

2026

State of Industrial AI

Report for Transportation

A global view of AI and its impact on security, growth, and innovation in operational technology across the transportation industry



Introduction

Following the success of the inaugural 2024 State of Industrial Networking Report, this edition looks at how transportation firms worldwide are adopting Artificial Intelligence; the challenges they face; and the opportunities for AI-powered transformation. We spoke to decision-makers at firms in 19 countries, operating with annual revenues over \$100 million.

This report provides a transportation-specific view of the 2026 State of Industrial AI research, highlighting where the sector is seeing progress, where constraints remain, and what foundations are required to move from targeted deployments to secure, repeatable scale.

Cisco, in association with Sapio Research, undertook this study to establish levels of AI adoption in industrial networking; the operational outcomes organizations are achieving from AI investments; barriers to scale; and how to align for success.



Executive summary



Industrial AI demands network modernization

Transportation organizations consistently highlight the network as a critical dependency for AI at scale.

- 48% of transportation organizations expect significant increases in connectivity and reliability requirements
- 95% of decision-makers say reliable wireless networks are vital for enabling AI
- More reliable connectivity (48%), bandwidth (44%), and wireless connectivity / mobility (40%) are top network requirements for AI at scale

Network readiness now determines AI success, with infrastructure limitations directly constraining the ability to scale deployments.



Cybersecurity is both the #1 barrier and the #1 asset

Expanding AI adoption elevates cybersecurity risk across industrial environments.

- 36% identify cybersecurity concerns as the key factor limiting AI adoption
- 44% cite security as their biggest networking challenge in AI-enabled operations
- 72% expect AI to improve their cybersecurity posture

While security gaps are limiting AI scale today, organizations view AI as a tool to strengthen detection, monitoring, and resilience.



IT/OT collaboration is critical to AI at scale

Effective collaboration between IT and OT teams directly impacts AI outcomes.

- 52% of transportation organizations continue to operate with limited or no IT/OT cooperation
- 36% cite lack of IT/OT collaboration as a major challenge to AI-enabled operations
- 33% say siloed IT/OT ownership is a key organizational barrier to AI adoption

While disparate teams slow AI deployment and increase operational risk, IT/OT alignment accelerates scalability, stability, and security.

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Introduction letter

I'm excited to introduce Cisco's 2026 State of Industrial AI Report – an evolution of our State of Industrial Networking Report. As industrial operations continue to transform, artificial intelligence is rapidly emerging as a gamechanger across manufacturing, utilities, transportation, and beyond. 2025 was the year for many to experiment with AI in industrial settings; 2026 promises to be the year when many organizations move from pilots to real, production-ready AI projects.

This year's report is informed by the perspectives of 1,000 operational leaders across 19 countries and 21 industries. It highlights not only the tremendous potential of AI to enhance productivity, resilience, and safety, but also explores the challenges organizations face as they integrate AI into their industrial networking strategies – from data management to cybersecurity to IT/OT collaboration.

At Cisco, we remain committed to supporting our customers' digital transformation journeys. Our deep expertise in both IT and OT has positioned us to help organizations harness AI, enabling smarter, more secure, and more agile industrial networks at scale. Listening to our customers continues to be our top priority, and this year's survey reveals powerful insights about how industrial leaders are approaching AI adoption – and what's on their minds for the year ahead.

We're seeing companies bring AI to life in impactful ways: from deploying machine vision to ensure product quality in manufacturing, to rolling out AI-powered automated guided vehicles (AGVs) and autonomous mobile robots (AMRs) that are reshaping material handling and logistics, to leveraging agentic operations that drive more autonomous, adaptive, and efficient workflows across industrial environments. Additionally, AI is playing an increasingly critical role in cybersecurity for OT, where the scale and complexity of machine data demand intelligent, automated approaches that go beyond human capabilities.

We hope this report serves as a valuable resource, offering context and benchmarks to guide your strategy, partnerships, and innovation initiatives. By working together, we've already seen the extraordinary business outcomes that industrial networking for AI use cases can deliver. As the critical infrastructure for the AI era, Cisco is dedicated to empowering organizations to realize the full potential of industrial AI. We look forward to helping you unlock even more possibilities in the coming year.

Vikas Butaney

Senior Vice President and General Manager
Cisco Secure Routing and Industrial IoT



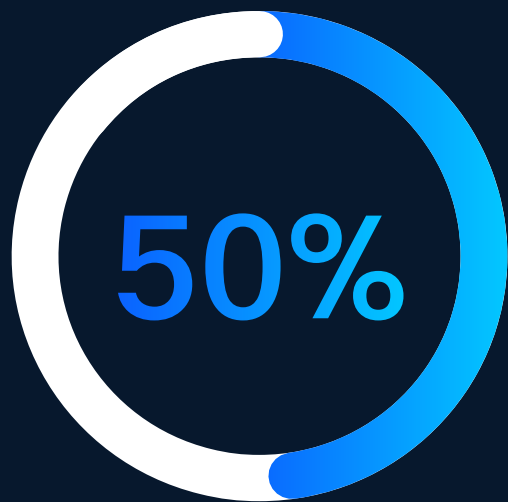


Section 1

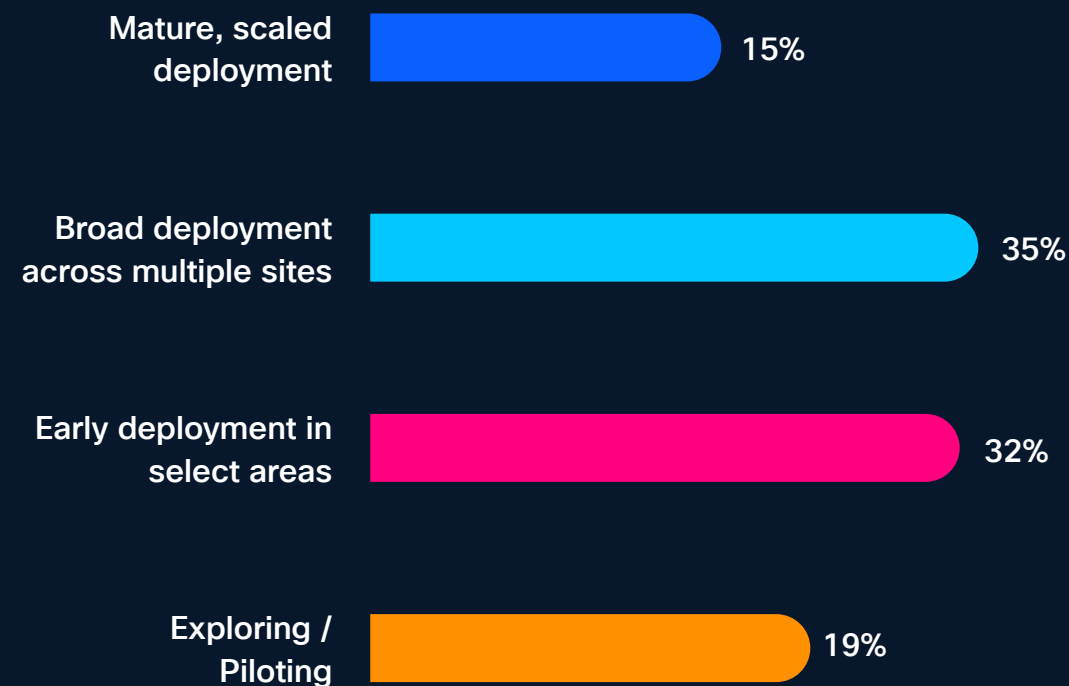
The state of industrial AI adoption in transportation

AI adoption has reached active deployment

AI adoption in transportation is established and broad, rather than experimental.



of transportation organizations are actively deploying AI



Q. Which of the following best describes your organization's current stage of AI adoption in industrial operations? Select one



“

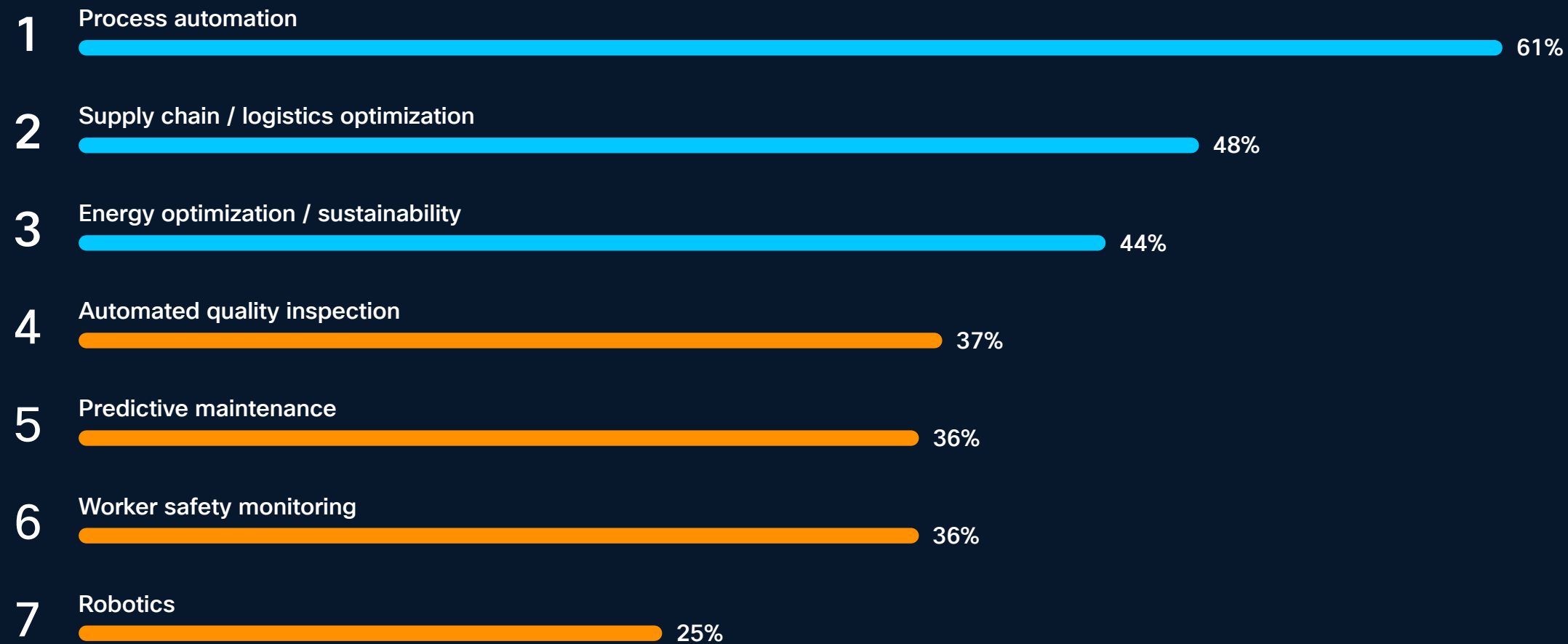
AI transformation reveals productivity for most, business reimagination for a few.

AI's real-world business impact is rising fast, with 25% of leaders now reporting that AI is having a transformative effect on their companies—more than double from 12% a year ago. Yet, most companies are only at the edge of large-scale AI-driven transformation.”

Source: Deloitte “State of AI in the Enterprise”, January 2026 - <https://www.deloitte.com/content/dam/assets-zone3/us/en/docs/services/consulting/2026/state-of-ai-2026.pdf>

AI adoption evolves from efficiency to resilience

Early adoption in transportation is characterized by use cases that support efficiency, reliability and throughput across distributed operations—reflecting a pragmatic approach to AI adoption.

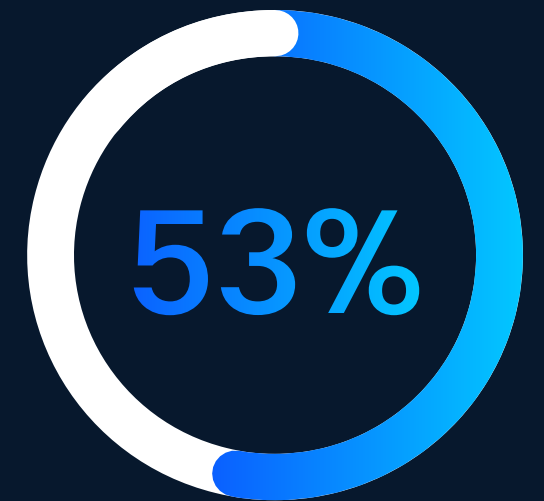
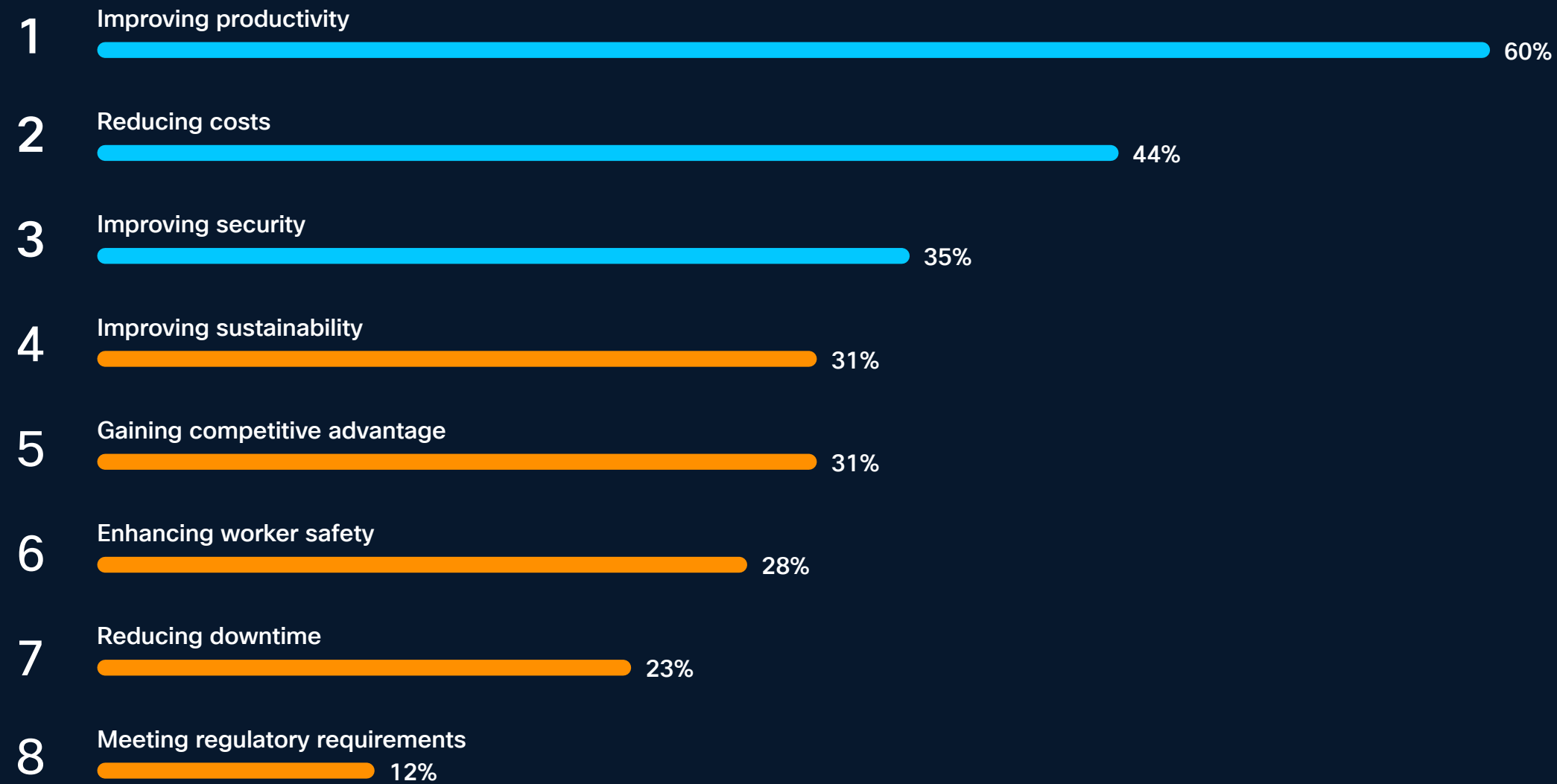


As AI maturity increases, investment is progressively applied to quality, safety enhancements and risk reduction efforts, indicating broader alignment with long-term resilience and workforce protection.

Q. Which AI use cases are you currently exploring or deploying in your industrial operations?

Operational efficiency drives AI adoption

Operational improvement is the dominant driver of AI adoption in transportation, with a strong focus on efficiency, reliability, and security.



of organizations in transportation expect to see AI outcomes within the first twelve months, or have already seen results, reinforcing efficiency as the primary starting point.

Q. What are the primary drivers behind your organization's interest in AI? Select up to three

Cybersecurity concerns limit AI adoption

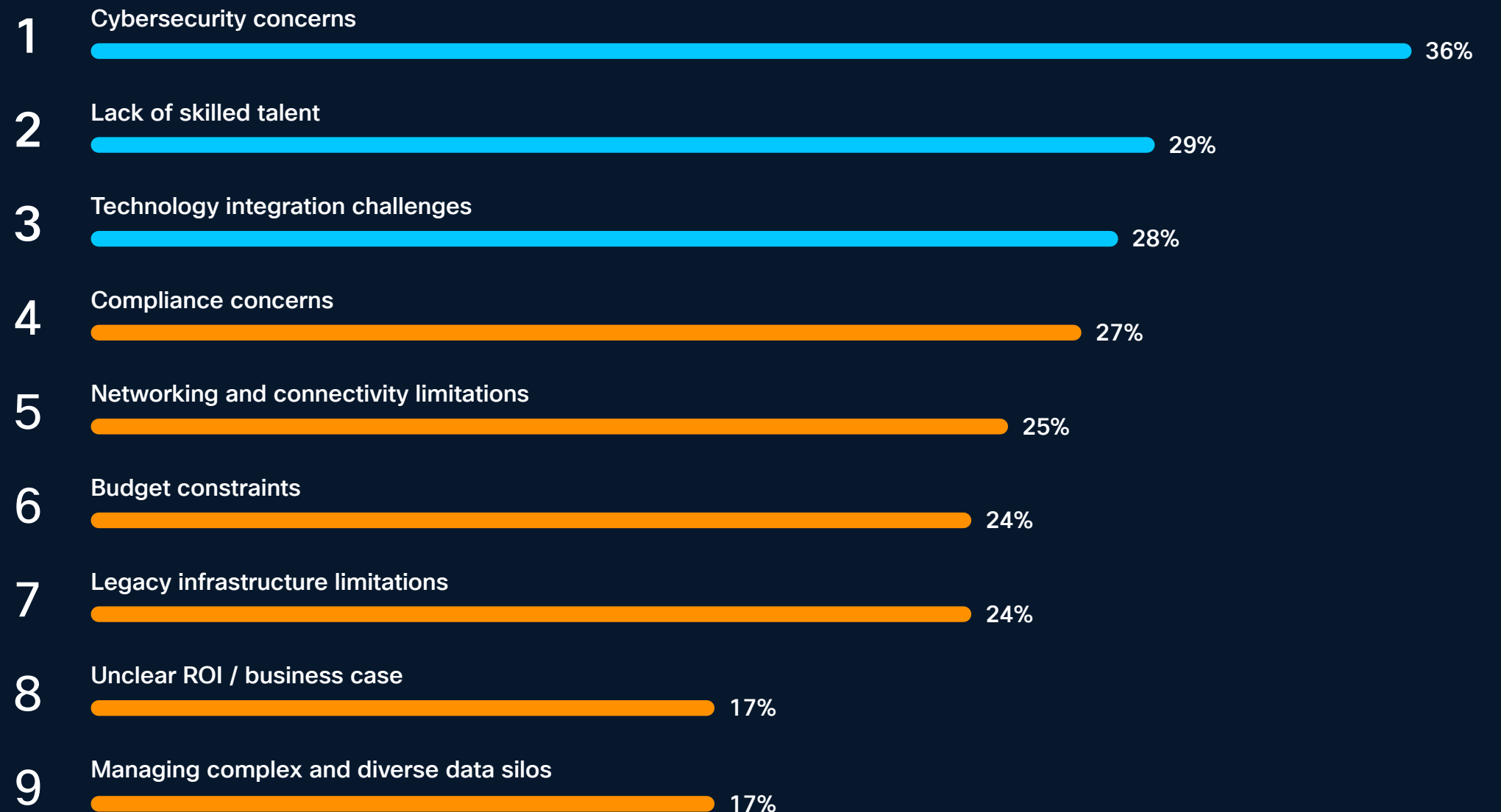
Despite steady progress, AI at scale in the transportation sector is hindered by cybersecurity and infrastructure-related challenges.

As organizations adopt AI, obstacles are consistently tied to foundational readiness. While many are moving forward with deployment, challenges around security, integration, and skills emerge early and continue to shape how confidently AI can be scaled across environments.



Cybersecurity concerns are significantly limiting AI adoption by creating a “trust deficit” and introducing new, complex risks that outpace traditional security measures. A recent Forrester report cited that, “among AI decision-makers, 29% identify trust as the single largest barrier to generative AI adoption in their organizations.”

<https://www.forrester.com/technology/generative-ai/>



Q. What are the biggest obstacles your organization faces in adopting AI?

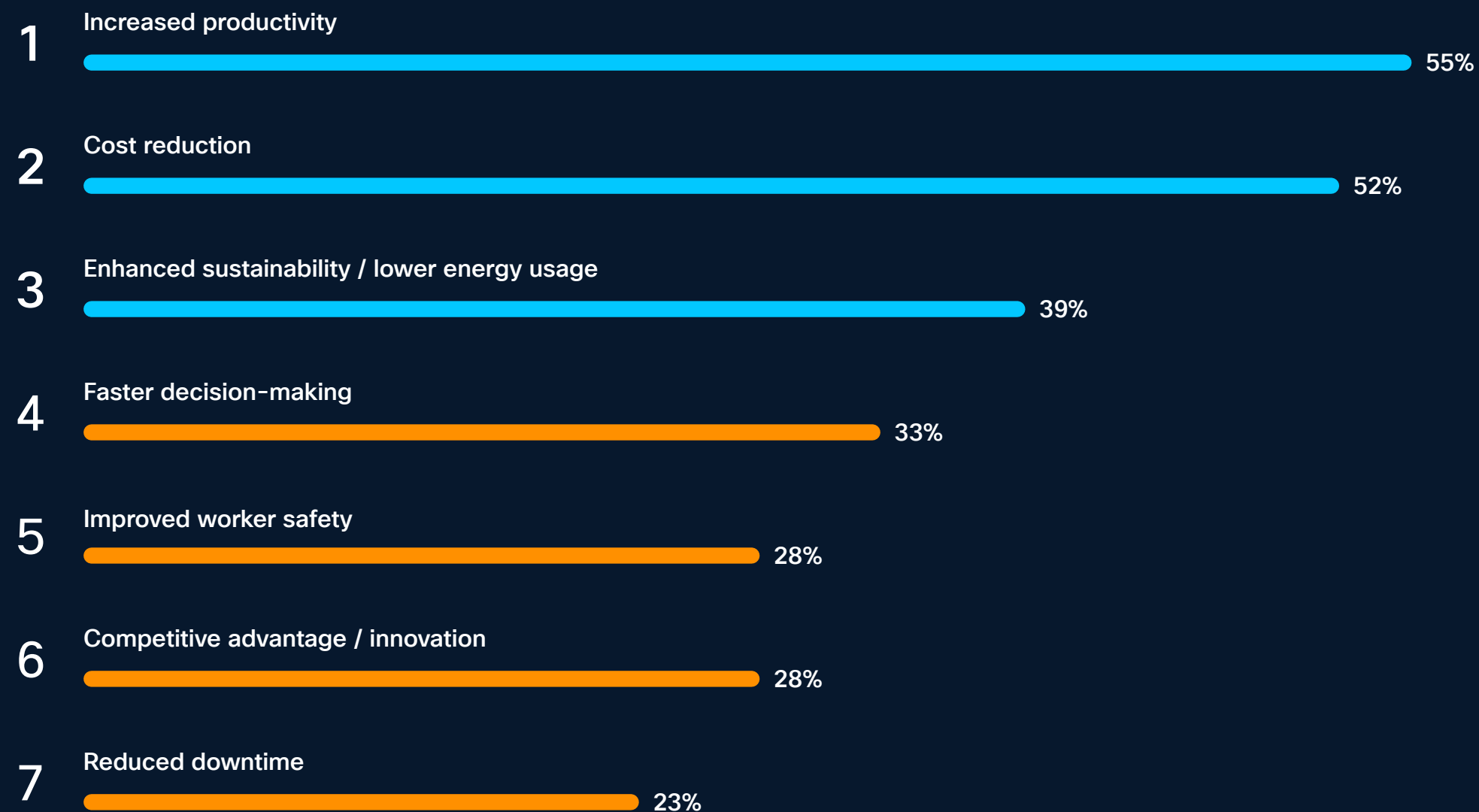


Section 2

AI outcomes, ROI & investment priorities

Firms expect AI to deliver operational gains

Transportation organizations' expectations for AI are execution-led, with a strong emphasis on near-term operational gains.

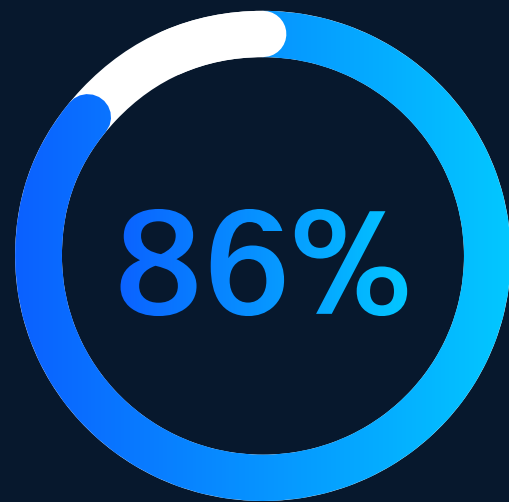


AI is being positioned as a tool to improve execution, responsiveness, and consistency in complex, distributed operating environments, across fleets, assets, and infrastructure.

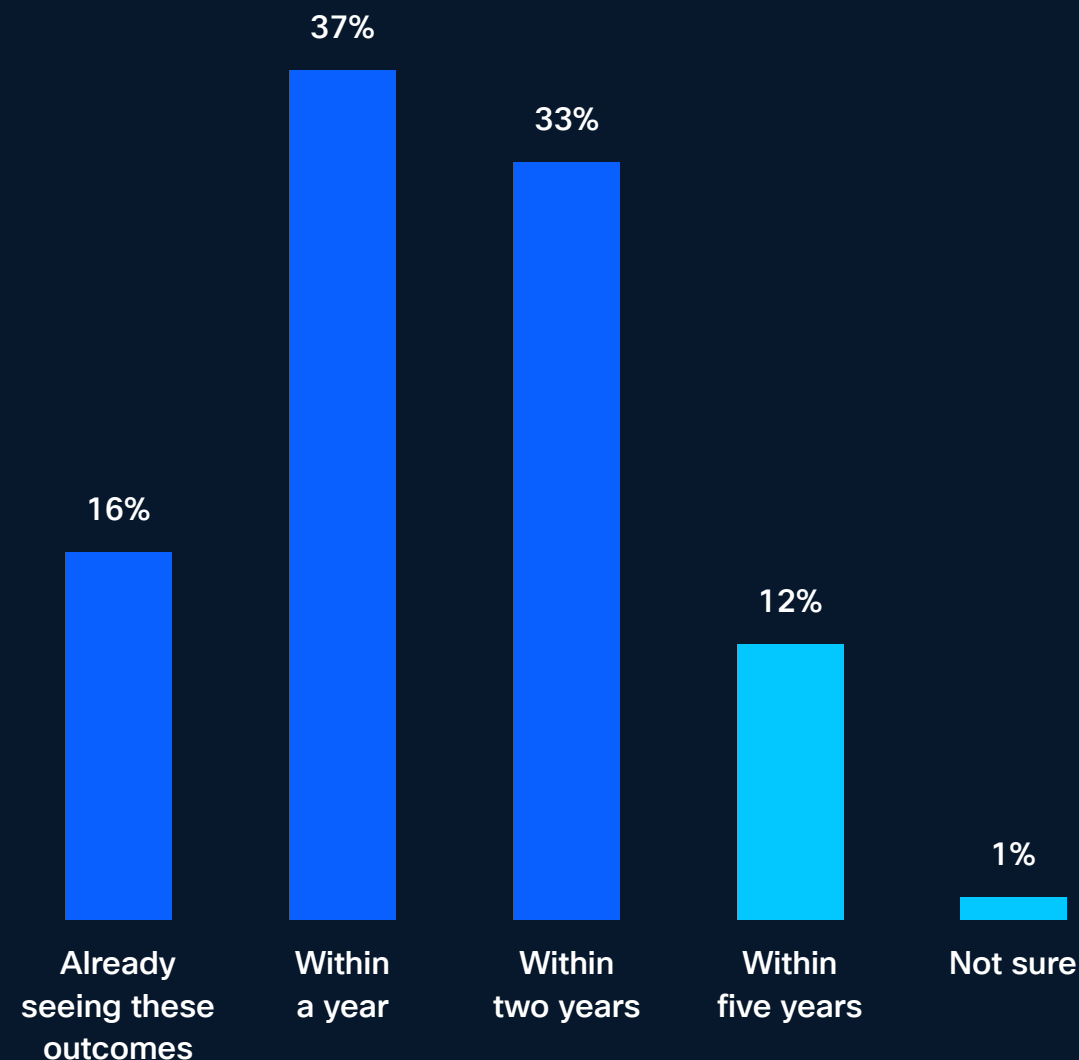
Q. What outcomes would you most like to achieve from AI investments? Select up to three

AI investments bring high expectations

The short timeframe in which decision-makers expect outcomes shows strong belief in AI's near-term payoff.



expect to see AI outcomes being achieved within the next two years.



Q. When do you expect to see these outcomes?



Expectations reflect investment in AI use cases that demonstrate tangible operational impact.

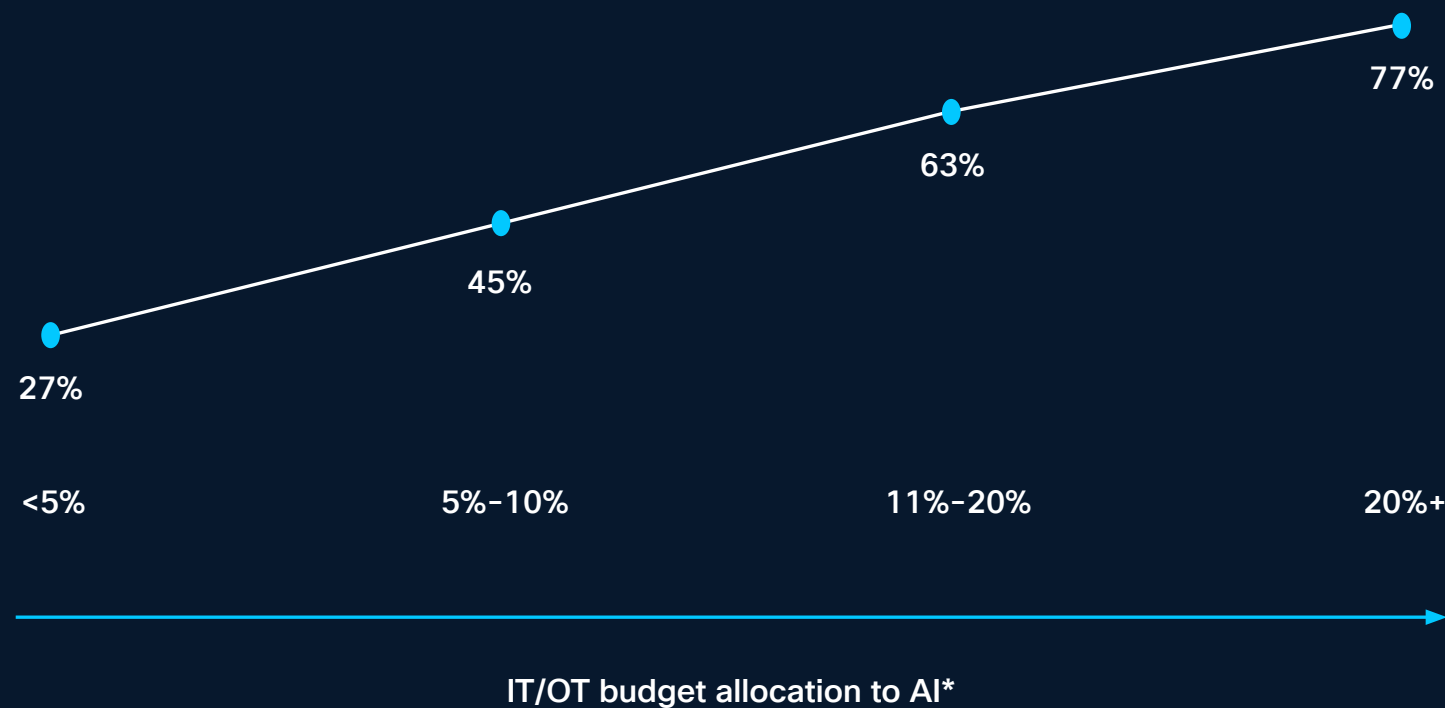
Investment priorities for enabling AI

Transportation organizations are increasing their AI investment, signalling sustained commitment to adoption.

This investment momentum reflects growing confidence in AI's ability to support key operational objectives—but brings higher expectations around infrastructure, security, and operating models that support rapid, scaled deployment.



Percentage expecting outcomes within a year



AI accounts for 11% of transportation networking budgets, and 77% of organizations plan to increase that investment—raising expectations for scalable, production-ready deployments.

*Correlation data taken from overall sample of 1,200 industrial decision-makers

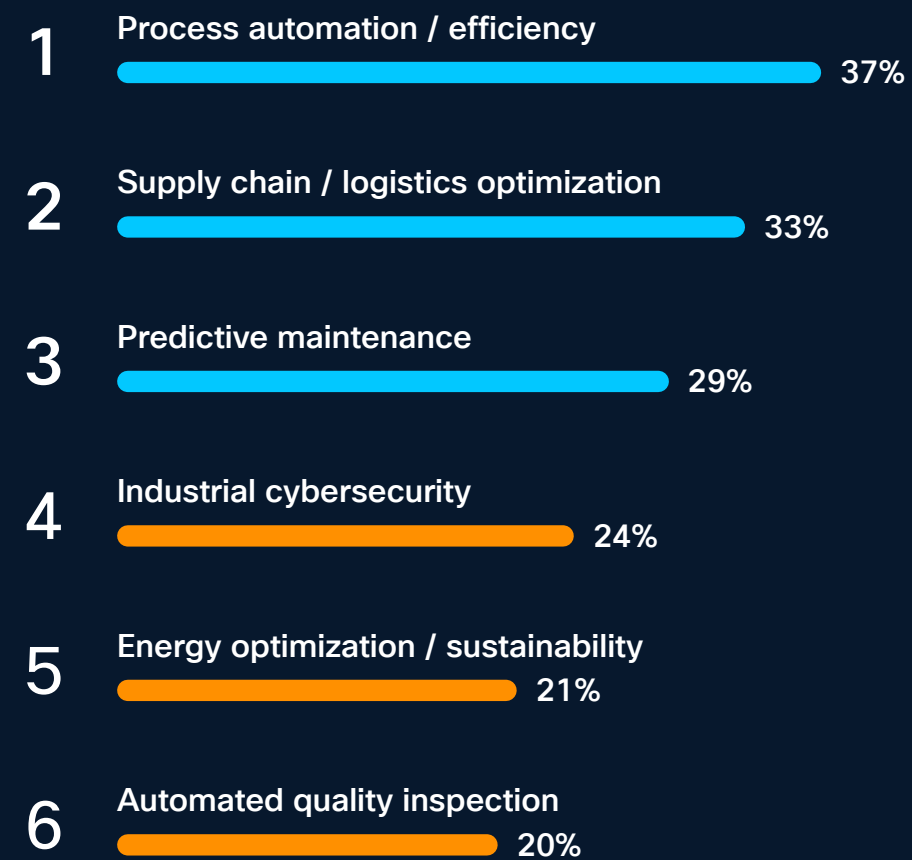
AI investment priorities shift with maturity

As maturity increases, transportation organizations are directing incremental AI investment toward areas where operational efficiency, resilience, and risk management intersect, supported by connectivity, sensors and vision systems.



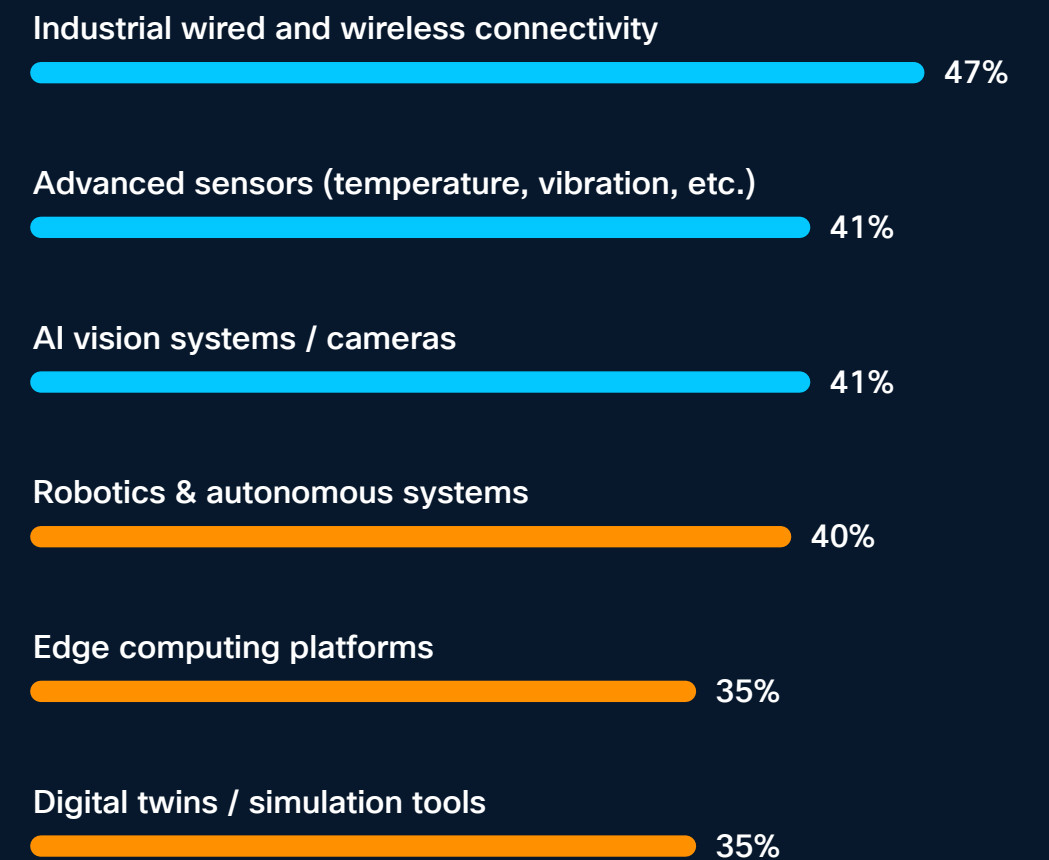
Scaling AI requires shifting from human-in-the-loop workflows to machine-to-machine decisioning—driving investment in connectivity, edge, and data infrastructure.

Investment priorities:



Q. What are your top priority areas for AI investment in industrial operations? Select up to three

New technologies:



Q. What new technologies are most critical to enable AI in your industrial operations? Select up to three

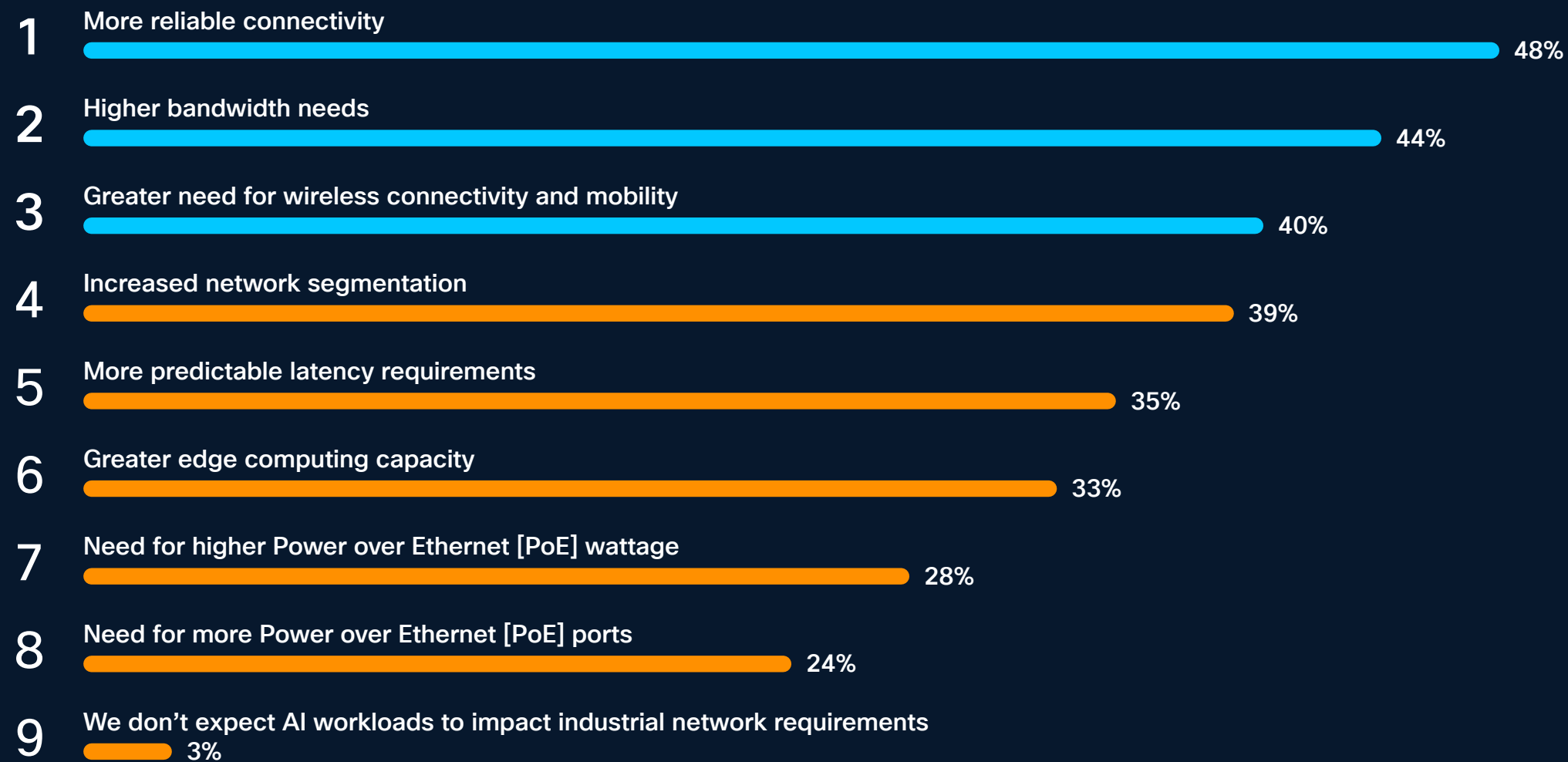
An aerial photograph of a large container ship docked at a port. The ship's deck is red, and it is heavily loaded with multi-colored shipping containers. A massive blue gantry crane stands on the pier, with its cables extending to the ship. The water is a deep blue. The image is rotated 90 degrees clockwise.

Section 3

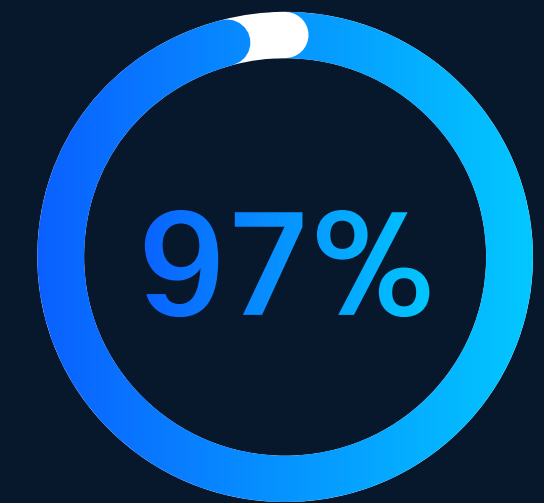
AI runs on the network: infrastructure as the foundation for scale

AI adoption rewrites industrial infrastructure requirements

AI workloads introduce new performance, power, and reliability requirements that exceed traditional industrial network design assumptions.



Q. How do you expect AI workloads to impact your industrial network requirements? Select all that apply

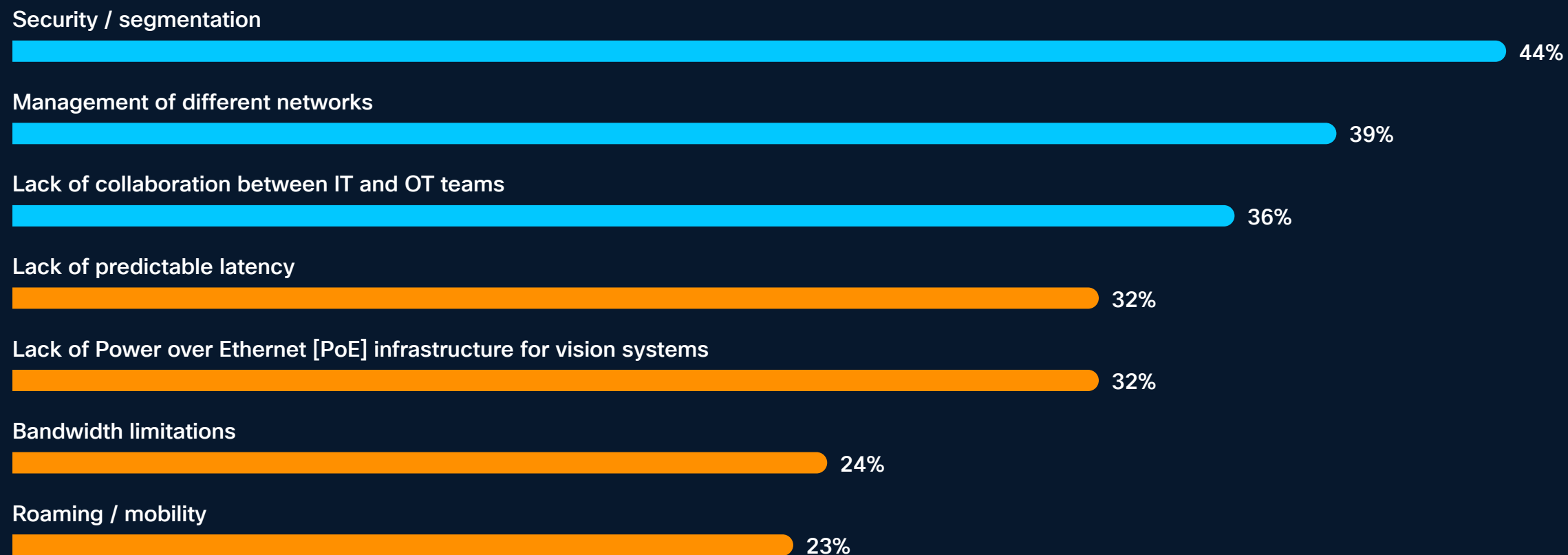


expect AI workloads to have an impact on their industrial networks.

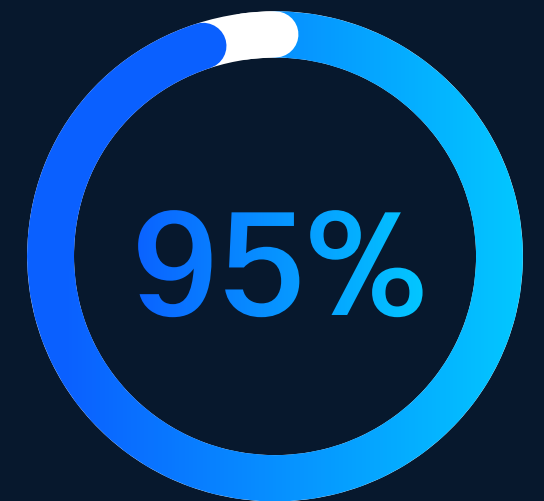
Network readiness is the primary constraint to AI scale

As AI moves into production, network performance and reliability determine whether deployments can scale across industrial environments.

These constraints are amplified in distributed operations and fragmented IT/OT environments.



Q. What are your biggest networking challenges in supporting AI-enabled operations? Select up to three



say wireless reliability is critical to enabling industrial AI—making it foundational to network readiness at scale.

Scaled AI adoption requires a network evolution

Transportation organizations are moving toward AI-capable industrial network infrastructure. Sustained AI impact is determined by the readiness of the network on which it runs.

Network evolution:



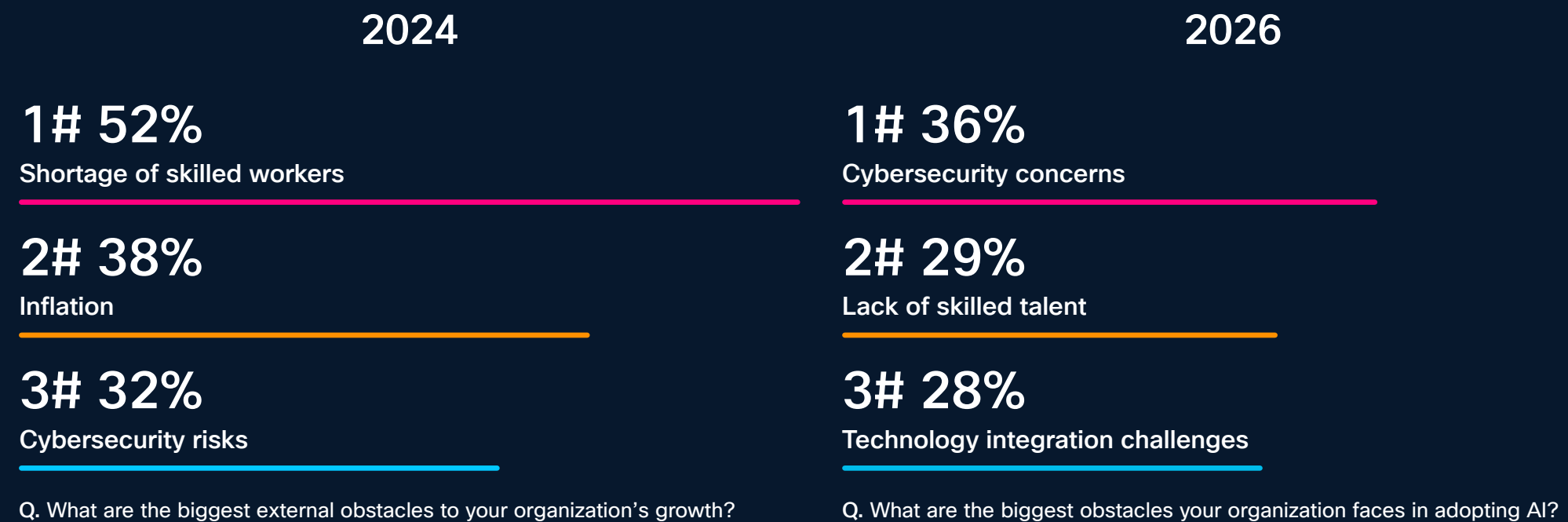


Section 4

Cybersecurity and Industrial AI Interconnectedness

Cybersecurity is now the #1 obstacle to AI adoption

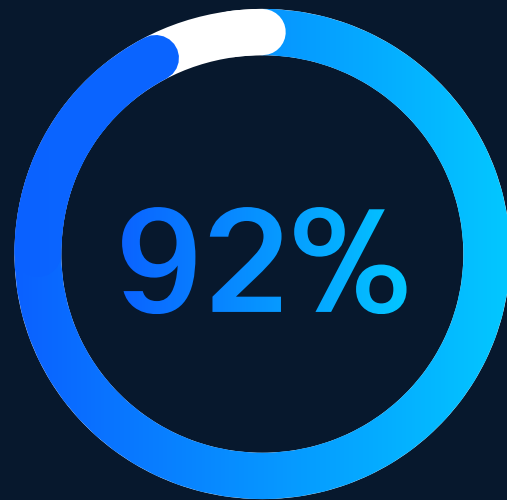
In transportation, cybersecurity concerns reflect not only data protection risk, but operational disruption across fleets, infrastructure, and services—heightening the importance of secure, resilient, and well-governed IT/OT environments.



In 2024, cybersecurity emerged as a growing priority for industrial networking teams; today, it has become the leading concern, with 44% of transportation organizations citing security as their top networking challenge.

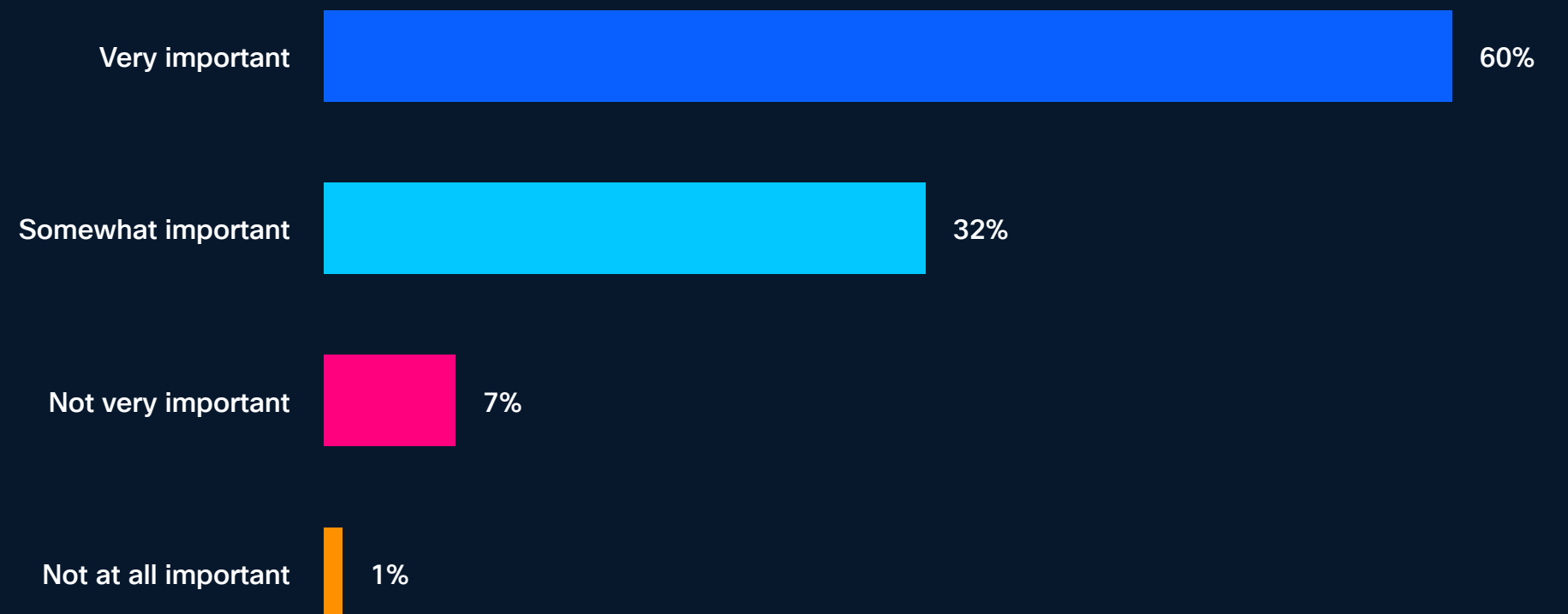
Cybersecurity as a foundational requirement

Despite being a barrier to AI at scale, cybersecurity is widely recognized as a foundational requirement for AI-ready infrastructure in transportation.



92% of transportation organizations say cybersecurity is either “somewhat” or “very important” to AI-ready infrastructure deployment.

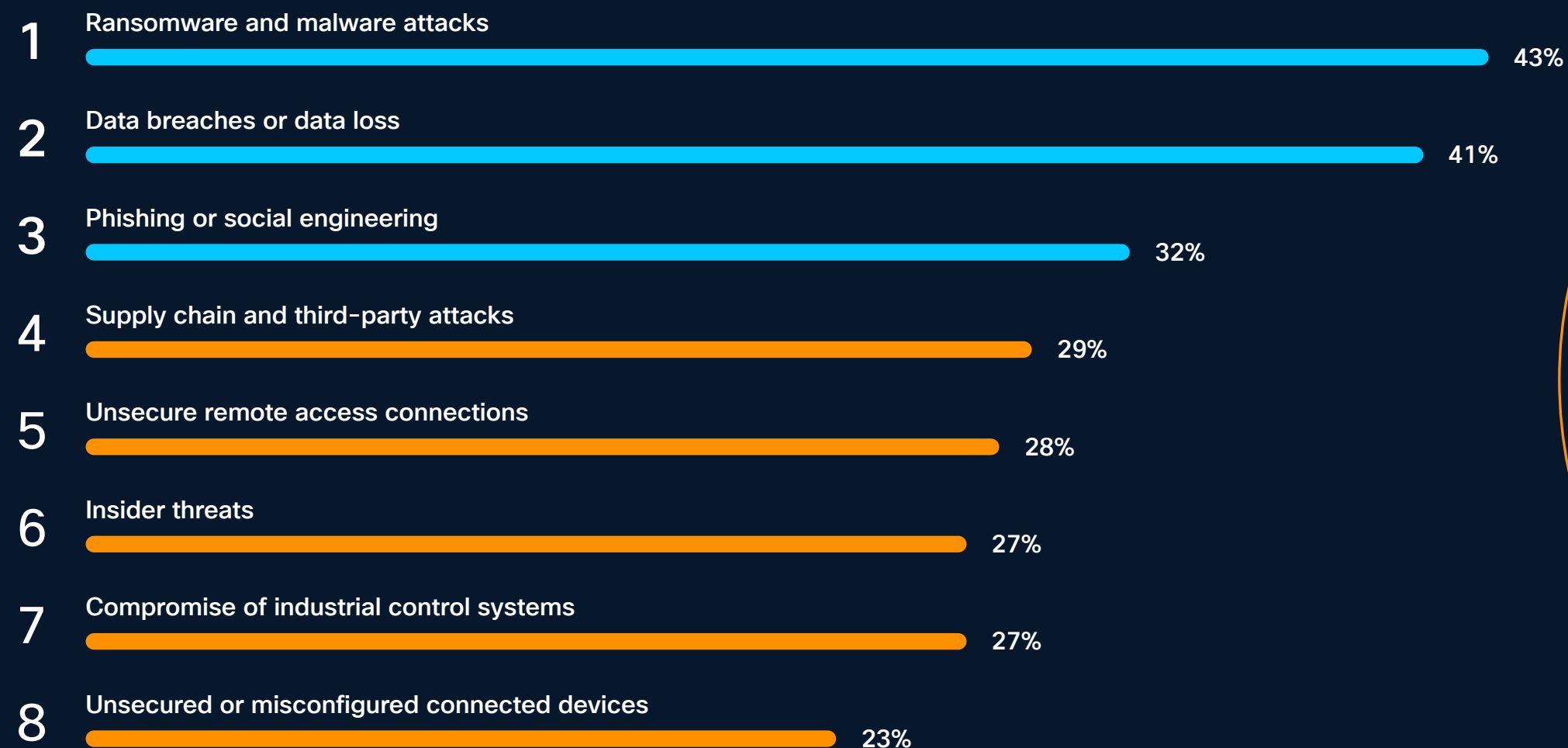
Q. How important is cybersecurity in your AI-ready infrastructure deployment? Select one



This emphasis strengthens with AI maturity, as organizations further along in adoption increasingly view cybersecurity as a core enabler of AI-ready infrastructure.

Cybersecurity threats of greatest concern

Transportation organizations' cybersecurity concerns reflect the sector's reliance on connected assets, data and service availability, and third-party ecosystems.



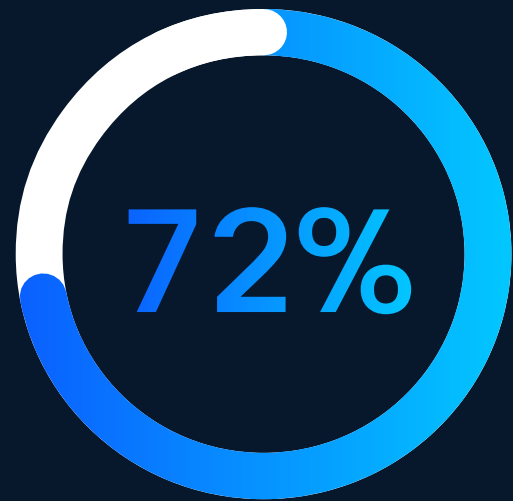
These concerns reflect the amplified risk profile of AI-enabled, connected transportation infrastructure.

AI scale increases the importance of visibility, segmentation, and control across interconnected systems.

Q. Which types of cybersecurity threats are you most concerned about when increasing connectivity to enable AI in your industrial operations?

AI strengthens cyber defense

Despite concerns, leaders in transportation increasingly view AI not just as a source of additional risk—rather part of the solution.



72% expect AI to improve their cybersecurity posture, particularly through improved monitoring, anomaly detection, and faster response.

However, industrial cybersecurity ranks only fourth as an area of increased AI investment in transportation (24%), behind process automation (37%), supply chain optimization (33%) and predictive maintenance (29%).

As AI adoption matures, closing this gap – by more clearly linking cybersecurity investment to operational safety, resilience, and continuity – will become increasingly important for scaling AI with confidence across transportation operations.



Transportation companies see the greatest benefit where AI and cybersecurity are designed together, rather than treated as separate initiatives.

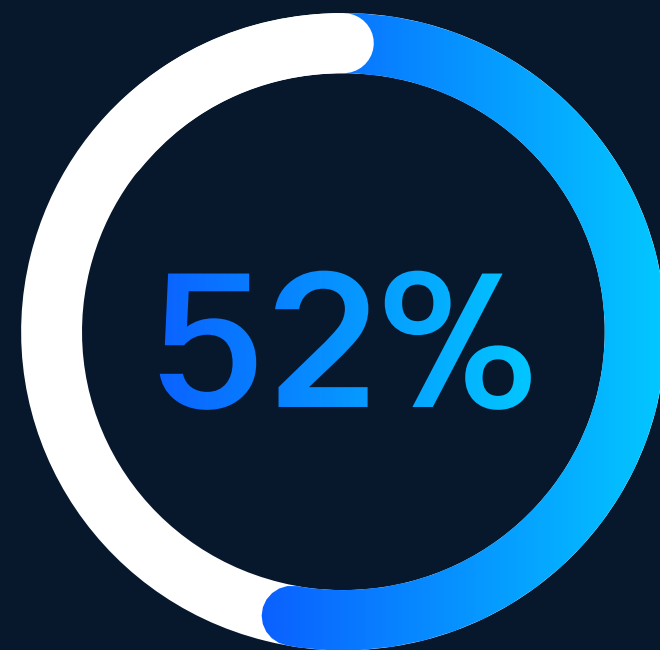
An aerial photograph of a multi-lane highway bridge crossing a river. The bridge is filled with traffic, including cars, trucks, and buses. On the left side of the river, a large white ship is docked at a pier. The background shows industrial buildings and a bridge under construction. The image has a blue and purple gradient overlay on the left side.

Section 5

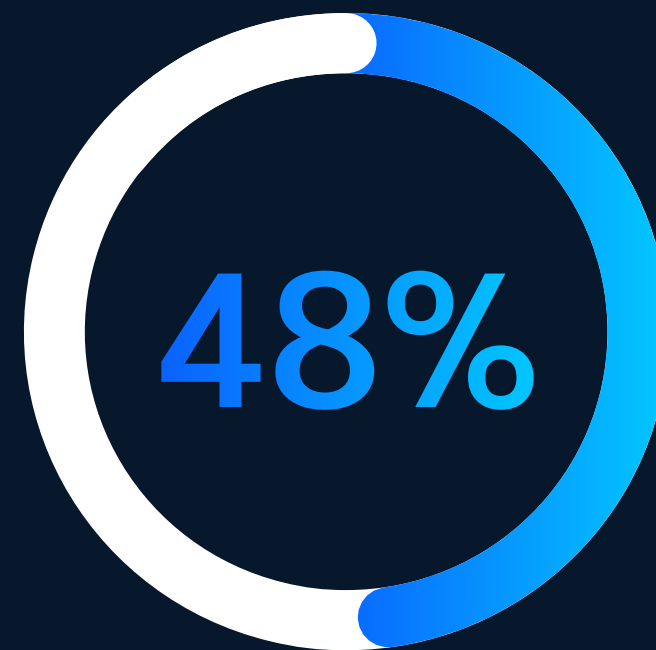
IT/OT collaboration – the operating model for scaling AI

IT/OT collaboration in transportation remains uneven

Transportation organizations report generally positive levels of collaboration between IT and OT teams, though alignment is far from universal.



Little to no collaboration



Completely/mostly collaborative

With only slightly less than half of organizations describing some level of collaboration, transportation ranks lowest among surveyed sectors on overall IT/OT alignment, reflecting the complexity of coordinating across fleets, infrastructure, and geographically dispersed operations.

Organizational collaboration has not yet become aligned with the demands of scaled industrial AI, a potential constraint as AI deployments scale beyond individual sites or functions.

Independent teams undermine AI confidence & outcomes

There is a clear relationship between stronger IT/OT collaboration and higher confidence in scaling AI across industrial operations.

Collaborative organizations report:

- Higher confidence in scaling and integrating AI
- Stronger alignment on cybersecurity as a foundational requirement

Organizations with limited IT/OT collaboration experience:

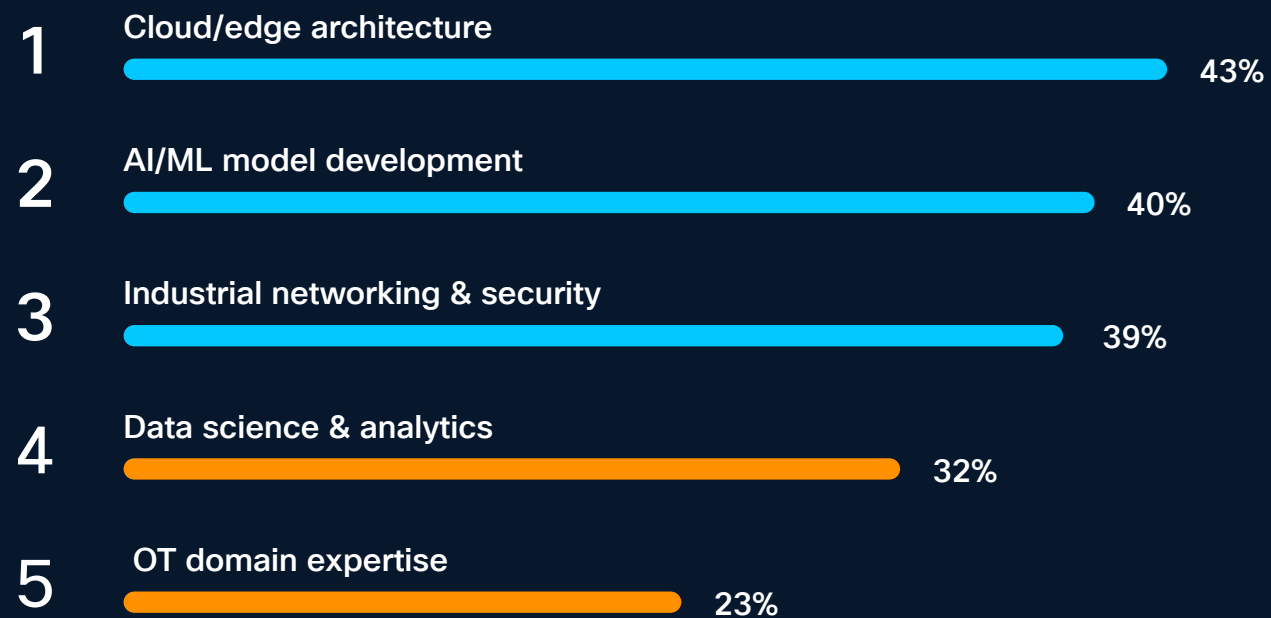
- Greater wireless instability and lower network reliability
- Slower deployment timelines driven by fragmented ownership

These findings demonstrate that organizational structure influences confidence, performance and deployment as AI adoption accelerates.



Skills required to scale industrial AI

Transportation organizations identify a blend of technical, infrastructure, and domain skills as critical to scaling AI.



Q. Which skill sets are most critical for scaling AI in industrial operations?

Transportation is one of the few sectors to rank cloud / edge architecture as the most critical skill for AI scale, reinforcing the sector's reliance on networked, distributed, and edge-enabled environments.

AI scale in transportation depends on deep expertise across networking, security, and operational domains.

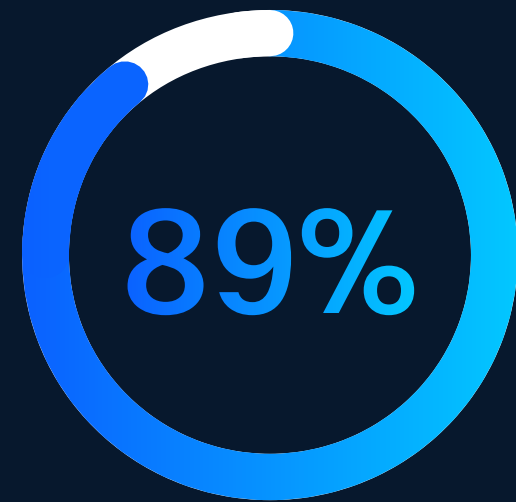


Section 6

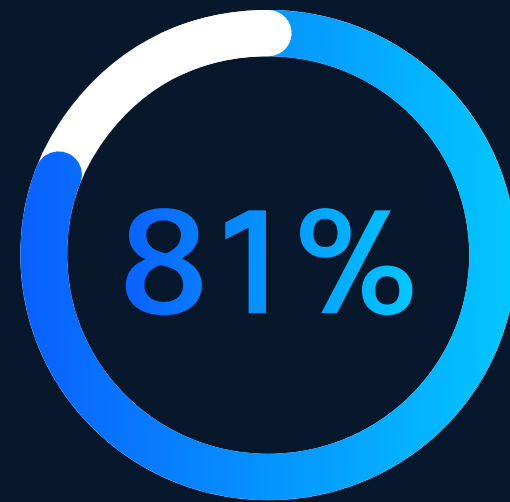
Future outlook – scaling AI in transportation

Confidence in scaling industrial AI

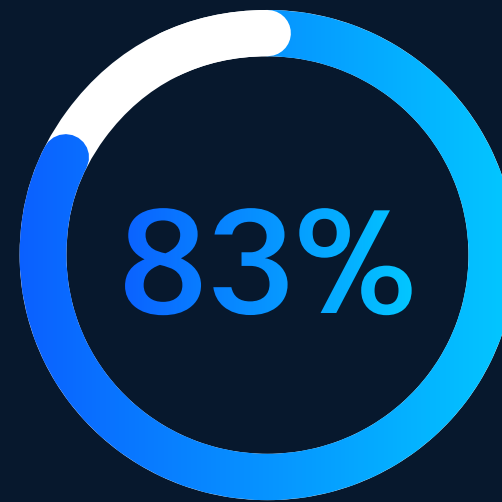
Transportation organizations report confidence in their ability to expand AI adoption over time – yet confidence is tempered in comparison to global findings, and by expectations of AI’s impact on operational profitability and perspectives on cybersecurity risk.



are confident in their ability to scale AI across operations



are confident in their ability to meet compliance requirements for AI

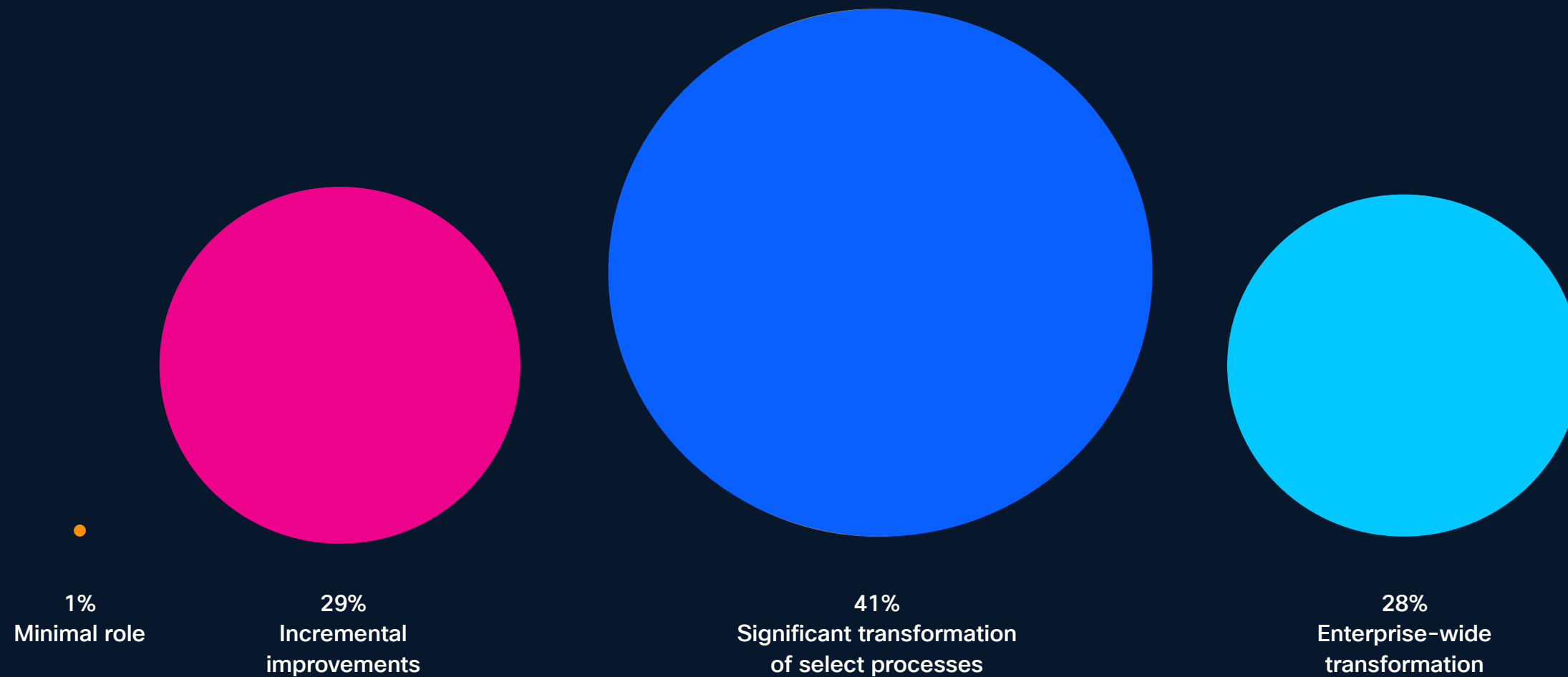


agree that the benefits of AI outweigh any potential risks

At the same time, confidence is conditional. Transportation companies recognize that scaling AI depends on continued progress in network modernization, cybersecurity, and infrastructure readiness.

How transformational will AI be for transportation?

Over the next five years, transportation leaders expect AI to drive meaningful but targeted transformation.



Q. Over the next 5 years, what role do you expect AI to play in transforming your industrial operations?



Transportation leaders expect AI to reshape specific operational domains, such as fleet management, asset optimization, and network operations, rather than drive wholesale organizational reinvention in the near term—a view that aligns with the sector’s execution-led approach.

Section 7

Key takeaways for transportation leaders



Priorities for transportation leaders

1

Network and infrastructure readiness will determine AI scale

AI initiatives should be governed and funded alongside as part of core operational strategy, while strengthening the network foundations that enable AI to operate reliably across mobile, safety-critical environments.

2

Build cyber-resilience and data governance into AI scale from the outset

Scaling AI safely depends on investing in cyber-resilience and data governance in parallel with AI capability.

3

Align IT and OT around infrastructure

IT/OT collaboration should be anchored around shared responsibility for secure, resilient infrastructure, rather than isolated AI use cases.





Section 8

Industrial AI partner considerations for transportation

Industrial AI partner considerations

As industrial organizations look to scale AI across increasingly complex environments, partner choice becomes a strategic decision.

#1 Partners should be able to support:

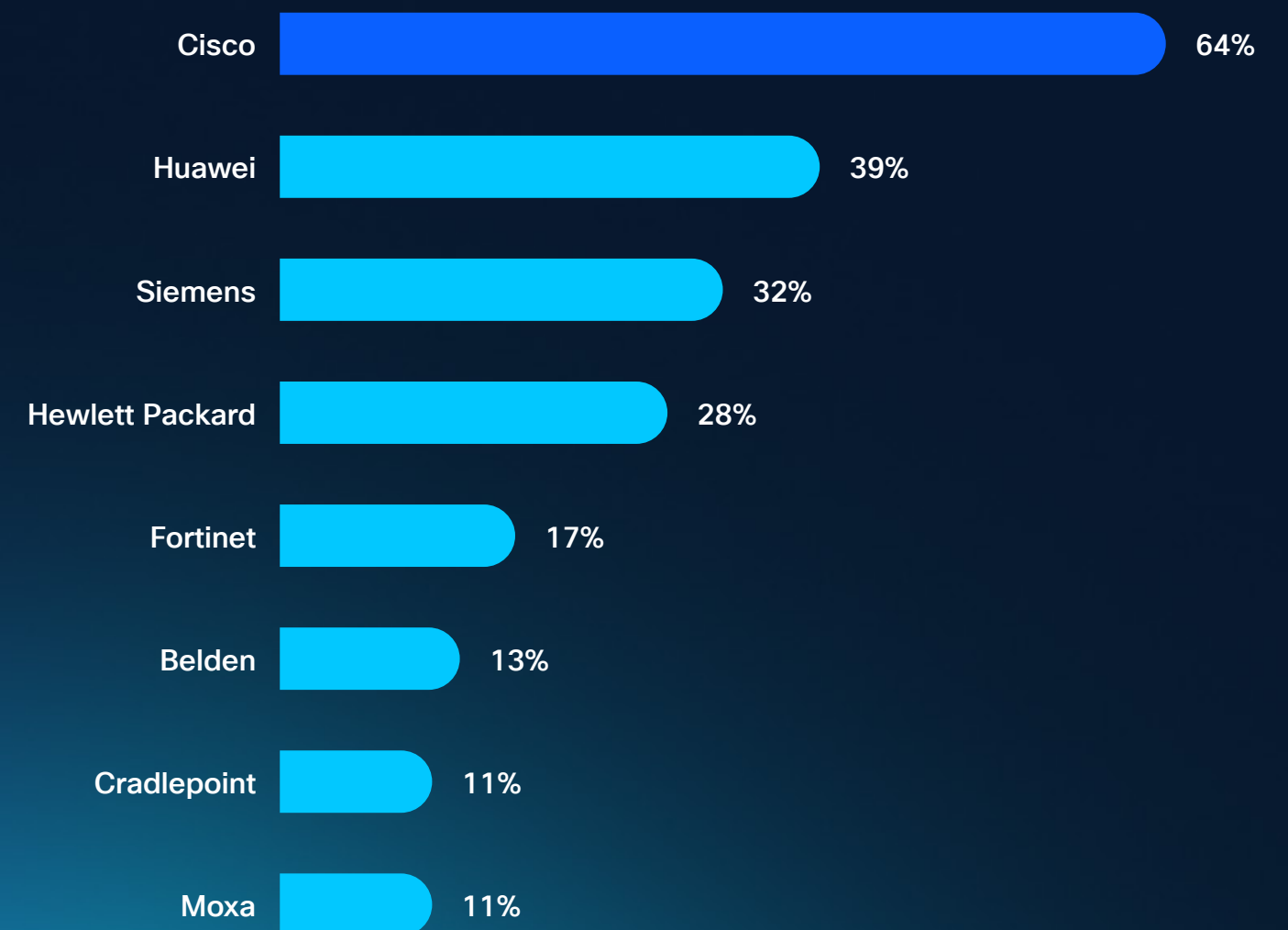
- Reliable, high-performance connectivity
- Secure, segmented architectures
- Predictable operations in production environments

#2 Prioritize partners with deep expertise in:

- Industrial networking
- Cybersecurity and segmentation
- Edge compute and mobility
- Visibility across IT and OT environments

#3 Select a partner with recognized high trust:

- Respondents to our survey ranked Cisco as the most-trusted to provide AI-ready networking infrastructure

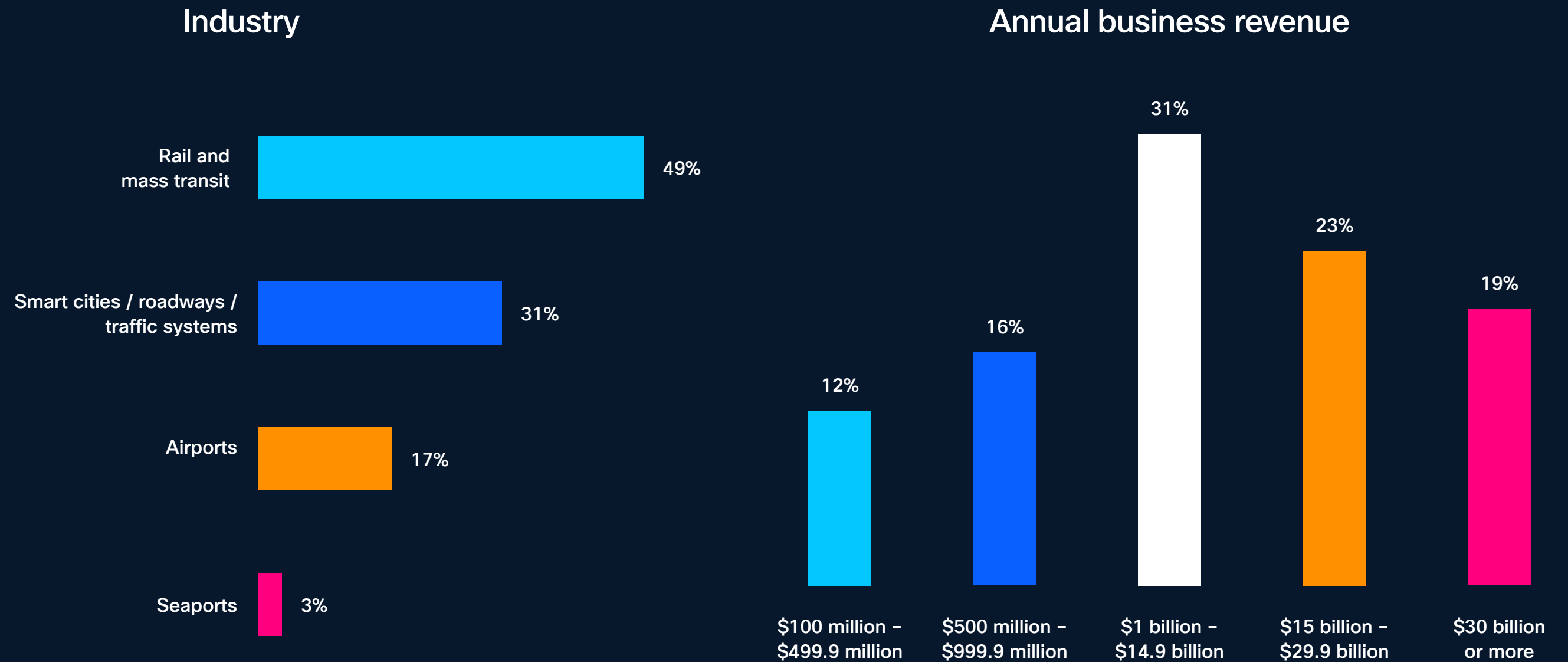


Q. Which of the following vendors do you most trust to provide AI-ready networking infrastructure to enable your industrial AI use cases? Select up to three

Section 9

Demographics & firmographics

Demographics & firmographics



Demographics & firmographics

Job role



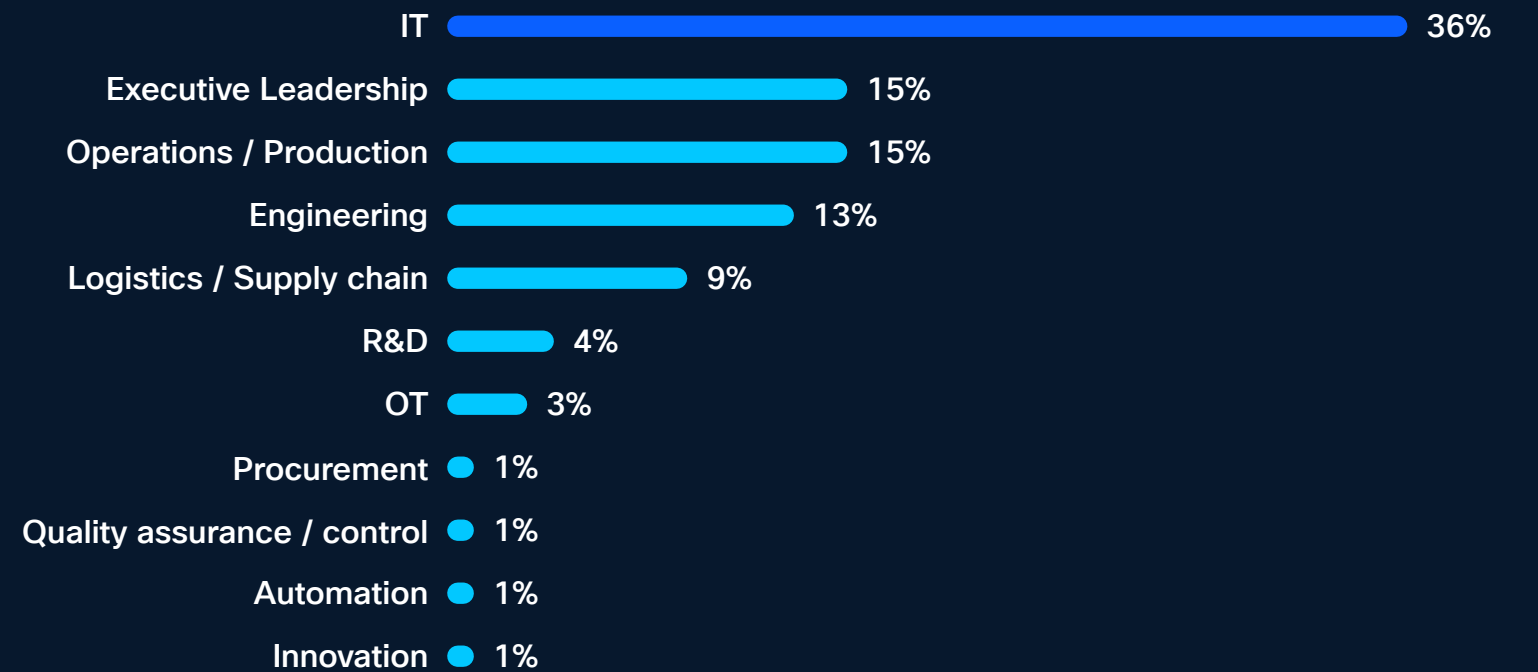
| | |
|--|-----|
| ● Manager | 47% |
| ● Director | 19% |
| ● Head of department | 13% |
| ● Vice President / Senior Vice President | 11% |
| ● C-Suite | 11% |

Employment



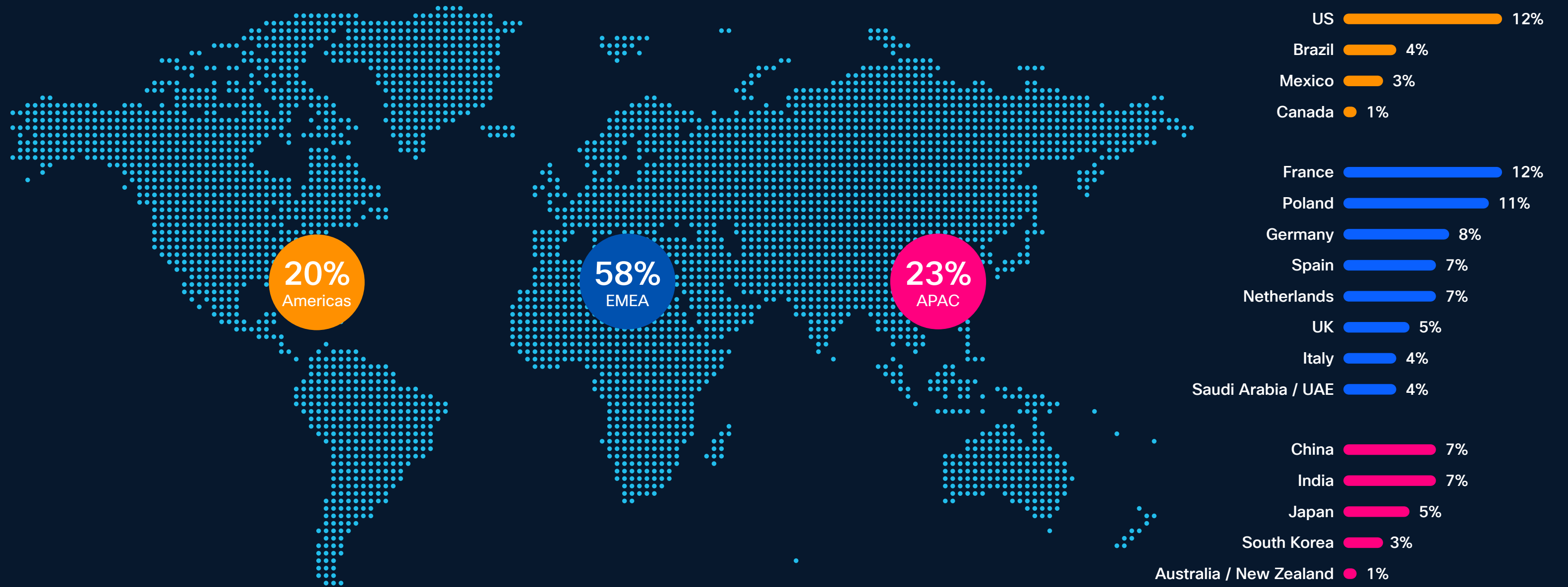
| | |
|----------------------|-----|
| ● Employed full-time | 96% |
| ● Employed part-time | 4% |

Department



Demographics & firmographics

Country



About Cisco

Cisco is the worldwide technology leader that securely connects everything to make anything possible. Our purpose is to power an inclusive future for all by helping our customers reimagine their applications, power hybrid work, secure their enterprise, transform their industrial infrastructure, and meet their sustainability goals.

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Sapio Research is a full-service B2B and tech market research agency that helps businesses grow thanks to high quality, efficient and honest research solutions.

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