2022 NMHC/ ONE11 ADVISORS **APARTMENT INDUSTRY TECHNOLOGY BENCHMARKING REPORT**

SURVEY REPORT MAY 2022

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ABOUT NMHC

Based in Washington, DC, NMHC is a national association representing the interests of the larger and most prominent apartment firms in the U.S. NMHC's members are the principal officers of firms engaged in all aspects of the apartment industry, including ownership, development, management and financing. NMHC advocates on behalf of rental housing, conducts apartment related research, encourages the exchange of strategic business information and promotes the desirability of apartment living. Nearly one-third of Americans rent their housing, and almost 15 percent live in an apartment (buildings with 5 or more units). For more information, contact NMHC at 202/974-2300, e-mail at info@nmhc.org, or visit NMHC's Web site at www.nmhc.org

ABOUT ONE11 ADVISORS

One11 Advisors is an integrated professional services firm acquired by Altus Group on July 2, 2019. They provide advisory and managed services for real estate organization's front to back-office strategies, processes, and technology. Their team of industry experts bring market experience and leverage years of experience to deliver innovative proven solutions to owners, builders, occupiers, and operators of real estate. Their unique team consists of experienced professionals who have successfully worked in leadership positions in the industries we serve and are further strengthened with deep organizational, process and product expertise.

SURVEY OVERVIEW

In partnership with One11 Advisors, the National Multifamily Housing Council (NMHC) conducted a survey of all NMHC member apartment companies from late December of 2021 through March of 2022 seeking input from their company technology leaders. The survey sought to fill a void in information relating to numerous technology related issues that both NMHC and One11 believe would provide valuable insights to both apartment companies and the technology suppliers that support the apartment industry.

As the leading trade association for the larger apartment companies in the U.S., NMHC seeks to assure that the apartment industry is well-positioned to fully reap the benefits of advances in technology and innovation. With seemingly exponential growth in new technologies, such as artificial intelligence, home automation, blockchain and other revolutionary new tech that have the potential to create efficiencies and savings for the industry, NMHC hopes to assure that an ecosystem exists that allows the industry to simply and seamlessly exploit the opportunities provided by existing and exciting new technology and innovation.

An important building block in support of that goal is a baseline understanding of how apartment companies are supporting technology and innovation in their companies, as well as what challenges and opportunities they face as they deploy technology more extensively into company systems.

Seemingly mundane information such as reporting structures may provide valuable insights into how technology is treated at the company level. The role technology professionals play in companies throughout the world of business has evolved. From their initial role as the supporter of company email systems, servers and computers, to key C-Suite players setting and executing company strategy, the job has evolved significantly at companies with the size and resources to support the evolution.

One goal of this survey and other educational efforts is to assist in that evolution by providing data that highlights best practices and allows organizations to evolve their technology capabilities regardless of their size or resources. More specifically, the overall goals for this, the second NMHC-One11 Advisors Technology Survey, are to:

- Provide the apartment industry with basic benchmarks for technology staffing, reporting structure, and the use of contracted employees and consultants.
- Assess how the industry is addressing the recent expansion of innovative new technology products and technology-enabled services and highlight the challenges to adoption of new tech and innovation.
- Assess satisfaction and challenges with existing technology systems.

- Determine how effectively the industry is addressing cybersecurity issues.
- Gather information on the leading challenges and opportunities that technology professionals are facing today.

In general, the survey hopes to provide a snapshot of the many ways that technology is being addressed at apartment companies of different sizes. It's hoped that the information will provide a roadmap for all companies to create an internal ecosystem that helps them best take advantage of the opportunities provided by technology while mitigating the risks.

SURVEY METHODOLOGY

As stated above, NMHC sent a digital survey to all its apartment company members seeking information on how they address technology as well as the challenges and opportunities they face in their positions as industry technology leaders.

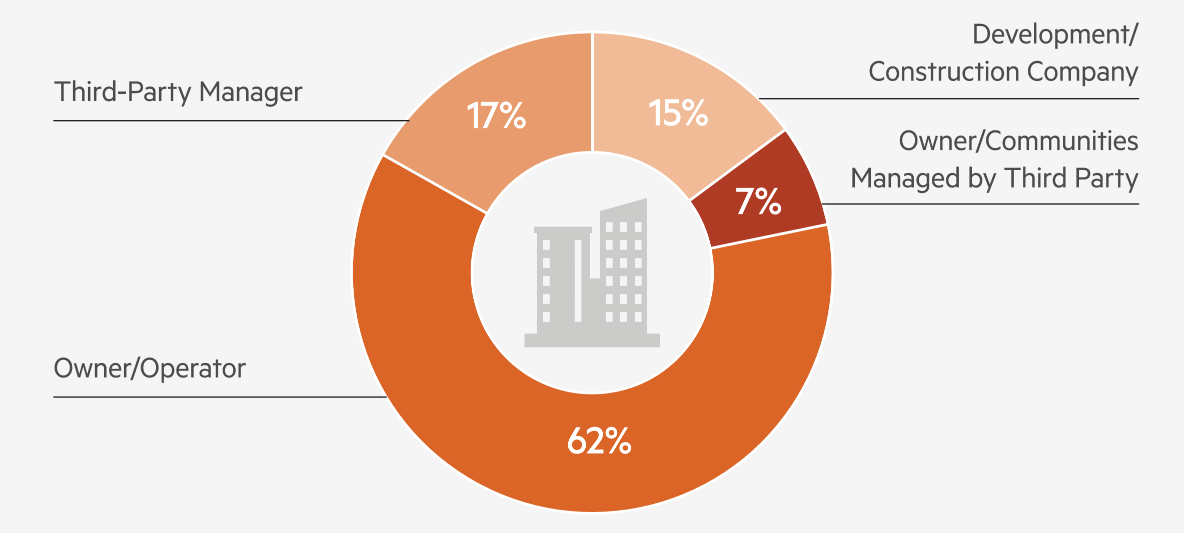
The survey was created with input from the NMHC member committees, One 11 Advisors and NMHC staff. Responses were received from 60 apartment company technology leaders from an almost equal distribution between small companies (less than 10k units), medium sized companies (10k to 25k units), large companies (25k to 60k units) and very large companies (more than 60k units). In a few instances, more than one person submitted data for a company. In those cases, we accepted the data from the known "Head of IT" and deleted the additional responses. We did notice some survey fatigue due to the length of the survey and will address that in future surveys.

The company size categories were created based upon naturally occurring breaks in the data and through use of the NMHC 50 report as a guide. The range of companies in the NMHC top 50 is from roughly 30k to over 600k at the high end. The mid-point for companies in the list is roughly 50k to 60k. So, if a company made the top 50 list or were roughly just below the cut-off, they were considered a very large or a large company. Companies in the upper half of the list, above 60k units, were considered very large and those between 25k and 60k units were considered large. Using 10k or less for small companies and 10k to 25k for medium was based on natural breaks in the data and a consensus decision from industry professionals.

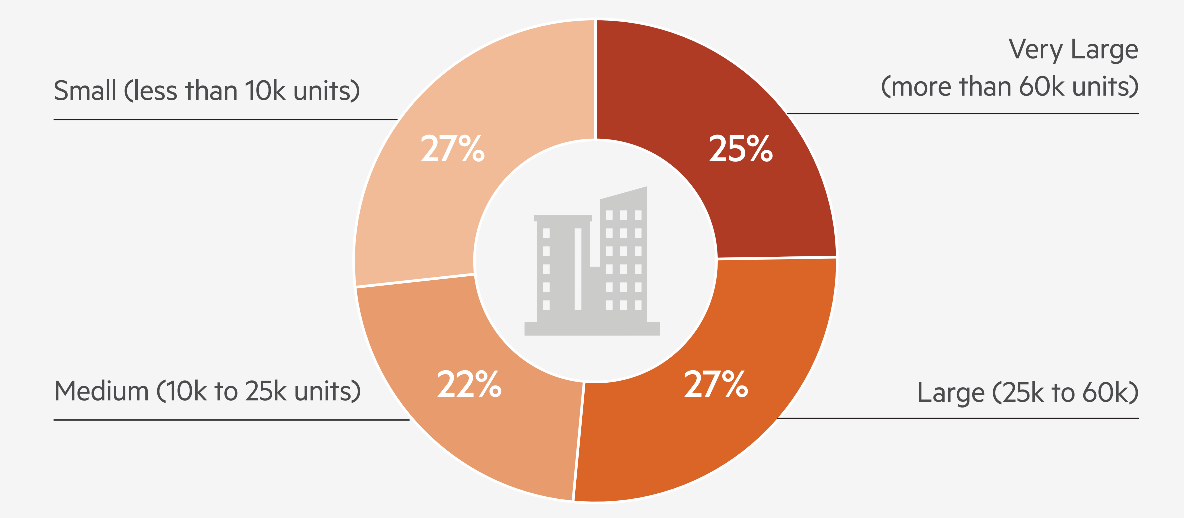
While quotes from survey respondents are included in the survey report, none are attributed. All data is anonymized and aggregated to preserve the confidentiality of the respondent. The company size categories were created to be large enough to not be able to determine the companies in the profile. No personally identifiable information (PII) from any respondent was disclosed or shared beyond NMHC staff. One11 Advisors only received data without any PII included.

SURVEY RESPONDENT PROFILE

Which of the following would you consider the primary function of your company?

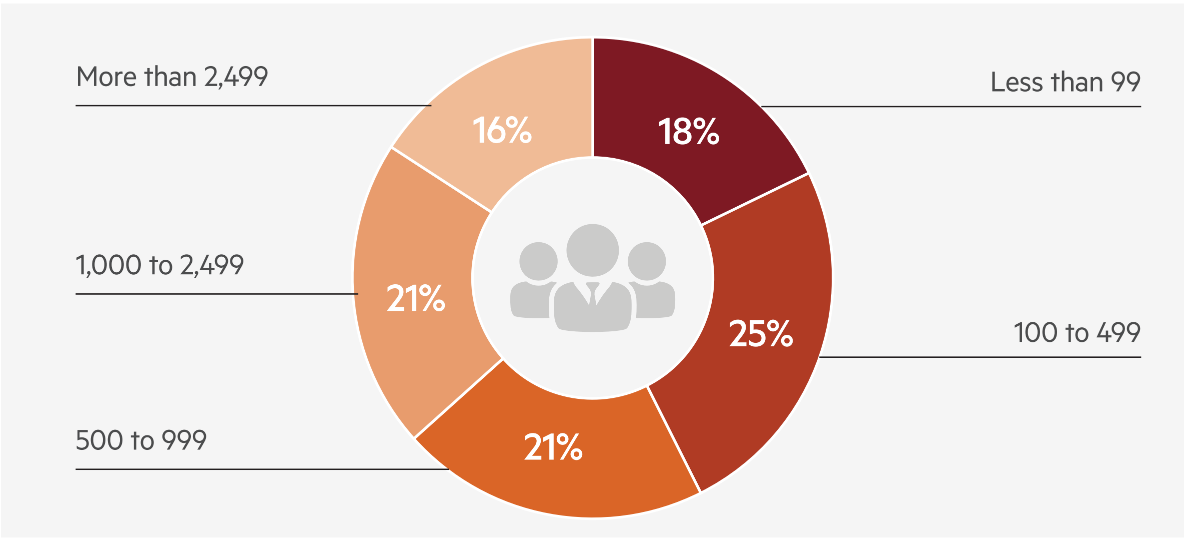


What is the size of your organization? (by number of apartment units in your portfolio)

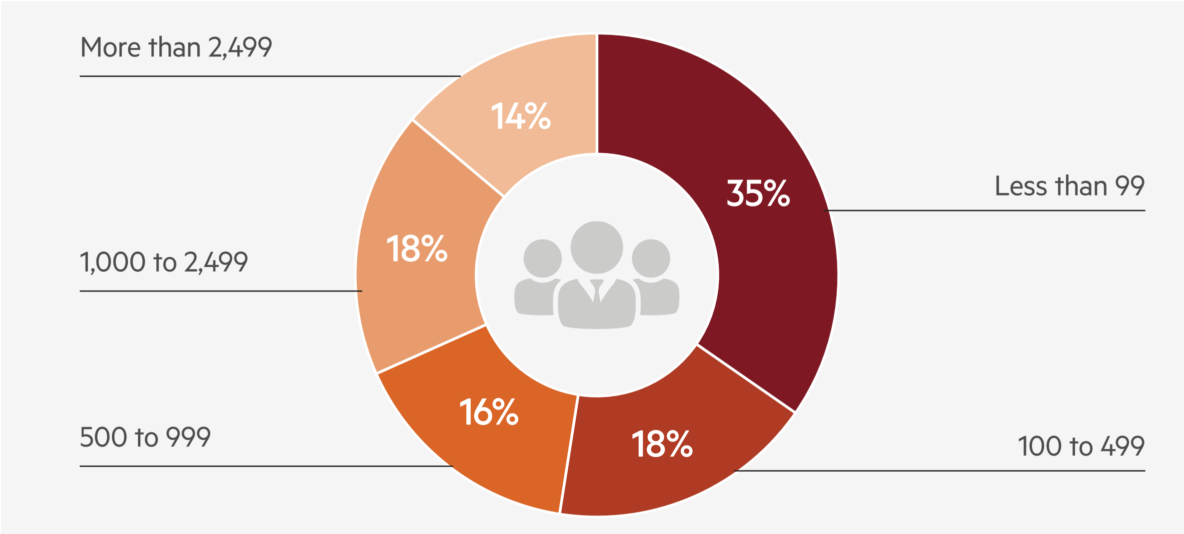


Note: Please consider that the company data was sorted by number of apartment units, however a company may have non-multifamily properties as well and while characterized as a small company in the report they may not technically be a "small company".

Total number of employees (supporting multifamily)



Total number of employees (supported by IT)

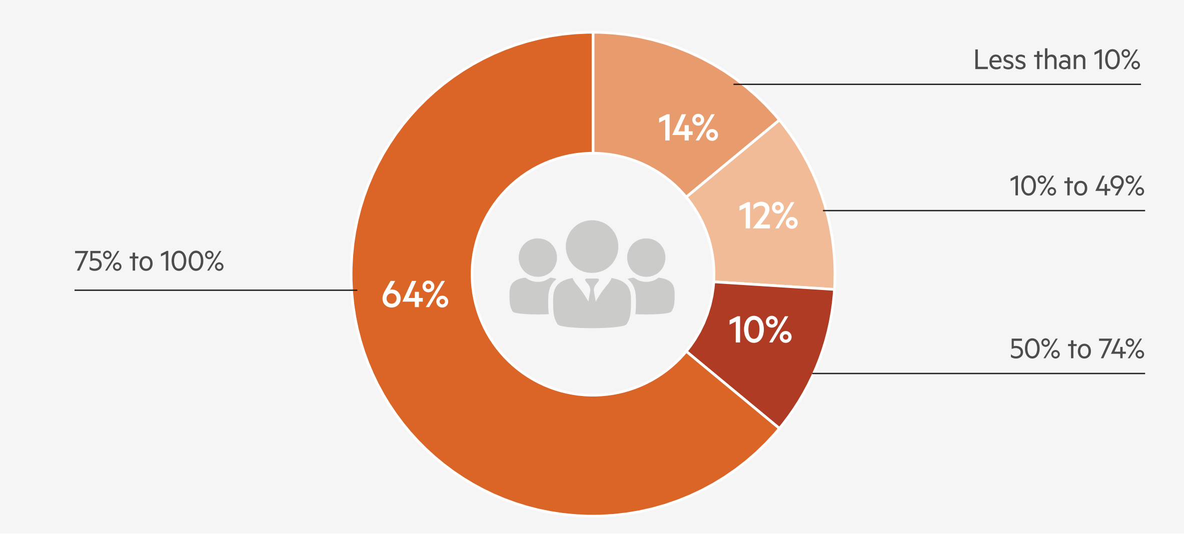


Average Number of Employees (supported by IT)	
Small (less than 10k units)	96
Medium (10k to 25k units)	352
Large (25k to 60k)	1034
Very Large (more than 60k units)	2251

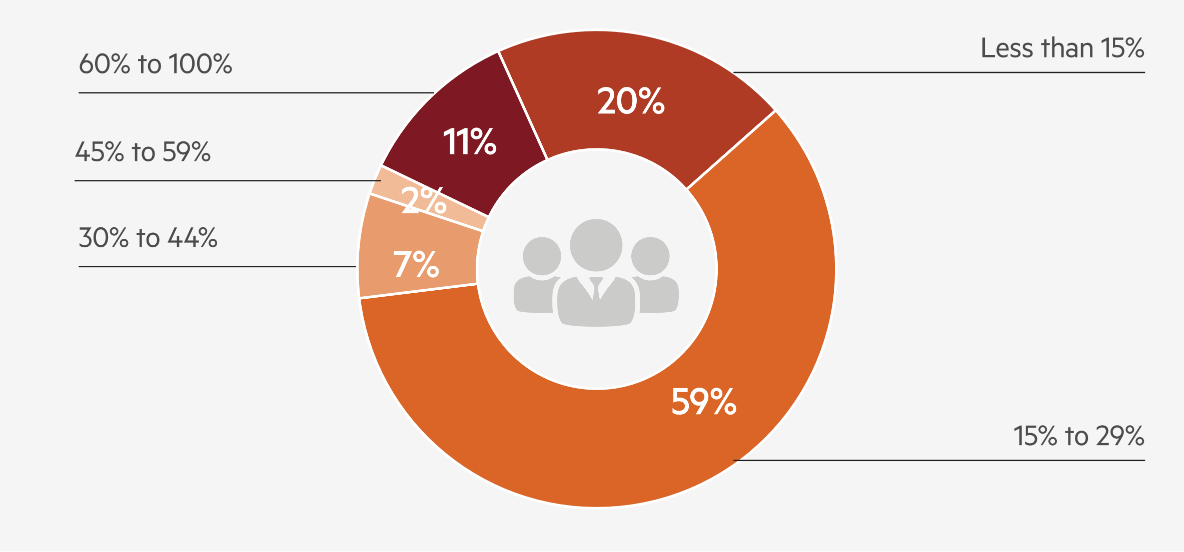
Average Number of FTE IT Staff	
Small (less than 10k units)	1.6
Medium (10k to 25k units)	11.3
Large (25k to 60k)	22.3
Very Large (more than 60k units)	26.3

Average Number of FTE IT Staff/ Average Number of Employees	
Small (less than 10k units)	0.016
Medium (10k to 25k units)	0.032
Large (25k to 60k)	0.022
Very Large (more than 60k units)	0.012

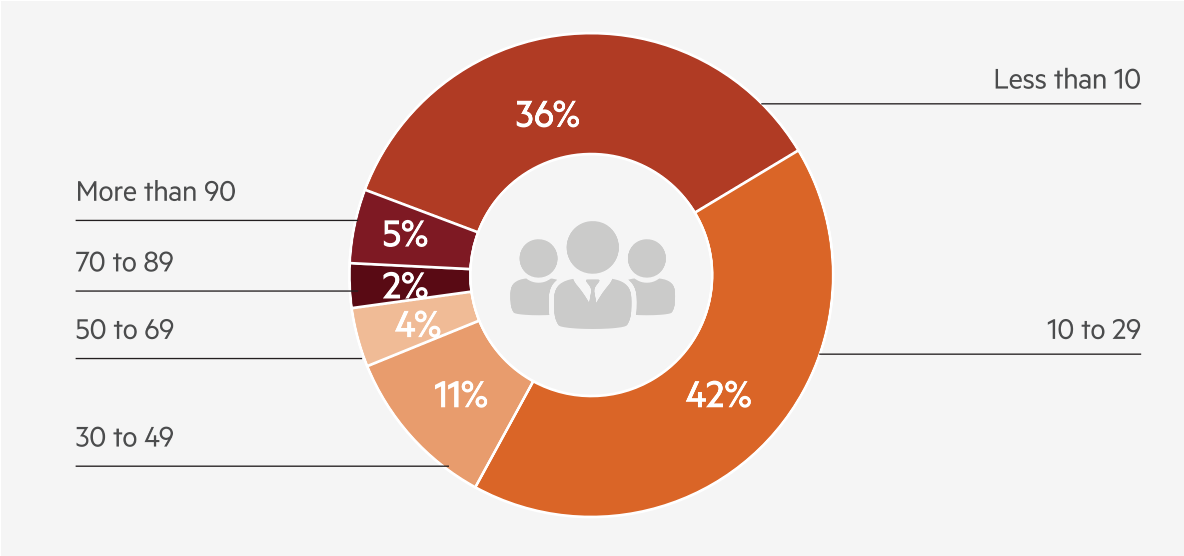
What percentage of your employees are located onsite? (in apartment communities)



What percentage of your employees are corporate resources? (i.e. overhead)

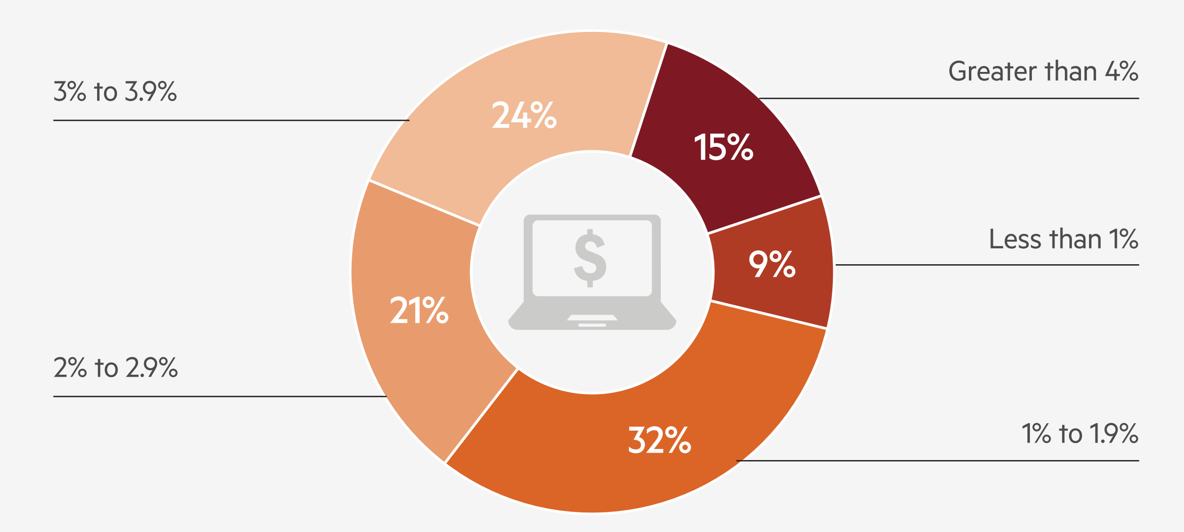


Average number of acquisitions and dispositions executed in a given year

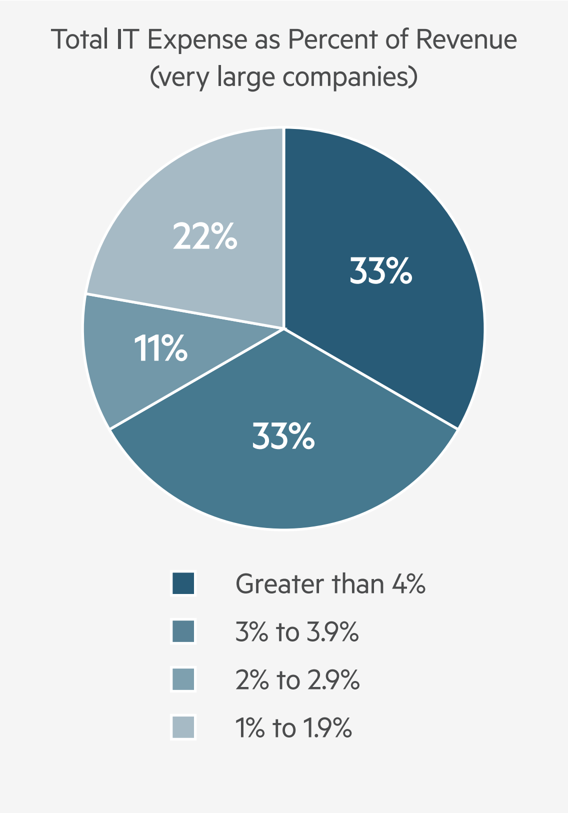


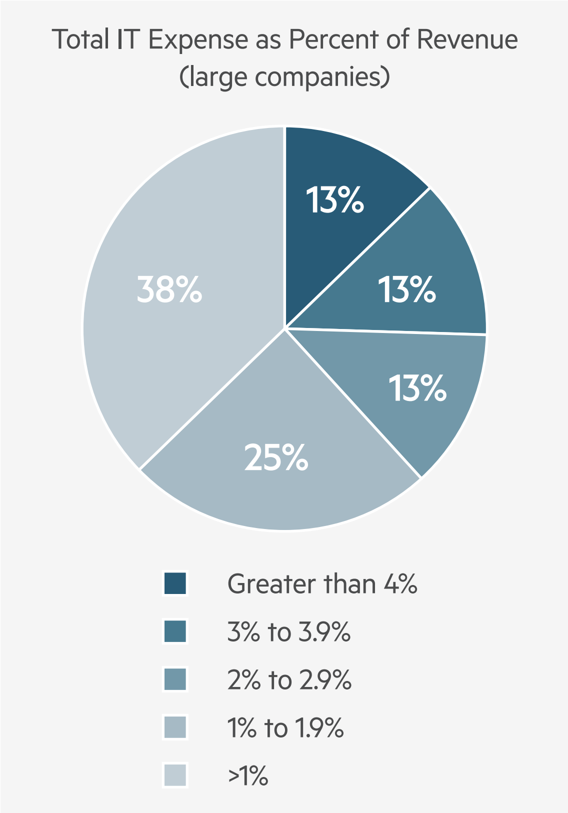
I.T. FUNDING

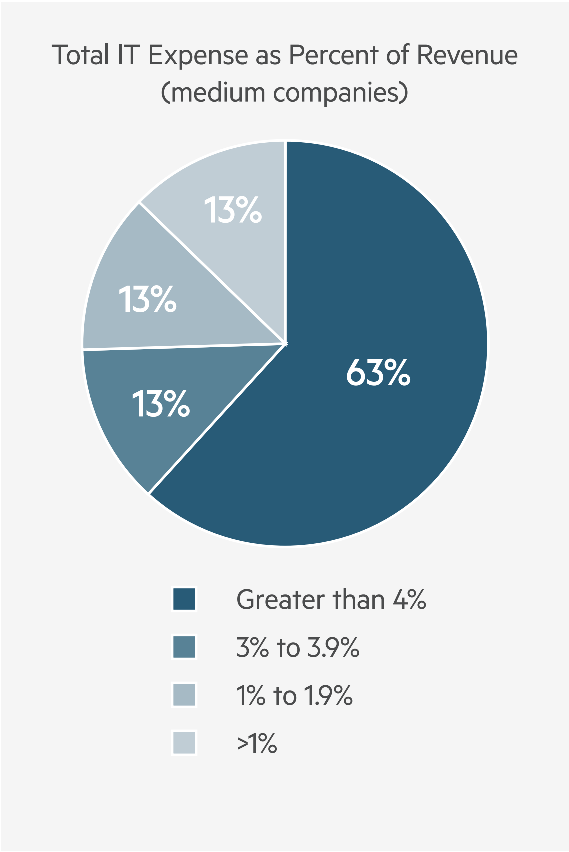
What is your IT expense as a percent of total revenue? (divide total IT expense budget for 2021 by actual revenue for your organization in 2020)

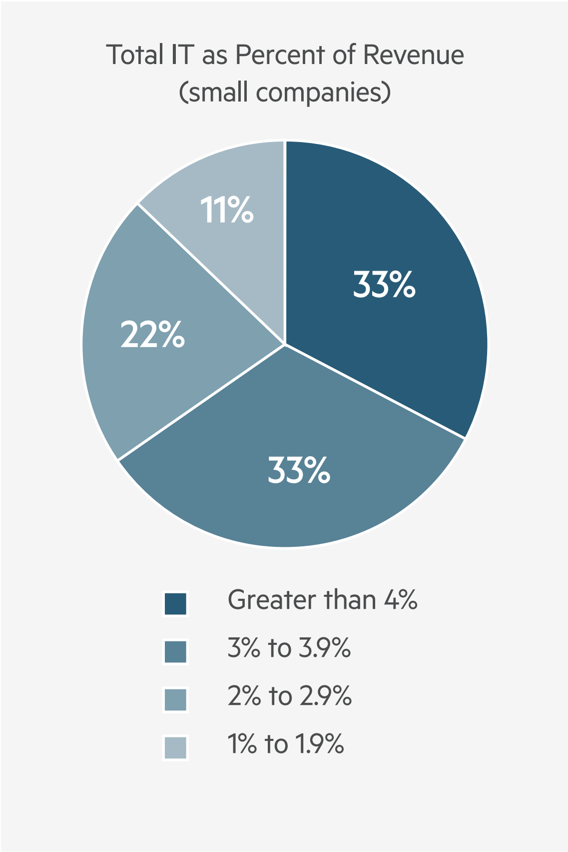


Note: Only 33 respondents answered this question, the rest said either they didn't know or they preferred not to divulge.

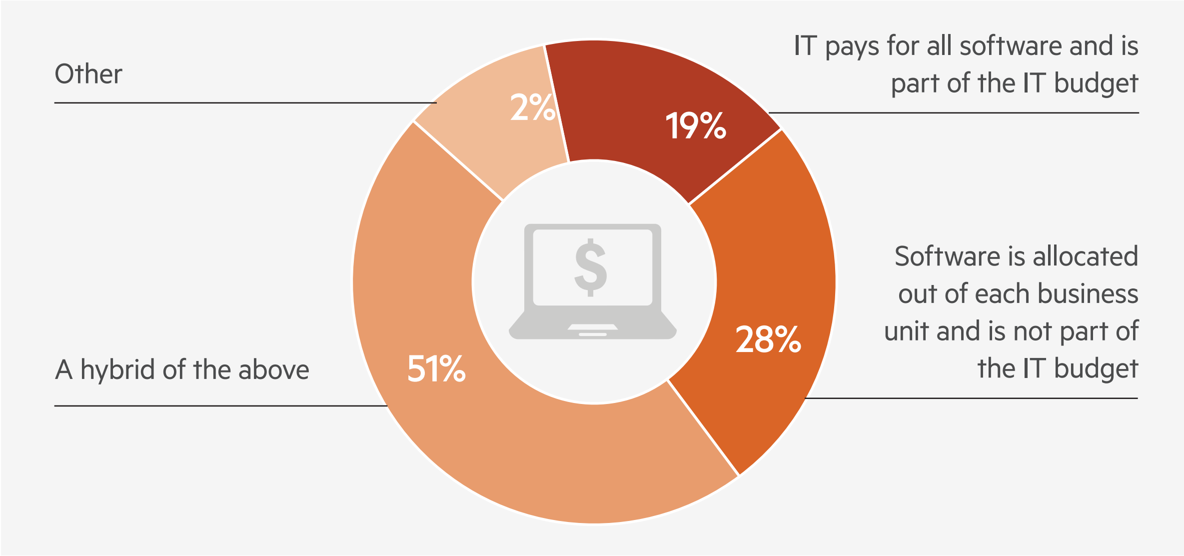




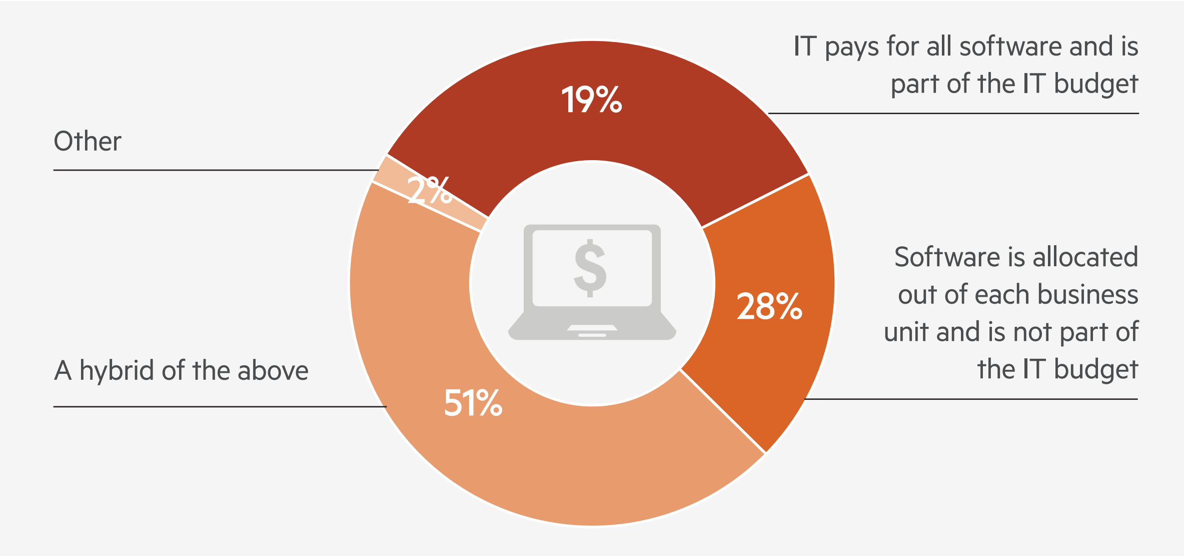




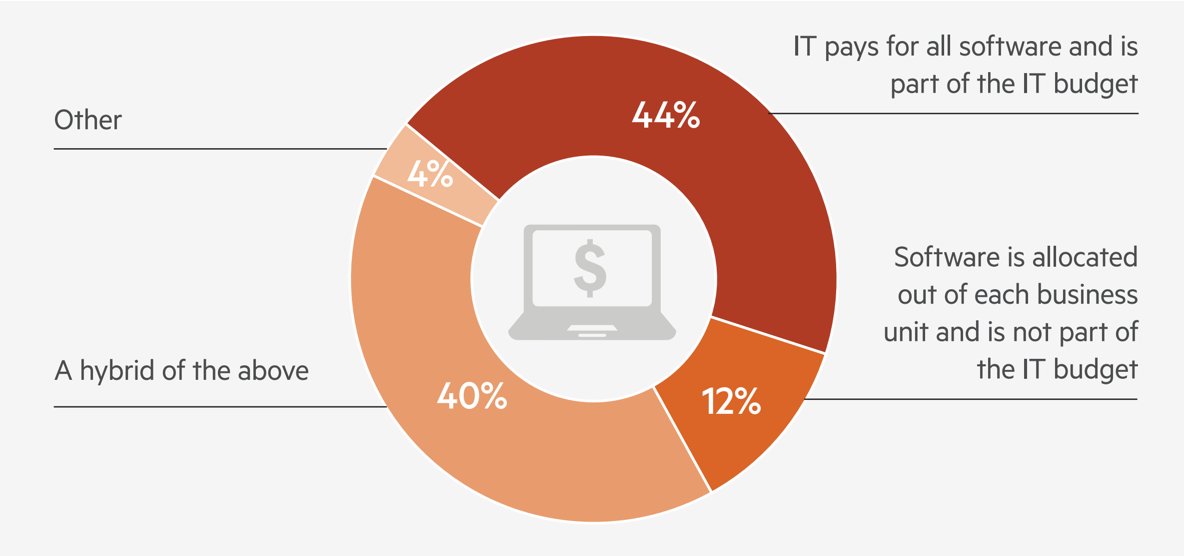
How does your company fund your enterprise operating software? (general ledger, property management, revenue management, other ancillaries)



How does your company fund your desktop software? (O365, Windows, etc.)

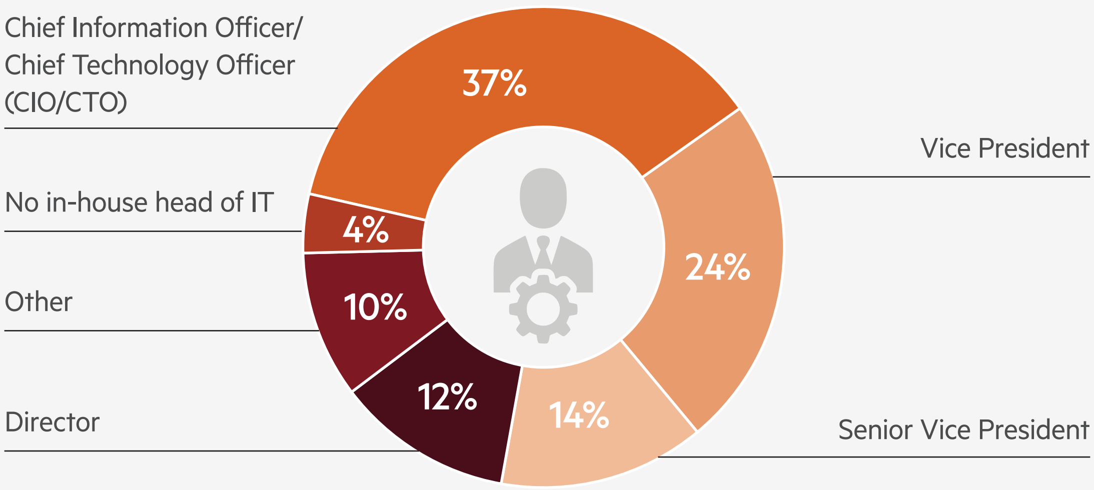


How does your company fund your cybersecurity programs? (AV malware, internet filtering, SIEM, intrusion detection)

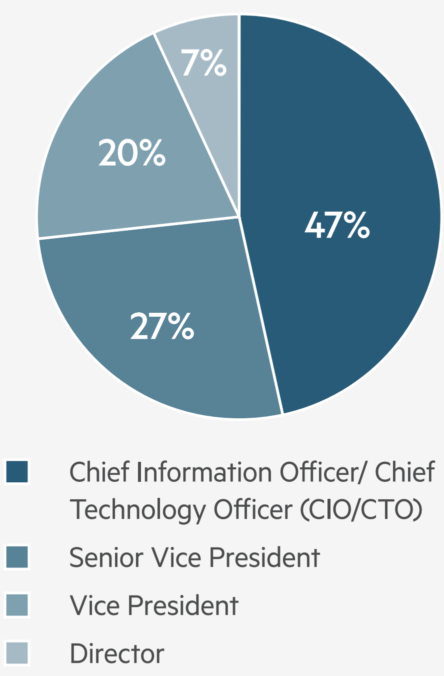


I.T. ORGANIZATIONAL STRUCTURE

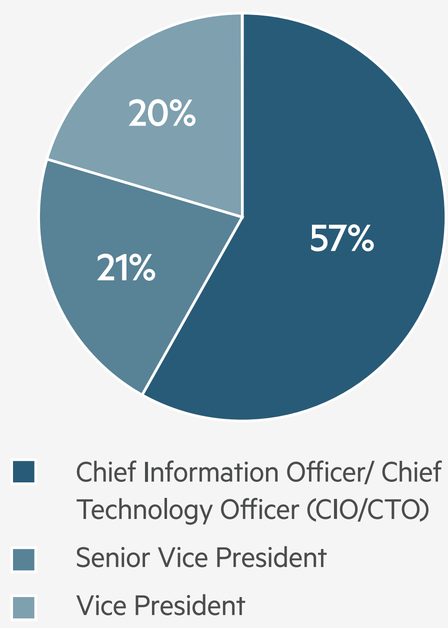
What is the title of the “Head of IT” at your company?



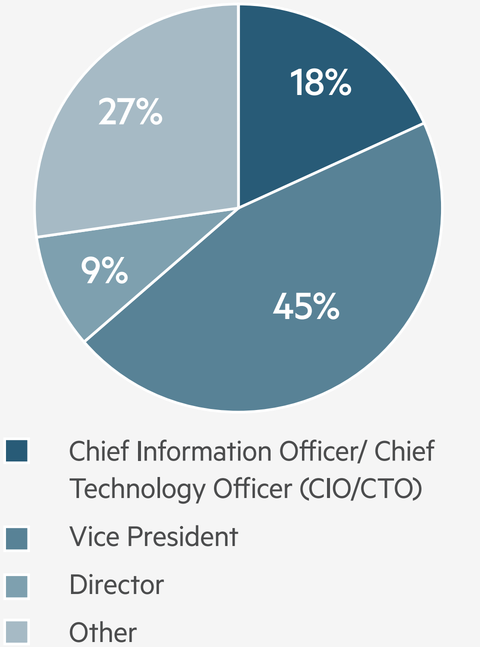
What is the title of the “Head of IT” at your company? (very large companies)



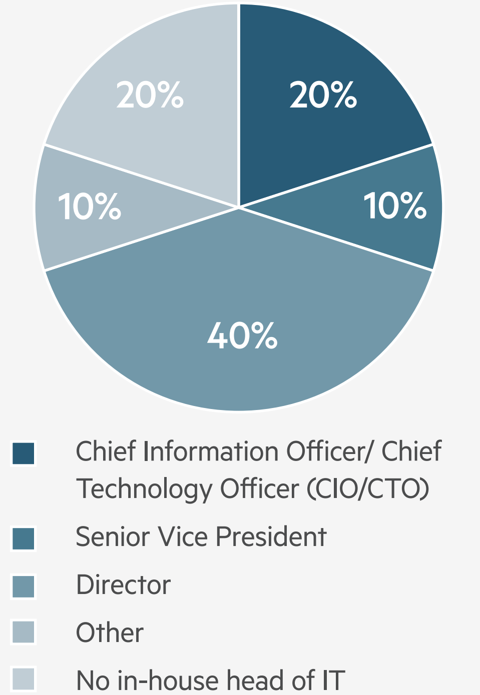
What is the title of the “Head of IT” at your company? (large companies)



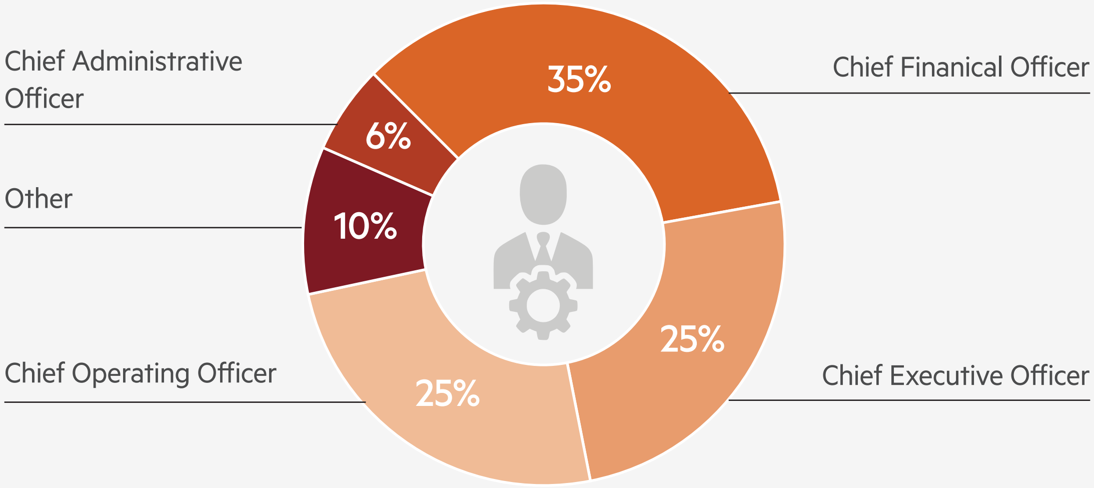
What is the title of the "Head of IT" at your company? (medium companies)



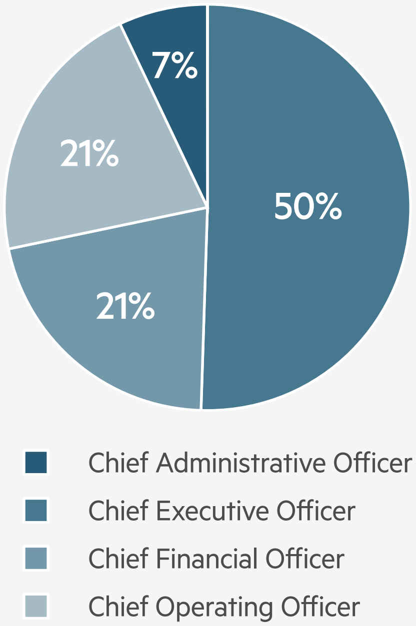
What is the title of the "Head of IT" at your company? (small companies)



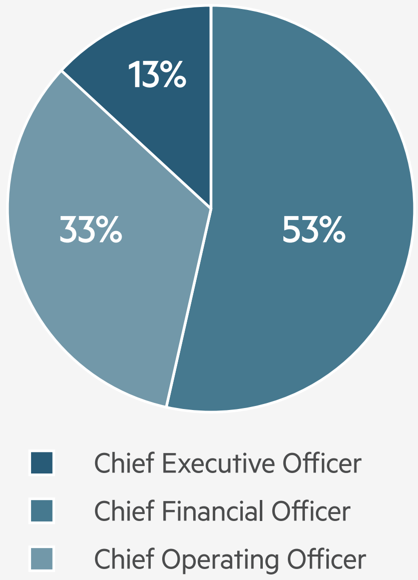
To whom does your "Head of IT" directly report?



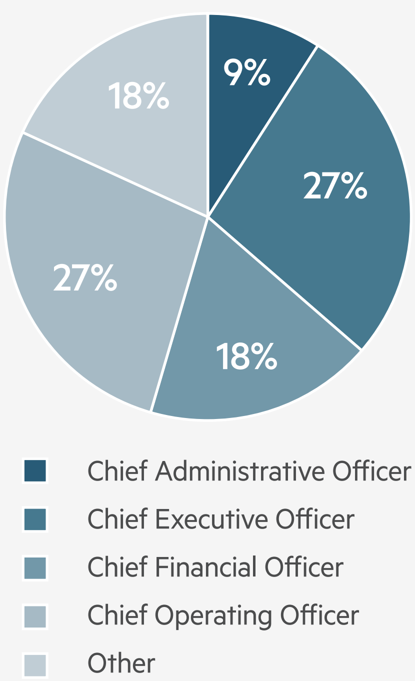
To whom does your "Head of IT" directly report? (very large companies)



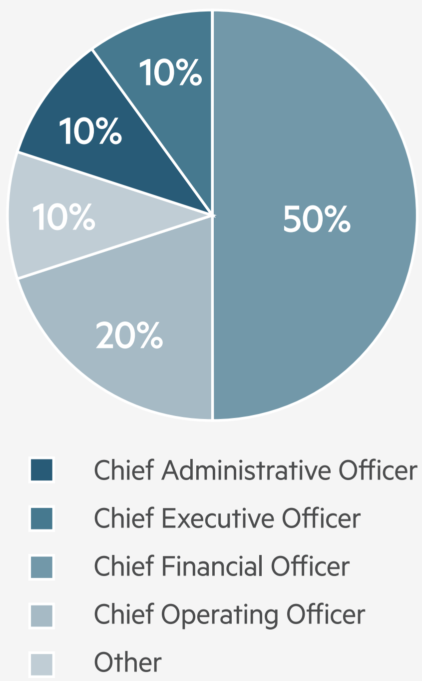
To whom does your "Head of IT" directly report? (large companies)



To whom does your "Head of IT" directly report? (medium companies)

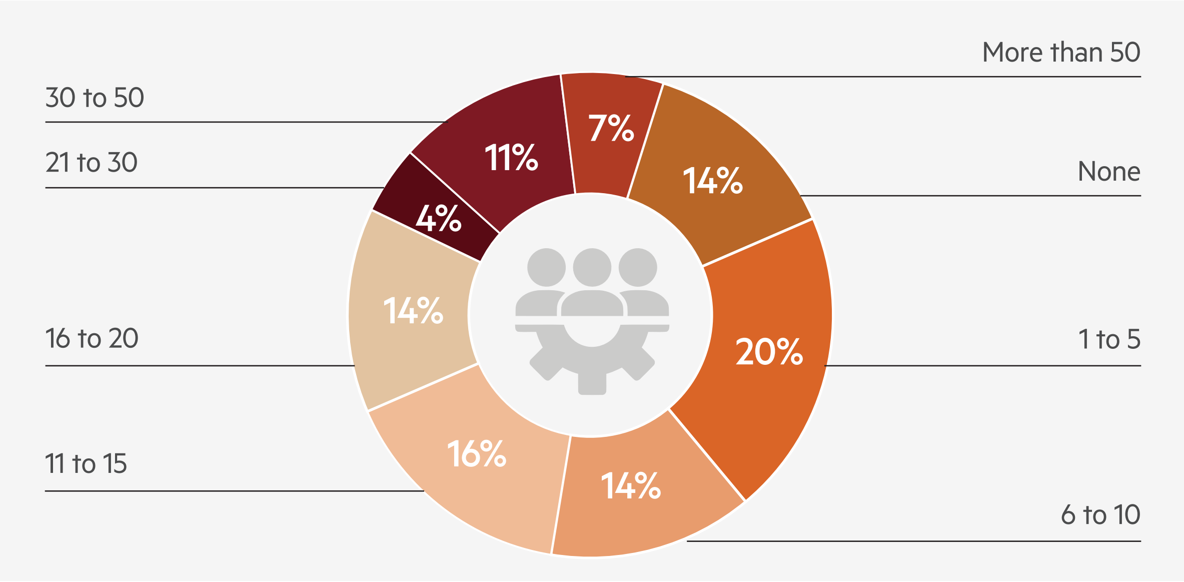


To whom does your "Head of IT" directly report? (small companies)

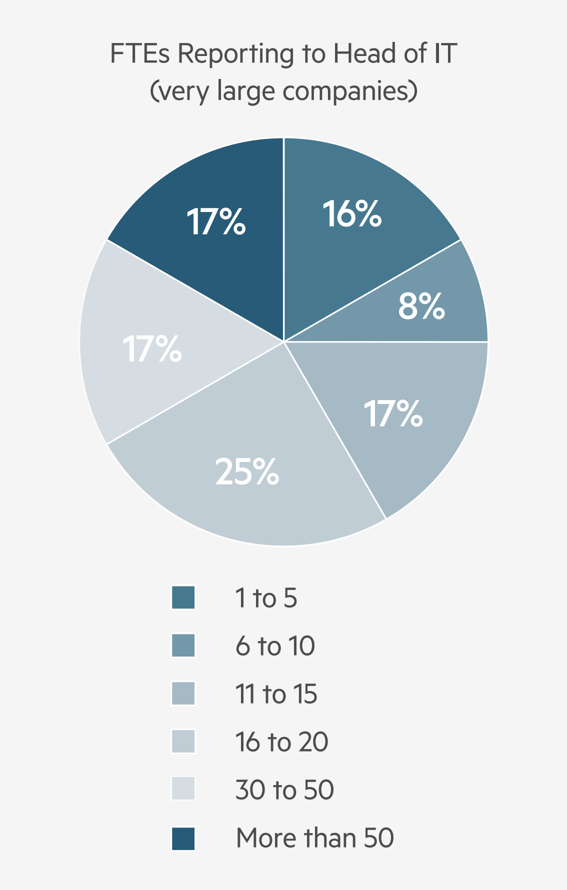


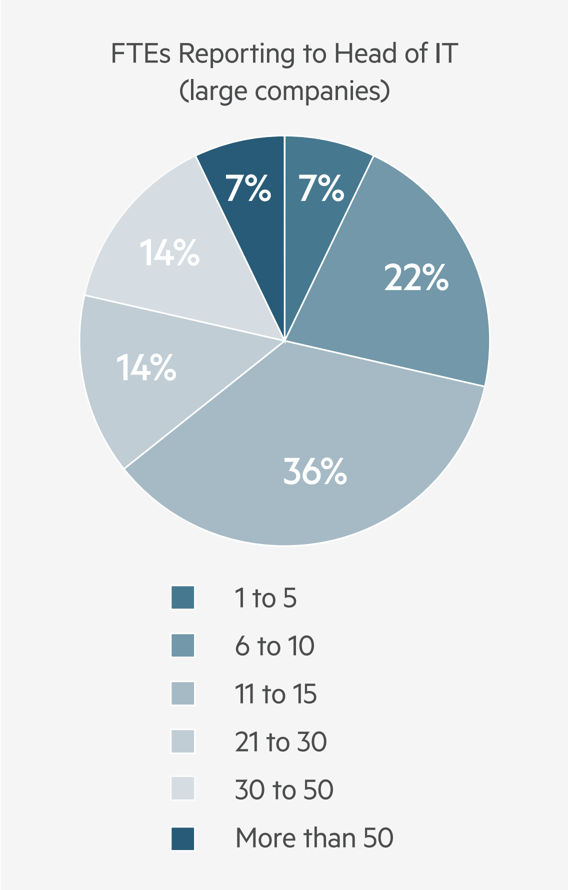
I.T. STAFFING AND CORE FUNCTIONS

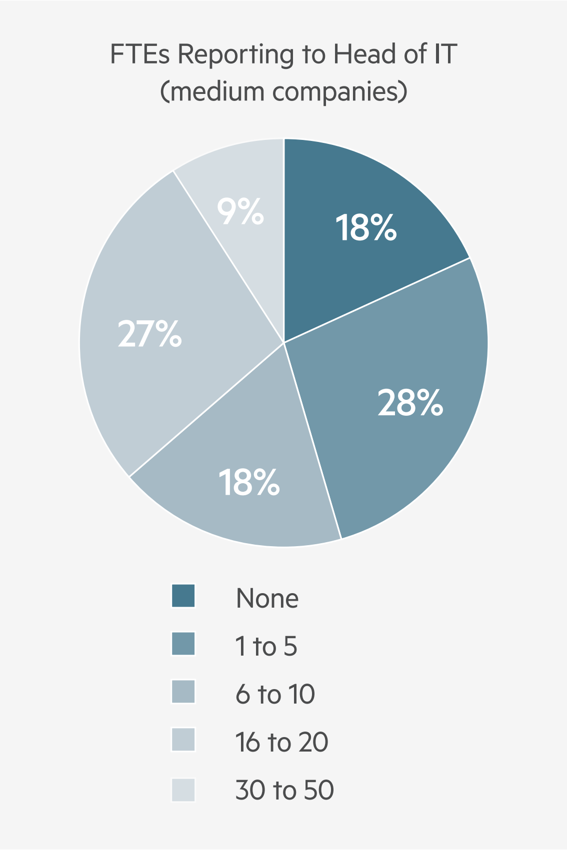
How many dedicated IT full time employees (FTEs) report to your "Head of IT"? (include partial FTEs if needed, i.e. 2.5)

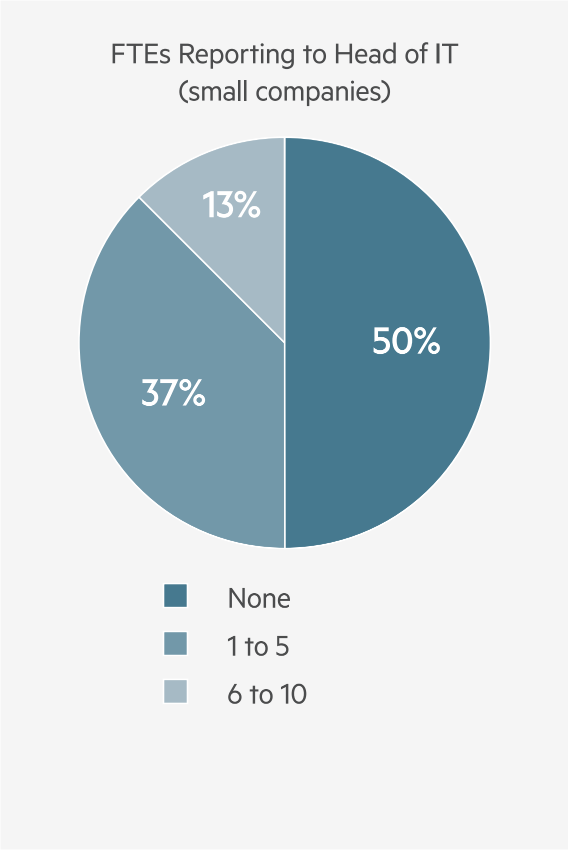


Average Number of FTEs Reporting to Head of IT by Company Size	
Very Large Companies	26.3
Large Companies	22.3
Medium Companies	11.3
Small Companies	1.6

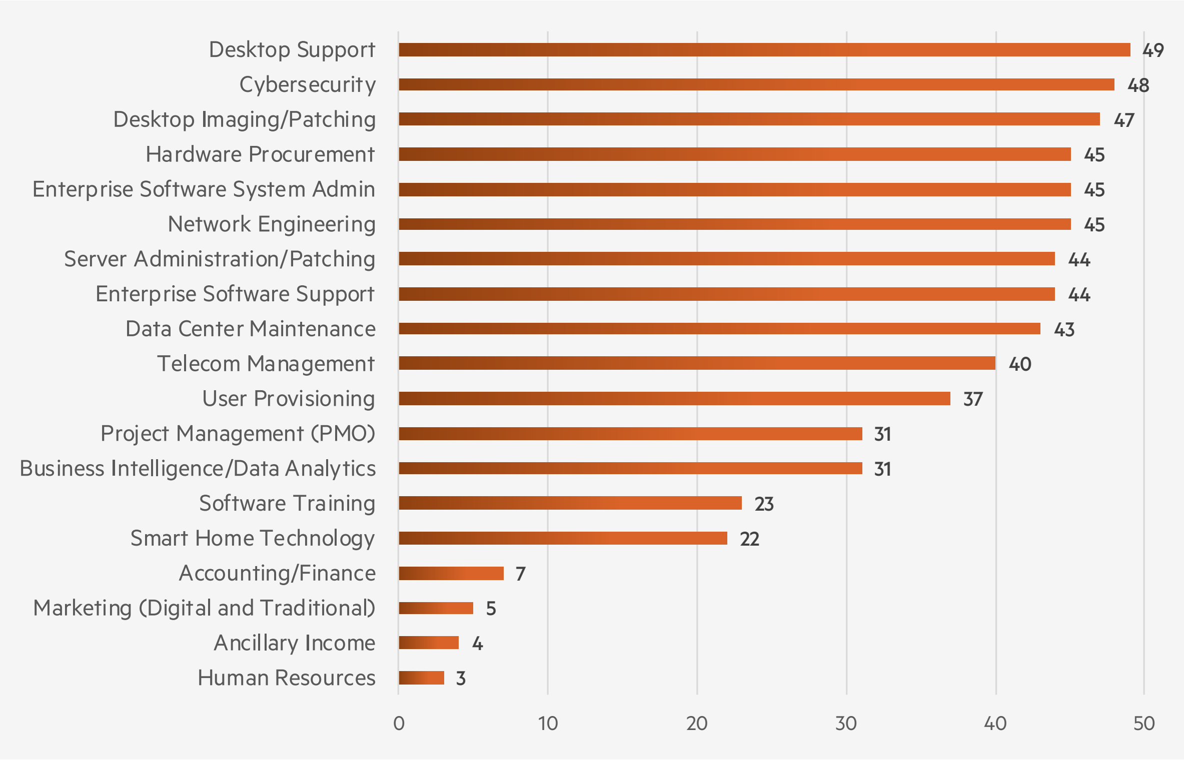

FTEs Reporting to Head of IT
(very large companies)
17%
16%
8%
17%
17%
25%
1 to 5
6 to 10
11 to 15
16 to 20
30 to 50
More than 50

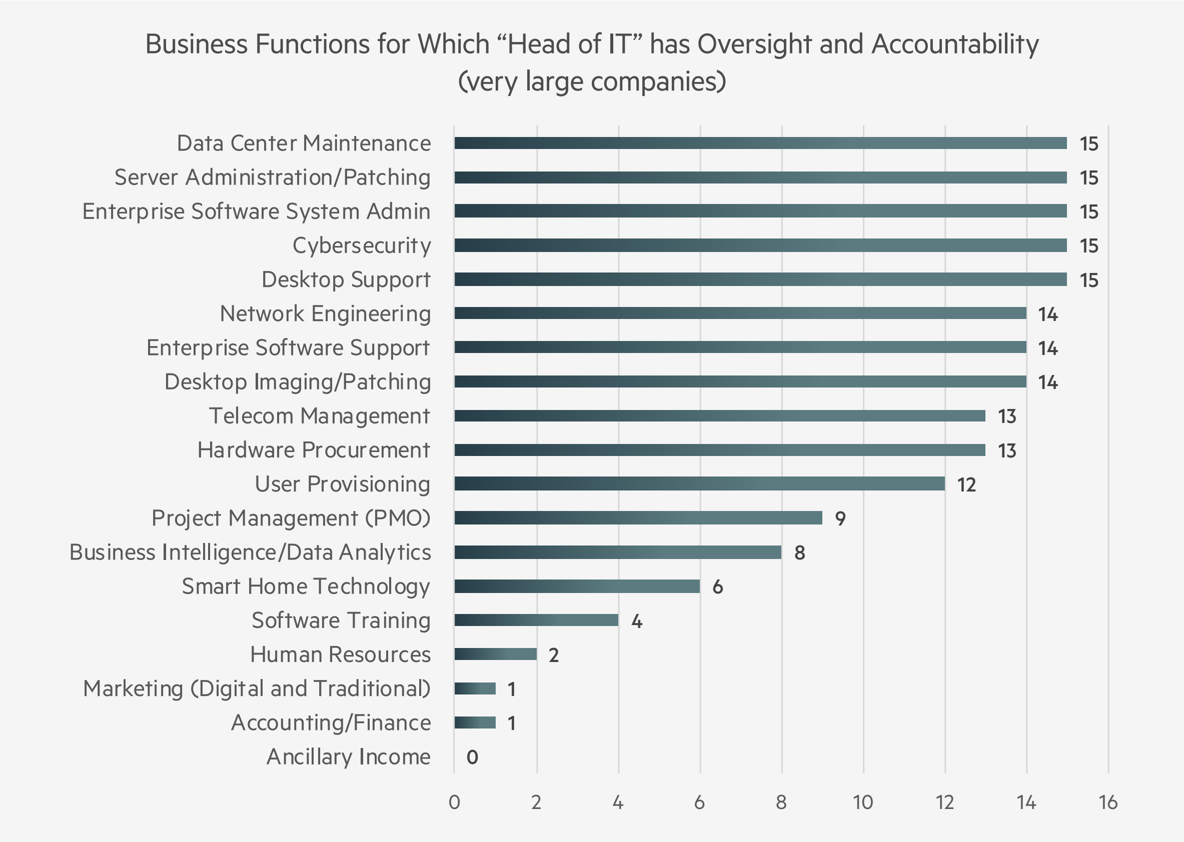

FTEs Reporting to Head of IT
(large companies)
7%
7%
14%
22%
14%
36%
1 to 5
6 to 10
11 to 15
21 to 30
30 to 50
More than 50

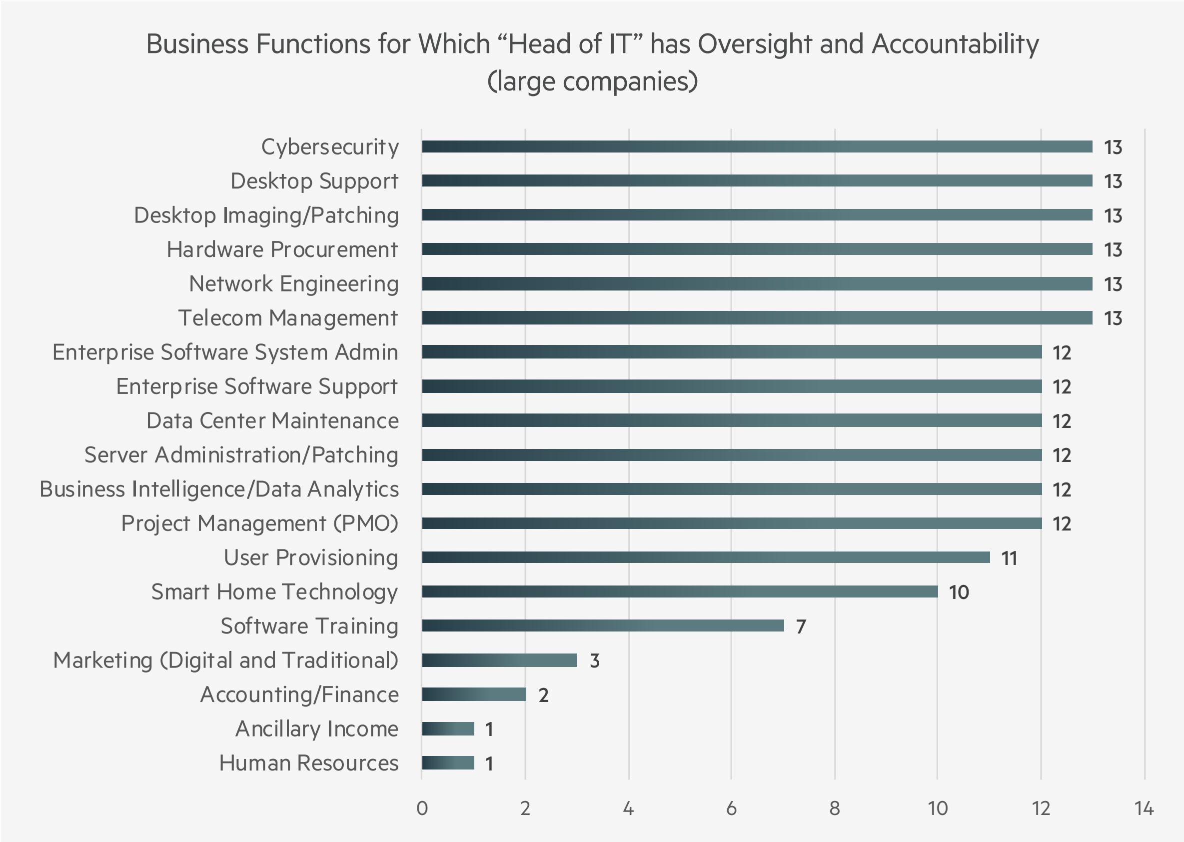

FTEs Reporting to Head of IT
(medium companies)
9%
18%
27%
28%
18%
None
1 to 5
6 to 10
16 to 20
30 to 50

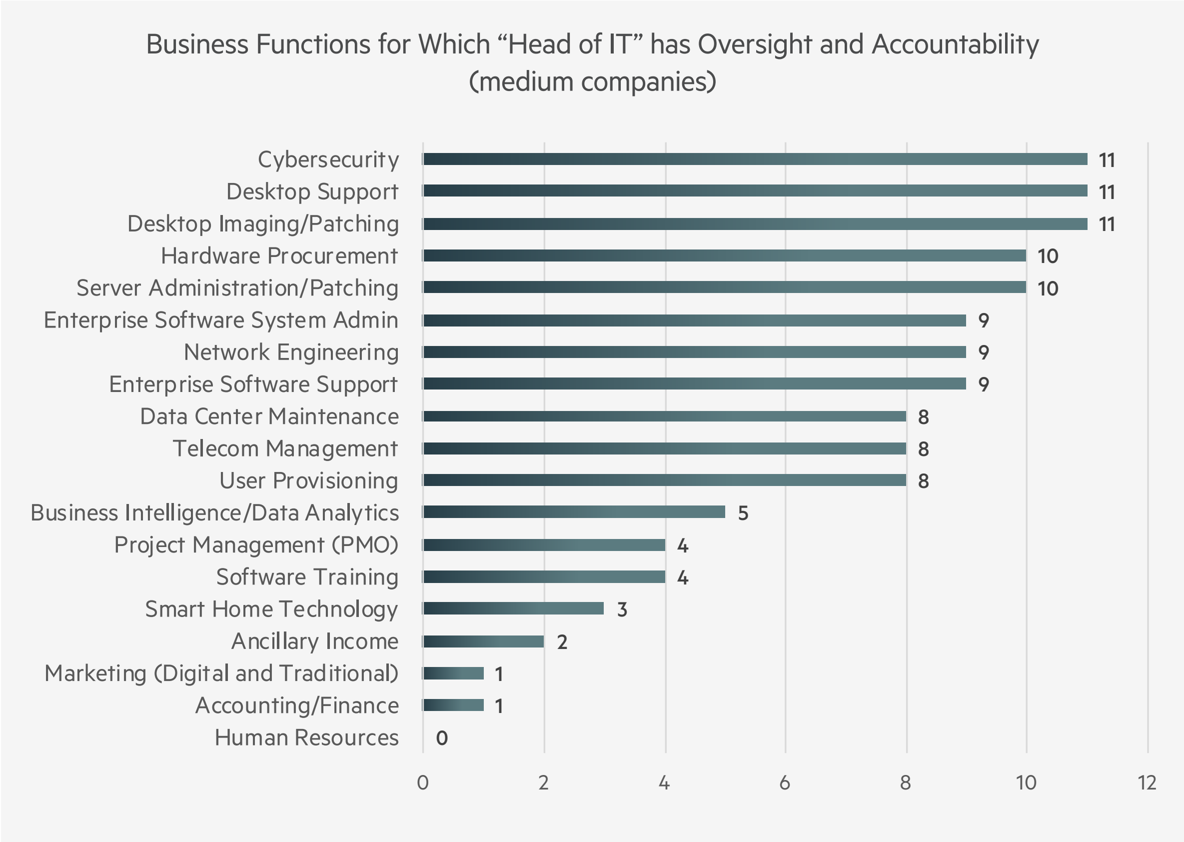

FTEs Reporting to Head of IT
(small companies)
13%
50%
37%
None
1 to 5
6 to 10

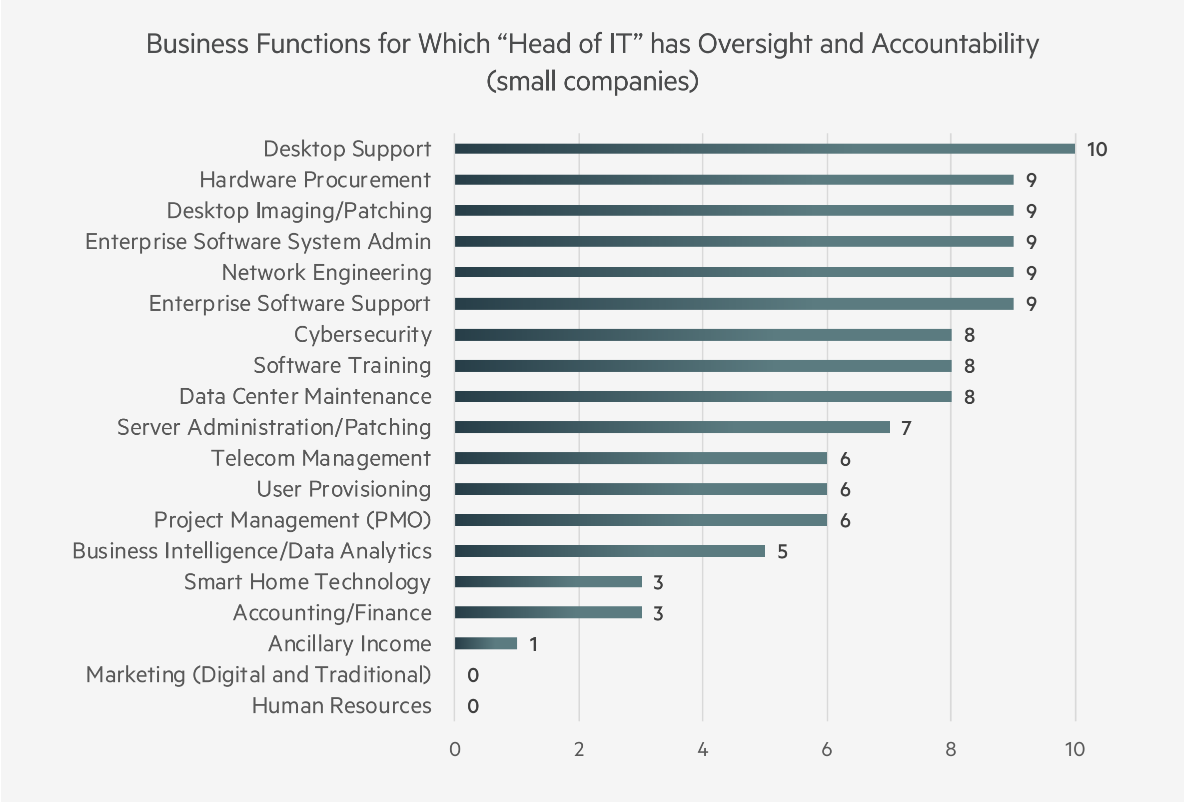
Business Functions for which "Head of IT" has Oversight and Accountability (response count listed after bar)



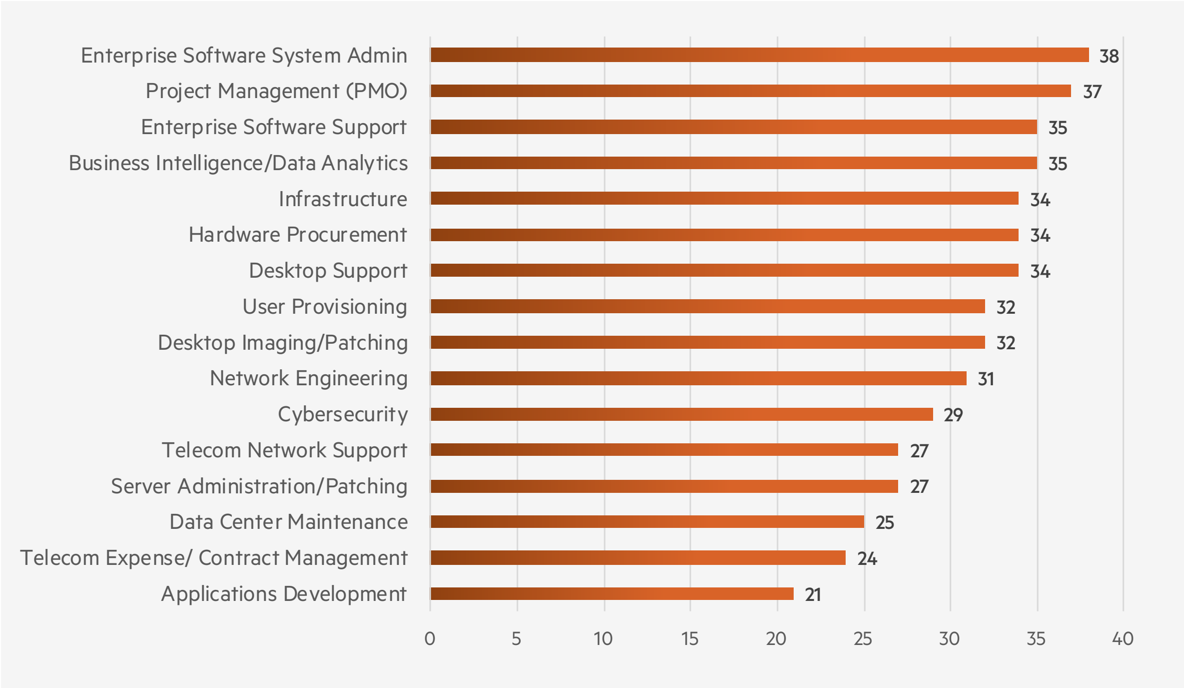



Business Functions for Which "Head of IT" has Oversight and Accountability (large companies)
Cybersecurity 13
Desktop Support 13
Desktop Imaging/Patching 13
Hardware Procurement 13
Network Engineering 13
Telecom Management 13
Enterprise Software System Admin 12
Enterprise Software Support 12
Data Center Maintenance 12
Server Administration/Patching 12
Business Intelligence/Data Analytics 12
Project Management (PMO) 12
User Provisioning 11
Smart Home Technology 10
Software Training 7
Marketing (Digital and Traditional) 3
Accounting/Finance 2
Ancillary Income 1
Human Resources 1
0 2 4 6 8 10 12 14


Business Functions for Which "Head of IT" has Oversight and Accountability (medium companies)
Cybersecurity 11
Desktop Support 11
Desktop Imaging/Patching 11
Hardware Procurement 10
Server Administration/Patching 10
Enterprise Software System Admin 9
Network Engineering 9
Enterprise Software Support 9
Data Center Maintenance 8
Telecom Management 8
User Provisioning 8
Business Intelligence/Data Analytics 5
Project Management (PMO) 4
Software Training 4
Smart Home Technology 3
Ancillary Income 2
Marketing (Digital and Traditional) 1
Accounting/Finance 1
Human Resources 0
0 2 4 6 8 10 12



Business Functions Primarily Serviced with In-house Resources



How many internal IT FTEs are allocated across the following core IT functions?

	0.25 to 1	1.5 to 2	2.5 to 3	3.5 to 4	4.5 to 5	5.5 to 6	6.5 to 7	7.5 to 8	8.5 to 9	9.5 to 10	10 to 15	16 to 20	More than 25
Management	36%	27%	7%	10%	0%	2%	2%	2%	5%	2%	5%	0%	0%
Network Management	38%	33%	10%	5%	3%	3%	0%	3%	3%	0%	0%	3%	0%
Cybersecurity	57%	14%	14%	6%	3%	3%	0%	3%	0%	0%	0%	0%	0%
Enterprise Software Support	33%	12%	5%	9%	12%	2%	2%	7%	2%	2%	5%	5%	5%
Desktop Support	16%	24%	11%	11%	11%	3%	5%	5%	3%	5%	5%	0%	0%
Cybersecurity	48%	17%	14%	7%	3%	0%	7%	0%	0%	3%	0%	0%	0%

Note: Percentages are percent of total responses for that function, not total responses (Ex. 48% of the respondents who have staff for BI have 1 or less)

How many internal IT FTEs are allocated across the following core IT functions? (very large companies)

	0.25 to 1	1.5 to 2	2.5 to 3	3.5 to 4	4.5 to 5	5.5 to 6	6.5 to 7	7.5 to 8	8.5 to 9	9.5 to 10	10 to 15	16 to 20	More than 25
Management	5%	63%	5%	0%	5%	5%	0%	5%	5%	0%	5%	0%	0%
Network Management	38%	38%	8%	0%	0%	0%	0%	8%	0%	0%	0%	8%	0%
Cybersecurity	50%	17%	8%	17%	8%	0%	0%	0%	0%	0%	0%	0%	0%
Enterprise Software Support	15%	15%	0%	8%	15%	0%	0%	8%	0%	0%	15%	15%	8%
Desktop Support	8%	23%	15%	8%	15%	0%	0%	15%	0%	8%	8%	0%	0%
Cybersecurity	14%	14%	29%	0%	14%	0%	14%	0%	0%	14%	0%	0%	0%

Note: Percentages are percent of total responses for that function, not total responses

How many internal IT FTEs are allocated across the following core IT functions? (large companies)

	0.25 to 1	1.5 to 2	2.5 to 3	3.5 to 4	4.5 to 5	5.5 to 6	6.5 to 7	7.5 to 8	8.5 to 9	9.5 to 10	10 to 15	16 to 20	More than 25
Management	31%	15%	8%	23%	0%	0%	8%	0%	8%	0%	8%	0%	0%
Network Management	15%	46%	15%	8%	0%	8%	0%	0%	8%	0%	0%	0%	0%
Cybersecurity	36%	18%	27%	0%	0%	9%	0%	9%	0%	0%	0%	0%	0%
Enterprise Software Support	8%	8%	0%	23%	15%	8%	8%	15%	8%	8%	0%	0%	0%
Desktop Support	0%	25%	17%	17%	8%	0%	8%	0%	8%	8%	8%	0%	0%
Cybersecurity	33%	22%	22%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Note: Percentages are percent of total responses for that function, not total responses

How many internal IT FTEs are allocated across the following core IT functions? (medium companies)

	0.25 to 1	1.5 to 2	2.5 to 3	3.5 to 4	4.5 to 5	5.5 to 6	6.5 to 7	7.5 to 8	8.5 to 9	9.5 to 10	10 to 15	16 to 20	More than 25
Management	44%	33%	11%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%
Network Management	29%	29%	14%	14%	14%	0%	0%	0%	0%	0%	0%	0%	0%
Cybersecurity	67%	17%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Enterprise Software Support	50%	20%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	10%
Desktop Support	29%	14%	0%	14%	14%	14%	14%	0%	0%	0%	0%	0%	0%
Cybersecurity	60%	20%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%

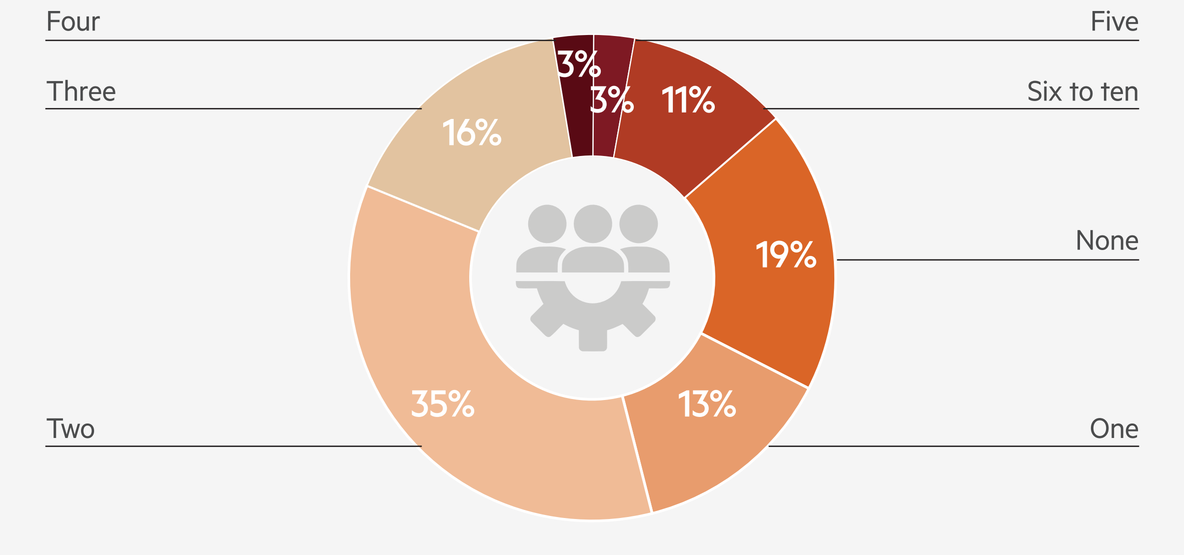
Note: Percentages are percent of total responses for that function, not total responses

How many internal IT FTEs are allocated across the following core IT functions? (small companies)

	0.25 to 1	1.5 to 2	2.5 to 3	3.5 to 4	4.5 to 5	5.5 to 6	6.5 to 7	7.5 to 8	8.5 to 9	9.5 to 10	10 to 15	16 to 20	More than 25
Management	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Network Management	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cybersecurity	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Enterprise Software Support	86%	0%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Desktop Support	60%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cybersecurity	88%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

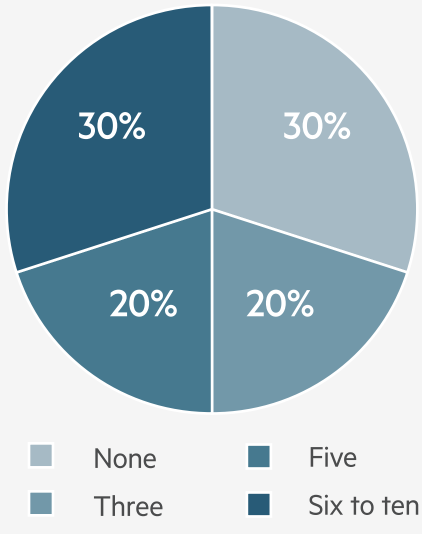
Note: Percentages are percent of total responses for that function, not total responses

If your organization received the funding and approval to hire more internal IT resources, how many additional FTEs would it attempt to hire?

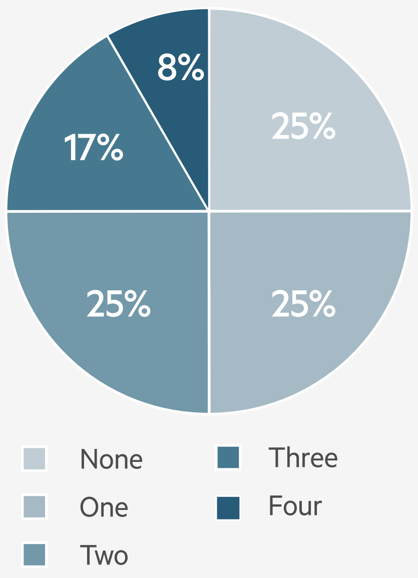


Average FTE Deficit	
Very Large Companies	3.7 FTE
Large Companies	1.6 FTE
Medium Companies	2.9 FTE
Small Companies	1.5 FTE

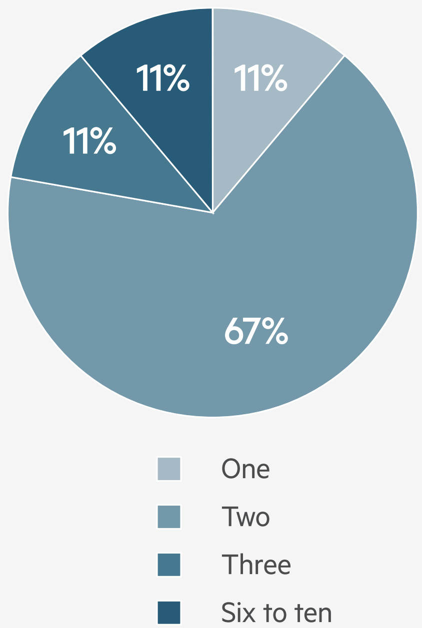
If You Received Funding and Approval, How Many Additional FTEs Would you Hire? (very large companies)



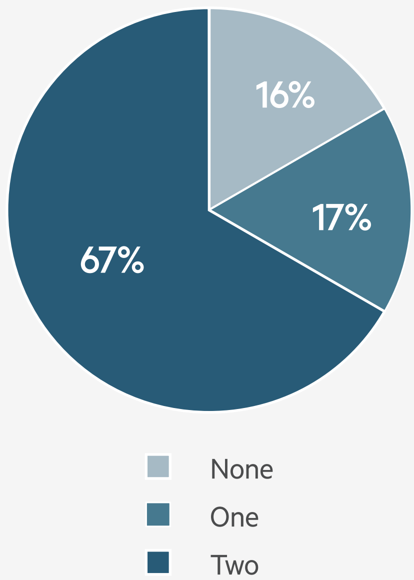
If you Received Funding and Approval, How Many Additional FTEs Would you Hire? (large companies)



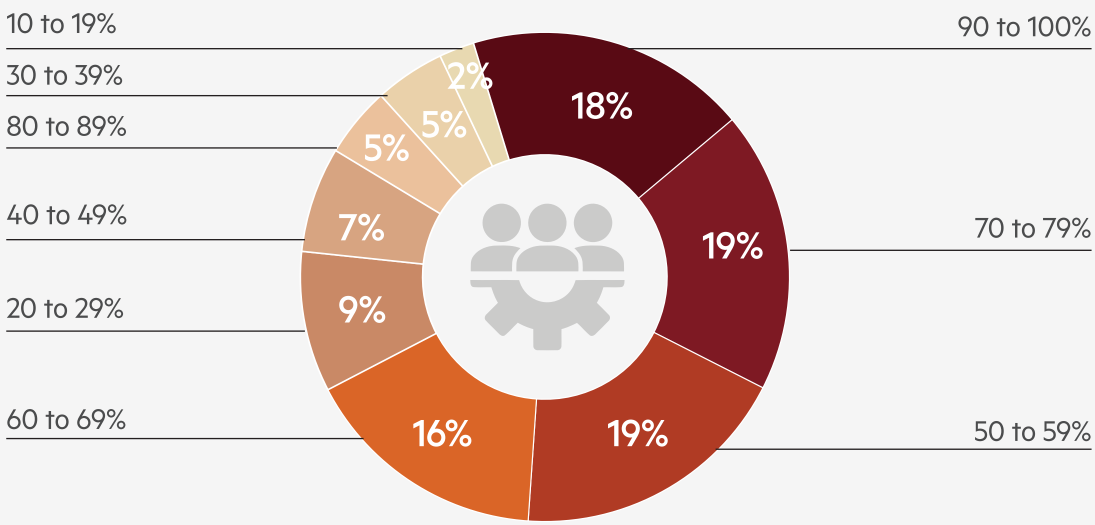
If you Received Funding and Approval, How Many Additional FTEs Would you Hire? (medium companies)



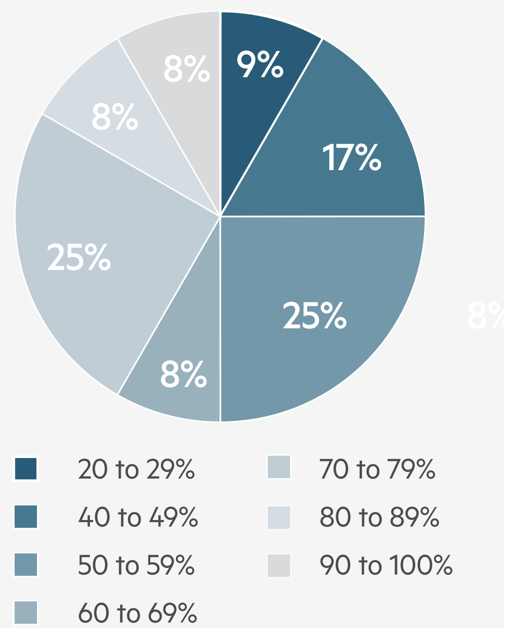
If you Received Funding and Approval, How Many Additional FTEs Would you Hire? (small companies)



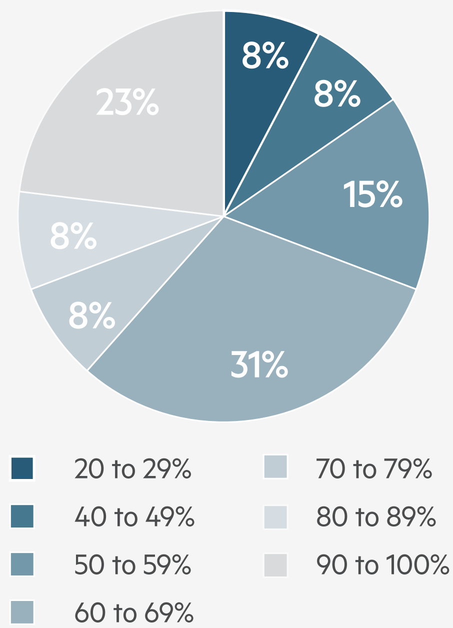
Percent of IT Capacity Spent "Fighting Fires" Versus Proactively Moving the Industry Forward



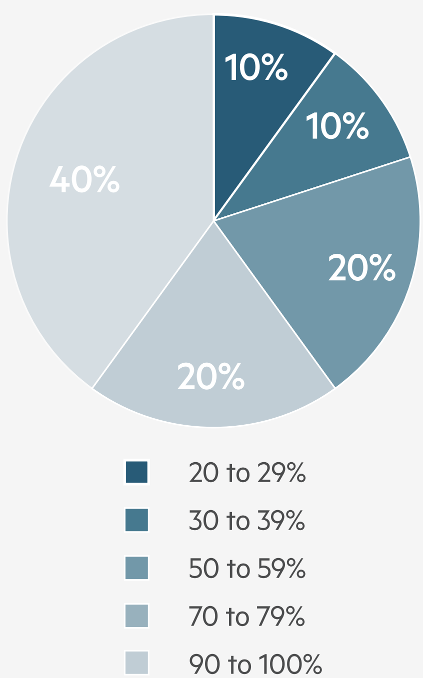
Percent of IT Capacity Spent “Fighting Fires”
(very large companies)



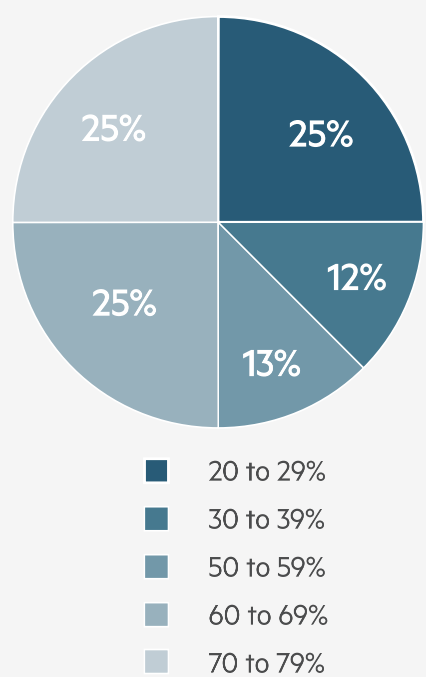
Percent of IT Capacity Spent “Fighting Fires”
(large companies)



Percent of IT Capacity Spent “Fighting Fires”
(medium companies)

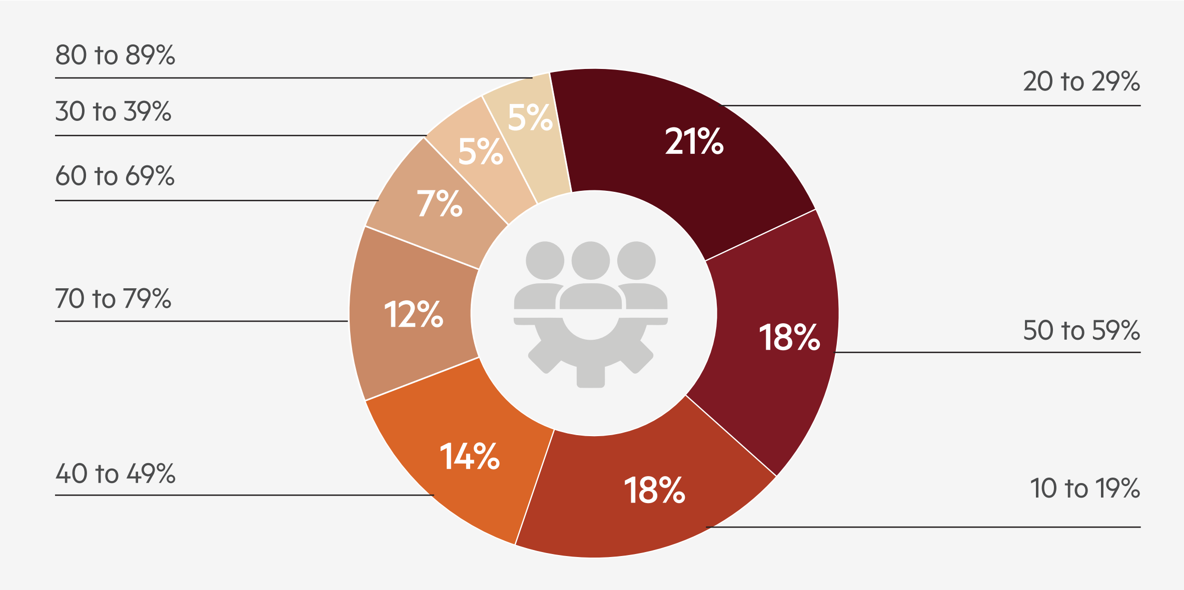


Percent of IT Capacity Spent “Fighting Fires”
(small companies)



Note: The converse of these numbers are “proactively moving the organization forward”

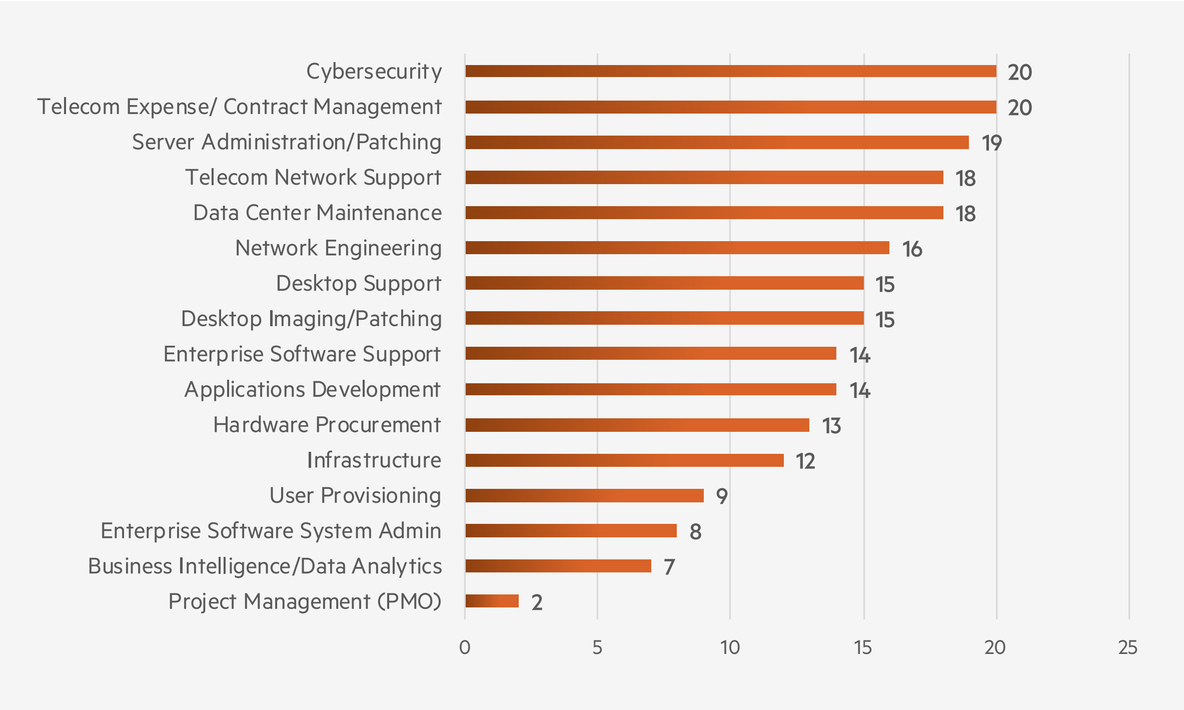
Percent of IT Capacity Spent on Proactively Moving Organization Forward



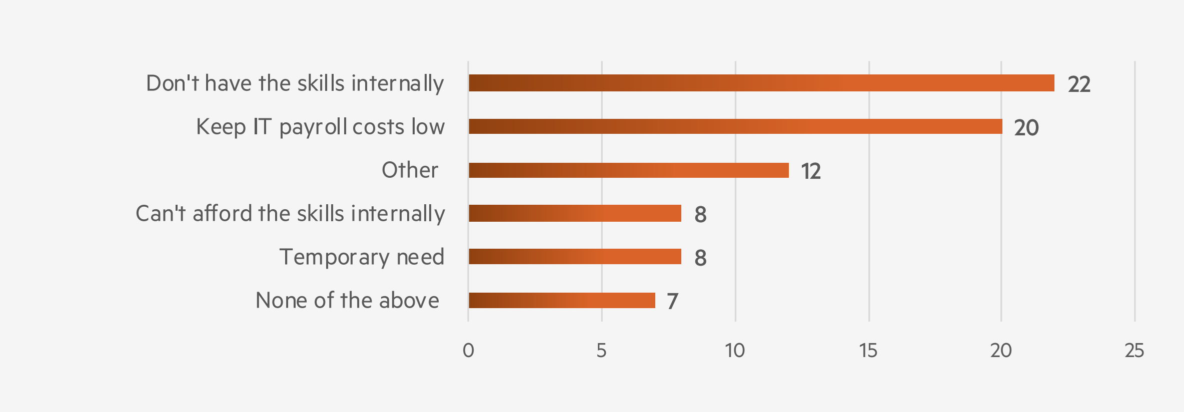
Average Percent of IT Capacity Spent on Proactively Moving Organization Forward	
Very Large Companies	40%
Large Companies	36%
Medium Companies	34%
Small Companies	50%

I.T. OUTSOURCING

Business Functions Primarily Serviced by Outsourcing, Contractors, or Consultants

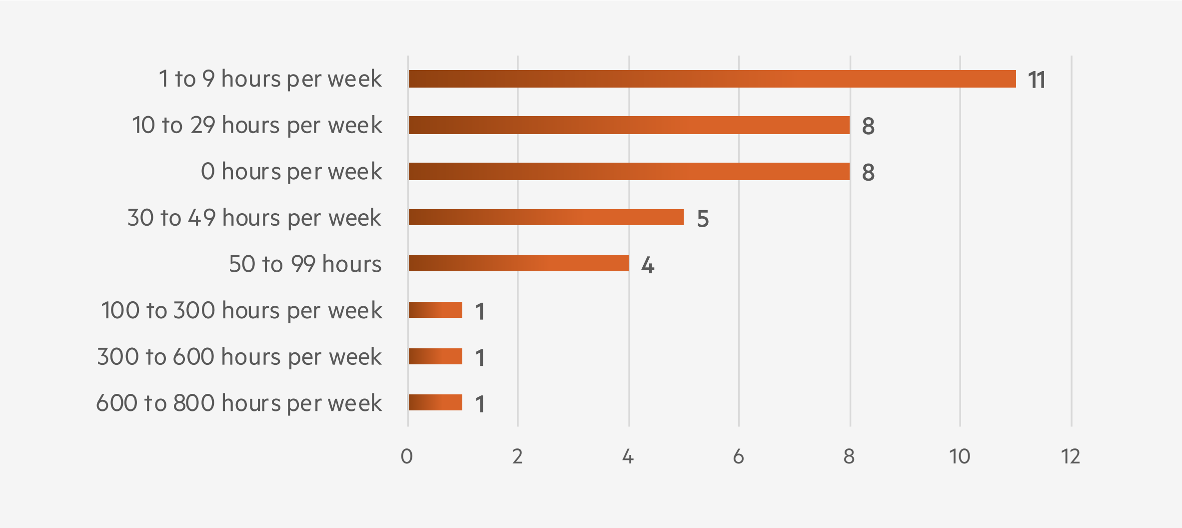


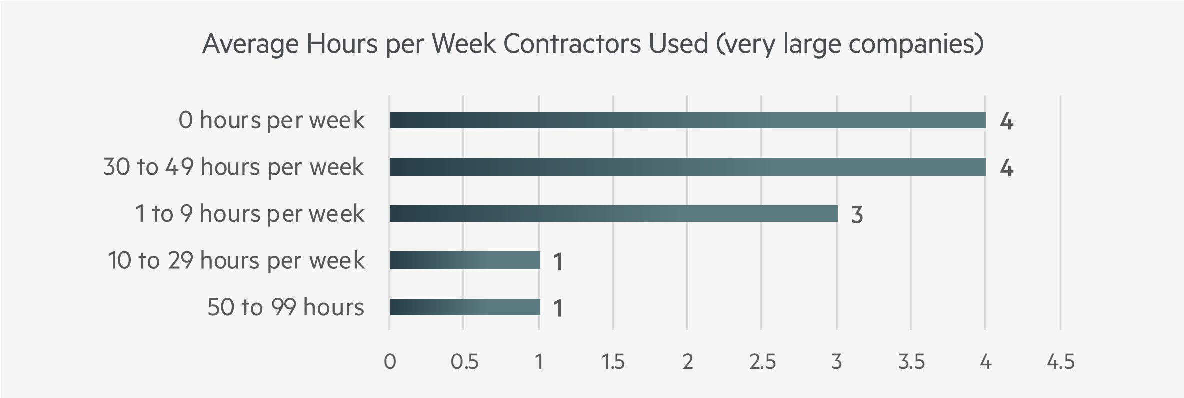
Top Reasons for Using Third Parties for Core IT Functions

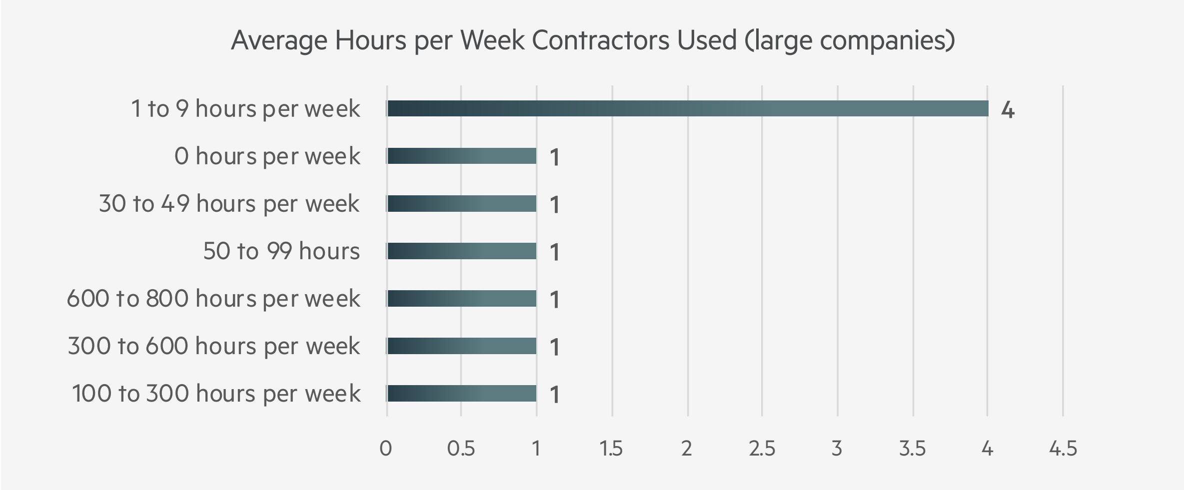


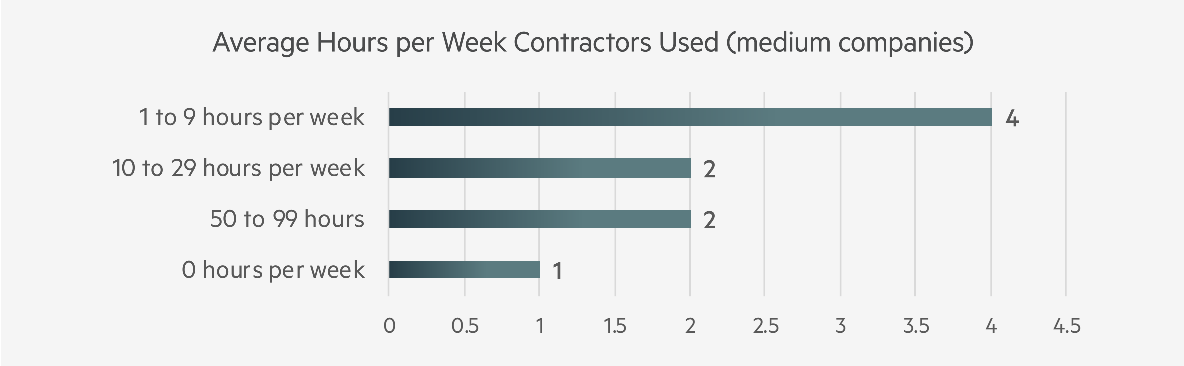
Other Reasons Mentioned
Password resets, other simple tasks that are easily and quickly managed by a 3rd party
Supplemental cyber coverage 24/7
Able to scale quickly based on needs
They can do it better than we can.
3rd party specialists are more current on emerging issues and needs and have a larger pool of skilled professionals
Trouble finding resources with the correct skills
Scalability for growth
Large Company, do not have a full IT team
Unable to source talent currently
More easily billable to properties vs. taking on the overhead.
Expertise stronger outsourced
Not full time jobs, better to outsource

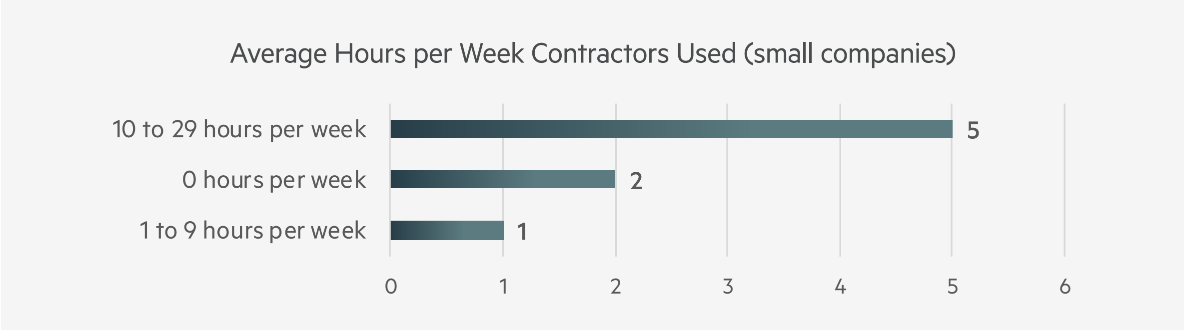
On average, how many hours per week do you use contractors? (specify 0 for none) (by number of responses)




Average Hours per Week Contractors Used (very large companies)
0 hours per week
30 to 49 hours per week
1 to 9 hours per week
10 to 29 hours per week
50 to 99 hours
4
4
3
1
1
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5

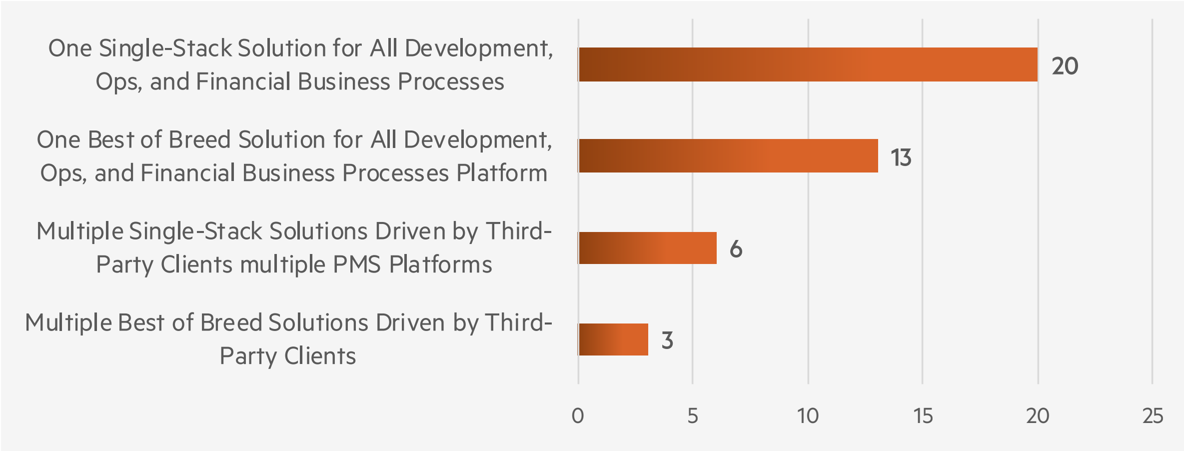

Average Hours per Week Contractors Used (large companies)
1 to 9 hours per week
0 hours per week
30 to 49 hours per week
50 to 99 hours
600 to 800 hours per week
300 to 600 hours per week
100 to 300 hours per week
4
1
1
1
1
1
1
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5

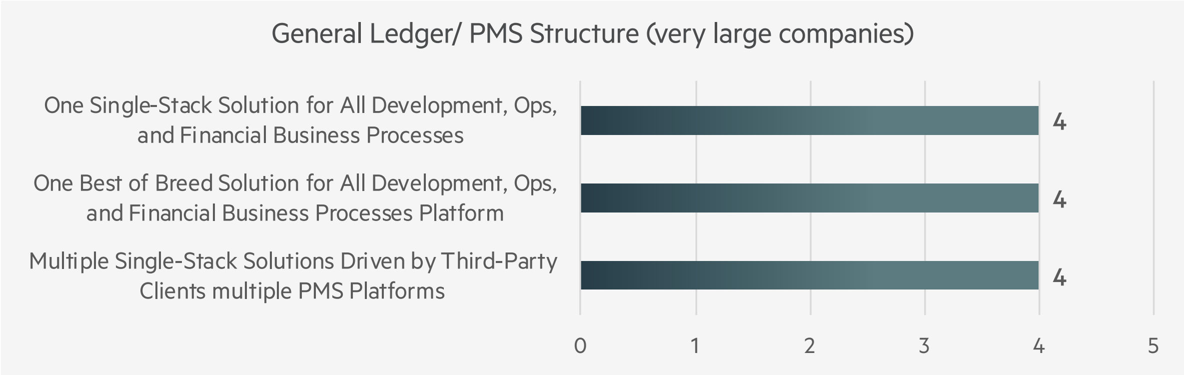

Average Hours per Week Contractors Used (medium companies)
1 to 9 hours per week
10 to 29 hours per week
50 to 99 hours
0 hours per week
4
2
2
1
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5

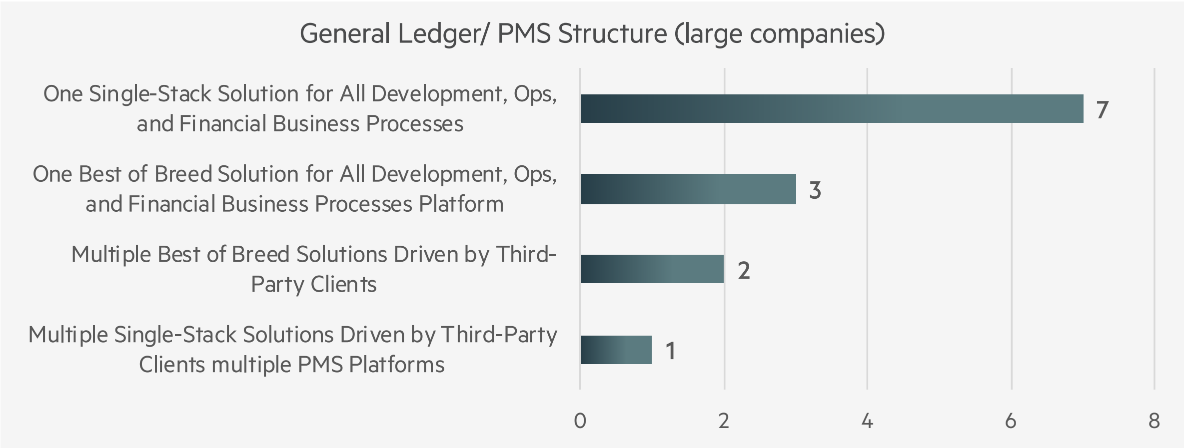

Average Hours per Week Contractors Used (small companies)
10 to 29 hours per week
0 hours per week
1 to 9 hours per week
5
2
1
0
1
2
3
4
5
6

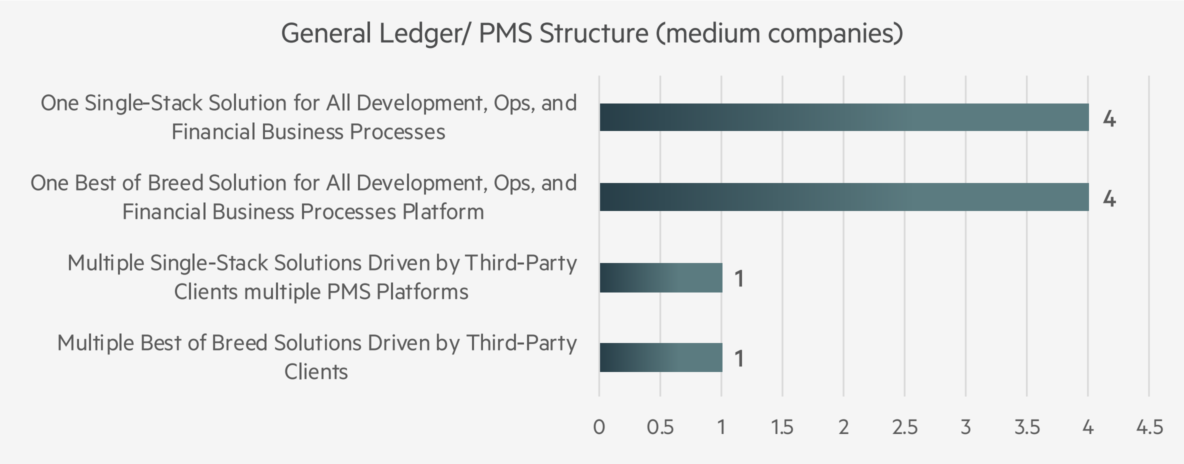
ACCOUNTING AND PROPERTY MANAGEMENT SYSTEMS

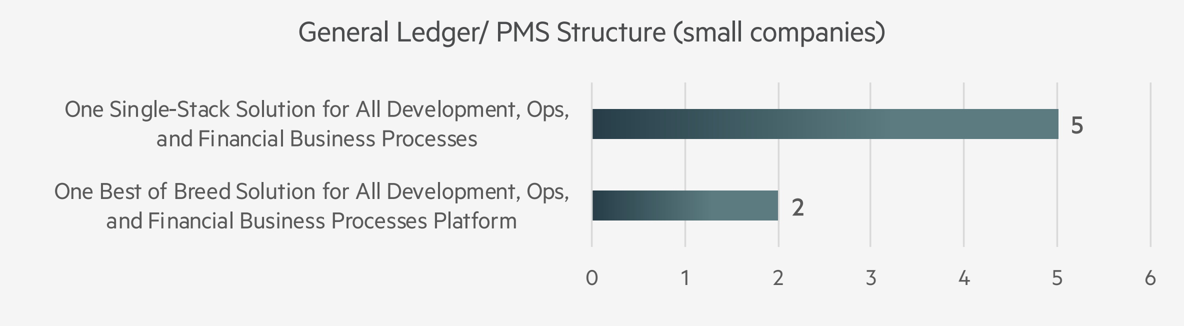
Which best describes your portfolio general ledger/property management software structure? (by number of responses)



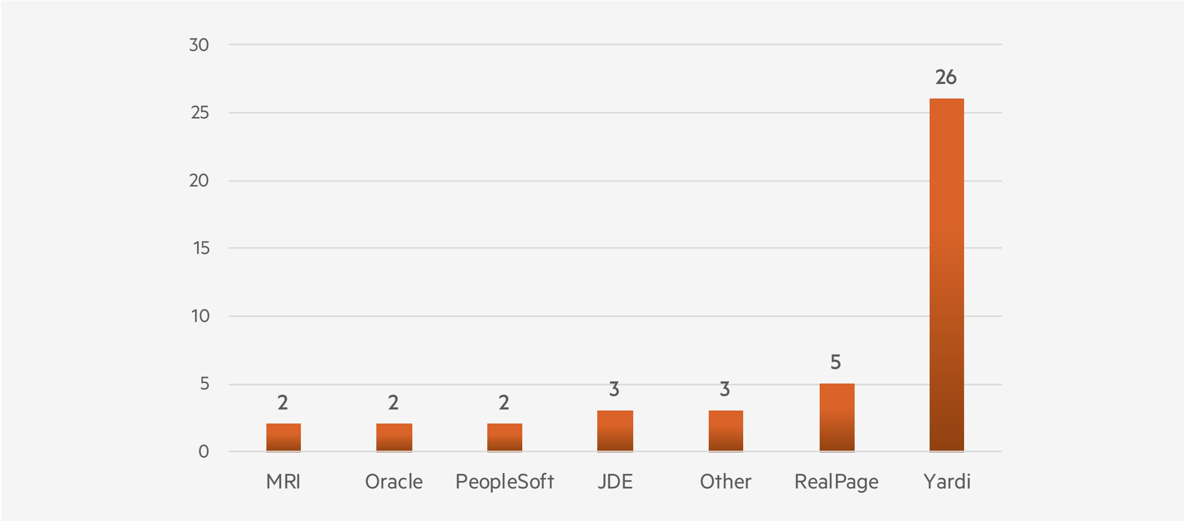




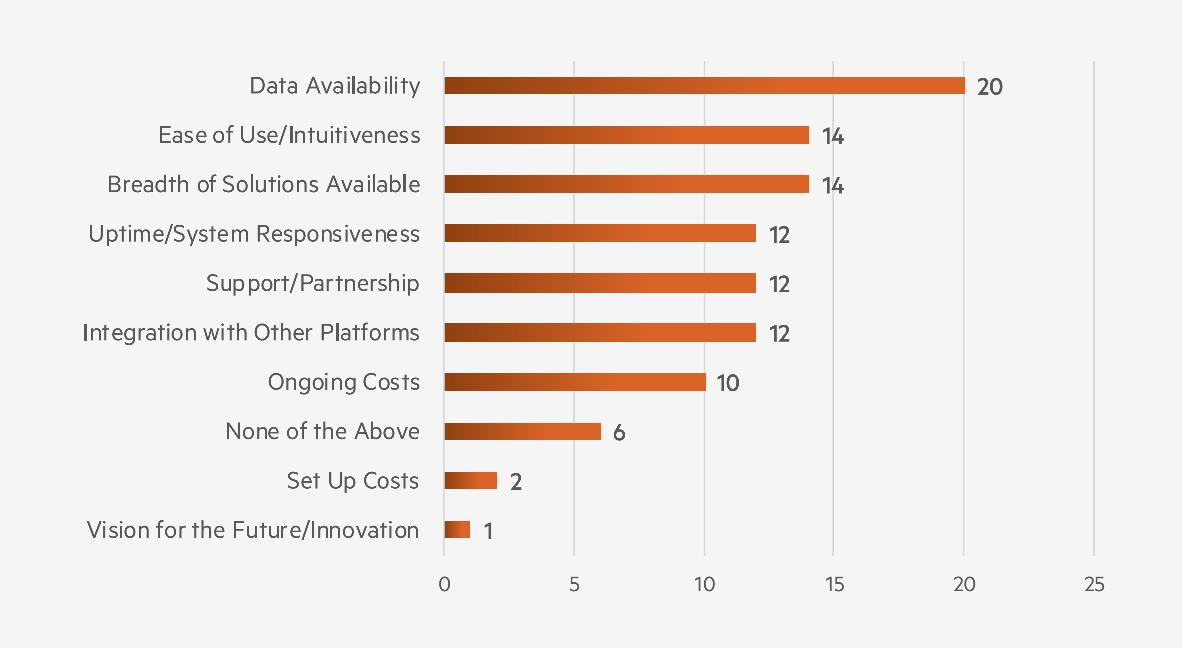




What is your general ledger system of record? (by number of responses)

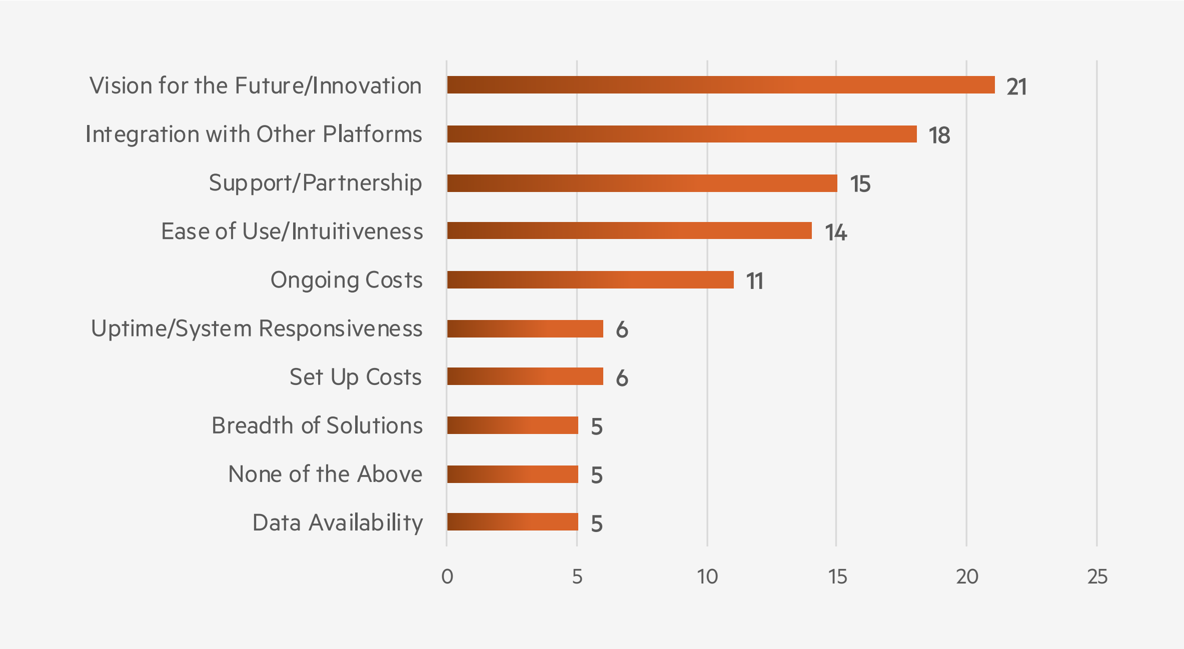


What are the top 3 strengths of your general ledger solution? (by number of responses)



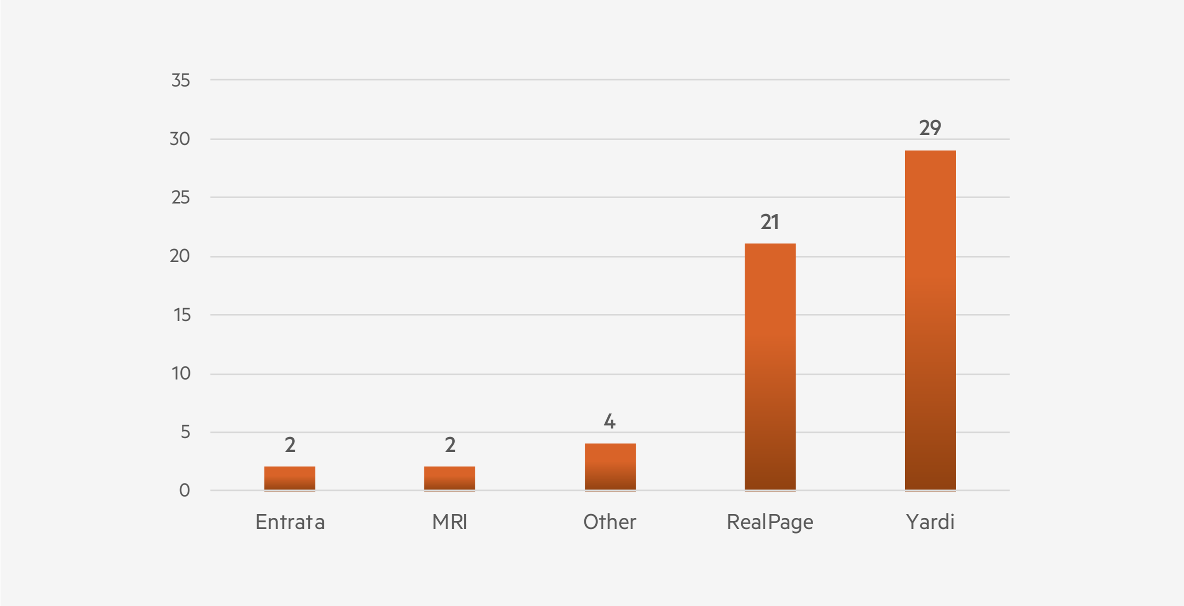
Strengths not mentioned:
Robust solution that is well recognized as a standard system in the industry
Solid Core Platform
Support capability (refresh databases on demand, full SQL access, download nightly copies
Custom report capabilities

What are the top 3 areas for improvement of your general ledger solution? (by number of responses)



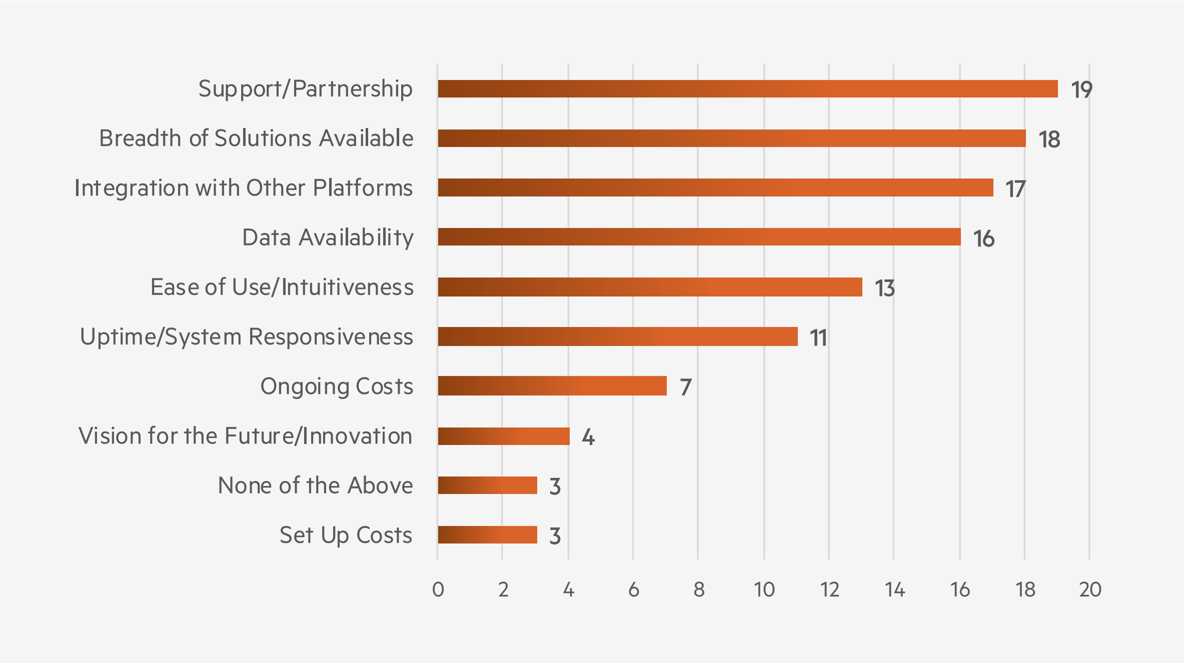
Other areas for improvement mentioned:
Job cost details
Normalization across the various modules/products
They attempt to do everything roll out the next solution and the last generation of new products don't seem to be fully developed
Inability to quickly update and support core products is a major hinderance

Please tell us what system(s) are used to facilitate your property management processes? (by number of responses)



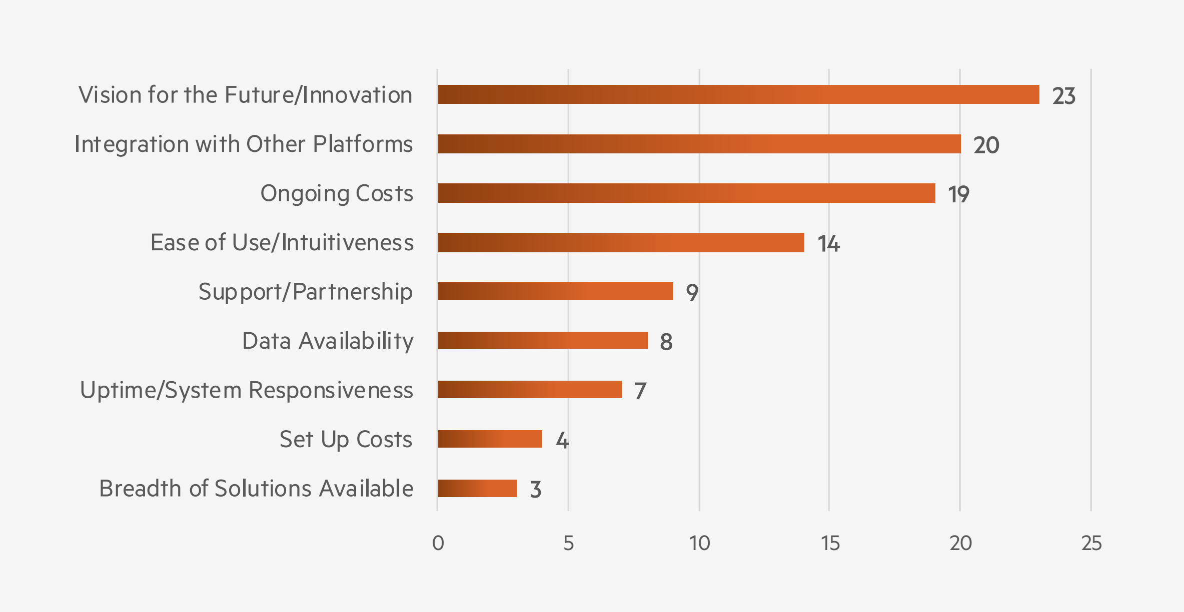
Other Responses:
Aptexx, Sightplan
Funnel, Sightplan
Mostly Yardi and RealPage used by our 3rd party PMCs
Encasa

What are the top 3 strengths of your property management software (PMS) solution?
(by number of responses)



Other responses:
Ability to customize to meet our business strategy/needs
Integrated Learning Management System with strong product training
Robust solution that is well recognized as a standard system in the industry
Total market share

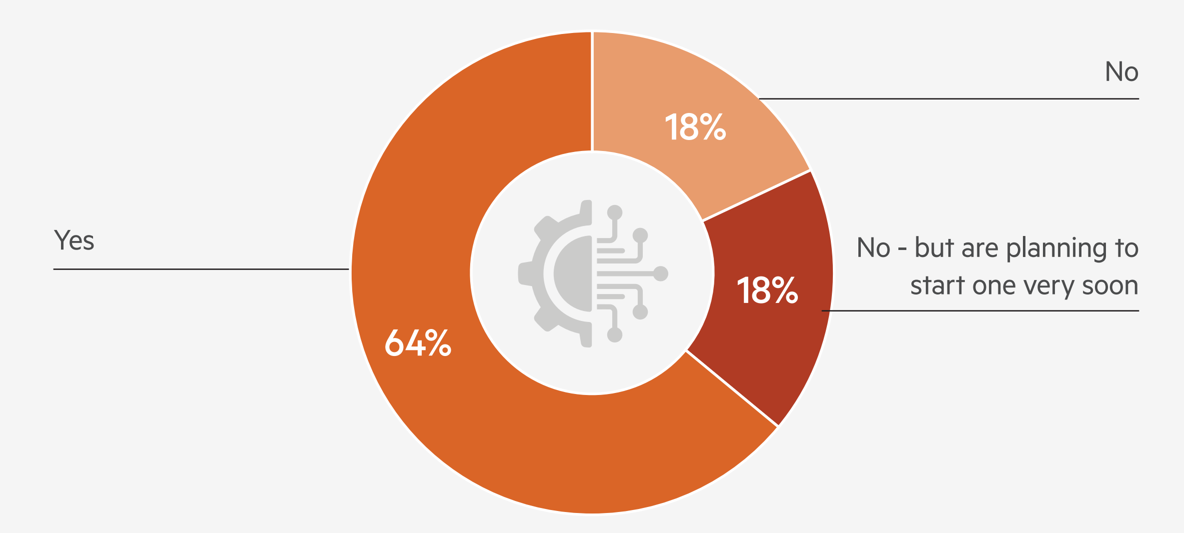
What are the top 3 areas for improvement of your property management software (PMS) solution?

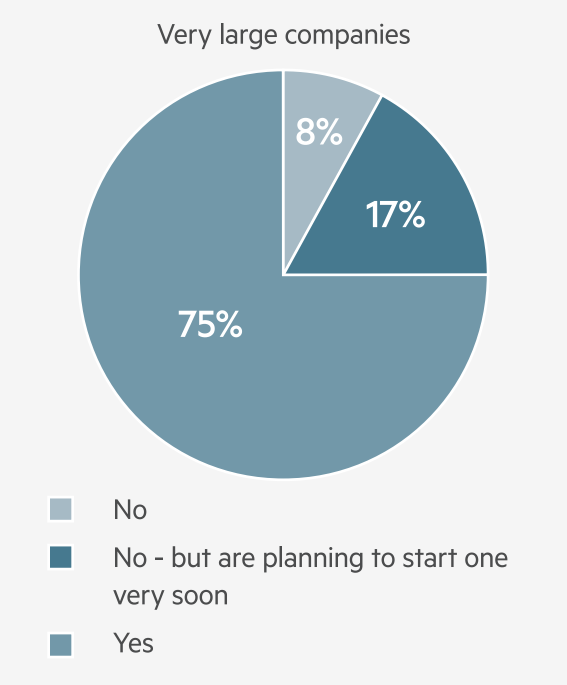


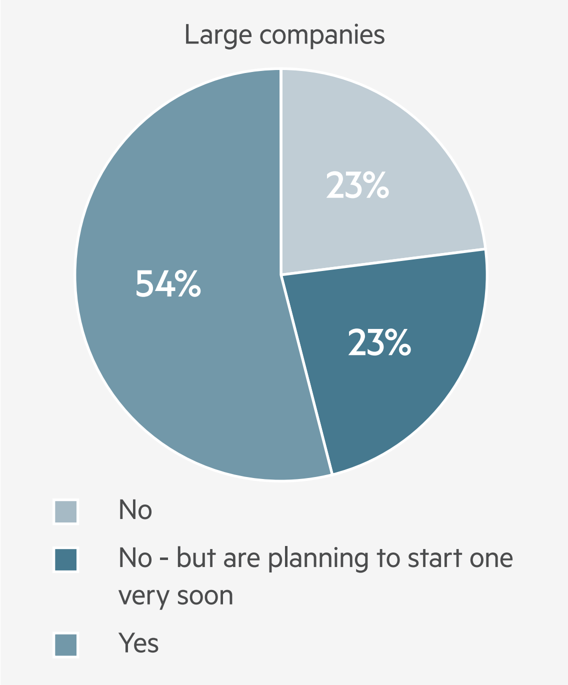
Other Responses:
Integration within the modules of Yardi
Normalization across the various modules/products
Piloting fully on-line lease creation process driven by applicant

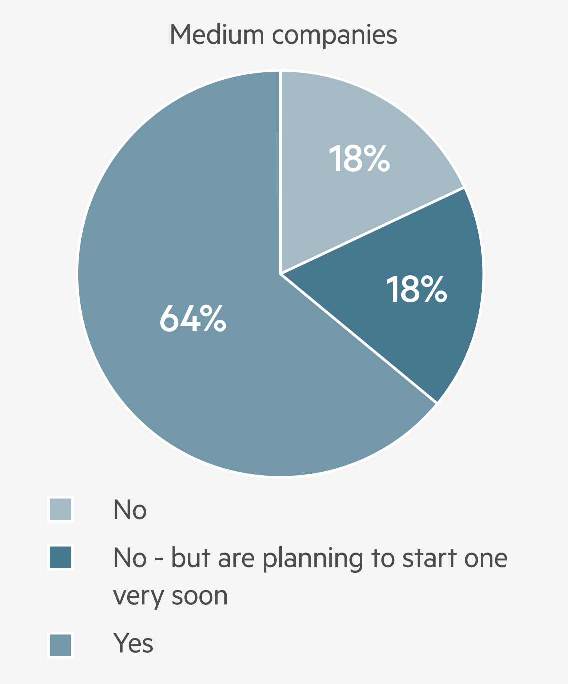
IMPLEMENTING NEW TECHNOLOGY

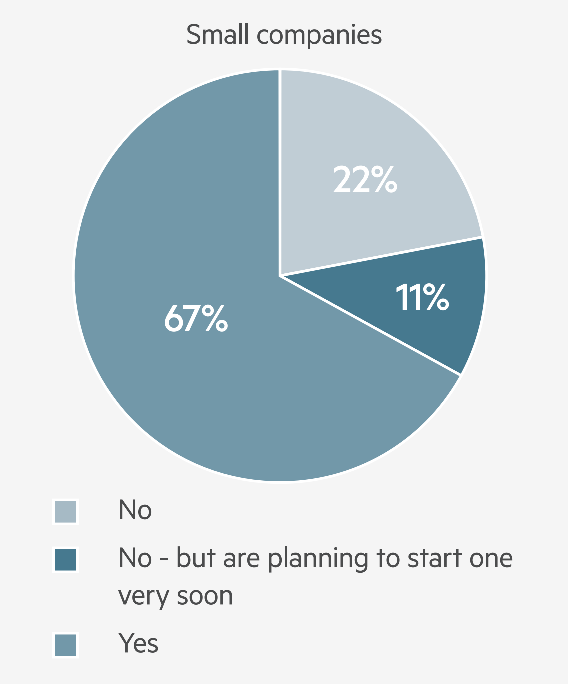
Does your organization have a centralized committee responsible for governance of key innovation and\or IT activities? (aka "Innovation Council")



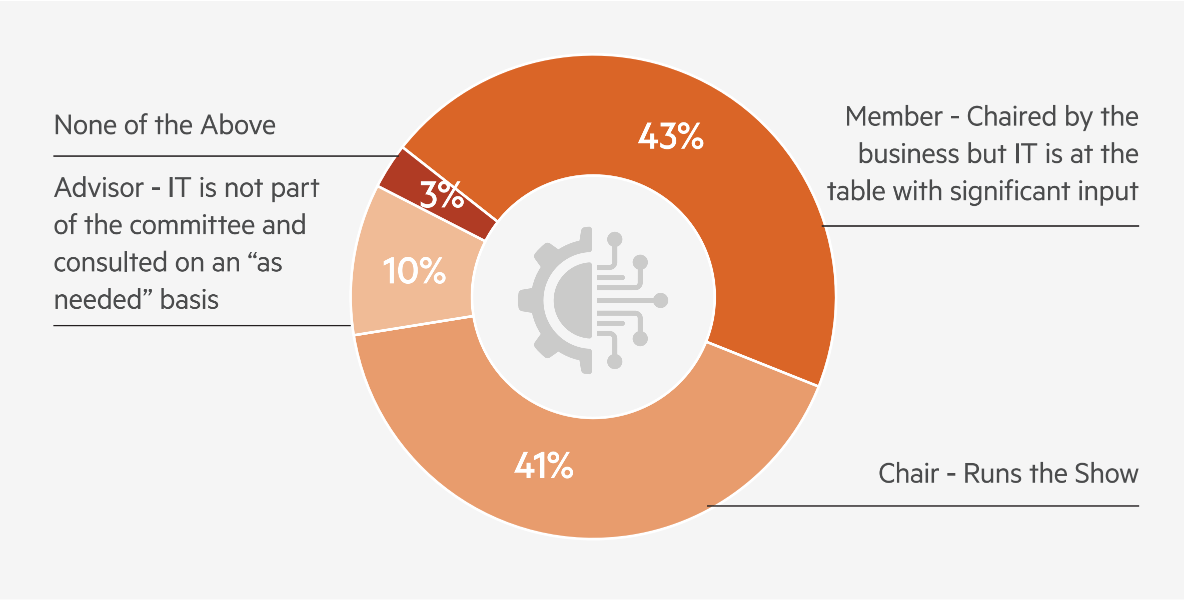




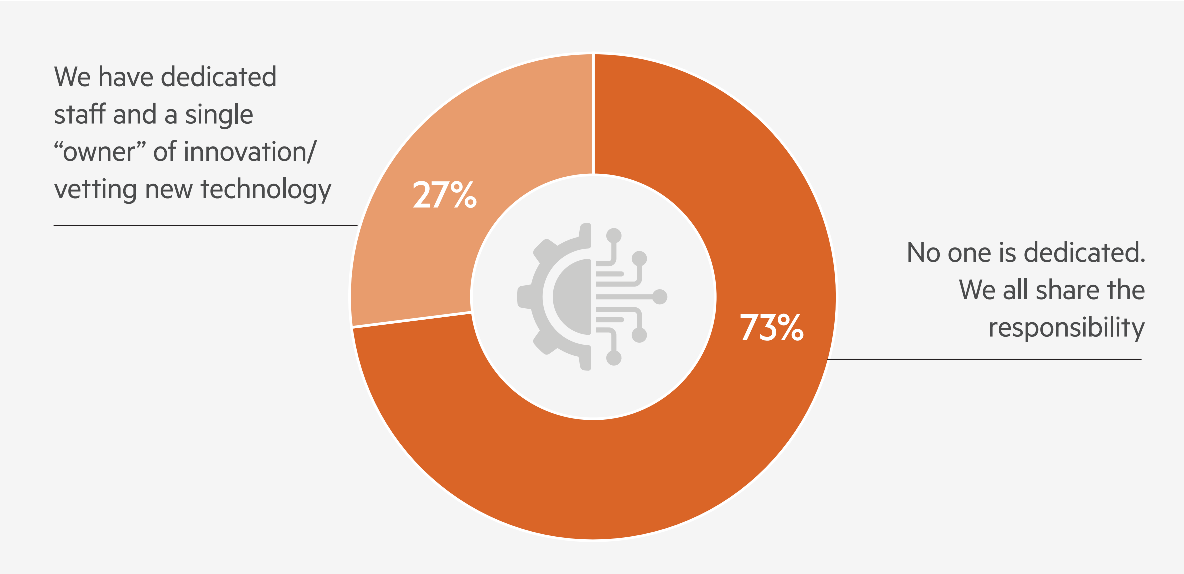




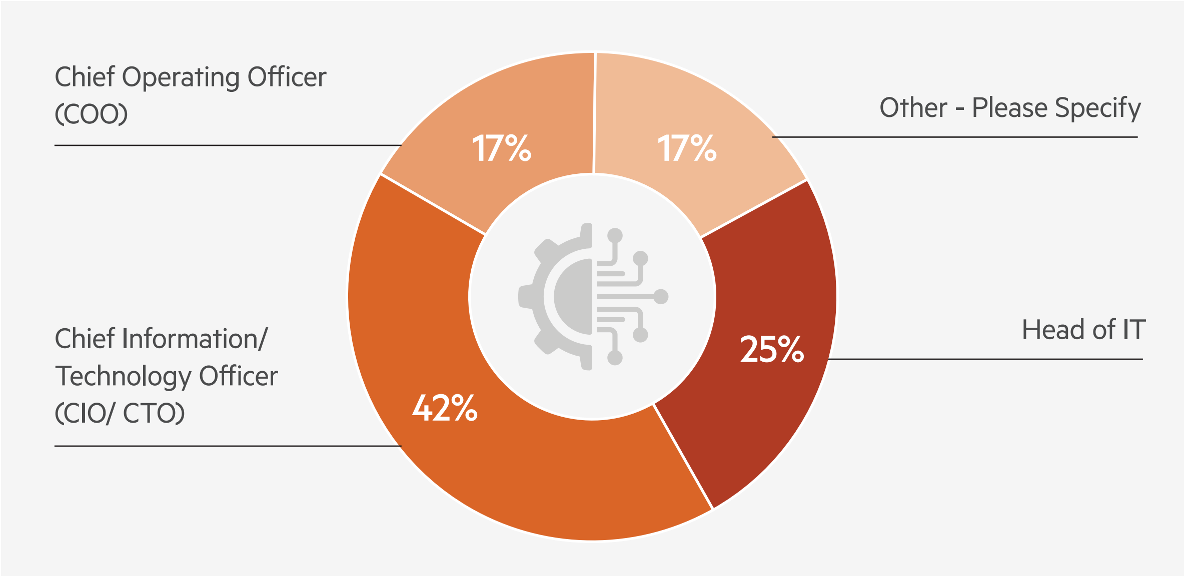
What role does IT play within the innovative new technology team?



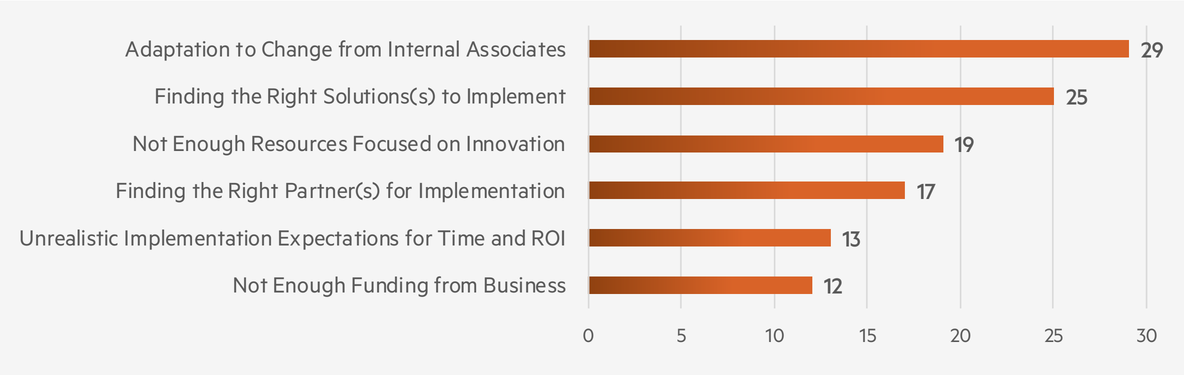
Do you have staff dedicated to innovation/ vetting new technology?

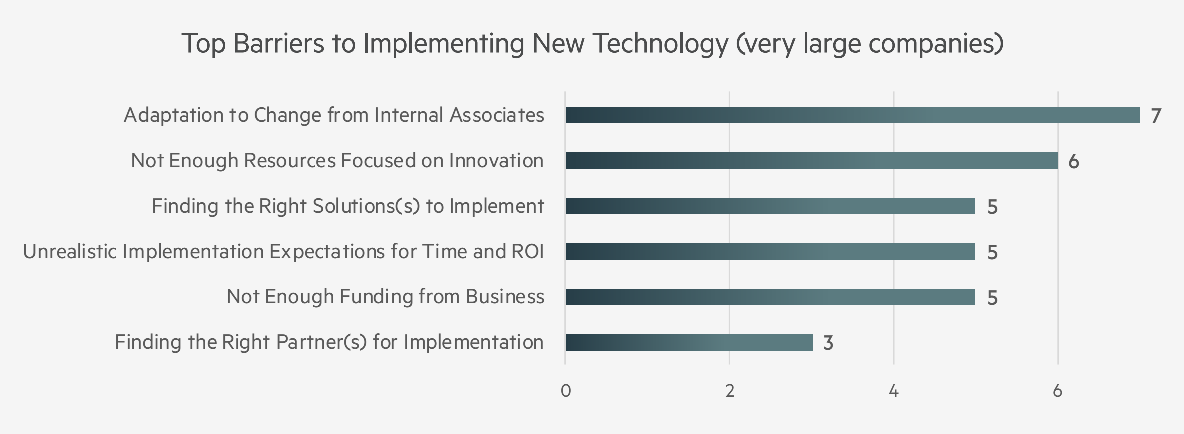


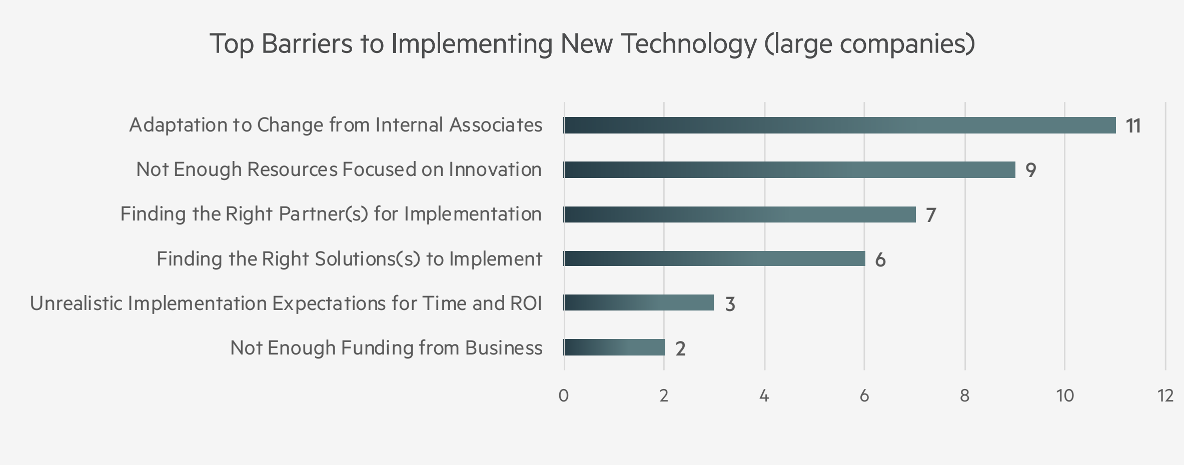
To whom does the single "owner" of innovation report to?

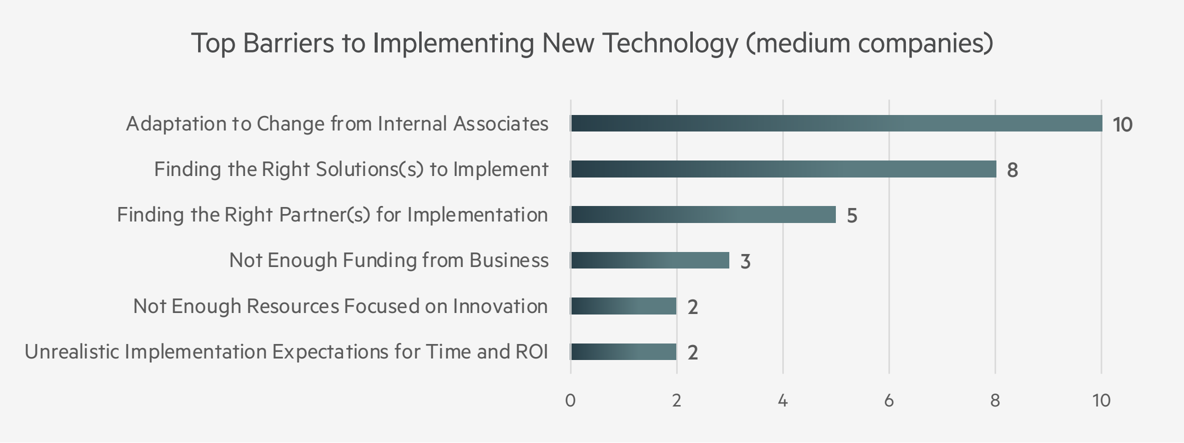


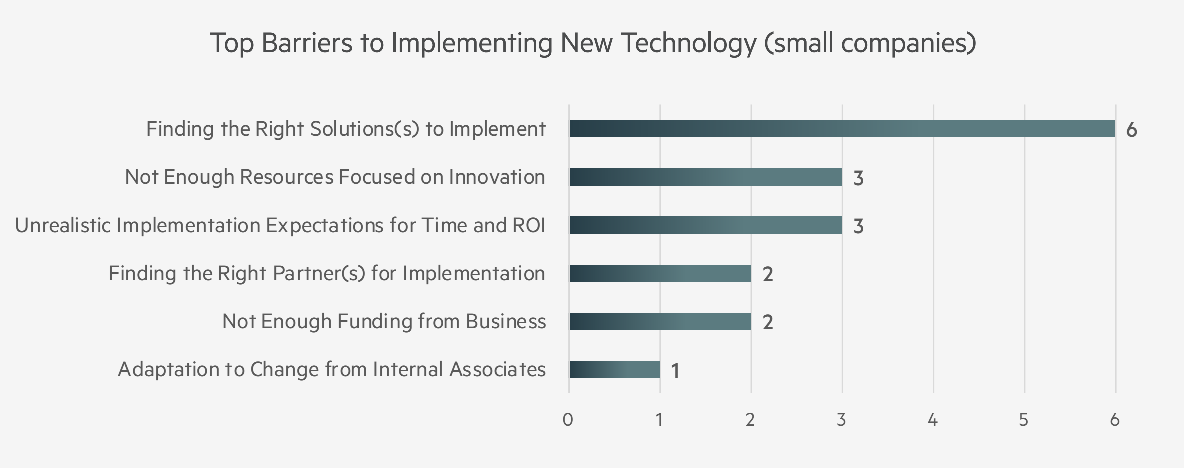
What are the top 3 barriers to your organization for effectively implementing new technology opportunities? (by number of responses)









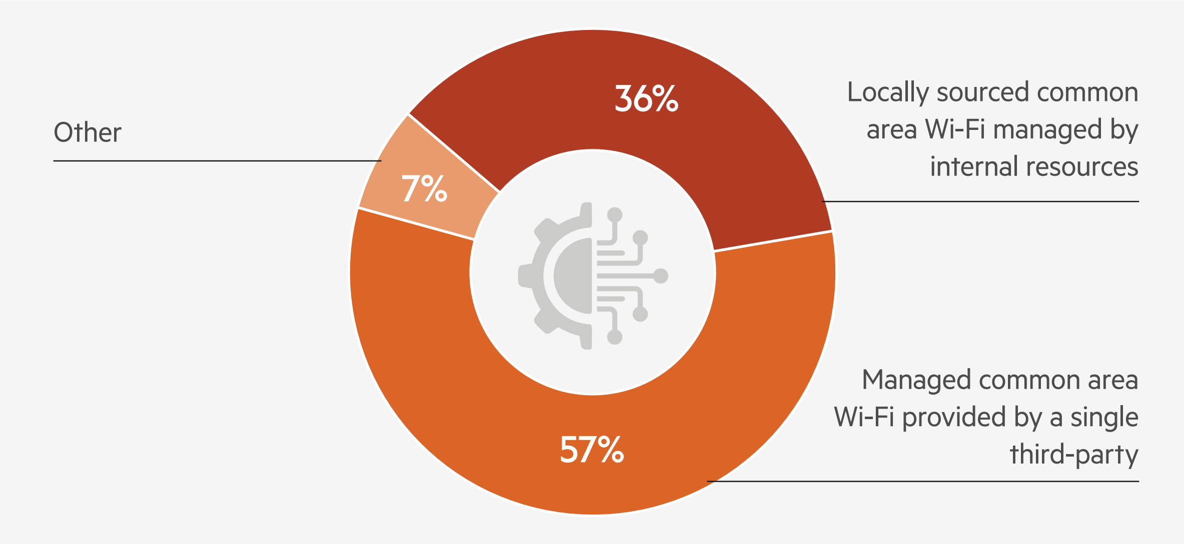


What innovative new technologies did your organization implemented in 2021?
API integration/PaaS
Asana
Automated Building and Unit Access - Chirp CRM, Marketing Automation, & Virtual Leasing Agent - Funnel
Business and Network Automation using power platform BI
Business Intelligence PowerBI Power Automate - Process improvement application development
Community WiFi
CRM ChatIQ
CRM New Resident Portal Smart Rent (continued from 2020) ChatBot Deposit Alternative
CRM, AI, SmartHome, Service Mobility
Defined as "Innovative". industry game-changers?

What innovative new technologies did your organization implemented in 2021? (cont.)
Deposit alternatives; ID verification; resident rewards programs; area sensors; smart unit tech; resident loans
Entire cloud hosted phone solution tied to AD/SSO allowing elimination of desk phones
Funnel CRM/Leasing (co development w/ vendor) Sightplan mobile maintenance Smartrent access security/home automation Engrain 3d mapping Markerr data analytics
Microsoft Sharepoint Microsoft Teams MicrosofPower BI
New CRM tools Self Guided Tours Org-wide project management platforms
PowerBI Multifamily Dashboard; redIQ for underwriting
Proprietary Data - Web based innovations
RentCafe (on line application) RightSource (third Party Compliance) Retail Payments (Walk in payments) Microsoft 365/TEAMS
Resident Rewards Programs Security Deposit Alternatives Flexible Rent Payment Solutions
RPA
Salesforce CRM
SharePoint Orion BI O365 Migration
Smart Home Tech Managed Community-Wide Wifi / Internet
smart home technology
Smart home technology, Sharepoint Document Management, Power BI, Intranet
Smart home, access, bulk internet, Bilt
Smart homes
Snowflake, SIEM, User provisioning automation, Lease automation, New Employee Onboarding process automation
Software
Text/Chat/Voice Bots Ubiquitous Wifi SmartHome RPA Internally developed operating platform
Utilizing bulk internet
We focused heavily on cybersecurity efforts. Implemented EDR and immutable data storage protection.
Yardi

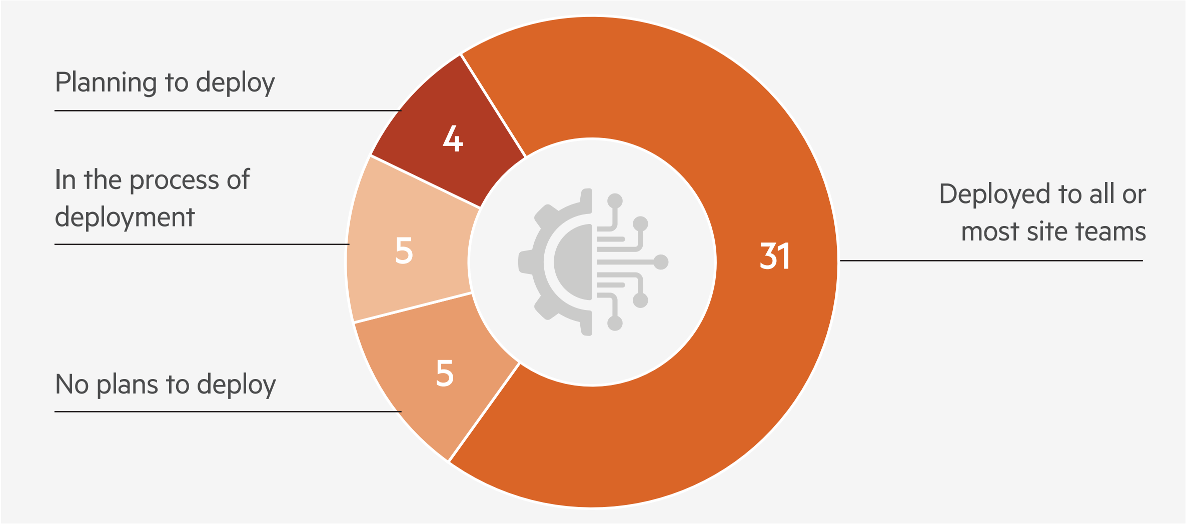
What innovative new technologies does your organization plan to implement in 2022?
Additional customer self service, SD Alternatives, , SGT
AI bots; self guided tours; resident credit reporting
Artificial Intelligence Self-guided Tours Streamline online leasing Resident Experience / Apps
Business intelligence
Cloud native identity
Community WiFi
Continue Yardi Data warehouse Knack
Continued implementation of 2021 initiatives Funnel on-line leasing Ubiquitous Wifi Measurabl ESG data management
CRM, Chatbot, Property Gig Wi-Fi, Smart Home pilot
Customer focused website and Online Leasing
Deeper BI, community wide WiFi
Defined as "Innovative". industry game-changers?
Development in Teams Development in BI (Microsoft Power BI)
Fully 100% cloud based file sharing with strict Cyber Security controls and governance
Maintenance Call center (third party) Implemented Third party IT all sites contract Rent Cafe (online leasing & Work Orders)
Mobile device management
More automation Advance Reporting Owner/Asset management Portals with dashboards and reporting
More self-guided options, BI, budgeting
New application and approval process Revenue Managment implementation New BI tools
Office 365
Proprietary Data - Web based innovations
Reporting software
Resident Amenity Network Infrastructure Architecture
Same as above
Self Guided tours Automation and centralization
Sightplan, Data Warehouse, Sustainability/ESG Reporting & Tools,
Smart home, access, bulk internet, Bilt
SmartRent, Aerwave, Yardi full stack
Ubiquitous Wifi Additional enhancements to operating platform
Upgraded Telecom Cybersecurity MFA

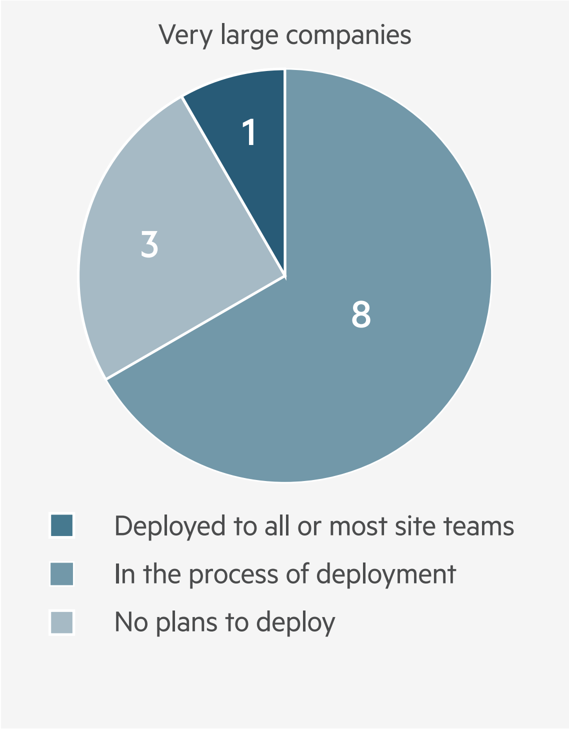
Preferred approach to providing your residents with stable and responsive Wi-Fi?

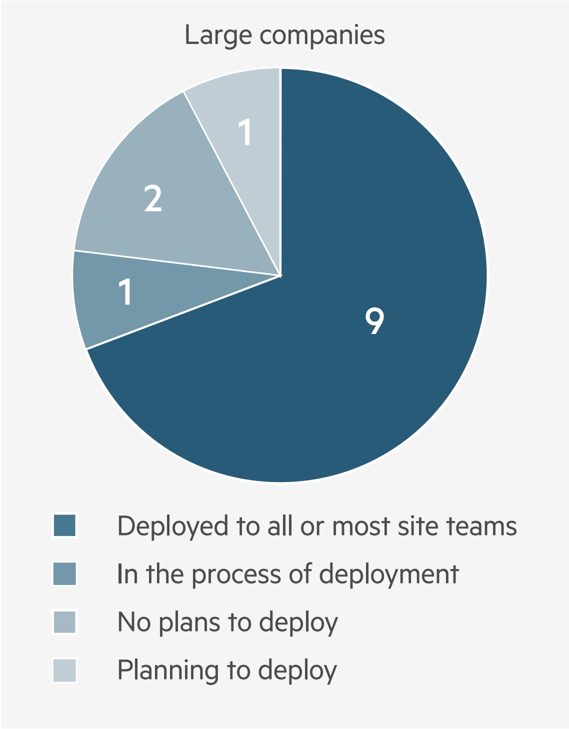


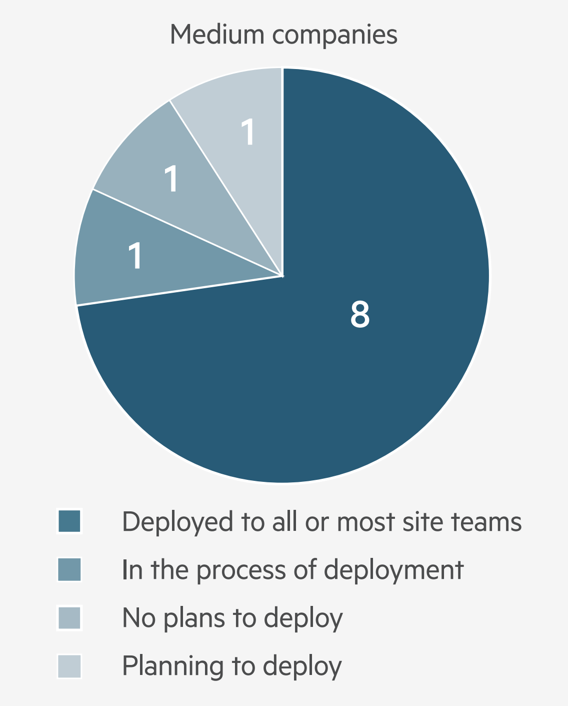
What other approaches have you deployed to manage connectivity?
Bulk internet (2 mentions)
Cell coverage extenders
Deployed Cisco Merki web portal
Gateway controls managed centrally
Internal Wi-Fi
Managed access from third parties
Managed Community-Wide Wi-Fi with a single provider (bulk) for new developments
Management office Guest Wi-Fi access
Unmanaged common area Wi-Fi from third parties
Partnerships with national cellular companies to provide and manage Wi-Fi
Property wide managed Wi-Fi
Redundant Internet
Redundant near-microwave arrays between buildings
Redundant fiber vendors
Testing Gigstreem ubiquitous Wi-Fi solution
Various, but local provider is the most stable
We do not offer Wi-Fi to residents so falls on telecommunications provider in area
Will do more property wide Wi-Fi going forward
Adding provider to existing properties with only one existing provider or with internet issues
Wi-Fi 6 implementations

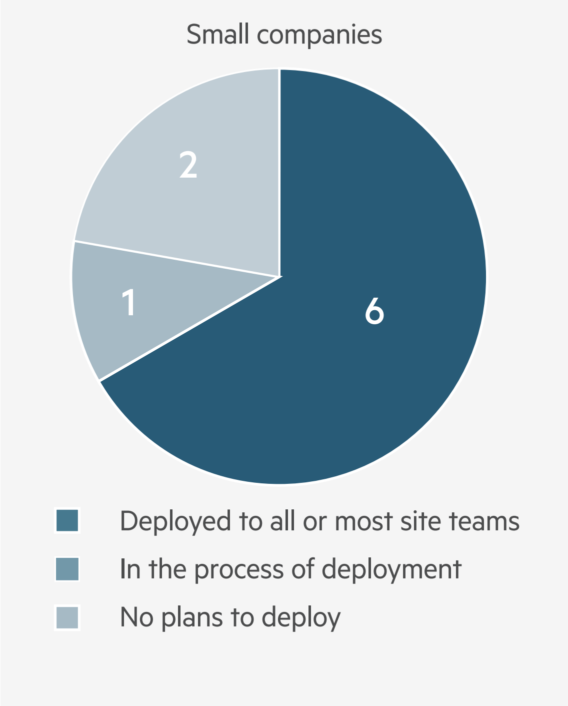
What is your organizational approach to utilizing mobile devices at the site level? (by number of responses)



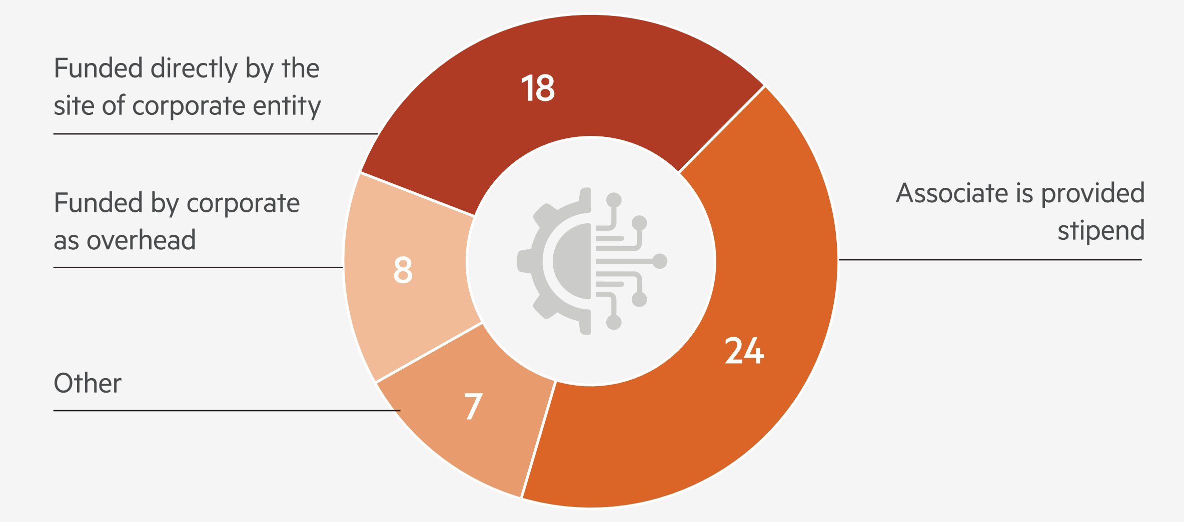




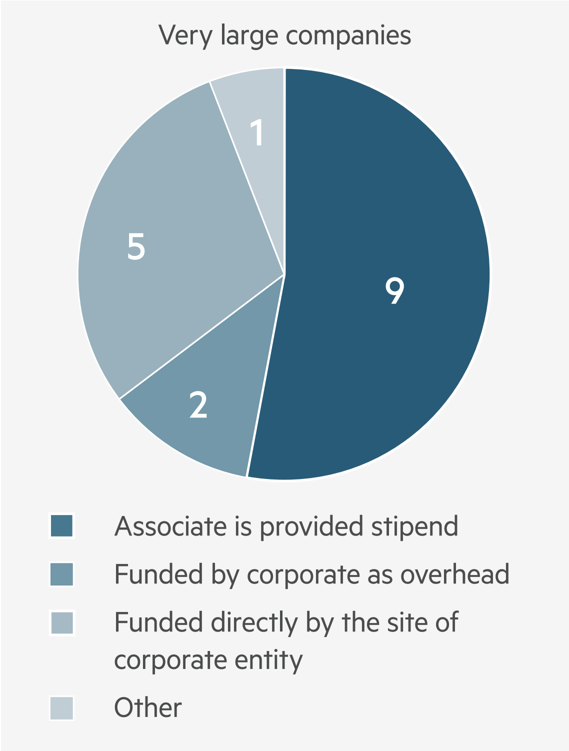


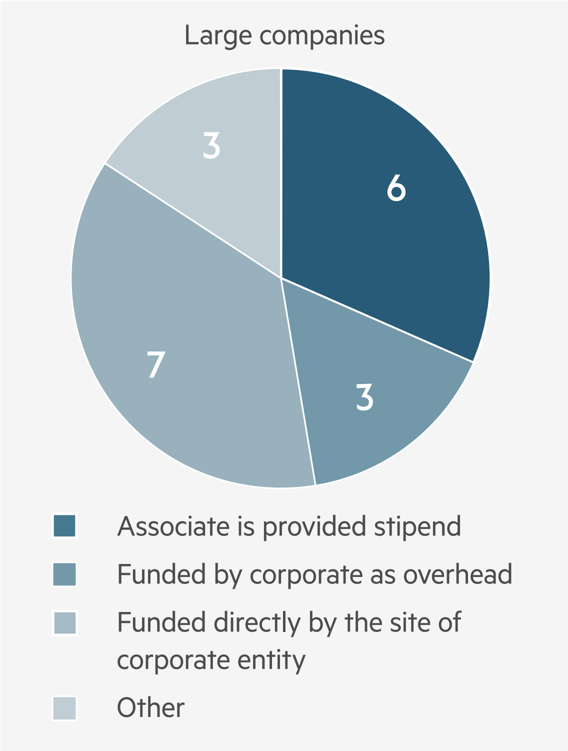


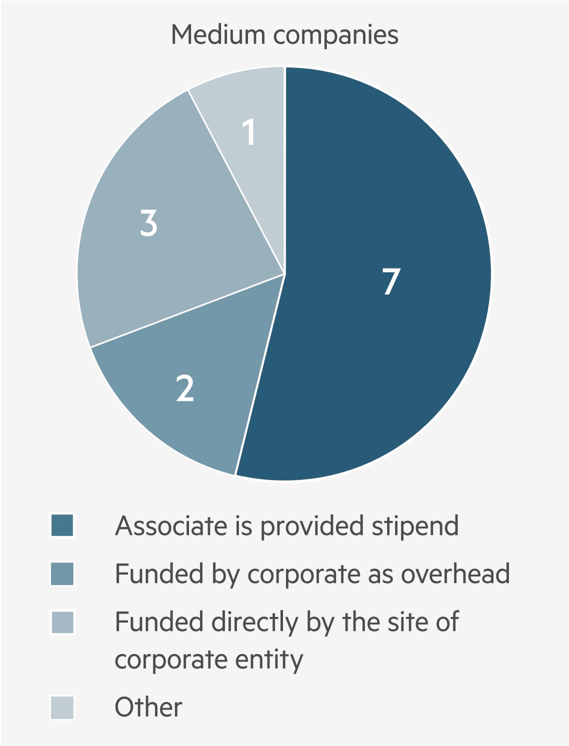
What is your organizational approach to funding mobile devices? (by number of responses)

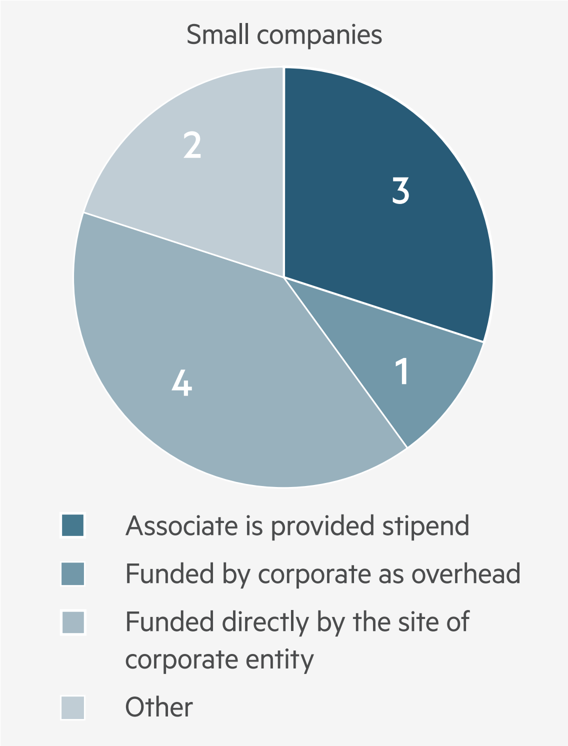


Other responses:
BYOD
California associates are reimbursed, all onsite associates receive a monthly stipend, some corporate associates receive a stipend - based on requirement of position
Funded for site personnel; BYOD for all other personnel
Hybrid, Health care is corp funded (hippa tracker) all other are on a Stipend
Site specific
Varies by position


Very large companies
9
2
5
1
Associate is provided stipend
Funded by corporate as overhead
Funded directly by the site of corporate entity
Other

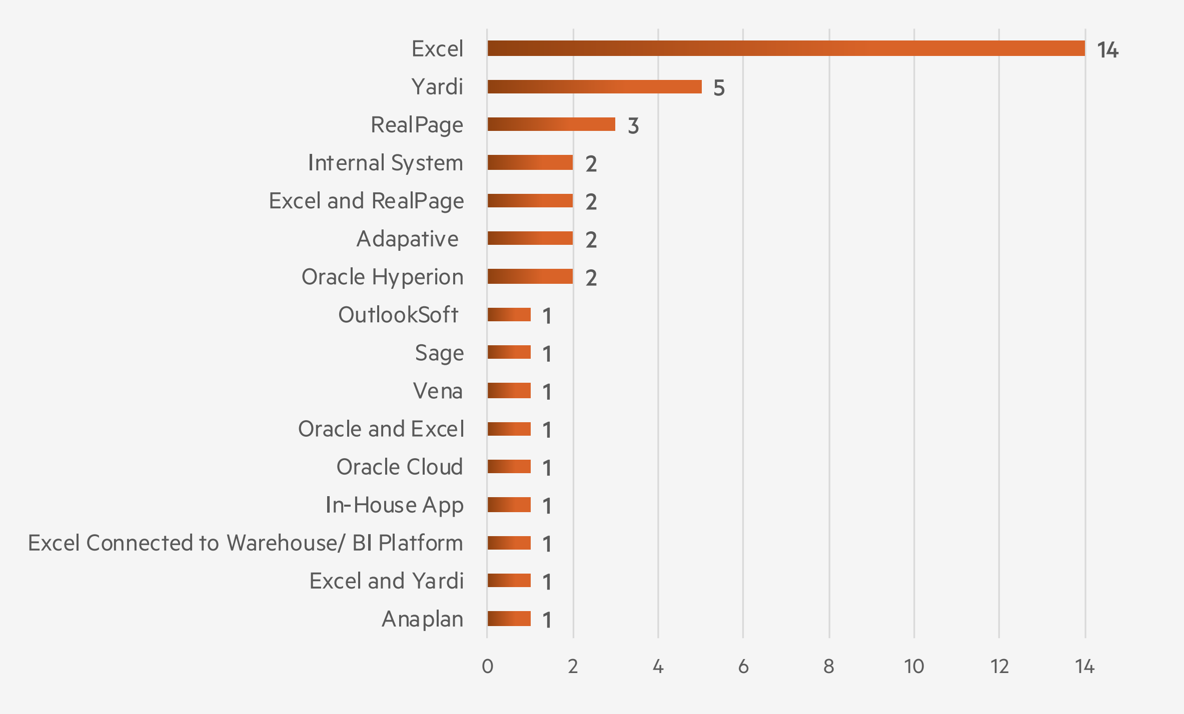

Large companies
6
3
7
3
Associate is provided stipend
Funded by corporate as overhead
Funded directly by the site of corporate entity
Other


Medium companies
7
2
3
1
Associate is provided stipend
Funded by corporate as overhead
Funded directly by the site of corporate entity
Other

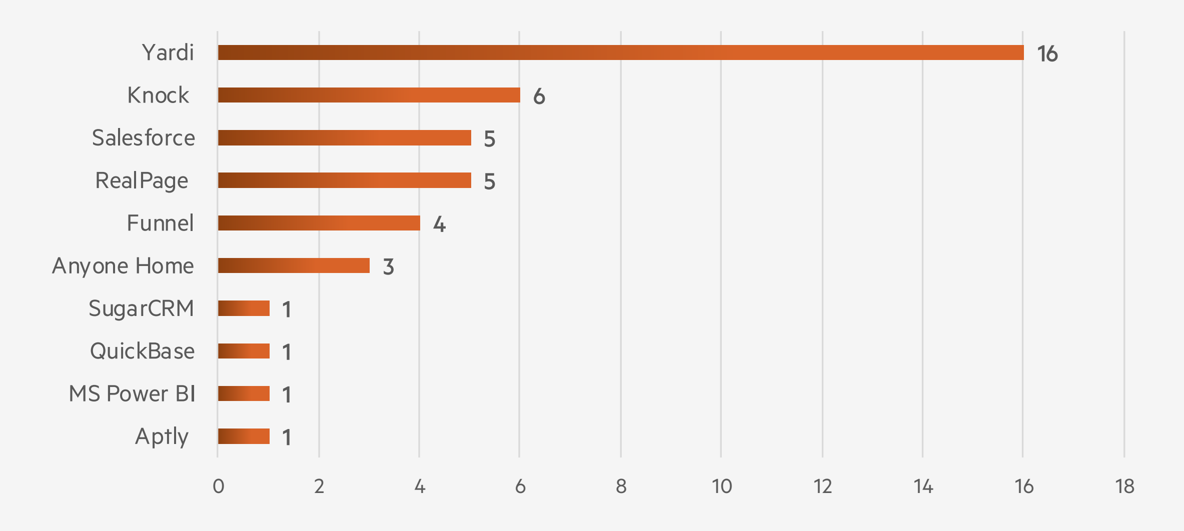

Small companies
3
1
4
2
Associate is provided stipend
Funded by corporate as overhead
Funded directly by the site of corporate entity
Other

OTHER TECH SOLUTIONS

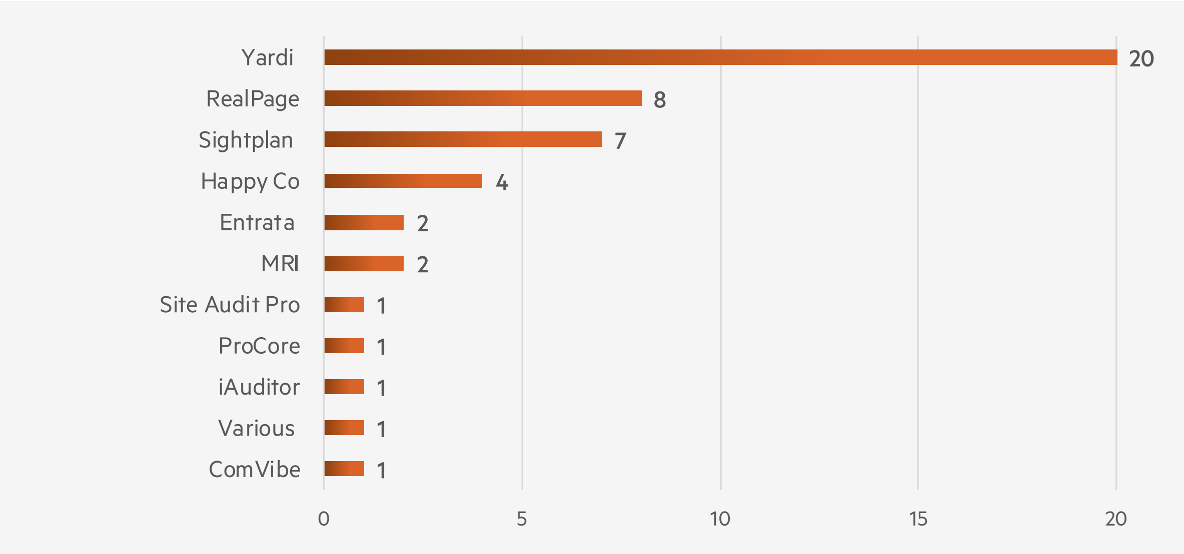
What solution(s) do you have in place for budgeting? (by number of responses) (all questions in this section were open-ended)



What solution(s) do you have in place for business intelligence or custom reporting? (by number of responses)



What solution(s) do you have in place for work orders, service delivery, unit inspections, due diligence and/or renovation CapEx tracking? (by number of responses)



What solution(s) do you have in place for managing packages? (package software, package lockers or rooms) (by number of responses)