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REPORTS

May 2019

Next

The State of IT Operations and Cybersecurity Operations

Your enterprise's cyber risk may depend upon the relationship between the IT team and the security team. Here's some insight on what's working – and what isn't – in the data center.

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Dark Reading Reports

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EXECUTIVE SUMMARY

When it comes to mitigating the danger of online attacks, many enterprises have two teams that play a critical role: the cybersecurity team and the general IT team. Each team has its own responsibilities – though they often overlap – and each team has its own list of priorities. The key to keeping enterprise data safe, experts say, is to get the two teams communicating and working closely together.

How strong is the relationship between IT operations and security operations? For the second straight year, Dark Reading's research team polled professionals on both sides of the equation to find out. The Dark Reading 2019 State of IT Operations and Security Operations survey polled 115 IT and cybersecurity professionals on how critical cybersecurity functions are conducted and managed in their organizations. The survey examined the communications and the division of labor between IT and security groups, as well as their respective roles in mitigating enterprise cyber risk. Participants included CIOs, CISOs, CTOs, security management and staff, and IT management and staff from organizations of all sizes.

Compared to last year, the survey results indicate that IT operations and security teams are improving their interaction and their collaboration on risk mitigation and business enablement. Security experts view such collaboration as fundamental to an organization's ability to defend itself against modern threats. The need for compliance with regulatory requirements for security and privacy may be helping to drive the partnership.

At the same time, security continues to take a back seat to other IT and business priorities in many organizations, and many data centers continue to struggle with communications between IT operations and security operations.

The 2019 Dark Reading State of IT Operations and Security Operations survey uncovered some important developments in the way enterprises are managing security in the data center – and in the boardroom. Here are some key takeaways:

- 57% of respondents said IT and security staff communicate well, up from 47% last year.
- 20% of organizations involve the security team at the start of every major IT project.
- 69% of respondents say that the security team holds primary responsibility for compliance and privacy; this figure rose significantly – more than 12% – from our 2018 survey.
- 90% of organizations expect the security team to take charge of developing and setting security policy.
- 80% said the IT operations team is primarily responsible for patch management.
- 20% of organizations have a distinct security department that operates separately from the IT team.
- 18% of organizations have a fully-staffed security function.
- 37% said the security operations team is most likely to be the first to detect and alert others about security incidents in the organization.

SYNOPSIS

RESEARCH

Survey Name 2019 State of IT Operations and Security Operations

Survey Date March 2019

Primary Region North America

Number of Respondents 115 IT and cybersecurity professionals
The margin of error for the total respondent base (N=115) is +/- 9 percentage points.

Purpose Dark Reading surveyed general IT professionals and cybersecurity professionals to discover issues related to security maintenance and operations as well as the relationship between IT staff/functions and cybersecurity staff/functions.

Methodology The survey queried decision-makers with IT or IT security job titles at primarily North American organizations. It asked them about their organizations' information security operations, as well as the roles and communication between general IT professionals and cybersecurity professionals. The survey was conducted online. Respondents were recruited via an email invitation containing an embedded link to the survey. The email invitation was sent to a select group of UBM's qualified database; UBM is the parent company of Dark Reading and Interop. UBM was responsible for all programming and data analysis. These procedures were carried out in strict accordance with standard market research practices.

ABOUT US

Dark Reading Reports offer original data and insights on the latest trends and practices in IT security. Compiled and written by experts, Dark Reading Reports illustrate the plans and directions of the cybersecurity community and provide advice on the steps enterprises can take to protect their most critical data.

Dark Reading Reports

Security Operations and IT Operations: Friends or Foes?

Both IT operations and security operations play a key role in enterprise data security. Security operations is responsible for developing and setting policies, as well as for essential functions such as threat monitoring, detection, and response. Yet it is the IT operations team that maintains the systems and networks being protected – they are usually the ones who configure the routers, install patches, and ensure that logs are collecting security-related data. And while the security team is almost entirely focused on data safety and integrity, the IT team has multiple, sometimes conflicting priorities, including system availability and the enablement of business applications.

"Enterprises can't be successful with threat prevention and fast remediation unless both teams are working well together," says Joseph Blankenship, an analyst with Forrester Research. Security operations is often dependent on IT operations to take critical actions involving endpoints, networking, and applications, he notes. "If IT and security aren't getting along, then the process breaks down."

Dark Reading's survey shows that at a high percentage of organizations, the IT operations team is often responsible for functions that are fundamental to managing cyber risk. For example, 80% of respondents reported that in their organizations, the general IT team is primarily responsible for security patch management. Yet experts say the patching function is easily one of the most important security functions. Many major breaches — including one at Equifax in 2017 that exposed sensitive personal information on over 120 million people — have resulted from a failure to apply security patches in a timely fashion.

Survey respondents also said the IT operations team is usually responsible for many other tasks related to security, including storage and archiving (91%); router configuration (85%); end user identity management and provisioning (77%); and firewall configuration (60%).

At more than 50% of organizations, the general IT staff is also primarily responsible for three other disciplines that are crucial to security: supply chain security, business continuity, and disaster recovery (**Figure 1**).

A lapse of vigilance by IT operations in any of these areas can have serious security consequences, security experts say. Last year's destructive VPNFilter attacks, which targeted hundreds of thousands of small and home office users, took advantage of vulnerabilities in routers and network attached storage devices that generally fall into the IT operations realm.

Meanwhile, the role of the security operations organization itself is changing. Once focused entirely on defensive processes and threat response, security operations teams today are becoming more involved in proactive activities such as threat hunting, vulnerability research, and penetration testing. Security operations' role has evolved toward gathering potential security incident information, analyzing threat intelligence, and plugging this telemetry into an incident response workflow, says Daniel Kennedy, an analyst at 451 Research.

The tools available to security operations teams have become more sophisticated as well, Kennedy observes. "Where IDS [intrusion detection systems] and sometimes SIEM [security information and event

Figure 1

Primary Responsibility

Which team is primarily responsible for the following functions?

	2019 IT Security Team	2018 IT Security Team	2019 General IT Team	2018 General IT Team	2019 Don't know	2018 Don't know
Developing/writing enterprise security policy	90%	87%	6%	11%	4%	2%
Security threat analysis	89%	91%	4%	6%	7%	3%
Security incident response	85%	83%	9%	14%	6%	3%
Security threat detection	80%	84%	13%	11%	7%	5%
Risk measurement/reporting	75%	71%	21%	27%	4%	2%
Compliance	69%	57%	21%	41%	10%	2%
Privacy	69%	52%	19%	42%	12%	6%
Endpoint security	59%	46%	35%	51%	6%	3%
Cloud security	48%	45%	41%	42%	11%	13%
Application security	46%	33%	46%	64%	8%	3%
Disaster recovery/business continuity	46%	27%	52%	70%	2%	3%
Network security	44%	43%	48%	56%	7%	1%
Mobile device security	39%	40%	48%	56%	13%	4%
Firewall configuration	37%	29%	60%	70%	4%	1%
Supplier/supply chain security	25%	39%	54%	48%	21%	13%
End user identity/provisioning	19%	33%	77%	65%	4%	2%
Router configuration	14%	9%	85%	91%	2%	0%
Patch management	13%	14%	80%	83%	7%	3%
Storage/archiving	4%	3%	91%	91%	6%	6%

Base: Those with separate IT and security teams
Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

management platforms] once dominated implementations, security operations folks now have more productized automation tools, playbooks, behavioral analytics, [and] better threat intelligence integration," he says. Security teams also have a wider range of incident response workflow tools, he adds.

Dark Reading's survey data illustrates this movement to a more proactive approach. At 90% of surveyed companies, it is the security team that is primarily responsible for developing and setting enterprise-wide security policies. The security team also usually owns responsibility for threat analysis (89%); incident response (85%); and threat detection (80%) (**Figure 1**).

Compliance and privacy are also becoming increasingly entrusted to the security team. Sixty-nine percent of survey respondents identified compliance as the primary responsibility of the security team and an identical proportion said the same of privacy. The numbers are substantially higher than those of our 2018 survey, in which 57% and 52%, respectively, gave the security team responsibility for compliance and privacy. This rapid rise suggests that the security team increasingly is being given the burden of emerging privacy regulations, such as the European Union's General Data Protection Regulation (GDPR), which went into effect in 2018 (**Figure 1**).

In some cases, security functions fall to neither IT operations nor security, but are outsourced to third parties. Nearly one-third of Dark Reading survey respondents (32%) outsource application development to a third party; another 9% plan to do so over the next 12 months. Twenty-eight percent have outsourced Web servers and services; 23% outsource help desk services; and 22% outsource data storage and archiving (**Figure 2**).

The rapid move toward cloud services also is causing shifts in the roles of IT operations

Figure 2

Outsourced IT Functions

Which IT functions do you outsource?

	2019 Currently outsource	2018 Currently outsource	2019 Plan to outsource in the next 12 months	2018 Plan to outsource in the next 12 months	2019 Do not outsource or plan to outsource	2018 Do not outsource or plan to outsource
Application development	32%	38%	9%	9%	59%	53%
Web servers/services	28%	19%	9%	14%	63%	67%
Help desk/end user services	23%	13%	6%	11%	71%	76%
Data storage/archival	22%	15%	7%	9%	70%	76%
Network operations	17%	14%	3%	8%	80%	78%
Endpoint device management	17%	9%	4%	11%	80%	80%
IT/systems operations	15%	8%	8%	11%	77%	81%
Security operations	15%	8%	4%	11%	82%	81%

Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

and security. At nearly four in 10 firms (39%), the IT or network operations team has primary responsibility for working with cloud service providers to ensure proper security controls and alerts. In another 35% of enterprises, both the IT and security teams regularly work with cloud providers on security matters (**Figure 3**). When asked which team ensures proper controls over hosted application services and software-as-a-service (SaaS) providers, 37% pointed to the IT team, and an identical proportion said both teams were responsible (**Figure 4**). When it comes to managing network services and providers, 47% of organizations said the IT and network operations teams are responsible for managing security issues; in another 30% of organizations, both the security and IT teams work on network services security (**Figure 5**).

The movement toward cloud services further complicates the roles of the IT operations and security teams. "The key issue with cloud adoption is the completeness of visibility," says Kennedy. IT and security teams have struggled for years to aggregate and integrate all of the security telemetry

Figure 3

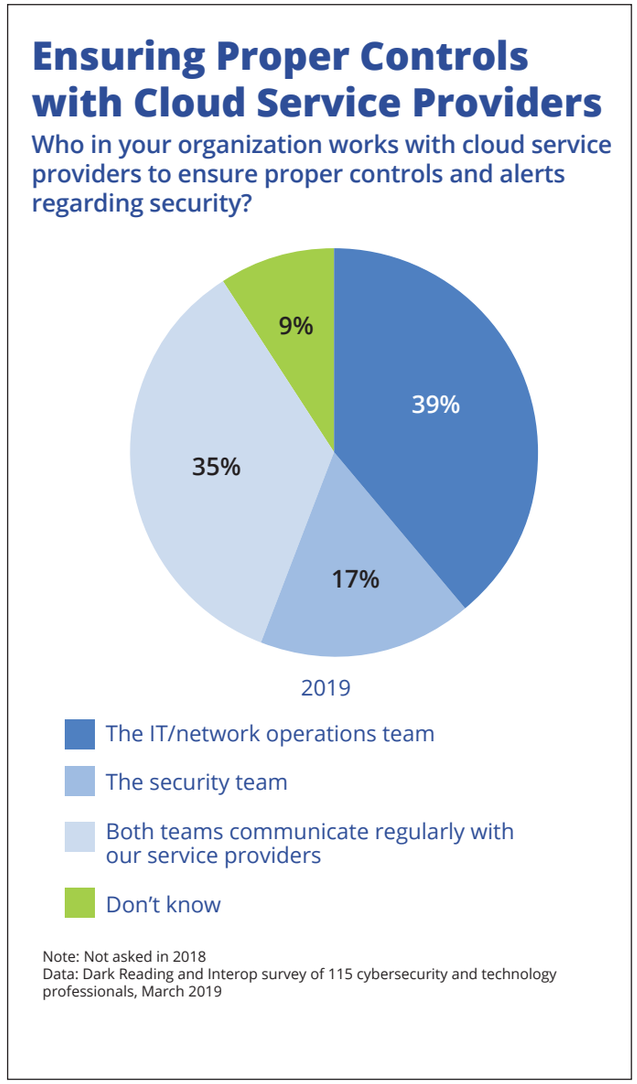


Figure 4

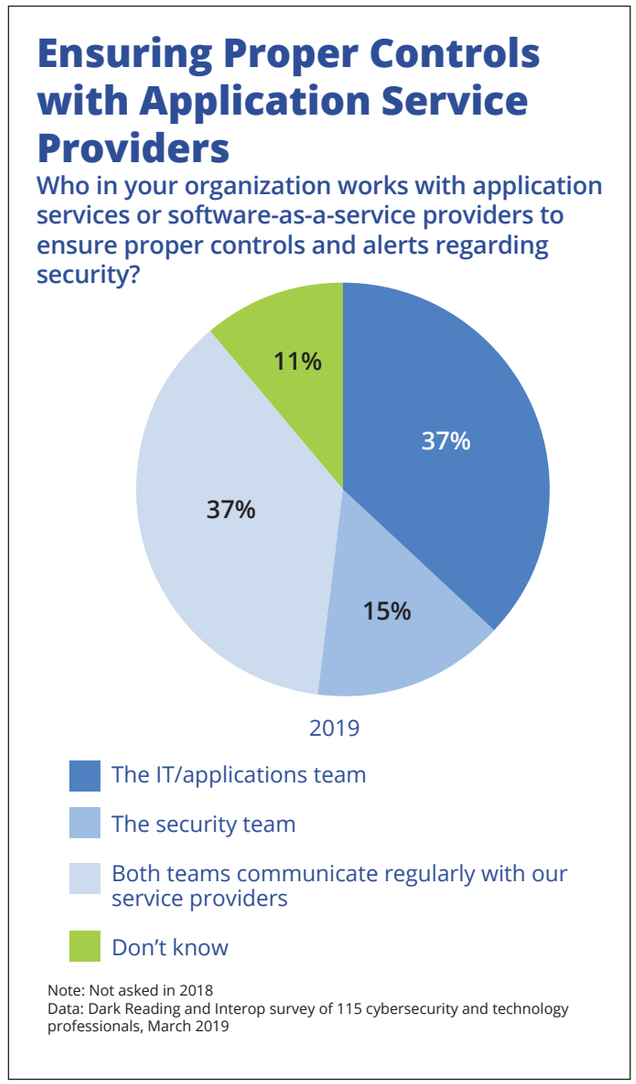
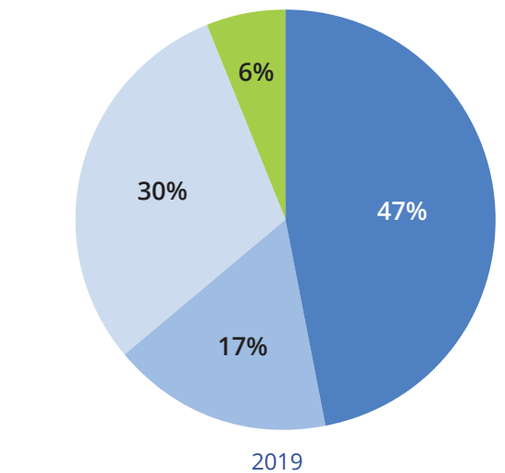


Figure 5

Ensuring Proper Controls with Network Service Providers

Who in your organization works with network service providers to ensure proper controls and alerts regarding security?



Note: Not asked in 2018
Data: Dark Reading and Interop survey of 115 cybersecurity and technology professionals, March 2019

from around the enterprise, he observes. Now, these teams also have to integrate log data collection and analysis from their cloud footprint as well.

Enterprise digital transformation projects are also adding to the complexity of the relationship between IT operations and security. "As managed services become a more prolific offering, there are decisions on what an on-site SOC [security operations center] will do and what the MSSP [managed security services provider] or similar service can be depended on to do to offload some of the stress," Kennedy states.

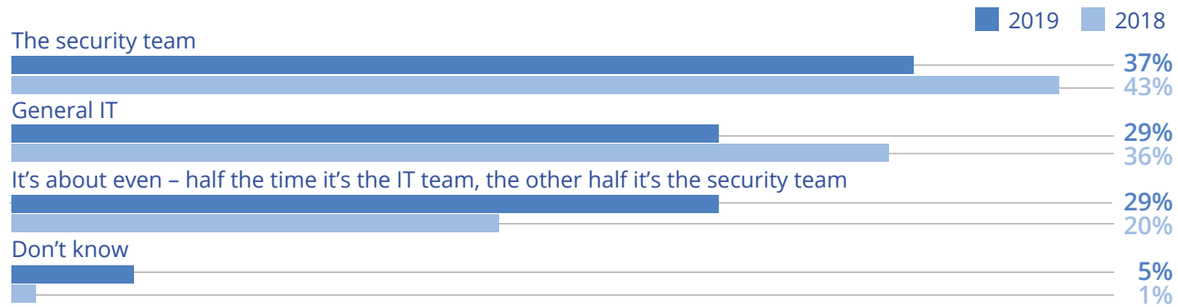
Both IT and security teams play a critical role in breach detection. In our survey, 37% of respondents said the security team would be the most likely to be the first to detect a potential data compromise; 29% said the IT operations team would be the most likely to be the first point of detection. Twenty-nine percent of respondents said the IT operations team and security operations are equally likely to be the first to spot and flag a potential breach (**Figure 6**).

What about fixing security problems

Figure 6

Detecting Security Issues

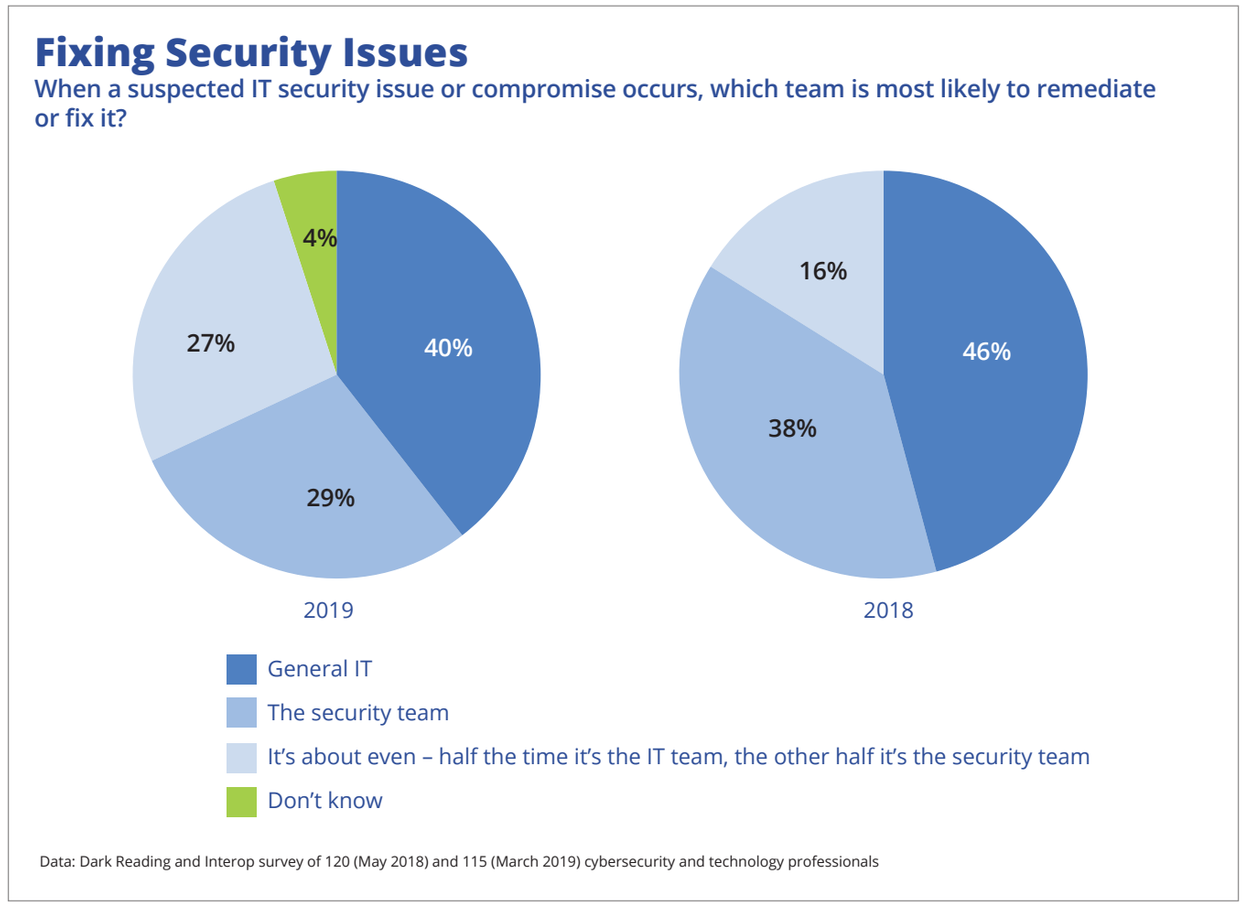
When a suspected IT security issue or compromise occurs, which team is most likely to initially detect and flag it?



Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

after they are detected? Forty percent of respondents said the IT operations team has primary responsibility for breach/compromise mitigation and remediation; 29% said that responsibility falls to the security team. Significantly, some 27% of enterprises—more than one in four—said the security and IT operations teams share the responsibility for mitigation and remediation evenly. That figure has grown more than 10% in the last year, which suggests that more enterprises are now recognizing the need for better collaboration between IT and security operations (**Figure 7**).

Figure 7



Why Can't We Just Get Along?

Security and IT operations teams have often been at odds with each other over the years, usually because their priorities are at odds as well. As stewards of the organization's computing, storage, and network infrastructure, the IT operations team is all about uptime, uninterrupted operations, and business enablement, experts say. The security team's focus on vulnerability management, compliance requirements, policy, and risk reduction can at times be contrary to IT's goals around speed and ease of use.

It is not unusual for IT operations staff and leaders to view security requirements as impeding their ability to fulfill business requirements at speed and scale, security experts say. The conflicts sometimes

jeopardize security.

"A strong security team will be handicapped by IT operations that can't keep the systems configured in a consistent way, that make changes without notice, and that generally create a lot of noise," says Chris Crowley, independent consultant at Montance, LLC. At the same time, "a security team that doesn't understand that IT systems are there to be operated with live data at risk isn't going to keep pace with the IT team," he says.

Endpoint security is one area where the need for collaboration is critical — but is also one of the disciplines where the friction between the two sides is most evident. Patch management, for instance, is essential to the security of enterprises of all sizes, notes Avivah Litan, an analyst with Gartner Inc. In fact, research has shown that some 80% of attacks against endpoint systems leverage the same top 10 or 20 patchable vulnerabilities, she says. Organizations can prevent a majority of attacks by patching those vulnerabilities. "It is the SOC that knows what needs to be patched. But it is the IT operations team that does the patching," she notes. "This is where the conflict happens."

As previously noted, IT operations is responsible for patch management at 80% of organizations in our survey. But the IT operations team is often reluctant to deploy patches that it suspects might cause operational disruptions or downtime. This difference of opinion with security operations can cause a tug-of-war, Litan states. In a March 2019 survey conducted by security vendor Tanium, 81% of the respondents admitted to delaying critical security updates on at least one occasion because of such concerns—52% admitted to doing it more than once.

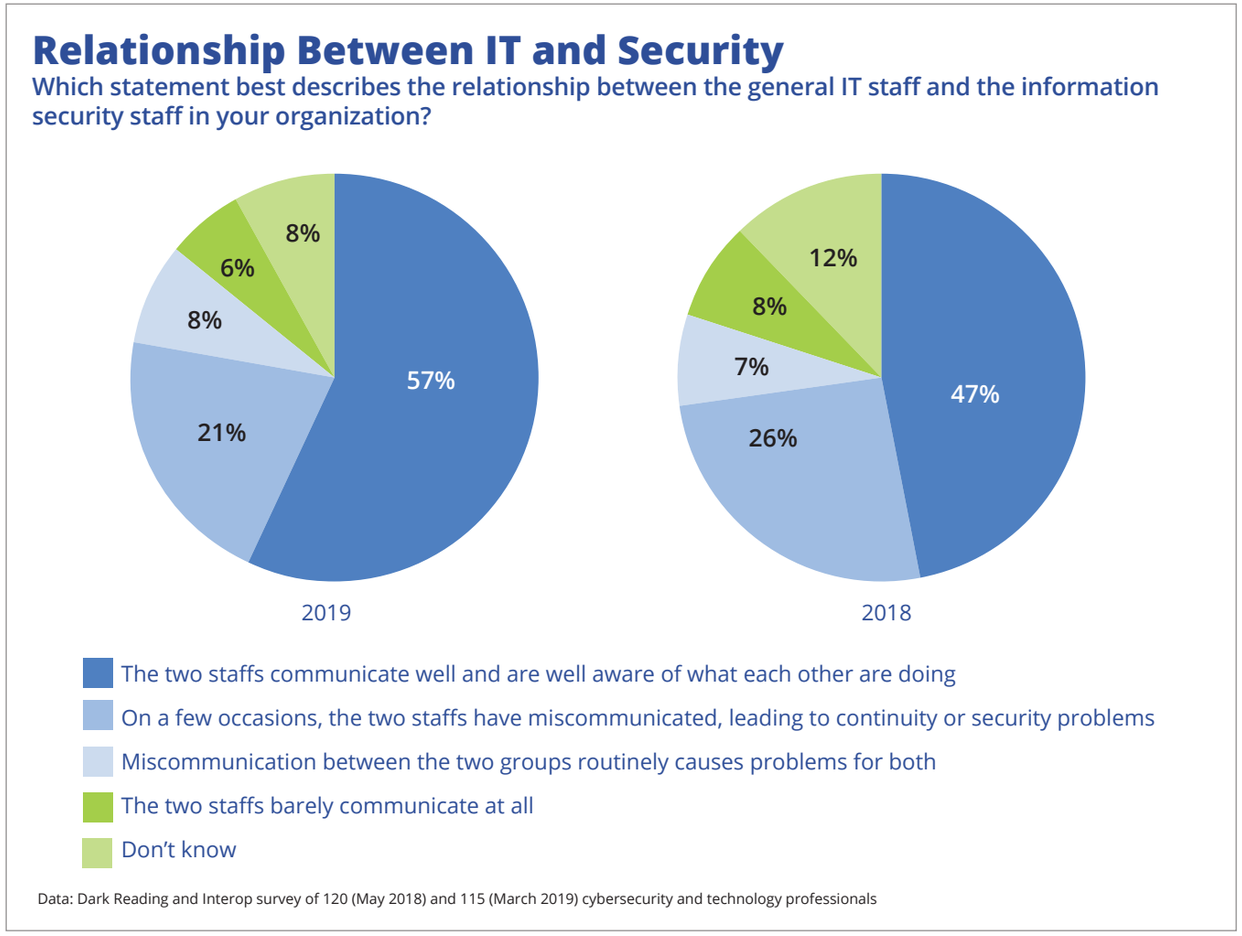
Endpoint systems are not the only flashpoint. The question of network segmentation may also cause disagreements between IT operations and security. While security teams often want to implement strict device isolation and micro-segmentation, IT operations teams tend to stick with overly permissive architectures in order to speed network accessibility, the Tanium survey found.

Our Dark Reading survey suggests that the relationship between IT operations and security is improving on some fronts. When asked to describe the relationship between security and IT operations teams, more respondents this year (57%) said the teams communicate well and are aware of what the other is doing, compared to 47% last year. Similarly, only 21% of survey respondents this year identified incidents where a miscommunication between the two sides had resulted in security problems, compared to 26% last year (**Figure 8**).

Members of IT and security operations teams also appear to have better regard for each other than they did a year ago. Nearly half of respondents (47%) in our survey this year said IT operations and security operations are working well together and described the relationship between the two sides as improving. Last year only 30% felt that way. Fewer respondents this year (25%) said the relationship needs work; down from 38% in 2018 (**Figure 9**).

Security leaders have long argued for a place at the table with other enterprise leaders when launching major business and IT initiatives. Security professionals believe such early involvement helps bake security into enterprise products and services during the development phase, rather than

Figure 8



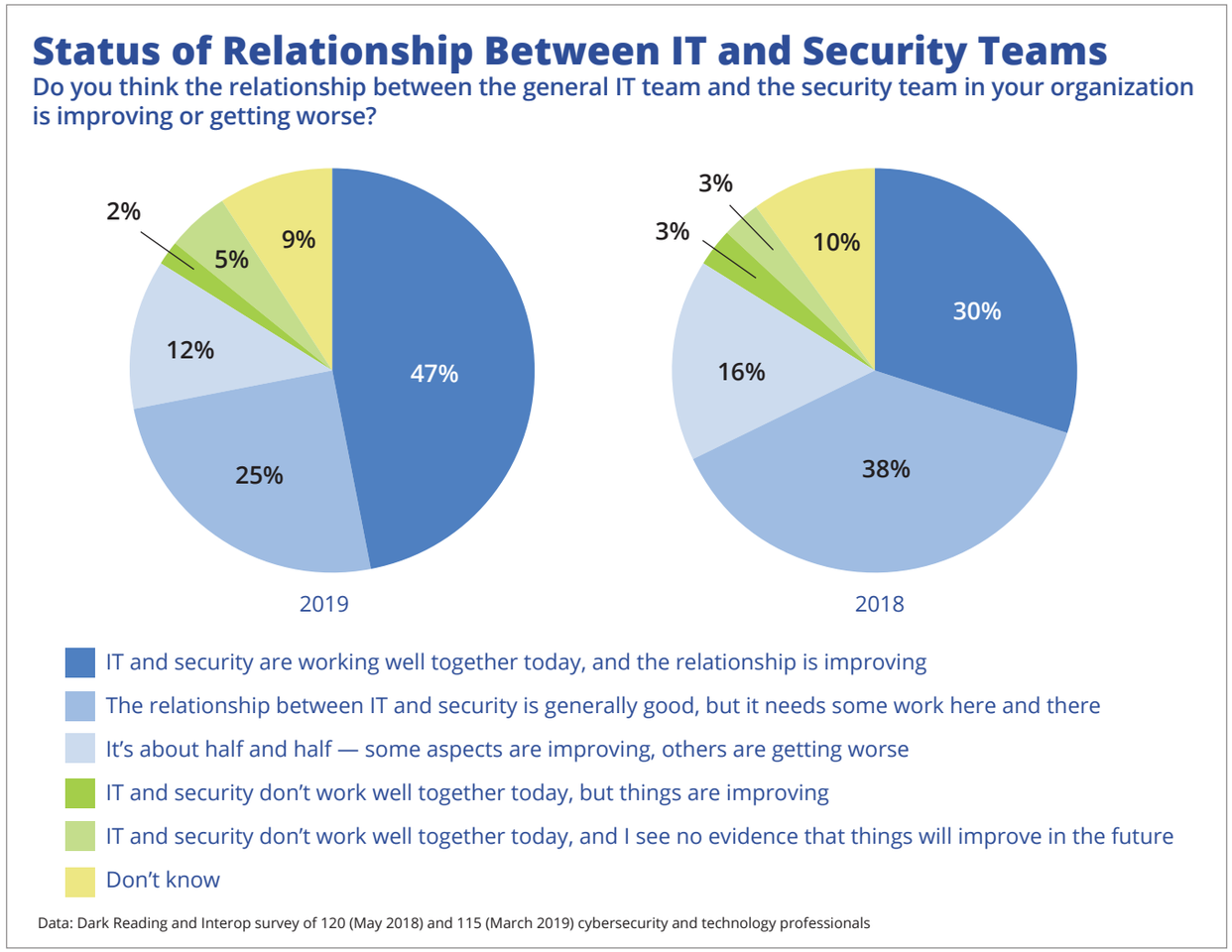
bolting security on at the end, when changes are much more complex and costly to make. Dark Reading's survey suggests that enterprises are making some progress on that front.

Twenty-percent of organizations—up from 15% last year—now include members of the security team at the beginning of every new project. The security team's views are considered critical, according to those respondents. At another 24% of companies, the security team is invited to participate at the launch of most new projects. Combined, these numbers indicate that security is called in to most or all major business projects in 44% of enterprises (**Figure 10**).

While these numbers are encouraging, they also have a flip side – the 56% of enterprises that don't, or only barely, consult with security when launching a new project. This lack of oversight could create major security risks for organizations that are implementing major new IT-related initiatives, such as adopting cloud services or rolling out new digital transformation initiatives, security experts say.

Staffing is another major issue that may cause issues for IT operations and security groups. Twenty-one percent of organizations in the Dark Reading survey have no full-time security staff; another 22% have only one or two security people. Eleven percent of organizations have more than 100 security

Figure 9



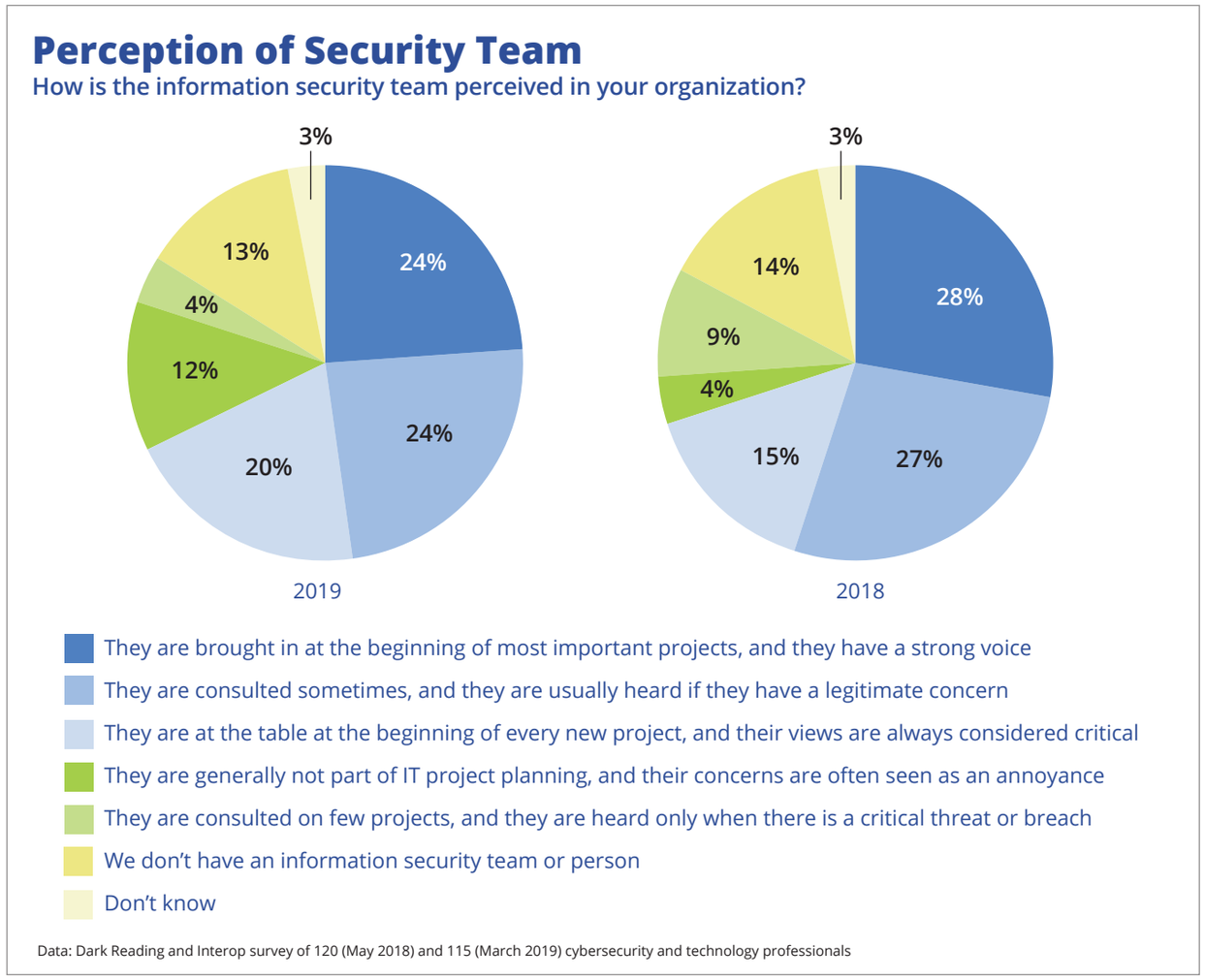
staffers; 10% have between 10 and 24 (**Figure 11**). Twenty percent of companies have independent security teams that operate separately from the IT group; at 27% of firms, the security team operates on its own, as part of a broader IT group (**Figure 12**).

Not surprisingly, general IT teams are typically much larger. Some 20% of Dark Reading survey respondents say they employ more than 100 full time IT staffers; another 12% have between 50 and 99 (**Figure 13**).

Despite their size differences, IT departments and security teams both feel they are short-staffed. In our survey 40% of general IT respondents said they do not have enough people (**Figure 14**). Thirty-seven percent of security professionals say their teams are short on staff and could use extra help from an outsourcer or service provider (**Figure 15**). Twenty-one percent—more than one in five—of the respondents described their IT department as so short-staffed that they are concerned about their ability to properly protect against threats. Fourteen percent expressed the same concern about the short-staffing of their security teams.

The skills shortage is particularly acute in security, says Kennedy of 451 Research. "[Security] people move on once they gain experience," he says. This "brain drain" means that many organizations are losing

Figure 10

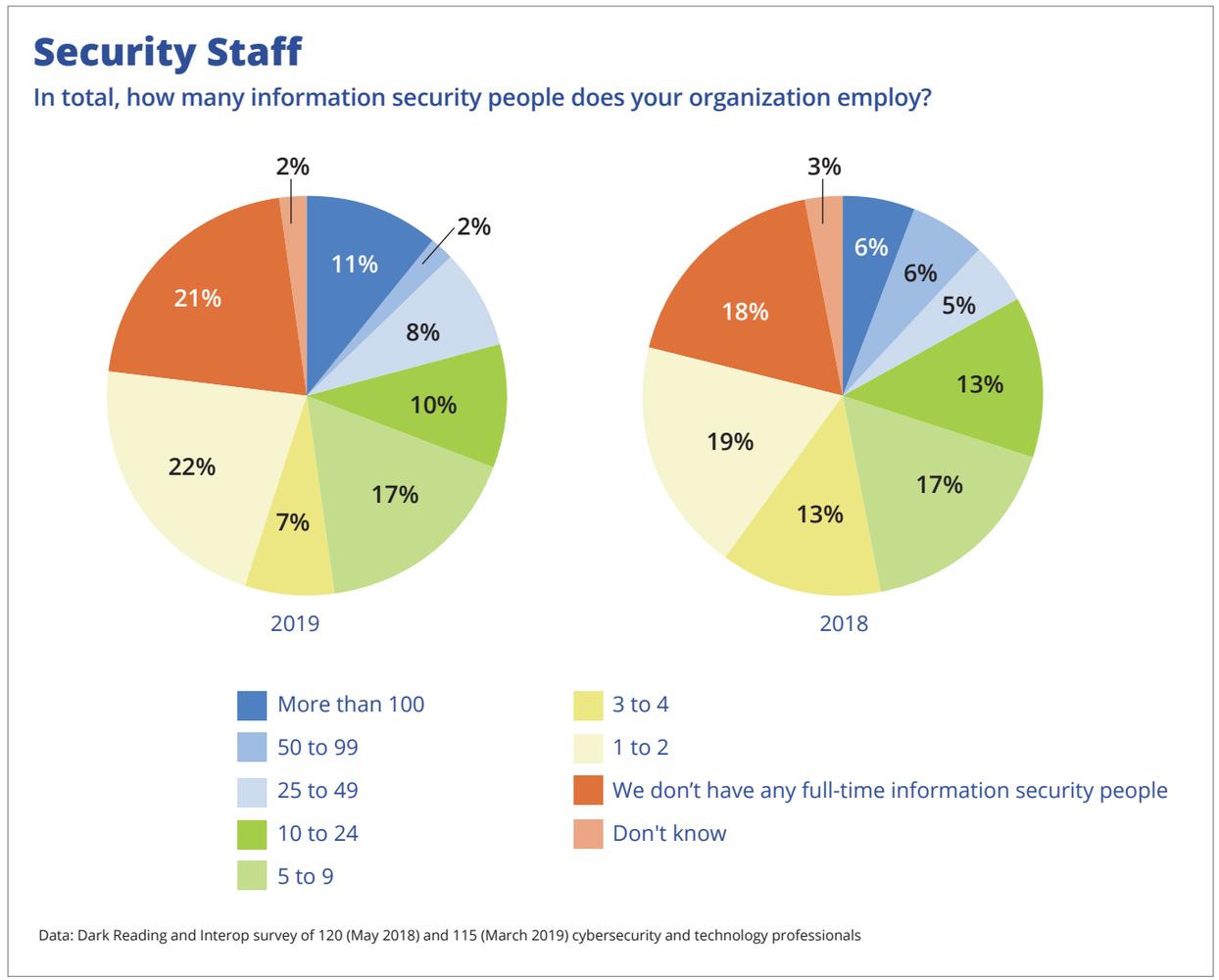


the individuals who know how to operate the security tools that are in place. Many small and medium-sized businesses are also running security technology that requires some level of monitoring, but they do not have SOCs or security operations teams to do the work, he notes.

A lack of security visibility may also make it difficult for IT operations and security operations to work together. When security and IT operation teams work from different data sets, they may arrive at different conclusions about the scope of a threat and how to mitigate it, security experts say. Matt Hastings, director of product management of risk and security at Tanium, states that infected endpoints can escalate to enterprise-wide security incidents in a matter of minutes. Security teams and IT operations teams need complete, up-to-date, and accurate visibility across the environment in order to properly detect, scope, investigate, and quantify cyber risk, he says.

Dark Reading's survey indicates that professionals in both security and IT operations are frustrated by issues of communication and collaboration between the two sides. When IT

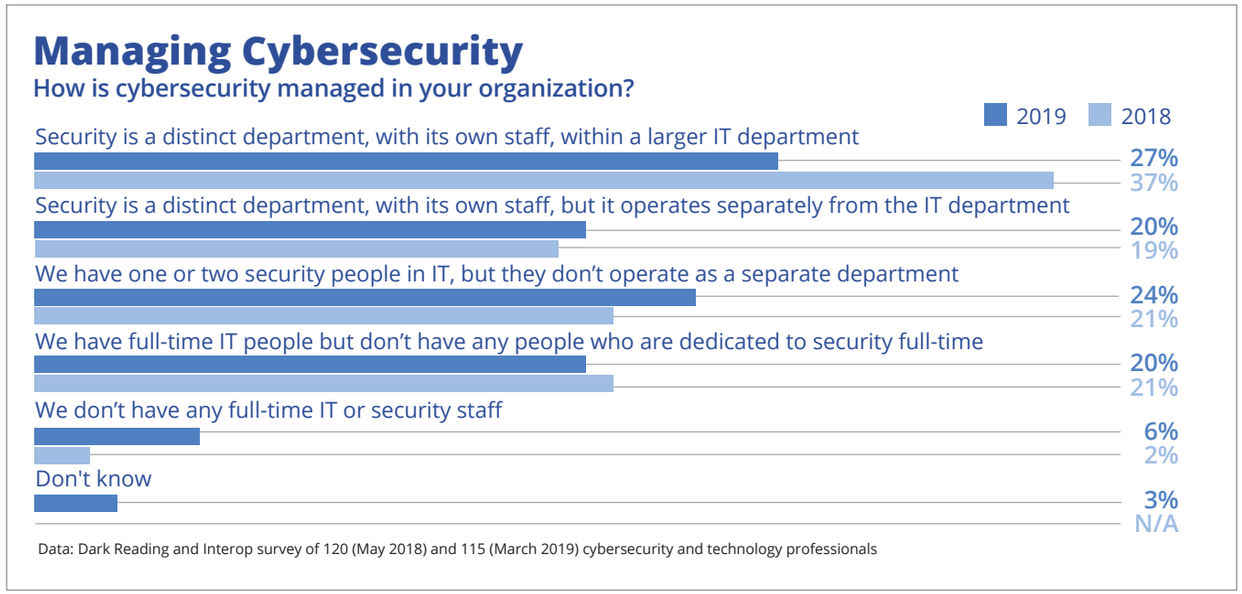
Figure 11



and security staffs were asked to identify the one problem they most frequently encounter when working together, a high percentage of the open-ended responses cited lack of communication. One respondent described the security team as "operating in a vacuum" and making unexpected changes that cause issues for end users. Another complained about security having "an absolute mandate," similar to the zero-tolerance policy in schools. "There's no room to use a little common sense and perhaps back off applying the security policy completely," the respondent said.

When asked what they would like to see from their security counterparts, IT operations professionals cited better communications, adopting best practices, and more training and education opportunities for IT staff and employees. "Be more industry knowledgeable and less theoretical," one respondent advised. The security team, meanwhile, wants IT staffers to engage more actively in maintaining enterprise security. "Understand that the security teams are not the bad guys but are simply following the guidelines put into place by the higher ups," one security professional wrote.

Figure 12



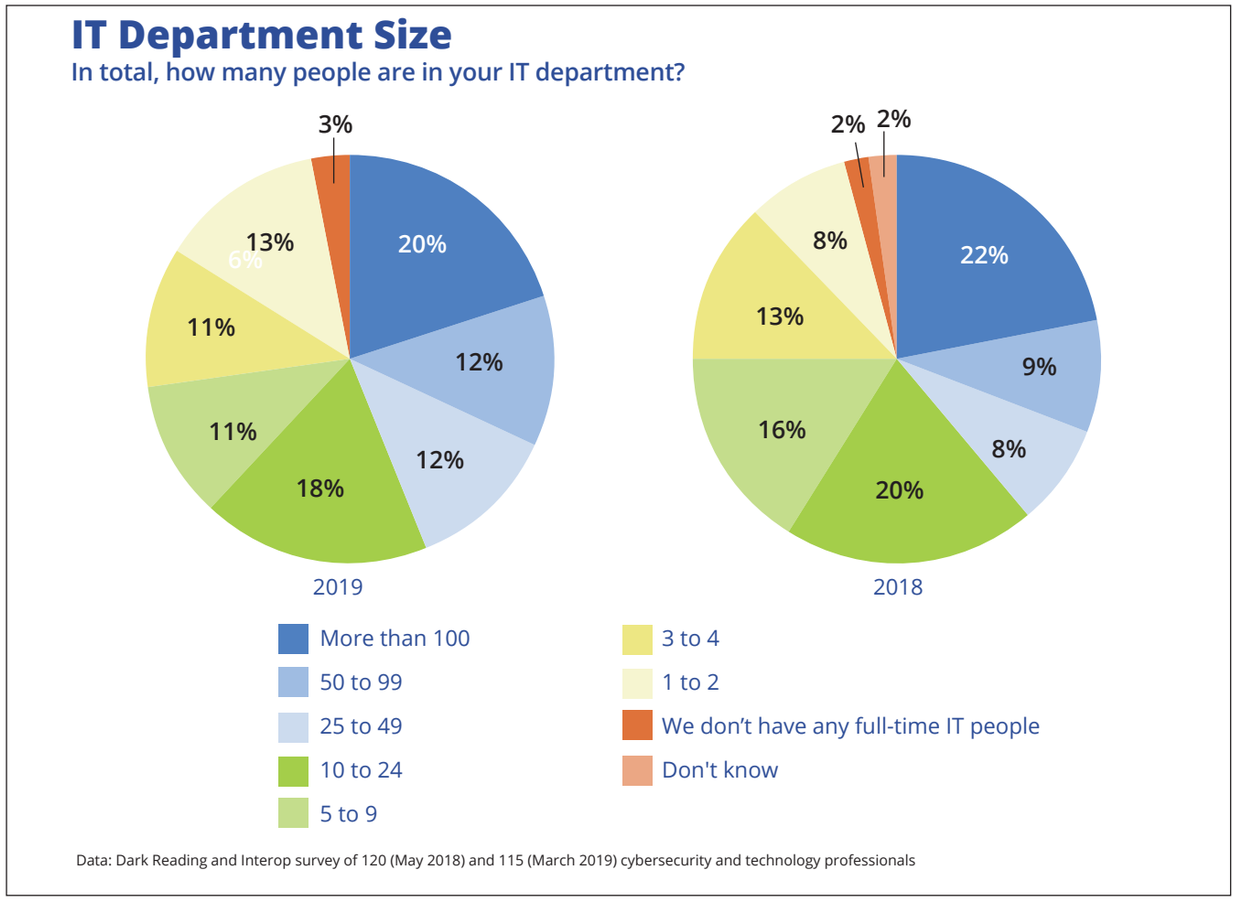
Ultimately, though, it seems likely that security teams will struggle against IT and business decision makers who are more concerned about speed and innovation than about security. More than four in ten respondents (42%) said their enterprises would be willing to compromise on security in order to take advantage of a new technology that might positively impact their business. That figure has grown 3% since 2018 (39%). Seventeen percent—compared to last year's 15% —described innovation and speed as being more important than security. Barely more than one-third of organizations (36%) consider security to be important enough to merit a cautious approach to new technologies and innovation (**Figure 16**).

What measures can IT operations and security teams take to enable better collaboration? Tanium's Hastings says establishing mutual respect between the two teams is key to an effective partnership. Breaking down the silos may also help. "Too often, these teams work with disparate tools with outdated information, which can result in incorrect and conflicting information — and cause contention over the current state of the environment," he says.

Rules of engagement that clearly delineate the responsibilities of the IT and security groups can help foster better collaboration between the teams, experts say. So, too, can technology integration, Forrester's Blankenship says. "Lots of security action items get handed off via email or Slack, instead of a ticketing system or system of record," he observes. Better operational technology may improve the handoff between IT and security teams, he says.

IT operations also needs context about why security is asking it to take an action, Blankenship advises. Security operations should include as much information about the "why" of a request as possible. "Integrating the investigative tools used by the SOC with the ticketing system used by IT [operations] can help with the handoff and provide needed context about the urgency of requests," he says.

Figure 13



Gartner's Litan agrees that enterprises should take advantage of technologies that might help bridge gaps between IT operations and security. For example, there are now tools available that help organizations identify systems that are vulnerable to a specific threat and prioritize the manner in which they are patched. Using a vendor that facilitates communication between IT and security groups around patch management priorities can reduce conflict, she notes. "I would start with the endpoint," Litan says.

Entities that do not have the resources to build their separate security operations capabilities may have to explore hybrid roles, where security responsibilities are delegated to network operations or IT operations teams, Kennedy says. "I personally don't think it's ideal, but available resources and prioritization differ from organization to organization."

Conclusion

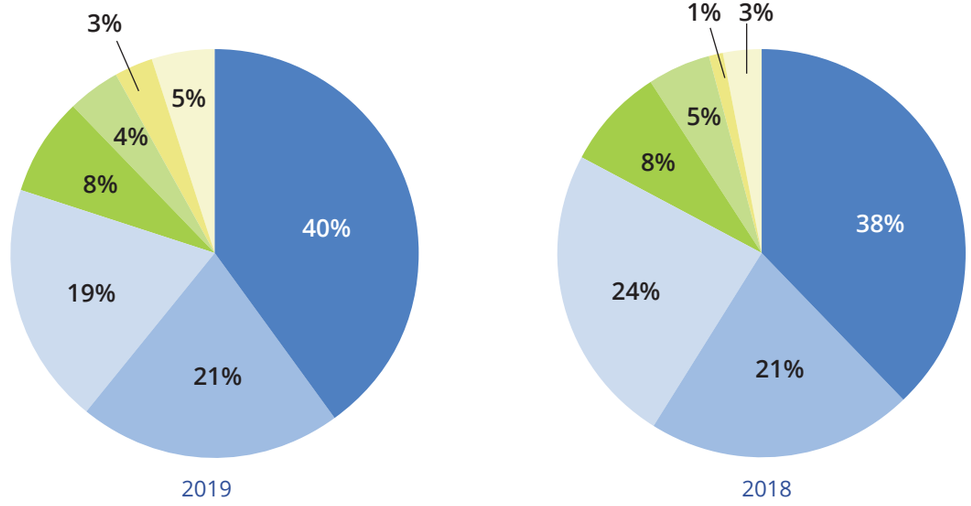
Security and IT operations teams are getting better at collaborating with each other. But communications gaps, staffing shortages, and poorly integrated technologies continue to undermine this progress. To mitigate risk in today's fast-changing threat and compliance environment, security and IT groups need to find ways to break down silos of operations, divide the workload more clearly, and assume shared responsibility for enterprise security.

APPENDIX

Figure 14

Current IT Department Staffing

Which statement best describes the current staffing situation in your general IT department?

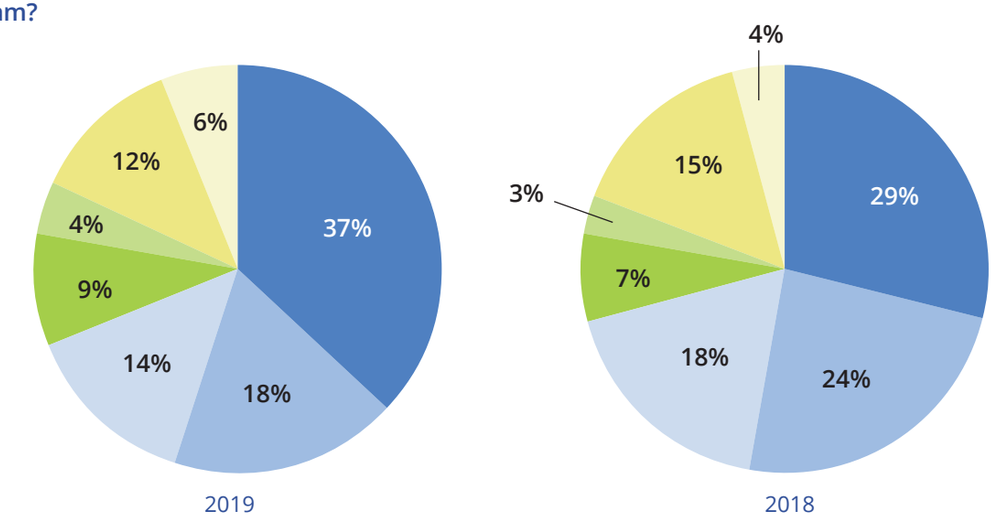


Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 15

Current Cybersecurity Department Staffing

Which statement best describes the current staffing situation in your cybersecurity department or team?



Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 16

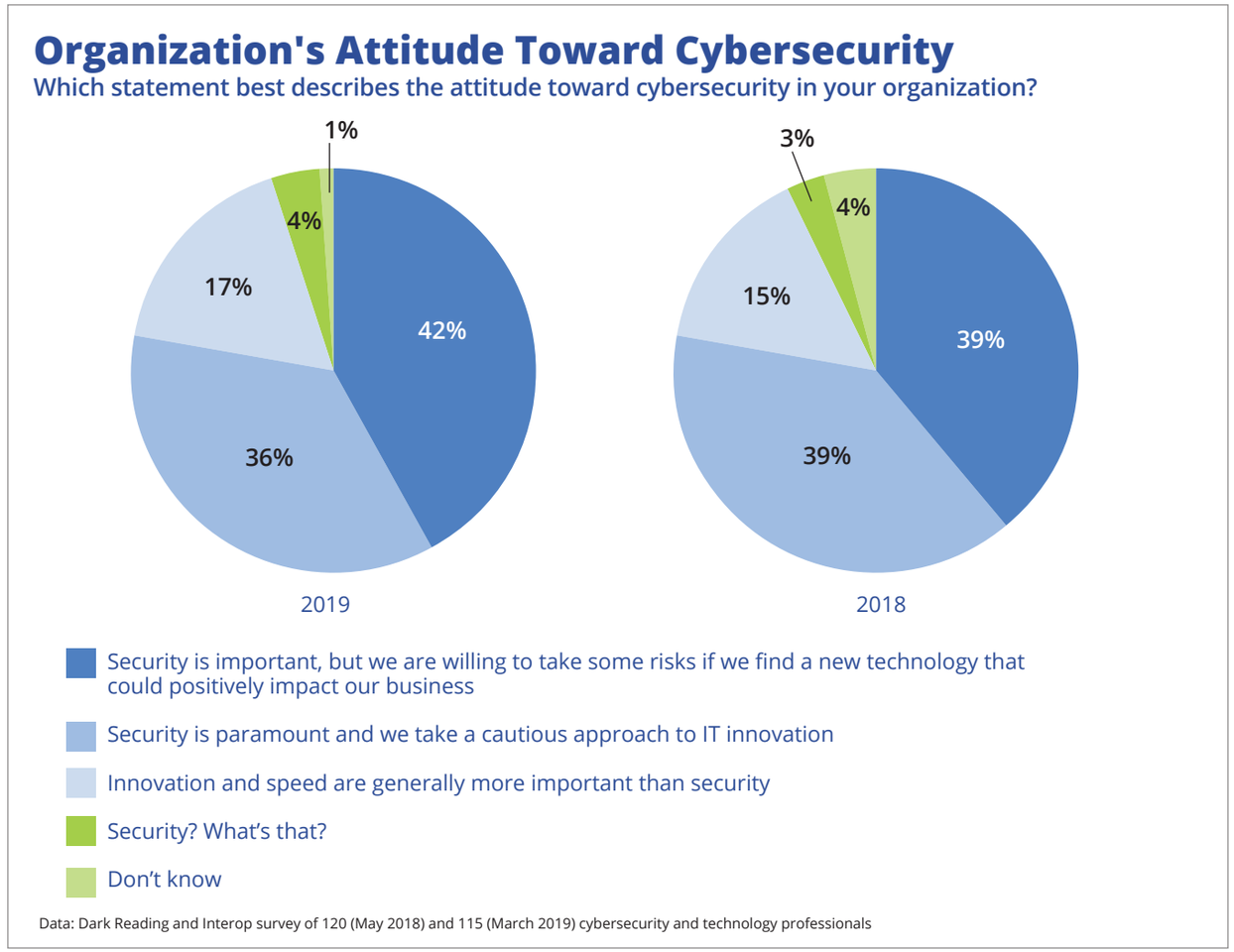
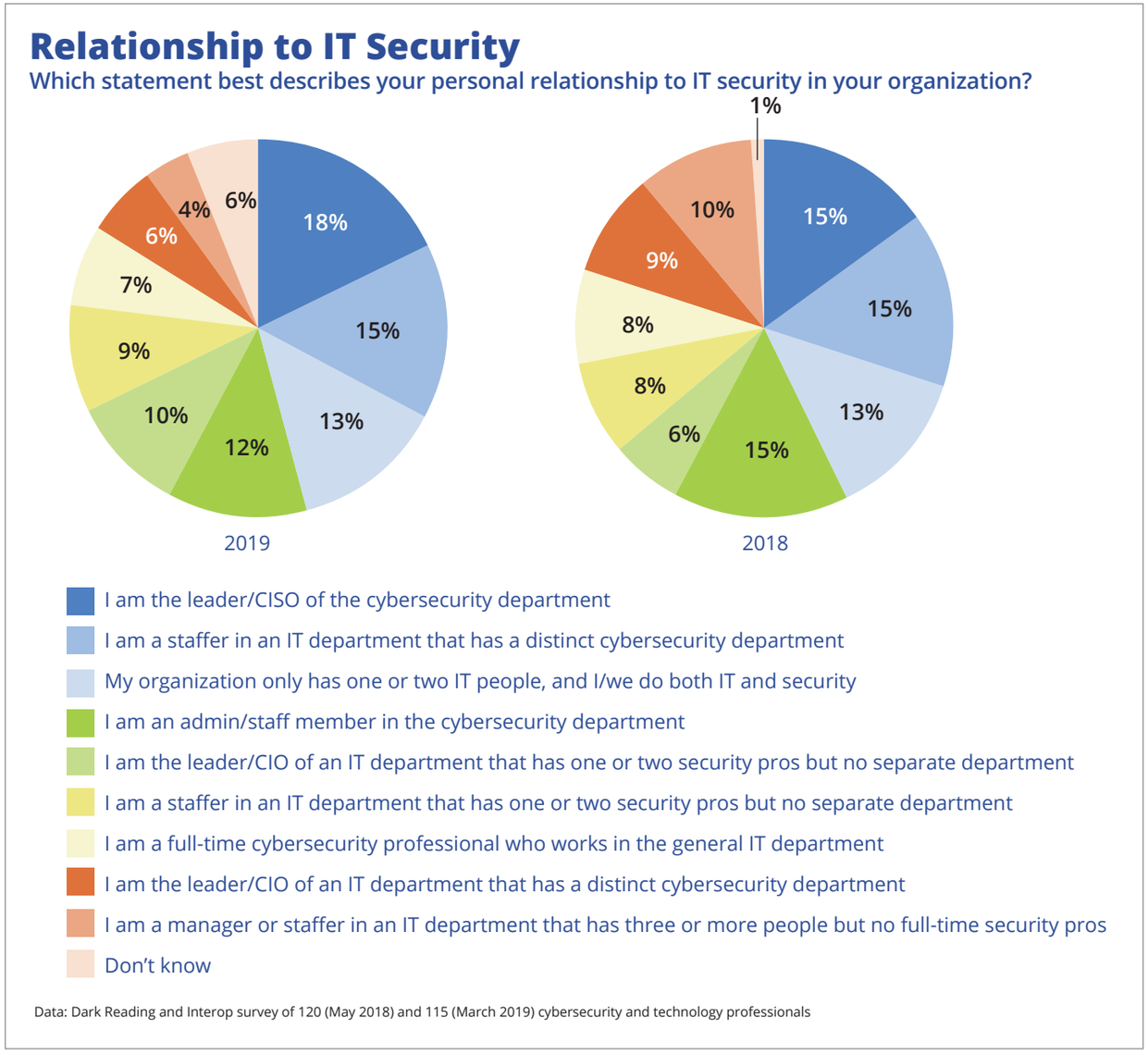
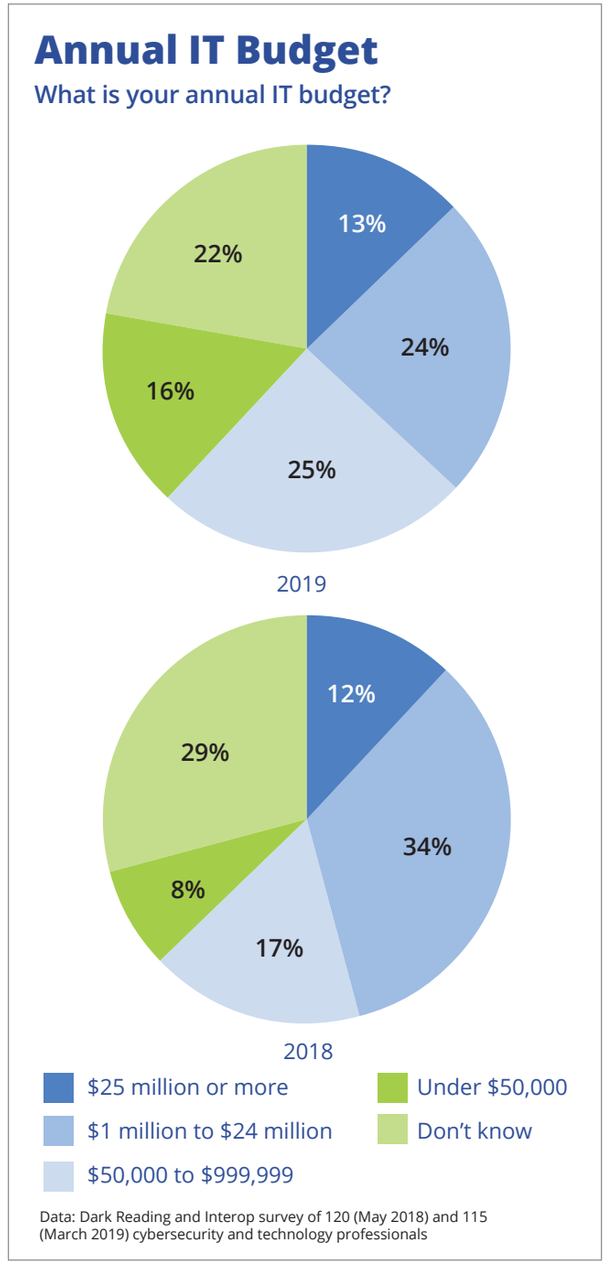

Organization's Attitude Toward Cybersecurity
Which statement best describes the attitude toward cybersecurity in your organization?
1%
4%
17%
42%
36%
2019
3%
4%
15%
39%
39%
2018
Security is important, but we are willing to take some risks if we find a new technology that could positively impact our business
Security is paramount and we take a cautious approach to IT innovation
Innovation and speed are generally more important than security
Security? What's that?
Don't know
Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 17



Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 18



Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 19

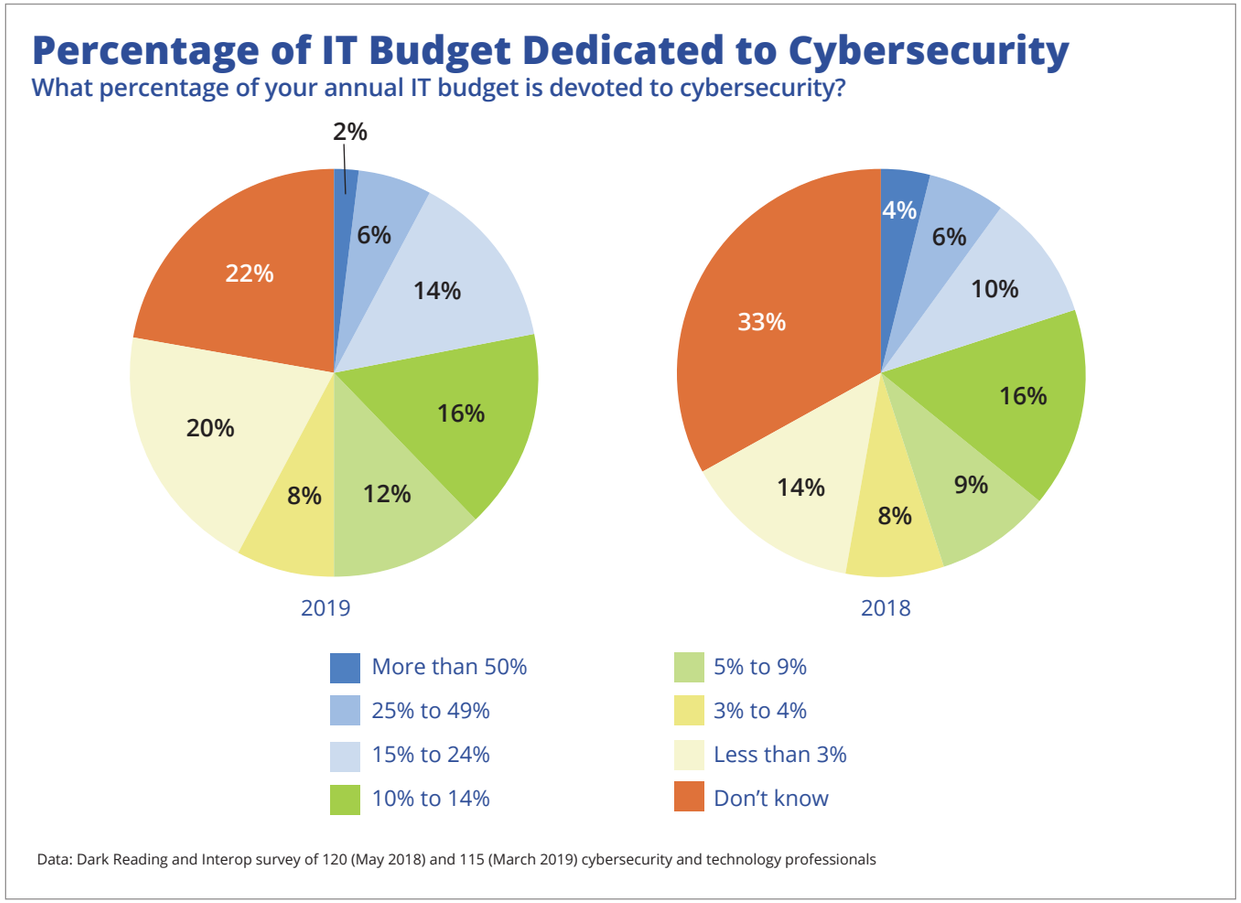
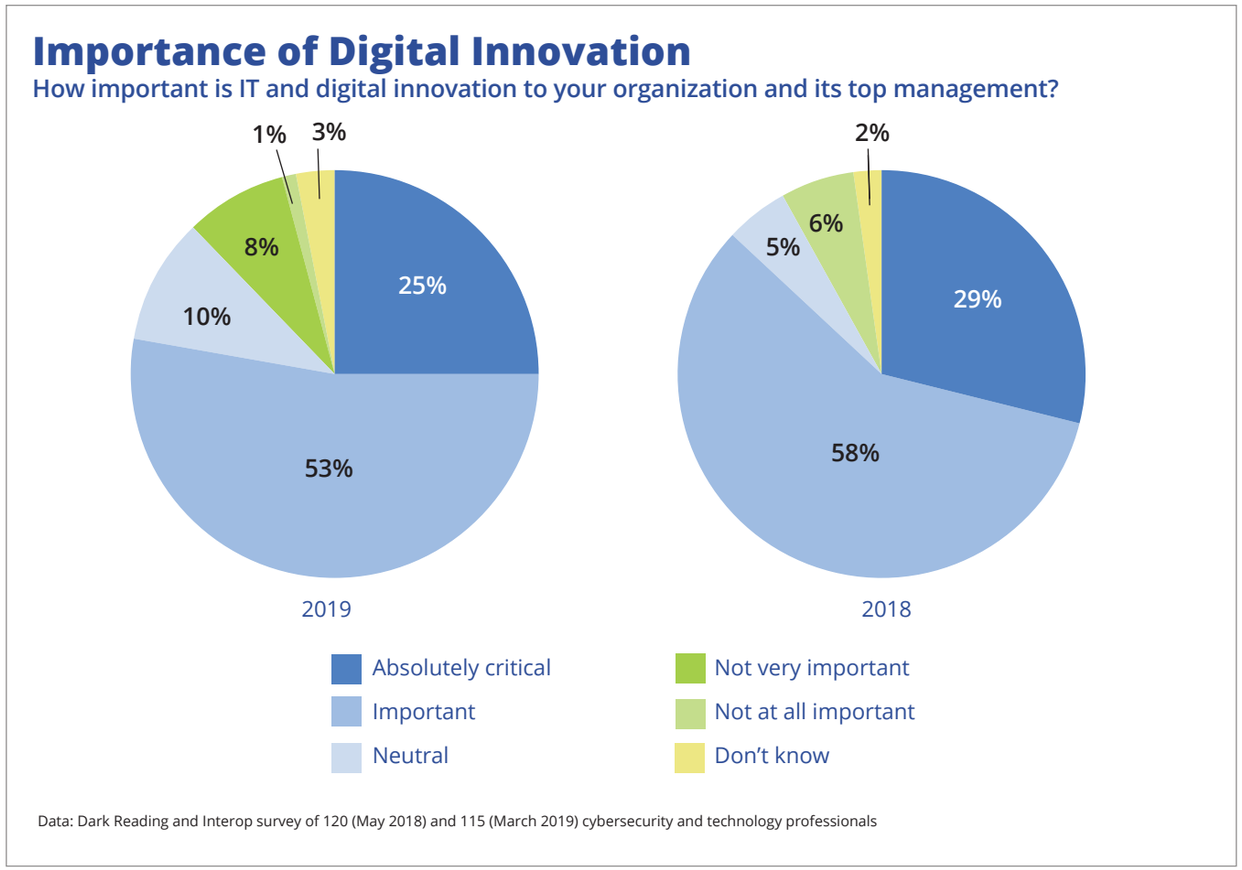

Percentage of IT Budget Dedicated to Cybersecurity
What percentage of your annual IT budget is devoted to cybersecurity?
2%
6%
14%
16%
12%
8%
20%
22%
2019
4%
6%
10%
16%
9%
8%
14%
33%
2018
More than 50%
25% to 49%
15% to 24%
10% to 14%
5% to 9%
3% to 4%
Less than 3%
Don't know
Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 20



Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 21

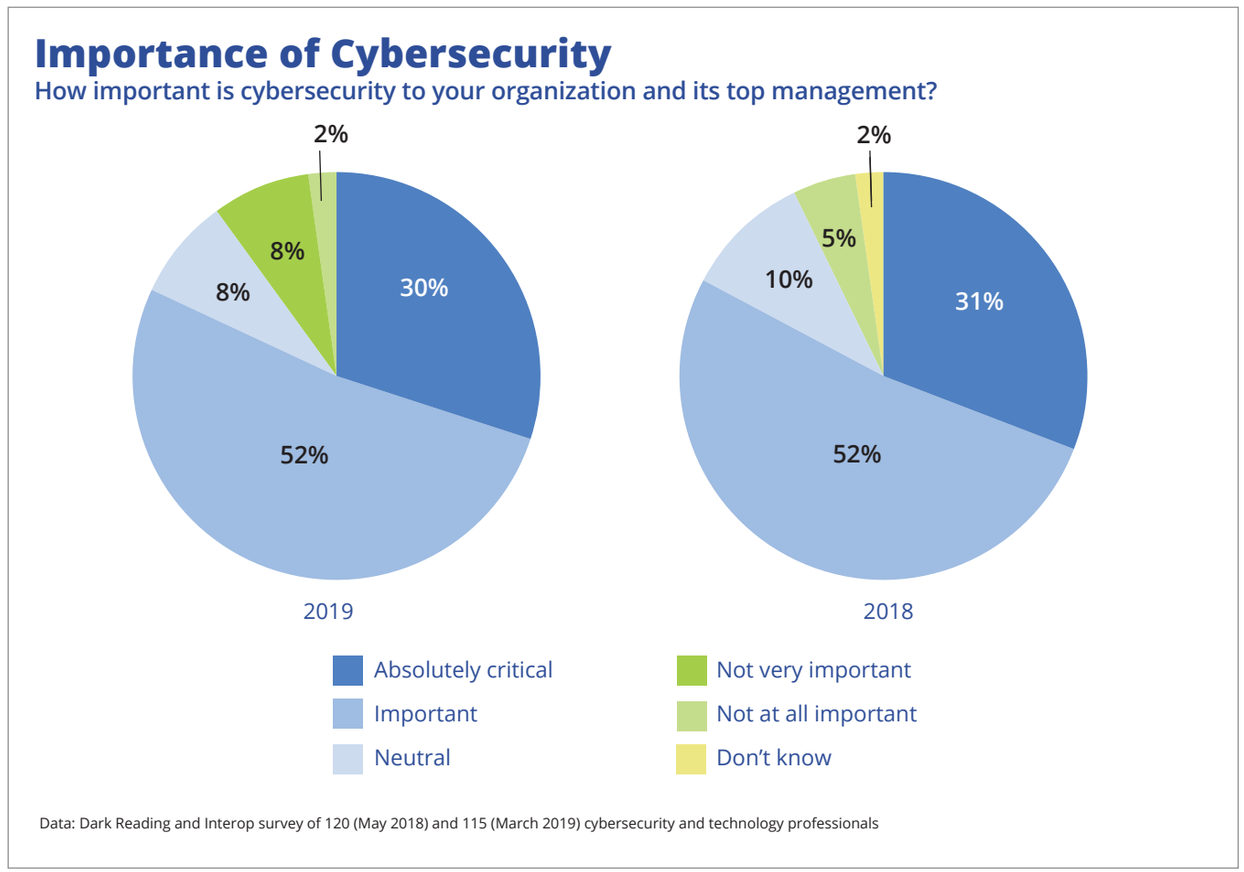

Importance of Cybersecurity
How important is cybersecurity to your organization and its top management?
2%
8%
8%
30%
52%
2019
2%
5%
10%
31%
52%
2018
Absolutely critical
Important
Neutral
Not very important
Not at all important
Don't know
Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 22

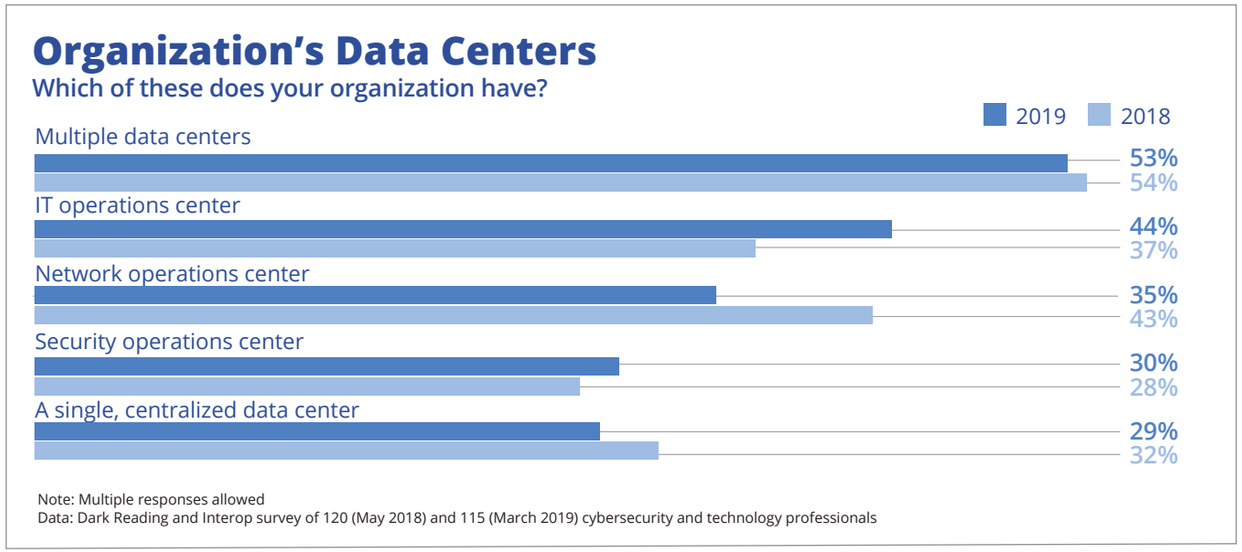

Organization's Data Centers
Which of these does your organization have?
2019
2018
Multiple data centers
53%
54%
IT operations center
44%
37%
Network operations center
35%
43%
Security operations center
30%
28%
A single, centralized data center
29%
32%
Note: Multiple responses allowed
Data: Dark Reading and Interop survey of 120 (May 2018) and 115 (March 2019) cybersecurity and technology professionals

Figure 23

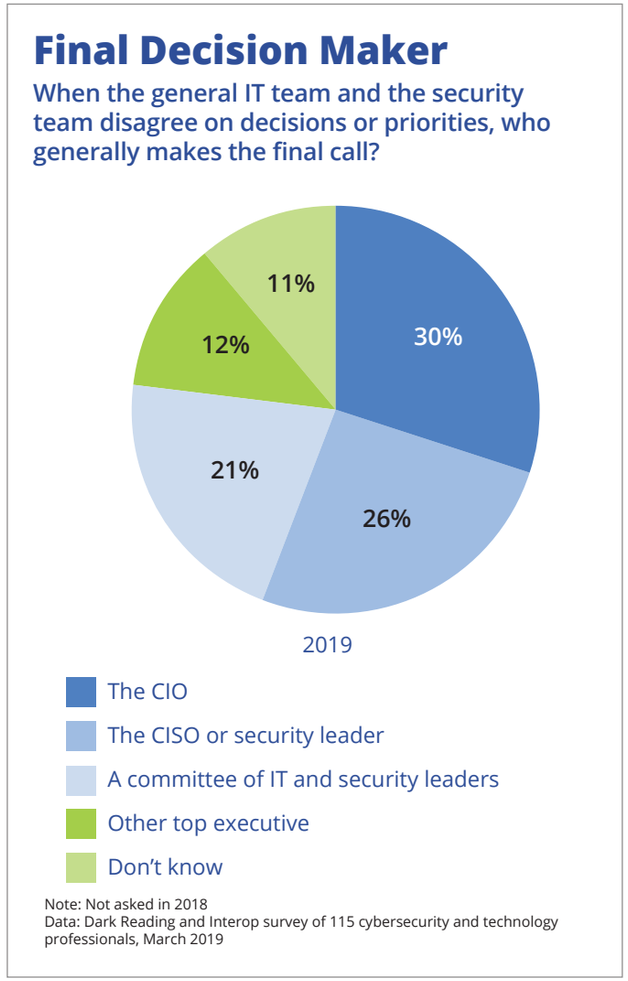

Final Decision Maker
When the general IT team and the security team disagree on decisions or priorities, who generally makes the final call?
30%
26%
21%
12%
11%
2019
The CIO
The CISO or security leader
A committee of IT and security leaders
Other top executive
Don't know
Note: Not asked in 2018
Data: Dark Reading and Interop survey of 115 cybersecurity and technology professionals, March 2019

Figure 24

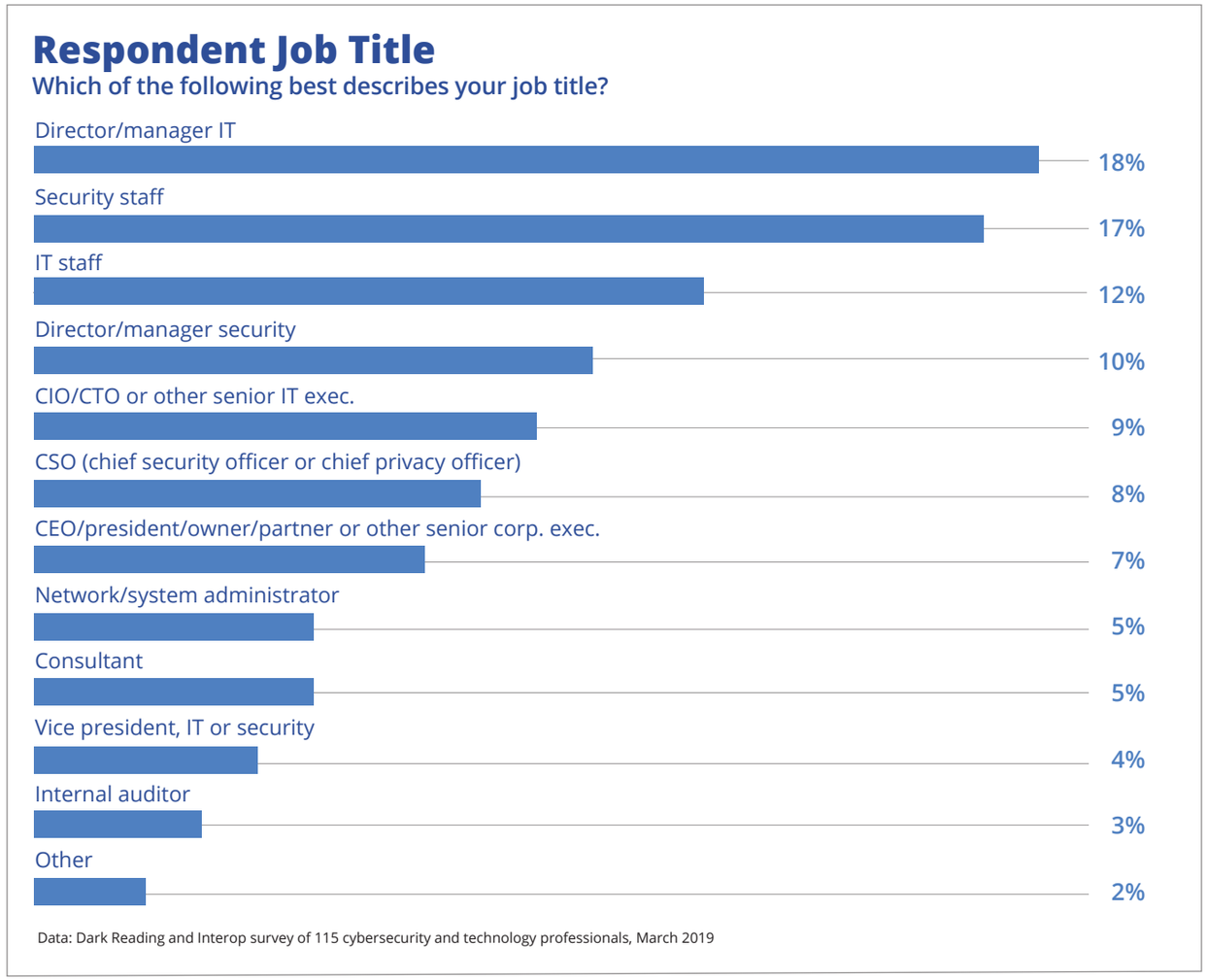

Respondent Job Title
Which of the following best describes your job title?
Director/manager IT
18%
Security staff
17%
IT staff
12%
Director/manager security
10%
CIO/CTO or other senior IT exec.
9%
CSO (chief security officer or chief privacy officer)
8%
CEO/president/owner/partner or other senior corp. exec.
7%
Network/system administrator
5%
Consultant
5%
Vice president, IT or security
4%
Internal auditor
3%
Other
2%
Data: Dark Reading and Interop survey of 115 cybersecurity and technology professionals, March 2019

Figure 25

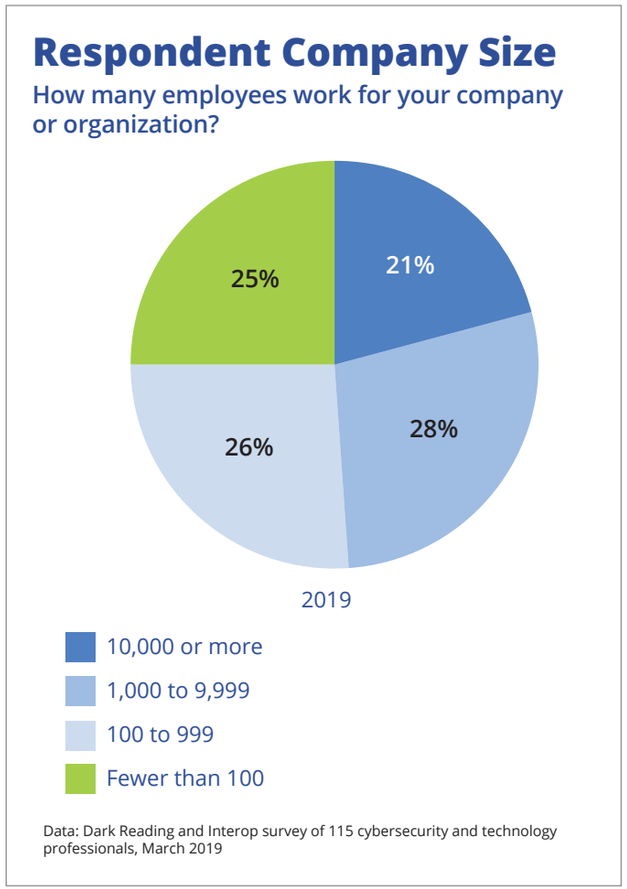
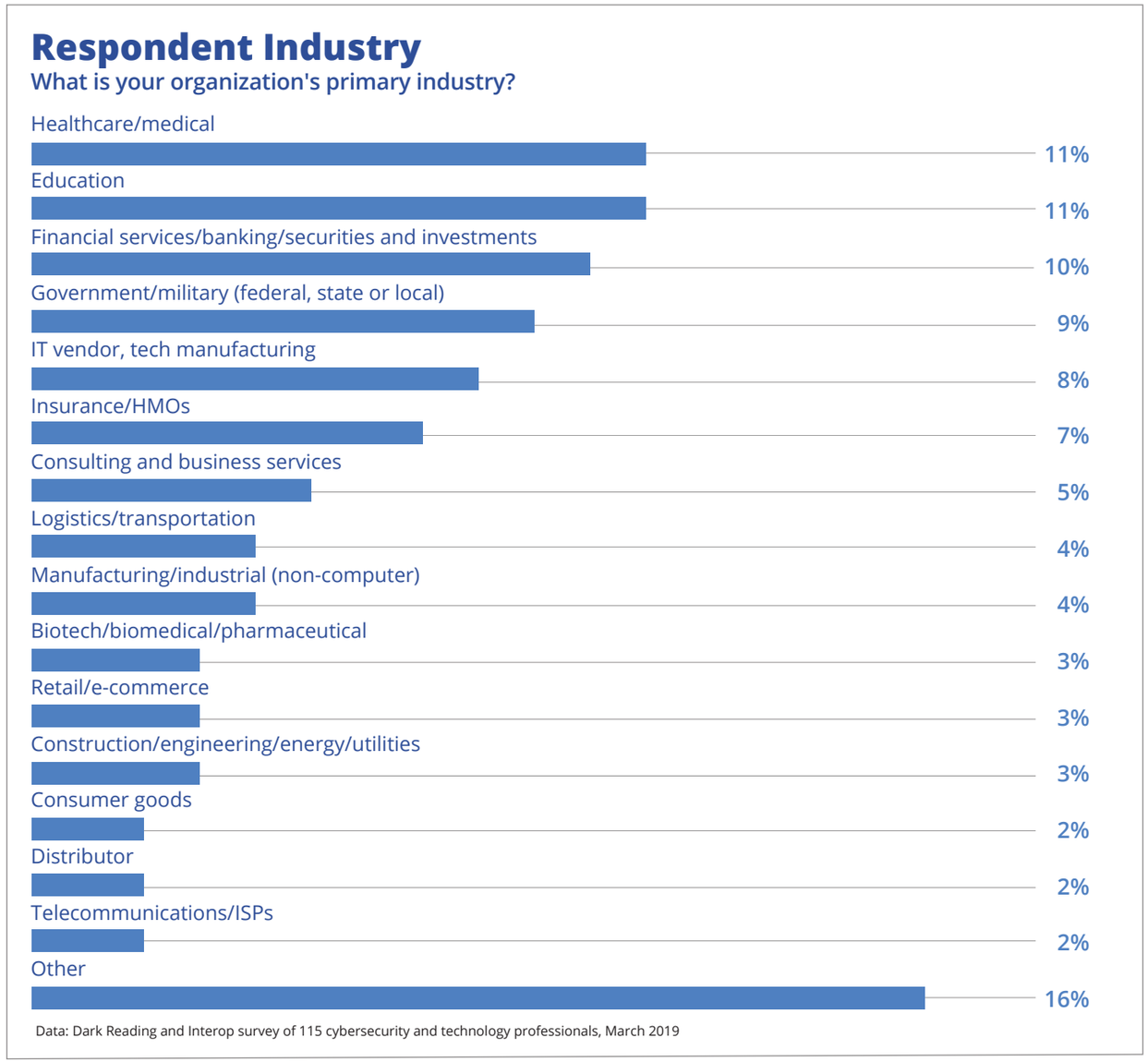

Respondent Company Size
How many employees work for your company or organization?
25%
21%
26%
28%
2019
10,000 or more
1,000 to 9,999
100 to 999
Fewer than 100
Data: Dark Reading and Interop survey of 115 cybersecurity and technology professionals, March 2019

Figure 26


Respondent Industry
What is your organization's primary industry?
Healthcare/medical
11%
Education
11%
Financial services/banking/securities and investments
10%
Government/military (federal, state or local)
9%
IT vendor, tech manufacturing
8%
Insurance/HMOs
7%
Consulting and business services
5%
Logistics/transportation
4%
Manufacturing/industrial (non-computer)
4%
Biotech/biomedical/pharmaceutical
3%
Retail/e-commerce
3%
Construction/engineering/energy/utilities
3%
Consumer goods
2%
Distributor
2%
Telecommunications/ISPs
2%
Other
16%
Data: Dark Reading and Interop survey of 115 cybersecurity and technology professionals, March 2019