Choose Your own Path

The many ways to jump start your career in cybersecurity

Speaker: Tom Gilheany, Portfolio Manager of Security Training & Certifications at Cisco

Hostess: Kara Sullivan

Cisco Networking Academy

24 October 2018

Welcome to the 3rd session of the Tying Certifications to Career Paths webinar series

- Use the Q and A panel to ask questions.

- Use the Chat panel to communicate with attendees and panelists.

- A link to a recording of the session will be sent to all registered attendees.

- Please take the feedback survey at the end of the webinar.

Tying Certifications to Career Paths Series

- IT Essentials – Available On-Demand

- CCNA R&S – Available On-Demand

- Security Certifications – Today!

All Series Details can be Found @ **http://bit.ly/certs2careers**

Agenda

What does the TERRAIN look like?
The World of Security
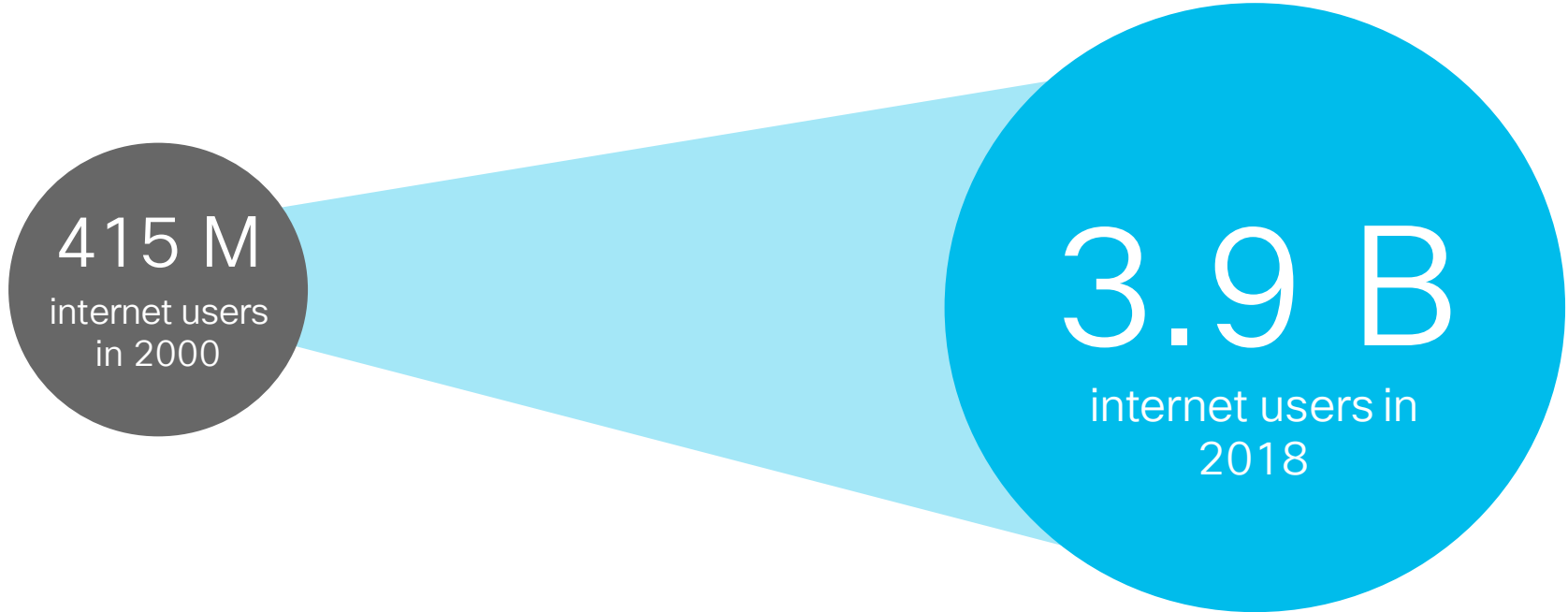

What's our DESTINATION?
Selecting Goals

HOW do we get there?
Strategies for the Journey

What does the TERRAIN look like?

The World of Security

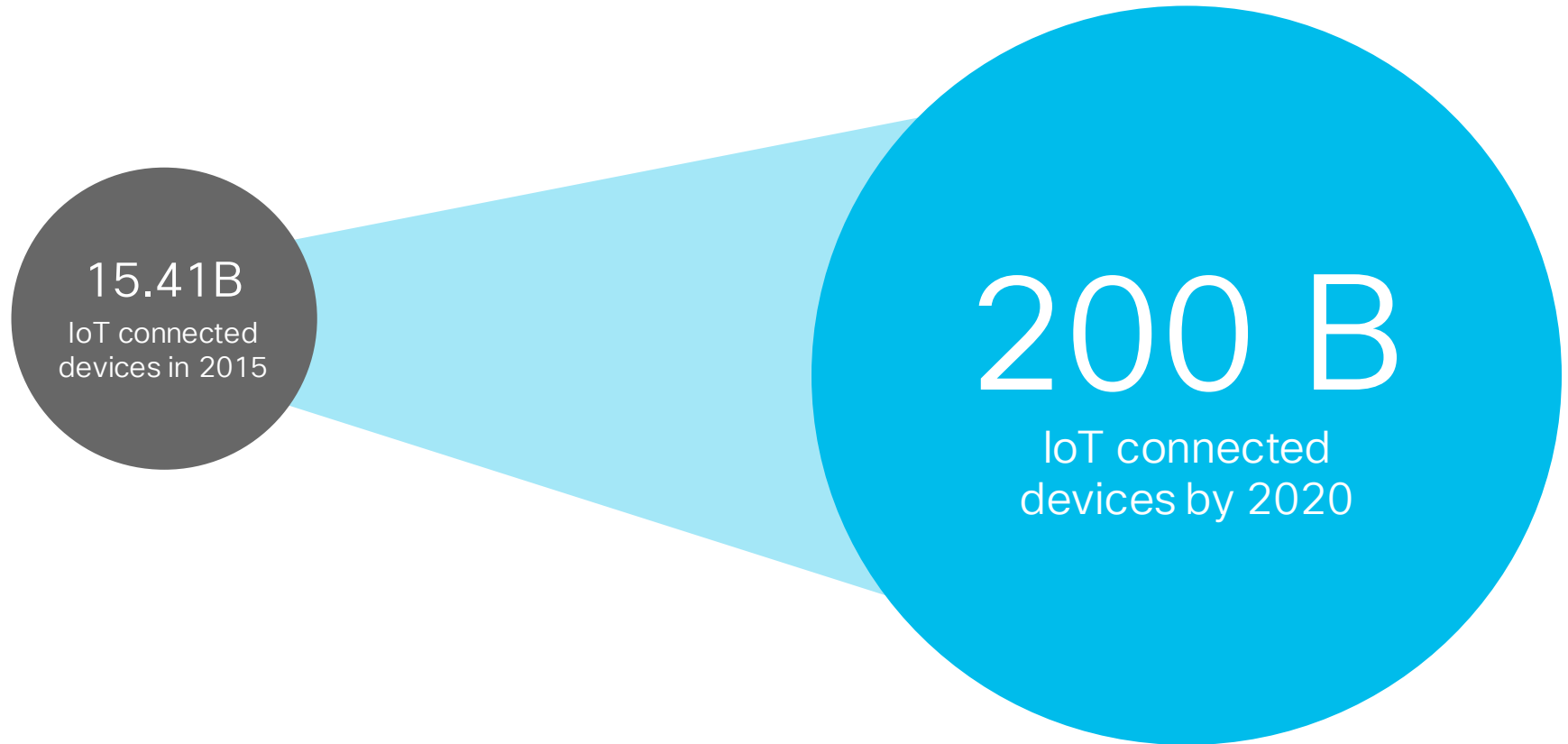# The world of security is growing exponentially

415 M internet users in 2000

3.9 B internet users in 2018

The world of security is growing exponentially

$325 M size of the ransomware market in 2015

$11.5 B size of the ransomware market by 2019

The world of security is growing exponentially

15.41B
IoT connected
devices in 2015

200 B
IoT connected
devices by 2020

Cybersecurity talent trends

3.5ˣ faster growth than general IT
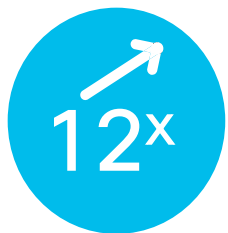
12ˣ faster growth than overall job market

3.5 M worker shortfall by 2021

36% security staffing spending increase

34.5% organizations with significant expertise obstacles

56% decision makers staff shortage major challenge

89% organizations believe industry certification is important

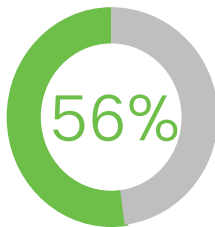**26%** organizations facing insufficient number of cybersecurity staff

9% higher salaries than other IT positions

#1 security threat is the human factor, according to CISOs

Would you HIRE this person?

Candidate has worked for organization redacted, protecting redacted systems and redacted information, in an environment redacted, located in redacted, using security technologies and techniques such as redacted. Activities and responsibilities included redacted, redacted, and redacted.

During his/her time in this position, successfully dealt with major confidential cybersecurity issues, such as redacted, redacted, and redacted, avoiding situations/consequences such as redacted, and redacted.

TRUST ME.

More job openings than ever before
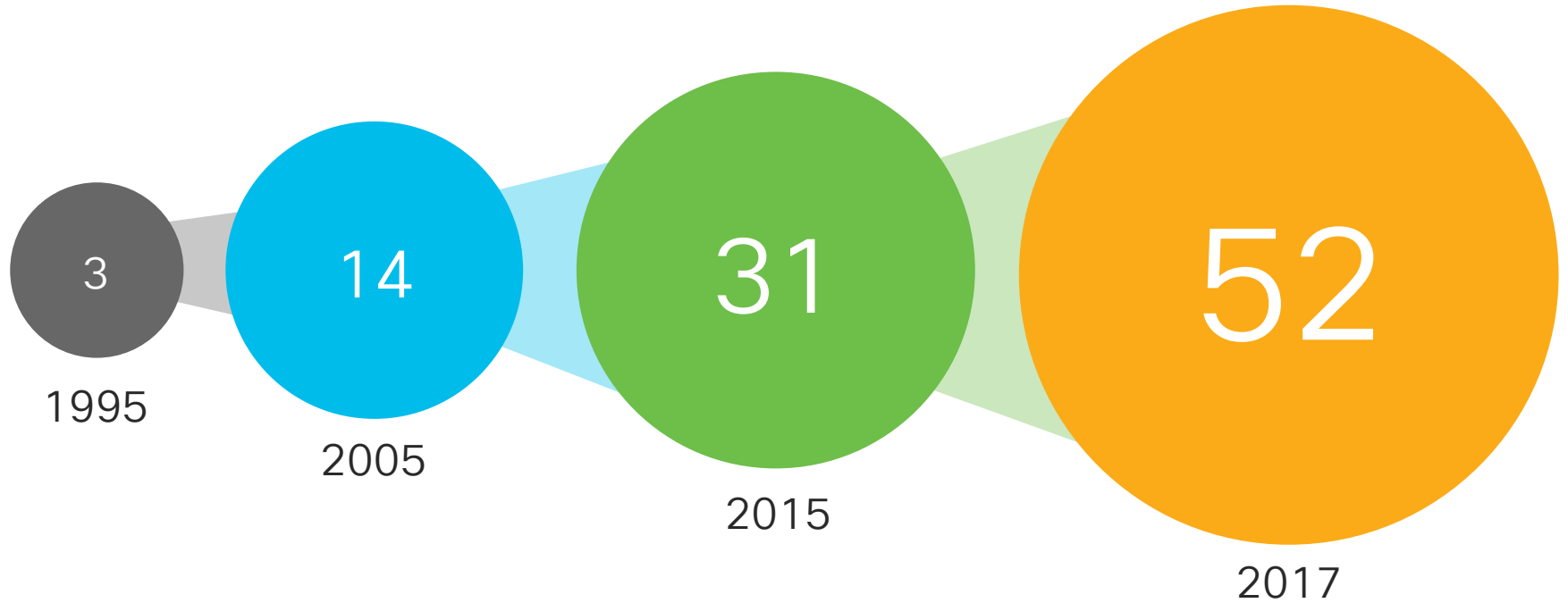(US figures shown)

Total US Cybersecurity
Job Openings

299,335

Total US Employed Cyber
Workforce

746,858
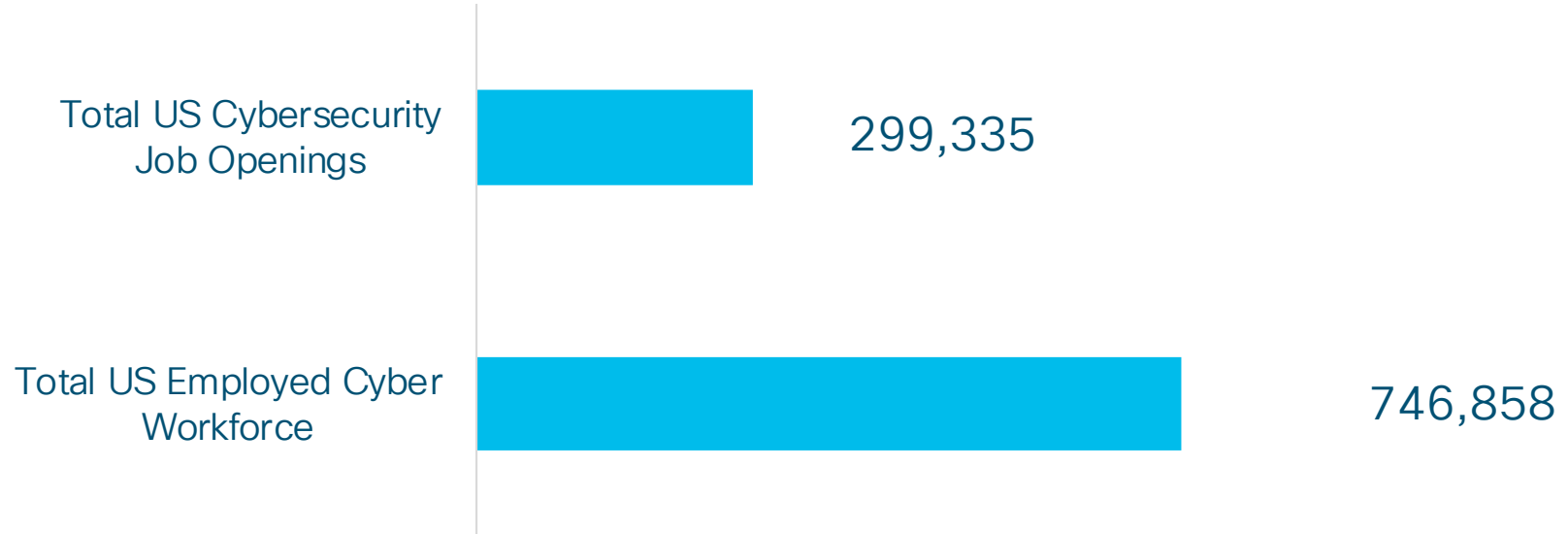
Expanding security job roles, over time

3 — 1995

14 — 2005

31 — 2015

52 — 2017

US job openings span across specializations

Top US Cybersecurity Job Titles

Cybersecurity Engineer	Systems Engineer
Cybersecurity Analyst	Systems Administrator
Network Engineer/Architect	IT Auditor
Cybersecurity Manager/Administrator	Vulnerability Analyst
Software Developer/Engineer	Penetration Tester

Collect & Operate
6%

Operate and Maintain
26%

Oversee & Govern
12%

Securely Provision
24%

Analyze
16%

Protect & Defend
16%

Source: Cyberseek.org
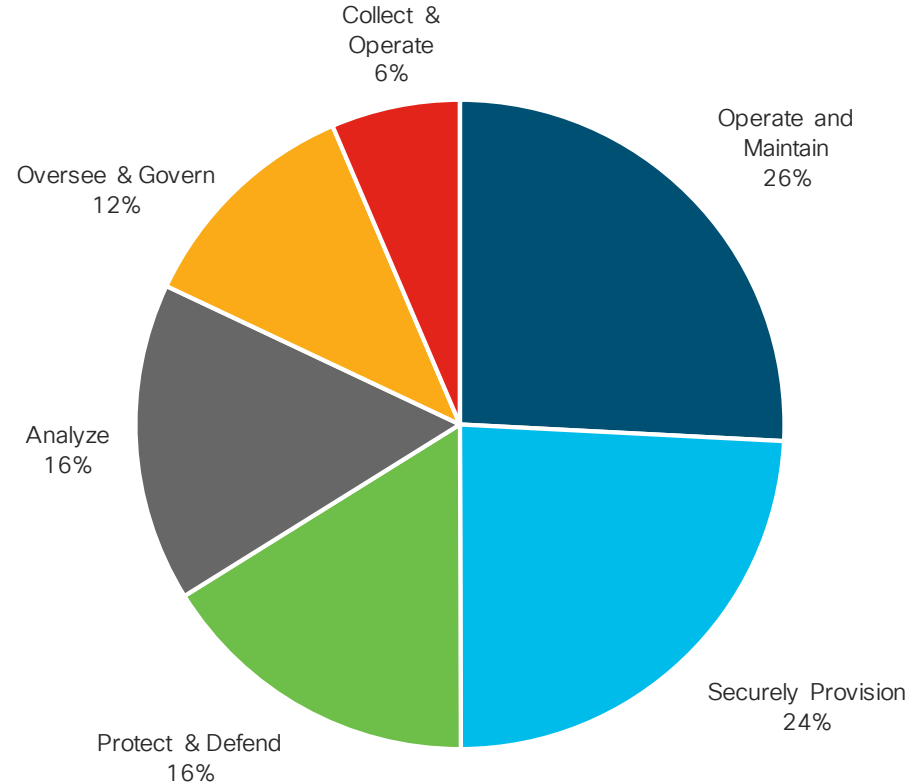
What's our DESTINATION?

Selecting Goals

More types of security job roles than ever before

- 7 Cyber Security Categories
- 33 Specialty Areas
- 52 Work Roles

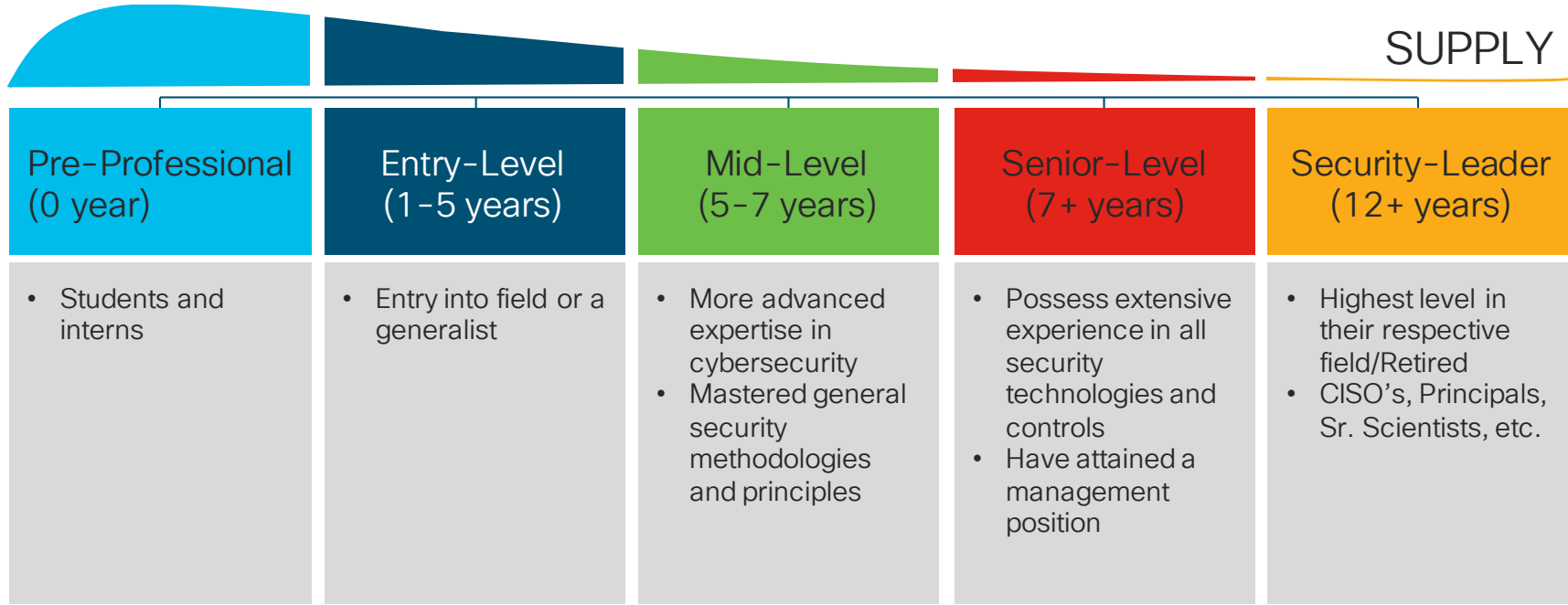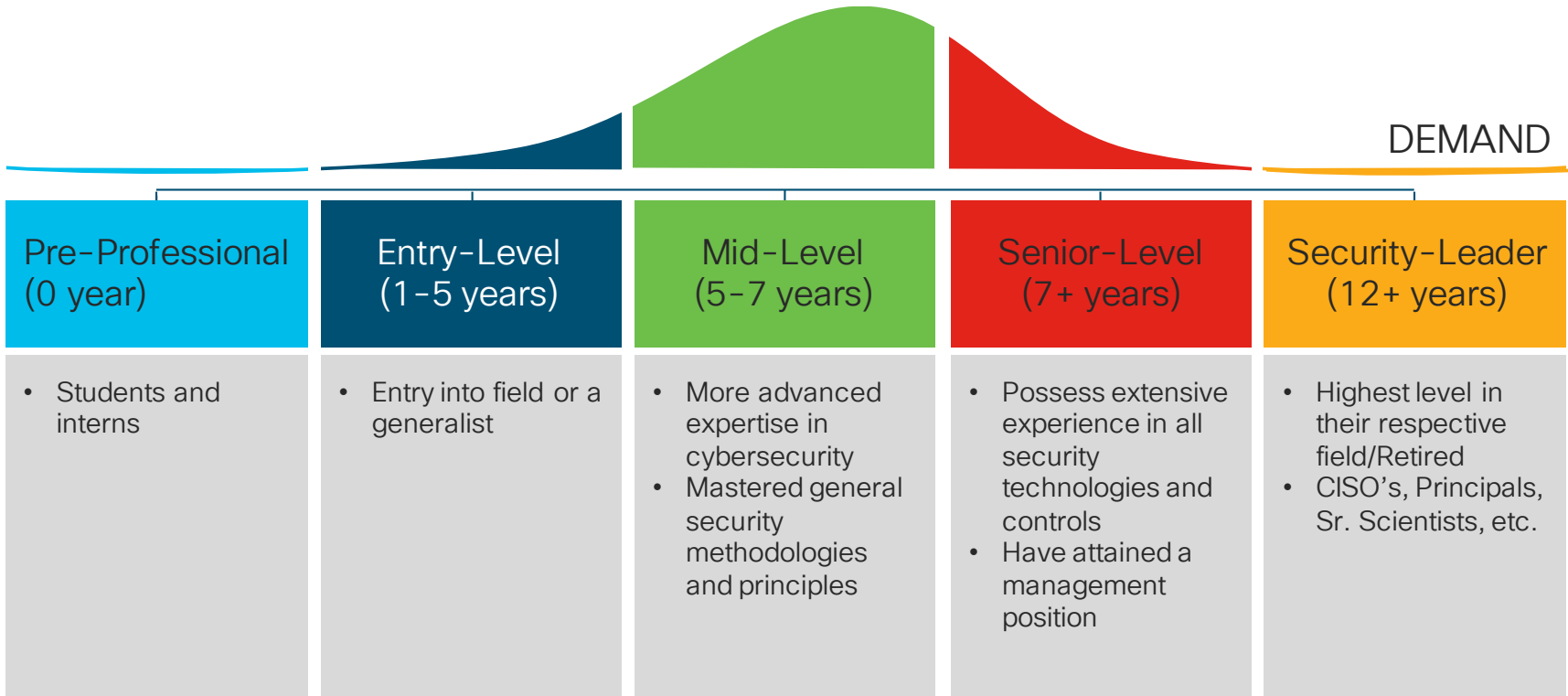| Investigate (IN)	Collect & Operate (CO)	Protect & Defend (PR)	Analyze (AN)	Oversee & Govern (OV)	Operate & Maintain (OM)	Securely Provision (SP)
				Legal Advice & Advocacy (LGA)	Data Admin. (DTA)	Risk Management (RSK)
			Threat Analysis (TWA)	Training, Education & Awareness (TEA)	Knowledge Mgmt. (KMG)	Software Development (DEV)
		Cybersecurity Defense Analysis (CDA)	Exploitation Enalysis (EXP)	Cybersecurity Management (MGT)	Customer Svc. & Tech Support (STS)	Systems Architecture (ARC)
	Collection Operations (CLO)	Cybersecurity Defense Infrastruct. Support (INF)	All-Source Analysis (ASA)	Strategic Planning & Policy (SPP)	Network Services (NET)	Technology R&D (TRD)
Cyber Investigation (INV)	Cyber Operational Planning (OPL)	Incident Response (CIR)	Targets (TGT)	Executive Cyber Leadership (EXL)	Systems Admin. (ADM)	Systems Requirements Planning (SRP)
Digital Forensics (FOR)	Cyber Operations (OPS)	Vulnerability Assessment & Mgmt. (VAM)	Language Analysis (LNG)	Program/Project Management & Acquisition (PMA)	Systems Analysis (ANA)	Test & Evaluation (TST)
						Systems Development (SYS)

ISSA's cybersecurity career lifecycle®

SUPPLY

Pre-Professional (0 year)	Entry-Level (1-5 years)	Mid-Level (5-7 years)	Senior-Level (7+ years)	Security-Leader (12+ years)
• Students and interns	• Entry into field or a generalist	• More advanced expertise in cybersecurity • Mastered general security methodologies and principles	• Possess extensive experience in all security technologies and controls • Have attained a management position	• Highest level in their respective field/Retired • CISO's, Principals, Sr. Scientists, etc.

ISSA's cybersecurity career lifecycle®

DEMAND

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Career paths in cybersecurity
(US Job Openings / % Openings / US Average Salary)

Entry

Cybersecurity Specialist / Technician (6,111/$84K)

CCNA Security   CCNA Cyber Ops

Analyst / Incident Responder (13,833/$86K)

CCNA Cyber Ops

Cyber Crime Analyst / Investigator (564/$78K)

IT Auditor (6,673/$86K)

Mid

Cybersecurity Consultant (17,565/$107K)

CCNP Security

Cybersecurity Analyst (22,544/$89K)

CCNA Cyber Ops

Penetration & Vulnerability Tester (10,929/$97K)

Advanced

Cybersecurity Architect (5,085/$133K)

CCIE Security

Cybersecurity Engineer (37,580/$116K)

CCNP Security   CCIE Security
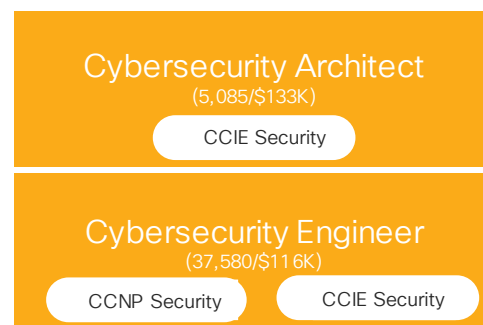
Source: CyberSeek.org

Security roles, simplified

Secure Infrastructure Architect & Engineers
"Design and Secure"
Architect & Engineer

CSO / Manager
"Policy & Prioritize"
CISO, Manager

Secure Infrastructure Engineers, Technicians & Administrators
"Build and Secure"
Engineer, Administrator, Technician

Security Operations Team
"Detect and Respond"
Security Analyst; First Responder; Network Auditor; Digital Forensics Investigator; SOC Team Member

Associate level SOC Analysts: CCNA Cyber Ops

Job Role:
Associate Level SOC Analyst
"Detect & Respond"

Knowledge/Skills Needed:

- Network/Security Fundamentals
- Security & Event Analysis/Monitoring
- Attack Methods
- Forensics
- Incident Handling/Response

Learning Path:

1. Understanding Cisco Cybersecurity Fundamentals (SECFND) v1.0
2. Implementing Cisco Cybersecurity Operations (SECOPS) v1.0

Technicians and administrators: CCNA Security

Job Role(s):
Security Infrastructure Engineers, Technicians & Administrators
"Build & Secure"

Knowledge/Skills Needed:

- Security Concepts
- Secure Access
- VPN
- Secure Routing/Switching
- Firewall Technologies
- Intrusion Prevention Systems
- Content/Endpoint Security

Learning Path:

1. Implementing Cisco Network Security (IINS) v3.0

Network security engineers: CCNP Security

Job Role(s):

Security Infrastructure Engineers & Architects
"Design, Build & Secure"

Knowledge/Skills Needed:

- Threat defense and architectures
- Identity management and secure access
- Content security
- Secure communications and architectures
- Troubleshooting, monitoring and reporting tools

Learning Path:

1. Implementing Cisco Edge Network Security Solutions (SENSS)
2. Implementing Cisco Threat Control Solutions (SITCS)
3. Implementing Cisco Secure Access Solutions (SISAS)
4. Implementing Cisco Secure Mobility Solutions (SIMOS)

HOW do we get there?
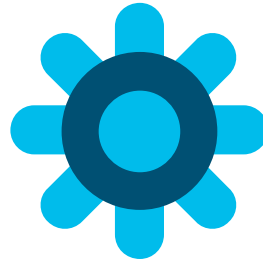
Strategies for the Journey

Conduct a security competency inventory

Knowledge
Body of information applied directly to the performance of a function.

Skills
Observable competence to perform a learned psychomotor act.

Abilities
Competence to perform an observable behavior or behavior resulting in an observable product.

Tasks: A specific defined piece of work that, combined with other tasks, composes the work in a specific specialty area or work role.

Conduct a security competency inventory

Current role

- Knowledge
- Skills
- Abilities

Gap analysis

Training plan

Future role

- Knowledge
- Skills
- Abilities

Develop a habit of continuous learning

The benefit you gain from the behavior.

3. Reward

1. Reminder

The internal or external trigger that initiates the behavior.

21 days – 12 weeks

2. Routine

The behavior itself; the action you take.

Strategies to set yourself up for success

Schedule

Location

Consider how you learn best
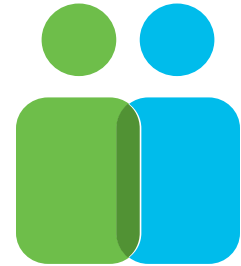## Four primary learning styles

Visual

Auditory

Physical

Social

Consider your unique learning style

Scheduled

Self-paced

Choose a certification for your career stage

Pre-Professional (0 year)	Entry-Level (1-5 years)	Mid-Level (5-7 years)	Senior-Level (7+ years)	Security-Leader (12+ years)

• Network Academy
 	
• CCENT
 	
• Foundational Skills:
  • Coding
  • O/S
  • Networking
  • Security
	• CCENT
	
	• Security 101
	
	• CCNA Cyber Ops
	
	• CCNA Security
		• CCNP Security
		
		• (Product Training)
		
		• (Applied Security Training)
		
		• Mentoring & Other Activities...
			• CCIE Security
			
			• Mentoring
			
			• Independent Research on Emerging Topics.
				• CCIE Security
				
				• Mentoring
				
				• Team Development
				
				• Contributed Research & Thought Leadership

Choose a certification for your career goals

Secure Infrastructure
Architect & Engineers

CCIE Security

CCNP Security

CSO / Manager

CCNA Security

Secure Infrastructure
Engineers, Technicians
& Administrators

Cybersecurity Specialist
CCNA Cyber Ops

Security Operations Team

Choose learning resources that fit your style

Scheduled

Cisco Learning Partners Classroom	Cisco Learning Partners Virtual Classroom	NetAcad School Curriculum

Self-paced

Cisco Press	Cisco Learning Network	Cisco Support Community	DevNet

Key takeaways

- Understand the different cybersecurity roles: Be able to not only articulate interdependencies between roles, but also the next step in your career journey

- Conduct a regular competency inventory, and identify development areas for yourself and your team

- Create a learning and development plan that fits with your unique learning style

To learn more visit
 cisco.com/go/securitytraining

Questions?

Intro to Cybersecurity Self-Enroll Course

You can enroll today to learn more @ http://bit.ly/introsecurity