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Connect | Educate | Inspire | Secure

(ISC)² Cybersecurity Workforce Study 2021
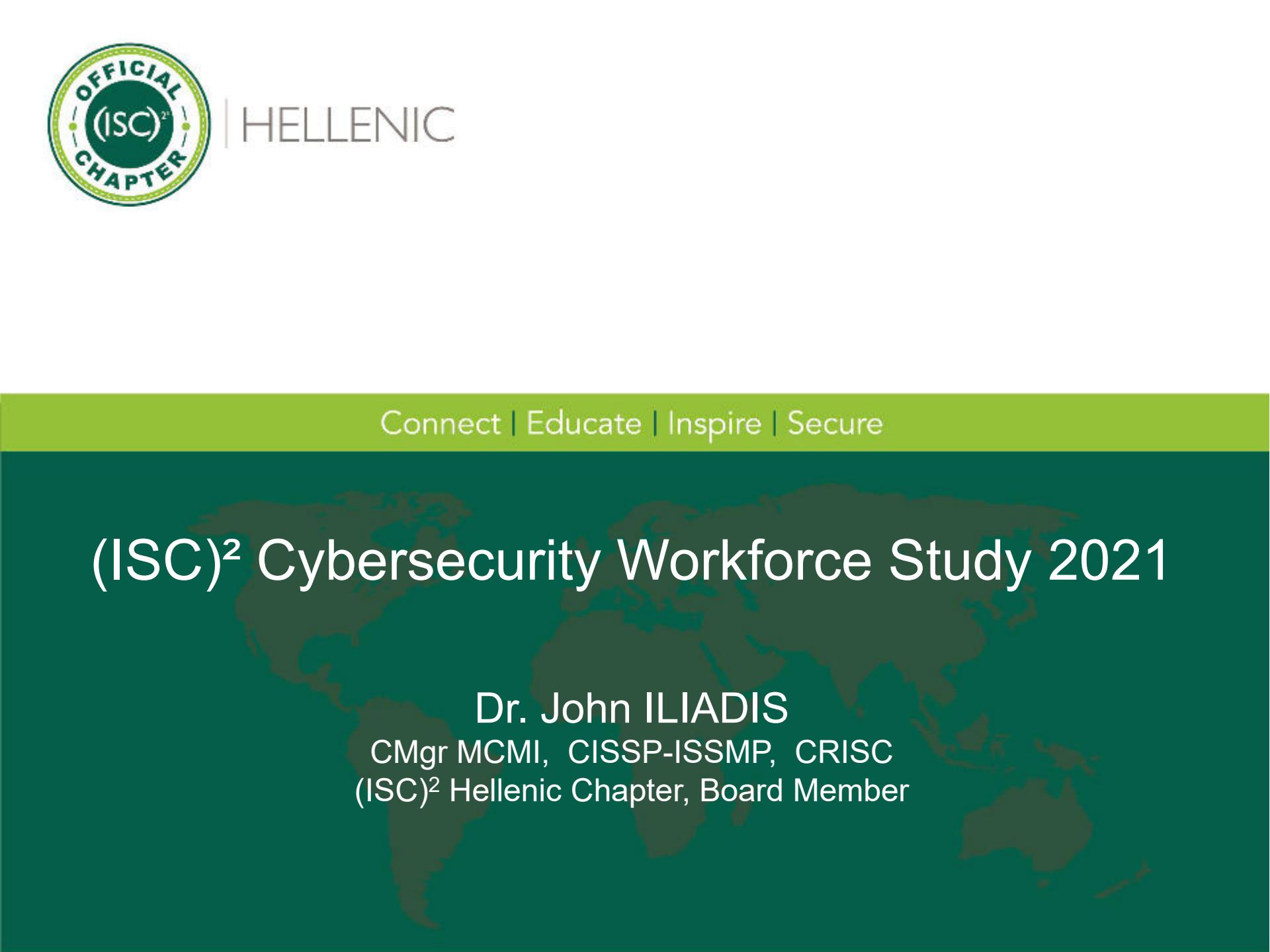
Dr. John ILIADIS
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(ISC)² Hellenic Chapter, Board Member

- $(ISC)^2$ = International Information Systems Security Certification Consortium, established in 1989

- Non-profit consortium of information security industry leaders

- Supports security professionals throughout their careers

- Global Standard for information security: $(ISC)^2$ CBK®

- Over 160,000 certified professionals; over 170 countries

- 270 members in Greece, established in 2015

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EDUCATE & CERTIFY
the world's security professionals

Professional Development Institute

Self-paced online learning

- Immersive, Express and Lab courses
- Interactive, engaging and timely
- Modular content combined with interactive activities
- Written content, videos, interactive labs, case studies, assessments and more

www.isc2.org/development
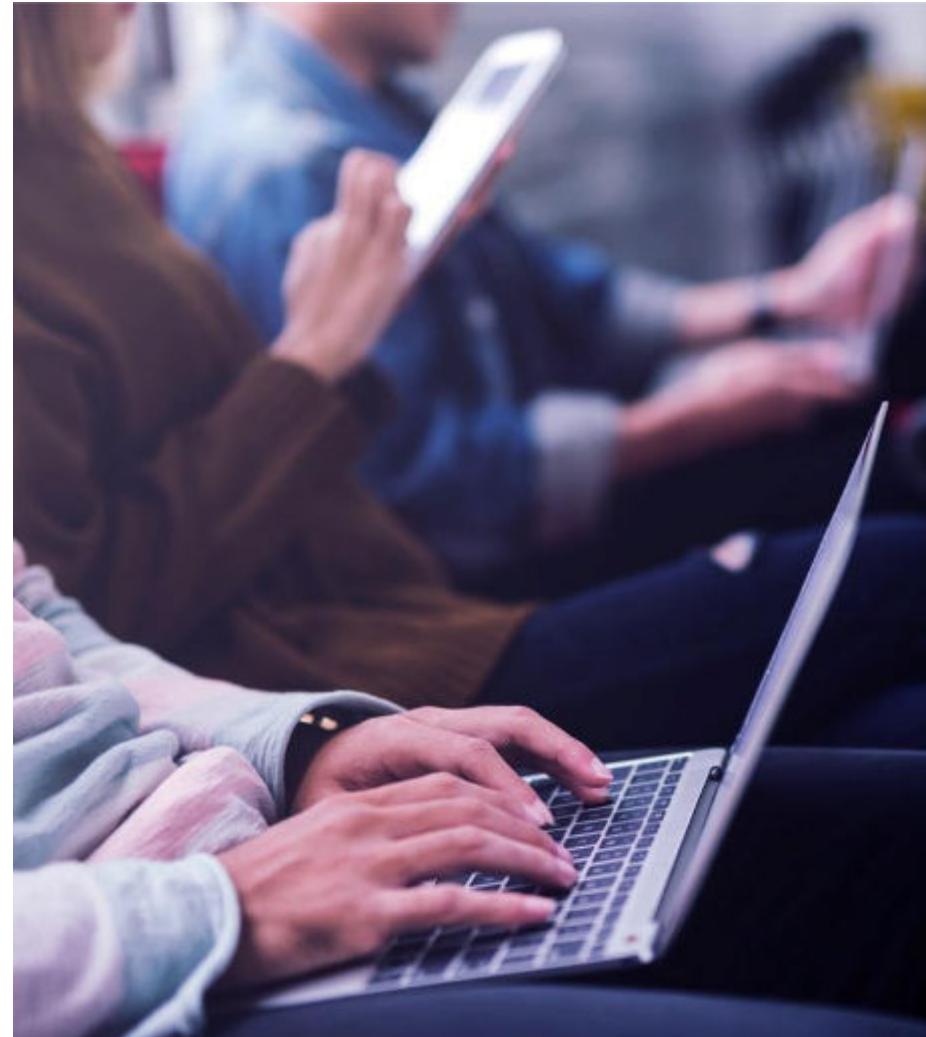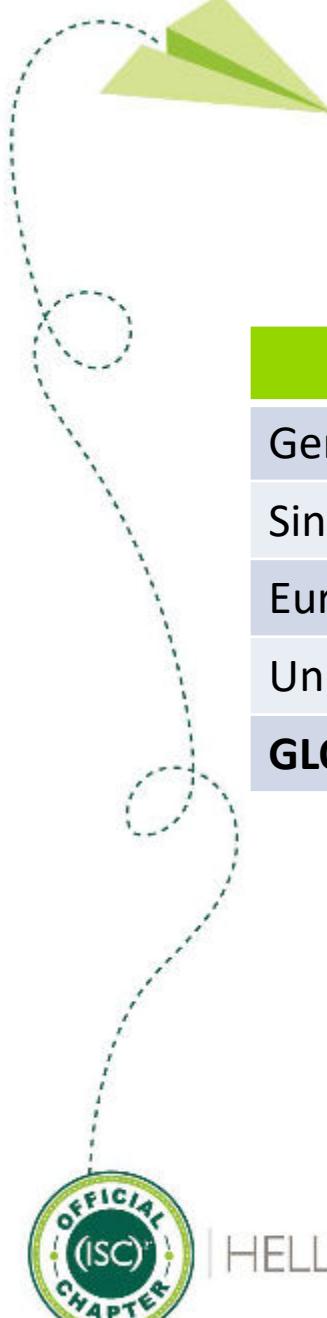
High growth – Number of professionals

|	2019	2020	2021	%2020-2021
Germany	133.000	175.159	464.782	↑ 165%
Singapore	43.000	57.765	92.744	↑ 61%
Europe	543.000	830.187	1.086.146	↑ 31%
United States	804.700	879.157	1.142.462	↑ 30%
GLOBAL	2.802.700	3.484.971	4.192.255	↑ 20%

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2.72 MILLION
Workforce Gap

Source: (ISC)² Cybersecurity Workforce Study, 2021

Gap in professionals 2019-2021

Global ~2.72M	NA ~402,000	LATAM ~701,000	Europe ~199,000	APAC ~1.42M
Pandemic (2020): ~3.12M	Pandemic (2020): ~376,000	Pandemic (2020): ~527,000	Pandemic (2020): ~168,000	Pandemic (2020): ~2.045M
Pre-pandemic (2019): ~4.07M	Pre-pandemic (2019): ~561,000	Pre-pandemic (2019): ~600,000	Pre-pandemic (2019): ~291,000	Pre-pandemic (2019): ~2.6M

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The Study

…survey data from 4.753 cybersecurity professionals throughout

- North America,
- Europe,
- Latin America (LATAM) and
- Asia-Pacific (APAC)

Pathway to Cybersecurity

Gen Z / Millennials (<39)   Gen X (39-54)   Baby Boomers (55+)

Started in IT then transitioned to cybersecurity
- 38%
- 53%
- 55%

Started in another field then transitioned to cybersecurity
- 16%
- 16%
- 21%

Pursued an education in cybersecurity or related field then got first job in cybersecurity
- 21%
- 12%
- 8%
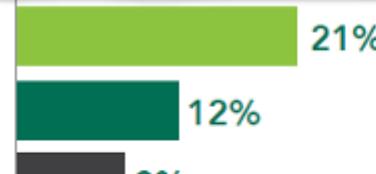
Explored cybersecurity concepts on my own and was recruited for a job in cybersecurity
- 19%
- 14%
- 6%
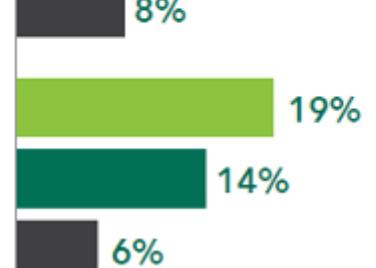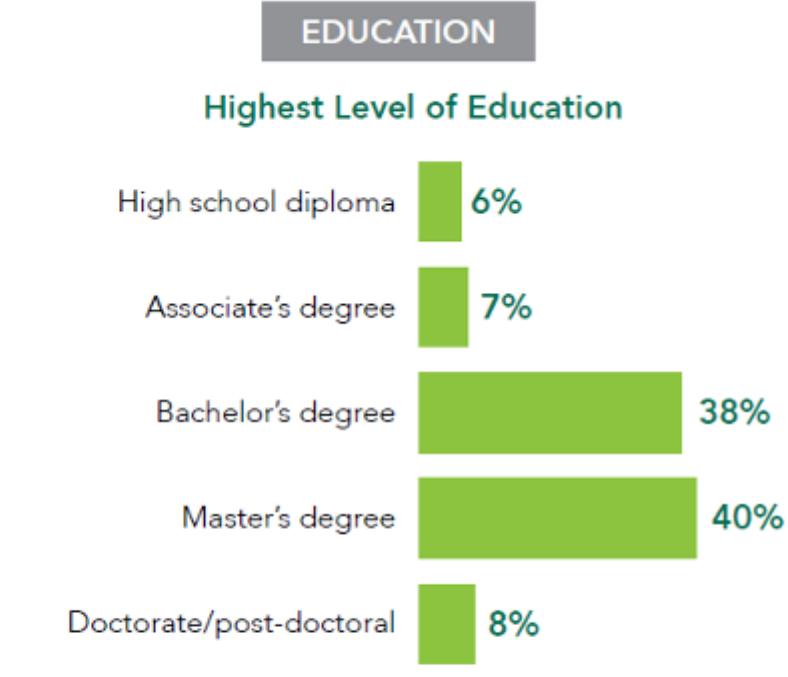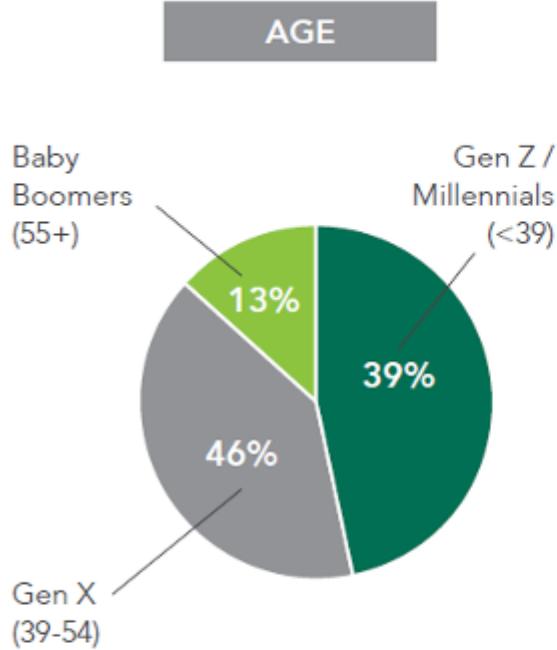
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Cybersecurity Workforce Snapshot

AGE

Baby Boomers (55+) — 13%

Gen Z / Millennials (<39) — 39%

Gen X (39-54) — 46%

EDUCATION

Highest Level of Education

- High school diploma **6%**
- Associate's degree **7%**
- Bachelor's degree **38%**
- Master's degree **40%**
- Doctorate/post-doctoral **8%**

Top Degrees

Computer and information sciences: **46%**

Engineering: **18%**

Business: **8%**

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Cybersecurity Workforce Snapshot
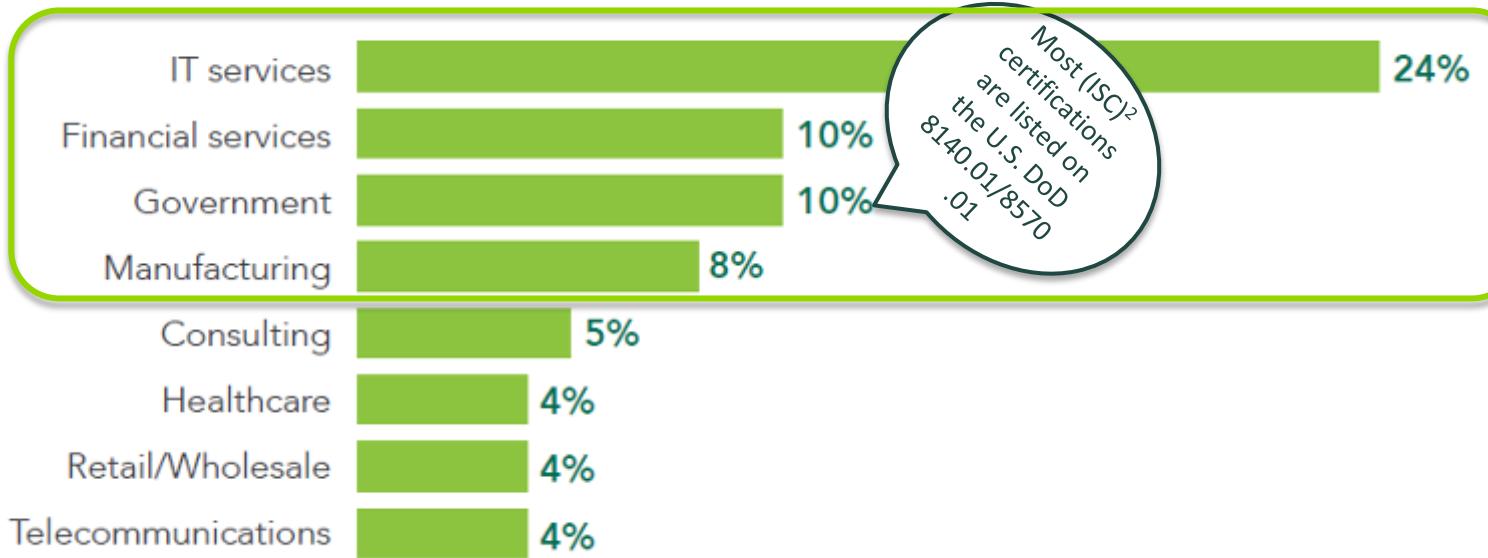
Qualifications in need

equally important as cybersecurity certifications (32%)

38%
Strong problem-solving abilities

32%
Curiosity and eagerness to learn

32%
Strong communication skills

23%
Strong strategic thinking skills

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Professional Development Areas Pursued

CCSP coming soon to a theater near you

40%
Cloud computing security

26%
Risk assessment, analysis and management

25%
Artificial intelligence / machine learning

24%
Governance, risk management and compliance (GRC)

22%
Threat intelligence analysis

22%
DevSecOps

22%
Security engineering

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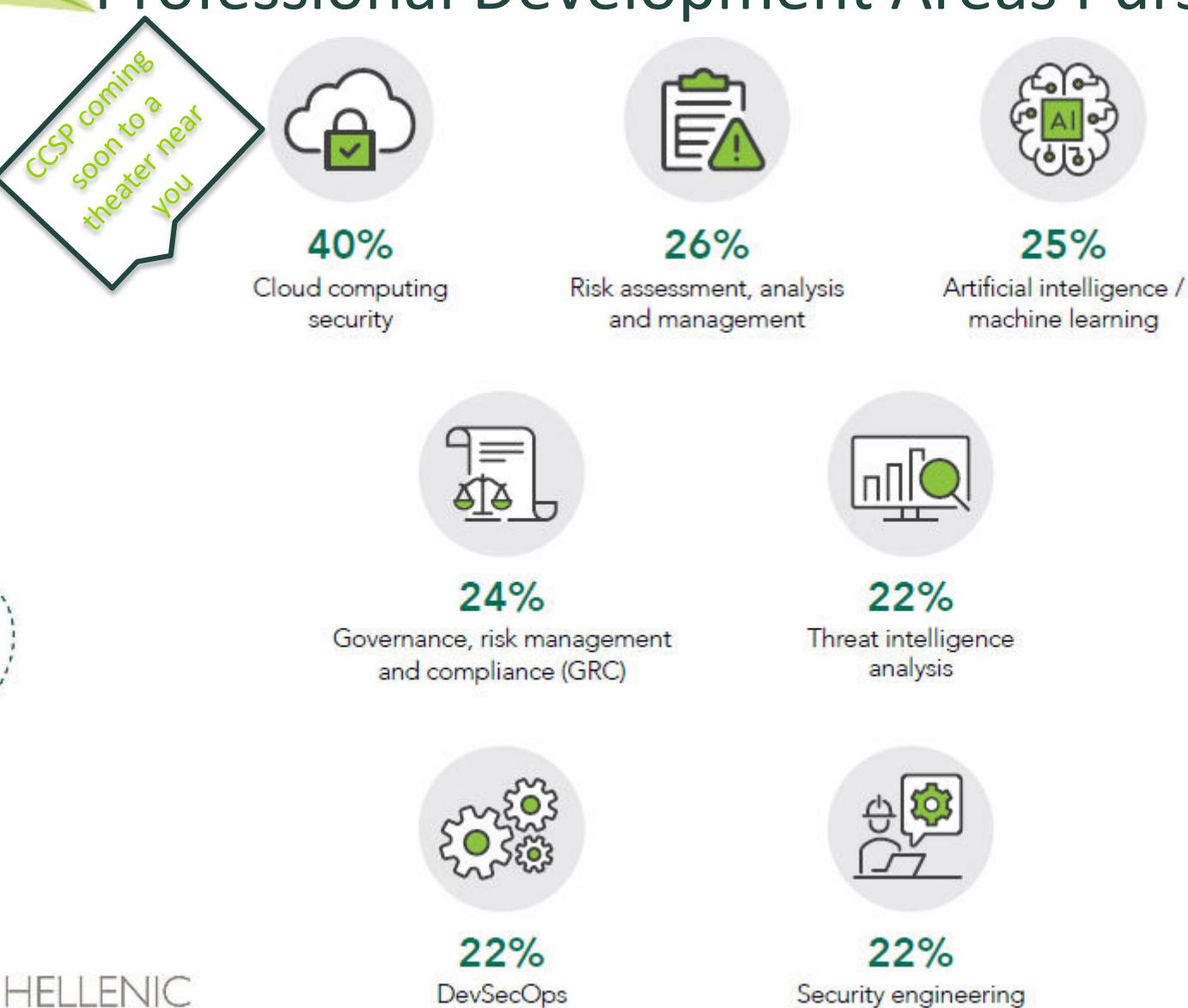
Some takeaways

» Understand Your Gap; which roles do you need to fill?

» Rethink How You Hire; expand your candidates' pool by evaluating prospects for non-technical qualifications

» Put People Before Technology; organizations cannot spend their way out of the gap. They need to invest in people and build teams for long-term success

» Embrace Remote Work; cybersecurity professionals want to continue working remotely. Also, remote work casts a much wider recruiting net.

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Thank you !

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