



Fueling the talent that drives our economy.

Central Indiana Tech Workforce Study

April 2015



TECHPOINT

Funders

TheJoyceFoundation



Central Indiana Tech Workforce Study

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Overview and Purpose

Overview and Purpose

- Hire Up, in partnership with TechPoint, reviewed real-time employment data and completed surveys with 71 Central Indiana companies to understand the talent demands of the region's tech sector and determine how well computer and IT talent is prepared to succeed.
- The study builds upon previous studies by EmployIndy and TechPoint to provide a deeper look at the demand for and supply of talent in Central Indiana's tech sector and provide a foundation of data and analysis of key talent needs to help grow the tech sector.
- The study outlines good news, challenges and opportunities to develop more technical talent for one of the fastest evolving industries in the nation and Central Indiana.

The Good News and Challenges

- **Good News**

- Central Indiana's tech sector spans the economy, is growing and pays significantly higher than most other industry sectors.
- Local educational institutions have ramped up programs and production of graduates with associate, bachelor's and master's degrees, and students are graduating with fundamentals and basic skills needed for employment.

- **Challenges**

- Employers recognize a skills gap, which is a unique challenge in an industry sector such as tech that changes rapidly. Employers need talented people who hold the right skill-sets in specific technologies.

The Opportunities

- New, enhanced and multiple educational pathways are needed to bridge the information divide between the tech sector's demand for talent and graduates produced by our education system.
- The region needs to predict industry needs and respond to the many different skill-sets that are needed. With that information, the region can better align education with those specific industry needs.
- Student learning opportunities need to include exposure to and experiences with real-world technology application (e.g. internships).

Key Building Blocks

- The research for this study uses a computer and IT occupational description of the tech sector from the Occupational Information Network (O*NET).
- Employment data describing the tech sector and its structure are from the Bureau of Labor Statistics for the Indianapolis-Carmel Metropolitan Statistical Area using the EMSI database.
- Data describing the demand for computer and IT talent and the type of skills required are from Burning Glass Labor Insight real-time job postings. Burning Glass gathers millions of job openings daily and then mines the text of each one to aggregate employer demand for positions, skills, and qualifications. The job postings for this study are for the Indianapolis-Carmel Metropolitan Statistical Area.
- A Tech Workforce Business Survey was sent to 200 companies in March 2015, of which 71 completed the survey for 36% response rate. The questions in the survey focused on skills in demand, hiring opportunities and challenges, and university preparation of computer-related talent.
- Data describing the supply of degree credentials produced by colleges and universities serving the regional labor market are from the National Center for Education Statistics and the IPEDS database.
- Qualitative data were gathered from a series of interviews with computer-related businesses, training providers, and colleges and universities.

Structure and Growth of Tech Sector

Structure and Growth of Tech Sector

The Good News

- Tech is pervasive across the Central Indiana economy.
- Tech is a key contributor to Central Indiana's growth and well-being.
- Computer and IT positions are a strong component of both tech-product and tech-services companies, as well as tech-enabled companies.
- Over the last five years, the regional growth in computer and IT positions increased at a much faster rate than all other occupations.
- The annual average salary for regional computer and IT jobs is almost double the pay of all other jobs.

Structure and Growth of Tech Sector

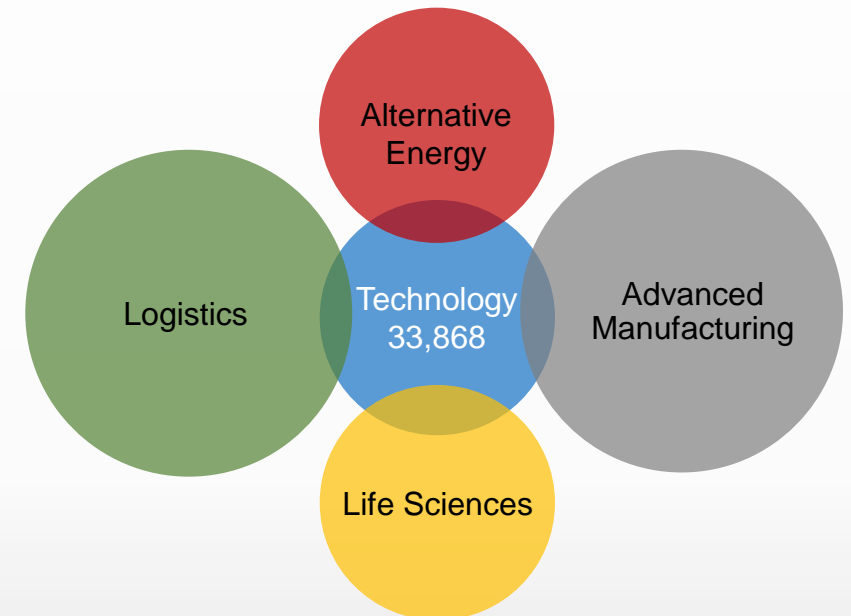
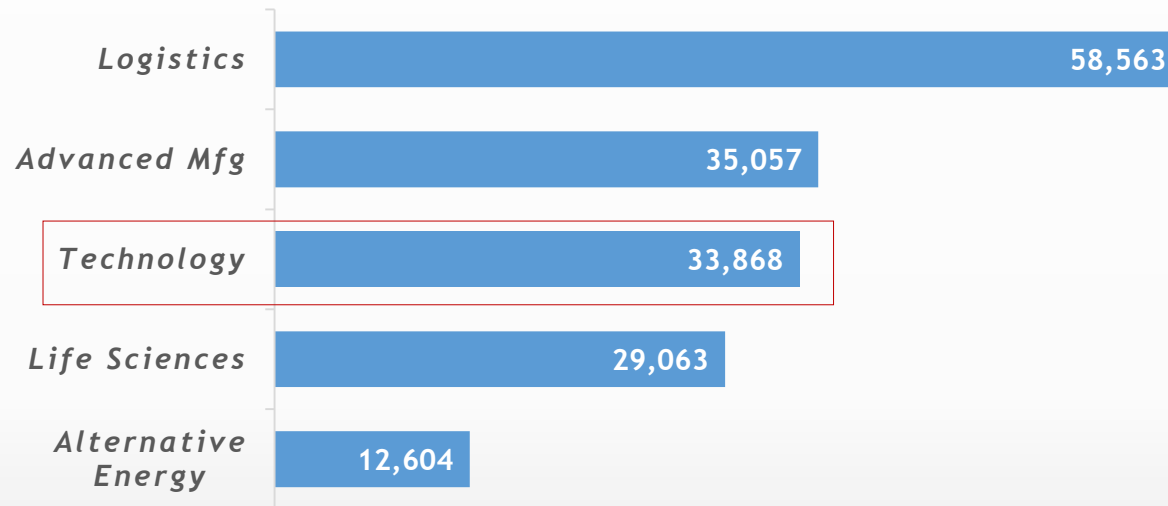
The Challenge

- The tech sector is becoming a larger share of the economy. It has just about caught up to the nation as a whole, but still lags the top 25 metro areas.
- Sector growth will naturally lead to a higher demand for technically skilled workers. While increasing, our production of those workers still isn't high enough to meet projected demand.

Key Wealth Driver

The technology sector is one of Central Indiana's key wealth drivers and is a component of other wealth-driving sectors. There are a total of 33,868 jobs in computer and IT occupations in the region, third in employment among the wealth sectors.

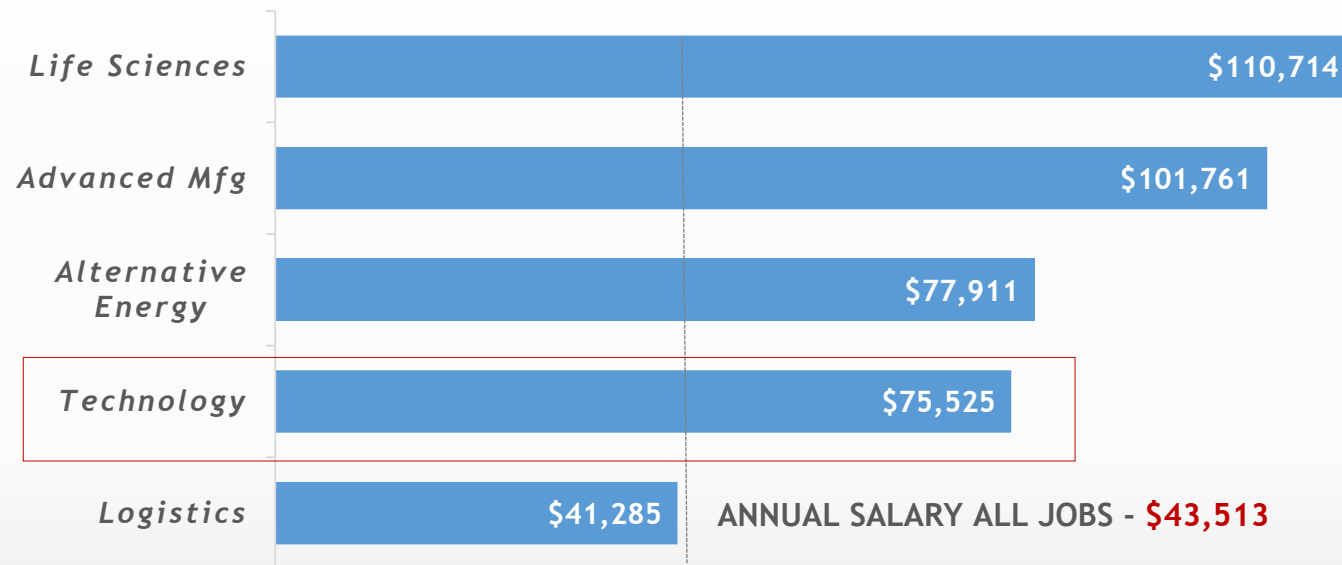
TOTAL EMPLOYMENT BY KEY WEALTH SECTORS IN CENTRAL INDIANA 2014



Wage Structure

Along with the other key wealth-driving sectors, jobs in computer and IT pay a high annual salary of more than \$75,000.

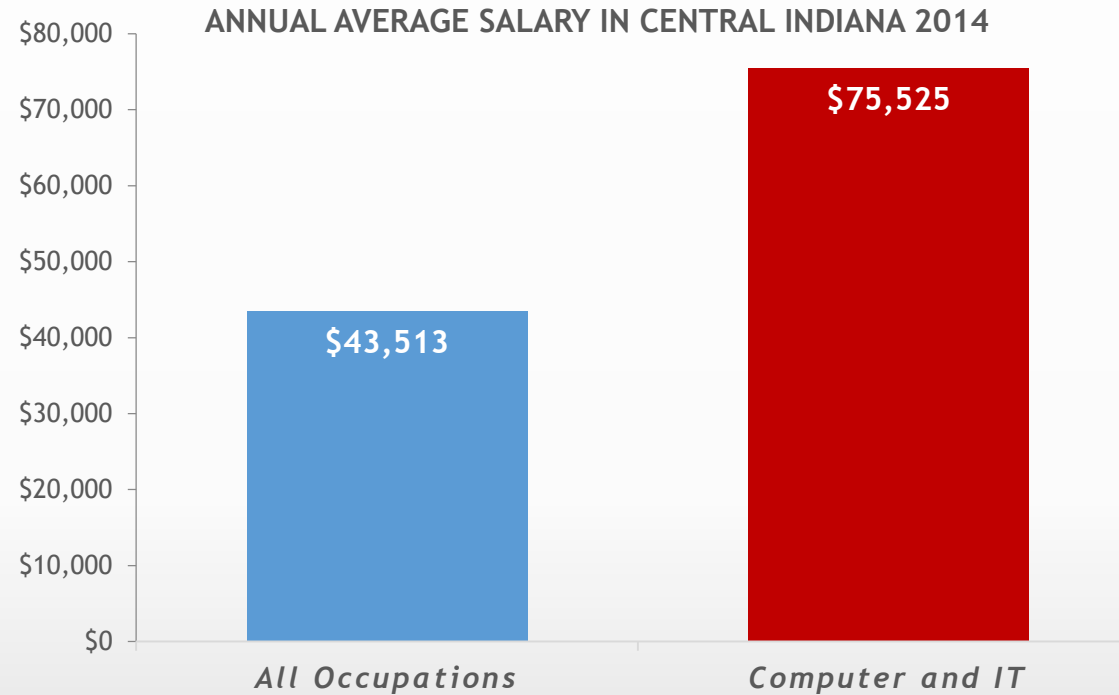
ANNUAL SALARY BY KEY WEALTH SECTORS IN CENTRAL INDIANA 2014



Source: EMSI, QCEW, 2014. The average hourly wage of computer and IT occupational jobs is \$36.31, which converts to \$75,524.80 per year in salary assuming 40 hours of work for 52 weeks. The median hourly wage for computer and IT occupational jobs is \$34.78, which converts to \$72,342.40 per year in salary.

Wage Structure

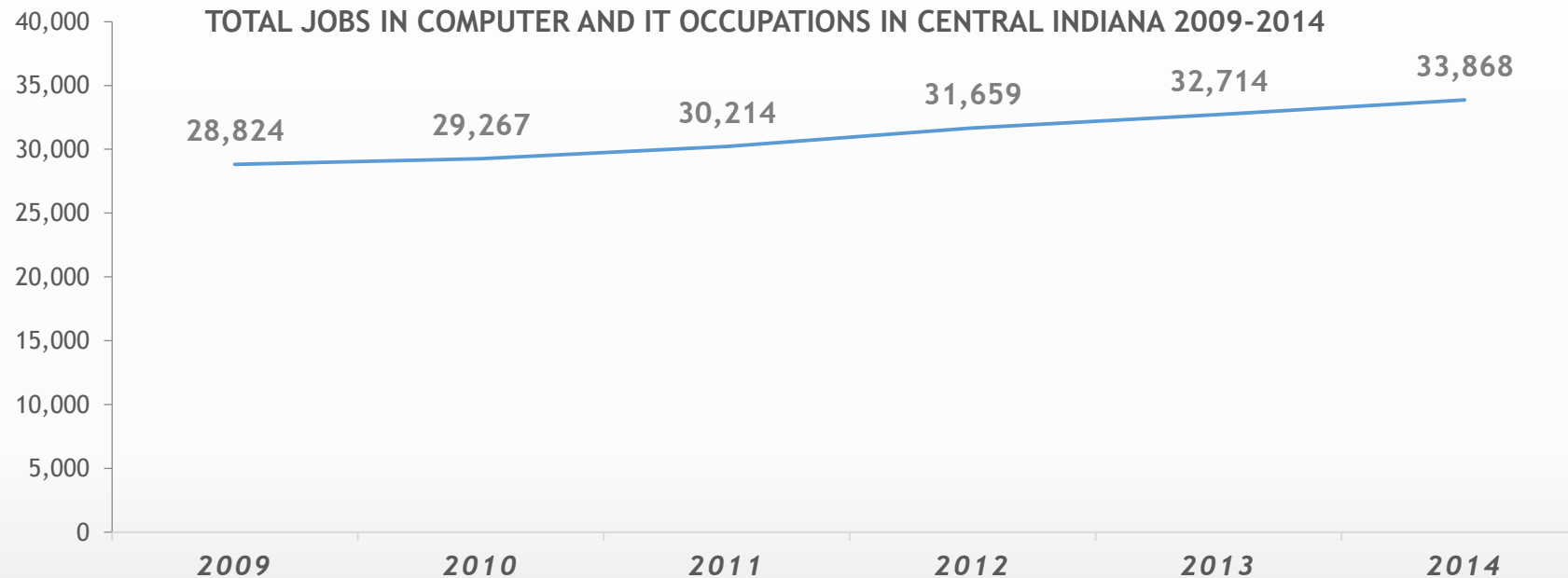
In 2014, computer and IT occupations paid an annual average salary that is almost double the pay for all jobs in Central Indiana as a whole.



Source: EMSI, QCEW, 2014.

Growth in Jobs

Computer and IT is also one of the fastest growing sectors in Central Indiana. Total jobs in computer and IT occupations grew by more than 5,000 jobs since 2009, increasing from 28,824 jobs in 2009 to 33,868 jobs in 2014.

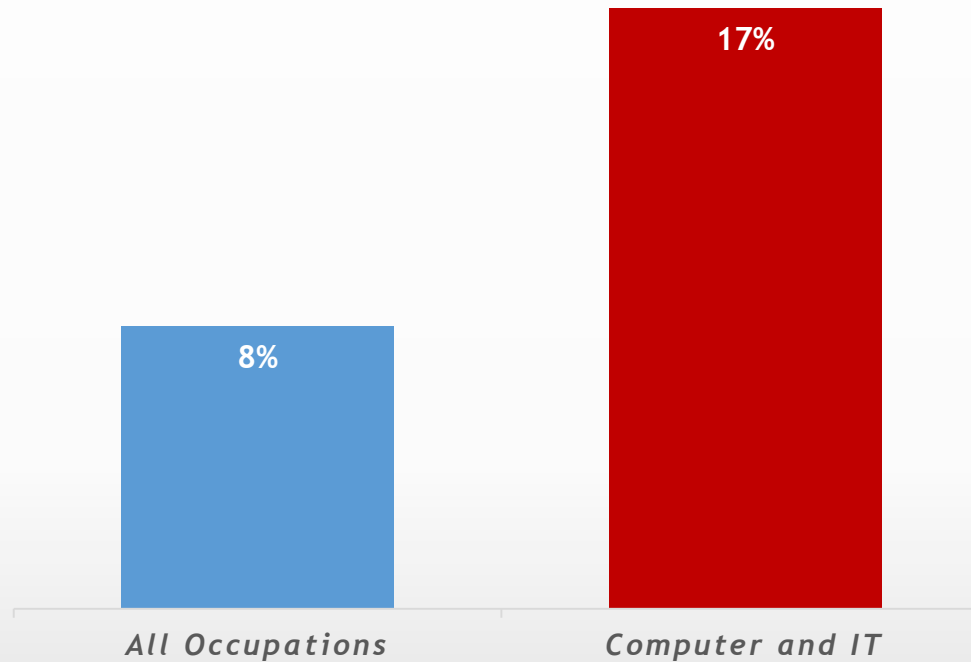


Source: EMSI QCEW, 2009-2014. The universe of occupations that make up computer and information technology are defined using the U.S. Department of Labor O*Net classification of computer and information technology.

Growth in Jobs

Jobs in computer and IT occupations grew twice as fast as all jobs in Central Indiana from 2009 to 2014. Jobs in Central Indiana's computer and IT occupations grew by 17%, while all jobs in the region grew by 8% during this time.

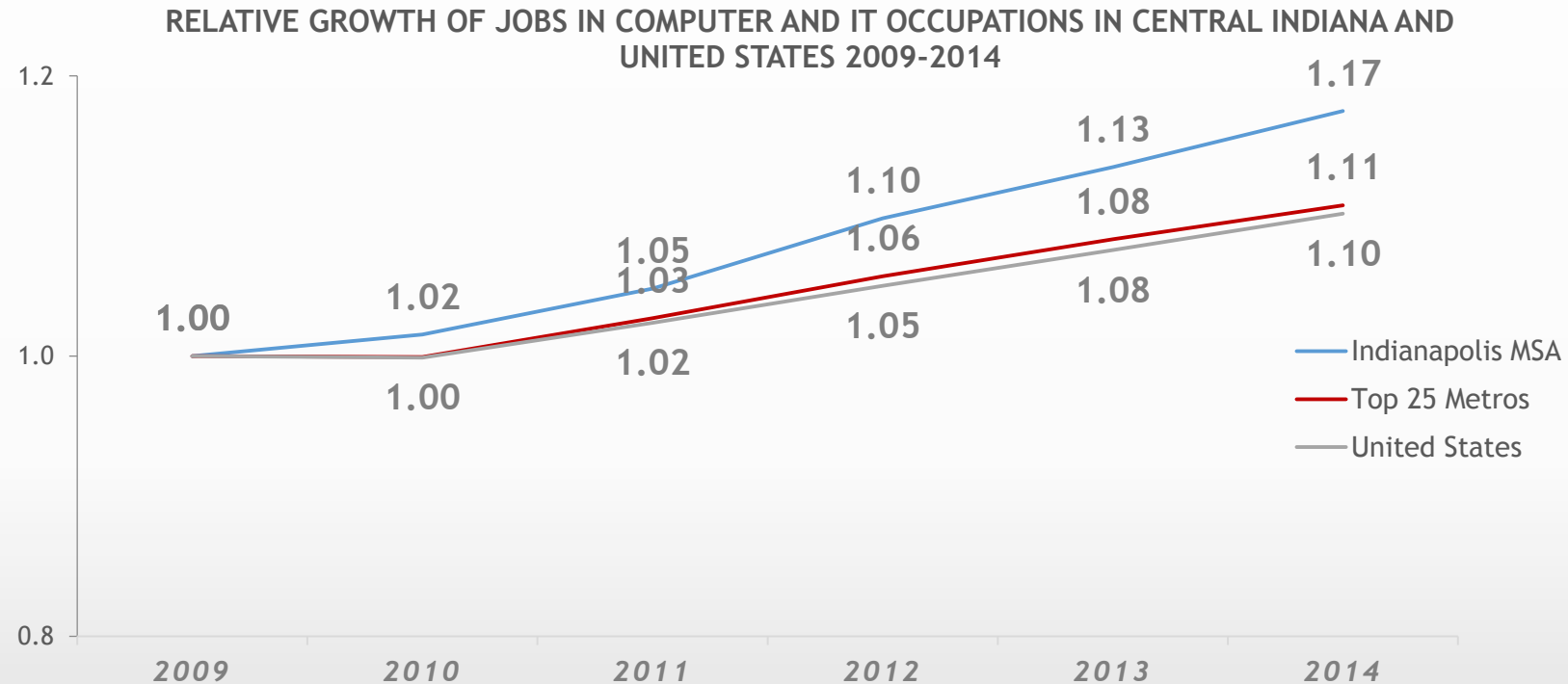
GROWTH IN JOBS IN CENTRAL INDIANA 2009-2014



Source: EMSI QCEW, 2009-2014.

Growth in Jobs

This rate of growth is faster than computer and IT jobs in the U.S. and the average for the top 25 metro areas. Central Indiana's computer and IT occupational jobs grew 17% since 2009. Computer and IT jobs grew 10% in the U.S. and an average of 11% in the top metros during the same time.

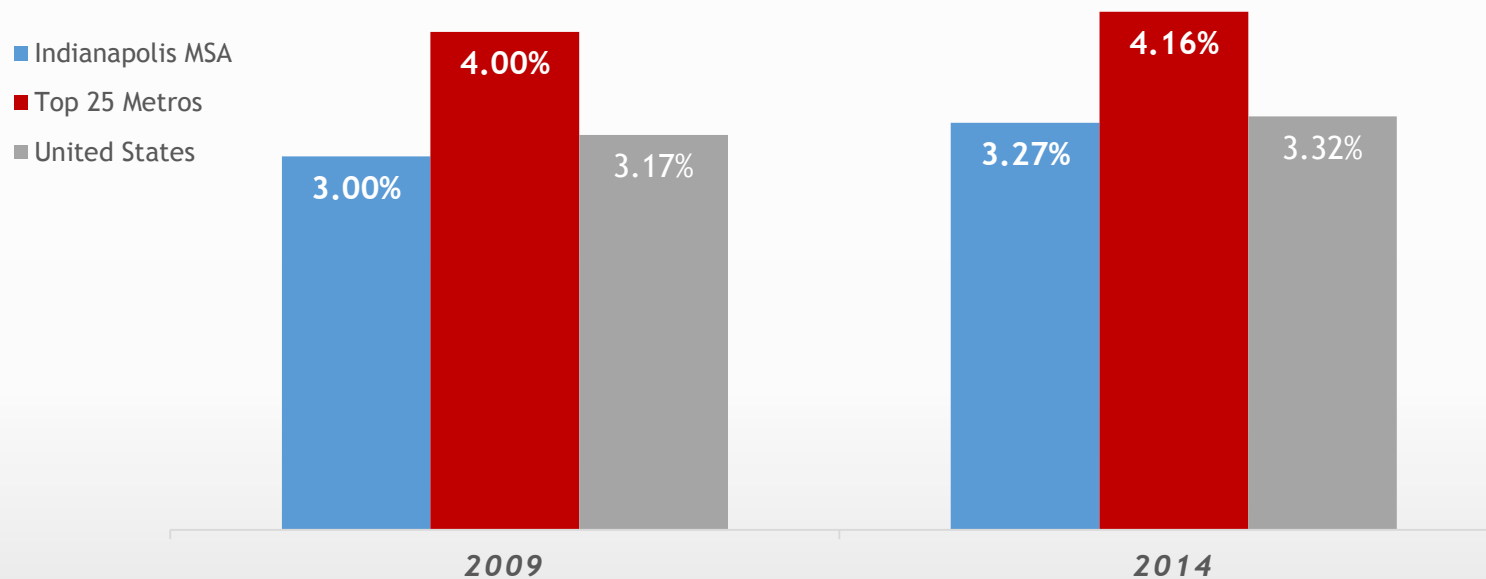


Source: EMSI QCEW, 2009-2014

Growth in Share of Economy

Central Indiana, which once lagged the nation, has caught up to the U.S. in the concentration of its economy that is made up of computer and IT occupations. Central Indiana's 33,868 jobs in computer and IT occupations make up 3.27% of the economy, which is just about the same as the U.S. but smaller than the top metros.

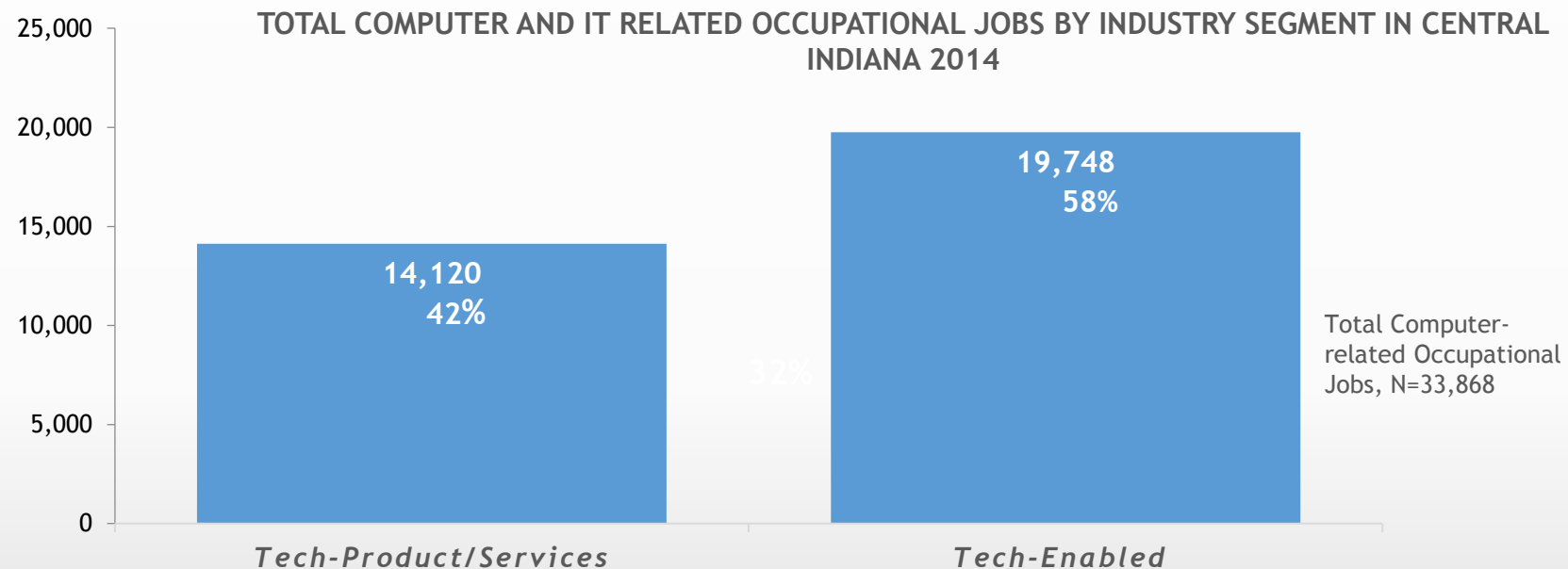
PERCENT OF COMPUTER AND IT OCCUPATIONS IN ECONOMY 2009-2014



Source: EMSI QCEW, 2009-2014

Job Structure by Industry

Among the 3 industry segments of the economy in which computer and IT workers are employed - tech-services, tech-product, and tech-enabled – most jobs are in companies that are in the tech-enabled segment (58% of the 33,868 computer and IT jobs in Central Indiana).

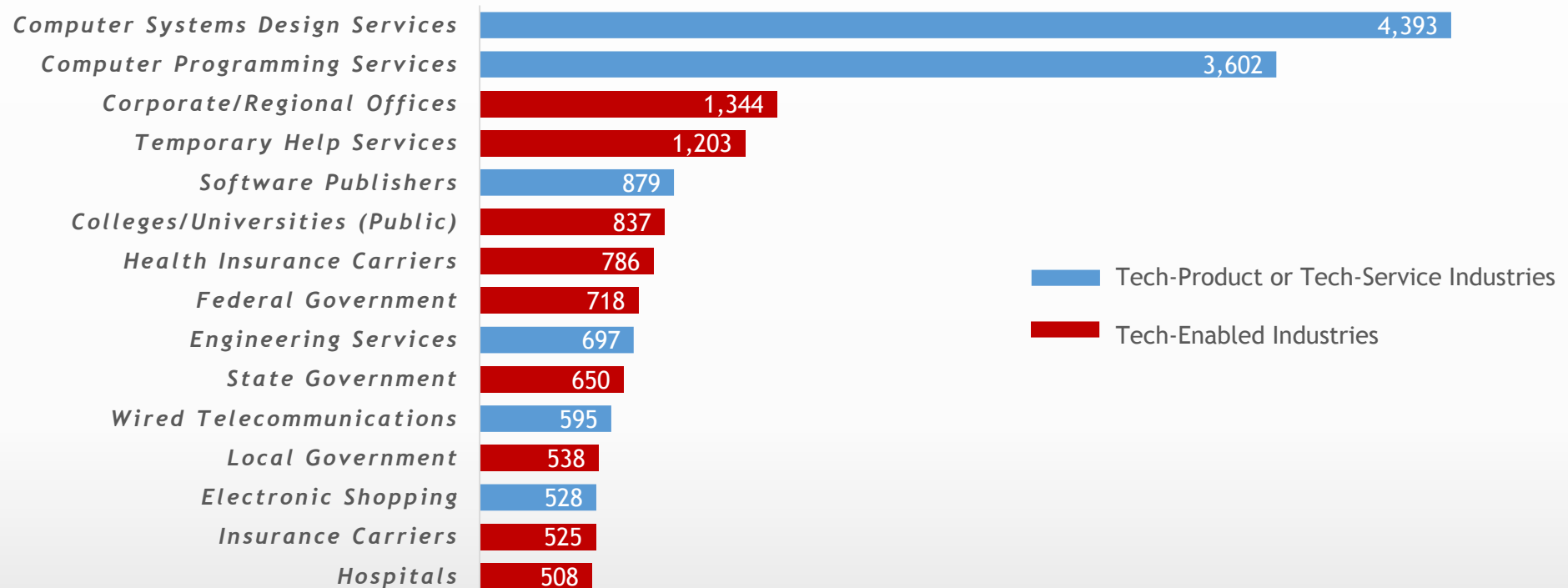


Source: EMSI QCEW, Inverse Staffing Patterns, 2014.

Job Structure by Industry

More than half of the top industries that employ computer and IT workers are in tech-enabled industries.

TOP INDUSTRIES FOR COMPUTER AND IT OCCUPATIONAL EMPLOYMENT IN CENTRAL INDIANA 2014



Source: EMSI QCEW, Inverse Staffing Patterns, 2014. Total Computer-related Occupational Jobs, N=33,868

Demand for Computer and IT Talent

Demand for Computer and IT Talent

The Good News

- Demand for computer and IT talent is growing; demand for talent is as strong from tech-enabled companies as it is from tech-product and services companies.
- There is very high demand among companies seeking talent related to software development, network and systems, and cybersecurity.
- There is increasing demand for new kinds of talent related to open, agile, and integrative languages and platforms.
- Approximately 20% of the most in-demand computer and IT positions in 2014 required less than a bachelor's degree.

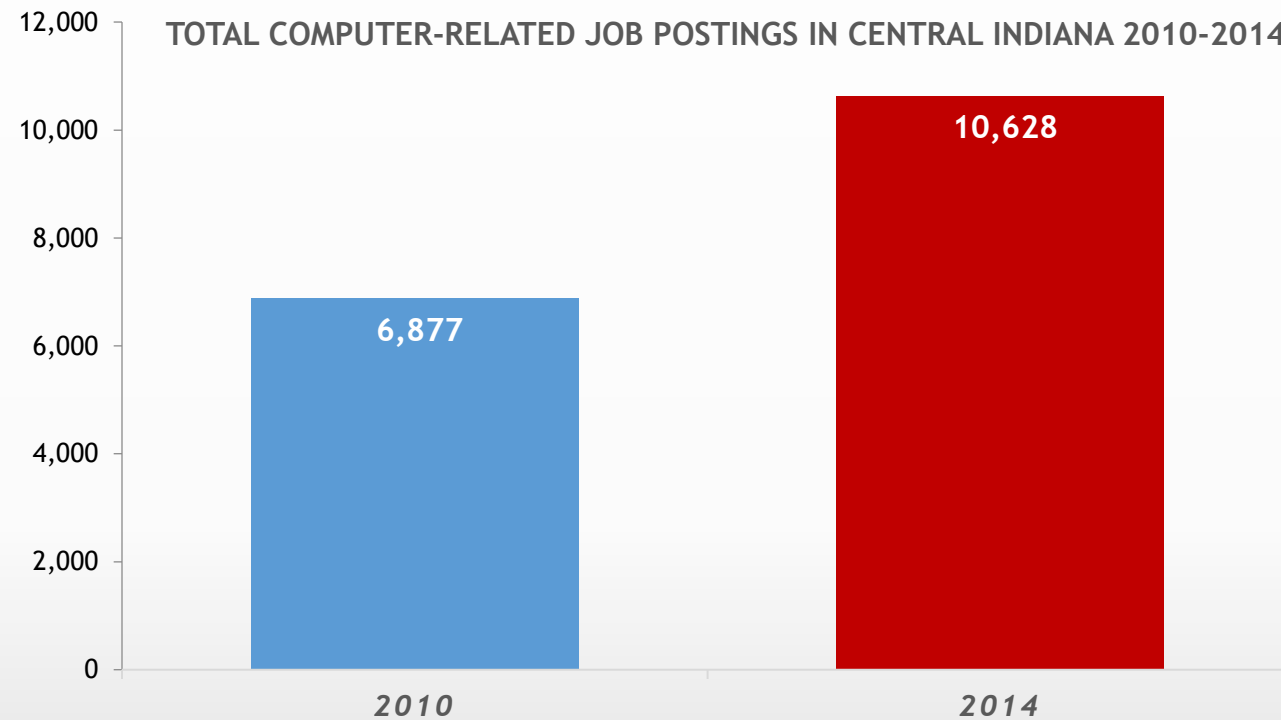
Demand for Computer and IT Talent

The Challenge

- Employers seek talented workers who can apply broad content competencies, demonstrate work-based experience in applying concepts and technologies, and use specific tools and technologies.
- More than 80% of surveyed regional computer and IT jobs in 2014 required a bachelor's degree or higher.
- More than 50% of surveyed regional employers are seeking candidates with more than 5 years' experience, making it difficult for recent computer and IT college graduates to obtain immediate employment in those companies.

Growth in Job Postings

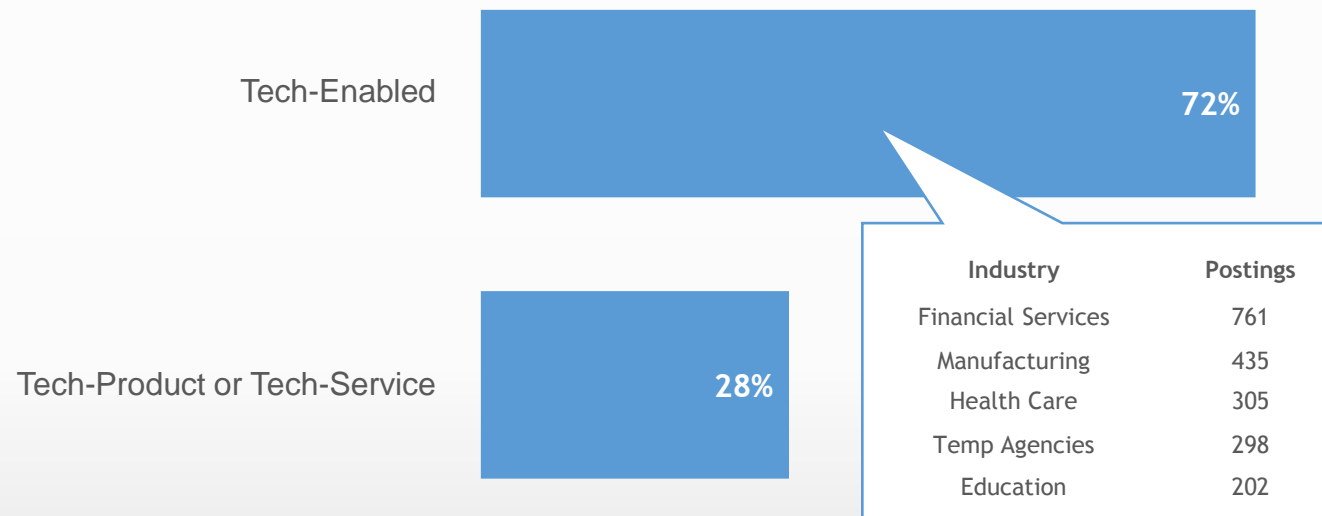
There has been a steady incline in demand for computer-related positions since 2010. In the last year, there were 10,628 job postings by Central Indiana companies seeking computer and IT workers, up from 6,877 job postings in 2010.



Demand by Industry

Most demand for computer-related positions in the region comes from companies in tech-enabled industries. In 2014, 72% of the job postings were from tech-enabled companies in industries such as financial services, manufacturing, and health care.

TOTAL COMPUTER AND IT POSTINGS BY INDUSTRY SEGMENT IN CENTRAL INDIANA
2014

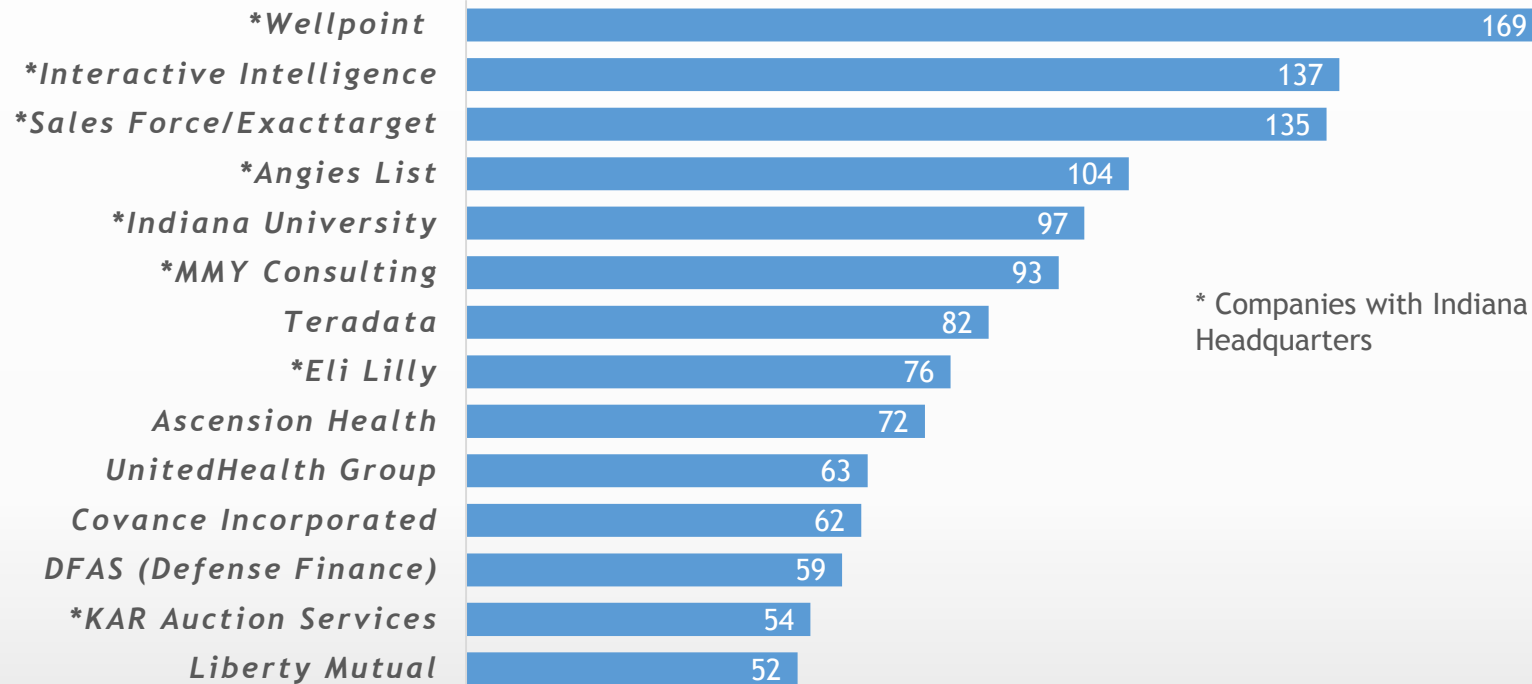


Source: Burning Glass Labor Insight, 2014.

Demand by Companies

Companies seeking the most computer and IT related hires are headquartered in Central Indiana.

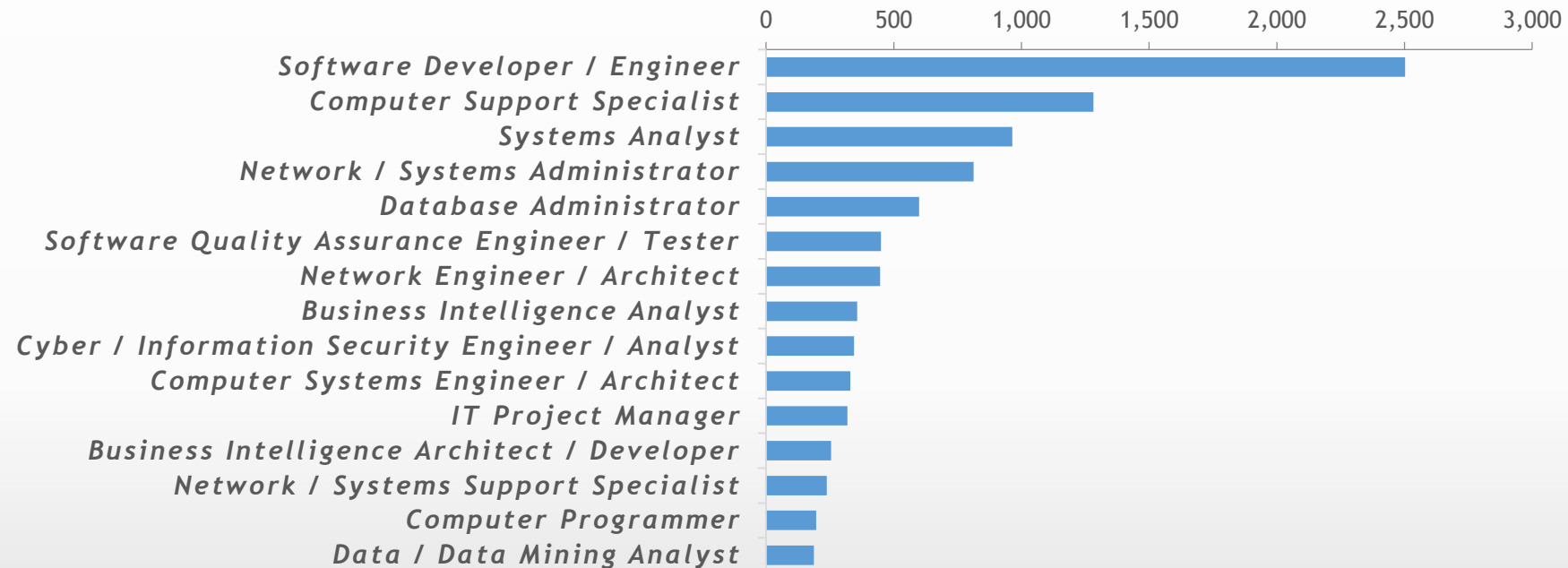
TOP COMPANIES WITH COMPUTER-RELATED POSTINGS IN CENTRAL INDIANA 2014



Demand by Position

Job postings by companies in the region show demand is greatest for positions in 4 general areas: software development; computer networking and systems; cybersecurity and risk analysis; and database administration and analysis.

TOP COMPUTER POSITIONS IN DEMAND BY JOB POSTINGS, CENTRAL INDIANA 2014



Demand by Position

The 2015 Tech Workforce Business Survey of Central Indiana tech-related companies shows that most new computer and IT hires planned for 2015 will be for software developers, computer and information analysts, and computer networking and systems.

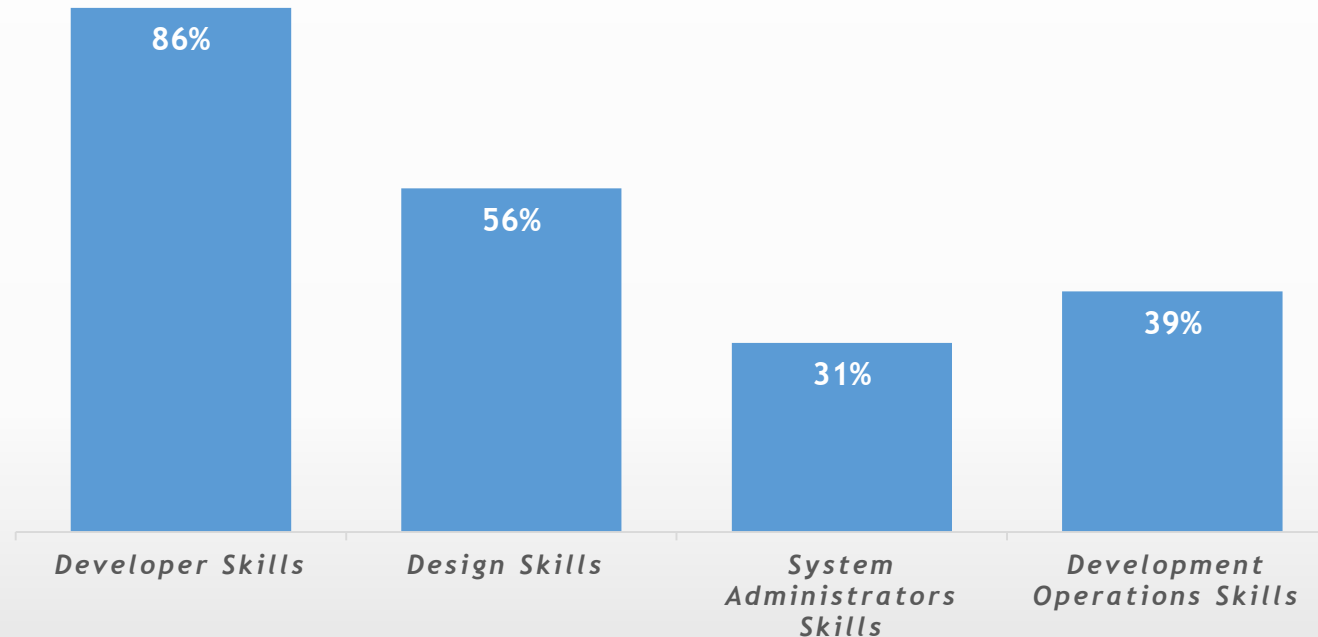
Companies Planned Hiring Computer-related Employees by Position 2015		
	Number of Total Planned Hires for Position 2015	Number of Companies Planning to Hire for Position 2015 (N=71)
Software Developers, Applications	177	44
Web Developers	117	34
Computer Programmers	113	15
Software Developers, Systems Software	99	21
Computer Systems Analysts	58	13
Medical Records and Health Information Technicians	44	5
Network and Computer Systems Administrators	39	10
Business Operations Specialists	36	14
Graphic Designers	35	23
Information Security Analysts	31	9
Computer Hardware Engineers	24	6
Computer User Support Specialists	23	10
Computer Network Specialists	23	5
Database Administrators	22	11
Computer and Information System Managers	22	7
Computer Network Architects	22	7

← Same top positions as 2014

Demand by Skills

The broad skill area surveyed companies identified parallel those positions most in-demand; 86% of companies surveyed identified they are seeking software developer skills.

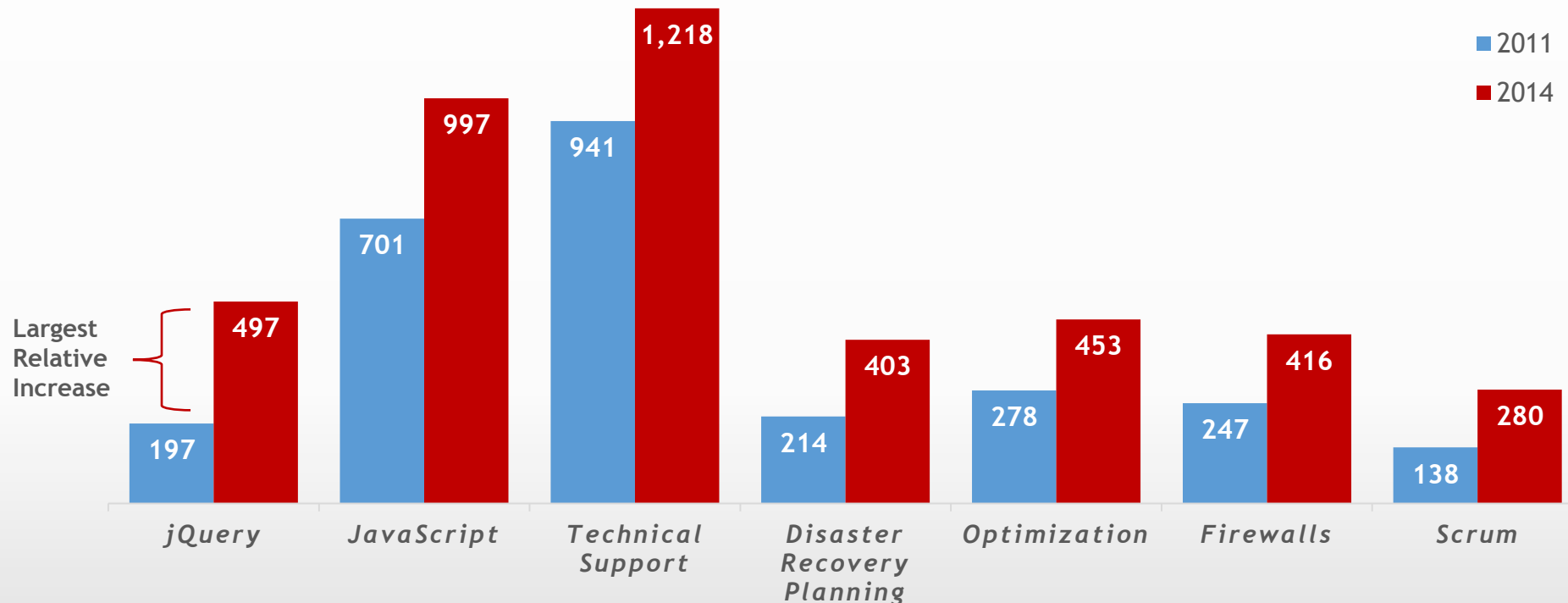
PERCENT OF COMPANIES HIRING FOR SKILL GROUP (N=71)



Demand by Skills

Job postings show a trend for companies to seek specific skills that can integrate new and emerging technologies, utilize agile and open source platforms, and meet an increased focus on IT security and risk mitigation.

TOP EMERGING COMPUTER-RELATED SKILLS BY JOB POSTINGS IN CENTRAL INDIANA 2014



Source: Burning Glass Labor Insight, 2011 and 2014.
2011 N=8,593; 2014 N=9,321

Demand by Skills

Companies responding to the survey also identified specific technologies they are seeking, such as those technologies that interface with database and applications, utilize new platforms, and operate with programming languages.

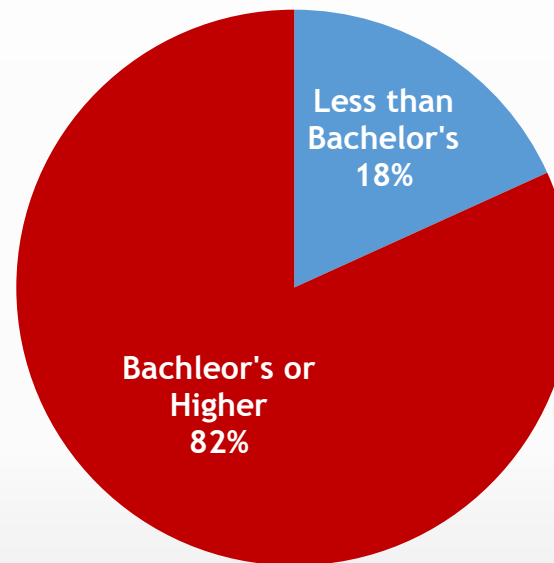
RECRUITMENT PRIORITIES FOR TECHNOLOGY SKILLS	
Technology	High Recruitment Priority (N=71)
SQL	37%
JavaScript	35%
.NET (C#)	30%
HTML	28%
CSS	24%
C#	24%
Java	20%
iOS	20%
Adobe Photoshop	20%
Ruby	17%
Ruby on Rails	17%
Adobe Illustrator	14%
AngularJS	13%
Android Development	13%

Source: Tech Workforce Survey 2015. Q11a Thinking about Developers, please identify which skills your company (1) is currently running (2) is looking to run in 2015 and (3) views as a high recruitment priority. N=71

Demand by Education Required

Most companies hiring computer-skilled talent are looking for highly educated workers. More than 80% of computer-related job postings require a bachelor's degree or higher.

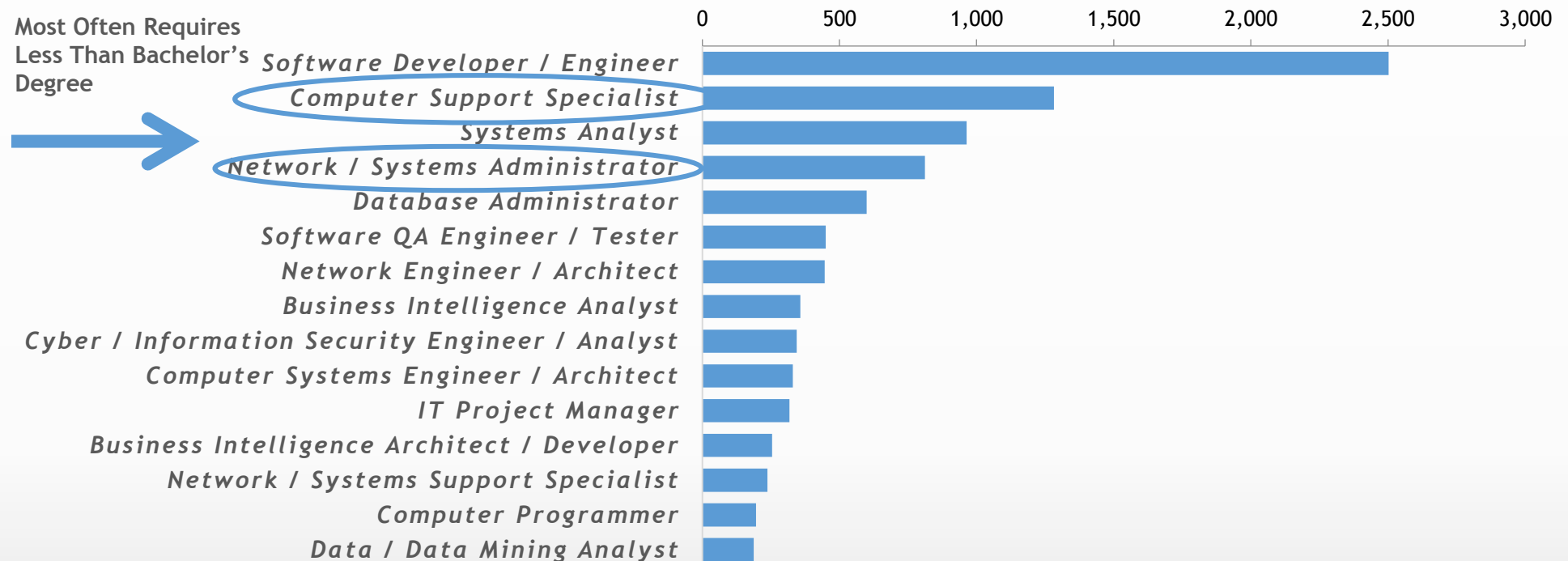
DEMAND FOR COMPUTER-RELATED JOBS BY EDUCATION REQUIRED IN
CENTRAL INDIANA 2014



Source: Burning Glass Labor Insight, 2014. Total Computer-related Job Postings with Degree (includes some with both), N=12,949. A recent analysis by Burning Glass, "Moving the Goalposts: How Demand for a Bachelor's Degree is Reshaping the Workforce," suggests that the skill sets indicated in job postings don't include skills typically taught at the bachelor's level. This suggests that employers may be "upcredentialing" -- relying on a bachelor's degree as a broad recruitment filter that may or may not correspond to specific capabilities needed to do the job.

Demand by Education Required

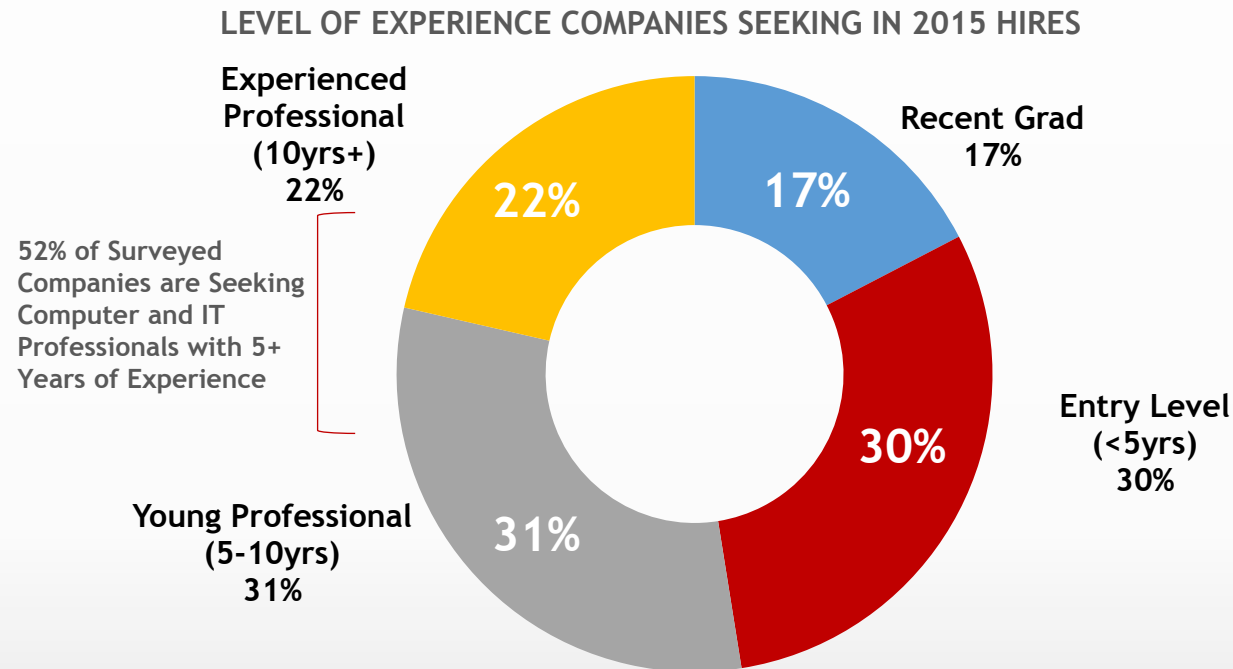
At least two of the computer-skilled positions in high demand, computer support specialists and network administrators, are positions that often require a sub-baccalaureate degree.



Source: Burning Glass Labor Insight, 2014. Total Postings, N = 10,682. A recent analysis by Burning Glass, "Moving the Goalposts: How Demand for a Bachelor's Degree is Reshaping the Workforce," suggests that the skill sets indicated in job postings don't include skills typically taught at the bachelor's level. This suggests that employers may be "upcredentialing" -- relying on a bachelor's degree as a broad recruitment filter that may or may not correspond to specific capabilities needed to do the job.

Demand by Experience

Employers also are seeking experience in the workplace. According to the Tech Workforce Business Survey, more than 50% of all planned computer hires sought by companies in 2015 are for candidates with more than 5 years' experience.



Quantity and Quality of Computer and IT Talent

Quantity and Quality of Computer and IT Talent

The Good News

- In the last four years, the overall quantity of recent 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, leaving a significant growth opportunity in programs that require fewer than four years of study.

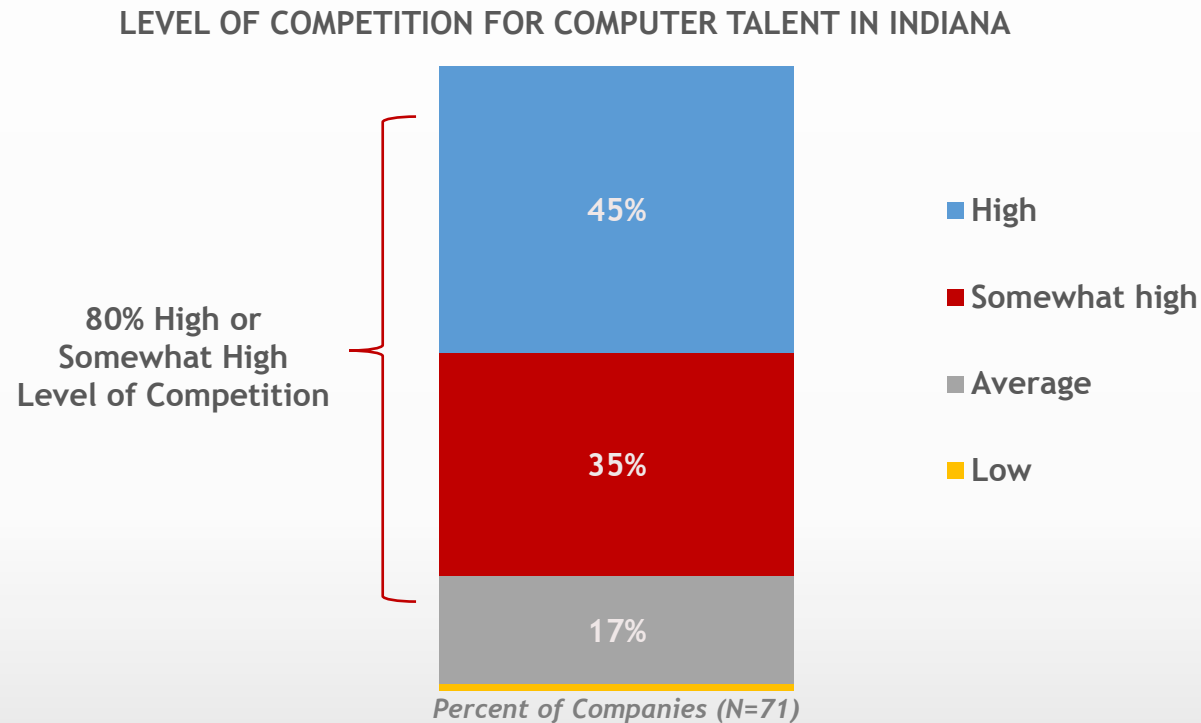
Quantity and Quality of Computer and IT Talent

The Challenge

- 80% of surveyed regional companies report that competition for computer and IT talent is high.
- 75% of surveyed companies perceive a moderate skills gap in computer and IT talent in Central Indiana.
- Internships are a growing, yet still small, source of talent in the sector.
- Over 20% of surveyed companies rated the quality of graduates from colleges serving Central Indiana as fair/poor.
- 40% of surveyed companies rate the quality of computer and IT talent as better than average.

Level of Competition for Talent

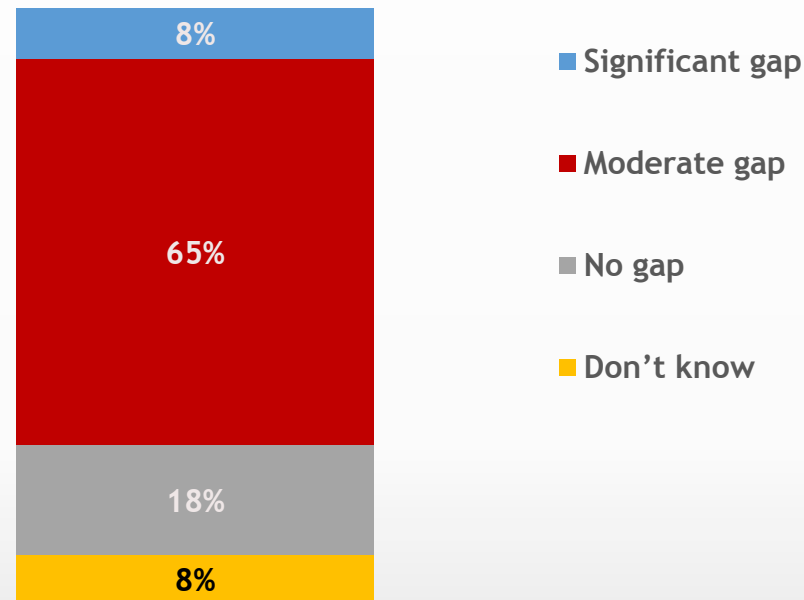
80% of respondents stated there is a high/somewhat high level of competition for computer talent in the region.



Quality of Computer Talent

65% of companies surveyed believe there is a moderate gap between the computer skills they are seeking and skills that job candidates have. 8% of surveyed companies believe there is a significant skills gap.

PERCEIVED GAP IN COMPUTER SKILLS



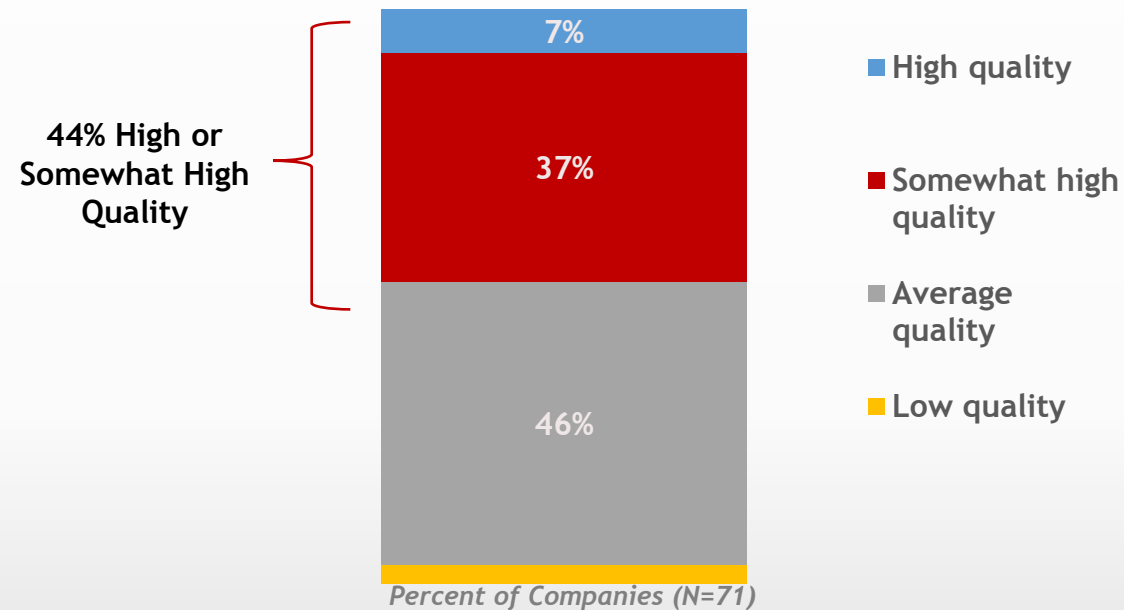
Percent of Companies (N=71)

Source: 2015 Tech Workforce Business Survey. Q10. In your opinion, is there a gap between the computer skills your company is seeking to hire and the skill sets that job candidates or new hires have? N=71

Quality of Computer Talent

Companies described the region's computer skilled talent as either high/somewhat high (44%) or average quality (46%). 3% of surveyed companies believe the region has low quality computer skilled talent.

PERCEIVED QUALITY OF COMPUTER TALENT IN CENTRAL INDIANA



Quality of Computer Talent

When asked about quality of computer talent in the region, survey respondents cited a need for talent with the right skills and experience.

THREE MOST IMPORTANT BUSINESS COMMENTS ON QUALITY...

- ✓ Experience Needed
- ✓ Missing Technical Skills
- ✓ Not Enough Quality Talent

"Those that claim to have skills are not up to our standards. We've had to start hiring remote workers that are outside of Indiana."

"We are finding there is a significant shortage of good quality software development talent."

"We are seeking individuals with 5 or more years experience in development with various technologies."

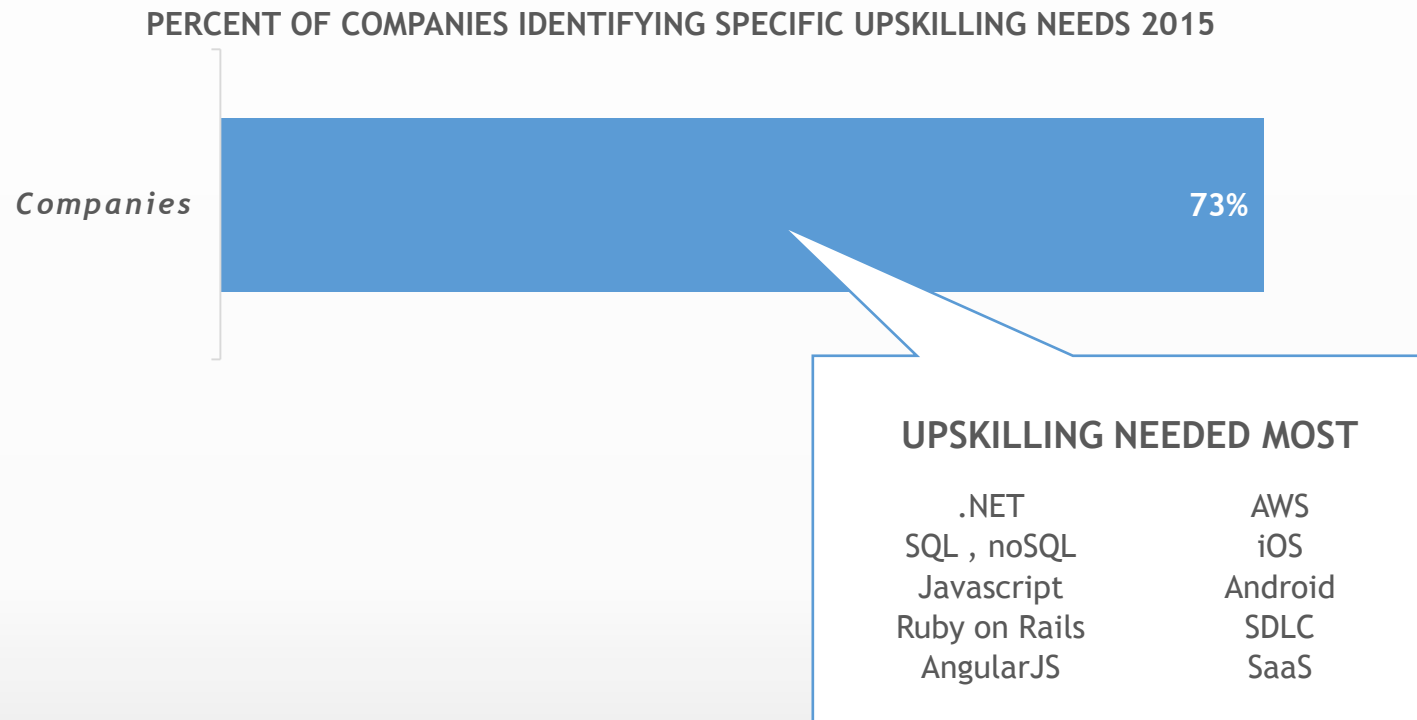
"There is ZERO AVAILABLE (meaning unemployed) high quality tech talent in Indiana."

"It's a competitive market and hard to find and hire the best anywhere, not just Indiana."

"Affordable experience is tough to find."

Upskilling Existing Talent

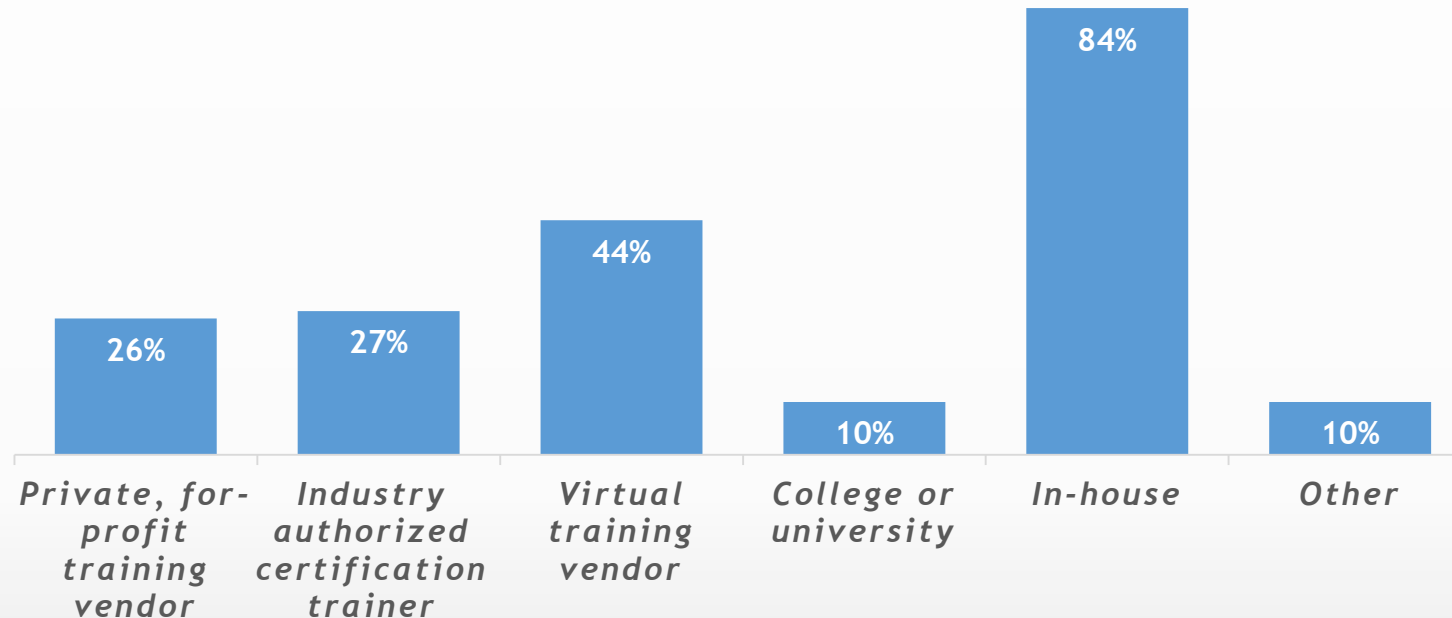
52 of 71 companies surveyed identified specific “upskilling” their existing computer and IT employees needed most.



Upskilling Existing Talent

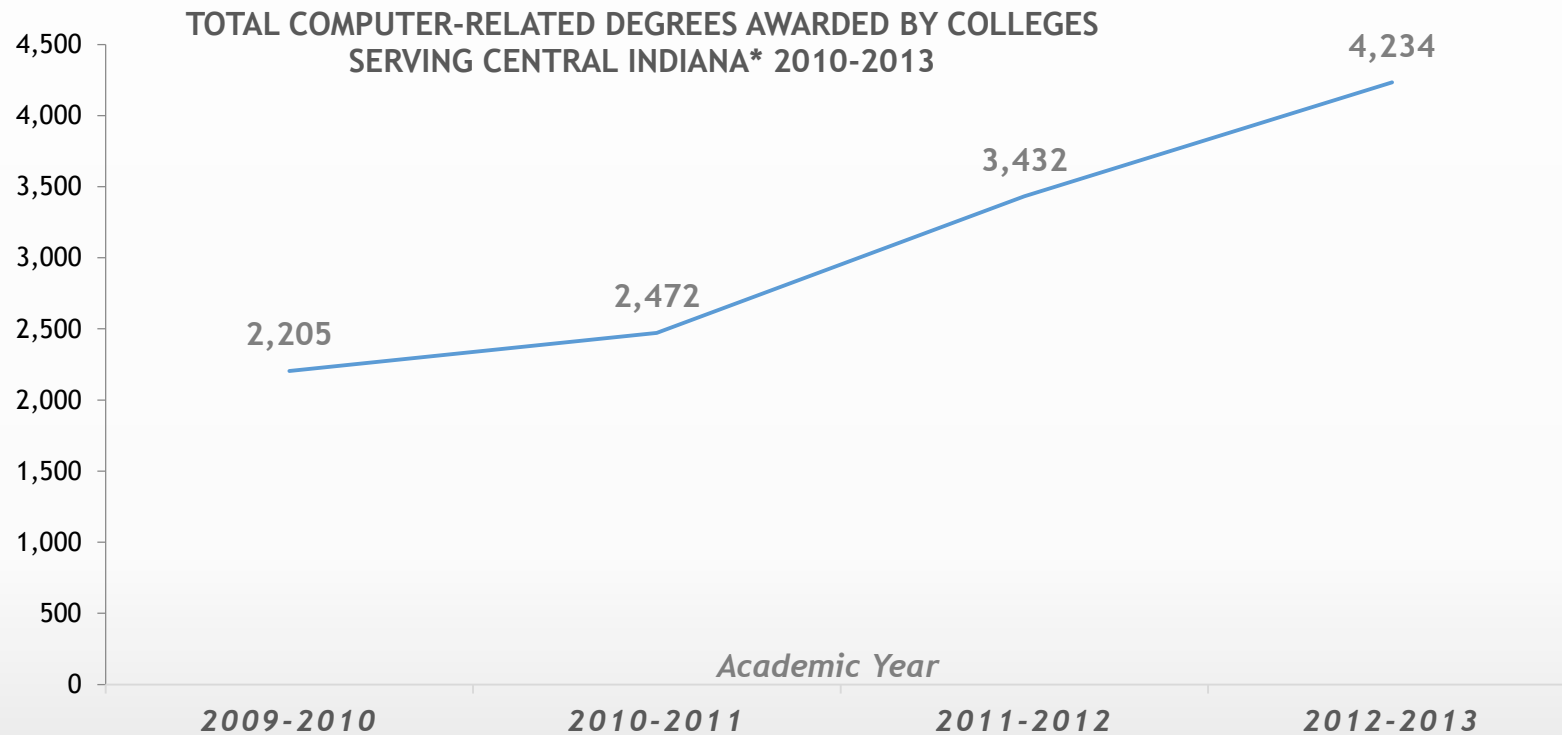
84% of companies upskill their existing employees through in-house training methods. 10% use colleges or universities.

SOURCES OF UPSKILLING AND TRAINING FOR EMPLOYEE COMPUTER SKILLS
(N=70)



Quantity of Graduates

4,234 computer-related degrees were awarded to students graduating from colleges serving the region in 2013, almost doubling the total degree output in computer fields from 2010.

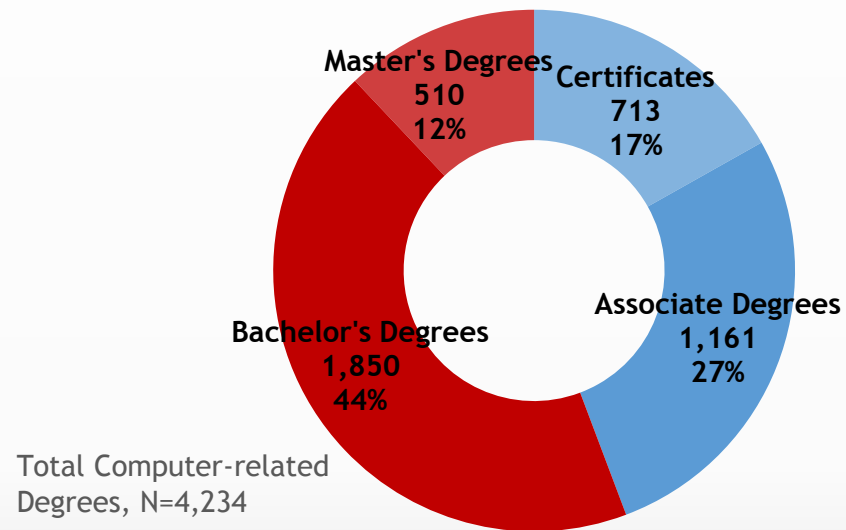


Source: IPEDS, Completions 2009-2013. *Includes 40 colleges serving Central Indiana (full list is in the appendix). Indiana Wesleyan University graduates not included.

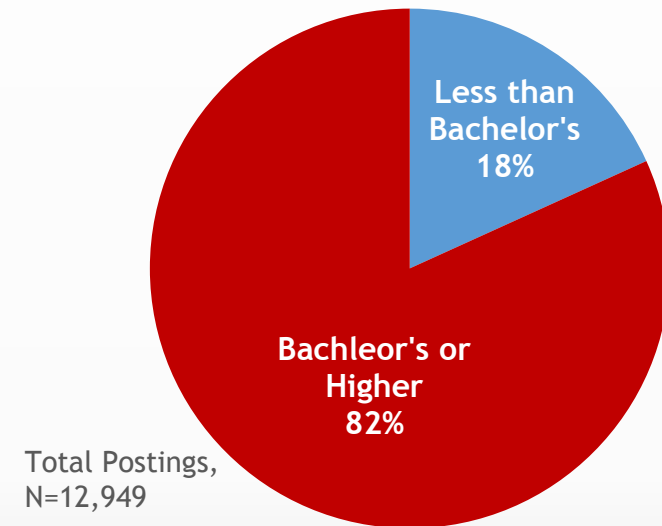
Quantity of Graduates

56% of the 4,234 total computer-related degrees awarded by area colleges were bachelor's or master's degrees. In 2014, 82% of the job postings required a bachelor's degree.

TOTAL COMPUTER-RELATED DEGREES AWARDED IN 2013



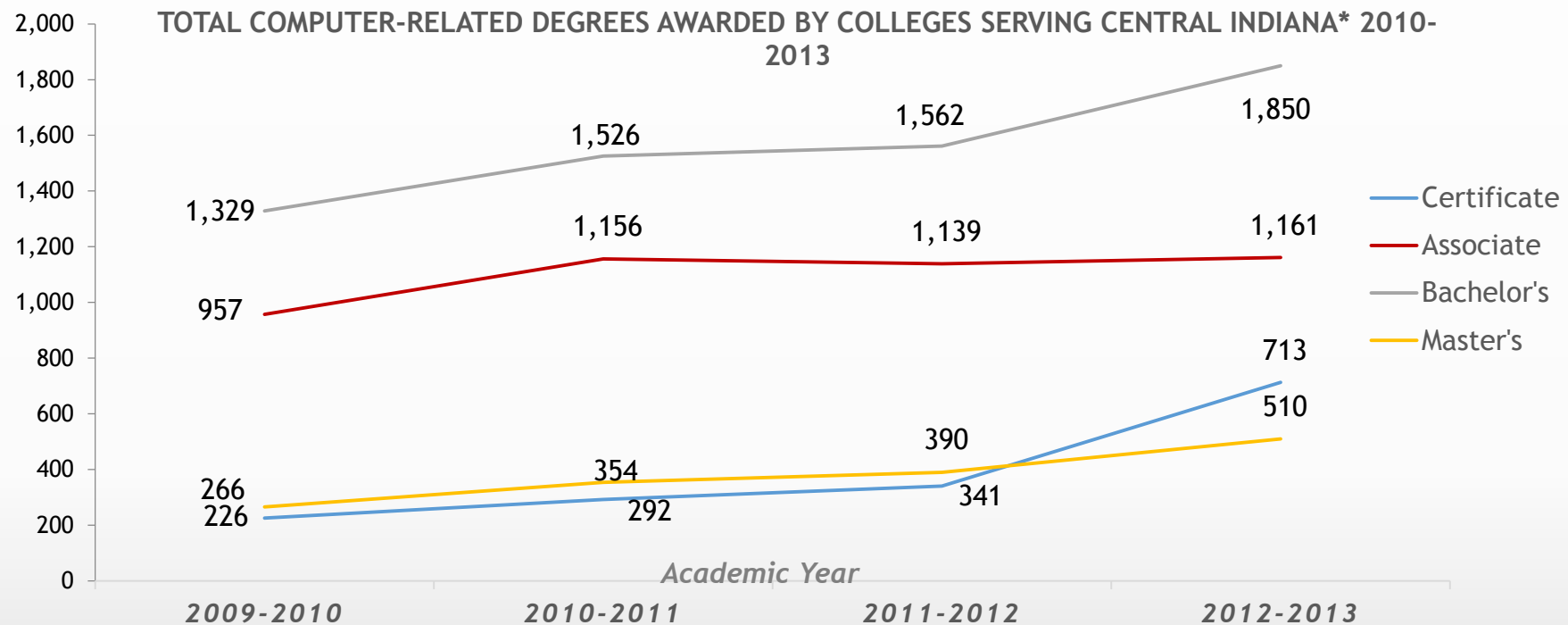
DEMAND FOR COMPUTER-RELATED JOBS BY EDUCATION REQUIRED IN CENTRAL INDIANA 2014



Source: Degrees Awarded, IPEDS, Completions, 2012-2013. *Includes 40 colleges serving Central Indiana (full list is in the appendix). Indiana Wesleyan University graduates not included. Demand for Jobs by Education, Burning Glass Labor Insight, 2014. Total Computer-related Job Postings with Degree (includes some with both), N=12,949. A recent analysis by Burning Glass, "Moving the Goalposts: How Demand for a Bachelor's Degree is Reshaping the Workforce," suggests that the skill sets indicated in job postings don't include skills typically taught at the bachelor's level. This suggests that employers may be "upcredentialing."

Quantity of Graduates

The largest aggregate increase in computer-related degrees were from bachelor's degrees and certificates. Over the past four years, degree production increased by 1,000 and certificate production increased by 500.

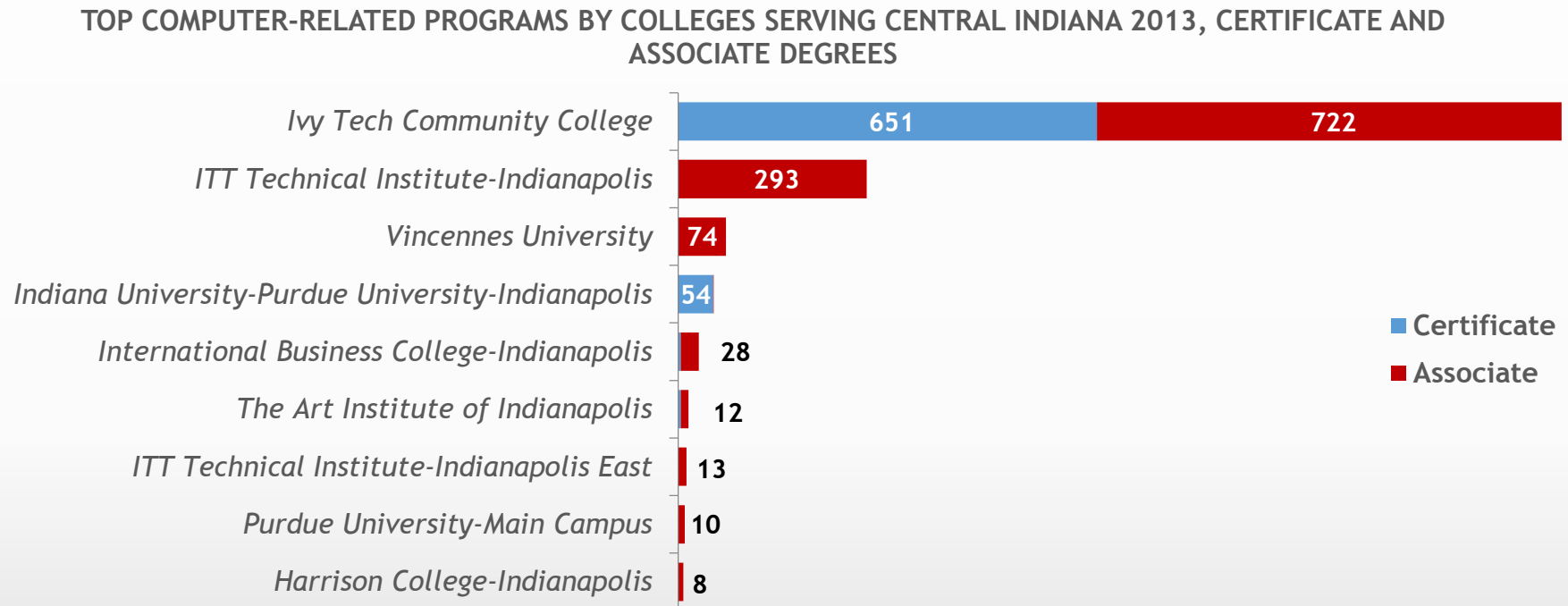


Source: IPEDS, Completions 2009-2013. *Includes 40 colleges serving Central Indiana (full list is in the appendix). Does not include Indiana Wesleyan University.

Quantity of Graduates by College

CERTIFICATE AND ASSOCIATE DEGREES

The regional institutions producing the most computer-related sub-baccalaureate degrees were Ivy Tech producing more than 70% and ITT Technical Institute producing 15%.

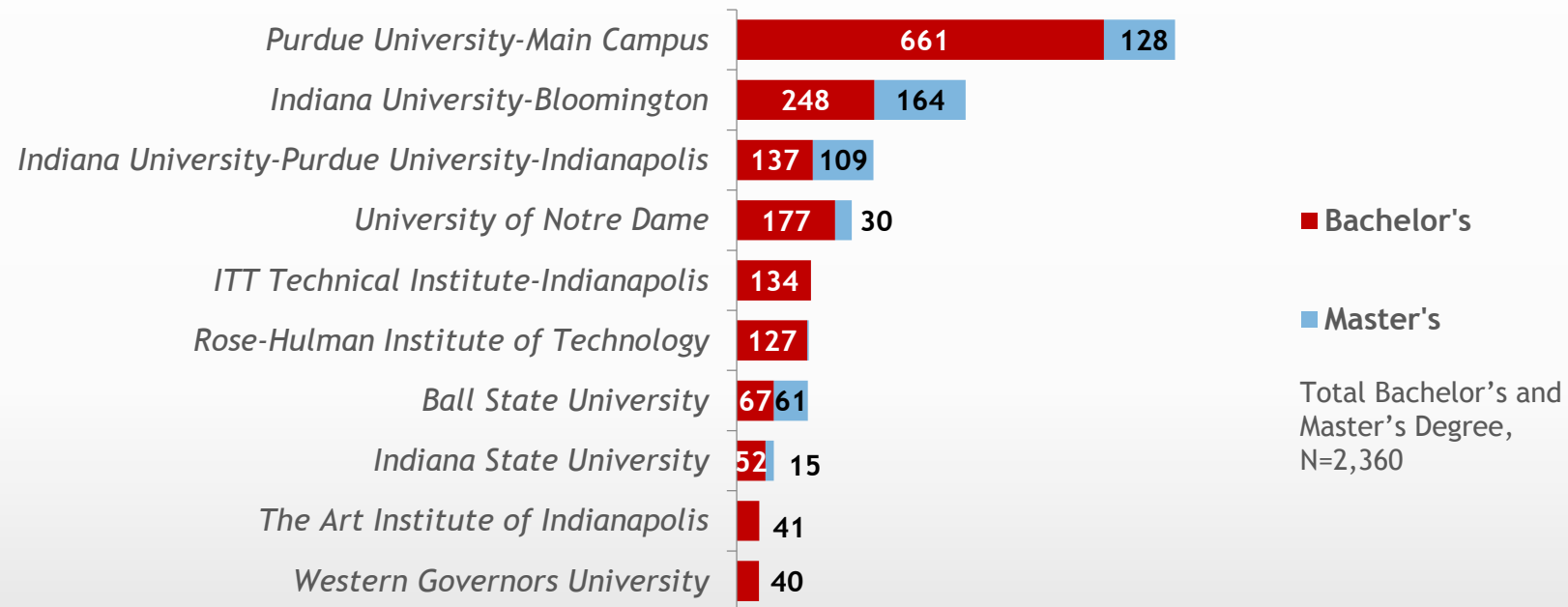


Quantity of Graduates by College

BACHELOR'S AND MASTER'S DEGREES

The regional institutions producing the most computer-related bachelor degrees were Purdue University, producing 36%, and IU-Bloomington producing 13%.

TOP COMPUTER-RELATED PROGRAMS BY COLLEGES SERVING CENTRAL INDIANA 2013,
BACHELOR'S AND MASTER'S DEGREES

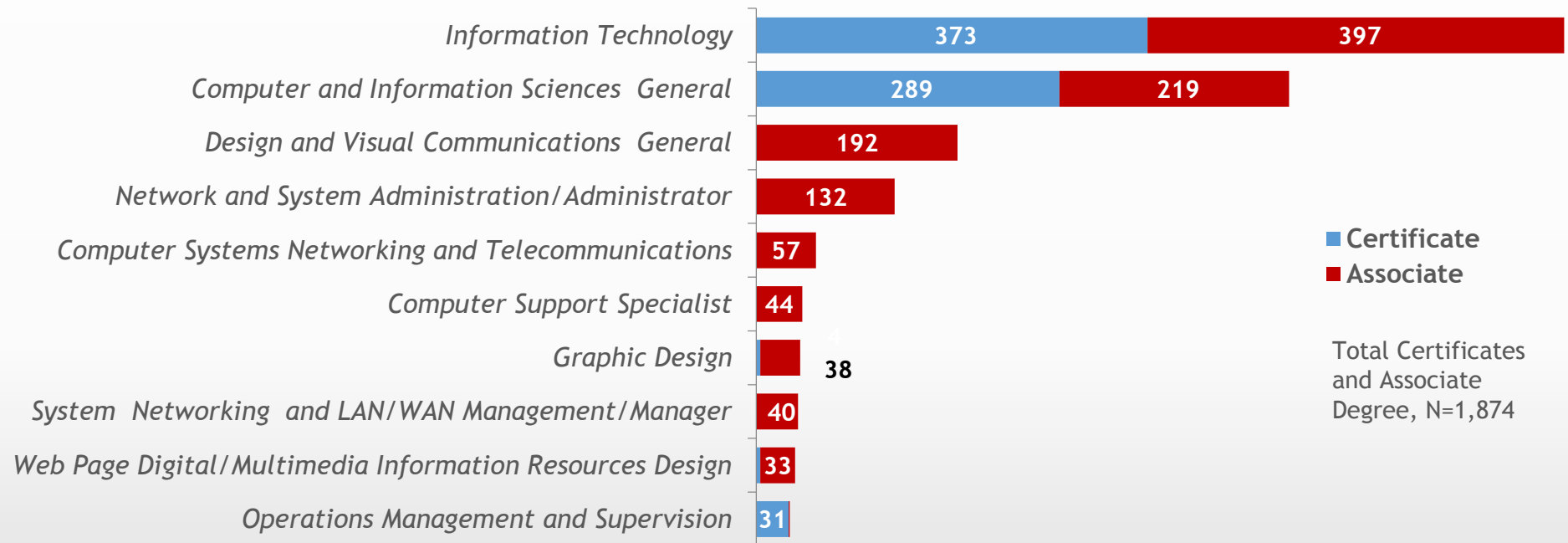


Quantity of Graduates by Field

CERTIFICATE AND ASSOCIATE DEGREES

68% of the region's computer-related certificate and associate degree production is in information technology and general computer and information sciences fields.

TOP COMPUTER-RELATED PROGRAMS BY DEGREES FOR COLLEGES SERVING CENTRAL INDIANA 2013,
CERTIFICATE AND ASSOCIATE DEGREES

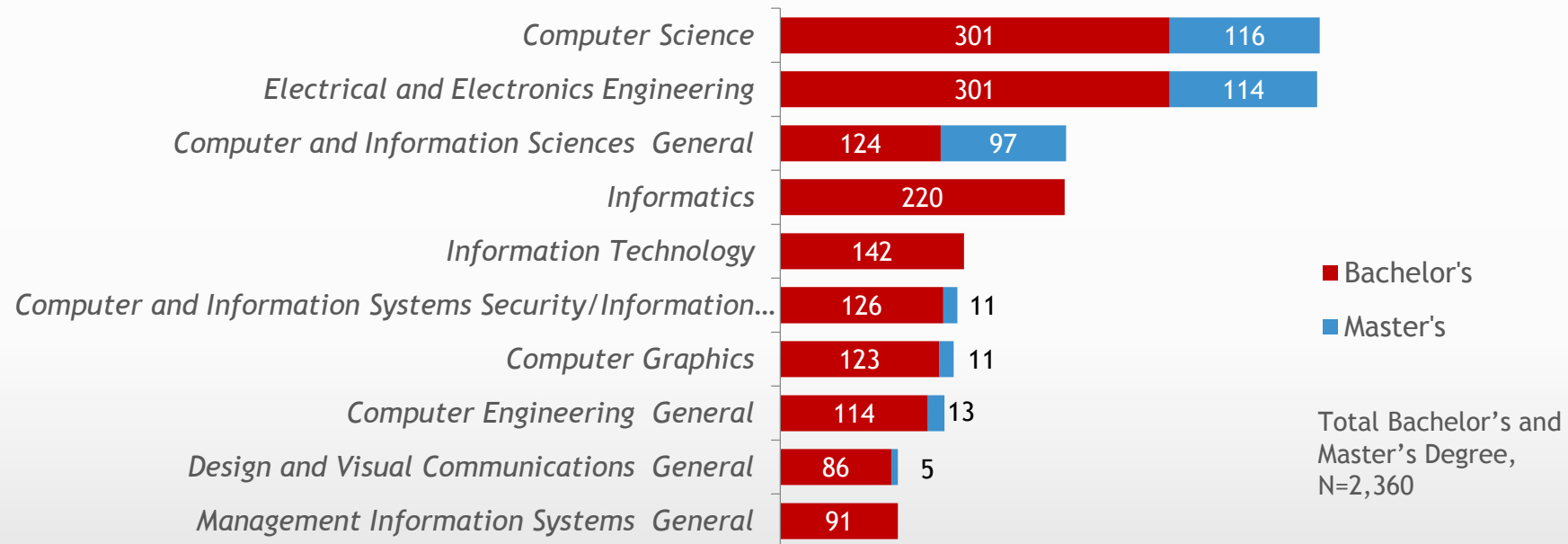


Quantity of Graduates by Field

BACHELOR'S AND MASTER'S DEGREES

44% of the region's computer-related bachelor degree production is concentrated in computer sciences, electrical and electronic engineering, and informatics. 64% of computer-related master's degree production were concentrated in computer science, engineering, and general computer and information sciences.

TOP COMPUTER-RELATED PROGRAMS BY DEGREES FOR COLLEGES SERVING CENTRAL INDIANA 2013, BACHELOR AND MASTER'S DEGREES

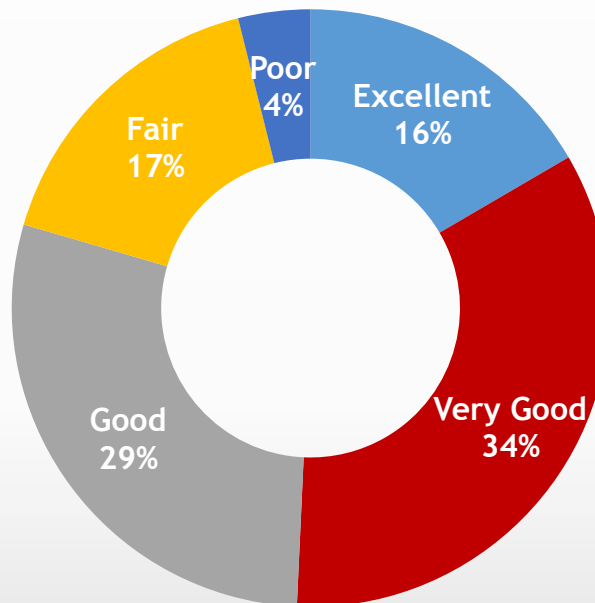


Source: IPEDS, Completions, 2012-2013. Includes 40 colleges serving Central Indiana (full list is in the appendix). Indiana Wesleyan University not included.

Quality of Graduates

50% of companies responding to the Tech Workforce Business Survey rated the quality and preparedness of computer-skilled graduates as excellent or very good from colleges serving Central Indiana. 29% rated the quality and preparedness as good.

RATING OF QUALITY AND PREPAREDNESS OF GRADUATES FOR COMPUTER SKILLED POSITIONS

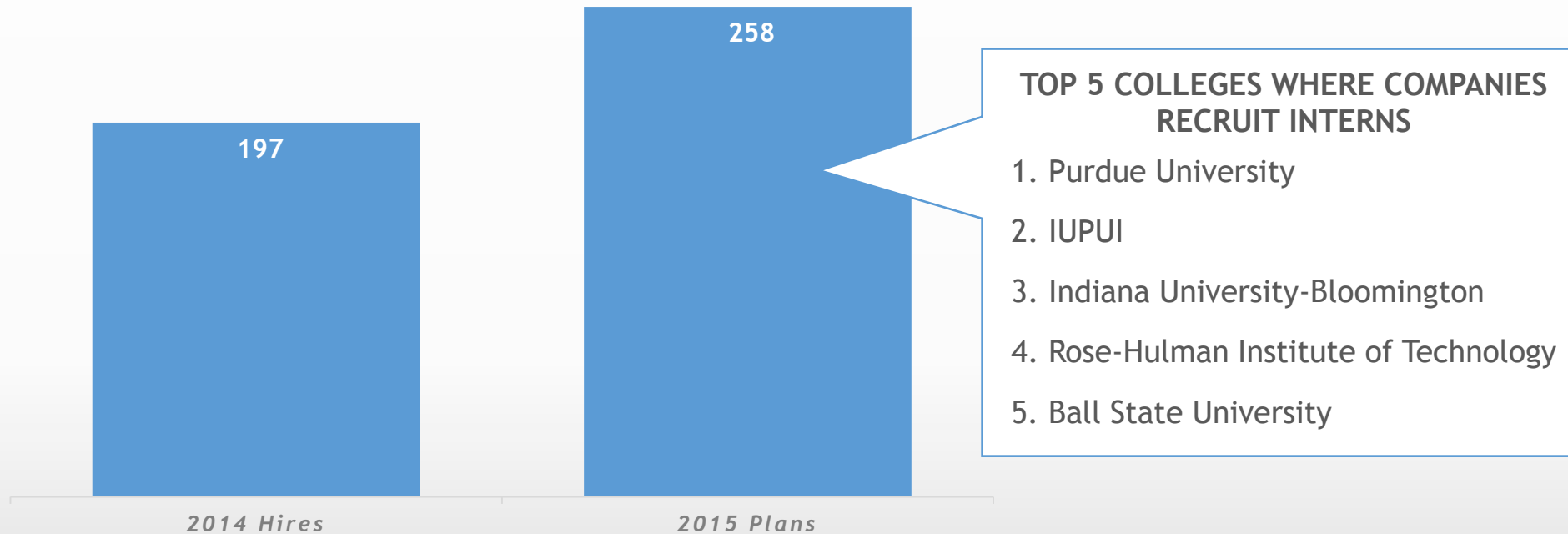


Source: 2015 Tech Workforce Business Survey. Q14. Among the following colleges and universities, how would you rate the quality and preparedness of graduates for computer skilled positions?

Quantity of Internships

Companies responding to the Tech Workforce Business Survey stated a willingness to hire more computer interns in 2015. The per median for hiring interns in 2015 is two interns per company.

TOTAL NUMBER OF ACUTAL AND PLANNED INTERN HIRES 2014
TO 2015



Source: 2015 Tech Workforce Business Survey. Q17a. About how many total computer skilled student interns did your company hire in 2014? N=71; 17b. About how many computer skilled student interns is your company willing to hire in 2015? N=71

Key Findings

Key Findings

The Good News

- Central Indiana's tech sector spans the economy. Computer and IT workers are critical components of tech companies in software and IT services as well as tech-enabled companies in healthcare, manufacturing, and financial services.
- The technologies—like software, languages, and applications – are diverse and constantly evolving and improving to better meet consumers' needs.
- 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.
- An increase in tech employment means an increase in individuals earning salaries significantly higher than those in most other sectors of our regional economy.

Key Findings

The Good News

- As the 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 in an effort to meet demand.
- Employers applaud this increase and generally agree colleges are providing students the fundamentals and basic skills needed for employment within the sector.
- Employers are aware of a skills gap and increasing demand for the right talent and want to engage with educational institutions and training providers to further cultivate a technically skilled workforce.
- Internship opportunities for students and upskilling options for the incumbent workforce are helping to address the experience gap.

Key Findings

The Challenge

- The tech sector holds unique challenges in talent development due to the wide range of skills employees must possess and because the sector itself is highly diverse.
- 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 at roughly the same rate as new products and services appear.
- The labor market data and Tech Workforce Business Survey respondents illustrate the recognition of a gap in both skills and experience versus that which job applicants and current employees possess.
- 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.

Key Findings

Strategies

- Respond to diversity of demand from companies, predict industry needs and equip talent with the skills to adjust to real-time technology advancements.
- Develop new and enhance existing pathways to bridge the information divide between the tech sector's demand for talent and graduates.
- Develop talent that includes the fundamental learning central to degree-based programs, exposure to and experiences with real-world technology application, and more rapid acquisition of skills in specific technologies for quickly changing application.
- Identify means to support multiple and targeted ways students, employees, and companies can access the “right” kind of skill development.

Key Findings

The Opportunity

- **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 lead an effort 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.

Appendix

Sources and Methods

Definitions

- The research for this study uses a computer and IT occupational description of the tech sector from the Occupational Information Network (O*NET), which is developed under the sponsorship of the US Department of Labor/Employment and Training Administration (USDOL/ETA). Defining employment on the occupational level, rather than the industry level, allows us to take a comprehensive look at the supply and demand for technically skilled talent.
- The description of the wealth driving sectors identified in this study (life sciences, advanced manufacturing, alternative energy, and logistics) use an industry classification of these sectors from the North American Industry Classification System (NAICS). NAICS was developed under the auspices of the United States Office of Management and Budget (OMB). An industry description is the most common way to describe and identify these sectors.
- The study further defines the tech sector into three segments:
 - “Tech-product” is the portion of the sector that consists of companies which create/sell a computer hardware and/or software-based product;
 - “Tech-service” consists of those companies which provide outsourced technology services; and
 - “Tech-enabled” consists of those companies where computer/technology is a critical component of their business and thus requires computer-related employees.

Sources and Methods

Data Sources

- Employment data are from the Bureau of Labor Statistics Quarterly Census Employment and Wages using the EMSI database. All employment data are for the Indianapolis-Carmel Metropolitan Statistical Area.
- Jobs postings are drawn from Burning Glass's Labor Insight database of online job postings. Burning Glass gathers millions of job openings daily from more than 40,000 websites and then mines the text of each one to analyze each employer's specific requirements, including location and the particular skills, qualifications, and experience required in real-time job postings. All job posting data are for the Indianapolis-Carmel Metropolitan Statistical Area.
- Postsecondary degree completions are from the National Center for Education Statistics IPEDS database for a universe of 40 colleges and universities serving the Central Indiana labor market. Data are for all degrees produced for all student types from the universe of colleges and universities.
- Postsecondary enrollment data are from Indiana Commission for Higher Education for a universe of 41 colleges and universities serving the Central Indiana labor market.

Sources and Methods

- Burning Glass, “Moving the Goalposts: How Demand for a Bachelor’s Degree is Reshaping the Workforce,” September 2014.
- TechPoint, “Technology Workforce Report 1: Employment Trends and the Demand for Computer Related Talent in Central Indiana,” March 2014.
- TechPoint, “Technology Workforce Report 2: Defining the Demand - the Tech Skills Central Indiana Companies Need to Grow,” July 2014.

Sources and Methods

INDIANA COLLEGES IN SAMPLE		
Anderson University	Indiana University-East	MedTech College-Greenwood Campus
Aviation Institute of Maintenance-Indianapolis	Indiana University-Kokomo	Purdue University-Main Campus
Ball State University	Indiana University-Purdue University-Indianapolis	Rose-Hulman Institute of Technology
Brown Mackie College-Indianapolis	Indiana Wesleyan University	Saint Josephs College
Butler University	International Business College-Indianapolis	Saint Mary-of-the-Woods College
DePauw University	ITT Technical Institute-Indianapolis	Taylor University
DeVry University-Indiana	ITT Technical Institute-Indianapolis East	The Art Institute of Indianapolis
Earlham College	Ivy Tech Community College	University of Indianapolis
Franklin College	Kaplan College-Indianapolis	University of Notre Dame
Hanover College	Lincoln College of Technology-Indianapolis	University of Phoenix-Indianapolis Campus
Harrison College-Indianapolis	Manchester University	Vincennes University
Huntington University	Marian University	Wabash College
Indiana State University	Martin University	Western Governors University
Indiana University-Bloomington	MedTech College	

Sources and Methods

Tech Workforce Business Survey

- FutureWorks, in consultation with HireUp and TechPoint developed the 2015 Tech Workforce Business Survey off the previous TechPoint survey of membership in 2014. The questions in the Tech Workforce Survey focused on skills in demand, hiring opportunities and challenges, and university preparation of computer-related talent
- Companies included in the universe of prospective survey participants were Central Indiana-based firms that fall in one of three industry categories: tech product, tech service, or tech-enabled. There were 200 companies in the universe.
- Surveys were sent electronically by Loyalty Research Center on February 24, 2014 to 200 companies. Of those companies, 71 completed the survey by the March 16, 2015 deadline, a 36% response rate.

Tech Workforce Business Survey Participants

Orbis Education
The RND Group
Indiana Health Information
Exchange
roundpeg
SmallBox Web
One Click Ventures
Zucker Business
Communications
Ontario Systems
TrendyMinds
Raidious
Angie's List
LeadJen
Bluelock, LLC
Eli Lilly and Company
WDD Software
NextGear Capital
Kinney Group
HealthPro
Orchard Software
Metonymy Media
MMY Consulting
Balance Digital Marketing
The Schneider Corporation
Borshoff

Miles Design
PolicyStat, LLC
Smarter HQ
KA+A
First Databank
Healthiest Employer, LLC
Connect Think
PAN (Performance Assessment
Network)
stlogics
RICS Software
T2 Systems, Inc.
KSM Consulting
Indigo BioSystems, Inc.
PERQ
hc1.com
Inverse-Square
DoubleMap, Inc.
Standard For Success
Telamon Corporation
SensorHound
Mimir LLC
Interactive Intelligence
Fifth Gear (acquired by Speed
Commerce)

Springboard Marketing
DyKnow
Hanapin Marketing
My Mobile Fans
eceptacle
Haiku Learning
Extension Healthcare
Marketpath, Inc.
Archon Apps
DPS
pi lab
Boxfox
AppealTrack
Right On Interactive
SmartIT
State of Indiana - FSSA
Appirio
elmanage Technology Group
Apparatus
Lesson.ly
Teradata
The Odyssey
Eleven Fifty
Sticksnleaves