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5G Readiness Report

CSP Perceptions on Charging and
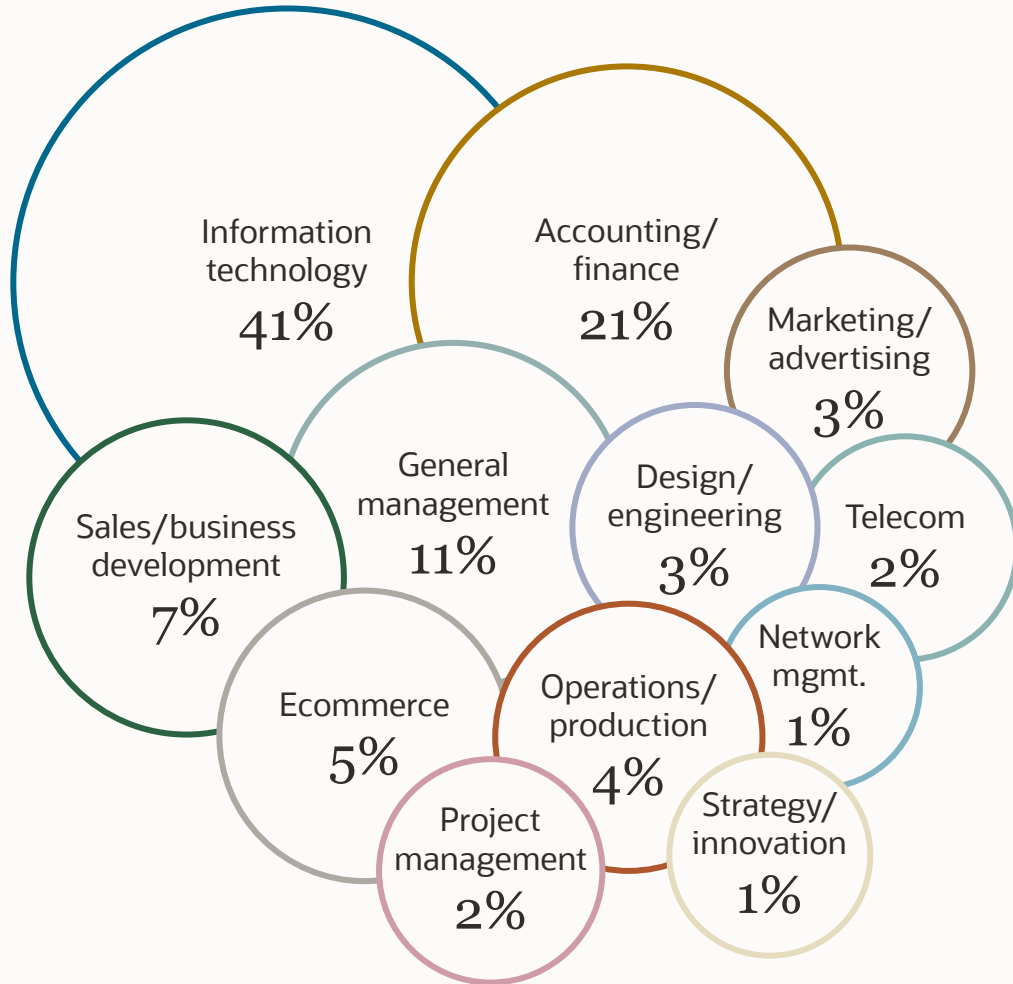Monetization for the 5G Era

INTRODUCTION

The commercial launch of 5G is ramping up worldwide with more than 150 deployments as of 2021. With it, the new network brings a host of required changes to the technical and business capabilities of communications service providers (CSPs).

CSPs will need to consider how their businesses can evolve with 5G, the types of new services to be launched, and the capabilities required from a converged charging system to support these changes.
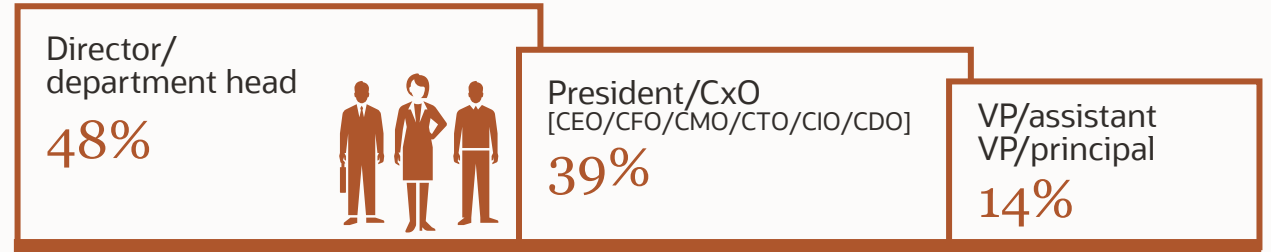
In this report by Oracle Communications, "5G Readiness Report", we provide insight into when CSPs plan to launch 5G, the services they plan to implement to monetize the network, and the drivers, barriers, and priorities shaping investments in 5G converged charging systems.

Oracle conducted a survey of 303 decision makers and influencers within communications service providers across the globe
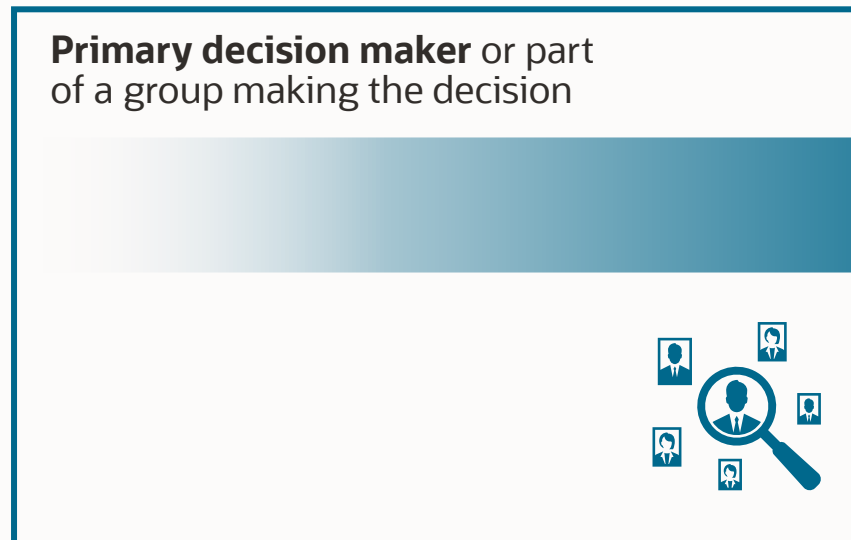
Job function

Information technology
41%

Accounting/ finance
21%

Marketing/ advertising
3%

General management
11%

Design/ engineering
3%

Telecom
2%

Sales/business development
7%

Ecommerce
5%

Operations/ production
4%

Network mgmt.
1%

Project management
2%

Strategy/ innovation
1%

Job title

Director/ department head
48%

President/CxO
[CEO/CFO/CMO/CTO/CIO/CDO]
39%

VP/assistant VP/principal
14%

Influence level

Primary decision maker or part of a group making the decision

78%

Respondents came from CSPs of varying sizes and countries

Company revenue

$5M < $50M
20%

$500M < $1B
19%

$100M < $500M
19%

$50M < $100M
18%

<$ 5M
15%

>$ 1B
9%

Country

28%	United States
19%	France
15%	United Kingdom
12%	Canada
6%	Spain
5%	India
4%	Hong Kong
4%	Singapore
3%	South Korea
3%	Australia
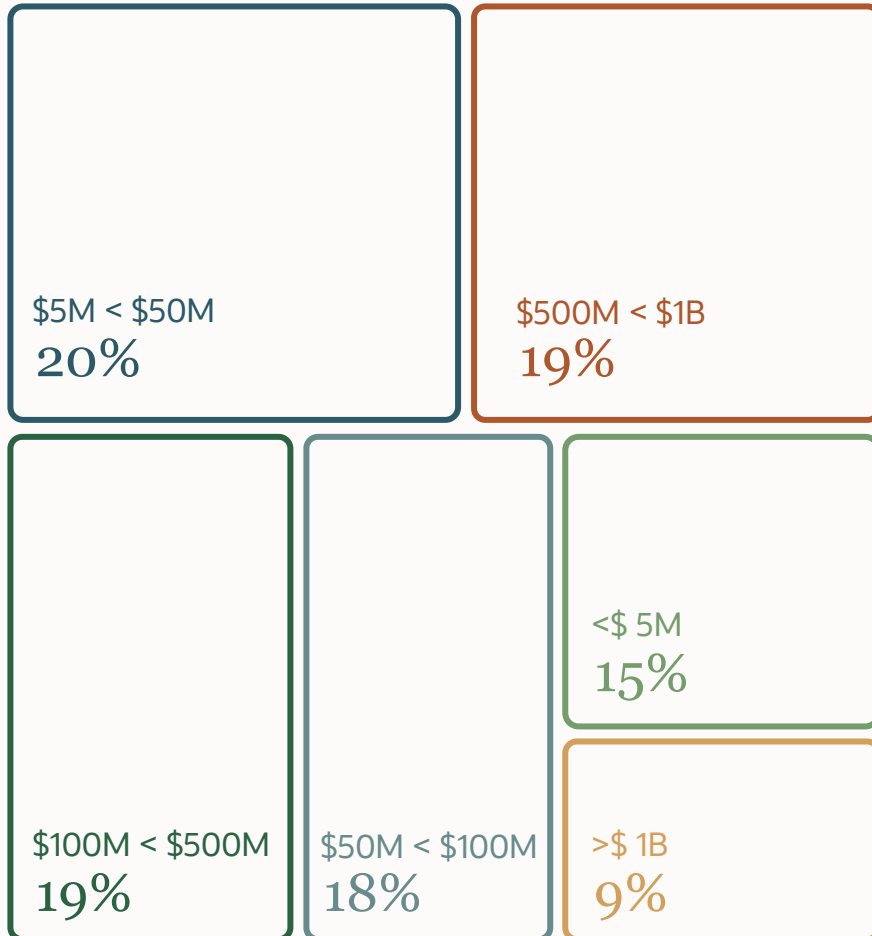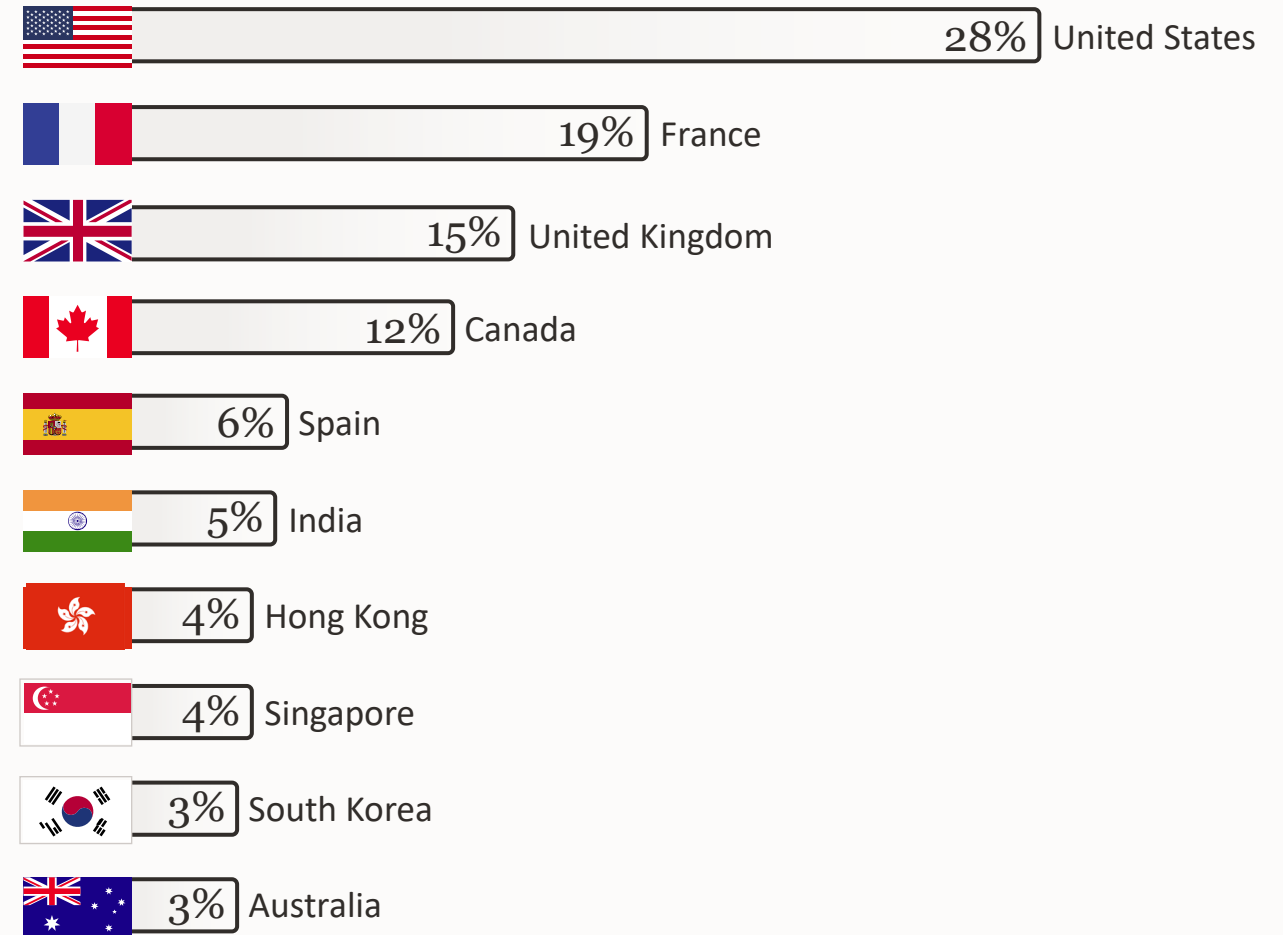
Three-fourths of CSP respondents have already launched or are launching 5G networks this year

Timing of 5G network launch

18% — Already launched

30% — 0-6 months

27% — 6-12 months

14% — 1-3 years

2% — 3-5 years

1% — 5+ years

9% — No plans

Most respondents with no plans for a 5G network were smaller CSPs (<$5 million in revenue)
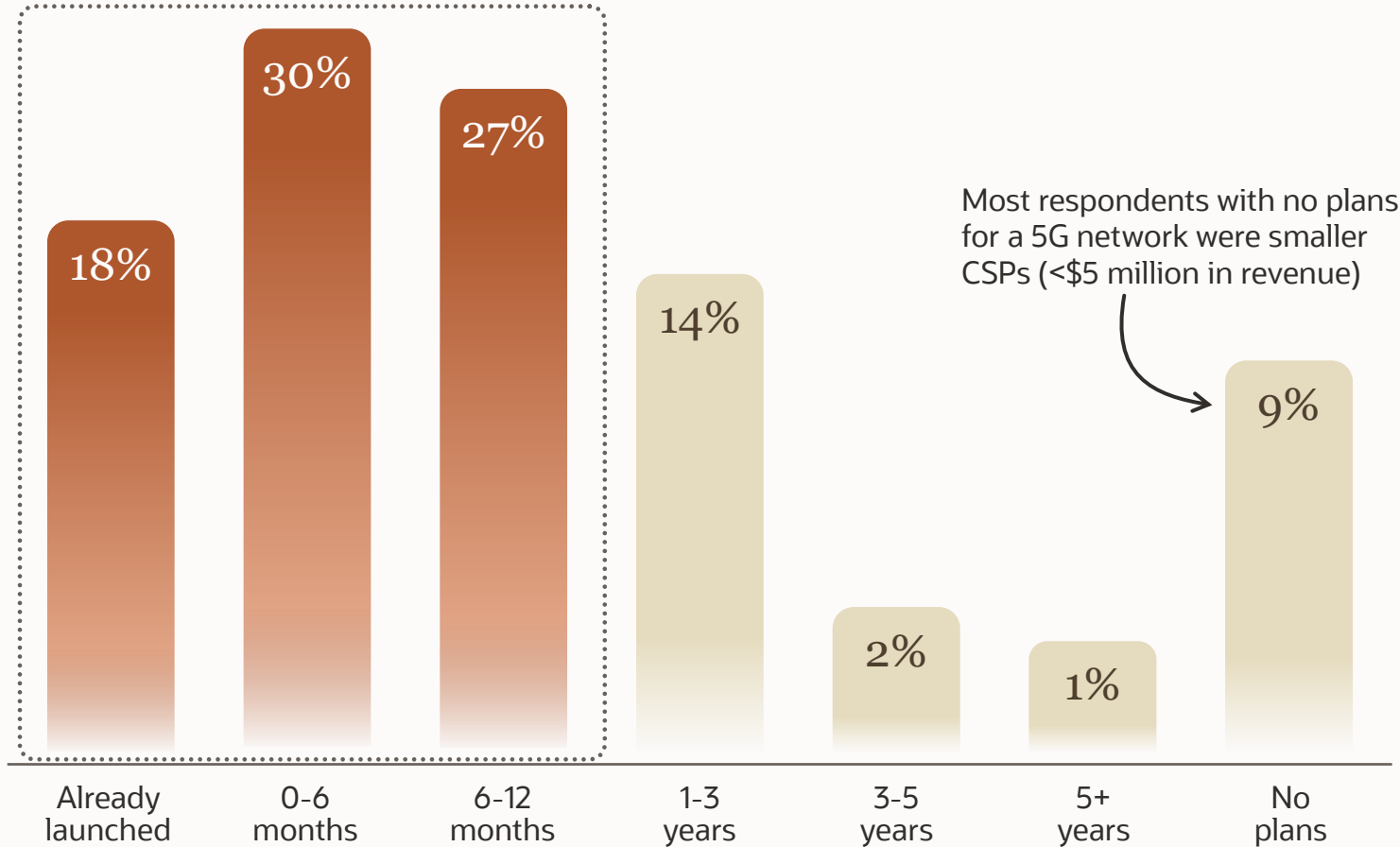
CSPs will launch an average of three advanced 5G services in addition to basic broadband

Types of services being launched on 5G

26% Advanced services only

41% Basic services & 3+ advanced services

26% Basic services & 1-2 advanced services

7% Basic services only

93%
of CSPs plan to launch **advanced services** on 5G
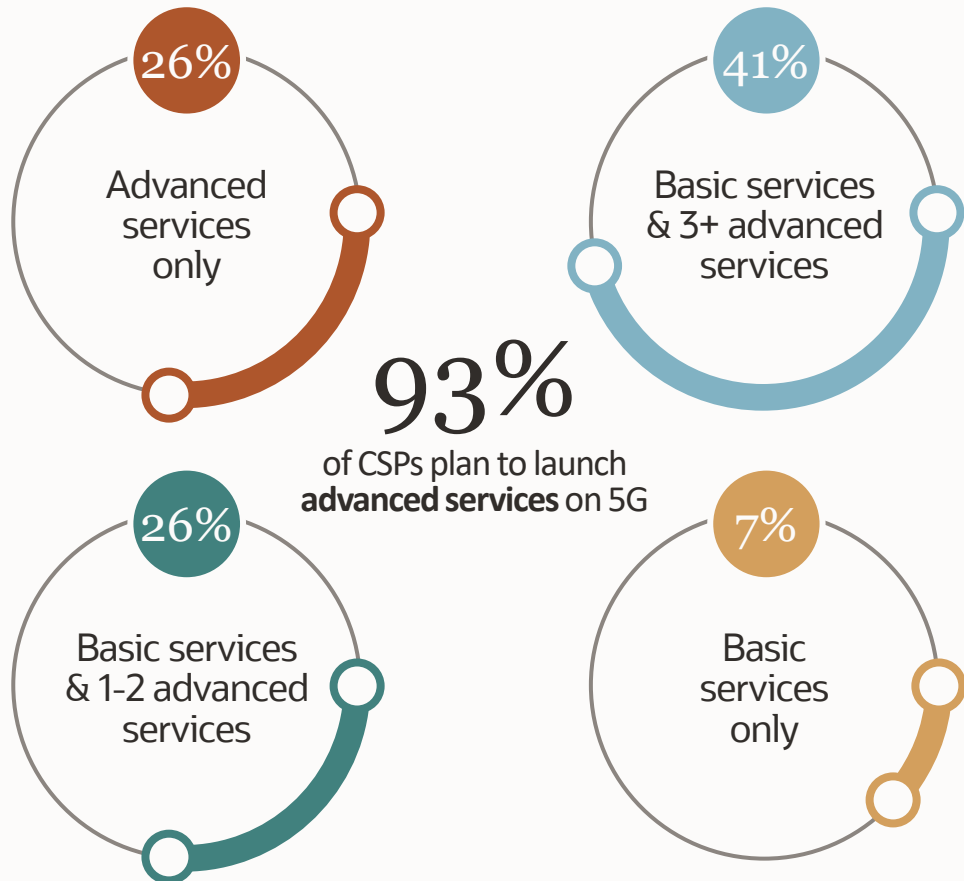
Advanced services being launched on 5G

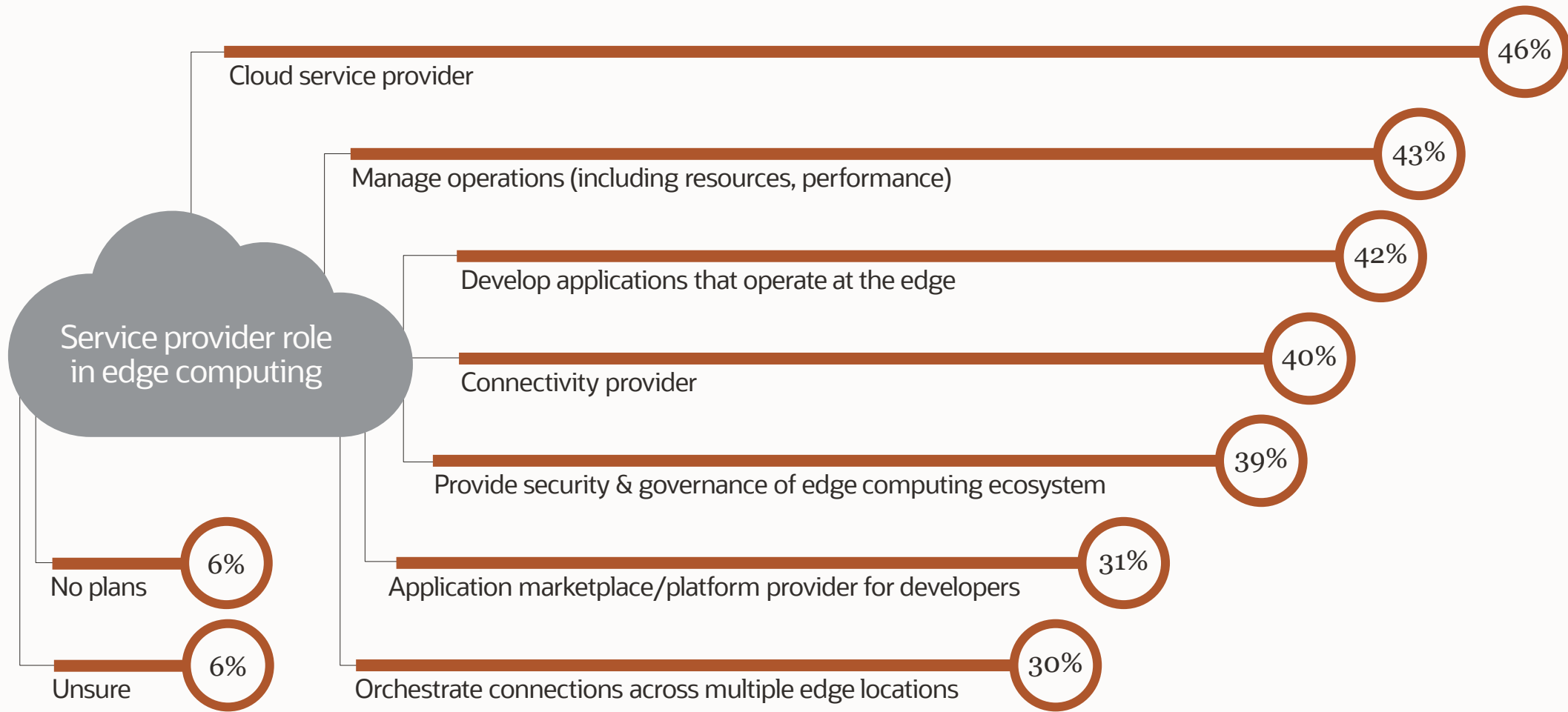| Service	%
Smart home applications	45%
Live entertainment	34%
Gaming	34%
Retail	34%
Industry 4.0 (manufacturing)	32%
Healthcare	30%
Education	29%
Automotive/transportation	26%
AR/VR	25%
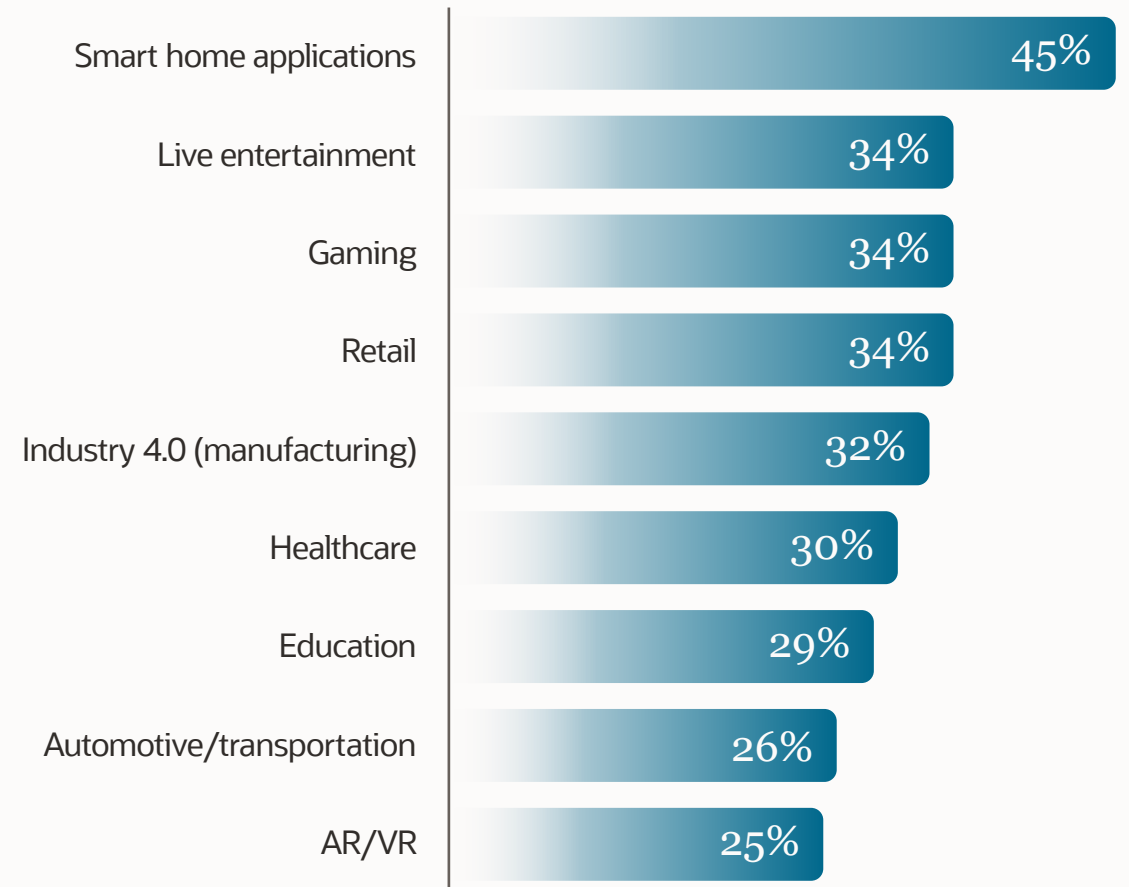
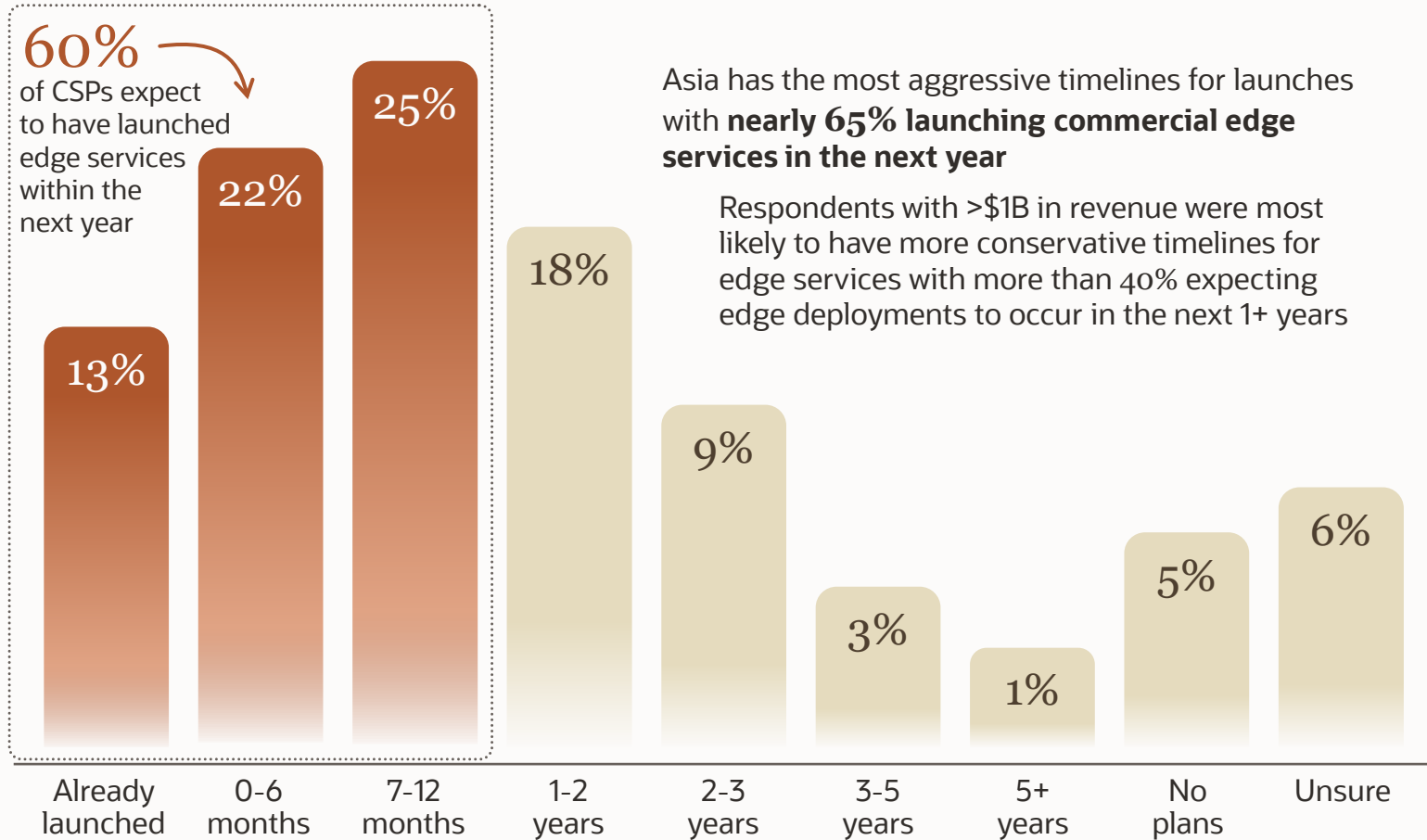# The majority of CSPs will play a modest role in delivering edge services with nearly half planning to provide cloud services

Respondents with >$1B in revenue were most likely to take on the role of developer of edge applications

Service provider role in edge computing

Cloud service provider — 46%

Manage operations (including resources, performance) — 43%

Develop applications that operate at the edge — 42%

Connectivity provider — 40%

Provide security & governance of edge computing ecosystem — 39%

Application marketplace/platform provider for developers — 31%

Orchestrate connections across multiple edge locations — 30%

No plans — 6%

Unsure — 6%

As a result of playing a modest role in edge services, the majority of CSPs expect to have launched edge services within the next year

Timing of edge computing launch

60%
of CSPs expect to have launched edge services within the next year

13% Already launched

22% 0-6 months

25% 7-12 months

18% 1-2 years

9% 2-3 years

3% 3-5 years

1% 5+ years

5% No plans

6% Unsure

Asia has the most aggressive timelines for launches with **nearly 65% launching commercial edge services in the next year**

Respondents with >$1B in revenue were most likely to have more conservative timelines for edge services with more than 40% expecting edge deployments to occur in the next 1+ years

CSPs plan to monetize 5G data security and low latency

Pricing levers to monetize 5G

Lever	Percentage
Data security	62%
Speed/latency	60%
Energy efficiency	45%
Reachability	42%
Mobility/location	41%
Guaranteed QoS	39%
Throughput	36%
Surge (dynamic) pricing	32%
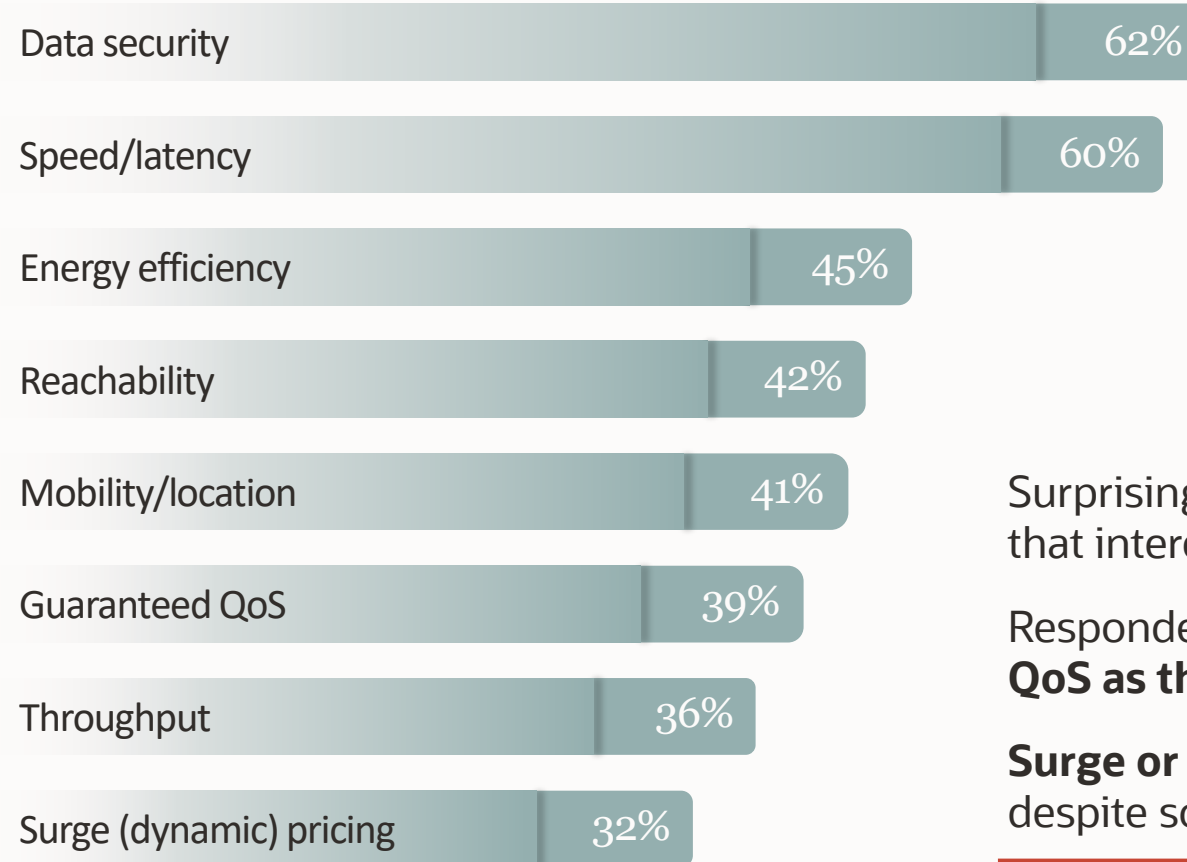
> " Security is really the key differentiator. "
>
> *— Director, IT Tier 1 CSP, Canada*

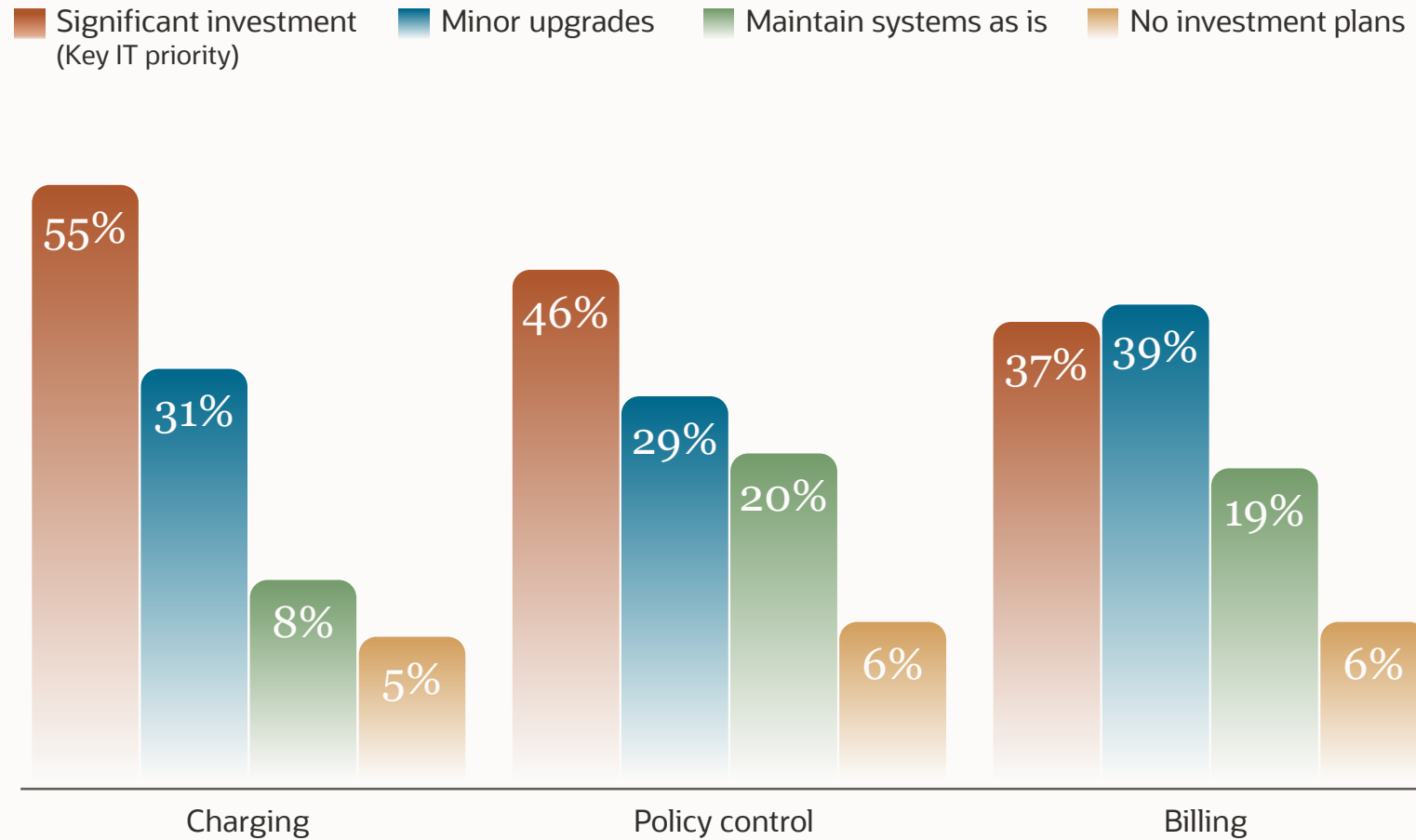Surprisingly, **energy efficiency is a pricing lever** that interests CSPs

Respondents from marketing functions ranked **guaranteed QoS as the most important pricing lever**

Surge or dynamic pricing is of less interest to CSPs, despite some vendors messaging the contrary

Over the next 18 months charging is the highest monetization investment priority

System upgrade prioritization for 5G

■ Significant investment (Key IT priority) ■ Minor upgrades ■ Maintain systems as is ■ No investment plans

Charging
- 55%
- 31%
- 8%
- 5%

Policy control
- 46%
- 29%
- 20%
- 6%

Billing
- 37%
- 39%
- 19%
- 6%
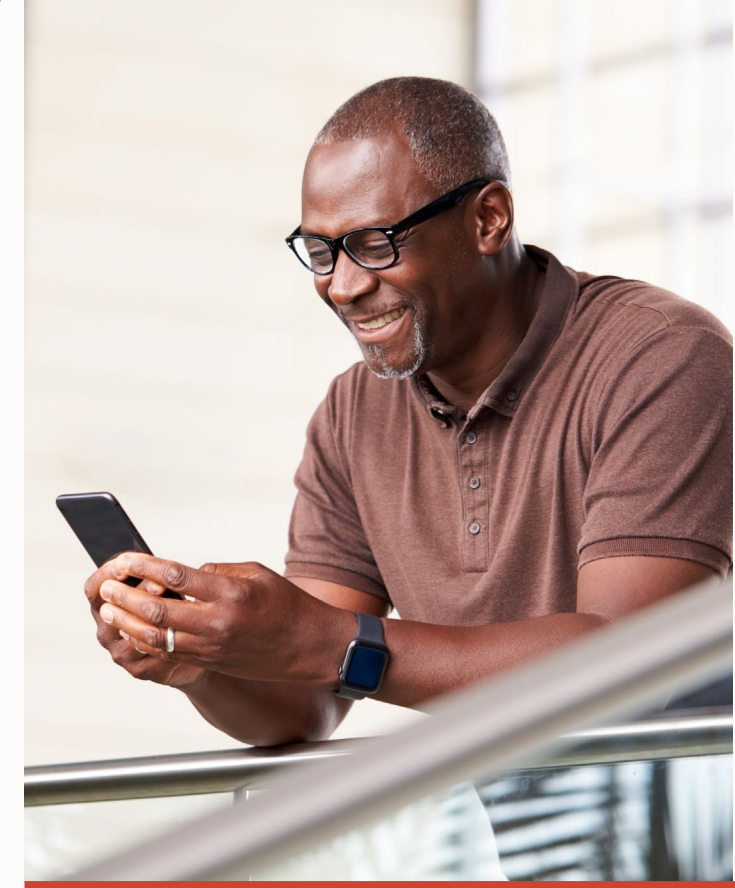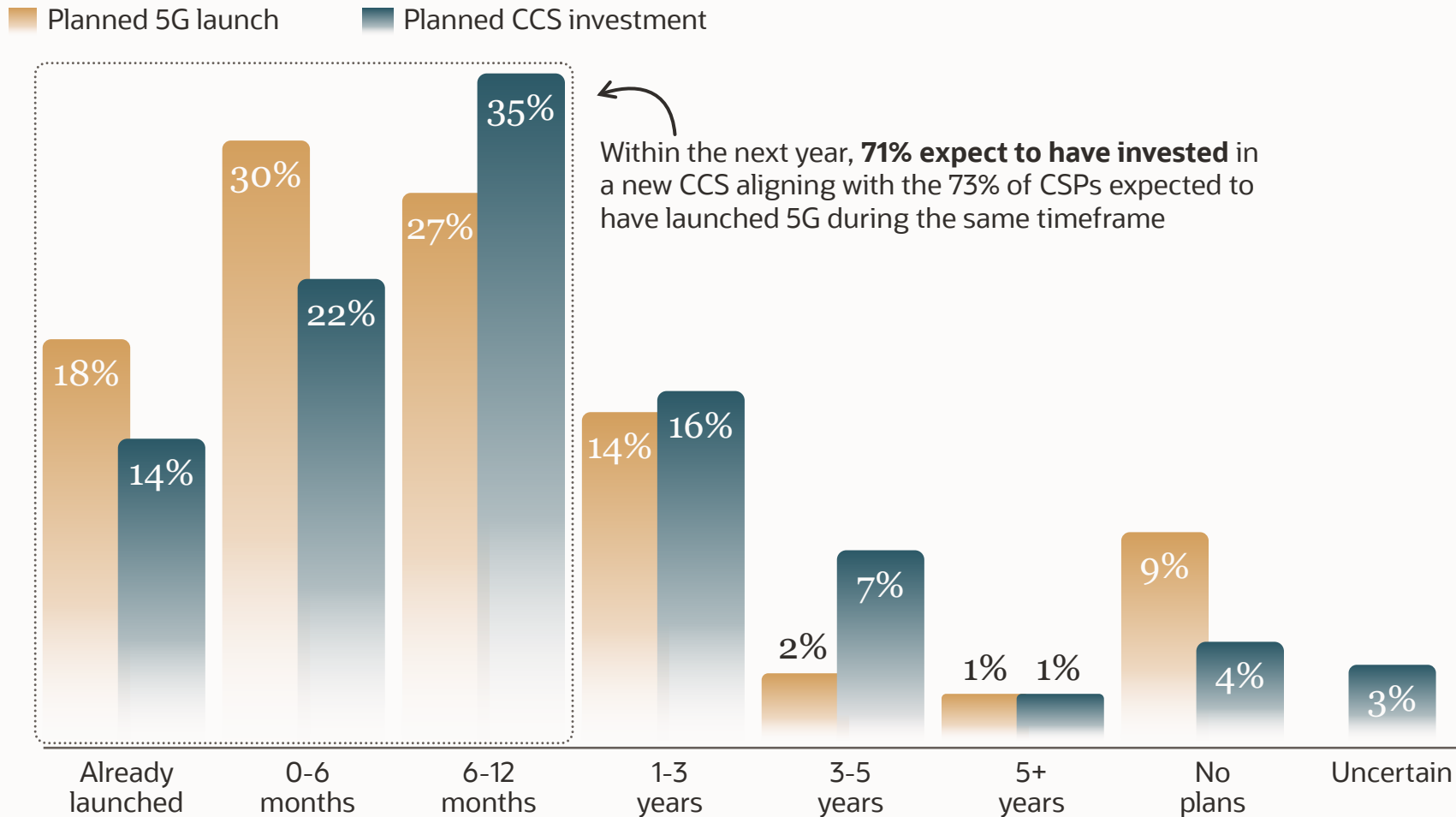
Investment in a new converged charging system (CCS) is an urgent priority – aligning with the timelines for 5G deployment

Timing of new CCS investments

- **Planned 5G launch**
- **Planned CCS investment**

Within the next year, **71% expect to have invested** in a new CCS aligning with the 73% of CSPs expected to have launched 5G during the same timeframe

	Already launched	0-6 months	6-12 months	1-3 years	3-5 years	5+ years	No plans	Uncertain
Planned 5G launch	18%	30%	27%	14%	2%	1%	9%	
Planned CCS investment	14%	22%	35%	16%	7%	1%	4%	3%

Enhancing customer experience and supporting new 5G needs are top business drivers for CCS investment

Business drivers for new converged charging system

Rank 1 | Rank 2 | Rank 3

Driver	Rank 1	Rank 2	Rank 3	Total
Enhance customer experience	10%	14%	13%	36%
Meet new performance needs of 5G	11%	16%	9%	36%
Monetize 5G services	13%	9%	11%	32%
Support new business models	12%	9%	11%	31%
Improve time to market	9%	10%	7%	26%
Reduce revenue leakage	11%	9%	6%	26%
Embrace cloud native technologies	9%	7%	10%	26%
Enable flexible pricing models for 5G services	7%	9%	9%	25%
Migrate operations to the cloud	10%	6%	9%	24%
Consolidate the number monetization systems	5%	5%	9%	19%
Monetize legacy (2G-4G) networks	5%	7%	7%	18%

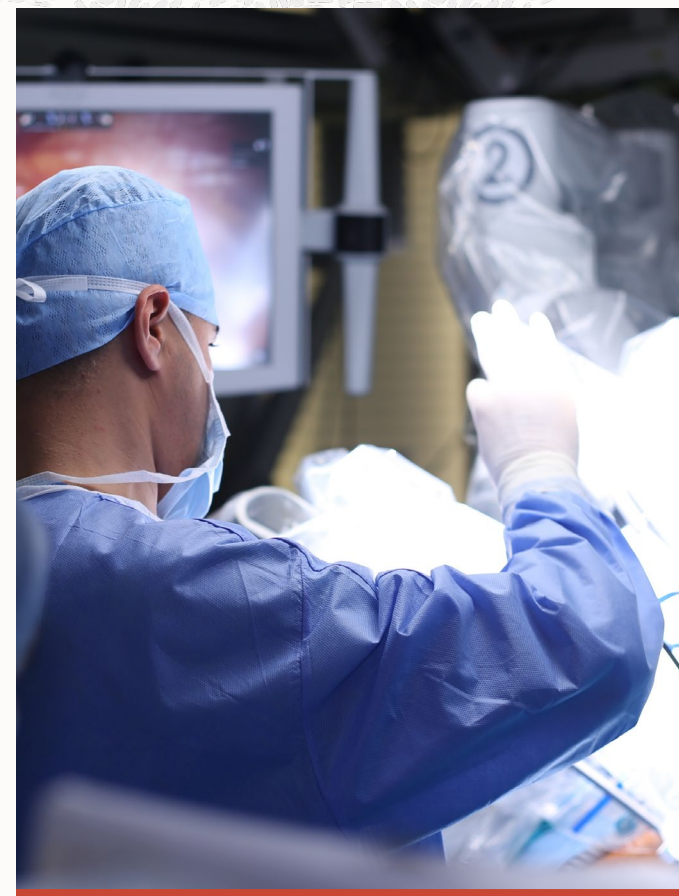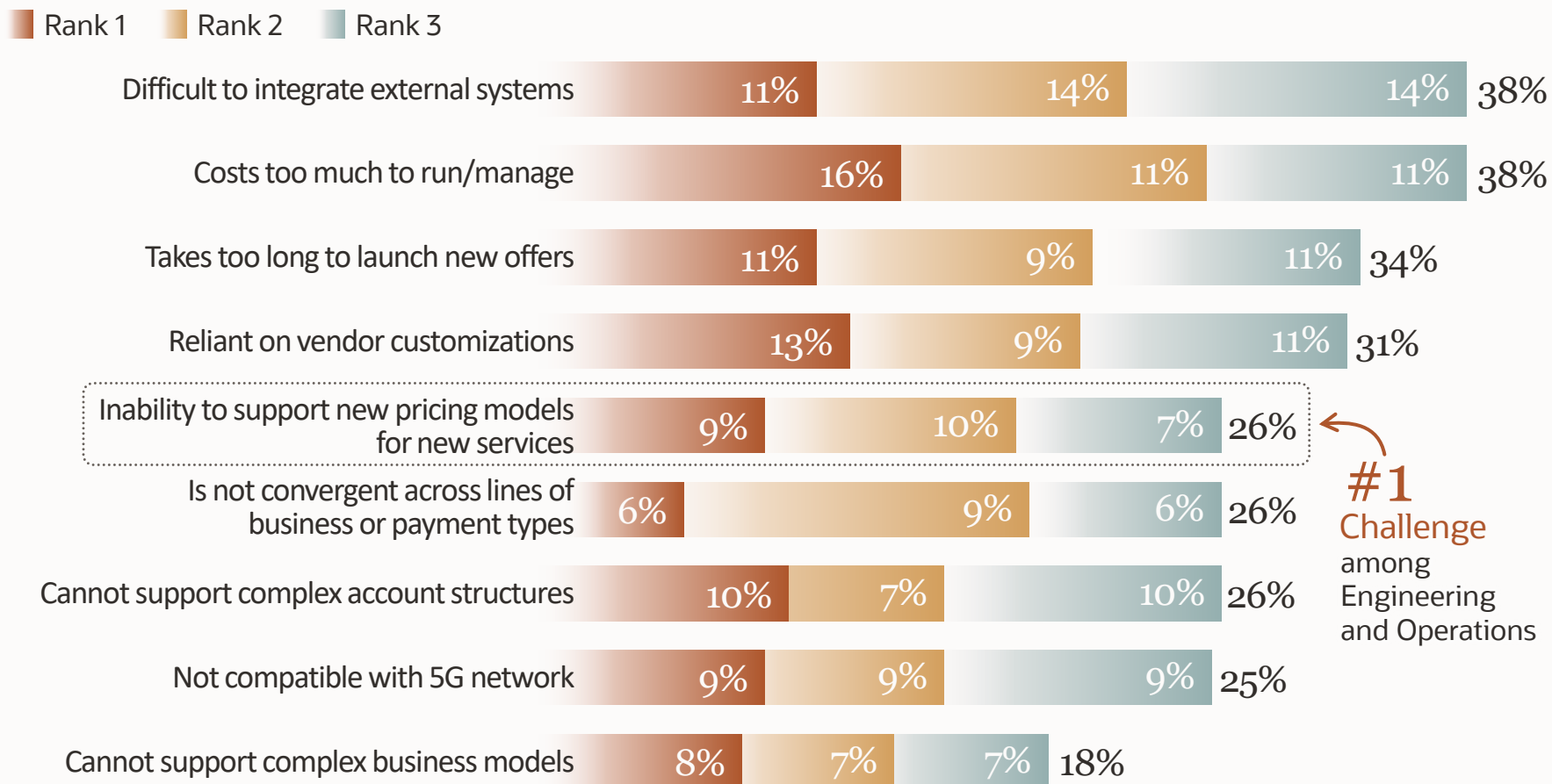IT respondents ranked "**monetize 5G services**" as most important

Marketing respondents focused on being first to deliver new and innovative services, ranked "improve time to market" as most important

Inability to integrate with external services and cost of operation rank as the top challenges for existing charging systems

Challenges with existing charging systems

■ Rank 1　■ Rank 2　■ Rank 3

Challenge	Rank 1	Rank 2	Rank 3	Total
Difficult to integrate external systems	11%	14%	14%	38%
Costs too much to run/manage	16%	11%	11%	38%
Takes too long to launch new offers	11%	9%	11%	34%
Reliant on vendor customizations	13%	9%	11%	31%
Inability to support new pricing models for new services	9%	10%	7%	26%
Is not convergent across lines of business or payment types	6%	9%	6%	26%
Cannot support complex account structures	10%	7%	10%	26%
Not compatible with 5G network	9%	9%	9%	25%
Cannot support complex business models	8%	7%	7%	18%

← #1 Challenge among Engineering and Operations

Respondents were overwhelmingly concerned with ensuring their 5G CCS is compatible with 5G and legacy networks

Q: What are the most important characteristics in a charging system to support your 5G plans?

N = 303

CSPs are likely to run 5G alongside legacy 4G and 3G networks for the foreseeable future, thus ensuring the new CCS is compatible across network generations ranks high as focus remains on maximizing the ROI of 5G and legacy networks.

Preferred characteristics of charging systems for 5G

Compatibility with 5G and legacy (2G-4G) networks
55%

Flexible rating and charging schemas
37%

Cloud native architecture
32%

SaaS delivery
32%

Convergence across business models and lines of business
31%

Distributed deployment
25%

Pre-integration with billing
25%

Pre-integration with policy control
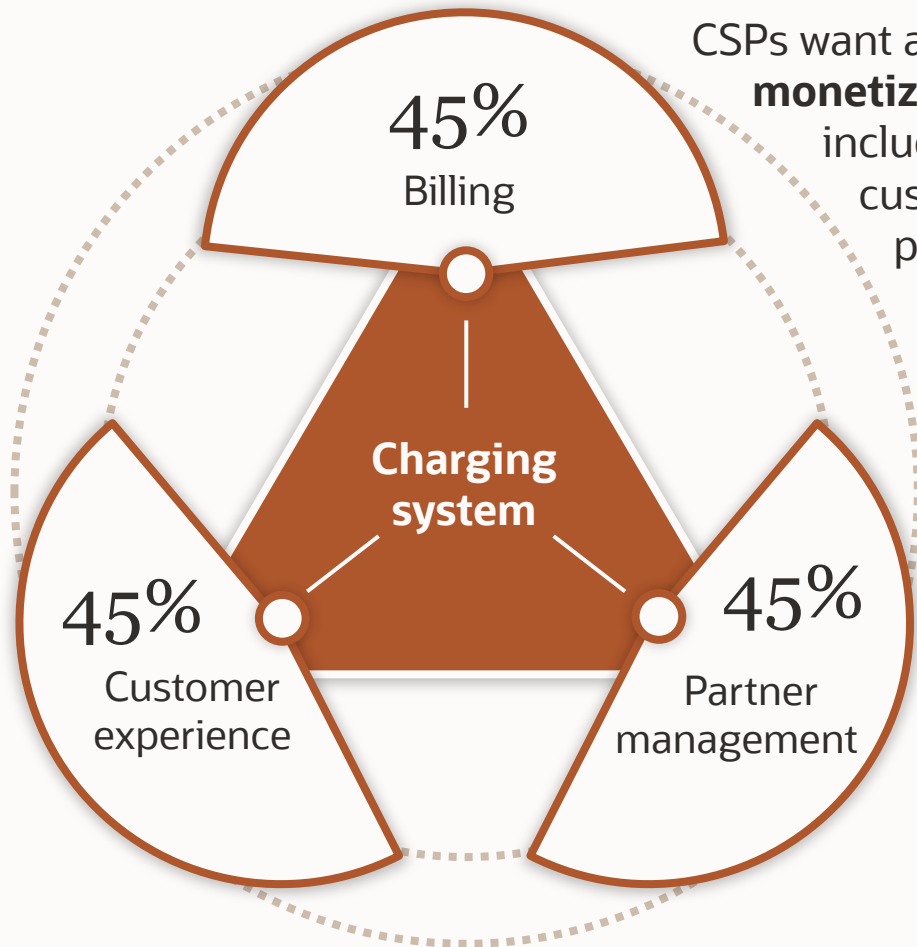**23%**

TM Forum open digital architecture compliant
22%

TM Forum open API compliance
17%

Most prefer to invest in a charging system that is pre-integrated with other monetization capabilities

45% Billing

45% Customer experience

Charging system

45% Partner management

CSPs want a **complete monetization solution** including charging, billing, customer experience, and partner management
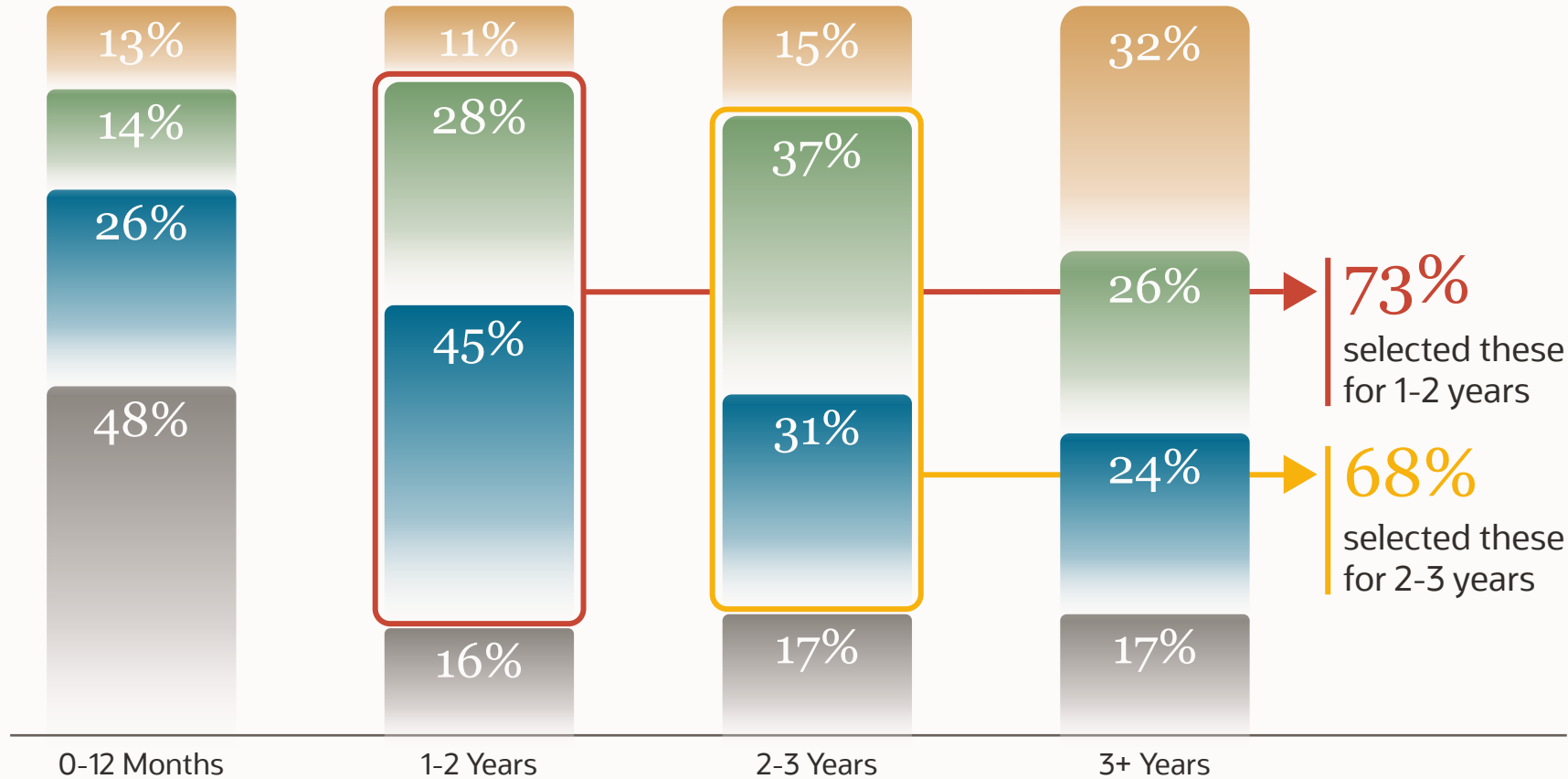
Deployment preferences underscore the importance of cloud native for the foreseeable future: private and public cloud will be the primary hosts

Preferred deployment environments for 5G charging systems

Legend: ■ On-premises ■ Private cloud ■ Hybrid cloud ■ Public cloud

0-12 Months
- 13%
- 14%
- 26%
- 48%

1-2 Years
- 11%
- 28%
- 45%
- 16%

2-3 Years
- 15%
- 37%
- 31%
- 17%

3+ Years
- 32%
- 26%
- 24%
- 17%

73% selected these for 1-2 years

68% selected these for 2-3 years

Financial constraints and an unclear IT strategy are the biggest barriers of investment in charging systems

Charging system investment barriers

23% Limited financial resources

Lack of a clear IT strategy 23%

19% Unsure of needs in a new charging system

Lack of support from internal stakeholders **15%**

11% Unsure of available options in the market

Lack of a clear monetization strategy **9%**
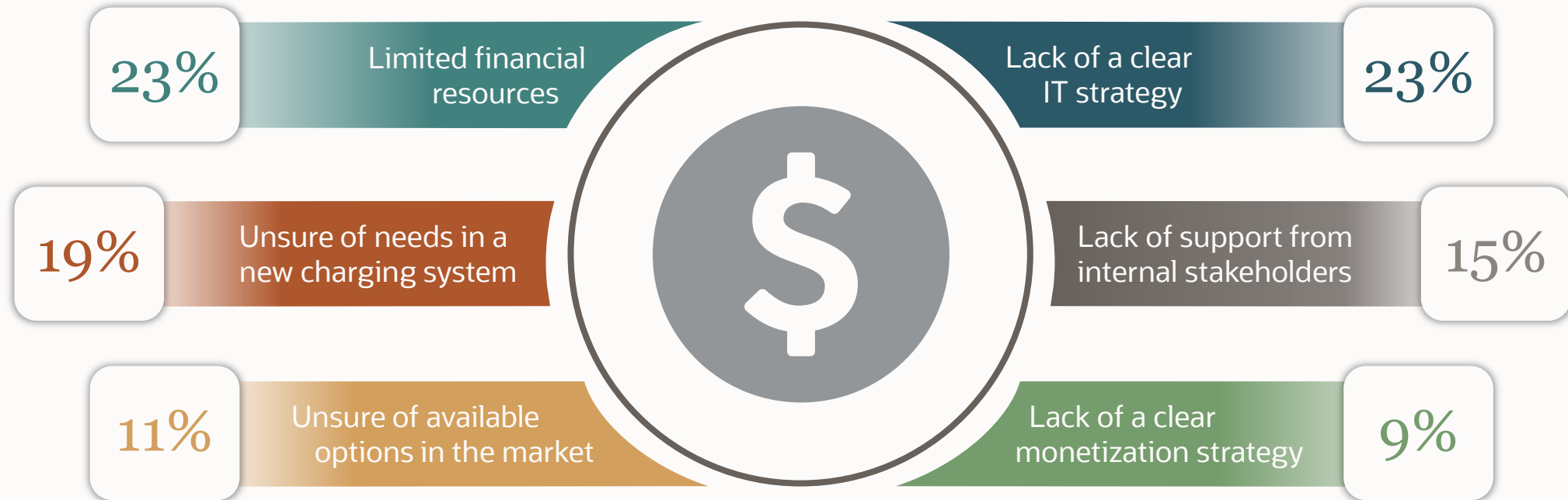
As charging becomes a more central part of the 5G network with the charging function (CHF) networks teams (33%) are finding a **lack of support from internal stakeholders** as a roadblock to CCS investment after financial limitations
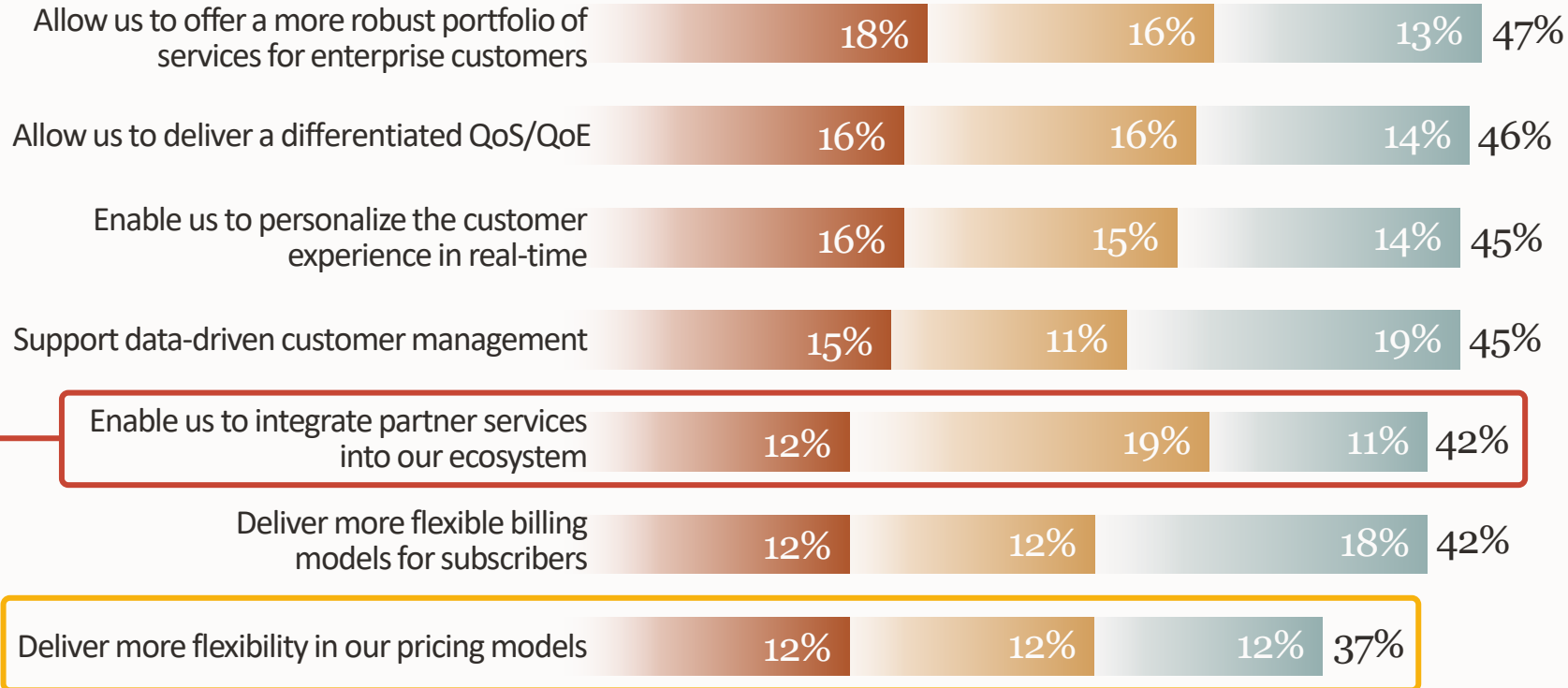
Smaller CSPs are more likely to face challenges with their available financial resources as well as be unsure of the capabilities they need to invest in for their new charging system

Nearly half of CSPs anticipate enhancing enterprise services and improving customer experience as a result of investing in a new CCS

Charging impact on digital transformation

- Rank 1
- Rank 2
- Rank 3

	Rank 1	Rank 2	Rank 3	Total
Allow us to offer a more robust portfolio of services for enterprise customers	18%	16%	13%	47%
Allow us to deliver a differentiated QoS/QoE	16%	16%	14%	46%
Enable us to personalize the customer experience in real-time	16%	15%	14%	45%
Support data-driven customer management	15%	11%	19%	45%
Enable us to integrate partner services into our ecosystem	12%	19%	11%	42%
Deliver more flexible billing models for subscribers	12%	12%	18%	42%
Deliver more flexibility in our pricing models	12%	12%	12%	37%

Tier-1 CSPs ($500M+ in revenue) expect the biggest impact of investing in a 5G CCS to be **the ability to integrate with partner services**

Marketing teams expect a 5G CCS to deliver **more flexibility in their pricing models** which will support the creation of new services
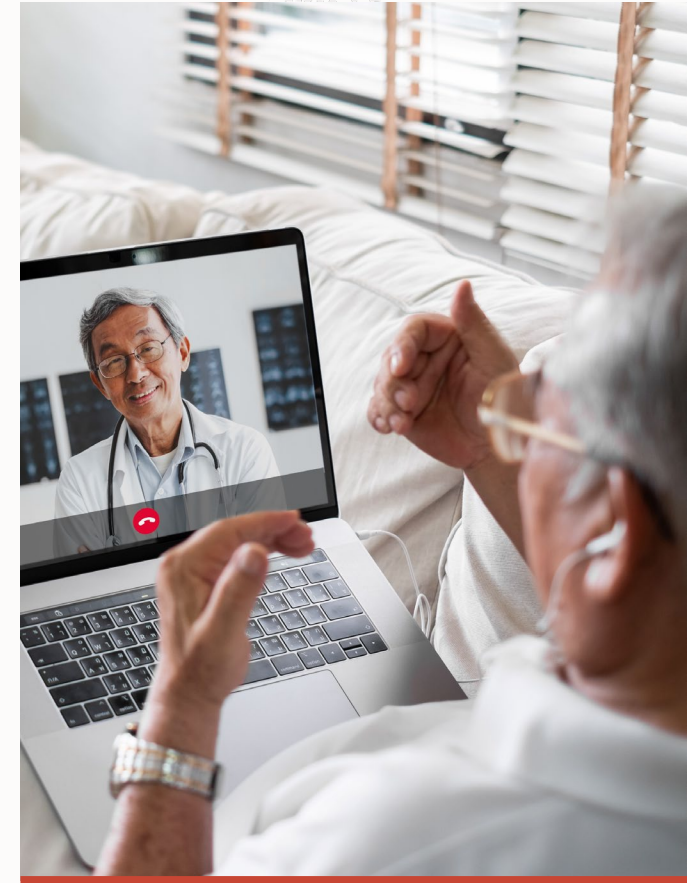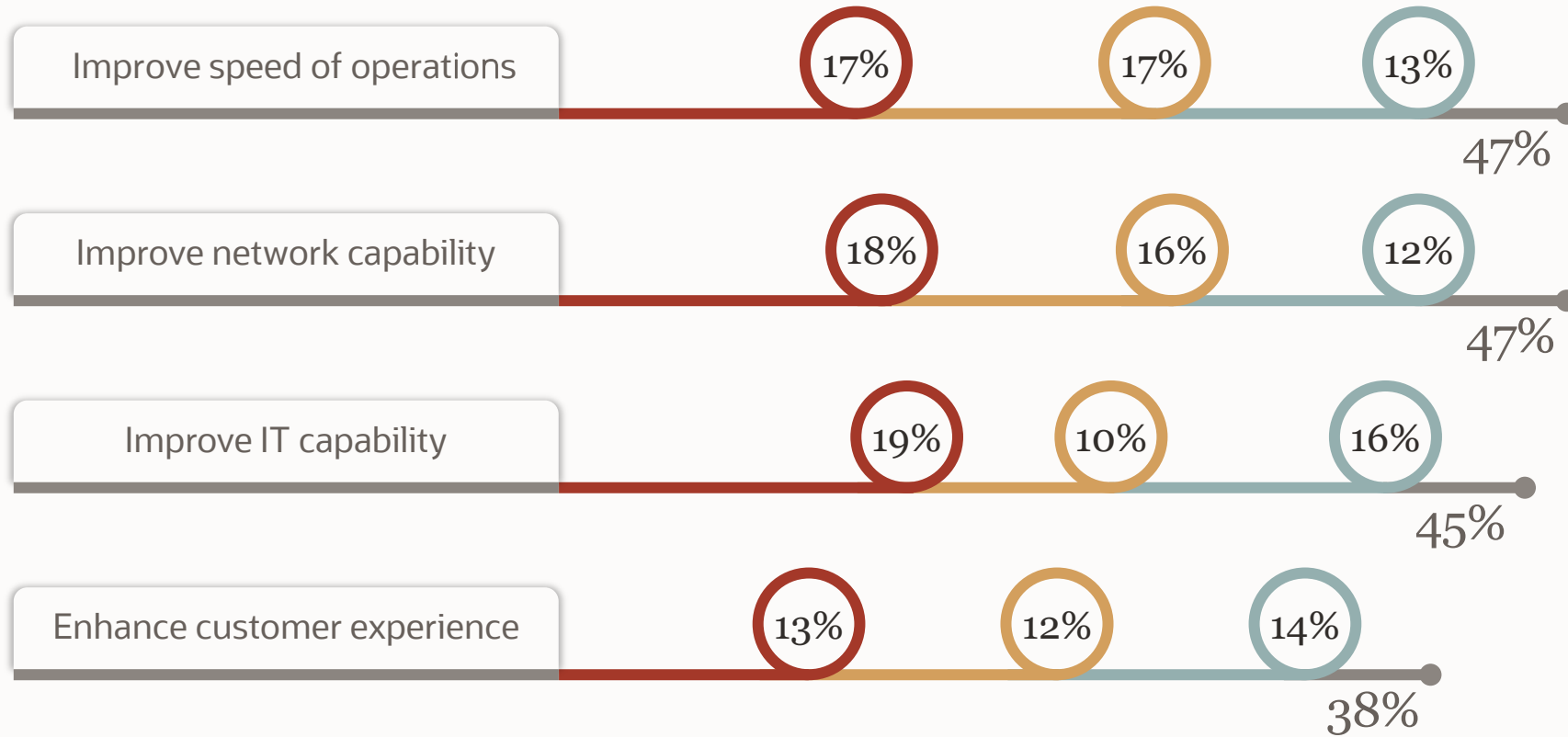
Improving B2B experience, capabilities, and operational speed are the top benefits CSPs expect 5G to deliver to enterprise customers

5G benefits for enterprise customers

⬤ Rank 1   ⬤ Rank 2   ⬤ Rank 3

Improve speed of operations
17%   17%   13%   47%

Improve network capability
18%   16%   12%   47%

Improve IT capability
19%   10%   16%   45%

Enhance customer experience
13%   12%   14%   38%

CSPs prefer to procure a CCS from a vendor with robust software capabilities and innovative product roadmap

Vendor selection criteria | % Selected

Vendor selection criteria	% Selected
Robustness of software capabilities	32%
Product roadmap/innovation	30%
Cross-industry expertise	26%
Offer pre-integrated charging and billing systems	23%
Offer their own cloud infrastructure	22%
Pre-integrated CCS and policy control	22%
End-to-end BSS capabilities	20%

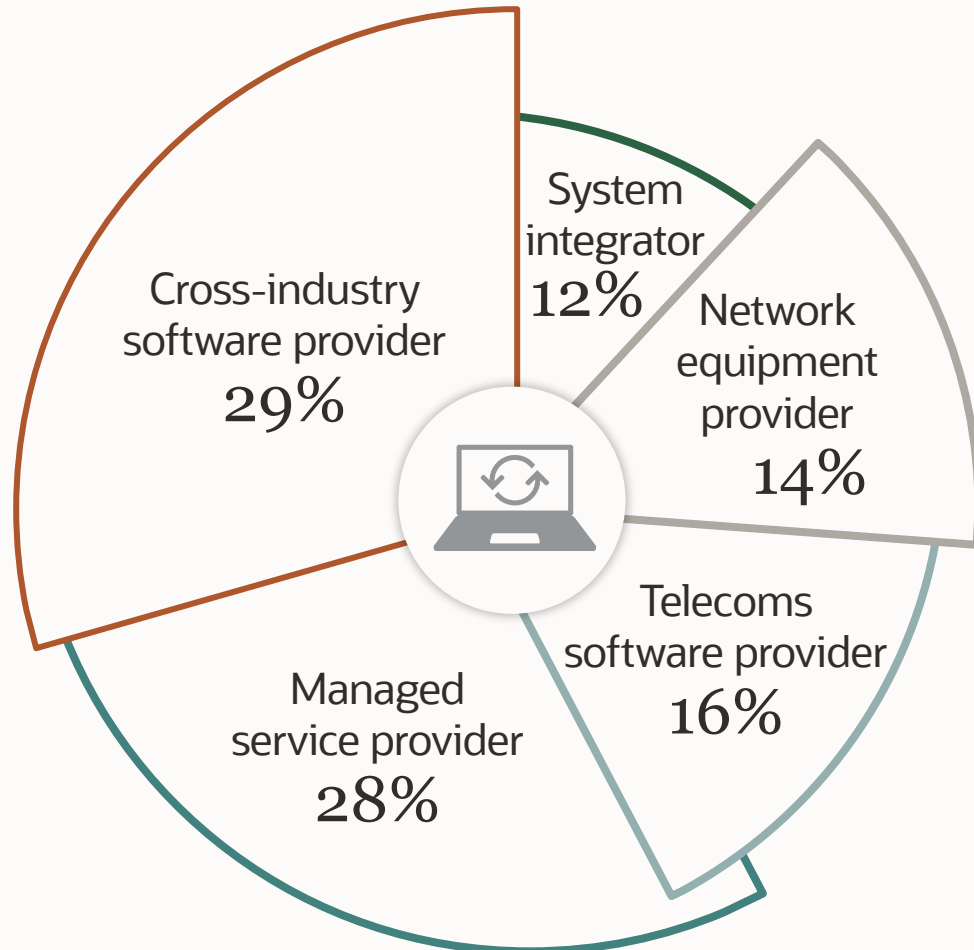Top selection criteria for respondents with **>$1B in revenue**

> " [We are looking for the] ability to be more of a partner than a vendor; someone we can grow with. "

— Director, IT Tier 2 CSP U.S.

Vendors with broad industry expertise are CSPs' provider of choice for 5G CCS

Preferred vendor type for charging system

- Cross-industry software provider **29%**
- System integrator **12%**
- Network equipment provider **14%**
- Telecoms software provider **16%**
- Managed service provider **28%**

Service reliability and quality are the key traits that respondents believe differentiate a leading charging vendor from its competitors

What respondents want from a 5G charging vendor

> A constant stream of **innovation** based on regular customer research.
>
> *– CXO, IT Tier 2 CSP, U.K.*

> Ability to be more of a **partner** than a vendor; someone we can grow with.
>
> *– Director, IT Tier 2 CSP, U.S.*

> **Innovative** and **inspiring** with [an] **ambitious** vision."
>
> *– Director, Engineering Tier 3 CSP, Hong Kong*

> **Reliability** of service and secure systems.
>
> *– Director, IT Tier 2 CSP, U.S.*

> Their ability to **innovate** and upgrade with the changing circumstances.
>
> *– Director, IT Tier 2 CSP, U.K.*

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Learn more at
oracle.com/converged-charging

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