

# Enterprise Adoption of IoT Connectivity

*Insights from IDC's North American Enterprise 5G, IoT and Private Mobile Network Survey*

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# Executive Summary

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Cellular connectivity is the most popular type of IoT connectivity, and 42% of respondents require more than one mobile operator to achieve their IoT coverage goals, underscoring the increasing need for global connectivity.

2

For future devices, 45% of organizations are planning to deploy integrated subscriber identity module (iSIM) technology in their devices compared with 27% that plan to deploy embedded SIM (eSIM) technology.

3

Security is top of mind, ranking first in challenges holding back IoT projects and with cybersecurity as the first evaluation criteria for a digital technology services supplier.

# Research Objectives

**This IDC presentation provides perspectives on enterprise attitudes, requirements, and buying behavior around IoT connectivity and services from IDC's 2022 *North American Enterprise 5G, IoT, and Private Mobile Networks* survey.**

IDC conducted a survey of mobility and networking decision makers in the U.S. and Canada during August 2022 to understand how enterprises are thinking about and approaching IoT adoption. Questions also targeted key areas of vendor evaluation criteria that enterprises are using to determine their IoT connectivity service providers.



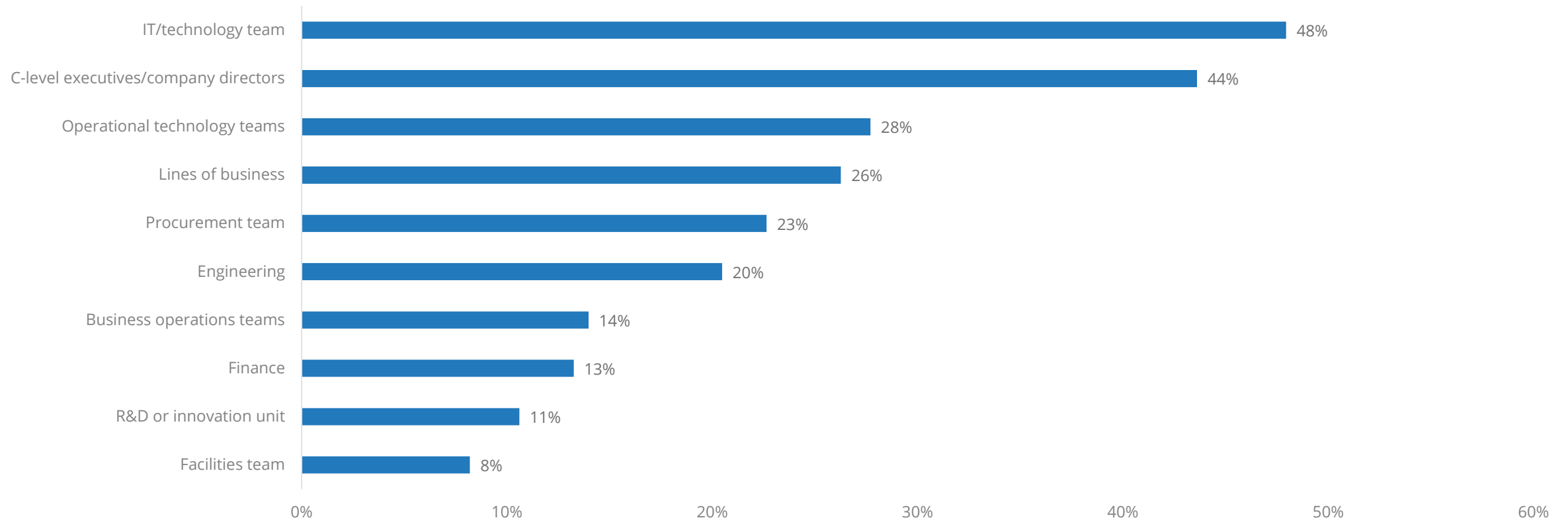
# Key Analysis and Findings

*IoT Usage and Requirements*

IT/technology teams (48%) make the most decisions around IoT, demonstrating the importance of IoT in building a digital-first organization looking to maximize the benefits of more data points. C-level executives/company directors (44%) also landed high on the decision-making list, showing IoT's importance at top levels.

### Q. Which roles in your organization make the decisions regarding IoT strategy?

#### IoT Strategy Decision Makers



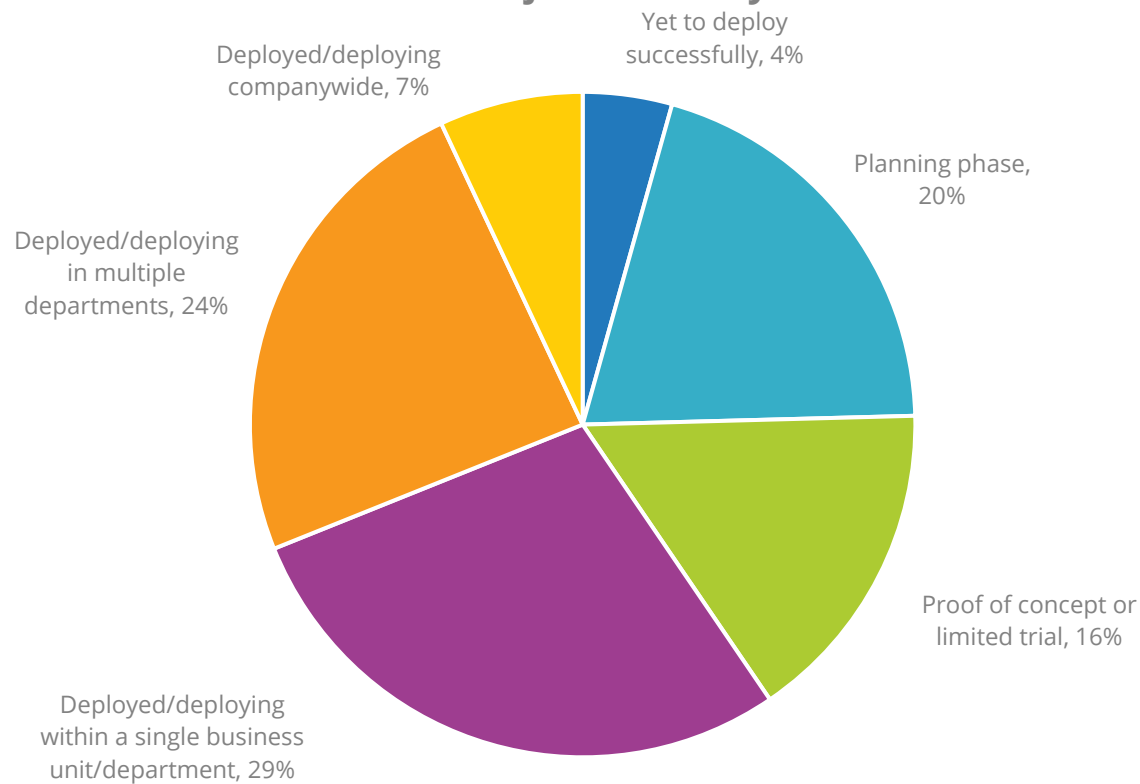
n = 415

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

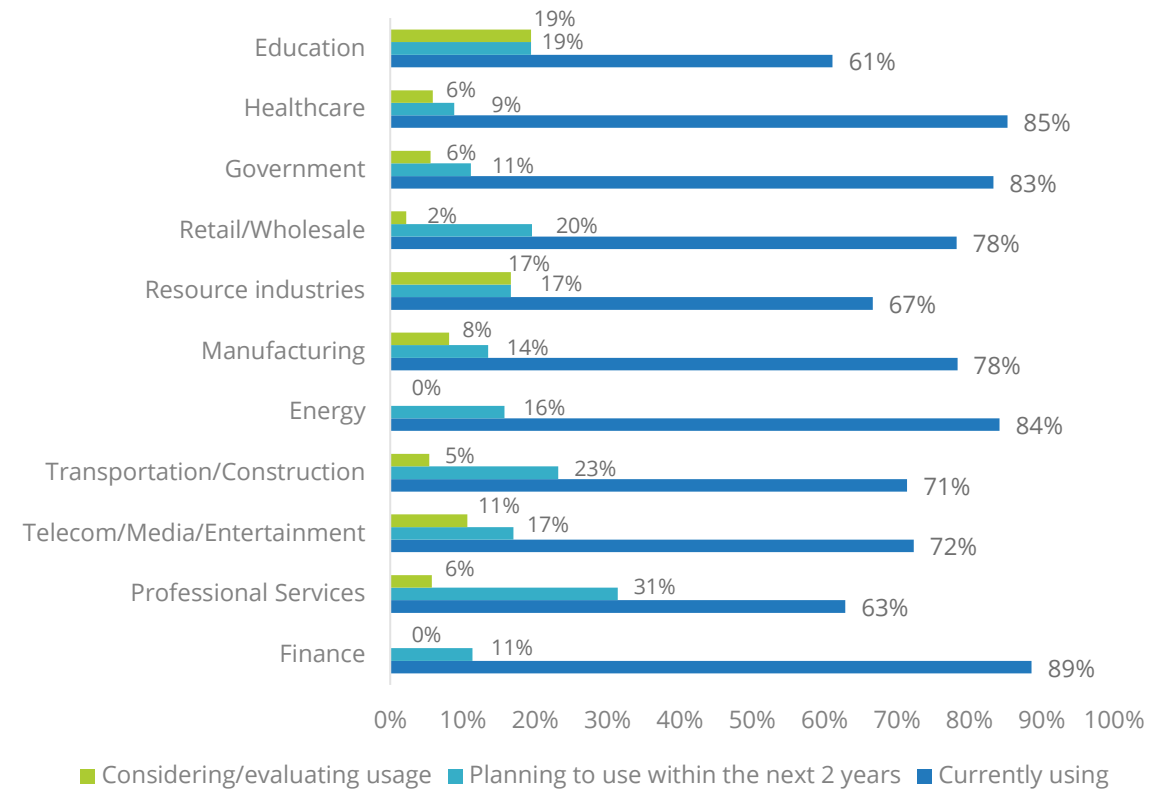
About 60% of organizations have deployed IoT projects in at least one department of their companies, while 40% are planning to deploy, conducting trials, or have yet to successfully deploy IoT projects. Finance, healthcare, energy, and government have the highest IoT maturity among verticals.

**Q. Which of the following best describes how mature the majority of your organization's IoT projects are today?**  
**Q. Does your organization use or plan to use IoT (regardless of connectivity type) within its own business activities?**

### IoT Project Maturity



### IoT Maturity by Vertical



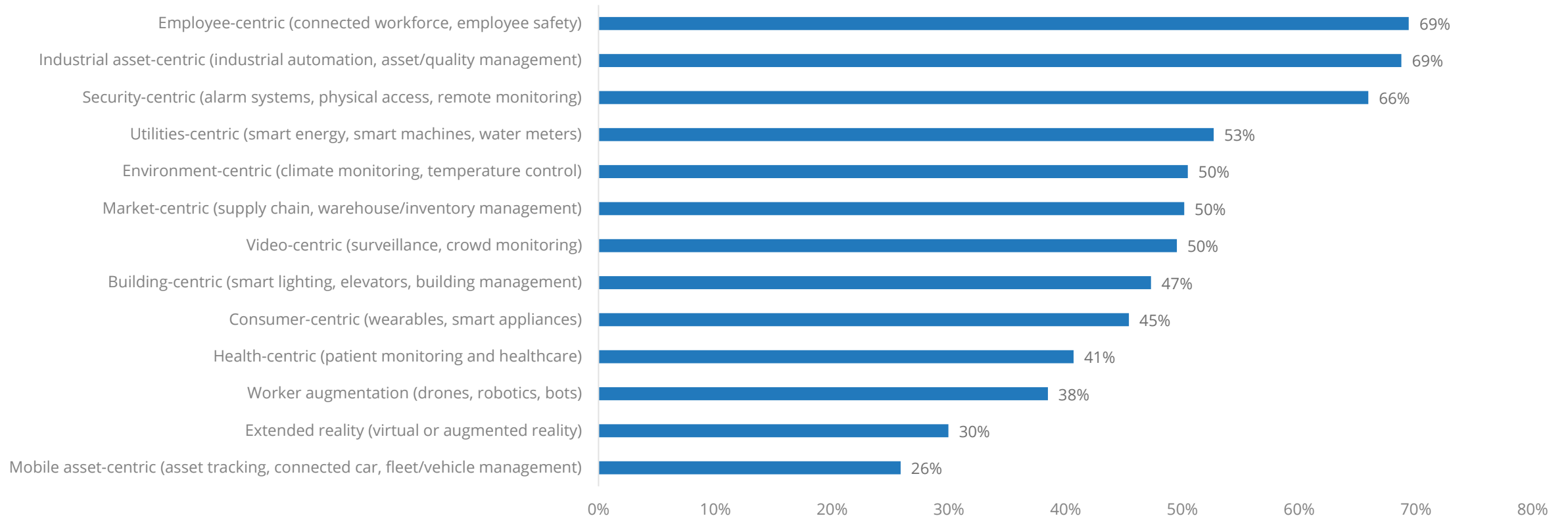
n = 415

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

Employee-centric and industrial-centric use cases topped the list for current IoT deployments, followed by security-centric use cases. Industrial use cases rely heavily on the benefits of 5G technology, such as low latency, high transmission speeds, massive IoT, and enhanced positioning.

## Q. Which use case has your organization already deployed (respondents currently using IoT)?

### Most Deployed IoT Use Cases



n = 317

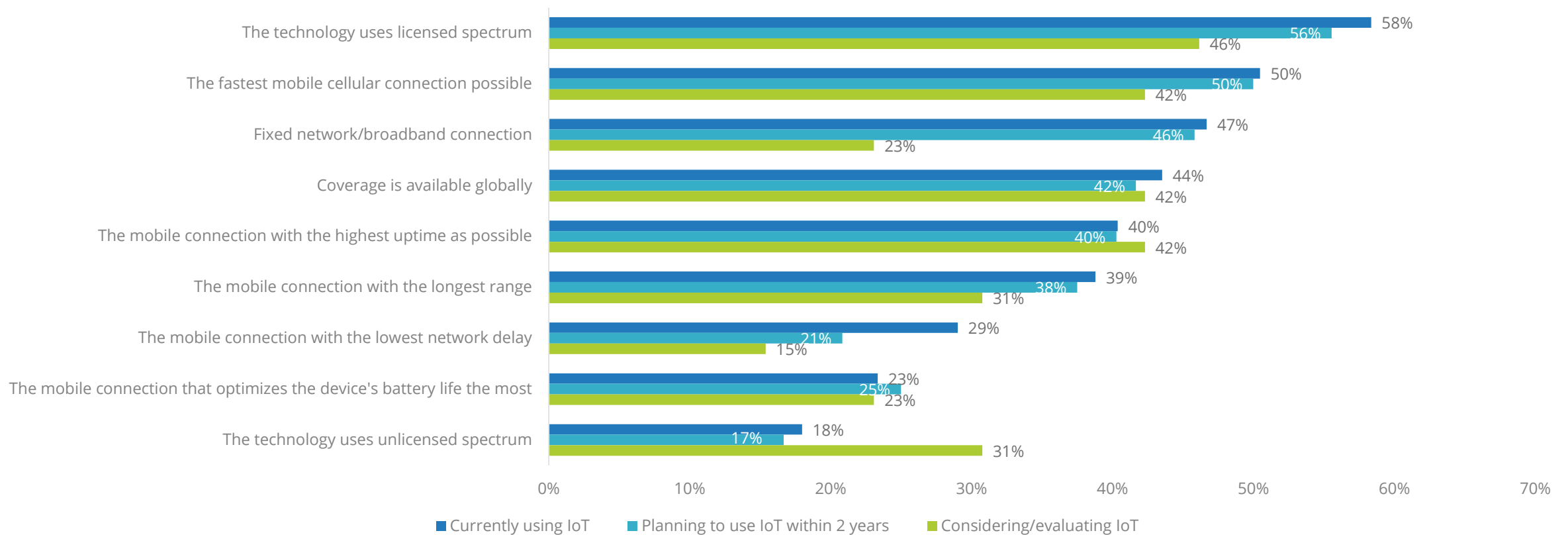
Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022



The requirement for licensed spectrum goes hand in hand with the mission-critical use cases cited by respondents with IoT deployments. A fast cellular connection was also a top requirement, along with global coverage, which is becoming more important to many IoT deployments.

**Q. Which of the following requirements does your organization have to connect the people/assets for the use cases you have selected?**

**IoT Connectivity Requirements**



n = 415

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

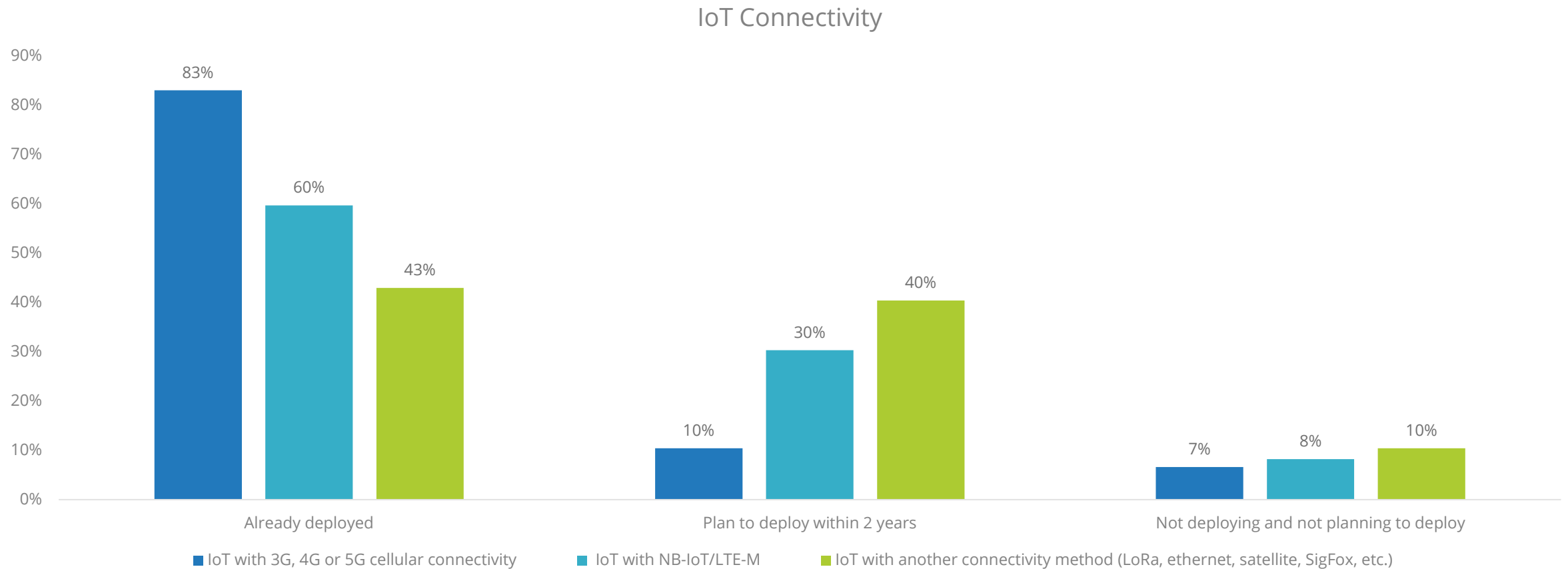


# Key Analysis and Findings

*Deployment Details*

Of the respondents with IoT projects, most use or plan to use cellular connectivity for those deployments. Licensed LPWAN technologies such as LTE-M and NB-IoT are already deployed by 60% of respondents with IoT projects, which coincides with the proliferation of North American LPWAN networks.

### Q. Which connectivity technologies does your organization use (respondents currently using IoT)?



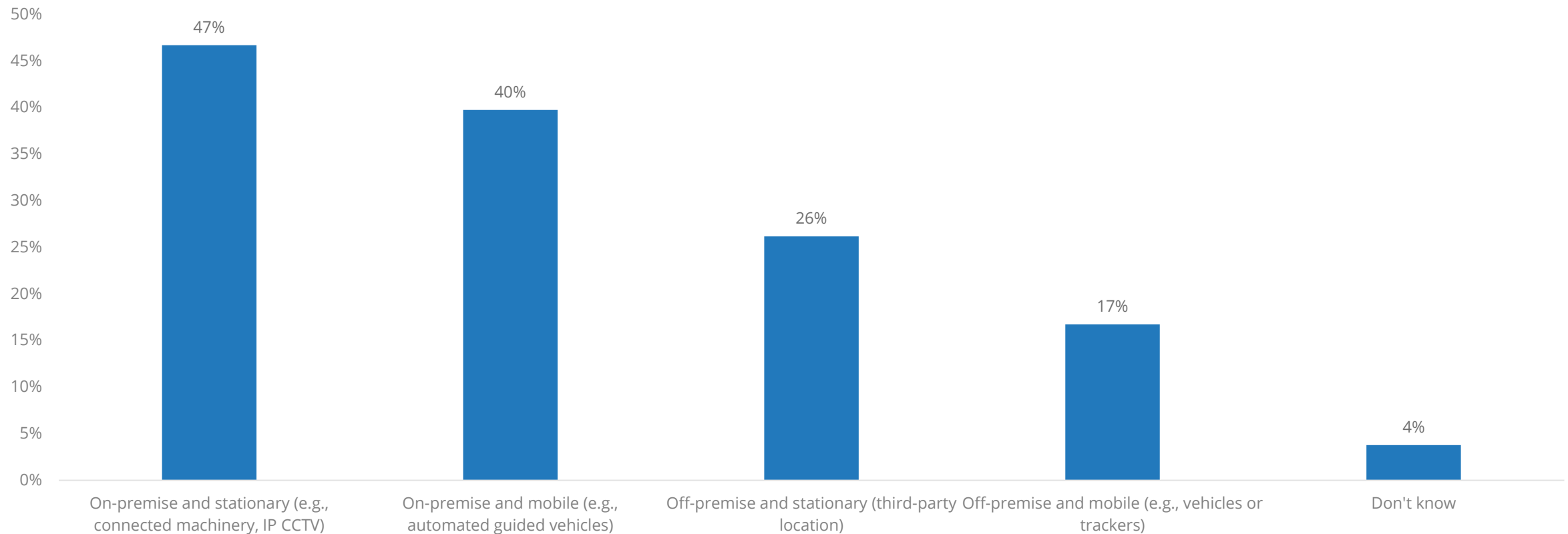
n = 317

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

While it seems somewhat counter-intuitive for cellular-connected IoT deployments, most IoT assets are located on-premise, and most respondents have stationary assets rather than mobile assets, located either on- or off-premise.

## Q. In what types of locations are the IoT assets that your organization manages?

### Locations of IoT Assets



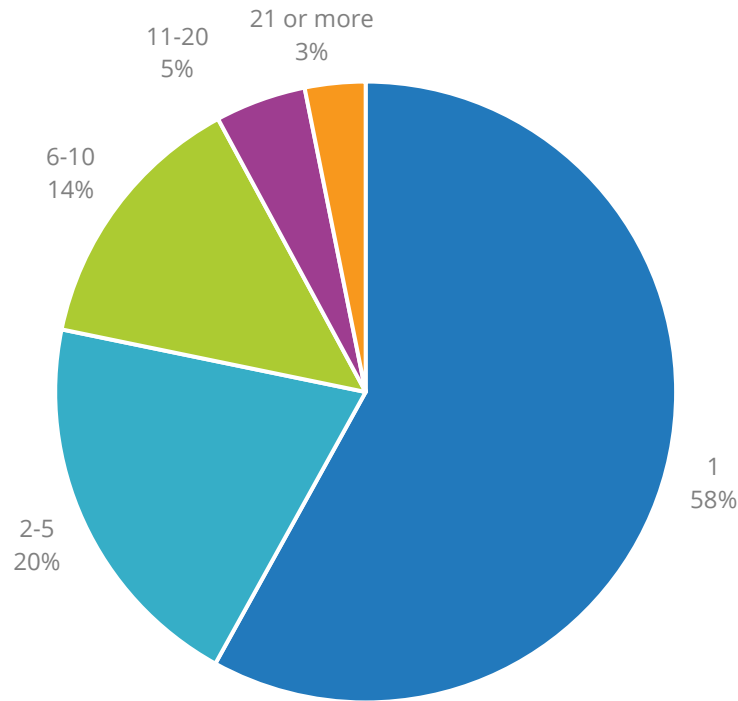
n = 317

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

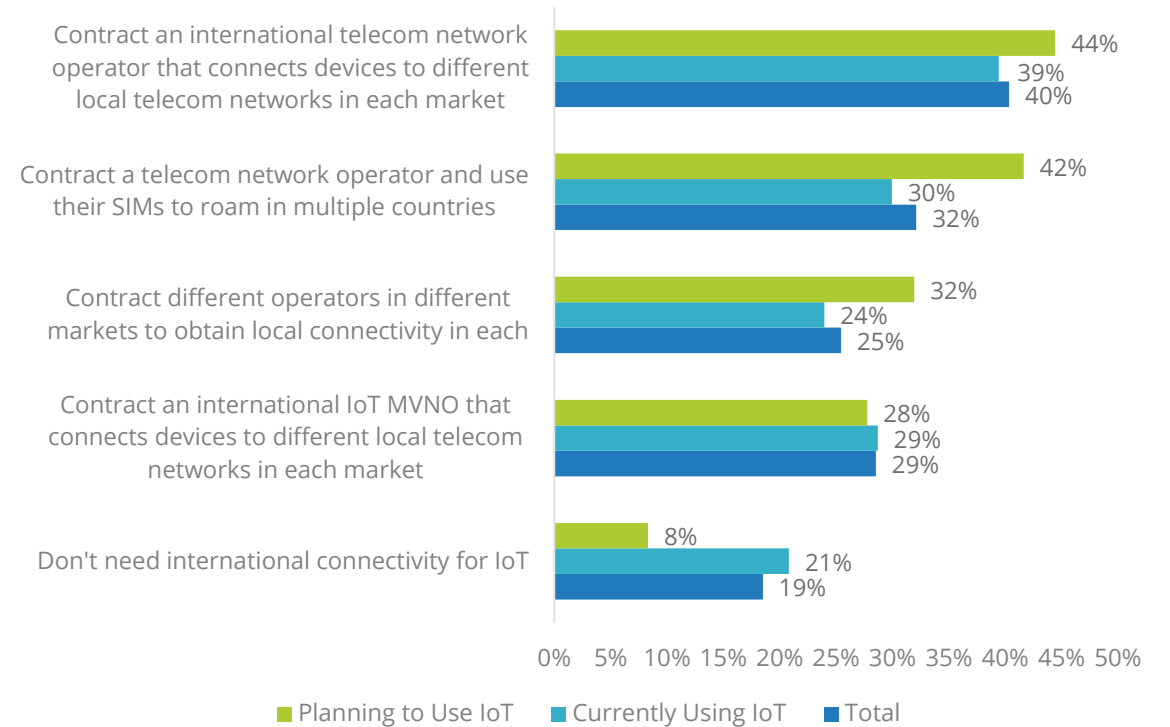
About 42% of respondents have global IoT deployments, with cellular IoT connections in more than one country. Nearly 30% of companies rely on IoT MVNOs for their worldwide connectivity needs, with most using more than one type of connectivity provider to meet their IoT deployment needs.

**Q. In how many countries does your organization have cellular IoT connections?**  
**Q. How do you currently obtain, or plan to obtain, international cellular connectivity for IoT devices?**

**Number of Countries with Cellular IoT Connectivity**



**Types of Global IoT Connectivity Service Providers Used**



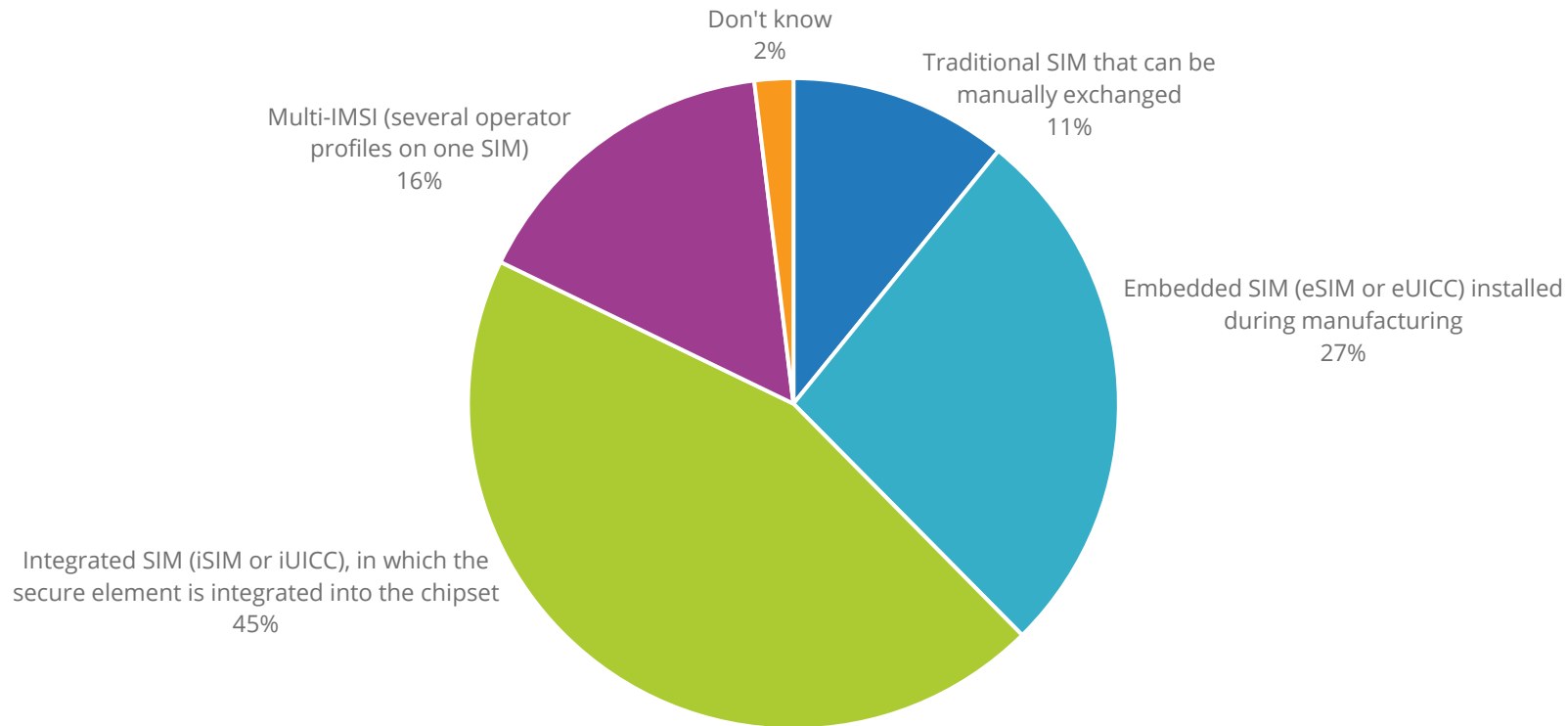
n = 317, 389

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

iSIM could be moving toward a break-out moment, with the technology preferred by 45% of respondents. About 27% of organizations are planning to use eSIM for new device deployments.

**Q. For any new devices that your organization plans to deploy on cellular networks in the future, what kind of SIM would you prefer to use?**

**Types of SIMs Planned for New Devices**



n = 415

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022



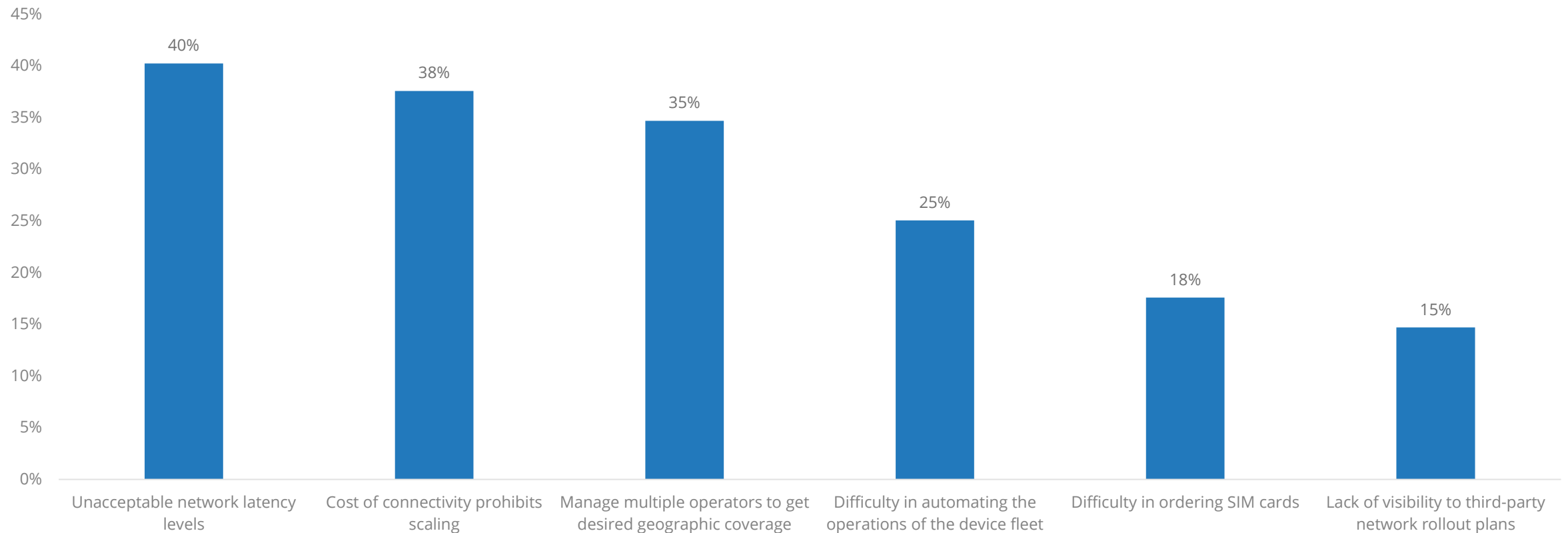
# Key Analysis and Findings

*IoT Challenges and Criteria*

Network latency, cost, and managing global IoT deployments are the top cellular IoT connectivity challenges that organizations will face in their projects. Surprisingly, with supply chain problems still making headlines, only 18% of respondents cited difficulty in ordering SIM cards.

## Q. What are or do you anticipate will be the key challenges your organization has faced with IoT cellular network connectivity?

### Cellular IoT Connectivity Challenges



n = 415

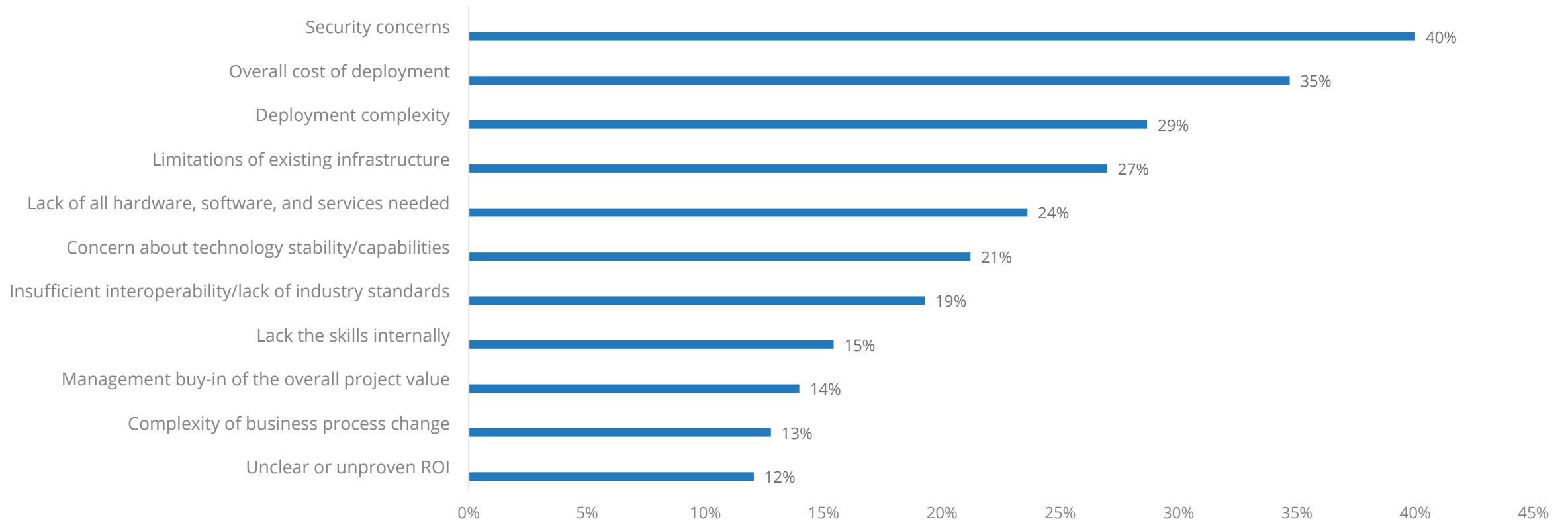
Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022



Across all North American respondents, security was the biggest challenge for respondents, which tracks to the high percentage planning to use iSIM technology. Cost was second followed by deployment complexity, highlighting the need for a connectivity partner to address the pain points.

**Q. What are the top challenges holding back or slowing progress on IoT project(s) within your organization?**

**Challenges Holding Back IoT Projects**



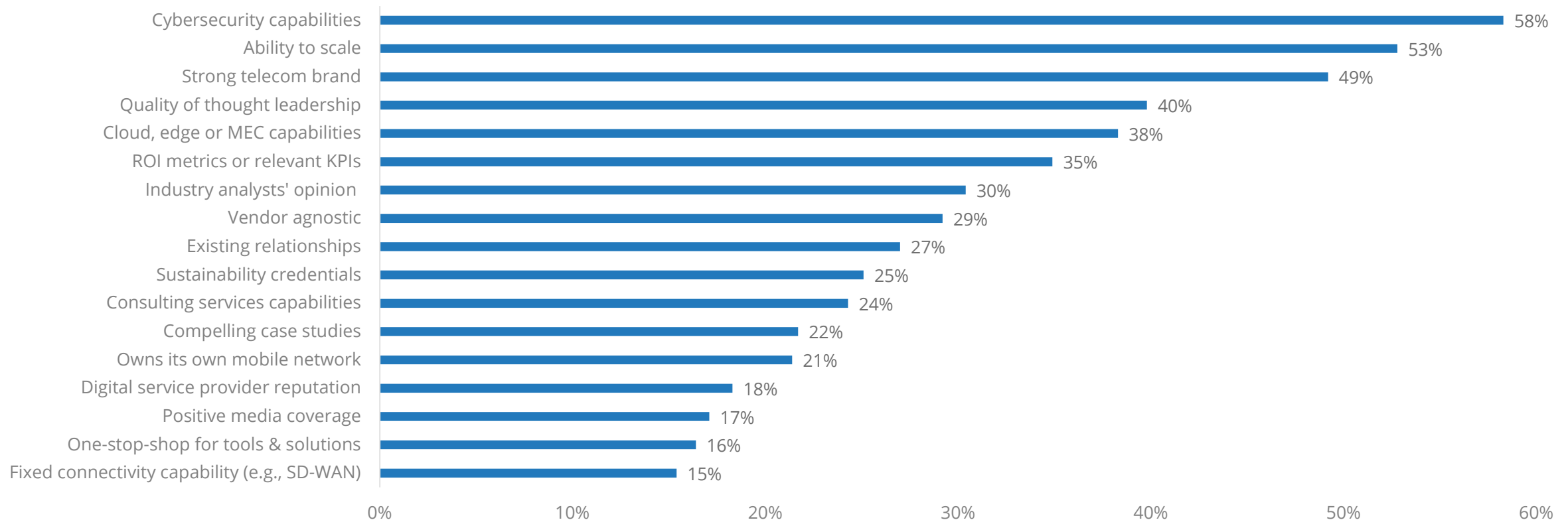
n = 415

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

Security (58%) and solution scalability (53%) are leading factors for enterprises in choosing an IoT or 5G vendor, but don't discount external branding (49%), thought leadership (40%) and analyst engagement (30%) as tools for influencing buyer decision-making.

**Q. Which of the following criteria are important for your organization when selecting a supplier for digital technology services like private mobile networks, 5G, and IoT?**

**Key Evaluation Criteria for Digital Technology Suppliers**



n = 415

Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

# Related Research

- US47942022**  
U.S. 5G Connections Forecast, 2022-2026  
Sept. 2022
- US49455122**  
Private 4G/5G Network 1H22 Contracts Offer Glimpse into Overall Worldwide Market  
Aug. 2022
- US47948122**  
Worldwide and U.S. IoT Cellular Connections Forecast, 2022-2026  
July 2022
- US47949622**  
U.S. Mobile Consumer and Business Services Forecast, 2022-2026  
May 2022
- US48445322**  
Connectivity Challenges in Agriculture  
March 2022
- US48061522**  
IDC MarketScape: Worldwide Managed IoT Connectivity Services 2022 Vendor Assessment  
Feb. 2022
- US48360821**  
IoT Connectivity: Demand-Side Perspectives  
Nov. 2021



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# Appendix

# Methodology

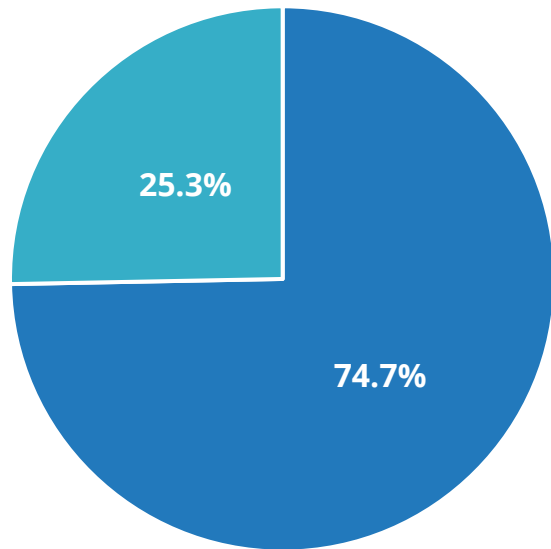
- Survey Sample

Total	United States	Canada
N = 415	N = 310	N = 105

- Field Time: July – August 2022
- Method: Web response survey
- Screener Requirements
  - Respondent’s organization for which they have decision-making responsibilities must be located in the U.S. or Canada
  - Organizations with greater than 100 employees
  - Respondent is an IT decision maker involved in digital transformation and related technologies, including 5G
  - Organization must currently be using, planning to use in the next 2 years or considering/evaluating usage of IoT and 5G technologies
- Data Specifications
  - All numbers may not be exact due to rounding; caution should be used when interpreting results from small sample sizes.

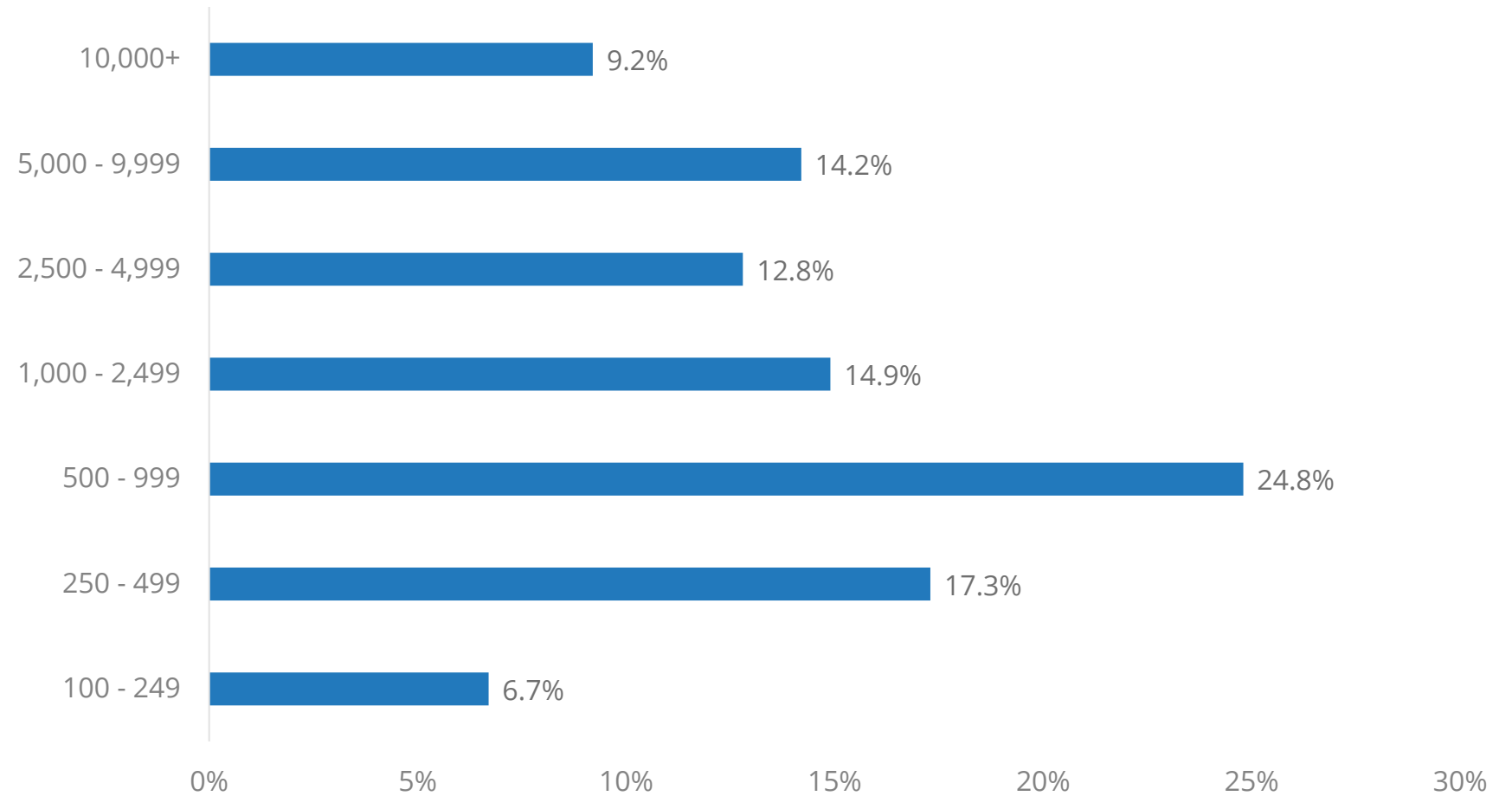
# Demographics

## Country



■ United States ■ Canada

## Company Size, by employee range

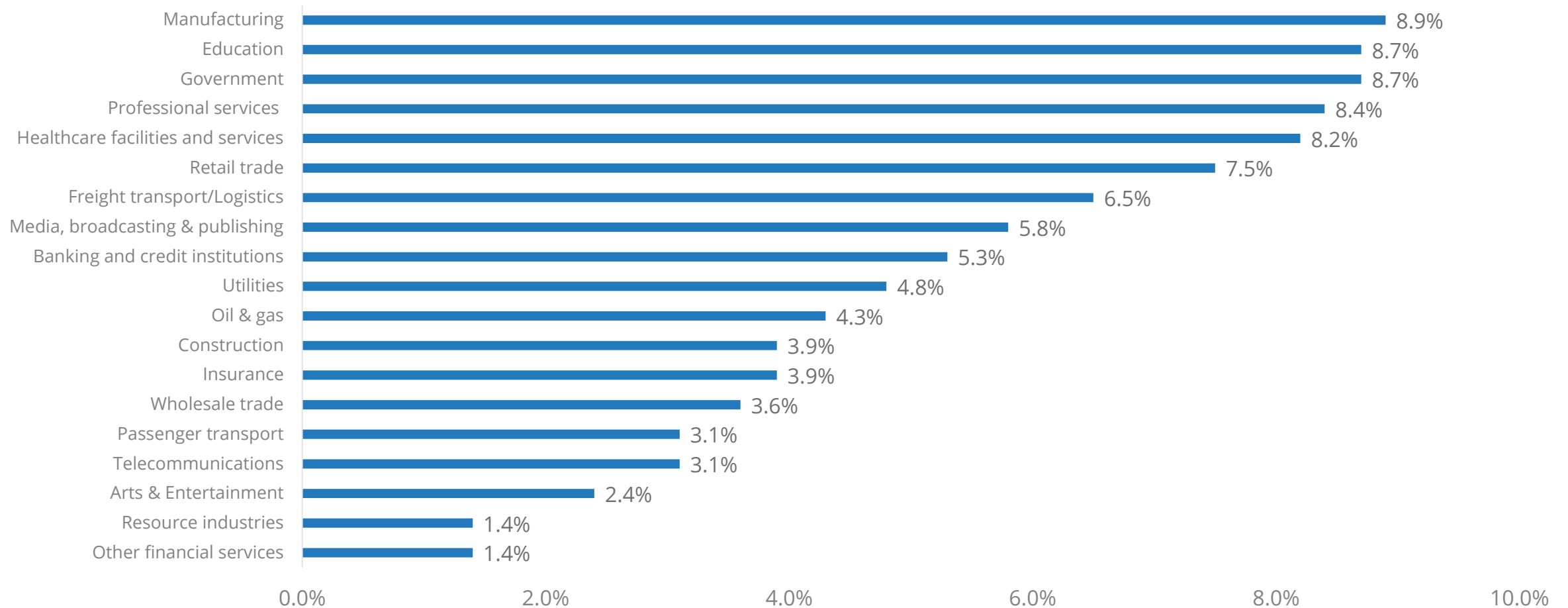


n =

Source: Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022

# Demographics

## By Industry



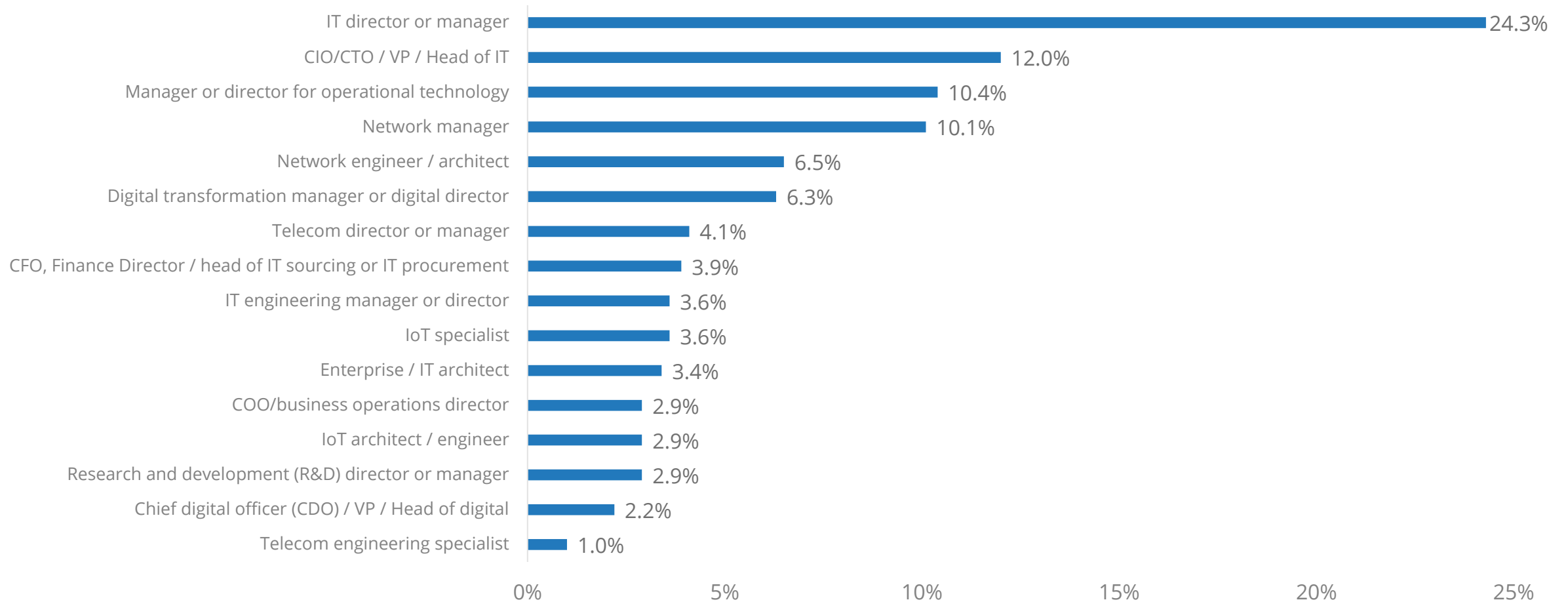
n = 415

Source: Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022



# Demographics

## By Role

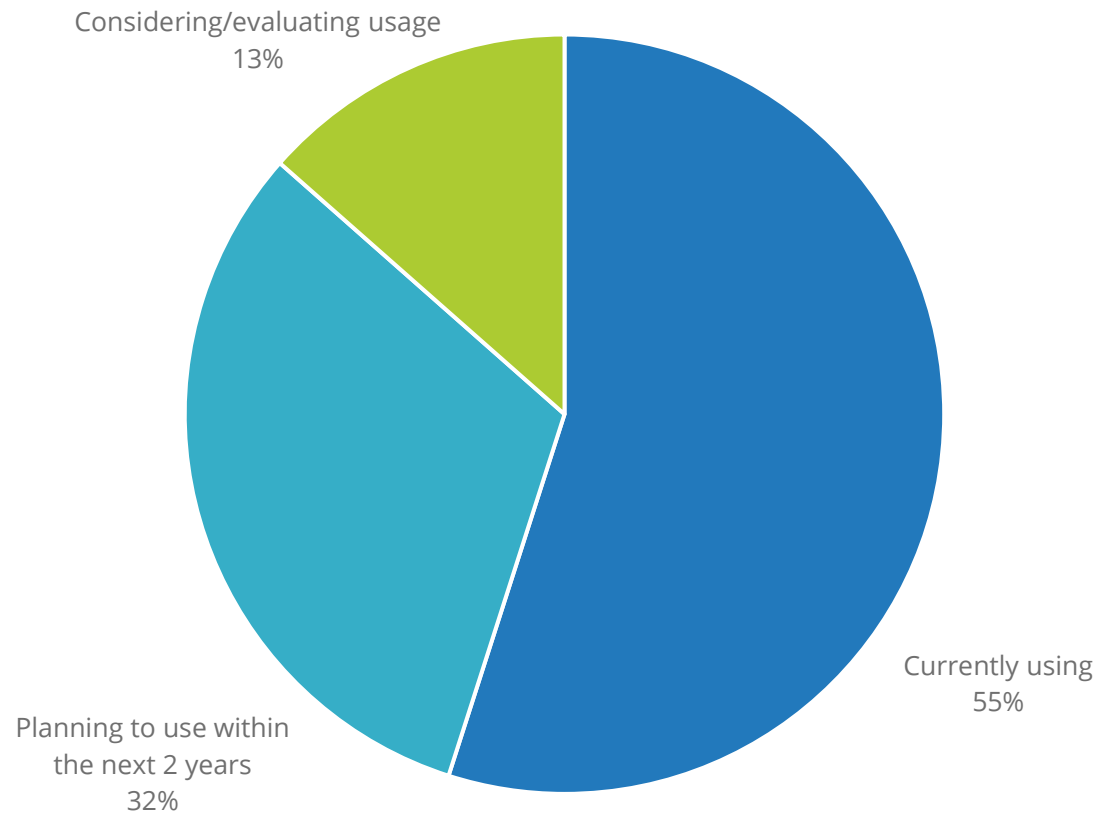


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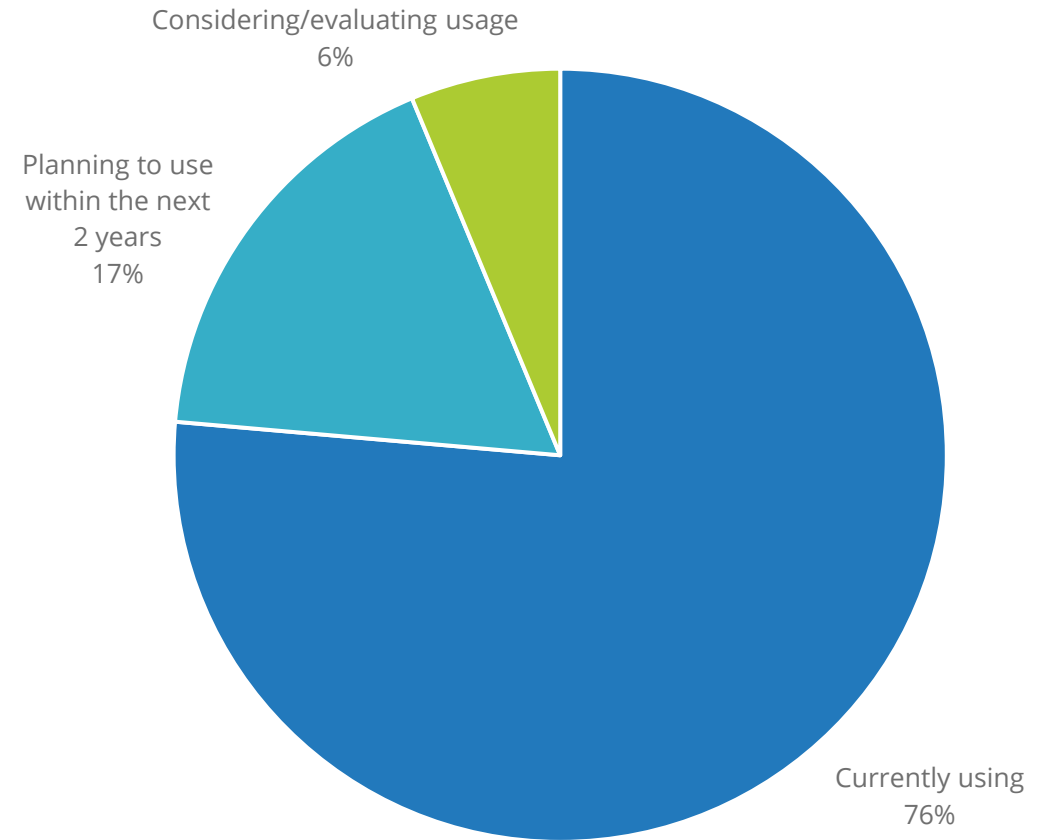
Source: Source: *North American Enterprise 5G, IoT and Private Mobile Networks Survey*, IDC, August 2022

# Demographics

## Plans to Use 5G Technology? (either for IoT or non-IoT uses)



## Plans to Use the Internet of Things (IoT)?



n = 415

Source: Source: North American Enterprise 5G, IoT and Private Mobile Networks Survey, IDC, August 2022