

EXECUTIVE SUMMARY



CYBERSECURITY IN THE SAN DIEGO REGION

AN ECONOMIC IMPACT ANALYSIS
AND WORKFORCE STUDY
MARCH 2019

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PROFILING SAN DIEGO'S CYBERSECURITY COMPANIES

Cybersecurity is pervasive throughout San Diego's economy

San Diego has emerged as a leader for the development of cybersecurity technology and the delivery of cyber-related services. The region's healthy ecosystem, including its strong military presence, world-class academic institutions, incubators and strong partnerships between industry associations and governments, has positioned San Diego as a hub for cyber operations. Today, there are more than 150 firms in the San Diego region focused exclusively on cyber. With incidences of cyber attacks on the rise worldwide, the industry's innovative companies are equipped to meet the global market's increasing demands for new products and technologies.

More than 150 cyber firms call San Diego home

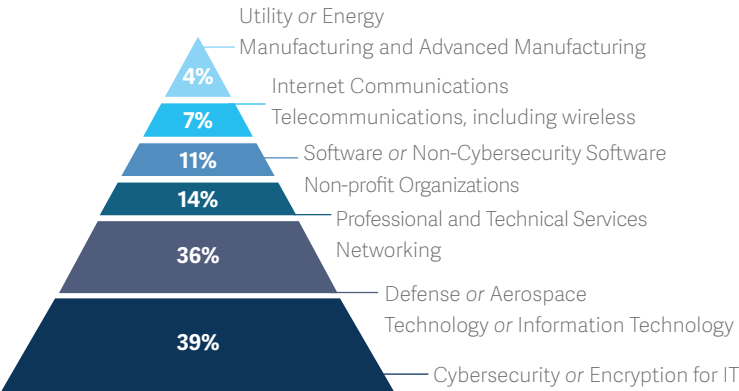
 **150+**
TOTAL CYBER FIRMS

 **\$2.2B**
TOTAL ECONOMIC IMPACT

 **19,660**
TOTAL IMPACTED JOBS

Cybersecurity Firms Operate in a Variety of Industries

Surveyed cyber companies were allowed to select multiple industries within the 12 categories, which are not mutually exclusive.



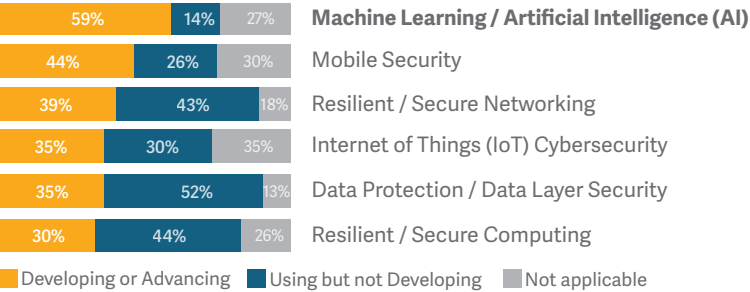
► **THE LARGEST SHARE**
37% of companies directly develop or support the development of new cyber products or software

Another 26% provide cyber or IT solutions

Another 21% support and technically assist organizations in their cybersecurity needs

Technologies & Capabilities

San Diego cyber companies are actively involved in developing or advancing, and/or using cutting edge technologies including:



The rise of machine learning & artificial intelligence (AI)

59% of cyber companies are actively developing or advancing their products and services in machine learning or artificial intelligence

CUSTOMERS NEAR AND FAR > Firms selected top two markets

The reach of San Diego's cyber industry spans the globe, with **nearly half** of firms doing business internationally

59%
NATIONAL

47%
INTERNATIONAL

24%
SAN DIEGO COUNTY

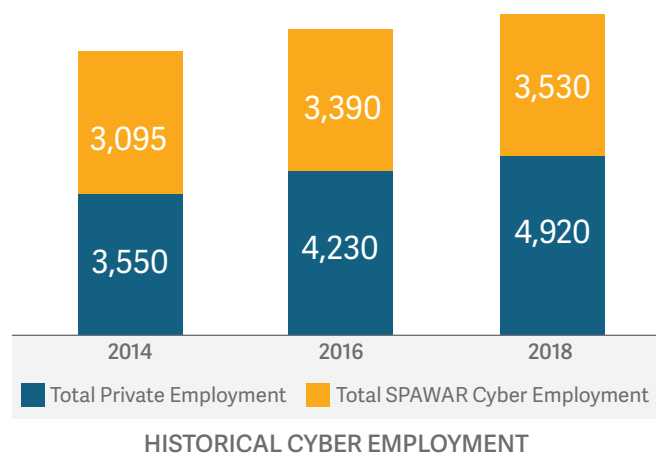
12%
SOUTHERN CALIFORNIA

6%
STATEWIDE

CYBERSECURITY EMPLOYMENT BREAKDOWN

Historical data shows continual growth in cyber employment

75% of firms surveyed expect to grow their cyber employment over the next 12 months



4,920 DIRECT PRIVATE SECTOR JOBS

▶ 16.4% increase from 2016

3,530 DIRECT SPAWAR JOBS

▶ 4.2% increase from 2016

8,450 TOTAL DIRECT JOBS

▶ 11.0% increase from 2016

Faster than the regional employment increase of 3.0%



64% of cyber firms have grown over the last three years and by an average of 17 employees

SPOTLIGHT



DEPARTMENT OF DEFENSE

San Diego is home to the Navy's Space and Naval Warfare Systems Command, or SPAWAR, which is the anchor of the region's cyber industry. SPAWAR not only drives talent attraction,

but annually spends billions on developing and securing critical Navy systems. Currently employing approximately 5,190 civilian and military personnel, SPAWAR's presence and associated economic impact cannot be understated.

63% of cyber firms work directly or indirectly for the Federal government, including the Department of Defense

SPAWAR's total budget for 2018 was \$74 billion, of which \$5.5 billion was set aside for private industry contracts, including \$1.5 billion for the San Diego region.

83% of firms view the San Diego region as an "excellent" or "good" place to do business

A FAVORABLE BUSINESS CLIMATE

Generally satisfied with the local business climate, the majority of firms view access to customers in the region, talent and a skilled workforce as the primary strengths of San Diego's cyber ecosystem.

A GROWING TALENT POOL

San Diego's academic institutions offer a variety of specialized cyber programs and certifications to help satisfy the growing demand

San Diego's academic institutions confer more than 20,000 cyber-related degrees each year, mostly in the fields of engineering and computer sciences.

82% of firms believe it is important to be near universities doing cyber work

offerings at local community colleges help to satisfy the growing demand for additional certifications and occupations requiring less than a four-year degree.

With specialized cyber programs at some of the region's universities including the University of San Diego and California State University San Marcos, the region's homegrown talent pipeline continues to expand each year. Additionally, robust

San Diego's academic institutions confer more than **20,000 cyber-related degrees each year**



TODAY, THERE ARE **58,000** TECHNOLOGY SPECIALISTS IN SAN DIEGO



TOP 5 IN-DEMAND CERTIFICATIONS

Key Cybersecurity Occupations

KEY OCCUPATION	2018 JOBS	MEDIAN SALARY
Software Developers	18,400	\$109,500
Computer Systems Analysts	6,100	\$95,400
Computer User Support Specialists	5,900	\$57,100
Network & Computer Systems Administrators	3,600	\$86,400
Computer Network Support Specialists	1,700	\$69,700
Computer Network Architects	1,500	\$119,400
Cybersecurity Analysts	900	\$97,000

- 1 Certified Information Systems Security Professional (CISSP)
- 2 SANS/GIAC Certification
- 3 Security+
- 4 GIAC Security Essentials Certification (CSEC)
- 5 CISCO Certified Networking Professional (CCNP)

Cyber Center of Excellence (CCOE) is a non-profit that focuses on regional planning and program implementation in order to address cybersecurity workforce, economic development and infrastructure challenges through collaboration with industry, academia and government agencies.

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Note: 33 companies completed the survey conducted by BW Research in 2019.

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