CYBERSECURITY IN THE SAN DIEGO REGION
Cybersecurity in San Diego

BY THE NUMBERS

$3.5B
ANNUAL ECONOMIC IMPACT
nearly 15% more than in 2019

23.4K
TOTAL JOBS IMPACTED
10% increase since 2019

874
CYBER FIRMS CALL SAN DIEGO HOME
3 in 5 expect to increase employment in next year

12.4K
TECH WORKERS ENGAGED IN CYBER
7.5% more than in 2019

$106.4K
AVG SALARY FOR TECH & CYBER WORKERS
nearly 12% above national avg

22.2K
CYBER-RELATED DEGREE COMPLETIONS
across 118 local programs

©2022 Cyber Center of Excellence
cyber.sandiegoAI.org
Cybersecurity in San Diego

The economic impact of San Diego’s cybersecurity industry is GREATER than hosting...

23 Comic Cons

or

9 Super Bowls
each year!
San Diego’s cybersecurity firms operate in a variety of industries and are actively using, developing and accelerating cutting edge technologies.

**Industry Breakdown**

- Healthcare and Social Assistance: 2%
- Wholesale Trade: 3%
- Administrative, Support, & Waste Management Services: 4%
- Finance & Insurance: 5%
- Other: 5%
- Management of Companies and Enterprises: 6%
- Internet Communications & Telecommunications: 9%
- Manufacturing & Advanced Manufacturing: 12%
- Government & Defense: 12%
- Professional, Scientific & Technical Services: 42%

*% of jobs filled by Cyber/IT professionals in each industry

**Technologies & Capabilities**

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blockchain Technology</td>
<td>13%</td>
</tr>
<tr>
<td>Risk-based Authentication</td>
<td>22%</td>
</tr>
<tr>
<td>Encryption</td>
<td>25%</td>
</tr>
<tr>
<td>Resilient/Secure Networking</td>
<td>31%</td>
</tr>
<tr>
<td>Mobile Cybersecurity</td>
<td>31%</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>34%</td>
</tr>
<tr>
<td>Resilient/Secure Computing</td>
<td>38%</td>
</tr>
<tr>
<td>Data Protection &amp; Data Layer Security</td>
<td>38%</td>
</tr>
<tr>
<td>AI and Machine Learning</td>
<td>53%</td>
</tr>
</tbody>
</table>

*Percent of San Diego Cyber Firms developing these technologies
NAVWAR is San Diego’s Cyber Juggernaut

NAVWAR’S ECONOMIC IMPACT

5.2K
FEDERAL EMPLOYEES
IN SAN DIEGO
11K+ worldwide

$800M
IN WAGES AND BENEFITS
2020

3.7K
CYBER EMPLOYEES
IN SAN DIEGO
1/3 of all Cyber workers

$1.6B
IN SD-SPECIFIC CONTRACTS
$530M for small businesses

SAN DIEGO’S MILITARY FOOTPRINT

©2022 Cyber Center of Excellence
Concentration of San Diego’s Cyber Firms
AI and San Diego’s Cyber Cluster

**AI IN CYBER**

- **66%**
  Share of San Diego cyber firms engaged with AI

- **50%**
  Engaged with AI for at least 3 years

- **3x**
  Productivity was triple the regional average (2018-2021)

- **61%**
  % of cyber firms hiring in the next 12 months

Sources: BLS, BEA, California EDD, San Diego Regional EDC

©2022 Cyber Center of Excellence
How Cyber Firms Use AI

- Systems can self-regulate and self-heal
- Increase a system’s ability to withstand cyberattacks
- Detect and escalate cyber threats in real time

$8.6M
AVERAGE BUSINESS COST OF A CYBERATTACK IN THE U.S.

- 40% OF THAT $8.6M IS DUE TO CUSTOMER ATTRITION AND REPUTATIONAL DAMAGE
- 29% DUE TO DETECTION AND ESCALATION
- 26% EX-POST RESPONSE TO CYBERATTACK(S)

Sources: IBM, Vishal Soni
AI is Creating Jobs, Not Destroying Them

Cyber-specific employment growth has outpaced that in other San Diego industries


©2022 Cyber Center of Excellence
Employment Breakdown

Historical Cyber Employment

- **2014**: 3,095 (3,550 Total Private Employment, 3550 Total NAVWAR Cyber Employment)
- **2016**: 3,390 (4,230 Total Private Employment, 3,390 Total NAVWAR Cyber Employment)
- **2018**: 3,530 (4,920 Total Private Employment, 3,530 Total NAVWAR Cyber Employment)
- **2021**: 3,730 (5,160 Total Private Employment, 3,730 Total NAVWAR Cyber Employment)

60% of firms surveyed expect to grow their cyber employment over the next 12 months.

7.4% Employment growth* even during the pandemic

*Since CCOE's 2019 San Diego Cybersecurity Industry Economic Impact Study

©2022 Cyber Center of Excellence
Talent

TODAY, THERE ARE **60,000 TECHNOLOGY SPECIALISTS** IN SAN DIEGO

Key Cybersecurity Occupations

<table>
<thead>
<tr>
<th>KEY OCCUPATION</th>
<th>2021</th>
<th>MEDIAN SALARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers</td>
<td>19,783</td>
<td>$118,934</td>
</tr>
<tr>
<td>Computer Systems Analysts</td>
<td>6,290</td>
<td>$91,187</td>
</tr>
<tr>
<td>Computer User Support Specialists</td>
<td>4,243</td>
<td>$59,030</td>
</tr>
<tr>
<td>Network &amp; Computer Systems Administrators</td>
<td>2,770</td>
<td>$96,450</td>
</tr>
<tr>
<td>Computer Network Architects</td>
<td>1,907</td>
<td>$106,954</td>
</tr>
<tr>
<td>Information Security Analysts</td>
<td>1,285</td>
<td>$108,035</td>
</tr>
</tbody>
</table>

TOP 5 IN-DEMAND CERTIFICATIONS

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)
San Diego’s academic institutions are supplying the cyber workforce of tomorrow

22,270 cyber-related degrees each year across 118 programs

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

Seeding & Diversifying the Talent Pipeline
- Job Board, Career Map & Link2Cyber
- Internships & Apprenticeships
- CyberHire, NFAR Cyber and Women in Cyber Programs

Creating New Business Opportunities
- Secure San Diego
- Thought Leadership, including FBI Briefing Series
- Global Delegations & Partnerships

Fostering Collaboration in the Cyber Community
- Research
- Stakeholder Forums
- CADENCE – Strengthening National Securing Innovation
Interested in Learning More?

For more information, please visit:

https://sdcccoe.org/

You can find the full study @ sdcccoe.org
or cyber.sandiegoAI.org
Thank You