

PRESENTATION TO INTOSAI WG/TA

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05/23/2017



Agenda

Introductions

ISACA Strategy and Goals

IT Audit Survey Results

Future of Partnership

ISACA Domains & Expertise



AUDIT &
ASSURANCE



CYBER
SECURITY



GOVERNANCE



RISK
MANAGEMENT



INFORMATION
SECURITY

Global, Non-Profit Professional Association for Individuals and Enterprises



SERVING MORE THAN

159,000

PROFESSIONALS



200+ CHAPTERS
WORLDWIDE



MEMBERS IN
190+ COUNTRIES

Our Portfolio

The trusted source and industry leader delivering the potential of technology and business transformation.

CERTIFICATION:



KNOWLEDGE, INSIGHTS, RESEARCH:

- 1 Security
- 2 Risk
- 3 Audit, Assurance, Guidance
- 4 Emerging Tech
- 5 Governance

TRAINING & EDUCATION:



CONFERENCES



TRAINING
WEEKS



ONLINE
LEARNING



CERTIFICATE
PROGRAMS



RESOURCES &
PUBLICATIONS



CAREER
DEVELOPMENT



MEMBERSHIP



EDUCATION &
CONFERENCES



CREDENTIALING
& TRAINING

ADDITIONAL ISACA BUSINESSES AND BRANDS:



2017 Strategic Growth Initiatives

1

ADVOCACY & PUBLIC AFFAIRS

Action Plan Goals:

- ✓ Develop, advocate cyber workforce, future of tech governance positions
- ✓ Participate in public consultations
- ✓ Apply expert responses to opportunities
- ✓ Forge partnerships, alliances, locally and globally

2

PROGRAMS & PHILANTHROPY



Volunteer Program:
Achieve Global
Impact & Create
Locally



**Student
Engagement**

3

GROWTH FOCUS

- Expand, evolve ISACA Chapters
- Target member and community growth in India, China, Africa
- Add dedicated offerings for Enterprise, government and student constituents
- Build out synergies with CMMI Institute, our for-profit entity
- China WFOE, ISACA IT Technology (Beijing) Co., Ltd., established to begin initiatives in China
- Evolve cybersecurity business with more skills-based training and assessment

IT Audit Survey Results: A Global Look at IT Audit Best Practices

The IT audit function has never held a more crucial role. From substantial cybersecurity, privacy and infrastructure challenges and management issues to the implementation of new technologies in the organization, IT auditors work closely with management and the board of directors to fulfill a vital role in helping to maintain an effective control environment amid a changing business climate and dynamic global marketplace.

OUR KEY FINDINGS

01

Cybersecurity is viewed as the top technology challenge — This has been a highly ranked challenge in our prior years' surveys, but still has increased in importance and clearly is the top-of-mind concern for IT audit leaders and professionals. These results are consistent with the results of Protiviti's annual survey of technology leaders, which show that IT security and incident response capabilities dominate the priority lists for CIOs.¹

02

There appears to be more executive-level interest in IT audit — A majority of IT audit leaders are regularly attending audit committee meetings, and many more are reporting directly to the CEO (though this reporting relationship may not be ideal). There also is more audit committee involvement in the IT audit risk assessment process.

OUR KEY FINDINGS

03

More CAEs are beginning to carry leadership for IT audit directly – CAEs are becoming increasingly IT-literate and appear to be taking on the daily management and leadership of the IT audit function. This is a positive trend as it provides the IT audit function with greater visibility and improved stature.

04

Most IT audit shops have a significant or moderate level of involvement in key technology projects – While it is encouraging to find some involvement in the early stages of a project such as planning and design, IT audit functions are more frequently involved post-implementation. Given that a strong majority of organizations have implemented a new IT system or application within the past three years, there likely are opportunities for IT audit to become more involved earlier on with these initiatives.

05

Most perform IT audit risk assessments, though a majority do so annually or less frequently – Considering the growing risk landscape resulting from cybersecurity threats and emerging technologies, more organizations should consider an approach that includes continually reviewing the IT risk landscape and adjusting IT audit plans accordingly.

Methodology

ISACA and Protiviti partnered to conduct the 6th Annual IT Audit Benchmarking Survey in the third and fourth quarters of 2016. This global survey, conducted online, consisted of a series of questions grouped into six categories:

- Emerging Technology and Business Challenges
- IT Implementation Project Involvement
- IT Audit in Relation to the Overall Audit Department
- Risk Assessment
- Audit Plan
- Skills, Capabilities and Hiring

More than 1,000 (n = 1,062) executives and professionals, including CAEs as well as IT audit vice presidents and directors, completed our online questionnaire.

Today's Top Technology Challenges

Current	YOY Trend	2015
IT security and privacy/cybersecurity	↑	Emerging technology and infrastructure changes — transformation, innovation, disruption
Infrastructure management	↑	IT security and privacy/cybersecurity
Emerging technology and infrastructure changes — transformation, innovation, disruption	↓	Resource/staffing/skills challenges
Resource/staffing/skills challenges	↓	Infrastructure management
Regulatory compliance	↑	Cloud computing/virtualization
Budgets and controlling costs	↑	Bridging IT and the business
Cloud computing/virtualization	↓	Big data and analytics
Bridging IT and the business	↓	Project management and change management
Project management and change management	↓	Regulatory compliance
Third-party/vendor management	↑	Budgets and controlling costs

IT Implementation Project Involvement

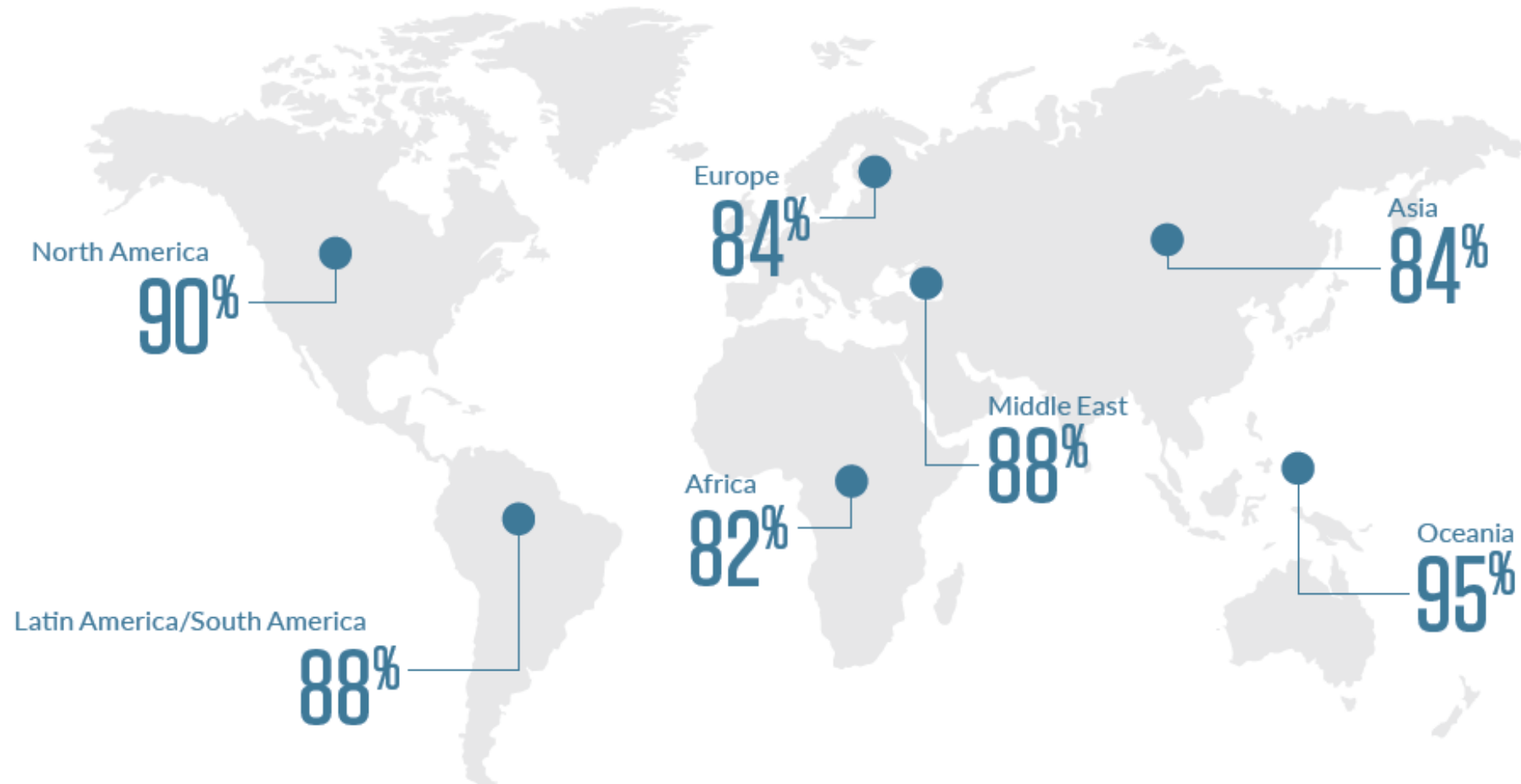


GLOBAL LEADER
Africa

68%

of IT audit functions have a significant or moderate level of involvement in significant technology projects.

Has your company implemented an IT system or application in the last three years? (Regional “Yes”)

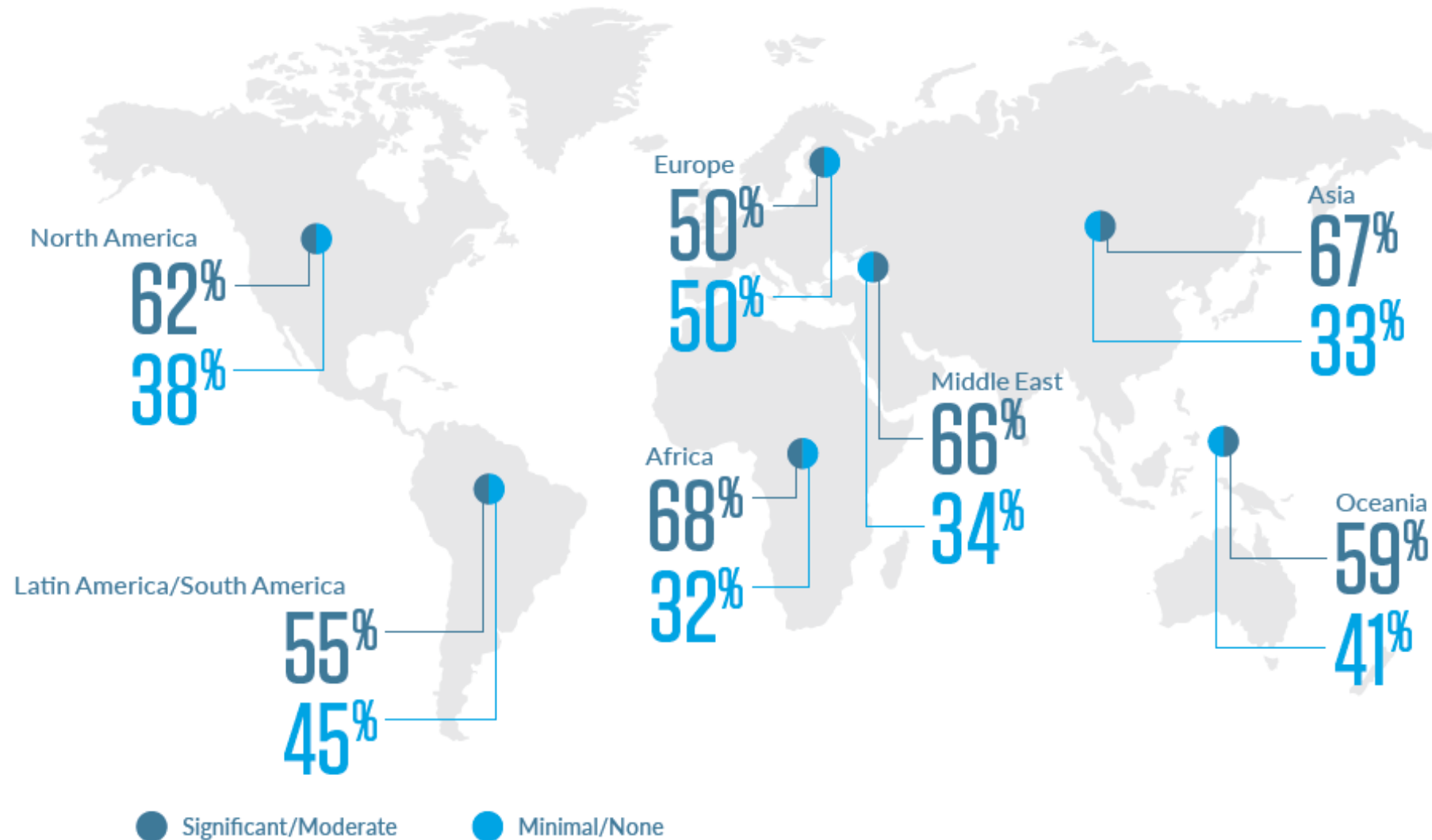


What was the primary purpose of the IT implementation project?

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Process automation	44%	52%	30%	48%	34%	32%	35%
Core/foundational infrastructure improvement	31%	22%	30%	33%	34%	35%	22%
Business intelligence	9%	10%	15%	10%	17%	8%	11%
Customer interface: ease of use	5%	8%	11%	3%	7%	9%	16%
Collaboration	9%	1%	9%	3%	0%	3%	8%
Customer interface: personalization	0%	4%	2%	3%	3%	2%	3%
Other	2%	3%	3%	0%	5%	11%	5%

What level of involvement does IT audit have in significant technology projects?



When does IT audit become involved in significant technology projects?

Planning	43%
Design	35%
Testing	38%
Implementation	37%
Post-implementation	65%
No involvement	12%

When does IT audit become involved in significant technology projects?

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Planning	48%	34%	40%	40%	34%	47%	35%
Design	35%	29%	34%	25%	21%	38%	44%
Testing	53%	31%	26%	43%	28%	41%	44%
Implementation	41%	27%	29%	33%	31%	42%	44%
Post-implementation	70%	67%	65%	68%	48%	64%	62%
No involvement	7%	9%	17%	15%	24%	10%	15%

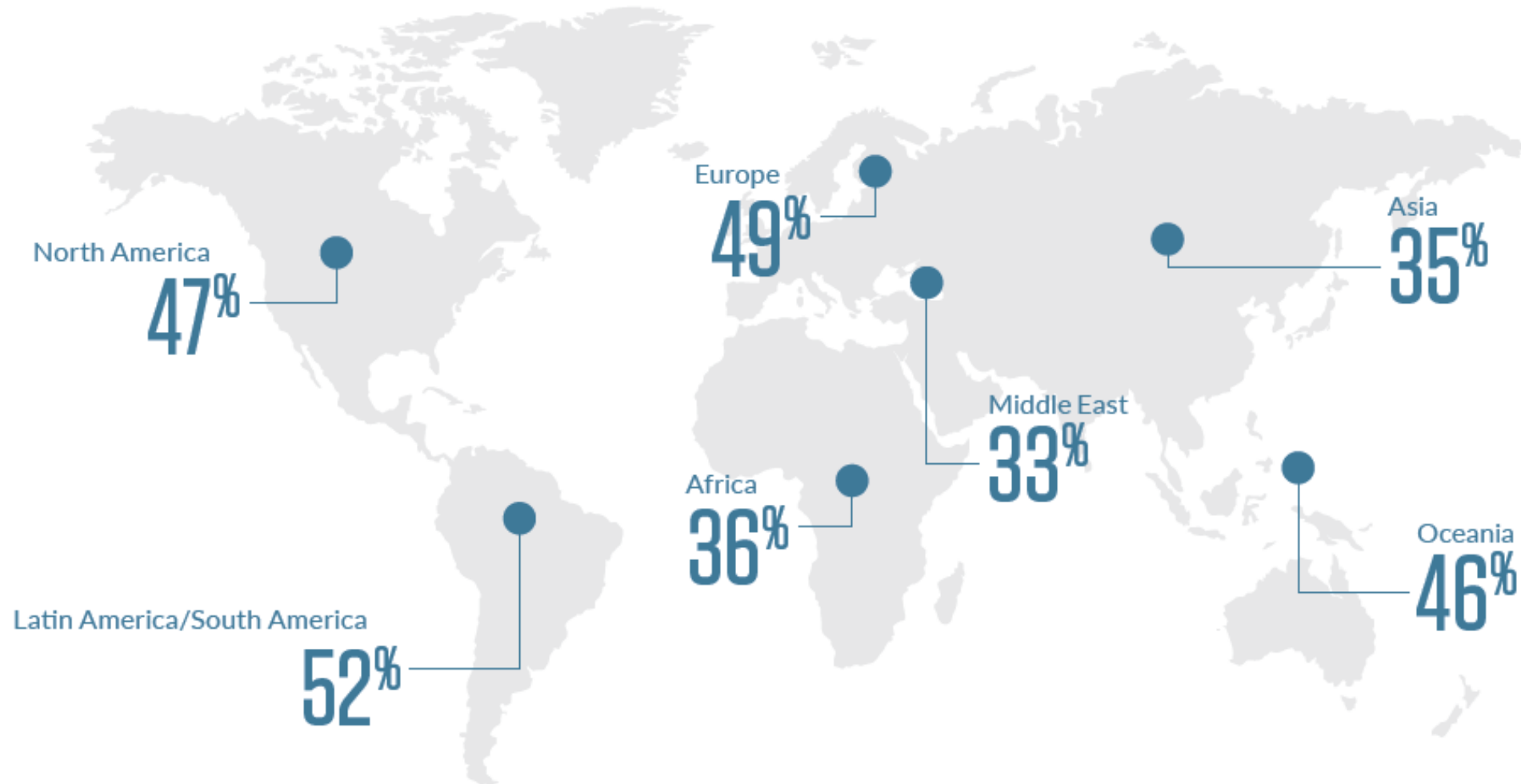
For IT implementation projects that occurred in the last three years, which of the following did IT audit evaluate?

Post-implementation project review	51%
Test phases	48%
Project governance	48%
Project risk management plan	45%
System development lifecycle (SDLC)	45%
Data conversion process	44%
Alignment of project success measures to desired business outcomes	41%
Project plan	41%
Project requirements	40%
Communication plan – project plan	30%
Communication plan – stakeholders	28%
Project budget	25%
Define project success measures	23%
Stakeholder identification	23%

For IT implementation projects that occurred in the last three years, which of the following did IT audit evaluate?

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Post-implementation project review	65%	48%	48%	58%	48%	50%	56%
Test phases	56%	41%	40%	40%	38%	52%	41%
Project governance	48%	37%	50%	43%	38%	50%	53%
Project risk management plan	52%	39%	53%	50%	41%	42%	50%
System development lifecycle (SDLC)	44%	38%	40%	35%	45%	50%	24%
Data conversion process	57%	38%	29%	38%	31%	50%	38%
Alignment of project success measures to desired business outcomes	63%	38%	47%	43%	38%	35%	47%
Project plan	43%	25%	36%	45%	48%	45%	38%
Project requirements	44%	28%	40%	35%	31%	42%	35%
Communication plan — project plan	35%	21%	23%	20%	28%	35%	29%
Communication plan — stakeholders	37%	19%	21%	20%	21%	32%	29%
Project budget	41%	16%	29%	35%	24%	22%	21%
Define project success measures	38%	16%	25%	25%	21%	21%	21%
Stakeholder identification	30%	8%	24%	15%	21%	26%	15%

Do you have a designated IT audit director (or equivalent position)?

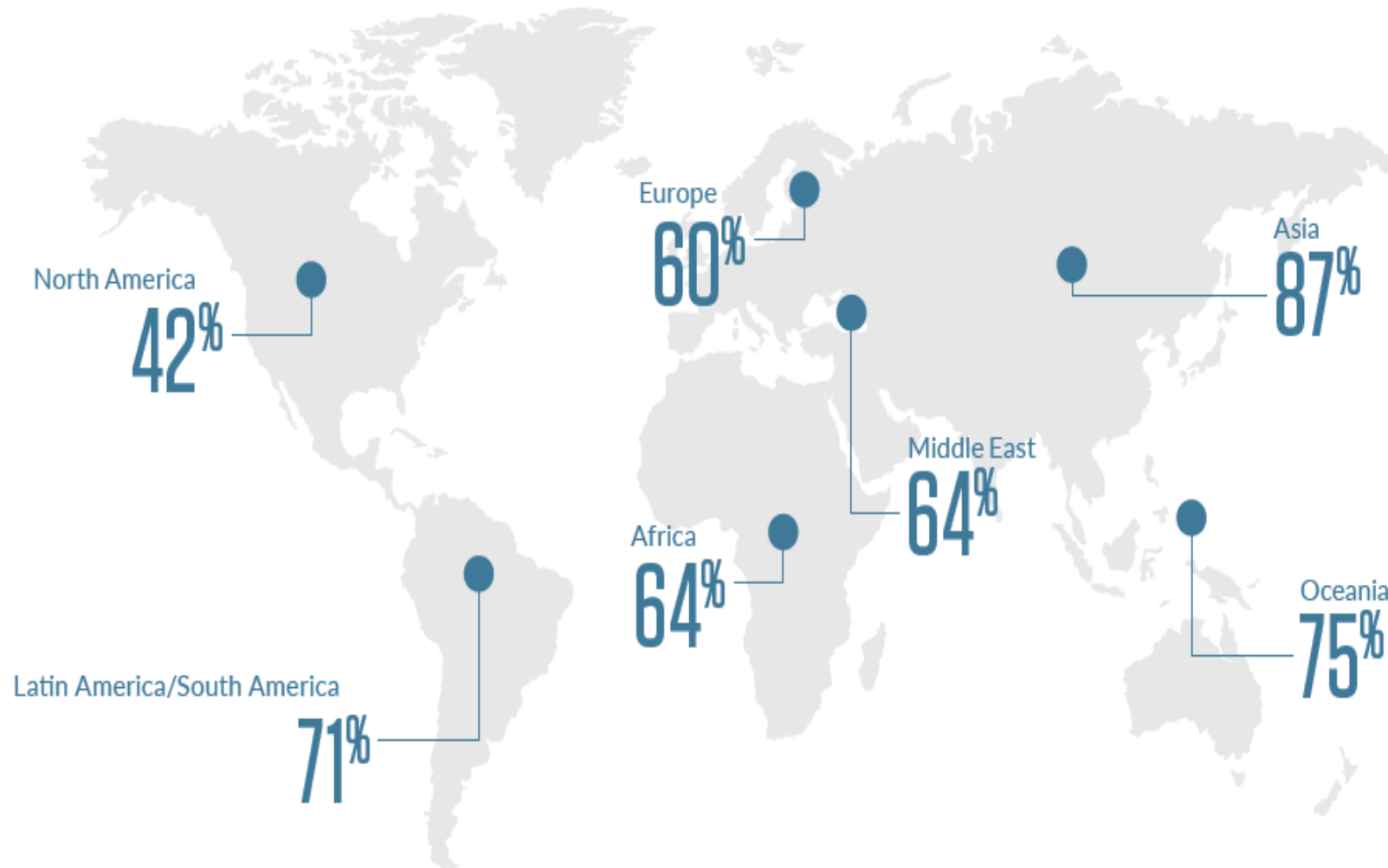


To whom within the organization does your IT audit director report?

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
CAE	47%	41%	51%	75%	91%	64%	63%
A director under the CAE	8%	8%	6%	12%	0%	10%	6%
CEO	28%	23%	26%	13%	9%	13%	19%
CIO	3%	10%	8%	0%	0%	2%	0%
Reports through some other function	14%	18%	9%	0%	0%	11%	12%

Does the IT audit director (or equivalent position) regularly attend audit committee meetings?

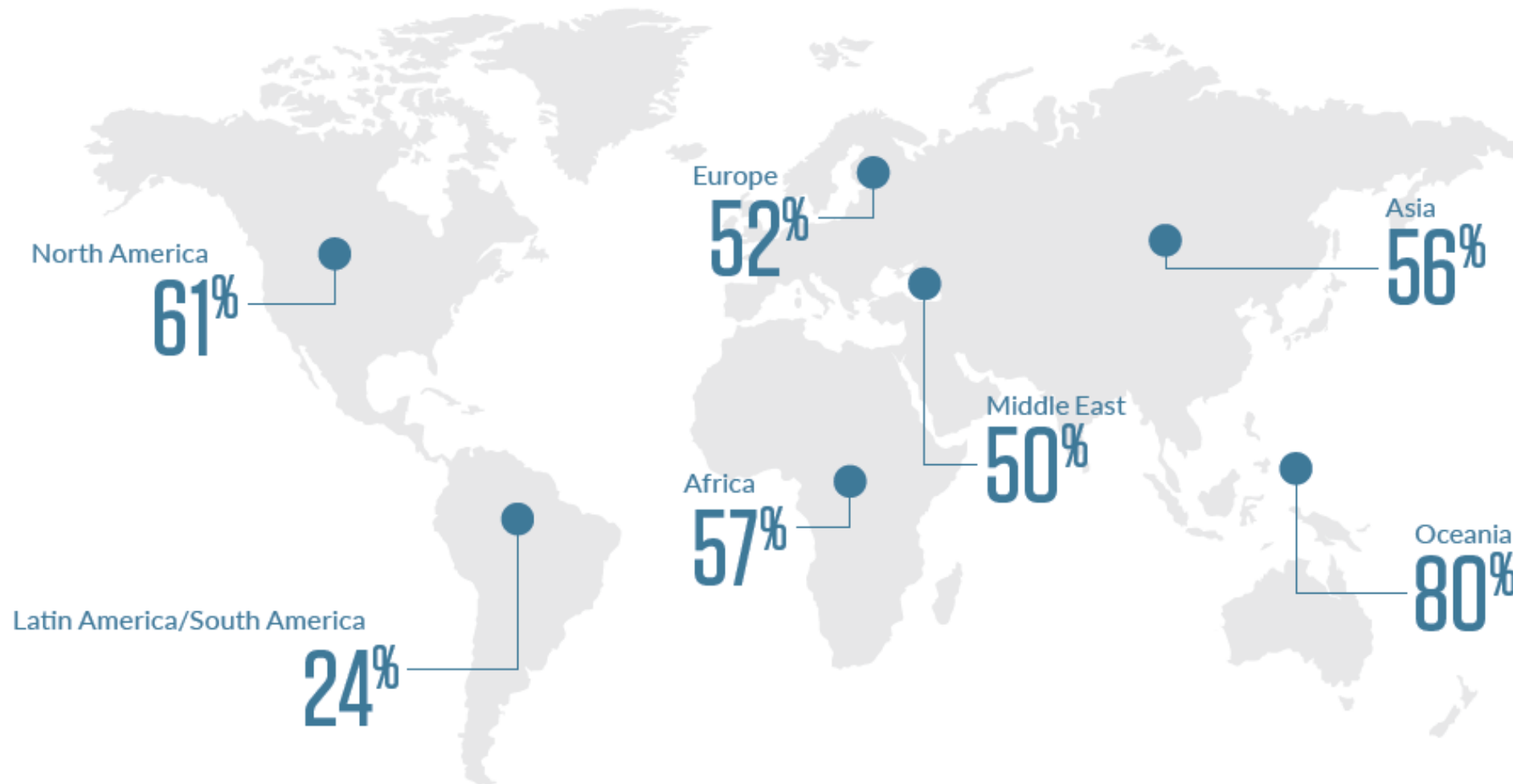


How are IT audit resources organized within your organization?

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Part of the internal audit department, not a separate function	49%	44%	55%	52%	30%	58%	54%
Part of the internal audit department, but considered to be a separate function	30%	35%	25%	26%	42%	25%	14%
Embedded in the organization as a separate audit function	14%	14%	13%	17%	9%	11%	20%
No IT audit resources are available within the organization	7%	7%	7%	5%	19%	6%	12%

Do you use outside resources to augment/provide your IT audit skill set?



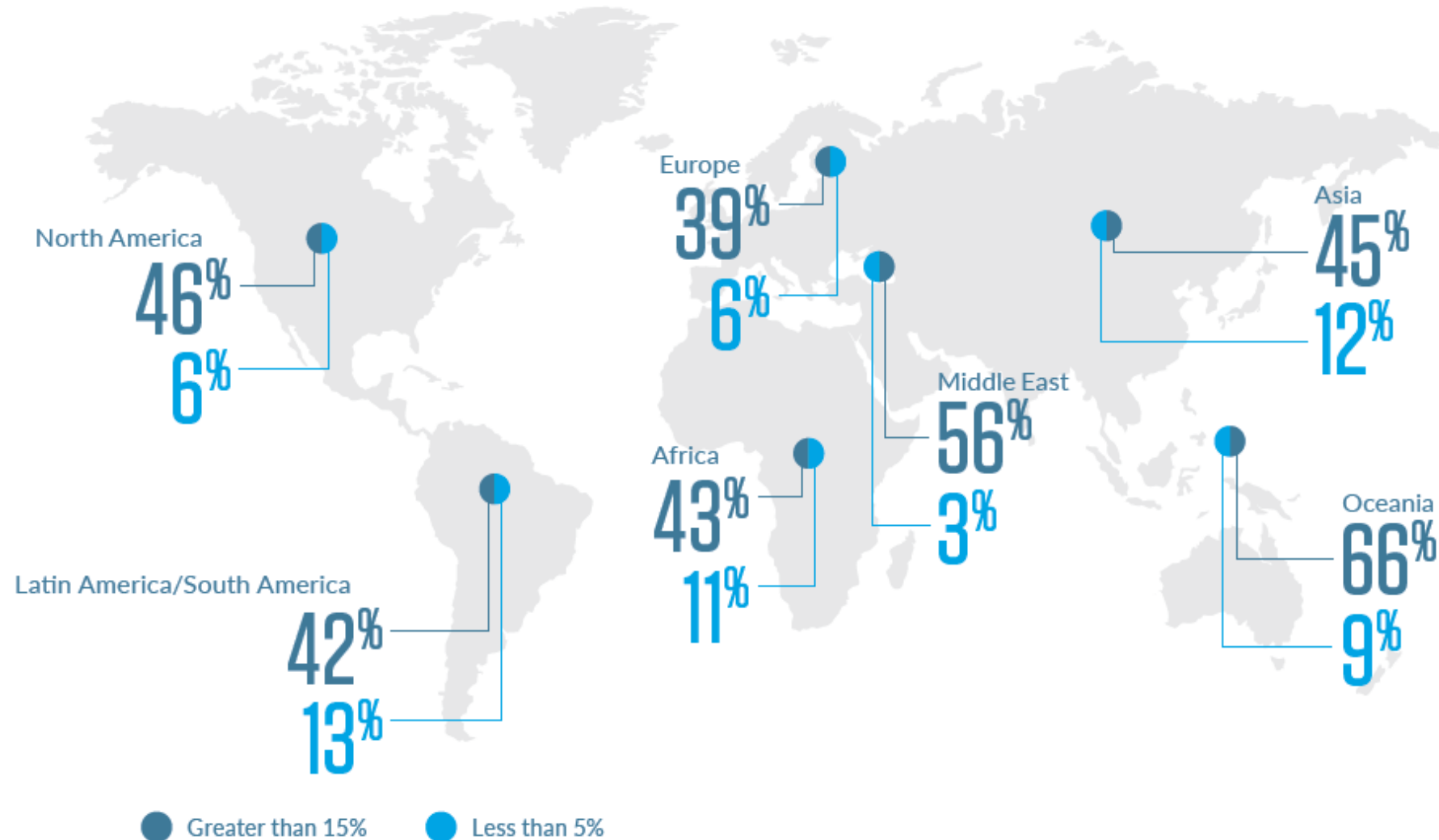
Please indicate the primary reason(s) your company uses outside resources to augment IT audit skills.

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
In-house internal audit department lacks IT audit skill sets	19%	26%	18%	9%	16%	27%	29%
Variable resource modeling	16%	12%	12%	7%	9%	13%	14%
Different/outside perspectives	16%	25%	17%	7%	16%	21%	31%
Lack of resources	28%	23%	29%	27%	25%	38%	43%
Provides the opportunity for people to learn from the experiences of outside resources	21%	26%	19%	13%	16%	23%	17%

The IT audit function is new. We have only conducted a few IT general controls audits of agencies of the government to build the capacity of our IT auditors and IT implementation audits.— IT audit director, small government organization, Africa

Please indicate the number of IT audit reports issued as a percentage of the total reports issued by the internal audit department.



Please indicate the number of process audit reports (that included a review of the underlying technology) issued as a percentage of the total reports issued by the internal audit department.

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Greater than 20%	30%	20%	29%	31%	16%	31%	23%
15-20%	17%	27%	14%	24%	25%	14%	20%
10-14%	9%	15%	13%	16%	22%	14%	17%
5-9%	12%	15%	14%	11%	16%	11%	14%
Less than 5%	14%	10%	8%	11%	9%	10%	10%
None/Don't know	18%	13%	22%	7%	12%	20%	16%

The IT audit team is a unit of the internal audit department. Resources are matrixed across IT and process audits and are based on risks and skills required.—

?

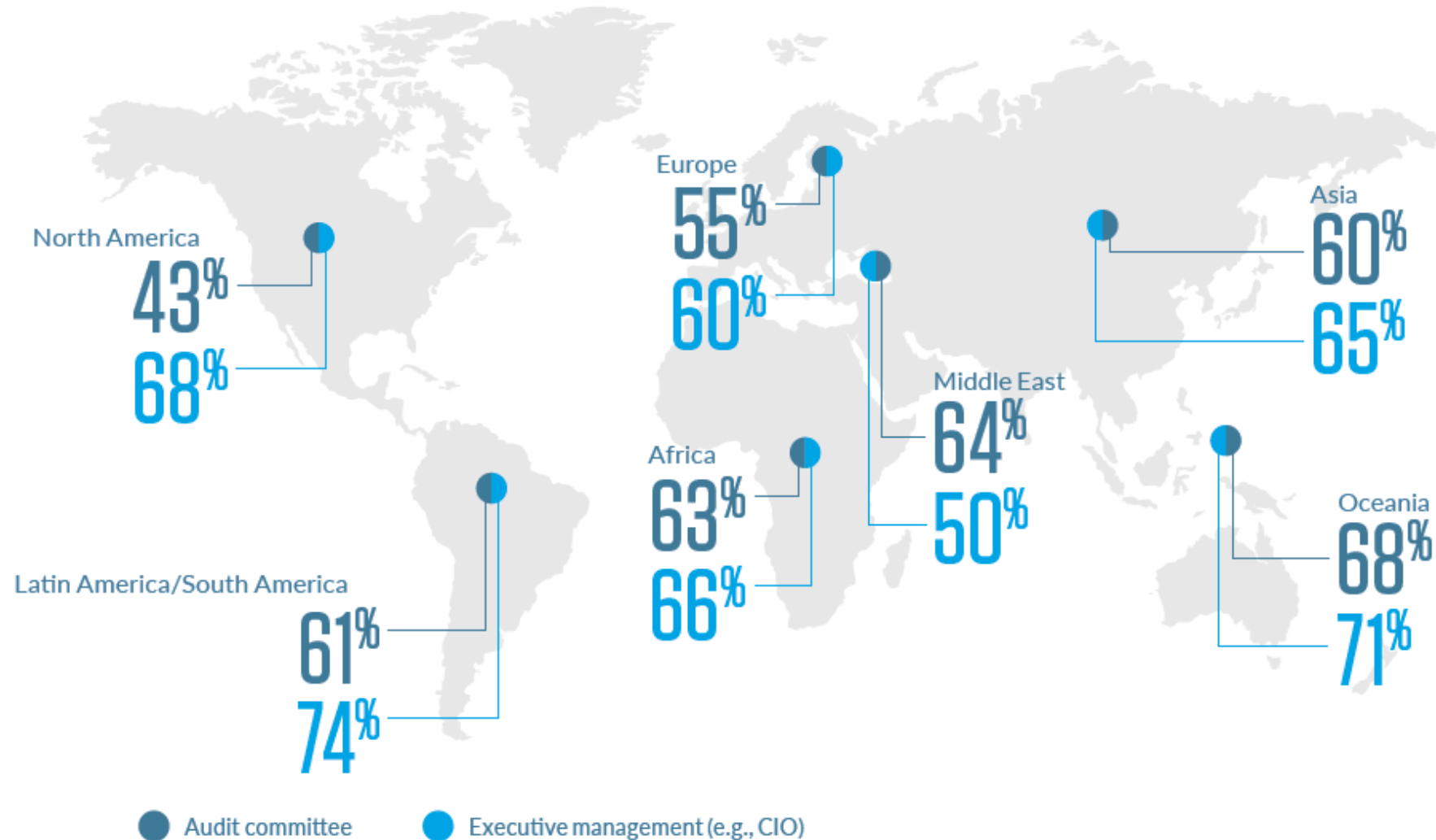
Does your organization conduct an IT audit risk assessment?

Region

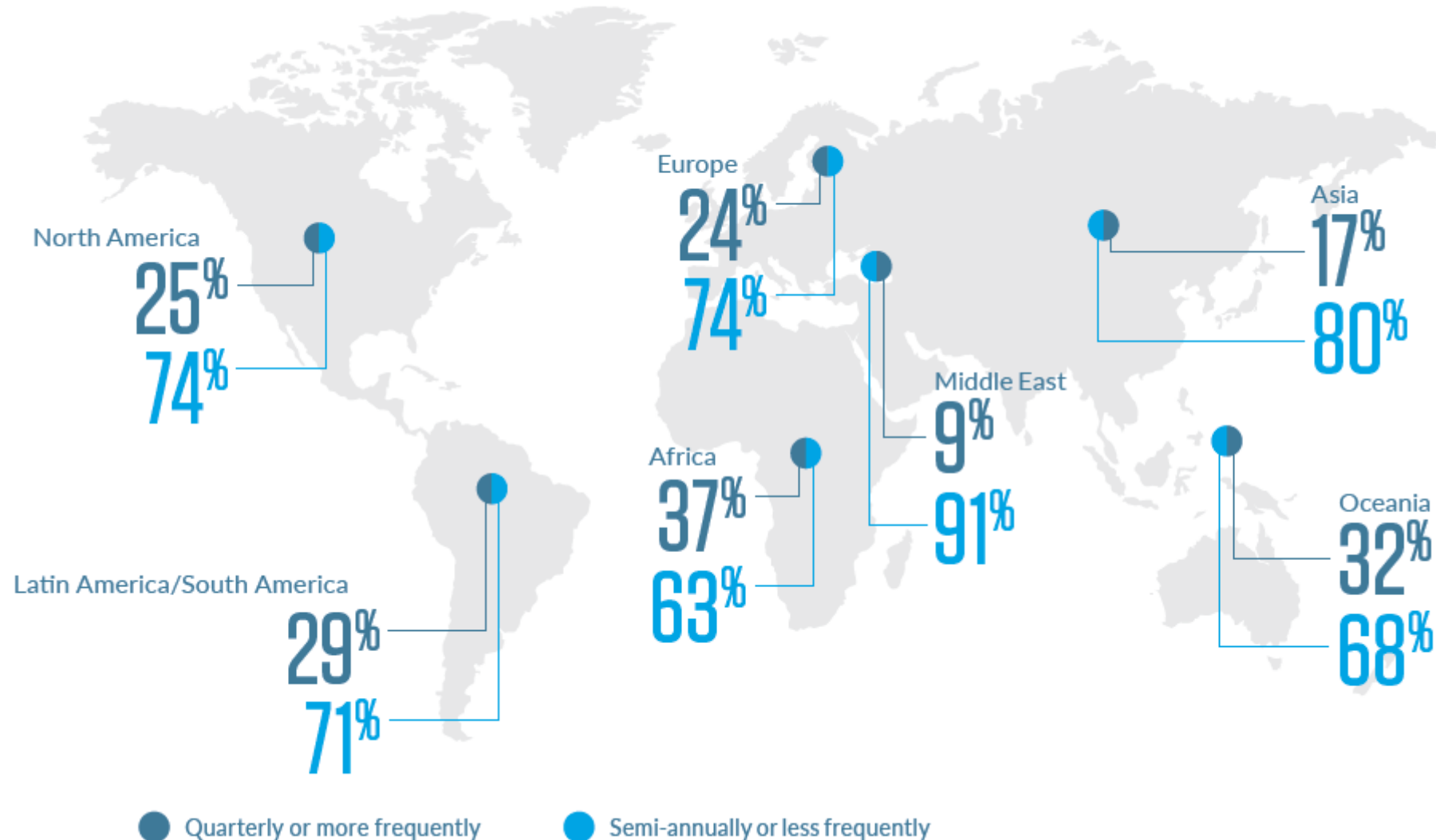
	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Yes, it is conducted as part of the overall internal audit risk assessment process	53%	49%	66%	69%	41%	62%	66%
Yes, it is conducted separately from the overall internal audit risk assessment process	20%	21%	11%	7%	25%	17%	8%
Yes, it is conducted by a group other than internal audit, but internal audit relies on the output to produce their audit plan	6%	10%	8%	2%	9%	7%	6%
No, an IT audit risk assessment is not conducted	21%	20%	15%	22%	25%	14%	20%

The IT audit risk assessment is done as part of the entity wide assessment. It is also assessed as part of the IT steering committee.— Chief audit executive, midsize utility company, Africa

Please indicate the level of involvement of each of the following individuals/groups in your organization's IT audit risk assessment process.
(Shown: Significant/Moderate levels of involvement)



Frequency with which the IT audit risk assessment is updated



On which of the following accepted industry frameworks is the IT audit risk assessment based?

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
COBIT	71%	52%	63%	85%	77%	62%	79%
COSO	50%	33%	35%	65%	27%	48%	21%
ISO	56%	40%	41%	47%	41%	19%	36%
ITIL	37%	24%	32%	44%	23%	19%	32%
NIST CSF	12%	4%	6%	6%	18%	27%	14%
Basel III	15%	13%	6%	6%	14%	3%	11%

On which of the following accepted industry frameworks is the IT audit risk assessment based?



GLOBAL LEADER
Africa

37%

of organizations update their
IT audit risk assessments at
least quarterly.

A formal qualitative risk assessment is performed annually using a structured risk scorecard covering all IT processes. Informal risk discussions are held throughout the year with IT leaders and staff.

— IT audit director, large insurance company, North America

Which of the following activities is your IT audit function responsible for?

Region

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Conducting IT general control audits	89%	78%	87%	86%	80%	85%	88%
Conducting application audits	82%	67%	71%	77%	77%	73%	85%
Conducting IT process audits, e.g., security, privacy, etc.	77%	65%	80%	72%	73%	79%	82%
Conducting IT governance audits	74%	54%	74%	70%	67%	68%	71%
Conducting IT infrastructure audits	70%	61%	70%	79%	67%	70%	59%
Conducting integrated audits	50%	43%	63%	65%	43%	60%	65%
Conducting pre- and post- implementation audits	68%	42%	54%	53%	47%	60%	65%
Collecting and analyzing data analytics	67%	56%	48%	65%	50%	44%	50%
Conducting cybersecurity audits	49%	35%	58%	56%	50%	70%	53%

Testing IT compliance	61%	44%	45%	60%	27%	58%	41%
Providing consultative services	38%	34%	39%	35%	30%	54%	44%
Conducting IT fraud investigations	49%	26%	36%	49%	43%	28%	21%
Performing continuous auditing	45%	24%	23%	56%	27%	29%	38%
Providing external audit support	39%	23%	27%	35%	20%	46%	35%
Conducting vendor audits	38%	30%	34%	33%	27%	33%	21%
Maintaining internal control framework documentation	33%	28%	24%	33%	23%	24%	12%
Testing for IT Sarbanes-Oxley or other related country-specific compliance	12%	16%	18%	33%	0%	54%	9%
Conducting social media audits	21%	10%	20%	26%	23%	24%	32%
PCI DSS	18%	12%	18%	23%	13%	24%	15%

Of the total number of IT audits conducted annually, what percentage of total IT audit hours are spent on the following areas?

Region – Top 3 Audit Areas

	Africa	Asia	Europe	Latin America/ South America	Middle East	North America	Oceania
Conducting IT general control audits	●	●	●	●	●	●	
Conducting application audits	●	●	●	●	●		●
Collecting and analyzing data analytics	●	●					●
Conducting integrated audits			●	●			
Testing for IT Sarbanes-Oxley or other related country-specific compliance						●	
Conducting cybersecurity audits						●	
Conducting IT process audits, e.g., security, privacy, etc.							●
Providing consultative services					●		



GLOBAL LEADER Latin America/South America

68%

of organizations have completed an evaluation and assessment of their IT governance process, in accordance with ISACA's COBIT Framework.



GLOBAL LEADER Africa

40%

of organizations have completed an evaluation and assessment of their IT governance process, in accordance with IIA Standard 2110.A2.



GLOBAL LEADER Africa

74%

of organizations use ISACA's ITAF when planning, conducting and reporting the results of IT audits.



GLOBAL LEADER Latin America/South America

85%

of organizations use ISACA's COBIT Framework when performing IT process assessments.

Staff Skills and Capabilities

Please indicate the level of importance that you place on the following IT audit technical skills for your IT audit staff:

	Significant	Moderate	Minimal	None
Control analysis	61%	33%	4%	2%
Risk analysis	60%	32%	6%	2%
Process assessment	48%	42%	8%	2%
Data analysis	37%	42%	19%	2%
Accounting/audit	33%	40%	23%	4%
Project management	27%	49%	20%	4%
Consulting	23%	47%	24%	6%
Conversational fluency on IT matters	49%	39%	9%	3%

Please indicate the level of importance that you place on the following business and interpersonal skills for your IT audit staff:

	Significant	Moderate	Minimal	None
Relationship building	63%	31%	5%	1%
Report writing	61%	32%	6%	1%
Strategic thinking	53%	36%	9%	2%
Team building	44%	42%	12%	2%
Conflict management	46%	42%	11%	1%
Negotiation	36%	50%	12%	2%
Leadership	36%	51%	11%	2%
Conversational fluency on business matters	47%	44%	7%	2%

Future of Partnership

What are the next steps for the relationship?

*How can ISACA support the work of INTOSAI
WGITA?*

What resources can we provide?

Global/regional/local focus

| *Questions/
Comments*





APPENDIX A

*ADDITIONAL INFORMATION ON ISACA
CERTIFICATIONS*



“Gold standard” in IT assurance certifications since 1978 debut

Has been earned by more than 130,000 IT audit, security and control professionals since 1978

- ***Globally recognized certification for IS audit, control, and security professionals with 3 –5 years of experience.***
- ***Often a mandatory qualification for employment as an IT auditor.***
- ***Professionals with the credibility to leverage standards, manage vulnerabilities, ensure compliance, offer solutions, institute controls and deliver value to the enterprise.***
- *Common career paths include:*
 - IT Audit Directors/Managers/Consultants
 - IT Auditors
 - Compliance/Risk/Privacy Directors
 - IT Directors/Managers/Consultants

CISA: Global Recognition and Impact

Active CISA certification holders around the world include:

- More than 2,800 active CEOs and CFOs (or equivalent positions)
- More than 31,000 Auditors, or Audit Directors, Managers or Consultants
- 2017—CISA named as SC Magazine's award winner for "Best Professional Certification Program"



*Has been earned by
more than 34,000
information security
management
professionals since
launching in 2002*

- ***Globally accepted management-focused certification for professionals who develop, build and manage enterprise information security programs.***
- ***CISM focuses on the needs of professionals with 3 –5 years of experience in the managing, designing, overseeing and assessing of enterprise information security.***
- *Common career paths include:*
 - CISOs and CSOs
 - Security Directors/Managers/Consultants
 - IT Directors/Managers/Consultants
 - Compliance/Risk/Privacy Directors and Managers

CISM: Global Recognition and Impact

Active CISM certification holders around the world include:

- More than 3,250 active CEOs, CFOs, CIOs, CISOs or Chief Compliance, Risk or Privacy Officers (or equivalent executives)
- More than 16,700 IT, Security or Audit Directors, Managers or Consultants
- SC Magazine selected CISM as a finalist of the 2017 “Best Professional Certification Program” in the Professional Awards category...**for the seventh year in a row**
- CISM was selected as a finalist in the “Best Professional Training or Certification Programme” category in the SC Awards Europe 2017



Has been earned by more than 20,000 IT risk and control professionals since launching in 2010

- ***Globally accepted management-focused certification for professionals with 3 or more years of experience in the management of IT risk, and the design, implementation, monitoring and maintenance of IS controls.***
- ***CRISC certifications are for IT and business professionals, including risk and compliance professionals, business analysts and project managers.***
- *Common career paths include:*
 - Security Directors/Managers/Consultants
 - Compliance/Risk/Privacy Directors and Managers
 - IT Audit Directors/Managers/Consultants
 - Compliance/Risk/Control Staff

CRISC: Global Recognition and Impact

Active CRISC certification holders around the world include:

- More than 2,550 active CEOs, CFOs, CIOs, CISOs, Chief Audit Executives or Chief Compliance, Risk or Privacy Officers (or equivalent executives)
- More than 9,800 IT, Security or Audit Directors, Managers or Consultants
- More than 3,900 professionals working in managerial roles within IT operations or compliance
- CIO Magazine listed CRISC as the **top-rated** certification on its November 2015 list of best governance, risk and compliance certifications



*Has been earned by
more than 7,000 IT
governance professionals
since launching in 2007*

- ***CGEIT recognizes professionals with 5 or more years of experience establishing and managing a framework for the Governance of IT as well as serving in an advisory or oversight role, and/or otherwise supporting the governance of the IT-related contributions.***
- ***CGEIT professionals deliver on the focus areas of IT governance and approach it holistically, enhancing value to enterprises.***
- *Common career paths include:*
 - C-Suite Executives
 - IT Directors/Managers/Consultants
 - Security Directors/Managers/Consultants
 - IT Audit Directors/Managers/Consultants

CGEIT: Global Recognition and Impact

Active CGEIT certification holders around the world include:

- More than 1,300 active CEOs, CFOs, CIOs, CISOs, Chief Audit Executives or Chief Compliance, Risk or Privacy Officers (or equivalent executives)
- More than 3,100 IT, Security or Audit Directors, Managers or Consultants
- CIO Magazine listed CRISC as the **second-best** certification on its November 2015 list of best governance, risk and compliance certifications...**the first-place certification was ISACA's CRISC certification**

CSX Credentialing: Cybersecurity Fundamentals Certificate



Entry point into ISACA's cyber security program

Offers a certificate in the introductory concepts that frame and define the standards, guidelines and practices of the cyber security industry

Ideal for college/university students, and recent graduates, those new to cyber security, and professionals changing careers



CSX Credentialing: Cybersecurity Fundamentals Certificate



Focuses on foundational knowledge across five key areas:

- Cybersecurity concepts
- Cybersecurity architecture principles
- Cybersecurity of networks, systems, applications and data
- Security implications of the adoption of emerging technologies
- Incident response

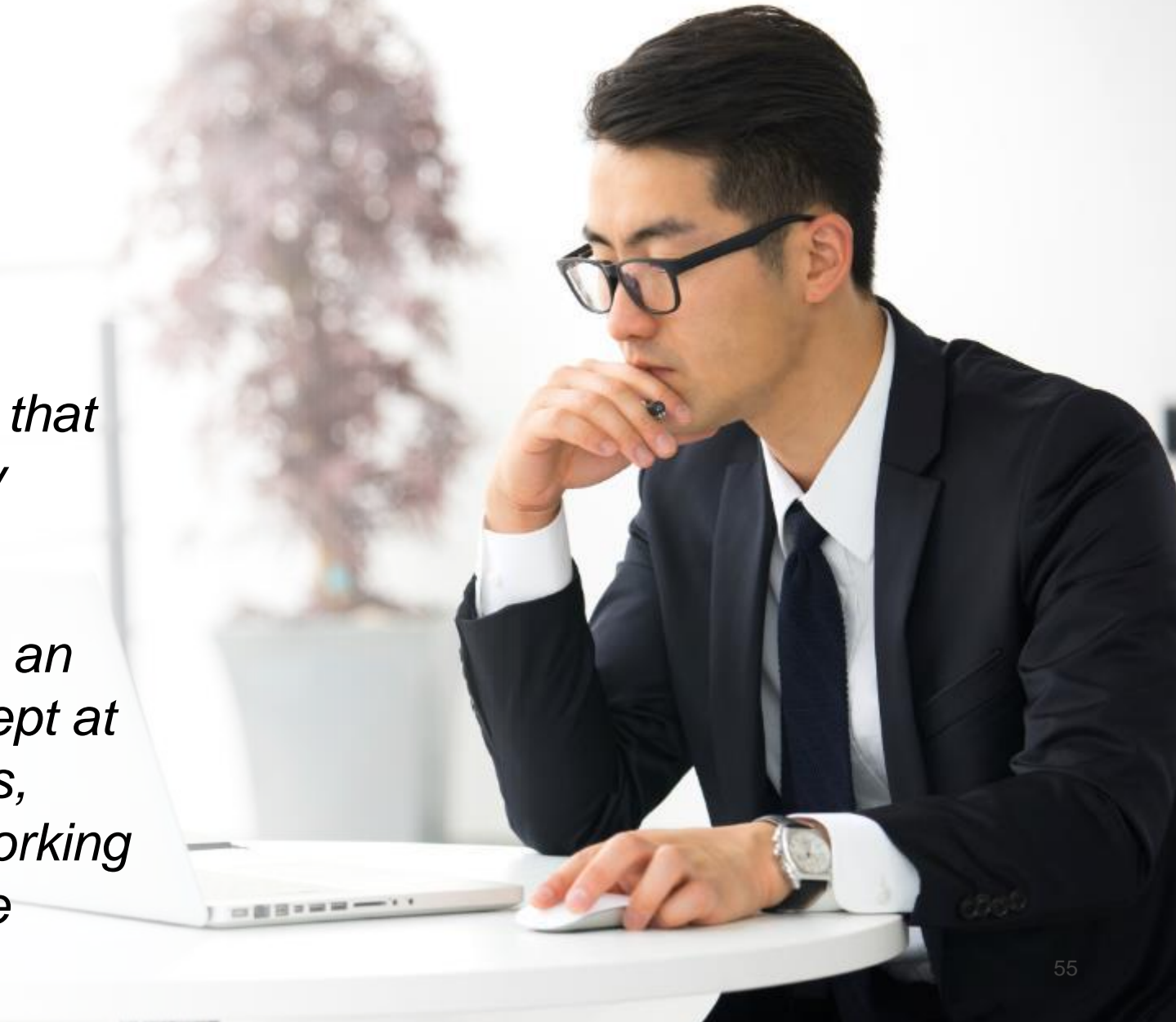
CSX Credentialing: CSX Practitioner Certification (CSXP)



Globally offered designation for cybersecurity professionals

Performance-based certification that validates technical cybersecurity ability and job-readiness

Allows professionals to serve as an expert first responder who is adept at following established procedures, using defined processes, and working with known problems on a single system



Continuing Professional Education (CPE) Opportunities

The CISA, CISM, CRISC & CGEIT certifications require certification holders to earn a minimum of 20 CPEs annually and 120 CPEs on a three-year basis.

CPE Opportunities: ISACA offers CPE opportunities through activities such as:

- ISACA and non-ISACA conferences
- Webinars
- Chapter meeting and events
- On-site training
- Virtual instructor-led training
- Exam Question Development

Free CPE opportunities: Up to 72 hours of free CPE can be earned in a year from the following sources:

- Webinars and virtual conferences (up to 36 hours per year)
- Journal CPE quizzes (members only) (up to 6 hours per year)
- Mentoring (up to 10 hours per year)

CPEs earned can be applied to multiple certifications.