

RSAC[®]Conference2020

San Francisco | February 24 – 28 | Moscone Center

HUMAN
ELEMENT

SESSION ID: PART2-W01

CYBERSECURITY WORKFORCE STUDY – 2019

An (ISC)² Research Report



John McCumber

Director of Cybersecurity Advocacy, North America, (ISC)²

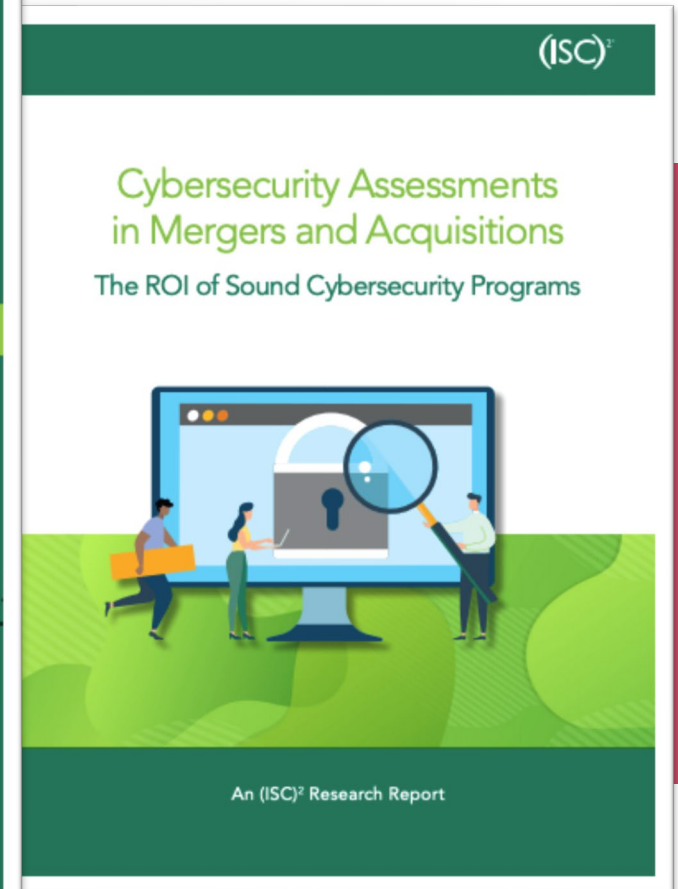
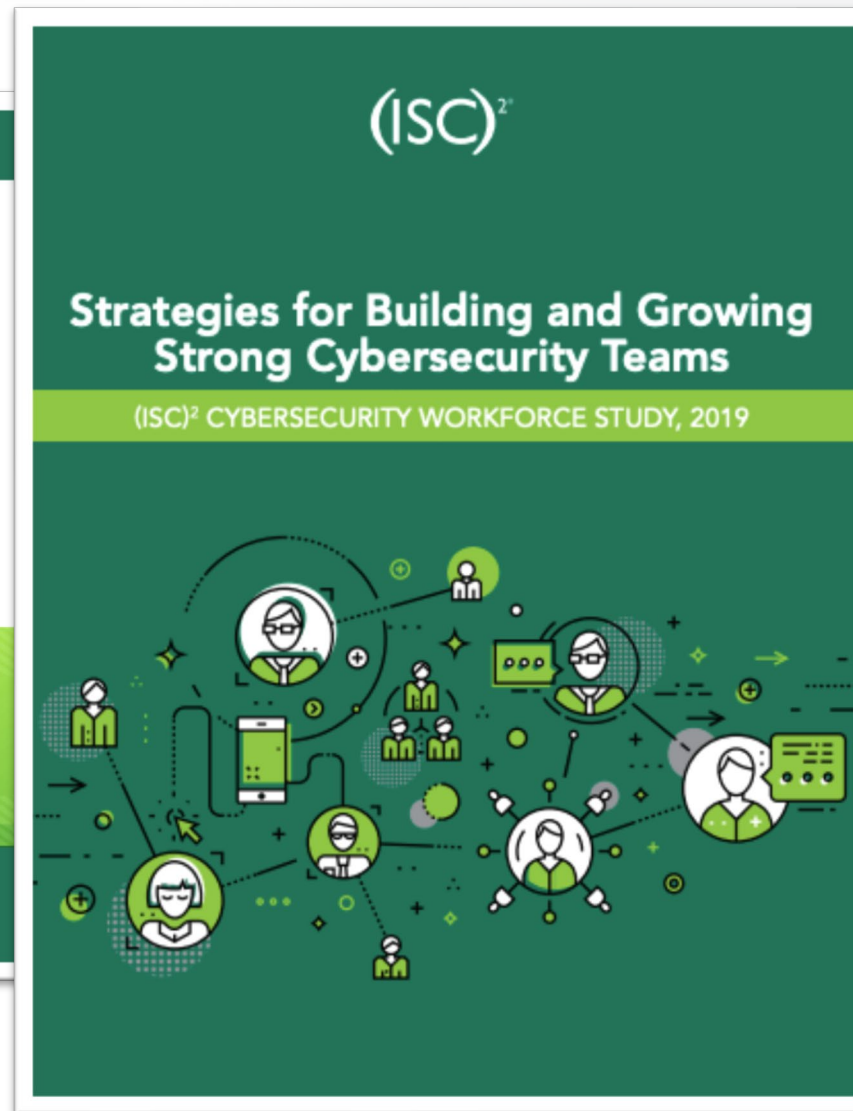
#RSAC

Who is (ISC)²?

- Largest nonprofit membership association of certified security professionals
- Provider of lifelong professional security education
- Global advocate for the growth and success of the security profession



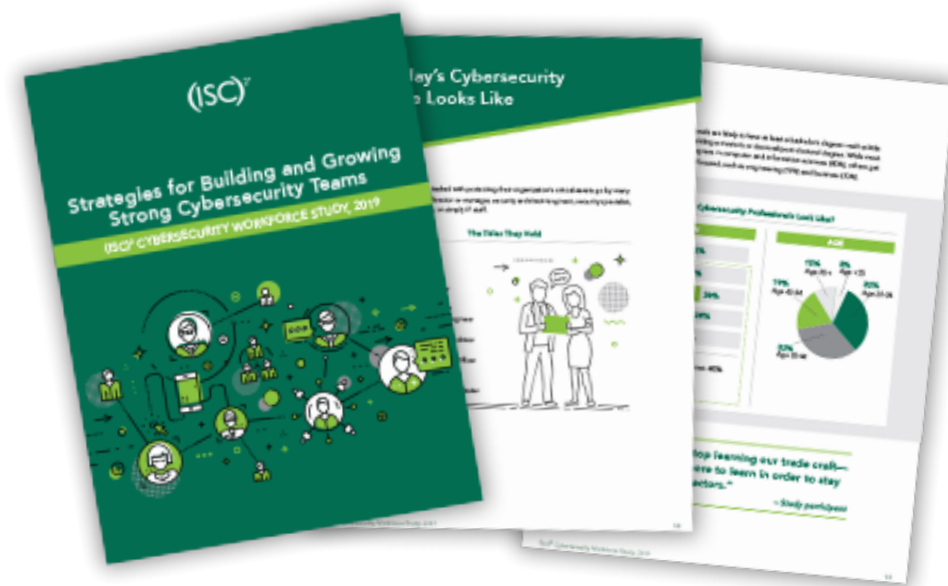
Our Research



www.isc2.org/research

Cybersecurity Workforce Shortage

- 2019 edition of (ISC)2 annual study published just three months ago
- Surveyed 3,237 individuals responsible for security/cybersecurity throughout North America, Europe, Latin America and Asia-Pacific
- For the first time, estimates both current global workforce and existing shortage

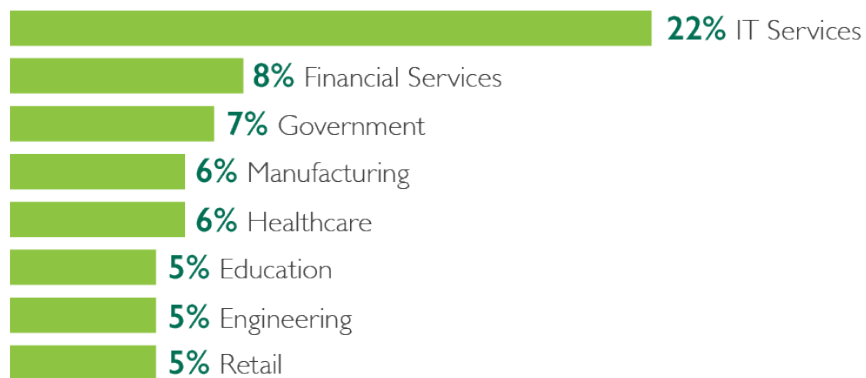


isc2.org/Research/Workforce-Study

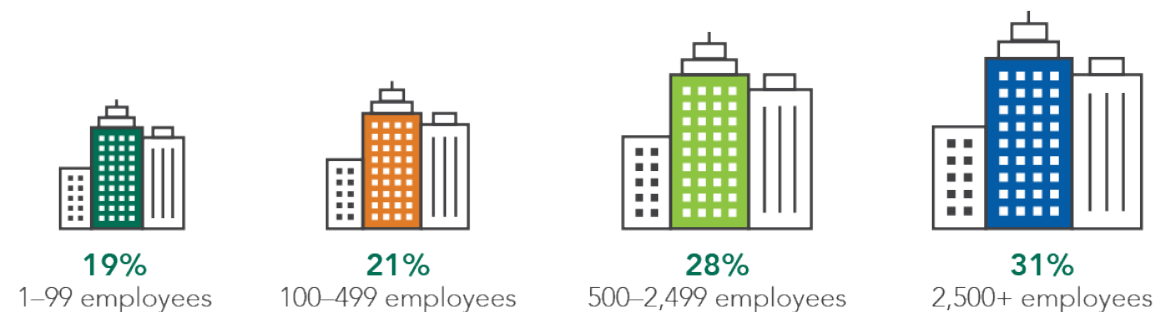
Respondent Base



Top Industry Distribution



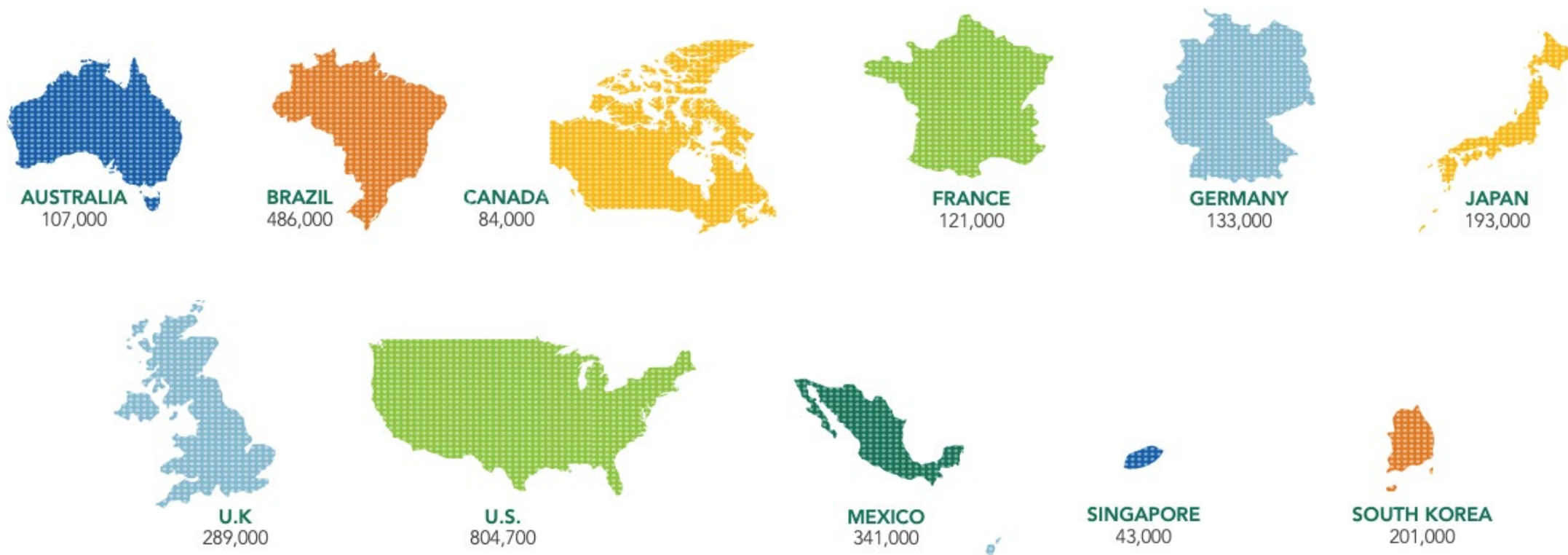
Company Size Distribution





2.8 million
current cybersecurity
professionals globally

Cybersecurity Workforce Estimates Around the World



Workforce Gap Methodology





65%

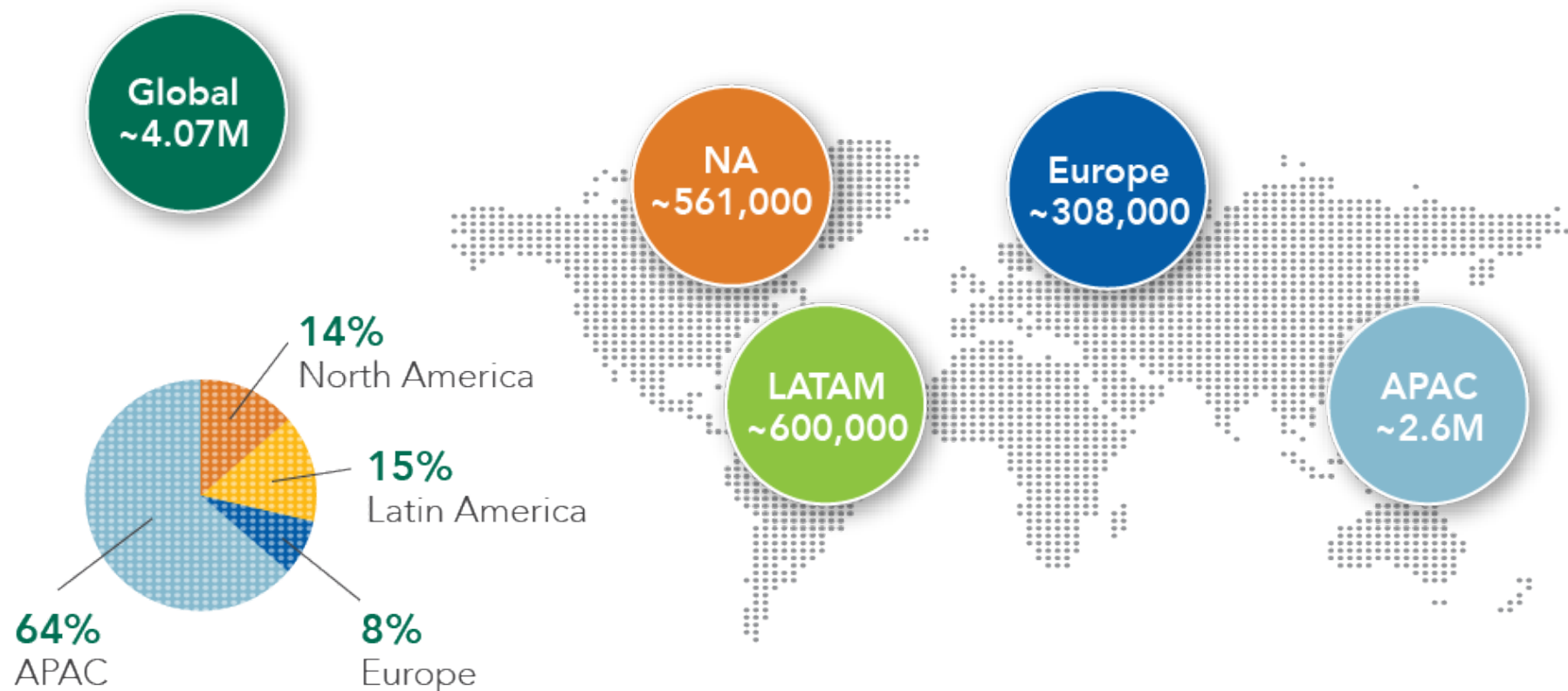
of organizations report a shortage of cybersecurity staff

The Gap is Rising

- The amount of additional trained staff needed to close the **skills gap = 4.07 million** professionals
- This **requires an increase of 145%** of today's cybersecurity workforce



Workforce Gap Heat Map



Top Job Concerns



36%

Lack of skilled/
experienced
cybersecurity
security personnel



28%

Lack of standard
terminology
for effective
communication



27%

Lack of resources to
do my job
effectively



24%

Lack of
work-life
balance



24%

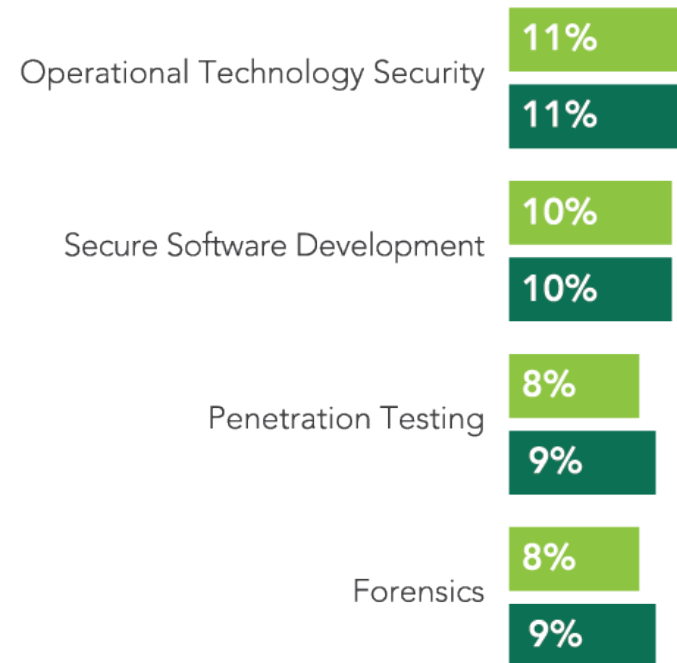
Inadequate budget
for key security
initiatives

Cybersecurity Titles at a Glance

- Exec/CXO
- CISO
- IT Director
- IT Security Director
- IT Manager
- IT Security Manager
- Security Architect/Engineer
- Security Specialist
- Security Consultant/Advisor
- Security Analyst
- Security/Compliance Officer
- Security Administrator
- IT Staff
- Application Developer/Tester



Cybersecurity Team Roles



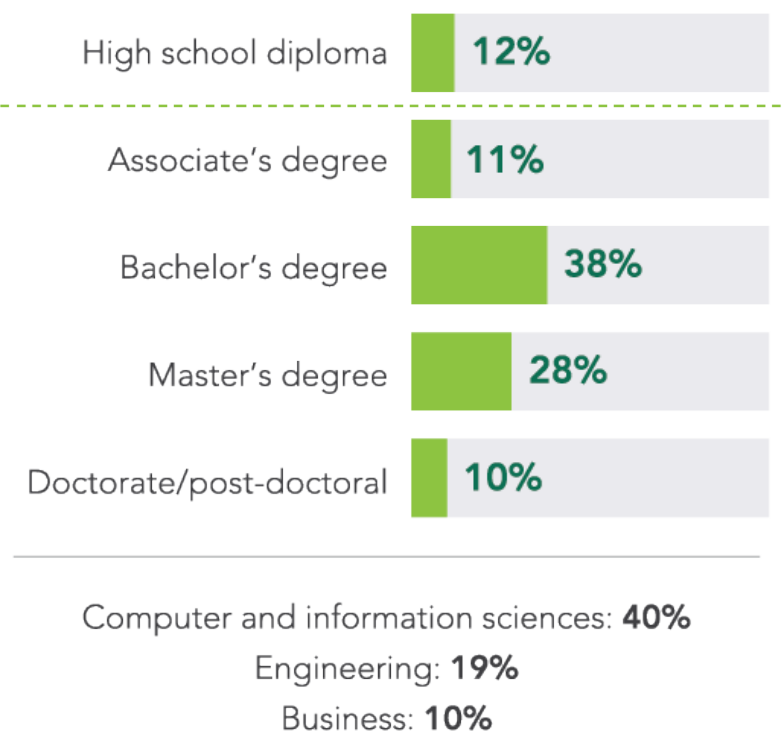
■ Current average percentage of cybersecurity team roles
■ Ideal average percentage of cybersecurity team roles

Cybersecurity Team Roles

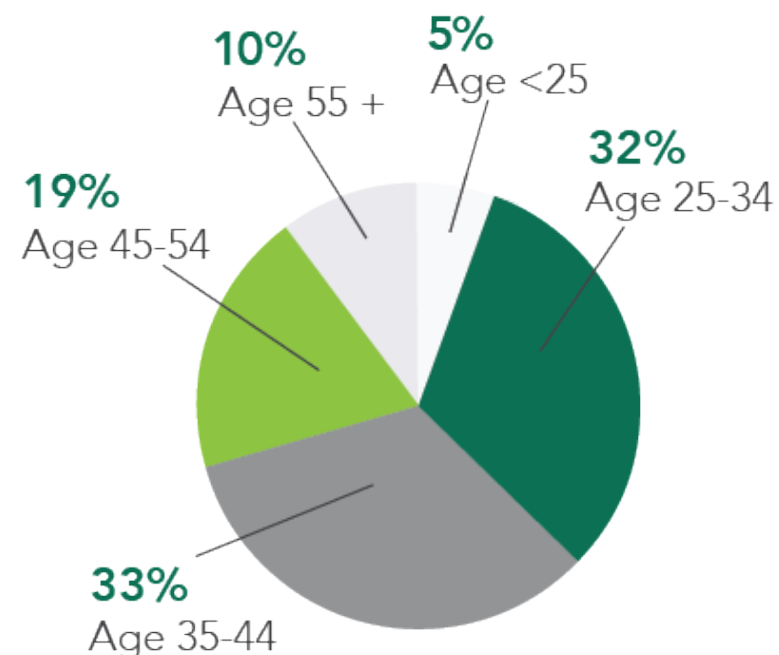
Cybersecurity team roles by company size (expanded)	1–19	20–49	50–99	100–249	250–499	500–999	1,000–2,499	2,500–4,999	5,000–9,999	10,000 +
Security Operations	–	–	–	–	▼	▼	–	–	▲	▼
Security Administration	–	–	–	–	–	▲	–	–	▼	–
Risk Management	▲	–	–	–	▲	–	–	▼	▲	–
Compliance	–	–	–	–	–	–	▲	▲	–	▲
Forensics	–	–	–	–	–	–	–	–	–	▲
Penetration Testing	–	–	–	–	–	–	▼	–	▼	–
Secure Software Development	–	–	–	–	–	–	–	▼	▲	–
Operational Technology Security	–	–	–	–	▼	–	▲	–	▲	–

What Do Cybersecurity Professionals Look Like?

EDUCATION



AGE





“Some of the most talented information security professionals I’ve met did not come from the traditional IT background, but from other sectors. Information security is a great career-change option.”

- Study Participant



30%

of the cybersecurity industry is now made up of women

Salaries

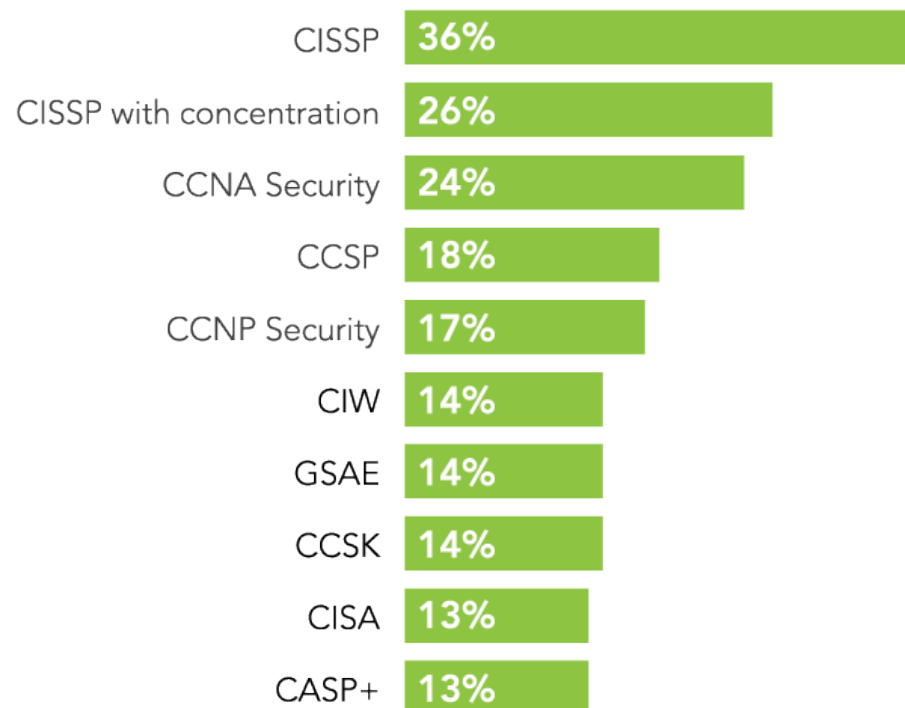


\$90,000

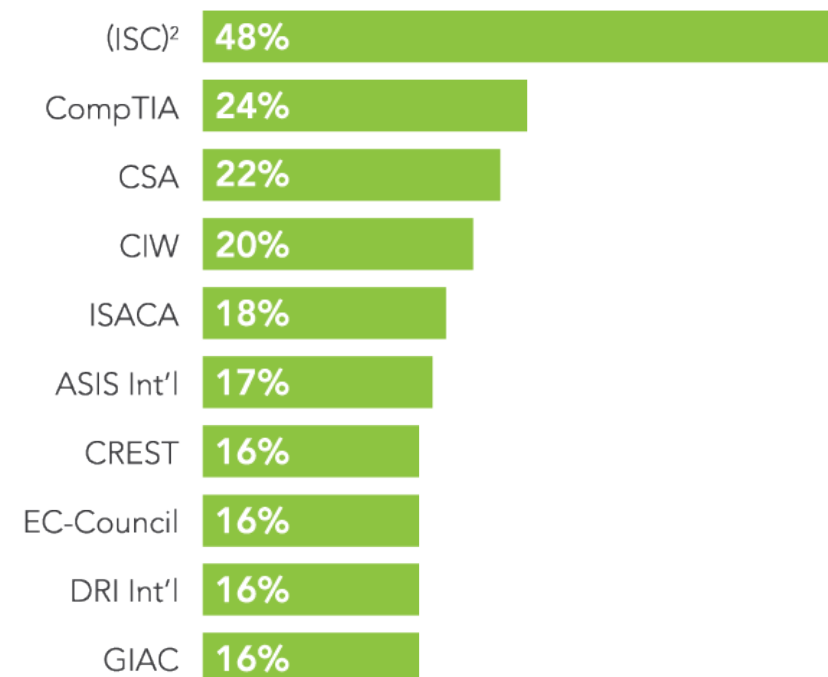
is the average annual cybersecurity salary in North America

Certifications

The Top 10 Security Certifications Held

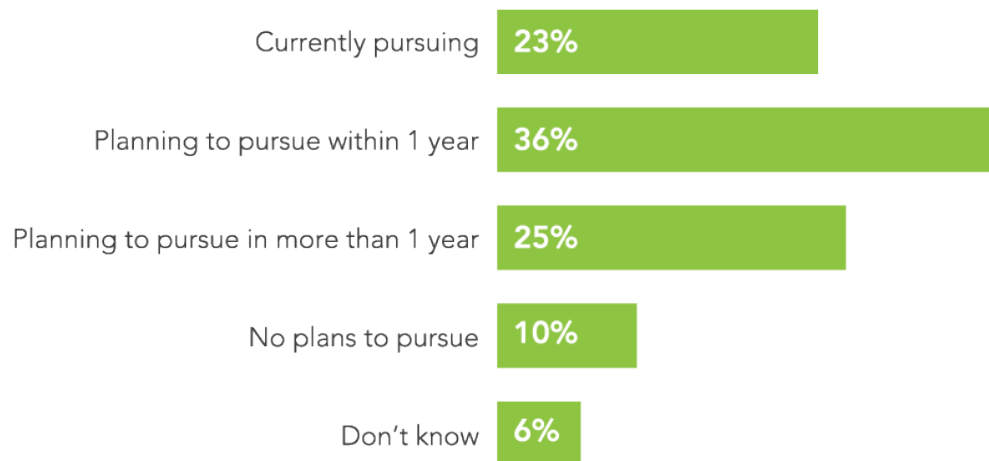


The Top 10 Security Organization Certifications Held



Certifications

Cybersecurity Certification Plans



Motivations for Pursuing Certifications



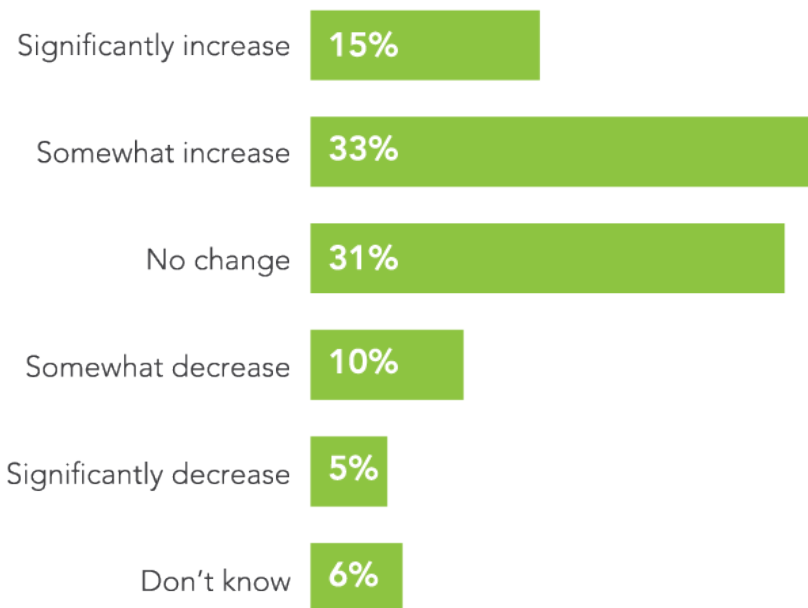


“To be an effective cybersecurity professional, you have to have a broad, detailed understanding of all components of IT, and those with cybersecurity certifications have skills far beyond what is required of other certifications.”

- Study Participant

Training

Changes to Security Training Budgets in the Next Year



Areas of Skill Development Need



Cloud computing security



Risk assessment, analysis, and management



Governance, risk management and compliance (GRC)



Security and threat intelligence analysis



Security engineering and administration



Penetration testing



Intrusion detection



Network monitoring

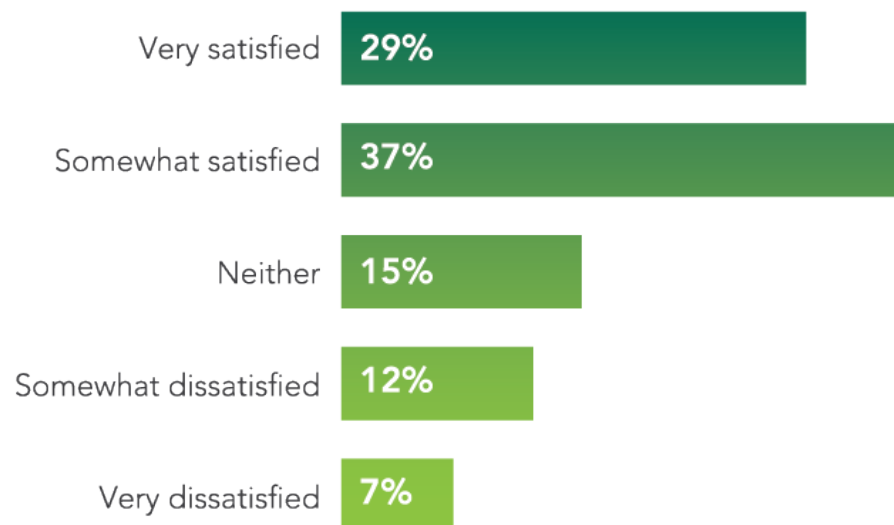


“We must never stop learning our trade craft – there is always more to learn in order to stay ahead of the bad actors.”

- Study Participant

Job Satisfaction

Job Satisfaction Rates



Keys to Success



Robust training and professional development



Working for companies with innovative cybersecurity tools and technology



Supportive management



Strong professional mentorship

Building Cyber-Strong Teams



Strategy #1: Entice With Professional Development

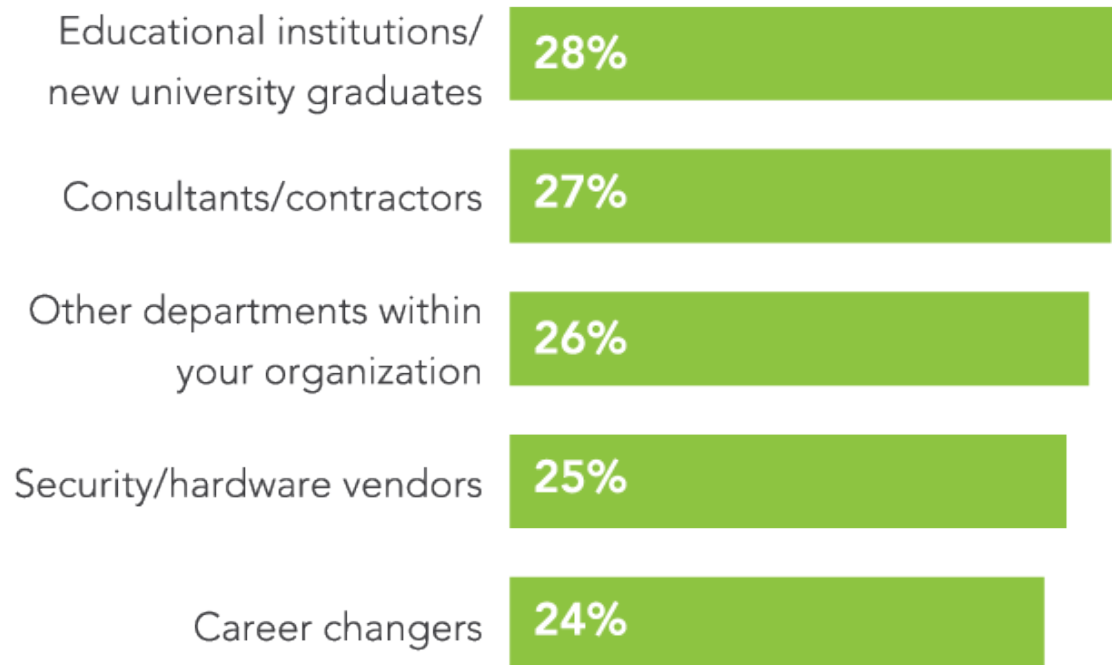


Strategy #2: Stop Waiting for Unicorns



Strategy #3: Add Creativity to Recruiting

Top Recruiting Sources



Strategy #4: Build From Within



What Did We Learn?

- The growing cybersecurity workforce gap of 4.07 million globally requires a 145% increase on the current 2.8 million in the field today
- For those who continually look for training and development opportunities, it's a great profession to move into, with **good salaries and high job satisfaction**
- Solutions include **attracting new talent by selling them on career development opportunities**, designing **realistic hiring criteria** that doesn't overlook those with non-traditional backgrounds, considering **contractors, consultants or MSSPs**, and **cross-training** motivated internal staff from other departments (IT, legal, communications, accounting, risk management, etc.)

Apply What You've Learned Today

- Next week you should:
 - Investigate your organization's current cybersecurity staffing and hiring practices
- In the first three months following this presentation you should:
 - Identify any existing holes on the team that have not been filled and determine if there are internal resources that could be recruited
- Within six months you should:
 - Work with your HR department to change or broaden the search parameters used for hiring cybersecurity talent

RSA®Conference2020

San Francisco | February 24 – 28 | Moscone Center

HUMAN
ELEMENT

SESSION ID: PART2-W01

CYBERSECURITY WORKFORCE STUDY – 2019

An (ISC)² Research Report



To learn more or to download the study, please visit: www.isc2.org/Research/Workforce-Study

THANK YOU!

#RSAC