ROI

REGIONAL OPPORTUNITY INITIATIVES, INC.

Southwest Central Indiana Occupational Needs Assessment National Security & Defense Sector Report

April 2017

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Introduction and Purpose

The purpose of this Occupational Needs Assessment (ONA) report is to highlight the education and workforce needs of the National Security and Defense Sector in the greater Southwest Central Indiana (SWCI) region.

There are similarities between national security and defense partners in the region, their respective workforce needs, and the characteristics of their employees. Additionally, they all share concerns about the availability and quality of talent both for today and for tomorrow. Working collaboratively as a sector within the region will impact the effectiveness of and capacity for implementing targeted initiatives that cultivate the highly-skilled workforce the sector needs to flourish in SWCI. This report will guide Regional Opportunity Initiatives, Inc. (ROI) in the implementation of education and workforce initiatives in the SWCI region. It is our hope that it will also serve to support others in our region, and beyond, in tailoring initiatives to meet the specific needs of the students, families, educators and employers who call Southwest Central Indiana home.

This report represents the results of data collected from two sources: quantitative analyses completed by Thomas P. Miller and Associates (TPMA) and a qualitative analysis conducted by ROI staff that entailed semi-structured interviews with national security and defense leaders focusing on workforce needs. The information in this report is not a broad labor statistic survey. Rather, it is a first step in developing targeted strategies specific to the needs of employers in our 11-county region.

National Security and Defense: A Thriving Sector in SWCI

SWC Indiana is home to NSA Crane, the third largest Navy Installation in the world, the 11th largest single site employer in Indiana, and the third largest employer in SWC Indiana. Government and defense contracting organizations together comprise the defense sector. In addition to NSA Crane, the defense sector includes defense contractors such as SAIC, AECOM, Alion, Bowhead, McKean Defense Group, Technology Services Corporation, TriStar Engineering, Artisan Electronics, and many others. The primary responsibility of the defense sector is to support our warfighter in protecting our country. This mission is accomplished by providing full life cycle expertise in engineering, technology, storage, production, and demilitarization services.

A key facet of the defense sector-related economic development opportunity is that it is mutually supporting. The defense community in SWCI is a public-private enterprise wherein activities of the publicly funded government entities are reinforced and supported by the activities of privately funded entities. These private entities, or contractors, thrive on partnerships and contracts with the publicly funded commands located at NSA Crane.

Essentially all defense related organizations are dependent upon one another for success. This mutually supporting environment creates a greater need to more closely collaborate as a sector around education and workforce development.

To more deeply understand the defense sector's education and workforce needs, it is important to contextualize the role of the defense sector in the 11-county region. Following are defense sector highlights:

SWCI's defense sector has a location quotient of approximately 2.30.

SWCI's defense sector has over 8,439 jobs in the region.

55+ Approximately 23% of those employed in the defense sector are 55 or older.

Average earnings in SWCI's defense sector are $89,001.

Figure 1: SWCI National Security and Defense Sector Highlights

OWEN 68

BROWN 115

MONROE 1,375

GREENE 176

LAWRENCE 617

DAVIESS 378

MARTIN 4,927

WASHINGTON 121

ORANGE 197
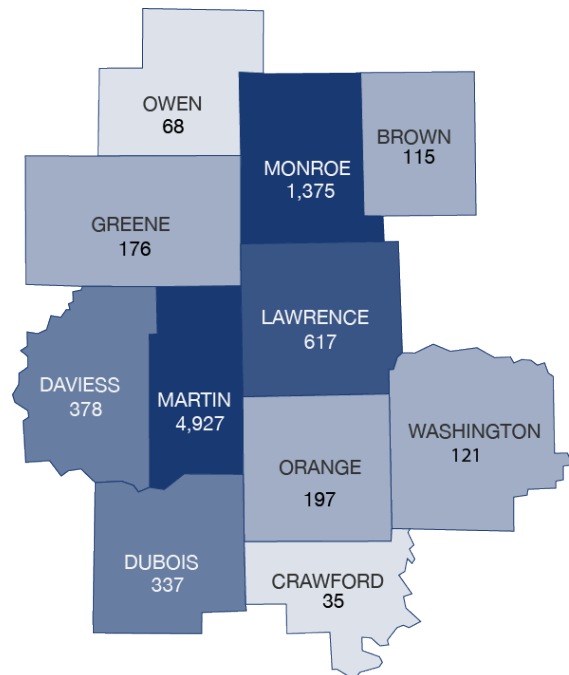
DUBOIS 337

CRAWFORD 35

Figure 2: Density of National Security and Defense Jobs in SWCI

National Security and Defense Challenges in SWCI

The Department of Defense receives congressional funding every fiscal year. Based on various factors the budget can increase or decrease annually. This variation impacts the defense sector employers' ability to hire and retain employees. It impacts employers' ability to develop employees for long-term employment which creates skill gaps. If the budget is reduced, training and education are often the budget line that gets removed or decreased significantly. The organizations must focus on staying financially viable in the short-term. This means employees are not being trained and educated to successfully undertake future Department of Defense requirements, which continue to advance. The inability to hire, retain, and appropriately train employees can result in out-migration from the organization, the sector, and the region. Thus, the defense sector must find innovative ways to attract, retain and develop talent.

Figure 3 lays out challenges that employers discussed in interviews with ROI Sector Specialists as obstacles to their future success. The diagram shows the challenges specific to government organizations (left), specific to defense contractors (right), and the shared challenges of both types of defense organizations (middle).
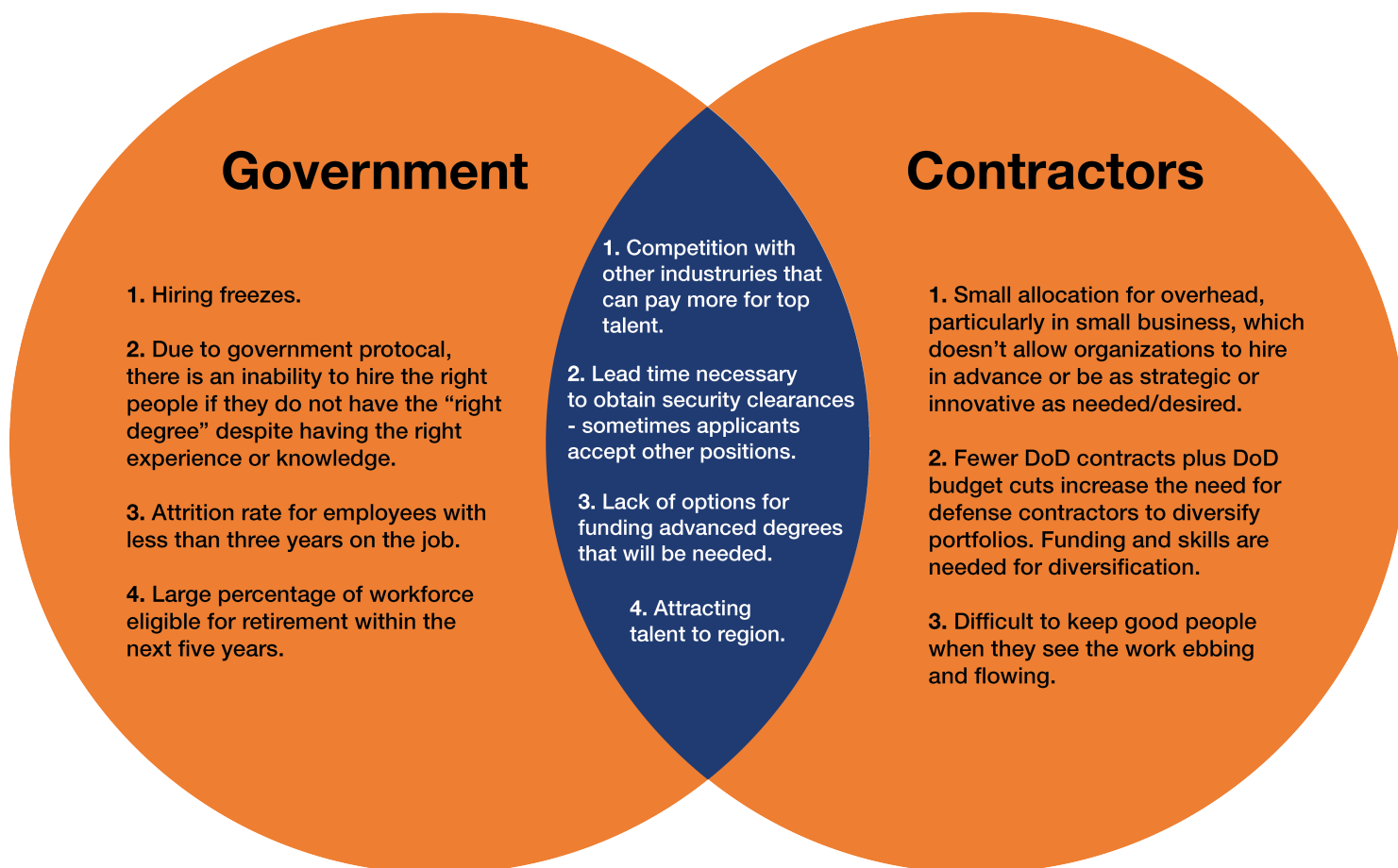
Government

1. Hiring freezes.

2. Due to government protocal, there is an inability to hire the right people if they do not have the "right degree" despite having the right experience or knowledge.

3. Attrition rate for employees with less than three years on the job.

4. Large percentage of workforce eligible for retirement within the next five years.

Contractors

1. Small allocation for overhead, particularly in small business, which doesn't allow organizations to hire in advance or be as strategic or innovative as needed/desired.

2. Fewer DoD contracts plus DoD budget cuts increase the need for defense contractors to diversify portfolios. Funding and skills are needed for diversification.

3. Difficult to keep good people when they see the work ebbing and flowing.

1. Competition with other industruries that can pay more for top talent.

2. Lead time necessary to obtain security clearances - sometimes applicants accept other positions.

3. Lack of options for funding advanced degrees that will be needed.

4. Attracting talent to region.

Figure 3: National Security and Defense Challenges in SWCI

National Security and Defense Workforce and Education Needs in SWCI

Given that the primary purpose of this ONA is to understand defense sector education and workforce needs, ROI staff, with the help of TPMA, spent time analyzing which jobs are in highest demand, the knowledge skills and abilities (KSAs) that are needed, and which degrees are most marketable in the defense sector. There is a great deal of overlap relative to employment needs between defense, advanced manufacturing, and life sciences sectors in SWCI. Following are the projected number of jobs, jobs in highest demand, KSAs, and degrees and certificates that are needed for the defense sector.

SWCI Defense Sector Job Projections

Job projection in the defense sector is challenging due to many external forces including administration change, DoD budget, and the general fluidity of defense contracting. Over the next 5-10 years, however, there is a significant number of growth opportunities that may come to fruition for the SWCI defense sector. Taking into consideration the current environment, past performance, aging workforce, and hiring strategies of defense sector employers, we have provided an estimate of jobs per year that will likely become available. Most of these calculations are due to attrition and a very small percentage for growth.

The total number of defense jobs available annually is conservatively projected to be approximately 650. We have categorized the jobs into three hiring categories.

- The professional category accounts for 60% of the demand (390 jobs). Professional jobs are those that require a four-year degree or higher. For the defense sector, this includes many of the engineering and science-related positions mentioned in this report.

- Administrative and clerical jobs account for 20% of the demand (130 jobs). These jobs include those in management, human resources, logistics, support offices.

- Technical, trade, and craft jobs account for the remaining 20% of the demand (130 jobs). These jobs include engineering technicians, maintenance, electricians, welders, physical security officers, etc.
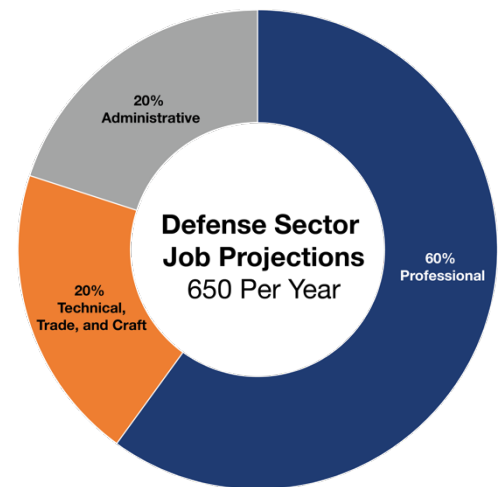

Figure 4: Annual National Security and Defense Sector Job Projections in SWCI

While the current projection is 650, the potential for growth is much greater. Our industry partners report that the sector is on an upswing and this could mean more jobs than projected. This potential is both exciting and concerning. While, on one hand, the region stands to benefit from a strong sector becoming even stronger, there is significant concern that SWCI will not have the workforce to support this level of growth.

Approximately 650 jobs will become available each year over the next 5 years.

In-Demand National Security and Defense Jobs in SWCI

As previously mentioned, over 60 leaders in the SWC Indiana Defense Sector were interviewed during the data collection phase of the ONA. We asked these leaders what jobs are in high demand for the defense sector. Electrical Engineer is the job most frequently mentioned by employers as a need today and in the future. The requirements to obtain an electrical engineering degree were regarded as a foundational knowledge base that could be easily transferrable into other jobs in the future such as cybersecurity and advanced technology-related positions. Figure 5 includes other positions mentioned frequently in the employer interviews.
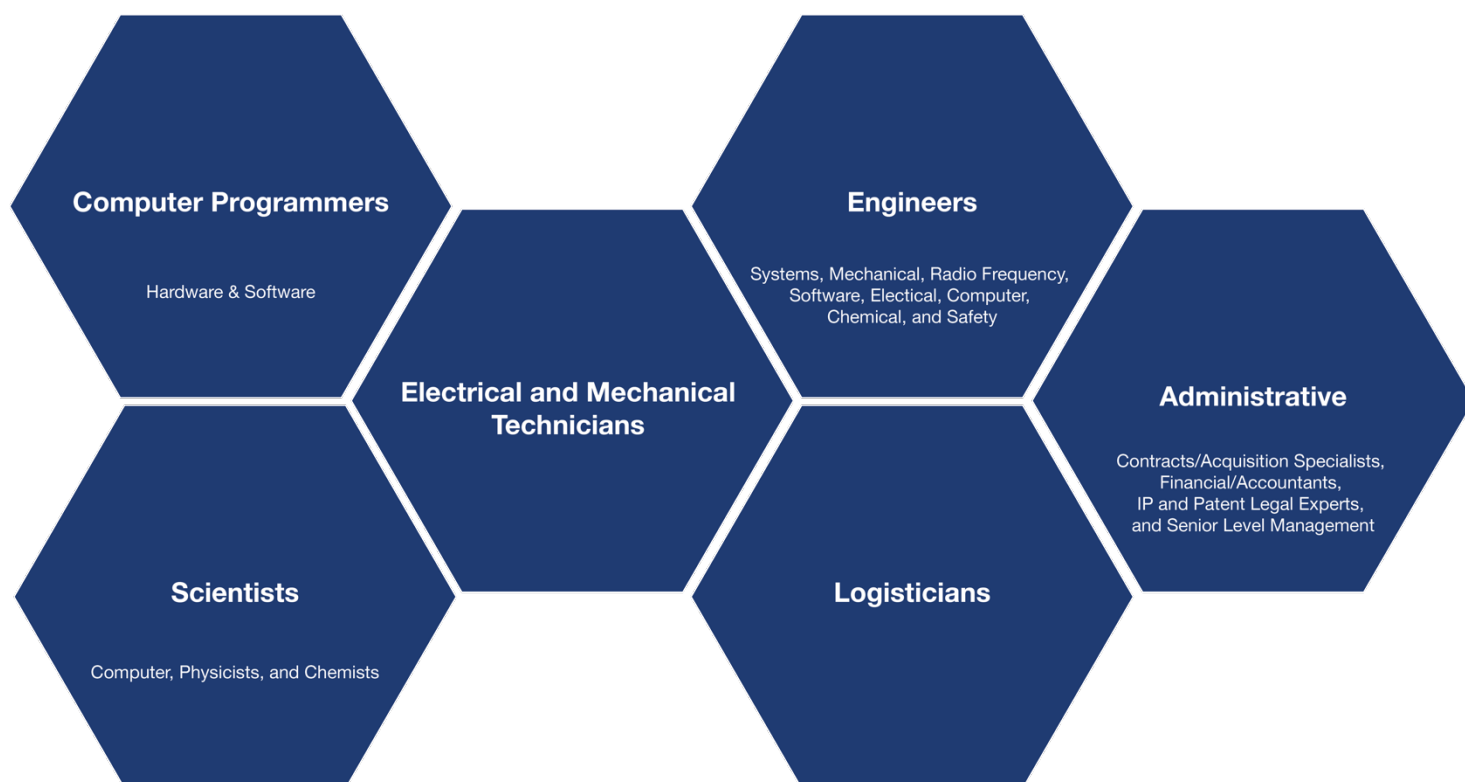

Figure 5: In-Demand National Security and Defense Jobs as Identified by SWCI Employers

An analysis of the Standard Occupational Classification (SOC) confirms these findings. This analysis was conducted utilizing the most prevalent occupations in terms of number of jobs within the sector in SWCI. Here we found the following jobs to be in highest demand in the defense sector:

- Electrical Engineers
- Business Operations Specialists
- Electrical Engineering Technicians
- Computer Systems Analysts
- Logisticians
- Managers
- Management Analysts
- Mechanical Engineers

Figure 6 below shows the median earnings for the in-demand occupations in the defense sector as defined by SOC.
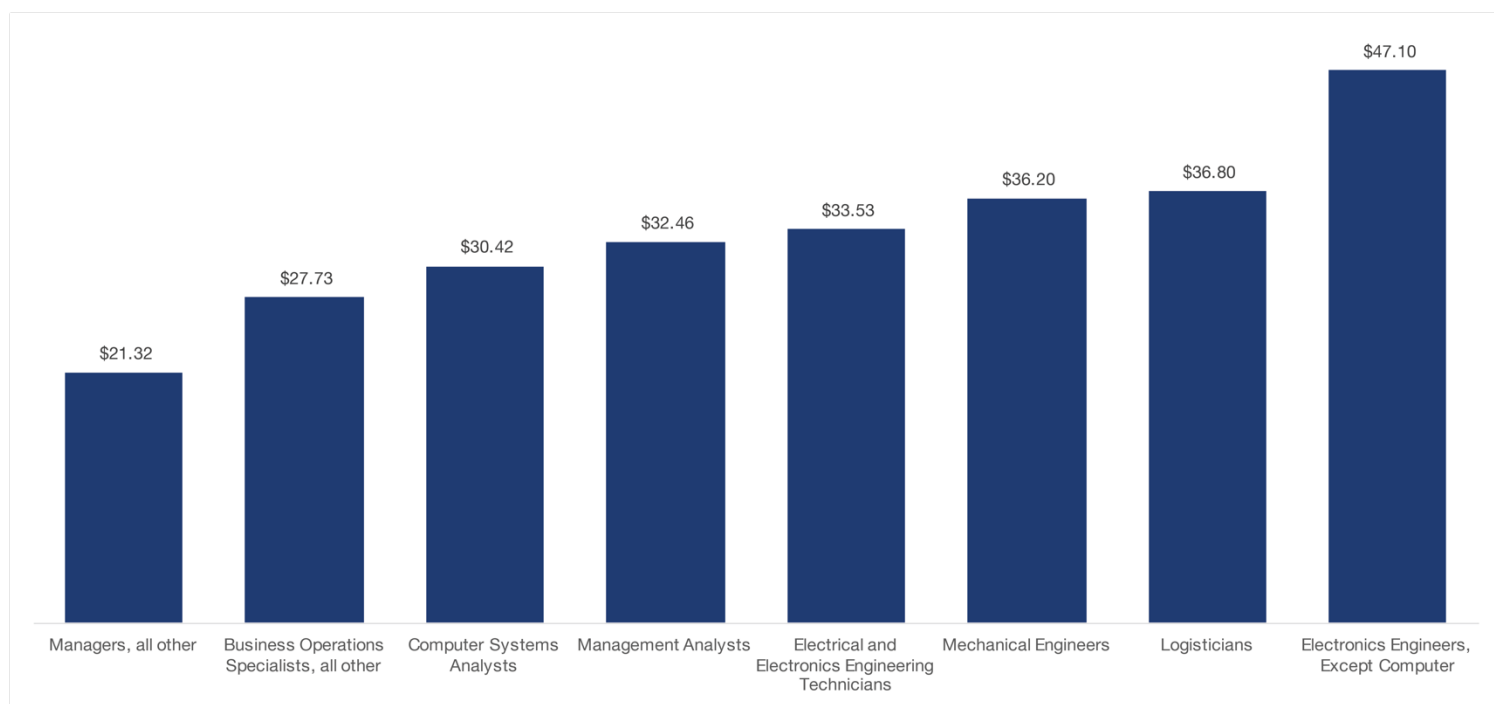
Figure 6: Median Annual Earnings among In-Demand Defense Jobs in SWCI

Knowledge, Skills, and Abilities of Defense Occupations

The need for highly-skilled employees in the defense sector will continue. Increasingly, the knowledge, skills and abilities (KSA) needed are becoming more advanced. Employers, for the most, part are finding people with the foundational technical knowledge required, but many of them lack soft skills (a.k.a. employability skills). Employers reported finding employees who have excellent theoretical knowledge but lacked practical application knowledge and work experience.

Employers described their hiring challenges in the following ways:

"We don't leave positions unfilled, but we don't always find exactly what we need"

"Employees recruited from Indiana's Engineering programs have impressive foundational and theoretical knowledge, but lack the knowledge of how to apply this in a work setting."

"Much of the talent entering the workforce, lacks any experience working in an organization. They don't understand how their role impacts the organization and they struggle with professional interpersonal skills."

ROI staff analyzed the KSAs identified by employers and the KSAs for the top occupations per the SOC codes. As seen in Figure 7 below, the KSAs reported by the defense sector employers (column 1 & 3) include large data management, information assurance, cybersecurity, quantum computing, CAD, math application and many cognitive and soft skills as well. These include leadership, adaptability, public service mindset, discipline, negotiation, and more. Column two and four in Figure 5, below, shows the KSAs from the top occupations,

for the defense sector in SWCI per the SOC codes. Many of the KSAs per the SOC codes overlap with those identified by employers, such as problem solving and troubleshooting, engineering and technology, math application, customer service, and communication (oral and written), and mechanical skills. These are highlighted in orange. Overall, there is a great deal of emphasis in the defense sector placed on technical KSAs, problem solving, and the ability to communicate effectively either orally, aurally, or in writing.

Employer Identified Technical KSAs	SOC Identified Technical KSAs	Employer Identified Soft Skills	SOC Identified Soft Skills
• Information Assurance • Circuit Board Experience • Cyber Technologies • Computers & Electronics • Engineering & Technology • Mathematics • Physics • Design • Technical Writing • Large Data Management • Rapid Prototyping • Math Application • CAD • Additive Manufacturing • Configuration Management • Modeling & Simulation • Supply Chain Management • Risk Management • Microsoft Office Suite • Quantum Computing	• Computer & Electronics • Engineering & Technology • Mathematics • Physics • Design • Mechanical • Communication & Media • Administration & Management • English Language • Psychology	• Problem Solving • Critical Thinking • Systems Thinking • Creativity/Innovative • Oral & Written Communication • Presentation Skills • Leadership • Public Service • Discipline • Adaptability • Negotiation • Forward Thinking • Customer Service • Interpersonal Skills • Teamwork • Ethics • Professionalism • Courage • Integrity • Self-awareness	• Written Communication (comprehension & expression) • Oral Comprehension • Complex Problem Solving • Active Listening • Speaking • Fluency of Ideas • Systems Analysis • Critical Thinking • Deductive & Inductive Reasoning • Judgement & Decision Making

Figure 7: Knowledge, Skills, and Abilities Needed to Be Successful in Defense Occupations

Credentials Needed for In-Demand Defense Jobs

While many of the positions in the defense sector do not require degrees or certifications, those that are in greatest demand do require some level of post-secondary education. This was validated by both the employer interviews and the quantitative analysis, which examined SOC codes.

We asked employers what certifications and degrees will be needed most in the future. Answers varied but a few were more frequently mentioned. Most of these were STEM related degrees. Figure 8, below, outlines these degrees.

Certificates	Examples include various software degrees (Pro-E, CAD, C++, etc.), information technology, welding, drafting, project management, and logistics.
Associate's Degress	Examples include electrical and mechancial engineering technicians, computer information, computer science, cybersecurity, and information technology.
Bachelor's Degrees	Examples include engineering degrees such as electrical, mechanical, systems, software, computer, chemical, and radio frequency. Other degrees include physics, robotics, mathematics, data and computer sciene.
Master's Degrees	Examples include various STEM related degrees such as systems engineering, quantum physics, chemistry, machine learning, computer science, human factors engineering, and cybersecurity.
Doctoral Degrees	Examples include highly technical STEM related degrees such as cybersecurity, physics, optical science, neuroscience, and quantum computing.

Figure 8: Credentials Employers Identified as Needed in SWCI

Figure 9 shows the degrees needed per the top SOC codes within the defense sector. An Associate's Degree is the minimum degree needed to obtain a position as an Electrical Engineering Technician. All other top SOC code positions require a minimum of a Bachelor's Degree for entry level positions.

Associate's Degress	Electrical engineering technicians
Bachelor's Degress	Electronics engineers, business operations specialists, computer systems analysts, logisticians, managers, manager analysts, and mechanical engineers

Figure 9: Credentials Identified by Top SOC Codes as Needed in SWCI

This credential data reveals a need for technically focused post-secondary educational attainment. However, administration and business operations positions will also be needed. Employers indicate that finding qualified talent for business and administration positions is normally less difficult than filling technically focused positions. Given the program completion data (further below in this report), we could assume that some of our talent is leaving the region once they receive their credentials.

National Security and Defense Education Opportunities

SWC Indiana region is comprised of 27 K-12 school districts. Post-secondary schools in our region include Indiana University, Ivy Tech Community College, and Vincennes University. Neighboring our region, we have Rose-Hulman Institute, Purdue University, and University of Southern Indiana as well as others. There are many opportunities for collaboration between education and industry. Engagement occurs more frequently between post-secondary and industry. However, to most adequately prepare our future workforce, collaboration is needed at the K-12 level as well. In the case of both K-12 and post-secondary, a more systematic approach to collaboration with the defense sector is needed.

Currently, collaboration is occurring in silos or pockets within the sector, especially in K-12. Examples of industry and education collaboration in the defense sector include employee engagement in mentorships with students, organizations providing sponsorships, and volunteers supporting certain programs and events. Some of these programs include STEM competitions, work-place simulations, job fairs, and job shadowing. A sector-wide strategic approach for engaging with the education systems in the region was not reported. NSWC Crane has the most activity with educational institutions and comes closest to a systematic strategic approach for engaging with education. During the interview process, many employers expressed an interest in partnering with educational systems in a more systematic manner.

The need for more collaboration for both K-12 and post-secondary was identified as an opportunity by employers. Most employers expressed satisfaction with the theoretical and technical knowledge that employees possessed upon graduation from post-secondary schools. The learning gap results from the lack of practical application-based experiences. Creating relevant work-based learning opportunities may be one solution.

The largest gap between industry and educational alignment exists in K-12. Needs expressed by employers included engaging students in STEM at an earlier age, especially females. Diversity needs in STEM programs were also expressed. Employers expressed the need to educate students on degree and career awareness. The example of helping students differentiate between an Engineering Technology degree and an Engineering degree was provided multiple times. Another example was helping students understand the difference between an Informatics degree and a Computer Science degree. Further, employers discussed the benefits of educating students and teachers on what working in the defense sector entails. Suggestions here included student/teacher industry tours and teacher externships.

There is significant potential for growth in the defense sector within SWCI. To achieve this potential the defense sector needs to be closely aligned with higher education in terms of STEM degrees available. Currently, there seems to be a disconnect between what employers need and the degrees being awarded within the SWCI region. As such, employers are recruiting outside of the region for many positions. This disconnect can be resolved as we continue to gain more clarity on what employers need as compared to program enrollment and completion data. The purpose of such an analysis is to get the most accurate snapshot possible of program completion data compared to those jobs that are in high demand for the defense sector. The program completion data reviewed are from higher educational institutions physically located within the SWCI region. The data was obtained from the Indiana Commission for Higher Education. Program completion statistics for STEM degrees in the region for 2015 was analyzed. Figure 10 shows number of degrees completed that are directly related to key occupations per defense employer interviews and SOC codes.
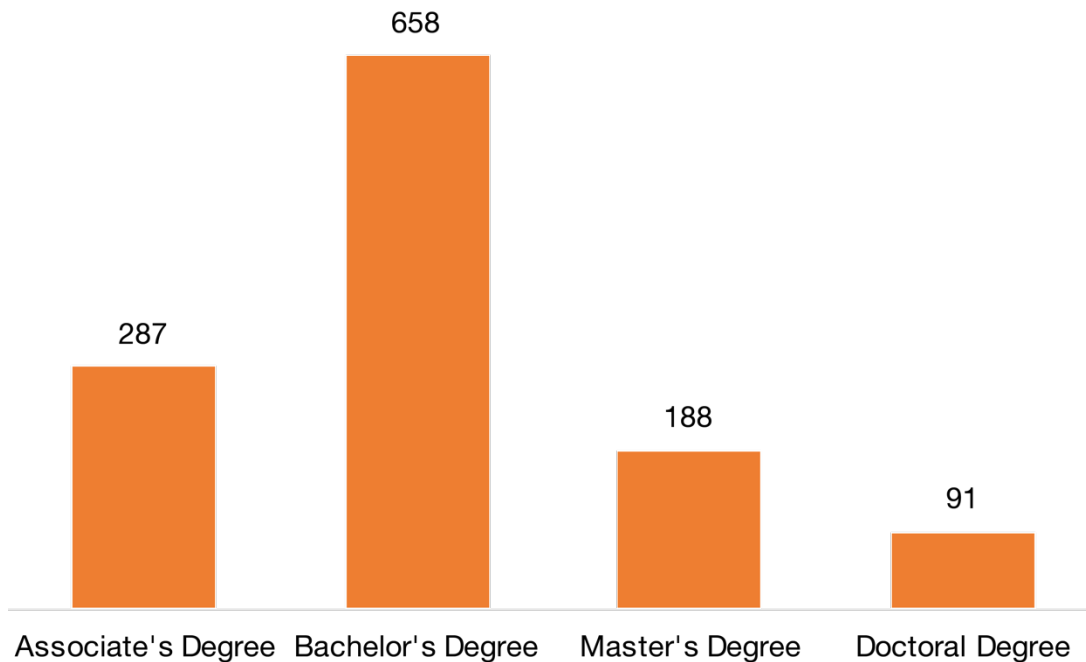
Figure 10: Post-Secondary Degree Completions in SWCI, 2015

This data raises questions regarding where these students are going once their degrees are complete. It also raises concern regarding the lack of pathways available in the engineering track in SWCI region.

A complete list of the degrees can be found in the appendix.

Highlights from Interviews with National Security and Defense Employers

The sector specialists for ROI conducted interviews with many employers from the region. Over 60 leaders from 13 organizations in the defense sector participated in these interviews. Following are some of the highlights that were captured regarding the region, workforce, and education. These highlights include both strengths and opportunities for change.

Location Strengths and Challenges

In general, employers perceive the region to be supportive of defense organizations. For defense contractors, being located near NSA Crane was also cited as a regional benefit given they are one of the largest employers in the region. Defense leaders mentioned low cost of living paired with adequate compensation as a benefit to locating in the SWCI region.

Despite the strengths of the region, employers acknowledged that it can be difficult to attract new talent to the area given the remote location of many of the defense organizations. This is particularly true for high level engineers and those with advanced technical degrees. More, employees of the defense community may never see the impact of their work given the remote location. With existing opportunities on the east and west coast, incumbent talent is sometimes lured from rural areas. These alternative locations allow employees to be better

connected to the naval clients they serve and offer more lifestyle options.

Regionally, there is an underlying drug problem that is disqualifying applicants, even those with higher educational backgrounds. This not only impacts an applicant's ability to pass an employer requested drug test but also the feasibility of obtaining a security clearance which is commonly needed to be employed in the defense sector.

Another challenge defense contractors face in the region is sustaining operations when new contracts are not being frequently awarded. For defense contracting organizations headquartered outside of the region, this means that satellite organizations may leave the region. Local defense contractors will need to diversify their portfolios to stay viable. Diversifying can be challenging due to initial financial resources and skills sets that are needed to diversity.

Workforce Strengths and Challenges

Nearly all organizations we engaged spoke highly of the loyalty, mission dedication and passion of their workforce. Other strengths included:

- Depth of technical knowledge
- Prior military experience
- Work ethic*
- Adaptability
- Strong foundational and theoretical knowledge exhibited by young talent.

When asked about pain points or opportunity for development, the two most discussed issues were interpersonal and team skills, and practical knowledge. Employers reported that an increased level of self-awareness and social awareness are needed. Awareness skills enable employees to understand how their actions affect others and the organization. Specifically, these skills impact one's ability to most effectively complete assigned tasks. The ability to practice teamwork and navigate group dynamics is also a skill set desired by employers. While employers find that new, entry level employees typically have strong theoretical knowledge, they lack experience in applying this knowledge in an organizational setting. Other challenges included:

- Lack of knowledge in DoD culture/environment; Navy and government work
- Work ethic*
- The ability of potential employees to pass a drug test and obtain a security clearance
- Need for improved communication skills – this includes writing, email, and speaking.

- Lack of initiative in pursuing, or availing themselves of professional growth opportunities

*Work ethic was mentioned by some organizations as a strength and equally by others as a challenge.

Future Employer Needs

Due to domestic and international threats, most employers described science and engineering technology advances that will increase the need for advanced, specialized degrees. These include growing opportunities in cybersecurity, computer science, large data analytics, electrical engineering, software engineering, quantum physics, machine learning, cognitive science, and augmented reality. Some advanced degrees and specialty needs will become more sophisticated and those programs currently do not exist. Hybrid degrees that include knowledge in cyber, electrical engineering, cognitive/neuro psychology, math modeling, etc. will be needed. The need for qualified engineers will remain constant in the industry. Physical security employees (i.e. police officers, security officers), government acquisitions and contracting specialists, program and project management skills, electronic technicians, and IT certifications needs will remain steady.

Defense Sector leaders were also asked about challenges or obstacles they foresaw for the future. Their responses included attracting a workforce with specialized, advanced technology degrees, the ability to pay competitive salaries, and quality of place. Participants also discussed the lack of diversity in STEM related fields, particularly with women and minorities, as a major obstacle. Below are the summarized future needs:

- Growing need for Master's and Ph.D. technical degrees
- Demand for Cybersecurity degrees will continue to increase
- Growing demand for hybrid degrees and disciplines
- Minimum of Bachelor's degree requirement in the future for many positions.
- Growing need for innovative thinking in a restricted environment.

During the interviews, we asked employers what suggestions and/or ideas they had for improving education and workforce in SWCI region. The suggestions and ideas were grouped into four categories: sector pathways/career mapping, STEM, industry and educational partnerships, and quality of life. Figure 11, below, shows each suggestion per these categories.

SECTOR PATHWAYS/ CAREER MAPPING	• Establish metrics to track our talent from cradle to career. • Educate students on career options and required education. • Create work-based learning opportunities. • Build community service hours into curriculum.
STEM	• Promote diversity in STEM fields and training (minorities and women). • Launch local Minorities in Engineering Chapter. • Emphasize early exposure to STEM activities. • Offer training and internships for teachers.
INDUSTRY AND EDUCATION PARTNERSHIPS	• Establish partnerships to support future needs of industry. • Collaborate with higher education to create specialized courses to teach students about working in the DoD environment.
QUALITY OF LIFE	• Address quality-of-life issues that will help attract talent. • Develop regional website for employers to use as a recruitment tool. • Develop strategies for attracting businesses to WestGate that will support becoming an innovation hub. • Develop strategies for attracting former military to area.

Figure 11: Strategies Employers Identified to Support the Defense Sector in SWCI

Conclusion

ALIGNED SWCI **READY** SCHOOLS. COMMUNITIES. EMPLOYERS.

SWCI is fortunate to be home to the third largest naval installation in the world, NSA Crane, and the defense contracting community that supports its mission. The 8,439 jobs offered by the National Security and Defense Sector represent some of the best paying jobs in our region, but also require extensive skills and technical abilities. In particular, employers reported a significant need for individuals with engineering or technology backgrounds and more diversity in STEM programming.

The information compiled in this report reflects the need for an industry-driven approach to creating a local, sustainable workforce. SWCI's competitive advantage in National Security and Defense is unique. We must begin to acknowledge that distinctiveness and encourage students to explore the STEM-related opportunities here in our region. Working together – industry, education, and community – we can prepare SWCI for outcomes that heretofore have not been achieved or achievable. An aligned Southwest Central Indiana can ensure the prosperity this region's assets tell us is possible.

Appendix

Quantitative Data Collection

The quantitative data was collected by TPMA. It examines industries, occupations, and real-time job postings in the Defense Cluster in Southwest Central Indiana. The purpose of the quantitative analysis is to augment the qualitative data obtained through the employer interviews and to provide a foundation for discussion of occupation and skill needs in the region.

To collect this data, TPMA used the North American Industry Classification System (NAICS) and the Standard Occupation Classification (SOC) systems, both of which are standard data collection systems used by all statistical gathering agencies of the federal government. NAICS is used by federal statistical agencies to classify business establishments for collecting, analyzing, and publishing data related to U.S. businesses. Similarly, the SOC system is used by federal agencies to classify workers into occupational categories for the purposes of collecting, calculating, and disseminating data.

The industries in the Defense Cluster were originally identified in the *Strategic Plan for Economic and Community Prosperity in Southwest Central Indiana*, which was completed by Batelle's Technology Partnership Practice in June 2014. Two of the 14 NAICS codes were National Security and Other Government Support. Under NAICS, these two industries are classified in the Public Administration sector. EMSI does not use the NAICS categories for Public Administration. Instead, EMSI groups data for the sector into larger categories. (The Bureau of Economic Analysis and Bureau of Labor Statistics use similar classification systems.) In this report, two of those categories are used—Federal Government, Civilian, Excluding Postal Service and Federal Government, Military. Federal Government, Civilian, Excluding Postal Service includes some jobs and occupations which are not defense-related.

Except where otherwise indicated, TPMA used EMSI Analyst, data version 2016.2 to gather information on education outcome and occupation openings in Southwest Central Indiana. EMSI uses data from the national Integrated Postsecondary Education Data System (IPEDS) database, which is published by the U.S. Department of Education's National Center for Education Statistics. IPEDS organizes this data into a taxonomy called the Classification of Instructional Programs (CIP) system. EMSI uses the CIP system to create program-to-occupation crosswalks, which map programs of study to occupations and reveal one measure of education supply-and-demand.

There are limitations to the IPEDS data. The most recent completion data available is 2015. The National Center for Education Statistics collects data from postsecondary education institutions. Thus, the data and this analysis do not account for training programs provided by non-postsecondary education institutions. Further, in recent years Ivy Tech has moved away from reporting regional campus-level data to IPEDS and only reports data for the system statewide.

Qualitative Data Collection

Twenty organizations from the National Security and Defense Sector were invited to participate

in the ONA. The selected organizations were chosen based on size, county location, and industry type (government or contractor). The goal of the selection process was to ensure a balance among participating organizations reflective of the composition of the defense employers in the region. The final participant count included 13 organizations. Over 60 leaders at various levels within the organizations were interviewed. Throughout the 11-county region, Monroe, Martin, Greene, Daviess, and Lawrence counties are represented. The heaviest concentration of defense organizations is located in Martin and Daviess counties.

Eight of the organizations were defense contractors and five were government organizations. While the entire defense footprint in the region is still being defined, we estimate that this sample size is approximately 25% of the defense organizations that have physical locations within our 11-county region.

Following is a demographic breakdown of the organizations that participated in the ONA. Of the 13 organizations interviewed,
- 31% had greater than 500 local employees
- 23% had between 250-499 local employees
- 46% had less than 100 local employees

Participating organizations reported their average workforce age to be between 30-50.
- 23% reported an average employee age of 30-35
- 23% reported an average employee age of 36-40
- 46% reported an average employee age of 41-45
- 8% reported an average employee age of 46-50

Most participating organizations were headquartered outside of the region.
- 69% headquartered outside of region. Primarily in DC and VA area with a couple of outliers
- 31% were headquartered locally

All participating organizations have been in the community 6 years or longer. Some as long as 75 years.
- 69% have been in the community 20 years or longer
- 8% have been in the community 10-19 years
- 23% have been in the community less than 10 years
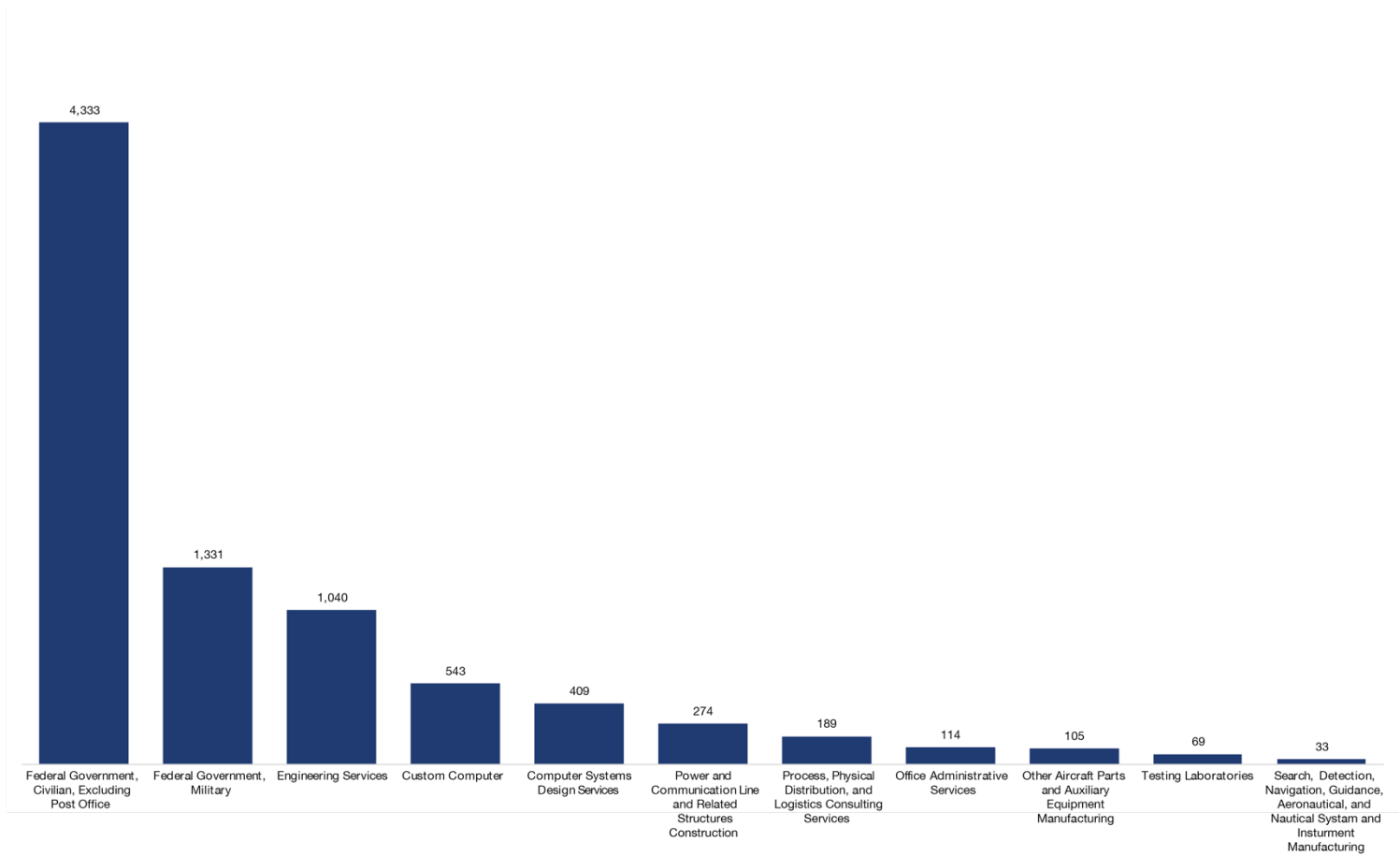
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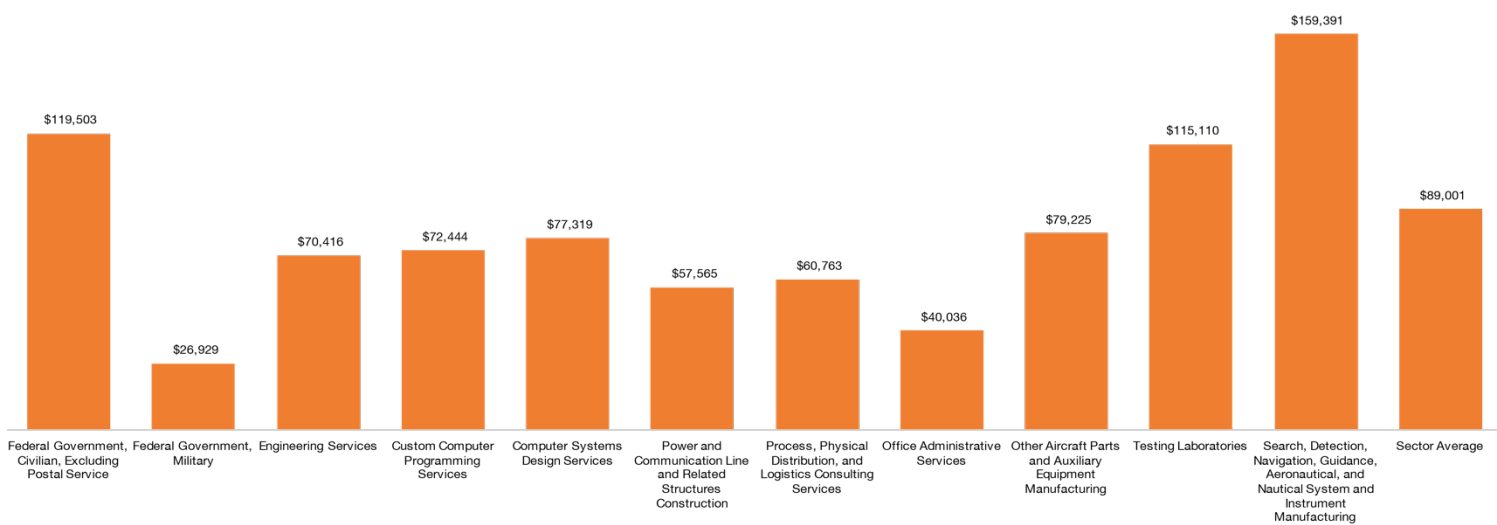

Figure 12: Defense-Related Jobs, 2016

Figure 13: Defense-Related Annual Earnings, 2016

Of the 8,400+ jobs in the defense sector, approximately 780 are administrative positions. The top four administrative positions in the defense sector are finance/accounting, QA & regulatory, human resources, and legal. Below is a chart representing these top four positions.
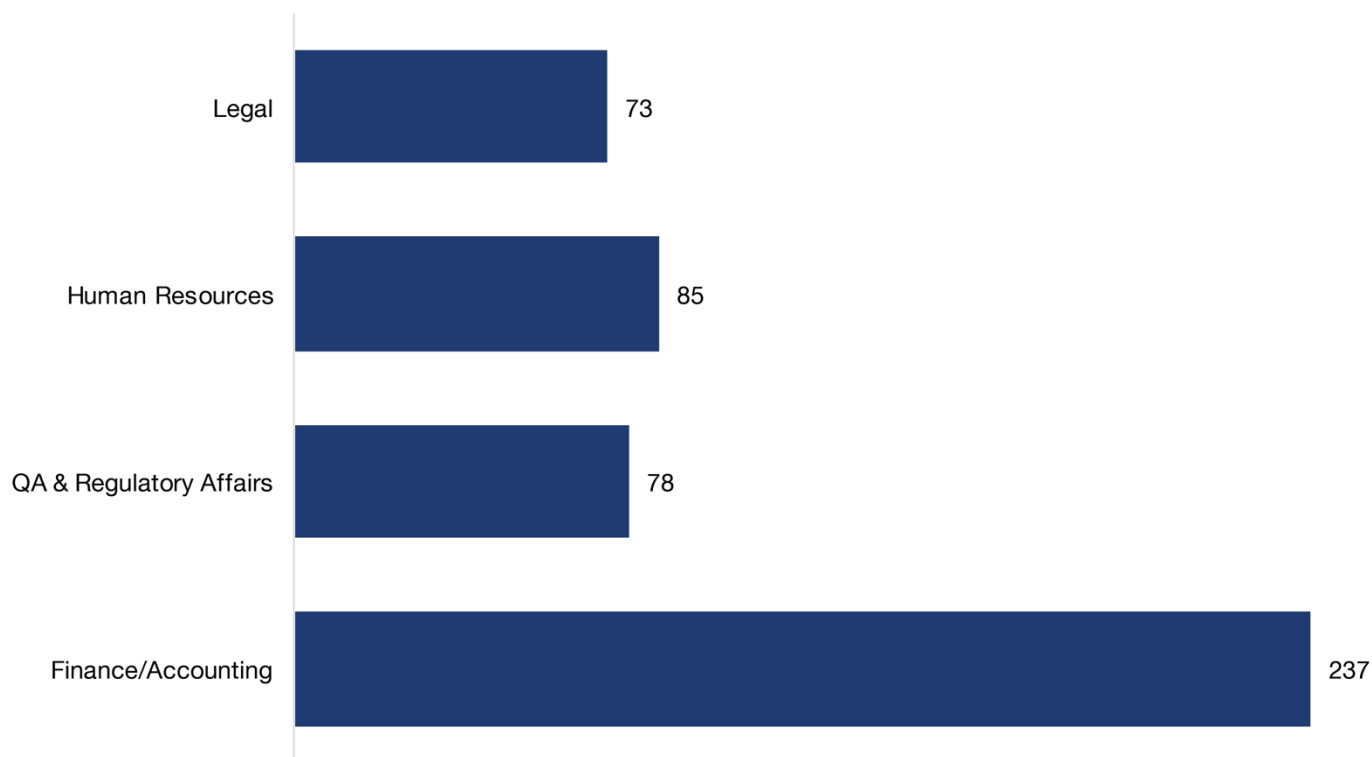

Figure 14: Top Administrative Jobs in the Defense Sector

A Note on KSAs

Knowledge, skills, and abilities are used to measure qualities that will set one candidate apart from another. Per the U.S Office of Personnel Management, knowledge is a body of information applied directly to the performance of a function. Skill is an observable competence to perform a learned psychomotor activity. Ability is the power to perform an observable activity. KSAs are sometimes referred to as competencies.

List of Defense Relevant Degrees Offered in SWCI Region

Following is a list of post-secondary degrees offered in SWCI. This data is referenced in the Education section, figure 8, of this document.

Campus Name	Program Name	2015
Ivy Tech Community College-Bloomington	A.A.S. in Electronics and Computer Technology	2
Ivy Tech Community College-Bloomington	A.A.S. in Information Technology Support	23

Vincennes University	A.A.S. in Network Administration	0
Vincennes University	A.S. in Advanced CNC Machining and Programming Technology	50
Vincennes University	A.S. in Architectural Studies Technology/CAD	9
Vincennes University	A.S. in Chemical Sciences	7
Vincennes University	A.S. in Computer Programming Technology	16
Vincennes University	A.S. in Conservation Law Enforcement	66
Vincennes University	A.S. in Electronic Technology/Computer Networking and Security Specialist	7
Vincennes University	A.S. in Electronics Technology	38
Vincennes University	A.S. in Engineering Science	2
Ivy Tech Community College-Bloomington	A.S. in Engineering Technology	11
Vincennes University	A.S. in Information Technology	19
Vincennes University	A.S. in IT Support and Cyber Security	2
Vincennes University	A.S. in Mathematical Sciences	0
Vincennes University	A.S. in Mining Technology	0
Vincennes University	A.S. in Product Design and Production Processes	7
Indiana University-Bloomington	A.S. in Safety Management	1
Ivy Tech Community College-Bloomington	A.S./A.A.S. in Cyber Security/Information Assurance	3
Ivy Tech Community College-Bloomington	A.S./A.A.S. in Design Technology	10
Ivy Tech Community College-Bloomington	A.S./A.A.S. in Software Development	14
Indiana University-Bloomington	B.A./B.S. in Chemistry	68
Indiana University-Bloomington	B.A./B.S. in Computer Science	90
Indiana University-Bloomington	B.A./B.S. in Mathematics	101
Indiana University-Bloomington	B.A./B.S. in Physics	22
Indiana University-Bloomington	B.S. in Informatics	307
Indiana University-Bloomington	B.S. in Neuroscience	96
Indiana University-Bloomington	B.S. in Statistics	6
Vincennes University	B.S. in Technology	36
Indiana University-Bloomington	M.A./M.A.T. in Mathematics	11
Indiana University-Bloomington	M.S. in Applied Statistics	8
Indiana University-Bloomington	M.S. in Chemical Informatics	0
Indiana University-Bloomington	M.S. in Computer Science	119
Indiana University-Bloomington	M.S. in Secure Computing	13
Indiana University-Bloomington	M.S. in Statistical Science	17
Indiana University-Bloomington	M.S./M.A.T. in Chemistry	8
Indiana University-Bloomington	M.S./M.A.T. in Physics	12
Indiana University-Bloomington	Ph.D. in Chemical Physics	0
Indiana University-Bloomington	Ph.D. in Chemistry	30

Indiana University-Bloomington	Ph.D. in Computer Science	10
Indiana University-Bloomington	Ph.D. in Informatics	15
Indiana University-Bloomington	Ph.D. in Mathematical Physics	0
Indiana University-Bloomington	Ph.D. in Mathematics	13
Indiana University-Bloomington	Ph.D. in Neural Sciences	7
Indiana University-Bloomington	Ph.D. in Physics	16