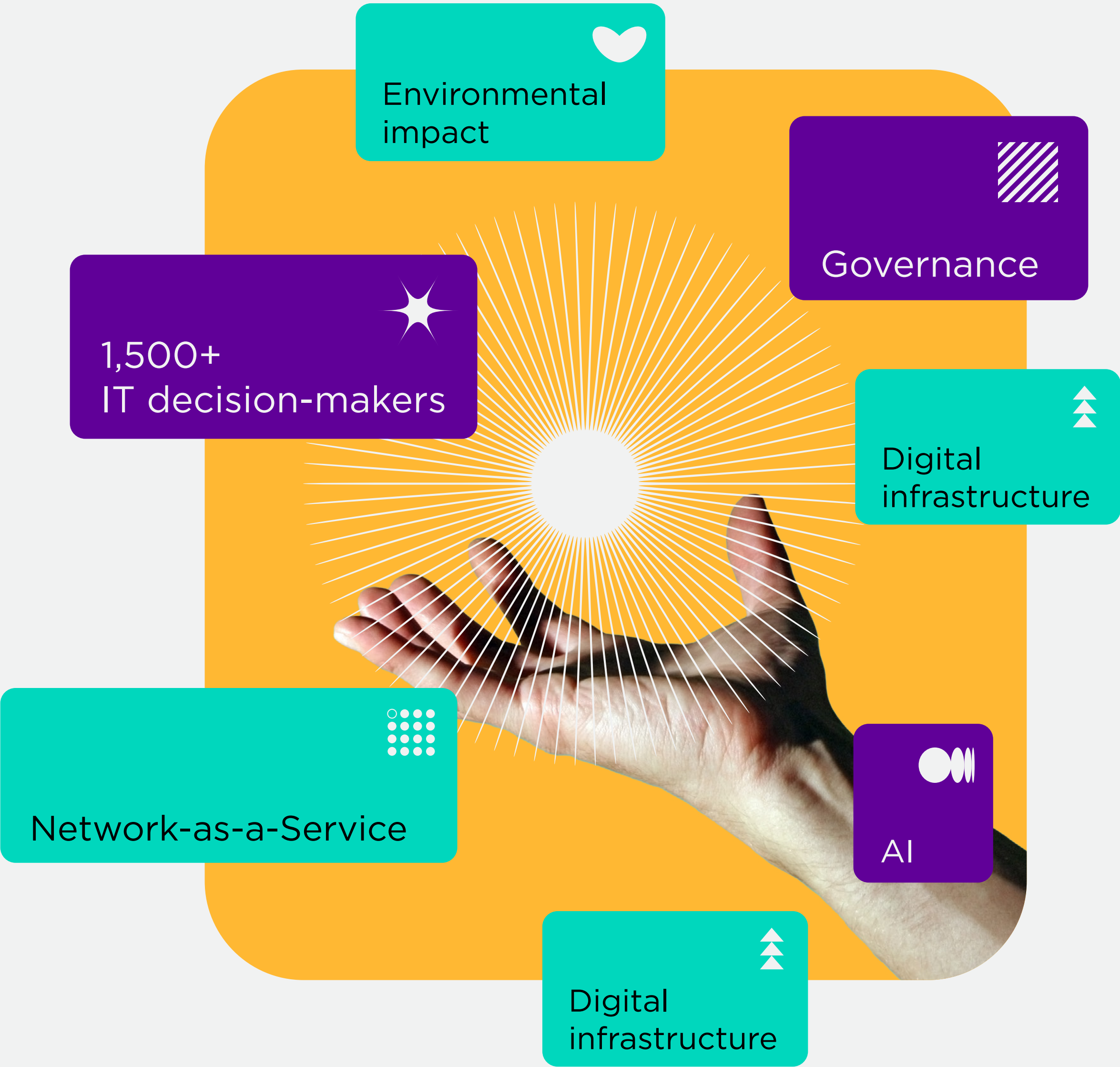




The CIO's path to a better future

Colt's 2024 Digital
Infrastructure Report



Introduction

IT Decision-makers are putting environmental impact and governance in the strategic driving seat for digital infrastructure. While barriers like incompatible technology and a lack of clear benefits are slowing things down, intelligent features such as sustainably optimised network pathing and on-demand/Network-as-a-Service (NaaS) technologies are helping CIOs meet business and ESG goals.

As the threat of climate change becomes ever more pressing, Colt's 2024 Digital Infrastructure Report focuses on the relationship between digital infrastructure and environmental impact and governance. How are CIOs and senior IT leaders balancing business and ESG goals, and how involved are they at the strategic level? How can digital infrastructure and the companies in the industry help meet environmental goals and what role can tech play?

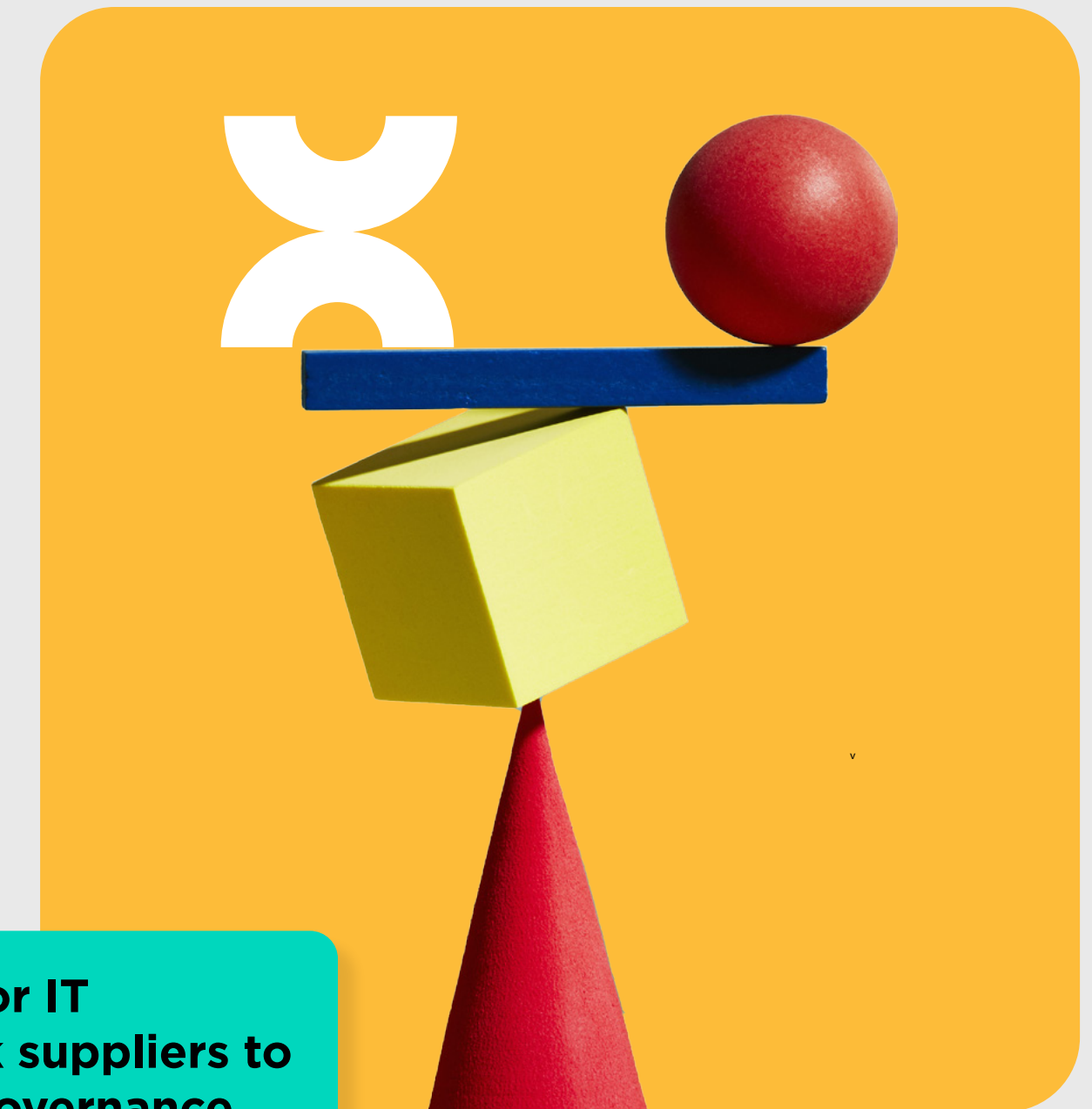
Digital infrastructure is the backbone of most businesses, but the growth in this market comes with a cost, in the

form of carbon emissions and environmental impact. Regulatory and public pressures are giving this issue growing urgency, and senior IT decision-makers are key in driving environmental impact and governance strategies to help tackle this question.

Intelligent digital infrastructure is made up of a wide range of features such as virtualised network functions, adaptiveness to user demand, flexible bandwidth consumption/NaaS and Generative AI. These have a vital role in increasing network efficiency and reducing power consumption, along with the resulting carbon emissions.

It's likely that carriers and telcos will be under increasing scrutiny from CIOs in coming years, and the industry will need to step up to the mark to enact genuine and comprehensive change.

With this in mind, **what part do senior IT decision-makers want their network suppliers to play in environmental impact and governance, and do they think providers are doing enough?**



Methodology

For 2024 we expanded our survey group to over 1,500 IT decision-makers from ten countries and a variety of industries. These leaders work at businesses that employ between 2,500 and 15,000+ employees, with annual IT spending in the range of less than €100,000 to €500m and over.

The research was conducted by Censuswide on behalf of Colt Technology Services, among a sample of 1,501 CIOs (aged 18+) in UK, USA, Italy, France, Germany, The UAE, Singapore, Hong Kong, Japan and Benelux.

The data was collected between 19 July 2024 and 5 August 2024.

Censuswide abides by and employs members of the Market Research Society and follows the MRS code of conduct and ESOMAR principles. Censuswide is also a member of the British Polling Council.

Key findings



71% of CIOs* have **direct roles in shaping sustainability strategies** or own them entirely

38% say environmental impact and governance drive all strategic digital infrastructure decisions,

On-demand, virtualised network functions (25%), adaptiveness to user demand (25%), GenAI (24%) and flexible bandwidth consumption/ NaaS (24%) top the list of reported intelligent infrastructure features

62% would suggest that a supplier review its environmental goals if they did not align with their own

Features helping CIOs reduce carbon emissions include **sustainably optimised network pathing, on-demand/NaaS technology and AI-enabled capabilities**

Data for scope 3 emission reporting is the most important factor for choosing a digital infrastructure partner, with a 69% net importance

Intelligent infrastructure adoption has grown: 40% have intelligent digital infrastructure end-to-end in 2024, compared to 34% in 2023

Barriers to environmental impact and governance in relation to digital infrastructure include a lack of clear benefits/ROI (21%), incompatible technology and sustainability goals (20%) and multi-vendor interoperability (20%)

27% have a multi-year environmental strategy in place, and 39% are about to embark on one

* 'Entirely confident', 'very confident' and 'quite confident' answers combined

* Respondents who selected 'I am one of the primary stakeholders in my business' sustainability strategy, focusing primarily on environmental impact and governance' or 'I/my team own the company's entire sustainability strategy.'

Environmental issues top the CIO agenda

Organisations are increasingly looking to their CIOs for leadership on environmental issues, and this plays a key role in their decision-making processes: 38% of IT leaders say environmental impact and governance drive all of their strategic digital infrastructure decisions.

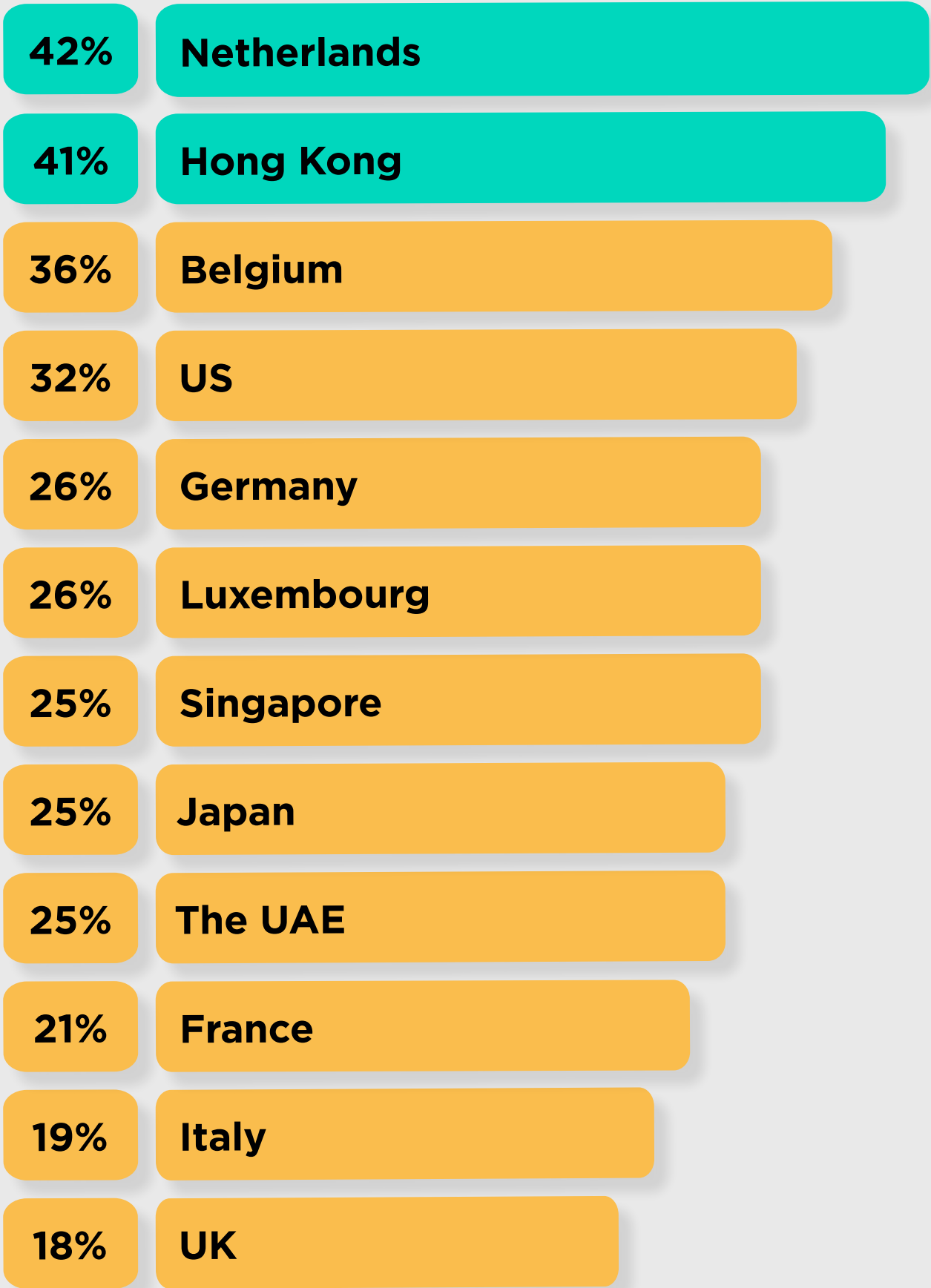
A further 36% say environmental impact and governance influence all of their strategic digital infrastructure decisions.

The majority of CIOs are prioritising the need for action: overall, 27% report having a multi-year environmental strategy in place, and 39% are about to embark on one.

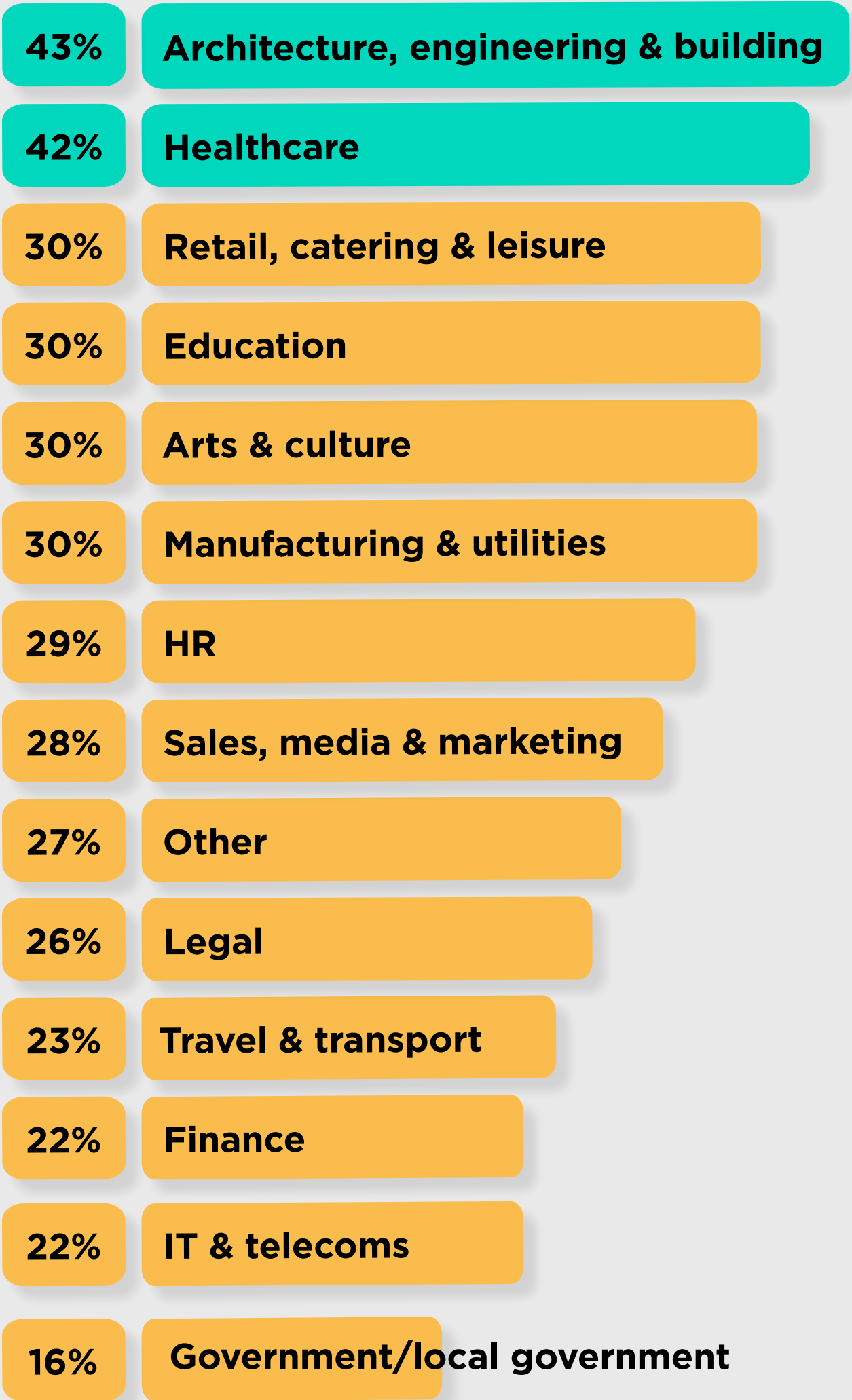
However, progress on environmental strategies varies between regions, with 42% of organisations in the Netherlands already having a multi-year strategy in place, compared to only 18% in the UK.

There's similar variation between sectors, with 43% of architecture, engineering & building organisations having already put a multi-year strategy in place, in comparison with 16% of government/local government organisations.

% of organisations that have a multi-year environmental strategy in place (by country)



% of organisations that have a multi-year environmental strategy in place (by sector)



CIOs and IT leaders are taking the lead for corporate environmental strategies

Tech leaders are involved and confident in environmental issues, with nearly one in four (24%) owning their company's entire sustainability strategy, and 46% of them having a direct role in shaping it.

The vast majority (95%) are confident in their teams' abilities to comply with relevant governance and regulations*. This assurance is not entirely uniform across sectors, however: 100% of CIOs in the arts & culture, healthcare and legal industries are confident in their teams' abilities to comply with relevant governance and regulations, but this falls to 88% in government/local government.

95%

are confident in their teams' abilities to comply with relevant governance and regulations*



Intelligent infrastructure and AI are helping mitigate environmental impact

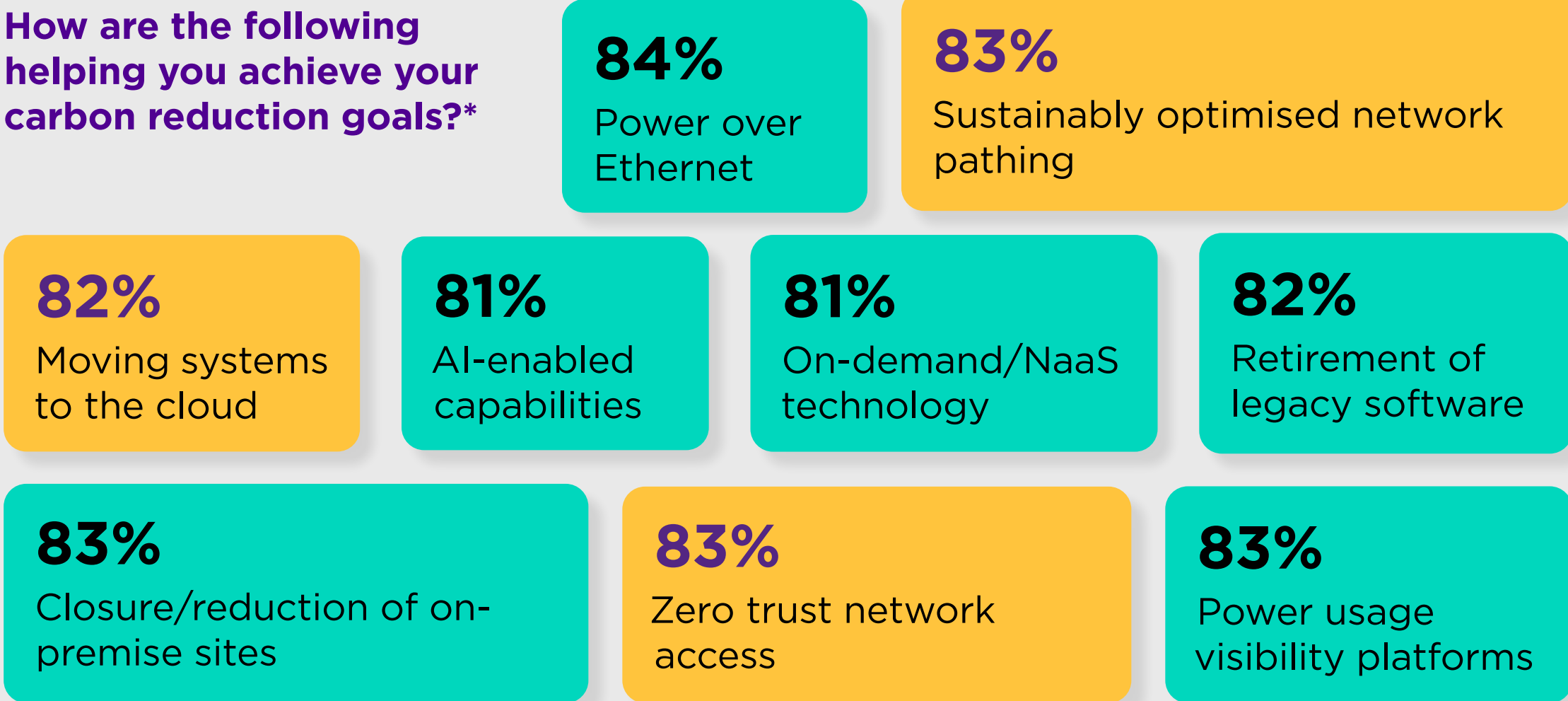
IT leaders and their organisations are turning to a wide range of options to help them reduce carbon emissions. Sustainably optimised network pathing (reported by 83% of respondents) helps improve energy consumption by intelligently routing data to maximise network efficiency, centralising and virtualising network functions to reduce the number of devices consuming power, and using the most energy-efficient devices.

The countries where sustainably optimised network pathing is most reported to help reduce carbon emissions are Luxembourg (96%), Hong Kong (95%) and The UAE (93%).

Similarly, on-demand/NaaS technology is helping 81% of CIOs reduce carbon emissions by allowing organisations to only use the bandwidth they need, eradicating unnecessary power consumption from underutilised network capacity.

As we see with sustainably optimised network pathing, on-demand/NaaS is most commonly reported to help reduce carbon emissions in Hong Kong (93%), The UAE (91%) and Luxembourg (90%).

How are the following helping you achieve your carbon reduction goals?*



AI - the cause or solution to environmental challenges?

AI is also having a notable effect on sustainability strategies. More than one in five CIOs (22%) say AI facilitates their environmental impact and governance strategy, and more than two in five CIOs (42%) report that AI plays a modest role in achieving these strategies.

The number of CIOs agreeing that AI facilitates their environmental impact and governance strategy is unevenly distributed across regions and sectors. It rises to 36% in Hong Kong, and falls to 13% in Italy. In education the figure stands at 38%, compared to government/local government at 11%.

Nearly three out of five (58%) of CIOs say AI has enabled the use of more on-demand/NaaS features which, as we've seen, plays an important part in cutting carbon emissions. AI has also facilitated investment in greater security for 61% of CIOs, allowed 60% of them to re-evaluate their suppliers and enabled 59% to improve data quality for reporting.

*Respondents who selected 'a little more' and 'a lot more' answers combined

Infrastructure is getting more intelligent

In our 2023 report we asked IT decision-makers, in the context of their digital infrastructure, what ‘intelligence’ means to them, discovering it was a constellation of features that include big data analysis, control from any device and generative AI. We compared the level of adoption year-on-year, revealing that true end-to-end intelligent connectivity is on the rise.

Two-fifths (40%) of organisations report having intelligent digital infrastructure end-to-end in 2024, up from 34% in 2023.

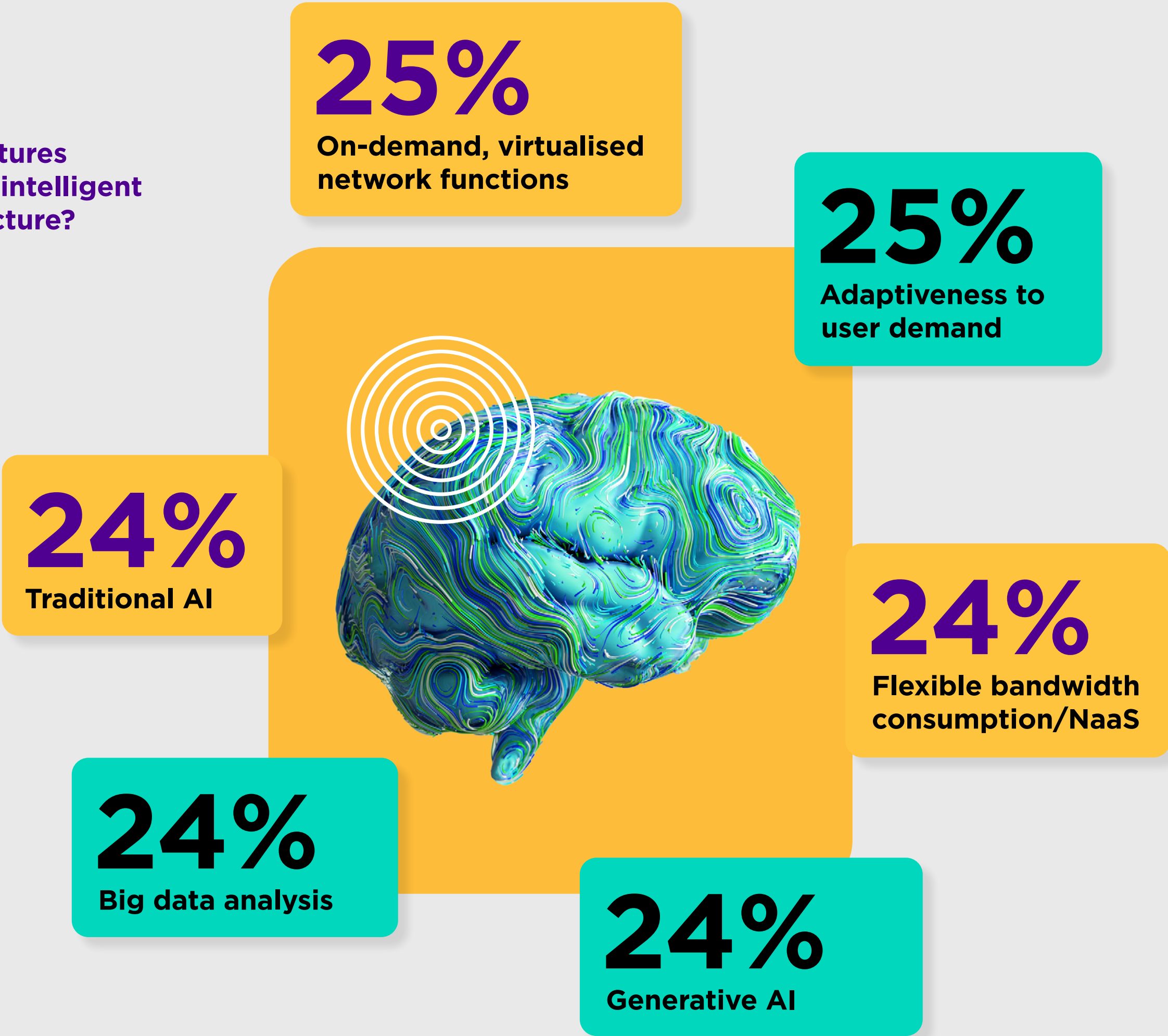
Why is the rise in intelligent digital infrastructure significant? As the power demands and carbon footprint of digital services increase, intelligent infrastructure has a vital part to play in managing environmental impact.

Hong Kong reported the highest proportion of organisations with intelligent digital infrastructure end-to-end (59%) but this number falls to 32% in Singapore. In IT & telecoms the figure stands at 51%, compared to 30% in government/local government.

On-demand, virtualised network functions (25%) and adaptiveness to user demand (25%) top the list of intelligent infrastructure features, closely followed by flexible bandwidth consumption/NaaS and Generative AI, which are both reported by 24% of respondents.

There were notable year-on-year increases in on-demand connectivity and machine learning, which both rose from 16% in 2023 to 23% in 2024.

What features make up intelligent infrastructure?



*Those who ‘have truly intelligent digital infrastructure, end to end and across the user journey’, ‘have intelligence across some parts of our digital infrastructure but not end to end’ and those who ‘have intelligence across some parts of our digital infrastructure but not across the user journey’

Industry analyst Frost & Sullivan says that to build the foundations of a successful NaaS offering, providers need:

- Expert teams to handle the complexity of full end-to-end NaaS
- To cooperate and standardise with other network providers across the industry, much like the history of ethernet adoption
- A holistic network of partners to make the transition to NaaS as smooth as possible

F R O S T & S U L L I V A N



Roadblocks remain for environmental impact and governance success

It's clear that CIOs recognise the benefits that intelligent digital infrastructure can offer in reducing their environmental impact. So what's holding them back?

More than one in five (21%) of CIOs say a lack of clear benefits (ROI) is a barrier to environmental impact and governance in relation to digital infrastructure. This rises to 36% for CIOs in the legal sector.

Other major challenges include incompatible technology and sustainability goals (20%) and multi-vendor interoperability (20%) – the latter suggesting the technology industry has work to do to enable customers to tackle their environmental impact. Vendor interoperability is a particular issue in the manufacturing & utilities sector, with 30% of CIOs in this industry reporting it as a barrier.

Again, we see contrasting issues in different regions. The top barrier in the Netherlands is a lack of agility (28%), reported by 17% of organisations. Lack of integration between partners is a challenge for 33% of respondents in Singapore, while 28% of CIOs in the The UAE said that inability to produce reportable sustainability data was the biggest roadblock.

What are the barriers to environmental impact and governance in relation to digital infrastructure?

20%
Incompatible technology and sustainability goals

20%
Multi-vendor interoperability

21%
A lack of clear benefits (ROI)

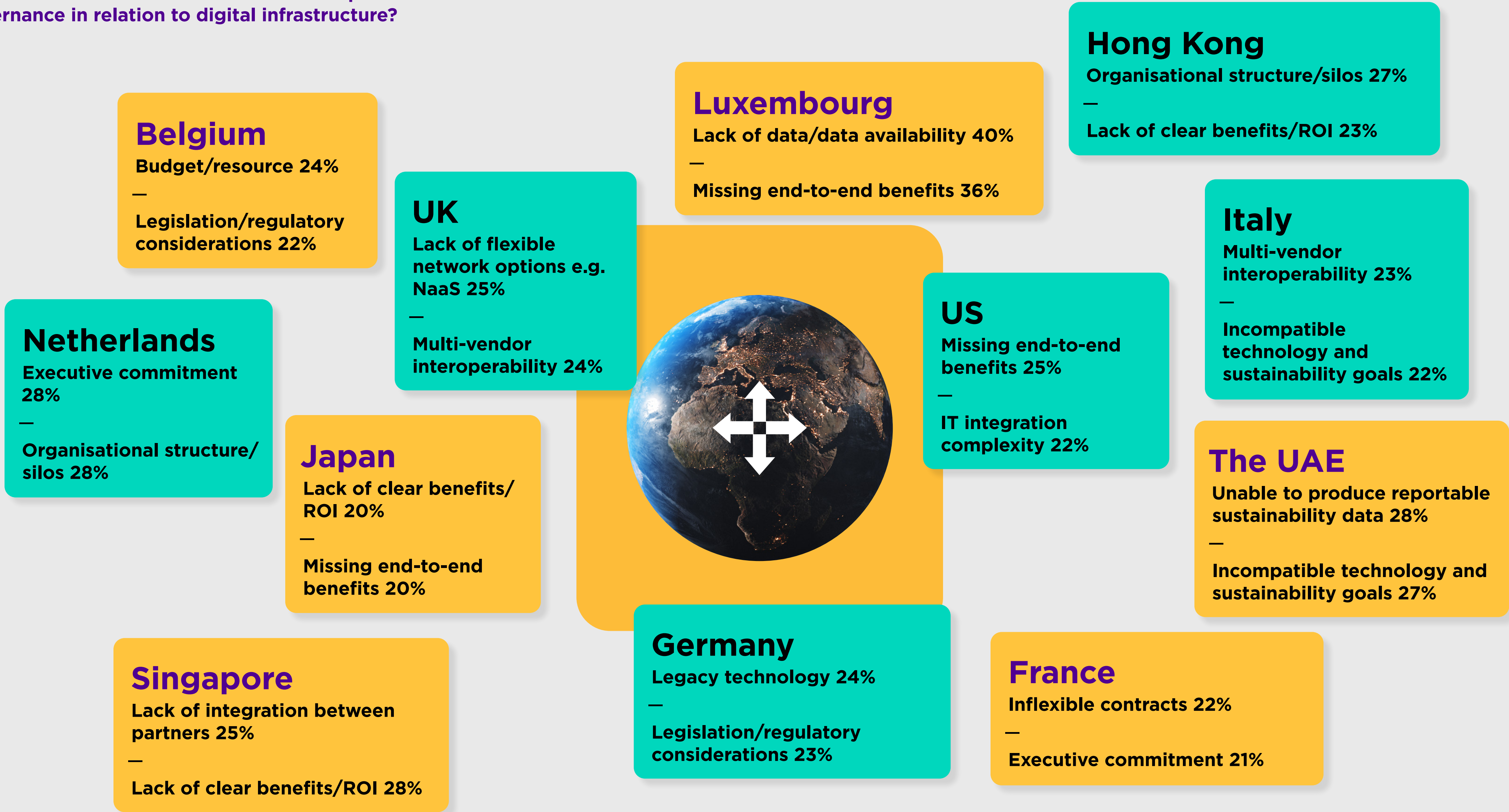
20%
Executive commitment

20%
Lack of flexible network options e.g. NaaS

19%
Legacy technology

19%
Missing end-to-end benefits

What are the barriers to environmental impact and governance in relation to digital infrastructure?



How IT leaders are turning to partners for help

We wanted to discover what attitude our survey shared towards their suppliers. Were their partners doing to aid their goals? Who were they turning to for advice on meeting environmental goals? Would tech leaders voice their concerns over a supplier's stance on environmental impact if they were incompatible with their own?

CIOs aren't passive when it comes to their suppliers: across all regions and sectors, 62% of respondents would suggest that a supplier review its environmental goals if they did not align with their own. Around one in six (16%) would leave if a supplier's environmental goals did not align with theirs.

Overall, 43% of CIOs say their carrier/telco is proactive about carbon reduction. There's some variation between sectors, with 57% of architecture, engineering & building CIOs reporting proactivity, but only 32% in government/local government.

However, a slightly larger proportion (47%) say their carrier/telco is only reactive about carbon reduction.

How much do you believe in your digital infrastructure partners' commitment to environmental impact and governance, if at all?

40% say their carrier/telco has an encouraging attitude

25% believe fully in their provider's commitment to it

4% are concerned their carrier/telco is greenwashing its claims

10% are sceptical their carrier/telco is committed

*Respondents who selected 'critical' and 'somewhat important' answers combined

CIOs want emissions reporting and science-based targets from providers

Data for scope 3 emissions reporting is the most important factor for CIOs when choosing a digital infrastructure partner, with a net importance of 69%. This is closely followed by science-based carbon reduction targets (68%) and DE&I initiatives (68%).

Top priorities for partner selection vary across industries (net importance)



Overall, 22% of CIOs report receiving support and guidance from their network providers on environmental best practice, along with how AI can impact sustainability goals (22%) and temporal optimisation (21%).

However, when asked what support they would like to receive from their network providers, two of the top three priorities are different, with 22% seeking guidance on hardware reuse/recycling schemes, 21% wanting support on fixed pricing, and 21% looking for advice on how AI can impact sustainability goals.

Conclusion

Senior IT leaders are strongly engaged in environmental impact and governance strategies. We're likely to see this involvement increasing as pressure grows from regulators, governments, shareholders and especially consumers.

As investment into intelligent digital infrastructure increases, the environmental benefits of greater efficiency and lower bandwidth and power consumption are likely to rise too. IT decision-makers are turning to technologies like NaaS and sustainably-optimised network pathing to achieve real-time, scalable control of their network and fulfil their strategic goals. But to realise net environmental gains from intelligent digital infrastructure, IT decision-makers will need the support and commitment of their suppliers.

Collaboration between providers and strong customer relationships will be needed to offset the rapidly growing carbon emissions associated with the increased use of AI and the proliferation of corporate data, storage and connected devices. Proactive providers already offering their customers the flexibility of on-demand connectivity put IT leaders in control of their network, allowing them to make strategic decisions about their digital infrastructure on their terms; whether to reduce costs, carbon emissions or complexity.

Carriers and telcos are already providing valuable advice on topics such as best practice and the environmental impact of AI. However, IT decision-makers have a range of views on their suppliers' attitudes and commitment, and there is room for improvement.

It's clear that intelligent digital infrastructure has much more potential to enable effective environmental impact and governance strategies, but the IT and telecoms industry as a whole must commit to greater action to make sure this promise becomes a reality.

Colt's role in the market

As a global digital infrastructure company, Colt helps businesses succeed by creating extraordinary connections. Powered by amazing people, like-minded partners and innovative technology, Colt is driven by its purpose: to put the power of the digital universe in the hands of its customers – whenever, wherever and however they want.

As this report shows, CIOs' responsibilities are rising and they're turning to network providers to future-proof their digital infrastructure. But what should they look for?

Agile infrastructure

Whether it be network-, security- or platform-as-a-service technology, finding the right partner that offers this agility is crucial in making sure you're in control. If you need scalable bandwidth, or if the speed of provisioning is business-critical, the right partner can offer you these solutions.

Global reach

You need a partner with the scale and partnerships to deliver, wherever you need it. Find a partner with an extensive reach of its own, but also one connected to all the major cloud players and with the ability to manage complex local relationships on your behalf.

Sustainable by design

You need a partner that truly invests in and delivers on its ESG commitments. This is critical for Scope 3 reporting and to ensure that your infrastructure is as efficient as possible. Your partner also needs to be able to help you on your ESG journey, sharing expertise and working together to meet environmental goals.

Contact us

To speak to our expert team, reach out to us at www.colt.net/contact-us.