elevate data analysis to highlight tech workforce needs and opportunities.

- Hire Up and TechPoint will initiate skills mapping for the tech industry to better align the curriculum and educational content with skills and knowledge required by Central Indiana's tech employers.

TALENT HIGHWAYS

- Hire Up and TechPoint will work together to expand work-based learning opportunities and internships in the region.

- Hire Up will help grow or replicate innovative learning models like coding academies and online degree programs to upskill the current workforce to respond to rapid technological advances in this ever-evolving sector, and to ensure adults and students can accelerate degree and credential completion.

Hire Up will follow this Central Indiana Tech Workforce Study with analyses of additional Central Indiana wealth-driving sectors, each of which will list regional strategies and tactics to address specific challenges.

For the full Central Indiana Tech Workforce Study, go to www.hireupindy.org. Additional Central Indiana workforce studies are available on this website. Individuals also can go to the website to sign up for updates and to get involved in Hire Up.

The data contained in this executive summary are from the Central Indiana Tech Workforce Study, which can be found in its entirety at www.hireupindy.org. Research and analysis for this report are provided by FutureWorks.

Smart Choices

Skills that Matter

Talent Highways

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www.hireupindy.org