



Tech Council

KC TECH SPECS 2017

A Report on the Trends and Vision for Our Industry in Greater Kansas City

Produced in partnership with



#kctechspecs

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Letter From the President



The KC Tech Council serves as the regional advocate for Kansas City's tech industry. Together with our 150-plus member companies and premier sponsors, we focus our organization's efforts on three strategic pillars: Workforce Development, Policy Advocacy and Industry Access.

I am excited to share with you our inaugural KC Tech Specs report. Earlier this year, our team collaborated to produce this report alongside the research division of VML — a leader in global marketing and advertising, headquartered in Kansas City. We've collaborated on this report that identifies our industry's strengths and weaknesses, but more importantly, identifies opportunities for extraordinary growth.

Going forward, the KC Tech Council will produce KC Tech Specs annually. We'll keep track of the industry's progress from year to year as we use the results of this report to frame our organization's focus.

Across America, leaders are reviewing similar reports and analyzing this data while asking themselves, "What are we going to do about it?" As you read this report, I hope you can keep this in mind:

Everyone is competing with us. So, what are we going to do about it?

In the future, we believe technology companies will only exist in cities that can produce their own talent. We need to be honest about the way we're addressing the tech workforce needs of KC-area companies. It's time to take a long-term approach instead of focusing on short-term results. If we don't, we may not be one of those self-producing, talent-rich cities.

We want Kansas City to be considered THE destination for tech companies and careers. As Kansas Citians, we have to believe that we are the tech hub of the Midwest. If you believe in this vision, I look forward to receiving your company's support as a member or sponsor of the KC Tech Council. I look forward to seeing you at one of our 30-plus tech events hosted throughout the year. I look forward to celebrating our success together, as a community. Most importantly, I hope we all look forward.

Ryan Weber
President, KC Tech Council
ryan@kctechcouncil.com

Executive Summary

The tech industry is directly responsible for 93,880 jobs in the Kansas City MSA. These are jobs either at a tech company, in a tech role, or both, and can be roughly divided into thirds:

The tech industry has an overall economic impact on Kansas City of 9.5 percent, and is second only to health care as the fastest growing industry in our region. And we're outperforming our competition. Computer and mathematical occupations are **41 percent more concentrated** in this area than they are in the U.S. as a whole.

In fact, of the 16 occupations the Bureau of Labor Statistics counts in this group, the Kansas City area has an **above average concentration in 14** of them. This means that these technical jobs are even more important to Kansas City's economy than they are to the average U.S. community.

However, at close of Q4 2016, **4,699 tech jobs were posted** in the KC area. There are simply not enough workers in the area with the technical skills to meet the demand of our region's companies. This number will not decrease unless our region does more to support tech workforce development.

Efforts are at play, but are not at the scale to meet demand. The KC STEM Alliance nearly doubled the number of students it reached over the last two years, and local higher education institutions have dramatically increased the number of computer science (CS)-related programs in recent years. But the demand for computing employees is outpacing the supply of CS graduates in both Kansas and Missouri, and **legislators in Kansas and Missouri are failing to support CS education** the way legislators in the nearby states of Arkansas and Indiana are.

Clearly, the tech industry is critical to Kansas City's economic future, bolstering the income of 93,880 people and growing every day. This growth is not being met with the supply of skills, and though efforts are at play, there is an opportunity to enrich our supply of skilled workers with legislative, industry-led change.

TECHNICAL WORKERS (COMPUTER PROGRAMMERS, SOFTWARE DEVELOPERS, ETC.) WORKING AT TECH COMPANIES (SPRINT, GARMIN, CERNER, ETC.)

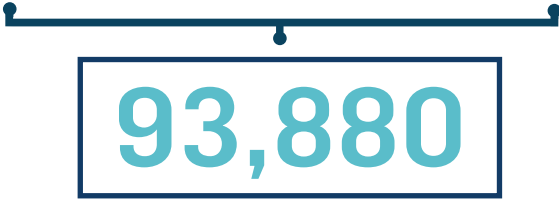
29,520

NONTECHNICAL WORKERS (ACCOUNTANTS, HR MANAGERS, ATTORNEYS, ETC.) WORKING AT TECH COMPANIES

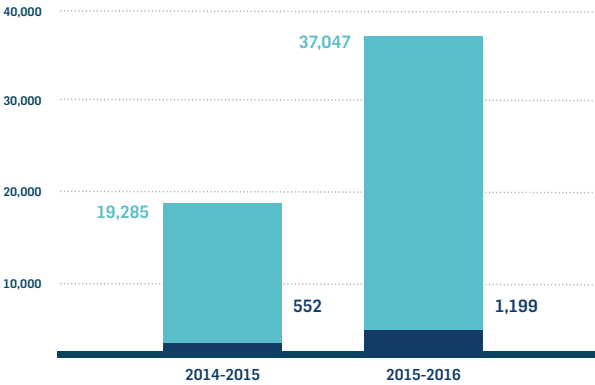
31,980

TECHNICAL WORKERS WORKING IN OTHER INDUSTRIES (BANKS, HOSPITALS, ETC.)

32,380



STUDENTS REACHED BY KC STEM ALLIANCE PROGRAMS



● OVERALL STUDENTS REACHED BY KC STEM ALLIANCE PROGRAMS ● OVERALL STEM ALLIANCE REACH IN COMPUTER SCIENCE PROGRAMS

CURRENT STATE

In the U.S., the tech industry employs millions, and technology companies represent some of Kansas City's largest employers. Tech jobs pervade nearly every industry, paying nearly double the wage of other private sector jobs and making a significant impact on the local economy.



TECH INDUSTRY EMPLOYMENT

61,465

TECH BUSINESS ESTABLISHMENTS

3,697

AVERAGE WAGE IN TECH INDUSTRY

\$89,400

% OF PRIVATE SECTOR WORKERS IN TECH

6.1

KANSAS CITY MSA POPULATION

2,086,571

EST. DIRECT CONTRIBUTION OF TECH
SECTOR TO KC ECONOMY

+9.5%



TECH INDUSTRY EMPLOYMENT

6,900,000

TECH BUSINESS ESTABLISHMENTS

492,550

TECH INDUSTRY PAYROLL

\$795 BILLION

AVERAGE WAGE IN TECH INDUSTRY

\$108,900

AVERAGE PRIVATE SECTOR WAGE

\$53,100

% OF U.S. PRIVATE SECTOR WORKERS
EMPLOYED BY TECH INDUSTRY FIRMS

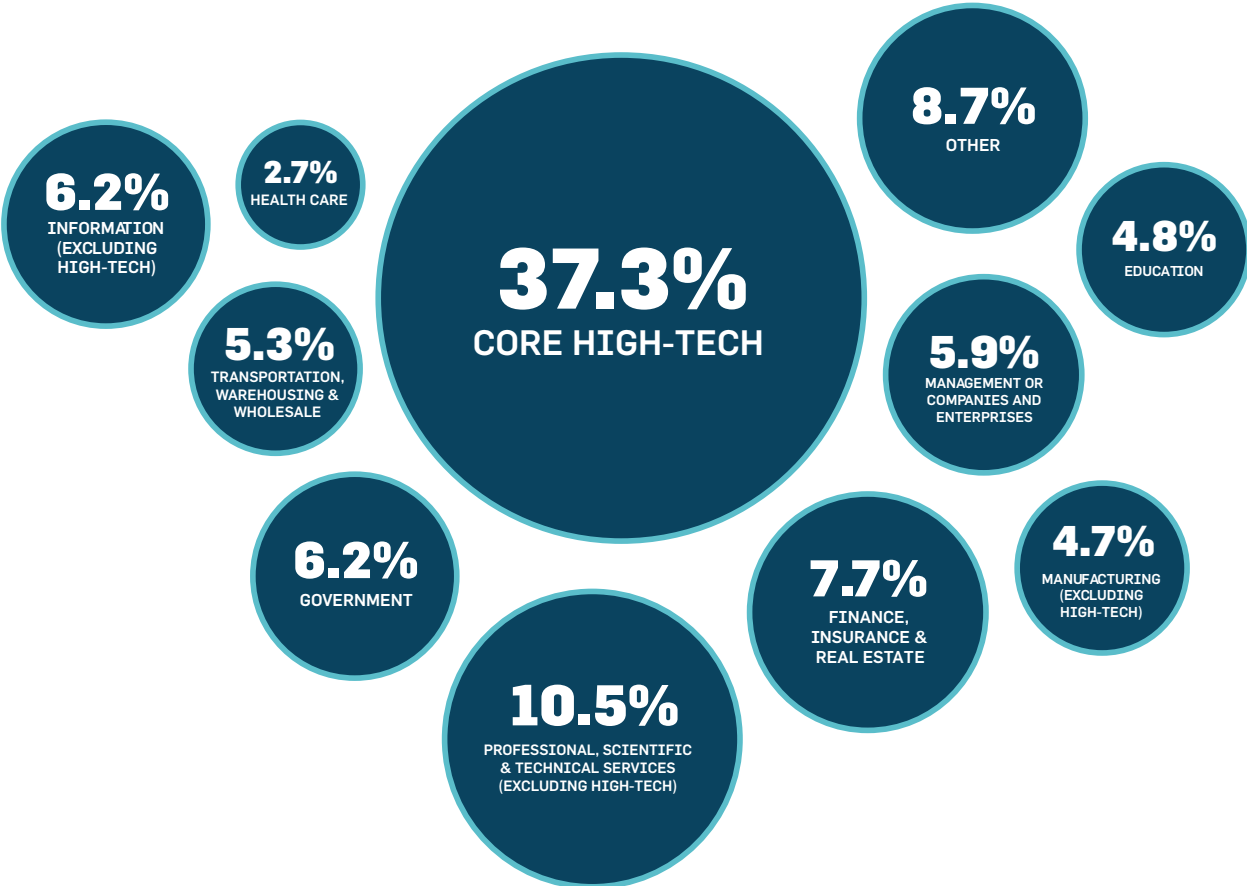
4.4

According to the Kansas City Area Development Council, the largest employers in the information technology sector are:

① Cerner Corp. 12,295	⑥ Garmin International Inc. 3,255	⑬ Freightquote.com 963
② Sprint Corp. 6,000	⑦ ATK Small Caliber Systems ... 1,500	⑭ Quintiles Transnational Corp. ... 840
③ AT&T 3,700	⑧ H&R Block Inc. 1,350	⑮ Spectrum (formerly Time Warner) 815
④ DST Systems Inc. 3,631	⑨ CenturyLink Inc. 1,200	⑯ Honeywell Aerospace Electronic Systems 650
⑤ Honeywell FM&T 3,500	⑩ Ericsson 1,000	⑰ Millbank Manufacturing Co. Inc. ... 598

Though the Kansas City region counts many tech industry giants as major employers, tech positions permeate across nearly all industries. In fact, only one out of three tech jobs is within a “tech company.” The majority of tech workers are employed by hospital systems, law firms, banks, insurance companies and many other industries.¹

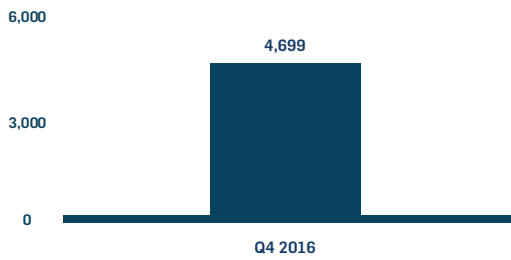
U.S. TECH TALENT LABOR BY INDUSTRY (2015)



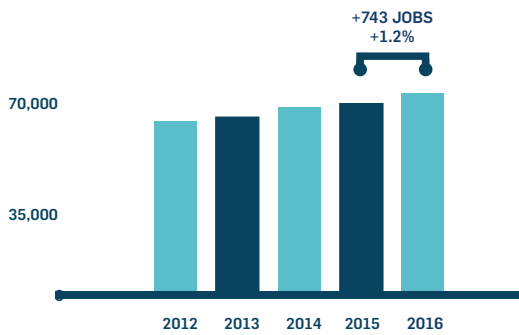
¹CBRE Research, "Scoring Tech Talent," 2016.



**POSTINGS FOR TECH OCCUPATION
JOB OPENINGS (NET)**



TECH INDUSTRY EMPLOYMENT TRENDS

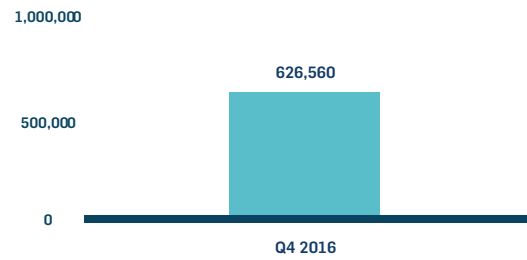


LEADING TECH INDUSTRY SECTORS

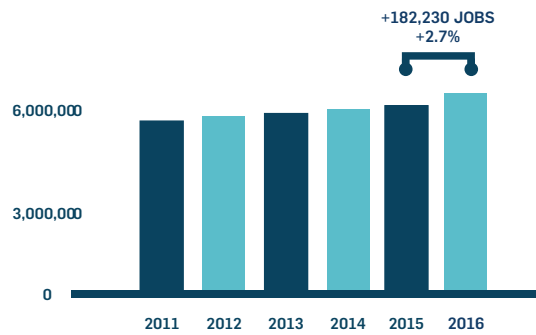
	2016	YOY % Change
Computer Systems Design (IT Services)	23,760	4.0%
Telecommunications	13,610	0.3%
Engineering Services	7,010	-2.4%
Internet Services	4,520	2.1%
R&D Testing Labs	4,440	-0.8%



**POSTINGS FOR TECH OCCUPATION
JOB OPENINGS (NET)**



TECH INDUSTRY EMPLOYMENT TRENDS



LEADING TECH INDUSTRY SECTORS

	2016	YOY % Change
Computer Systems Design (IT Services)	2,355,820	4.8%
Engineering, R&D & Testing Services	1,735,070	1.9%
Telecommunications & Internet Services	1,307,170	1.3%
Tech Manufacturing	1,137,890	-0.1%
Software (packaged)	357,410	7.6%

The KC tech industry currently is ranked the second best in the country for women working in technology, based on data that indicated women held nearly one-third of the tech jobs in the city. But growth in the KC area hasn't matched tech job growth across the U.S., indicating that we could do more to support the industry.

CITY	GENDER PAY GAP	INCOME AFTER HOUSING COSTS	TECH JOBS FILLED BY WOMEN	FOUR-YEAR TECH EMPLOYMENT GROWTH	INDEX
Washington, DC	94.8%	\$56,416	41.0%	17%	88.18
Kansas City, MO	103.4%	\$59,150	30.3%	10%	83.25
Baltimore, MD	88.4%	\$55,364	32.5%	22%	81.53
Indianapolis, IN	102.2%	\$51,393	28.5%	11%	73.65
New Orleans, LA	99.8%	\$40,355	34.6%	32%	73.40
Fremont, CA	84.1%	\$68,180	26.6%	28%	71.43
New York, NY	90.1%	\$55,837	26.5%	15%	70.69
Detroit, MI	104.6%	\$36,693	42.2%	19%	70.20
Denver, CO	94.3%	\$56,680	24.3%	17%	70.20
Philadelphia, PA	92.0%	\$47,622	32.3%	14%	69.95
Albuquerque, NM	98.6%	\$52,961	28.0%	-1%	69.70
St. Paul, MN	86.2%	\$49,202	28.0%	18%	65.27
Charlotte, NC	84.2%	\$51,384	27.0%	31%	65.02
Milwaukee, WI	96.8%	\$42,292	30.0%	4%	61.82
Houston, TX	87.7%	\$51,450	25.2%	15%	61.58

According to BLS data, the Kansas City MSA has high location quotients for almost all occupations in the computer and mathematical occupations group.² This means that computer and mathematical occupations are more concentrated in this area than they are in the U.S. as a whole. In fact, of the 16 occupations the BLS counts in this group, the KC region has an above-average concentration in 14 of them.

OCCUPATION TITLE	TOTAL EMPLOYMENT	LOCATION QUOTIENT
Computer & Mathematical Occupations (Total)	42,000	1.41
Actuaries	680	4.67
Network & Computer Systems Administrators	4,820	1.74
Information Security Analysts	1,140	1.73
Computer User Support Specialists	7,070	1.63
Computer Programmers	3,440	1.60
Statisticians	340	1.55
Computer Systems Analysts	5,920	1.43
Computer Occupations, All Other	2,330	1.41
Database Administrators	1,130	1.34
Computer Network Architects	1,390	1.28
Software Developers, Applications	6,920	1.25
Software Developers, Systems Software	3,560	1.23
Web Developers	1,060	1.13
Computer Network Support Specialists	1,440	1.05
Operations Research Analysts	600	0.85
Computer & Information Research Scientists	130	0.69

Computer and mathematical occupations are 41% more concentrated in the KC area than in the U.S. as a whole.

Kansas City boasts almost 5 times the amount of actuaries as other regions. These scientists are highly skilled in analyzing risk and data, qualities also in high demand for the growing big data sector in tech.

Workers in Kansas City are 60% more likely to be employed as computer programmers as American workers in general.

Whether they write code for applications, enterprise systems or websites, almost 20% of tech workers in Kansas City are developers.

²May 2015 OES Estimates, BLS, based on Location Quotient calculations, which compare the occupation's share of employment in the MSA to the occupation's share of employment nationally. SmartAssets.com

Projected Growth

The tech industry is poised for growth both globally and in KC. The industry has experienced explosive growth over the past half-decade and shows no signs of slowing down.³

YEAR	TOTAL EMPLOYMENT IN KC MSA IN COMPUTER AND MATHEMATICAL JOBS	GROWTH (FROM PREVIOUS PERIOD)
2010	32,190	-
2015	42,000	23%
2020 (PROJECTED)	54,800	23%

Among jobs that require a bachelor's degree, computer-related jobs are expected to be among the fastest-growing and best-paying in the KC metro area:⁴

OCCUPATION	2012 JOBS	2017 JOBS	NET JOB GROWTH	% JOB GROWTH	TOTAL JOB OPENINGS	ANNUAL JOB OPENINGS	2011 HOURLY MEDIAN WAGE
Personal Financial Advisors	9,500	11,377	1,877	20%	2,359	472	\$14.71
Securities, Commodities & Financial Services Sales Agents	8,661	10,183	1,522	18%	2,779	556	\$21.99
Accountants & Auditors	13,971	15,242	1,271	9%	2,430	486	\$22.09
Property, Real Estate & Community Association Managers	11,156	12,393	1,237	11%	2,161	432	\$8.75
Elementary School Teachers, Except Special Education	14,466	15,541	1,075	7%	2,692	538	\$25.44
Computer Software Engineers, Applications	4,547	5,176	629	14%	815	163	\$35.44
Computer Software Engineers, Systems Software	4,541	5,167	626	14%	810	162	\$34.36
Financial Analysts	3,666	4,241	575	16%	893	179	\$22.91
Network Systems & Data Communications Analysts	3,230	3,688	458	14%	741	148	\$25.79
Computer Systems Analysts	5,862	6,308	446	8%	1,066	213	\$31.30

Median average wage according to BLS is \$18.19/hour.

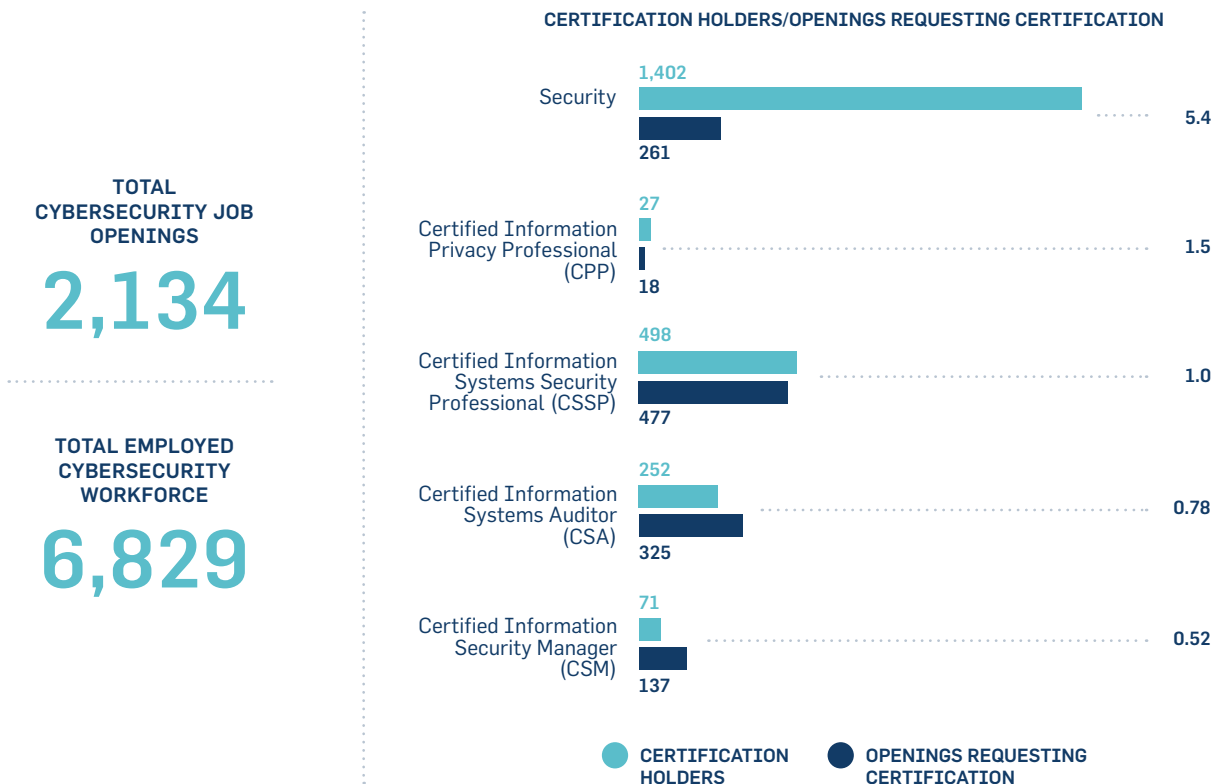
One in 10 tech employees is an analyst.

³BLS occupational data for KC MSA, 2010 and 2015. This estimate is actually conservative, as growth rates have been accelerating.
⁴“Projected Growth Occupations by Educational Attainment for the Kansas City MSA, 2012-2017,” citing Economic Modeling Specialists Inc. data.

According to that same data from Economic Modeling Specialists Inc., only health occupations are expected to outstrip computer occupations in job growth in the Kansas City area in the next decade.⁵

OCCUPATION	2016 JOBS	2026 JOBS	NET JOB GROWTH	TOTAL JOB OPENINGS	ANNUAL JOB OPENINGS
Health Diagnosing & Treating Practitioners	38,323	43,654	5,331	14,761	1,476
Computer Occupations	35,663	40,652	4,989	10,557	1,056
Construction Trade Workers	34,929	38,744	3,815	10,771	1,077
Other Personal Care & Service Workers	23,691	27,395	3,704	9,018	902
Nursing, Psychiatric & Home Health Aides	17,646	21,350	3,704	7,683	768

One of the fastest-growing categories in tech is cybersecurity. Centrally located and filled with major employers from several of the U.S. Department of Homeland Security's critical infrastructure sectors (agriculture, transportation, health care, financial services and telecommunications), Kansas City is well-positioned to be a hub for cybersecurity if we can meet the workforce demand.



Tech M&A Overview

According to CC Capital Advisors' 2016 Report, The State of M&A In Kansas City, the regional technology industry reported 34 total transactions. Only five of those transactions disclosed the value of the merger or acquisition. However, those five transactions totaled more than \$2.5 billion of activity.

SELLER	SELLER STATE/ COUNTRY	UNIT SOLD	BUYER	BUYER STATE COUNTRY	TRANSACTION VALUE
GenStar Capital LLC, Salmon River Capital LLC	KS	Netsmart Technologies Inc.	GI Partners, Allscripts Healthcare Solutions Inc.	CA, IL	\$950M
DST Systems Inc.	MO	North American Customer	Broadridge Financial Solutions Inc.	NY	\$410M
Epiq Systems Inc.	KS	Entirety	OMERS Private Equity; Harvest Partners LP	Canada, NY	\$1B
DuPont Fabros Technology Inc.	NJ	Entirety	QTS Realty Trust Inc.	KS	\$125M
EyeVerify	MO	Entirety	Ant Financial/Alibaba	China	\$100M
Technical Communications Corp.	MO	PulsedLight Inc.	Garmin International Inc.	KS	-
Orange Legal Technologies	UT	Entirety	Xact Data Discovery	KS	-
Nodal Industries	MO	Entirety	Luma	GA	-
Xact Data Discovery	KS	Entirety	Clearview Capital LLC	CT	-
Imation Corp.	MN	Management Services	DataLocker Inc.	KS	-
DeLorme	ME	Entirety	Garmin International Inc.	KS	-
Adaptive Software LLC	KS	Entirety	Decisions Resources Group	MA	-
Ensure Billing	AZ	Entirety	ABPathfinder Inc.	KS	-
DigiTron Technologies Inc.	KS	Entirety	Pivot International Inc.	KS	-
Aurionpro Solutions Limited Inc.	CA	US IT Services Business	Saicon Consultants Inc.	KS	-
Cactus Software	KS	Merger	Symplr	TX	-
Browsersoft Inc.	KS	Entirety	Lightbeam Health Solutions LLC	TX	-
eNSYNC Solutions Inc.	KS	Entirety	Data Systems International Inc.	MO	-

CONTINUED ON NEXT PAGE »

SELLER	SELLER STATE/ COUNTRY	UNIT SOLD	BUYER	BUYER STATE COUNTRY	TRANSACTION VALUE
F1 Discovery LLC	CA	Entirety	Xcellence Inc.	CT	-
Evantix GRC	CO	Entirety	Optiv Security	KS	-
Bowman Systems LLC	KS	Entirety	Mediware Information Systems Inc.	LA	-
IdentityMine	WA	Entirety	Valorem Consulting Group LLC	MO	-
Fleetmind Solutions Inc.	Canada	Entirety	Safe Fleet Acquisition Corp.	MO	-
D.K. Shifflet & Associates	VA	Entirety	MMGY Global	MO	-
Ingenuity Consulting Partners Inc.	MO	Entirety	Speridian Technologies LLC	NM	-
Beyond the Scores LLC	MO	Entirety	SportsEngine	MN	-
Crown Philanthropic Solutions LLC	MO	Crown Web	Envision Technology Advisors LLC	RI	-
YourCash Europe Ltd.	United Kingdom	Entirety	Euronet Worldwide Inc.	KS	-
FortyCloud Ltd.	Isreal	Entirety	FireMon LLC	KS	-
HealthMEDX	MO	Entirety	Netsmart Technologies Inc.	KS	-
Admo.net Web Services	MO	Entirety	Contegix	MO	-
Kansas Biosciences Authority	KS	Investment Assets	Origami Capital Partners	IL	-
Mediware Information Systems Inc.	KS	Entirety	TPG Capital	TX	-

Tech M&A and growth have dominated the KC business headlines.

TECHNOLOGY JANUARY 13, 2017 7:00 AM

The top Kansas City startups to watch in 2017

BUSINESS MAY 27, 2016 11:39 AM

Cerner touts \$1.2 billion in local economic impact, says it expects to employ 25,000 in area

DEVELOPMENT AUGUST 26, 2016 11:41 AM

Garmin launches \$200 million expansion at Olathe headquarters

BUSINESS SEPTEMBER 26, 2016 10:00 AM

Lenexa-based Bats Global Markets agrees to \$3.2 billion buyout

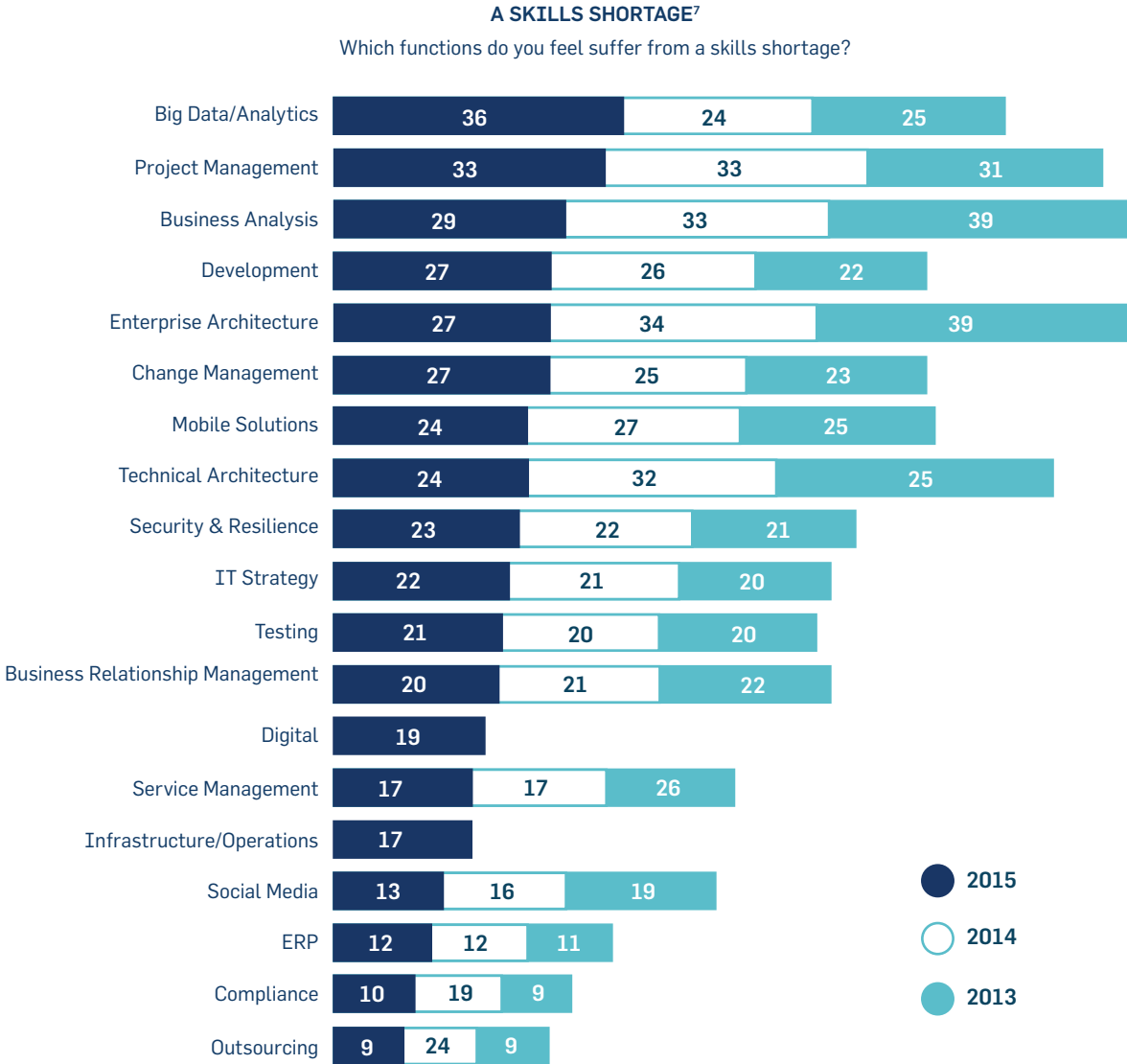
Labor Force Shortage

The greatest predictor of whether any region's tech industry will reach its full potential is if it can grow and sustain a skilled workforce. Globally, we're seeing a shortage of skilled people to fill tech positions, and our region is no exception. The current labor force is insufficient to fill the expected demand for tech jobs.

"Talent is now recognized globally as the single biggest issue standing in the way of CIOs achieving their objectives." — Gartner CIO Agenda 2016

Nationally, skills shortages are greatest when it comes to analytics, project management, business analysis, development and enterprise architecture.⁶

The Harvey Nash/KPMG CIO Survey is the world's largest study on the priorities, strategies and careers of technology leaders:



CBRE research found that Kansas City is experiencing a net gain of skilled employees.⁸

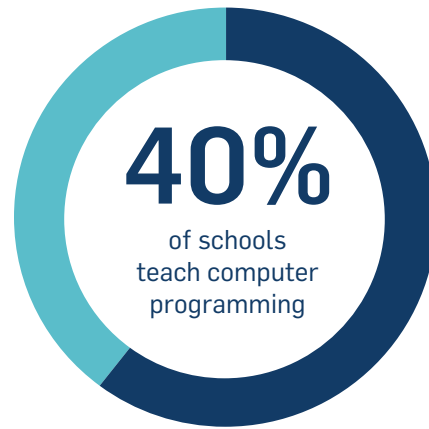
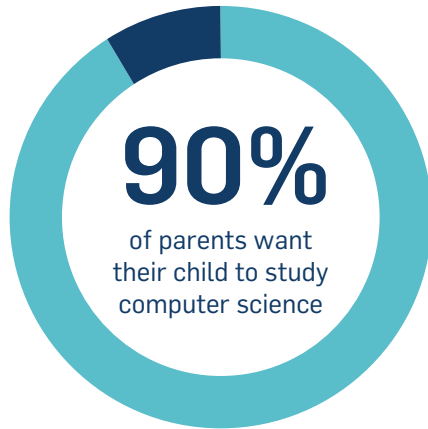
WHERE ARE TECH TALENT WORKERS COMING FROM AND WHERE ARE THEY HEADED?

MARKET	TECH DEGREES (2010-2014)	TECH JOBS ADDED (2011-2015)	BRAIN GAIN/DRAIN
SF Bay Area, CA	30,957	120,550	89,593
Dallas/Fort Worth, TX	19,129	44,620	25,491
Seattle, WA	19,297	44,010	24,713
Houston, TX	12,063	32,960	20,897
Austin, TX	9,758	24,590	14,832
Charlotte, NC	6,538	20,220	13,682
Washington, D.C.	59,980	73,440	13,460
Atlanta, GA	26,285	39,710	13,425
Minneapolis, MN	14,359	23,880	9,521
Portland, OR	5,592	14,680	9,088
Tampa, FL	7,082	14,740	7,658
Nashville, TN	3,694	10,460	6,766
Kansas City, MO	7,525	14,260	6,735
San Diego, CA	15,665	21,670	6,005
Oklahoma City, OK	3,526	7,010	3,484
Columbus, OH	20,995	24,310	3,315
Rochester, NY	842	3,930	3,088
San Antonio, TX	6,035	9,100	3,065
Omaha, NE	1,584	4,400	2,816
Detroit, MI	22,771	25,080	2,309

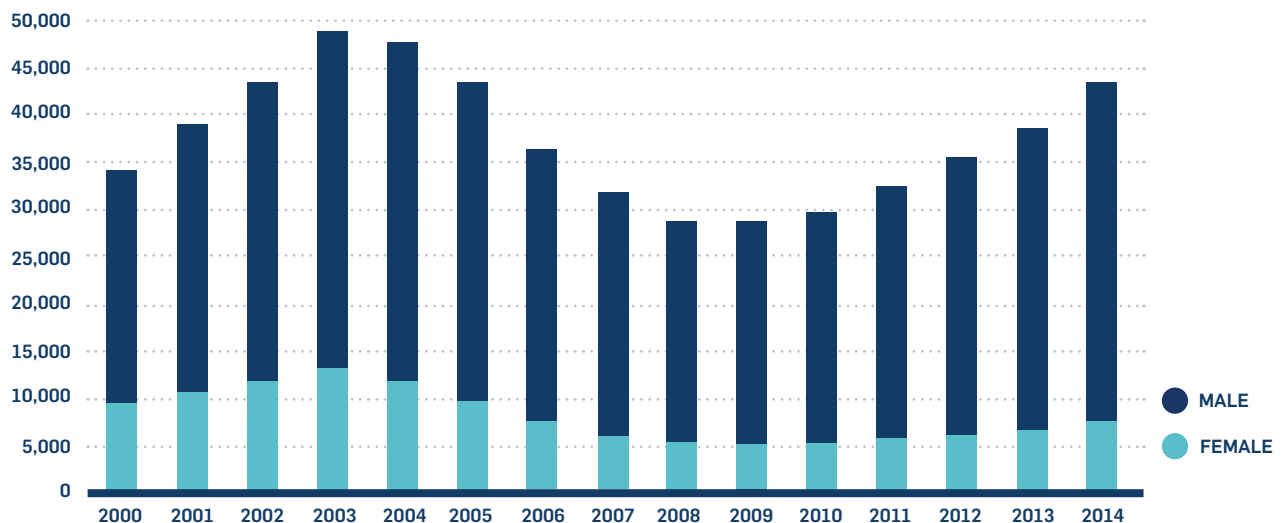
The Harvard Business Review has recommended that employers ensure team members feel they're part of something greater than themselves, invest in coaching/mentoring/training, and focus on hiring for emotional maturity and the ability to learn and change.⁹

The Need for Industry Partnership With Education

Across the nation, we're facing a shortage of tech skills. To address this shortage in the long term, we'll need to foster interest in children, just as we foster interest in other arts and sciences. The industry needs tech skills, and parents want their children to study computer science, but the majority of schools don't teach computer science.¹⁰



In fact, nationally, we're producing fewer computer science graduates than we were 10 years ago.¹¹





OPEN COMPUTING JOBS¹²
(3.0 times the State Average Demand Rate)

2,986

COMPUTER SCIENCE GRADUATES

338

POLICY ENVIRONMENT (Rubric):

- ⊗ No dedicated state funding for CS PD
- ⊗ Does not require all high schools to offer CS
- ⊗ No K-12 CS curriculum standards



OPEN COMPUTING JOBS¹³
(3.2 times the State Average Demand Rate)

10,084

COMPUTER SCIENCE GRADUATES

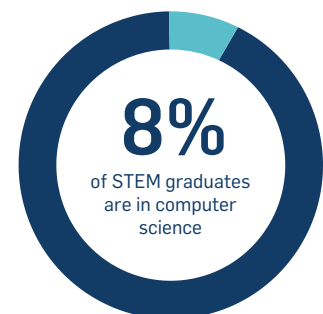
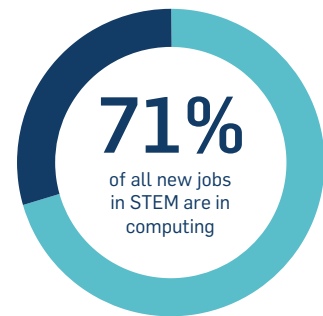
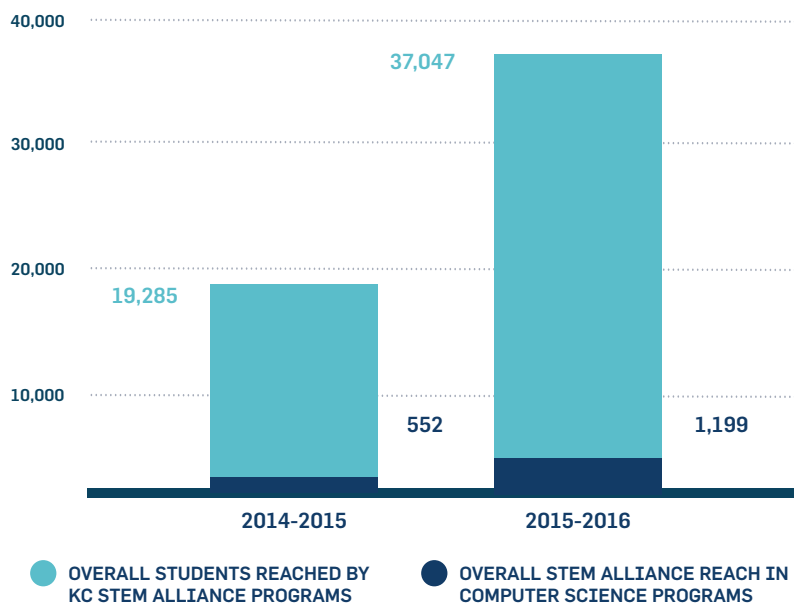
1,138

POLICY RECRUITMENT (Rubric):

- ⊗ No dedicated state funding for CS PD
- ⊗ Does not require all high schools to offer CS
- ⊗ No K-12 CS curriculum standards

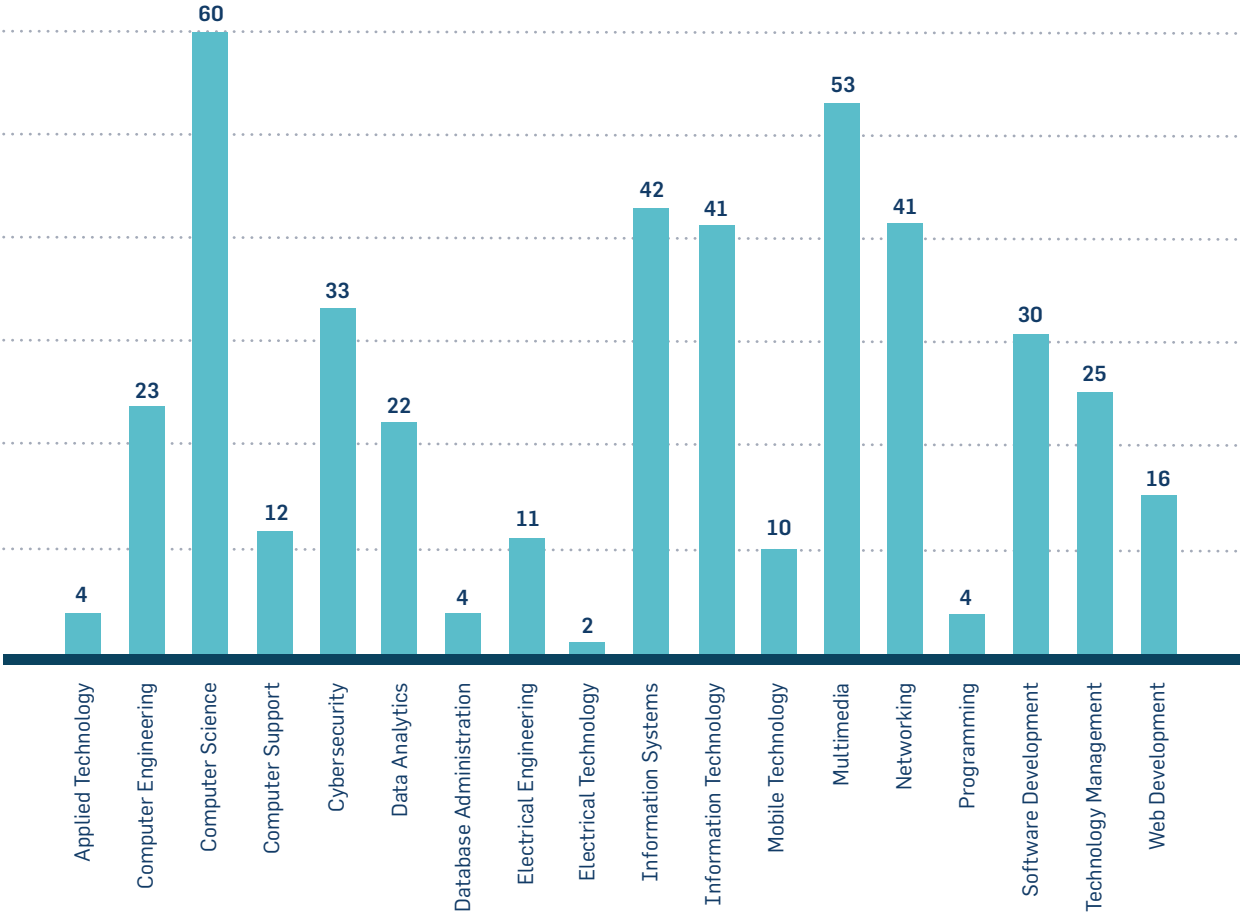
KC STEM Alliance has grown school participation in programs and nearly doubled the number of students it touches in the KC area in the most recent two school years.¹⁴ While this growth is encouraging, most jobs available to STEM graduates are computing jobs, and a small minority of students participate in computer science-focused STEM programs.

STUDENTS REACHED BY KC STEM ALLIANCE PROGRAMS



GradForce KC research found 433 credentials related to IT at local institutions — that's 91 more than were identified in 2015.¹⁵

INFORMATION TECHNOLOGY CREDENTIALS AVAILABLE BY PROGRAM



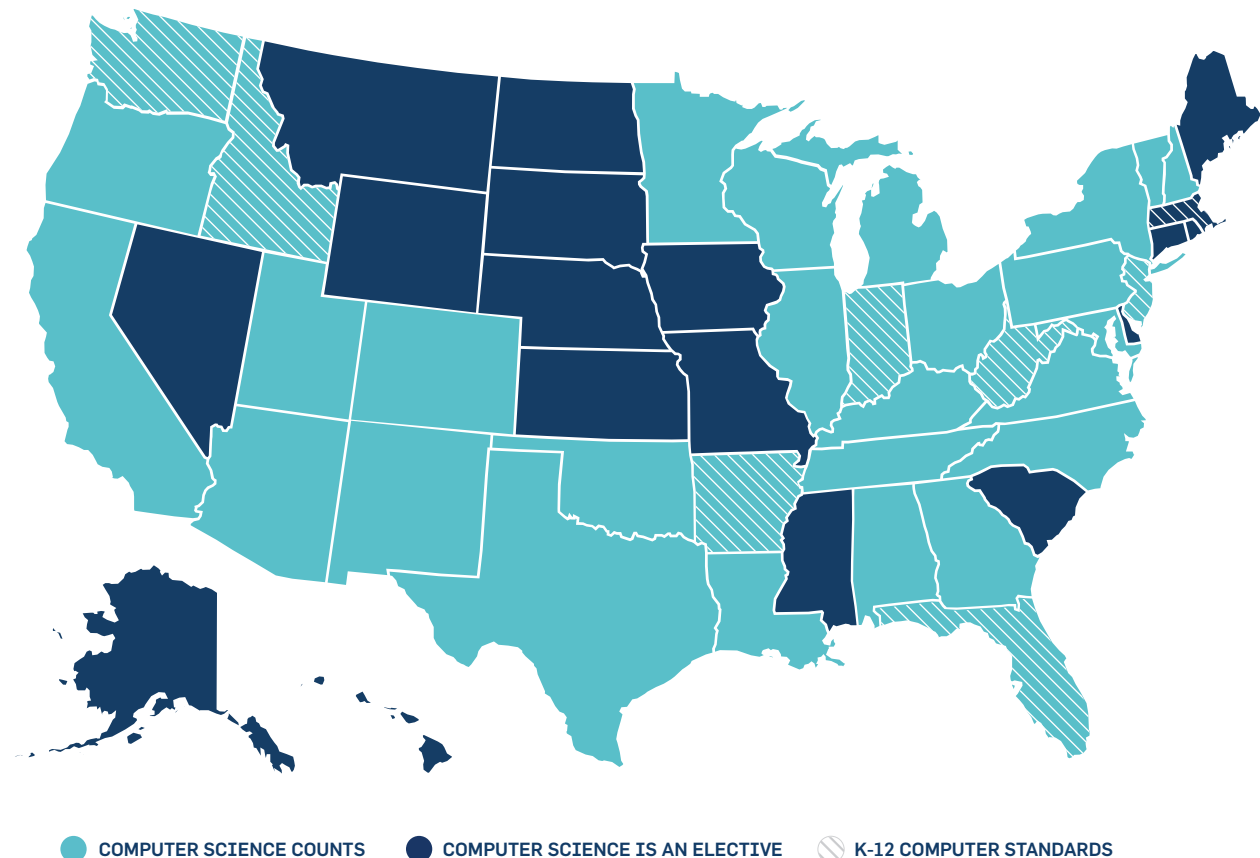
**433 TOTAL CREDENTIALS
(91 MORE THAN THE 2015 INVENTORY)**

But the GradForce audit showed there's still room for growth to meet demand and that there is a need to ensure that programs align with industry demand — this is consistent with questions of whether traditional education programs are connecting education with industry needs nationally.¹⁶ The audit also uncovered a shortage of data and mobile technology programs.¹⁵ And computer science courses still don't count toward high school graduation math or science requirements in Missouri and Kansas.¹⁷

¹⁵GradForce KC, "Education Asset Inventory for Greater Kansas City," December 2016.
¹⁶JP Morgan Chase & Co., "Tech Jobs for All?"
¹⁷"Computer Science Advocacy" deck.

In 32 states plus Washington, D.C., computer science can count toward high school graduation math or science requirements.

**CS CAN COUNT TOWARD GRADUATION IN
32 STATES + WASHINGTON, D.C.
BUT ONLY EIGHT STATES HAVE STANDARDS SET**



According to data compiled by Code.org, computer science has become a part of curricula across the nation. New York City and Chicago Public Schools are bringing CS courses into all schools, and CS is now a required graduation credit in Chicago.^{18,19} Arkansas has created CS standards and now requires all secondary schools to offer computer science courses, even allowing them as substitutes for math or science credits. And Indiana is also allowing CS to satisfy a graduation requirement in mathematics. But Kansas and Missouri don't appear to have made moves to create standards, fund computer science education, or allow CS to count as math or science credits in public schools.