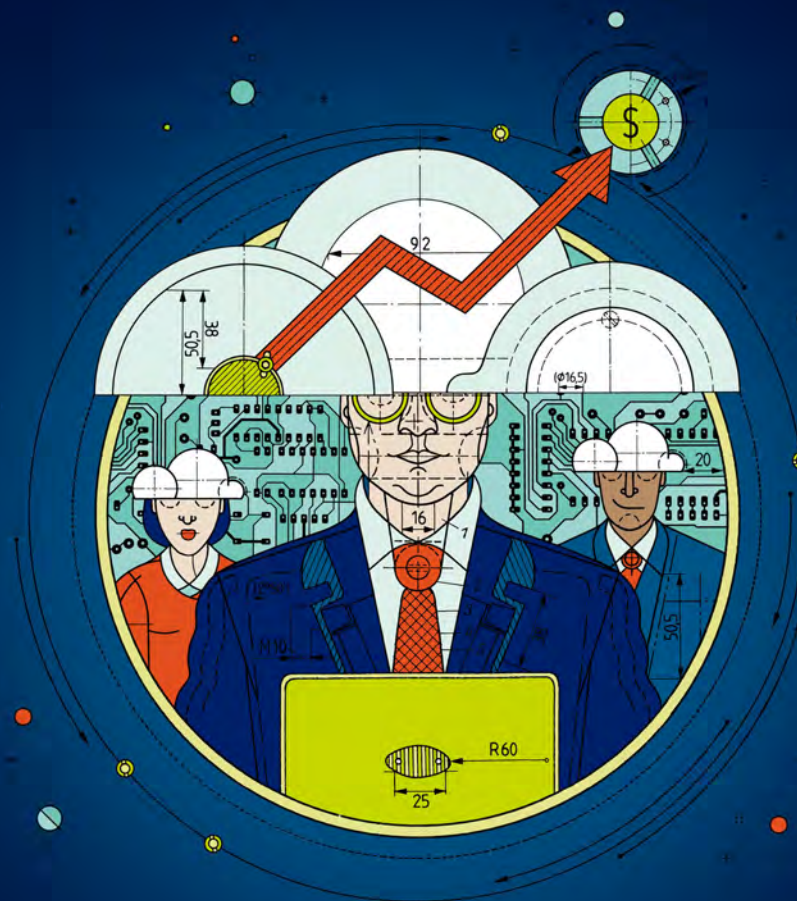




Deloitte Global TMT Predictions 2021

September 2021



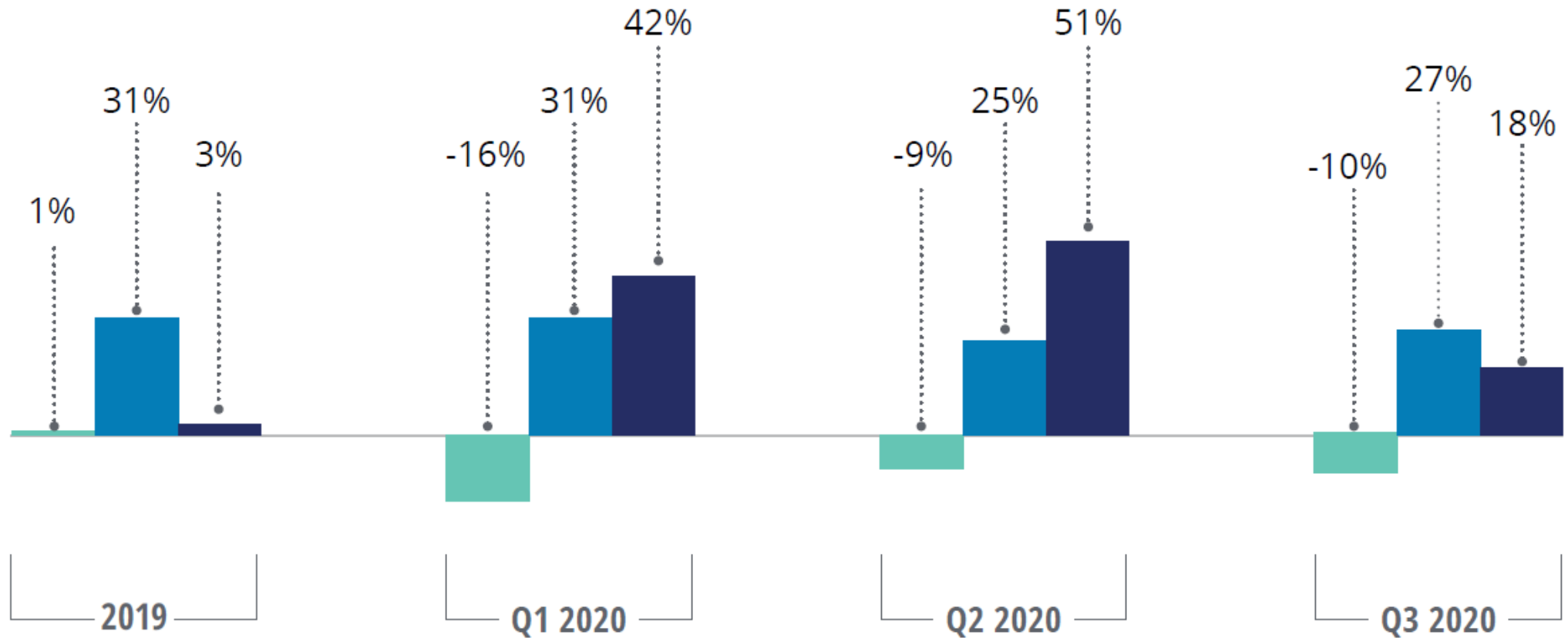


Cloud migration forecast
Cloudy with a chance of clouds

Cloud spend has done better than overall IT spend

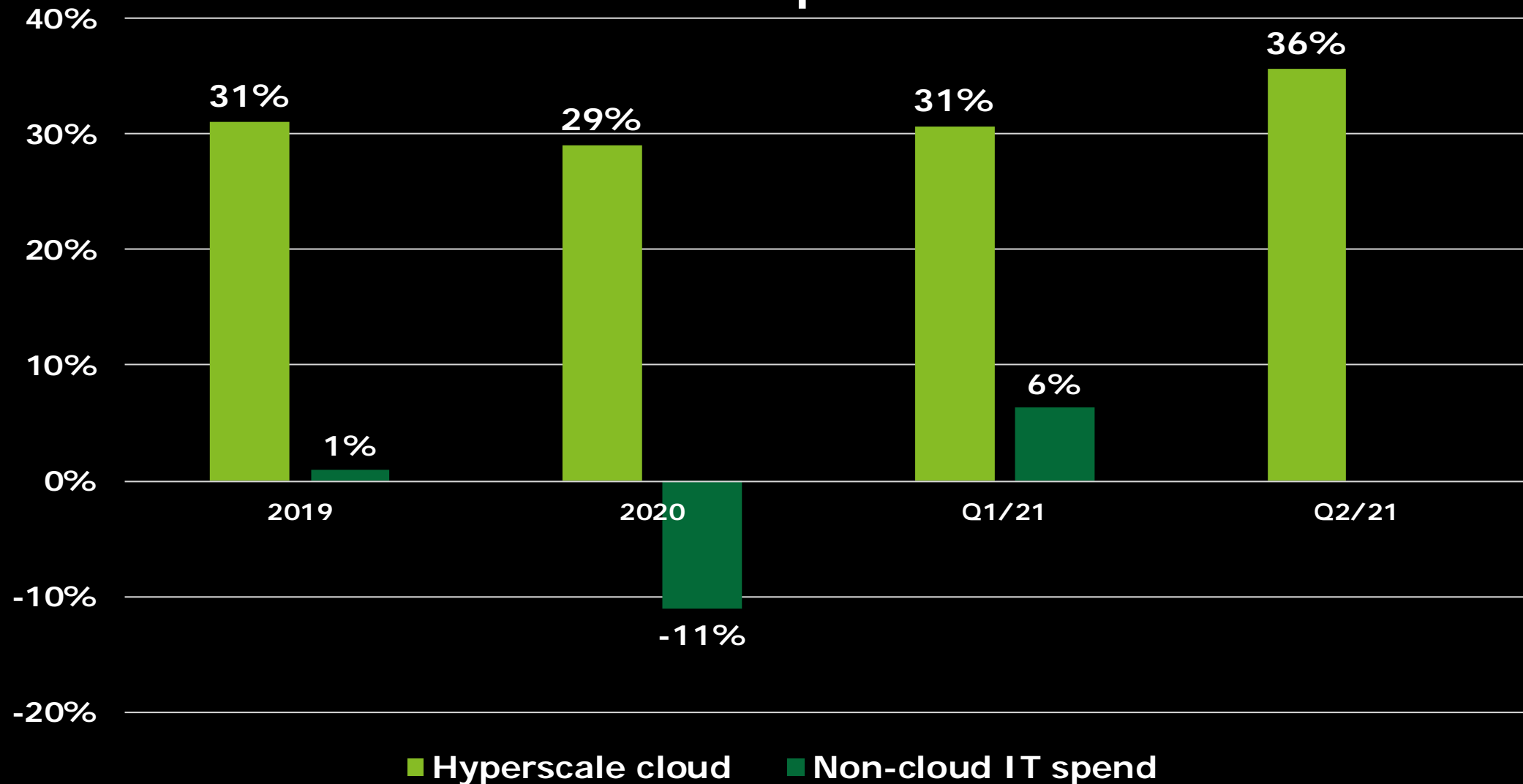
YoY growth in spend, percent

■ Global noncloud IT infrastructure ■ Hyperscale cloud revenues ■ Data center chip revenues

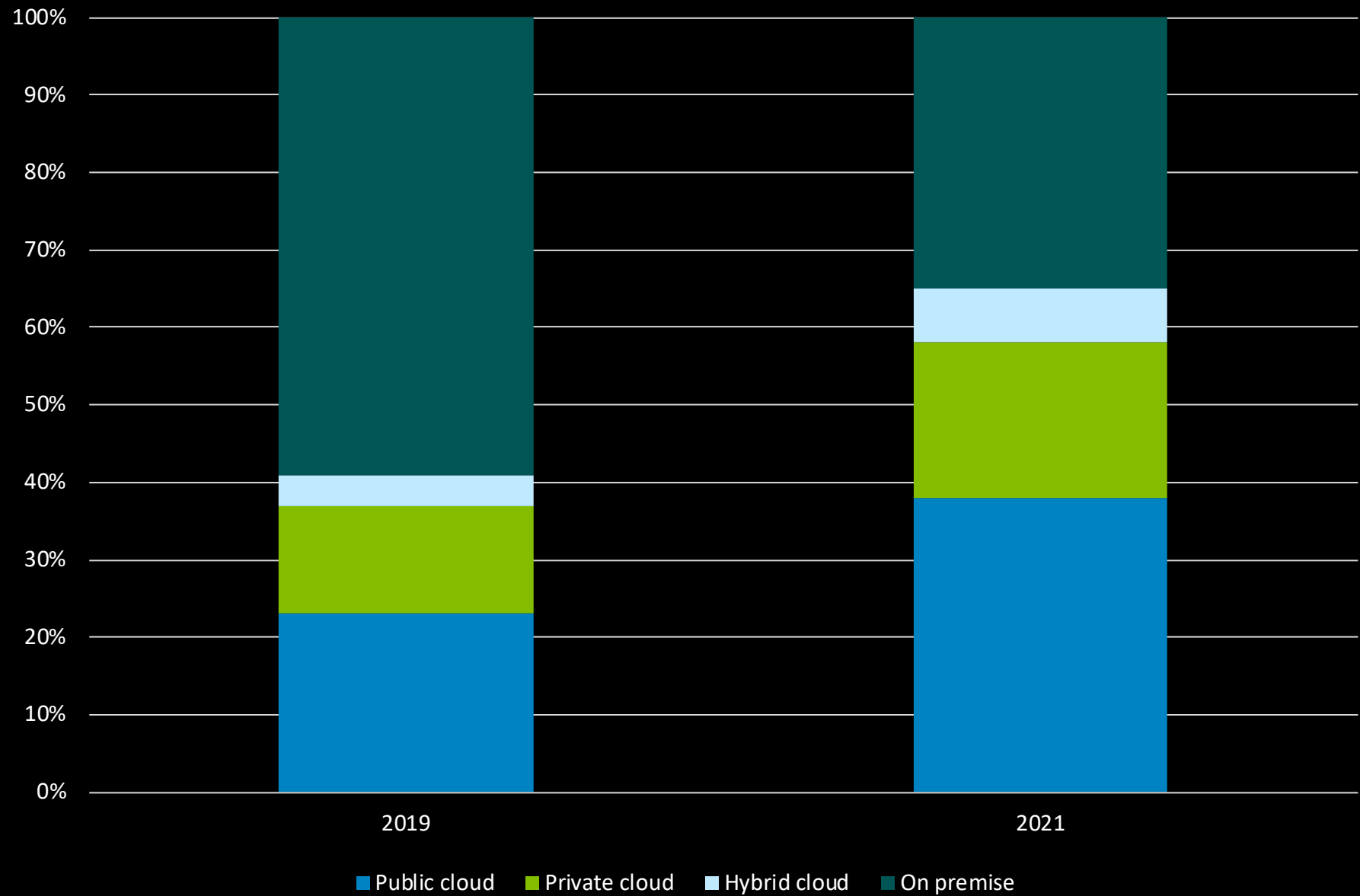


Source: Deloitte analysis of quarterly and annual financial statements.

Cloud versus non-cloud IT spend 2021 Update



Computing forecast: Cloudy with a chance of clouds



Come on, dive in, the water's fine!



Google Data Center PUE performance

Our fleet-wide PUE has dropped significantly since we first started reporting our numbers in 2008. The TTM energy-weighted average PUE for all Google data centers is 1.11, making our data centers among the most efficient in the world.

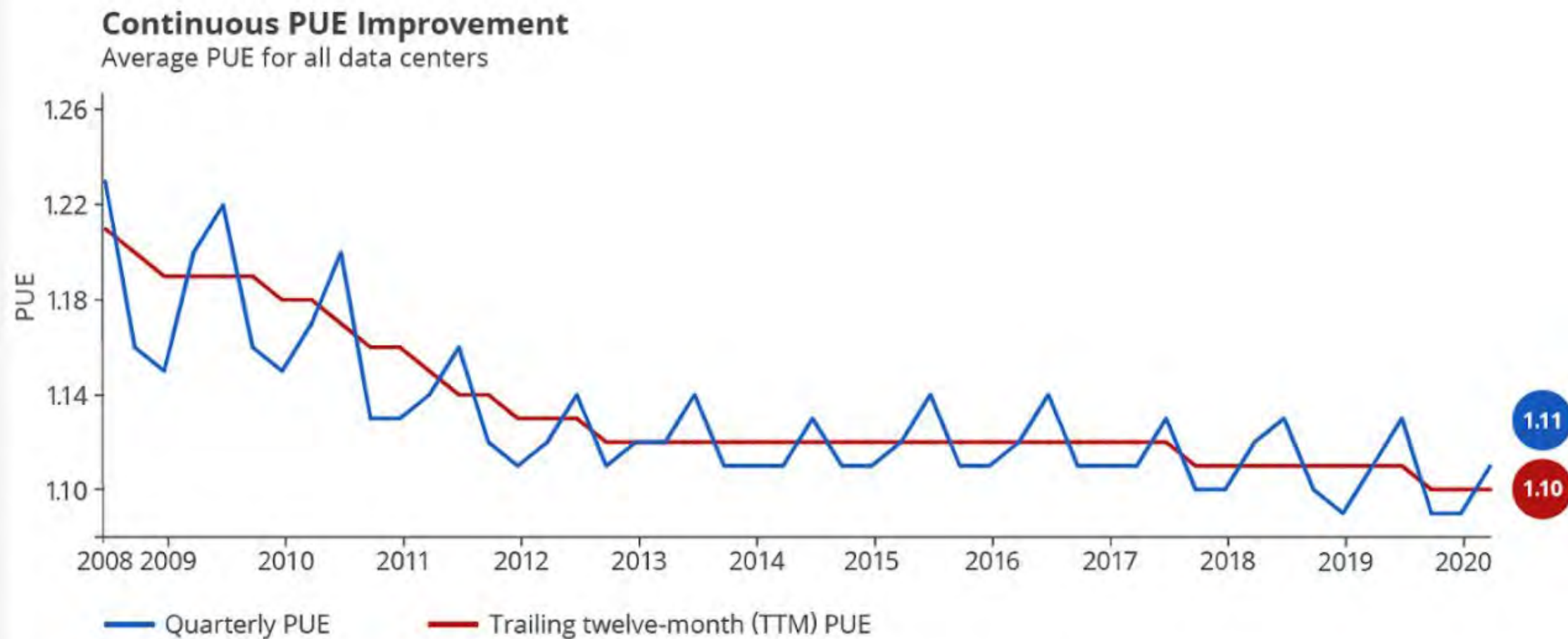


Figure 2: PUE data for all large-scale Google Data Centers



Gaining an intelligent edge

Edge computing and intelligence could propel tech and telecom growth

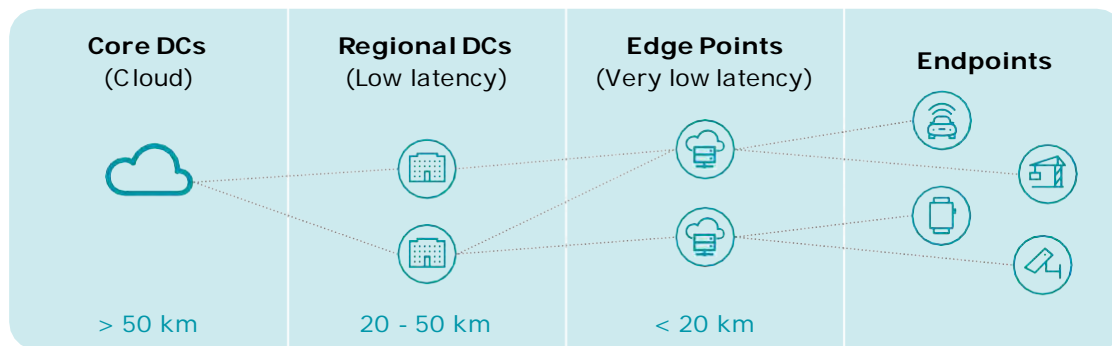
Why edge computing?

Edge computing, being a distributed computing topology, brings Cloud capabilities to the edge of the network, thus allowing reduced latency, higher resiliency and backhaul cost savings



Edge Computing

Edge computing is a network architecture approach that aims to bring **data processing as close as possible to the things or people** that produce and/or consume that data



Key players in the Edge computing value chain include primarily **Network Operators** and cloud provider **Hyperscalers**

Source: Ericsson, Gartner (2018)

BENEFITS OF EDGE COMPUTING



Enable low latency

Latency is reduced to <10 ms as data processing occurs closer to the end user, enabling quick response times



Reduce long distance data flows

Data is directly processed and stored at the edge, thus reducing up to 75% of data transported to the core DCs



Enhance flexibility and scalability

Wide range of options in the network edge to process and store data with multiple locations closer to the end users



Maximize resiliency

By decentralizing data storage and processing, security attacks disruption can be minimized at the network level



It is estimated that **~25% of the 5G use-cases will depend on edge computing** by 2023

Gaining an intelligent edge:

Edge computing and intelligence could propel tech and telecom growth

- In 2021, the global market for the intelligent edge will expand to US\$12 billion.
- **Growth in 2021 will be driven by telecoms and hyperscale cloud providers.**
- **Beyond 2021**, the market will expand into manufacturing, industrial, and supply chain.
- **No single provider owns the intelligent edge:** deployment requires coordination between telecoms, hyperscalers, and technology companies.

Leading Asian Port: Automation and efficiency



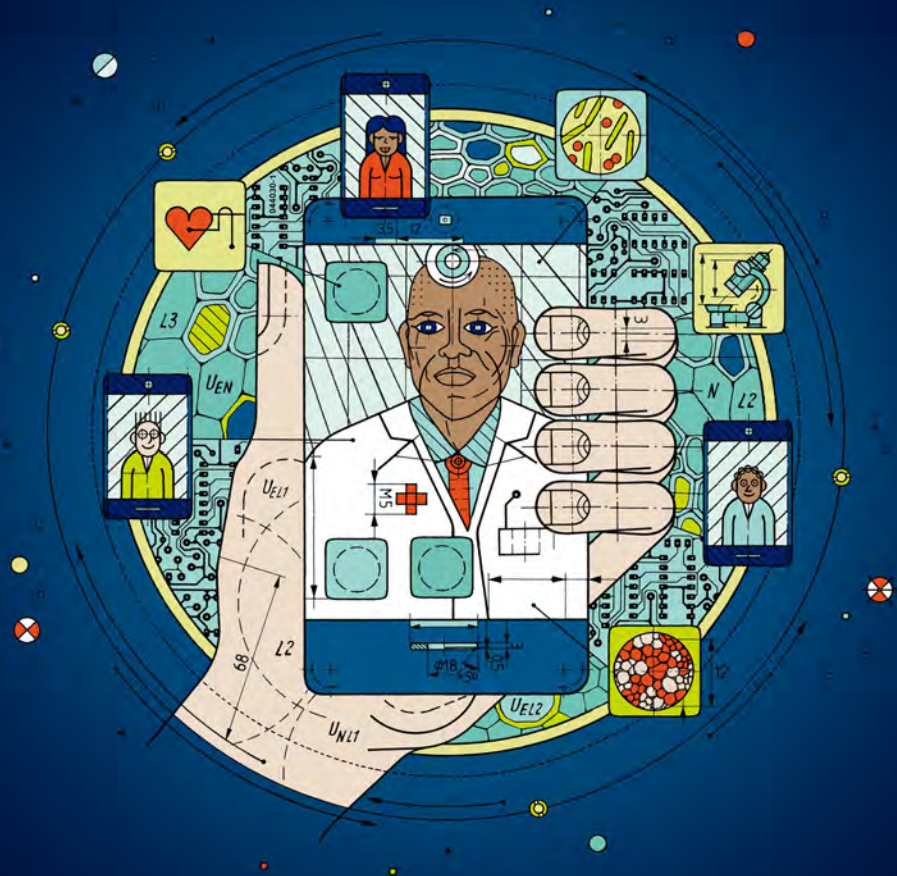
Load and unload ships more efficiently



Used connectivity and edge AI to automate cranes and trucks in the container port

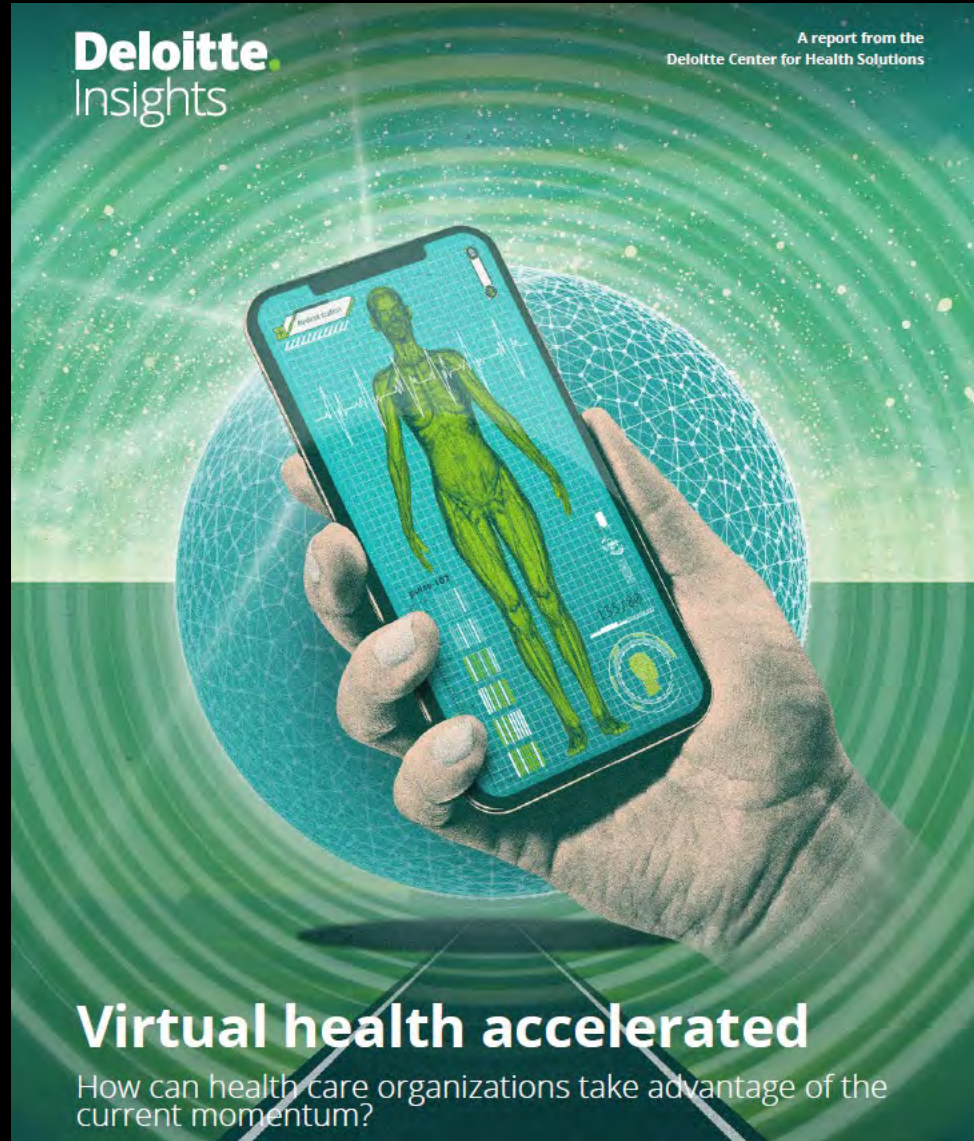


Reduced labor costs by 70% and increased operational efficiency by 30%



Video visits go viral

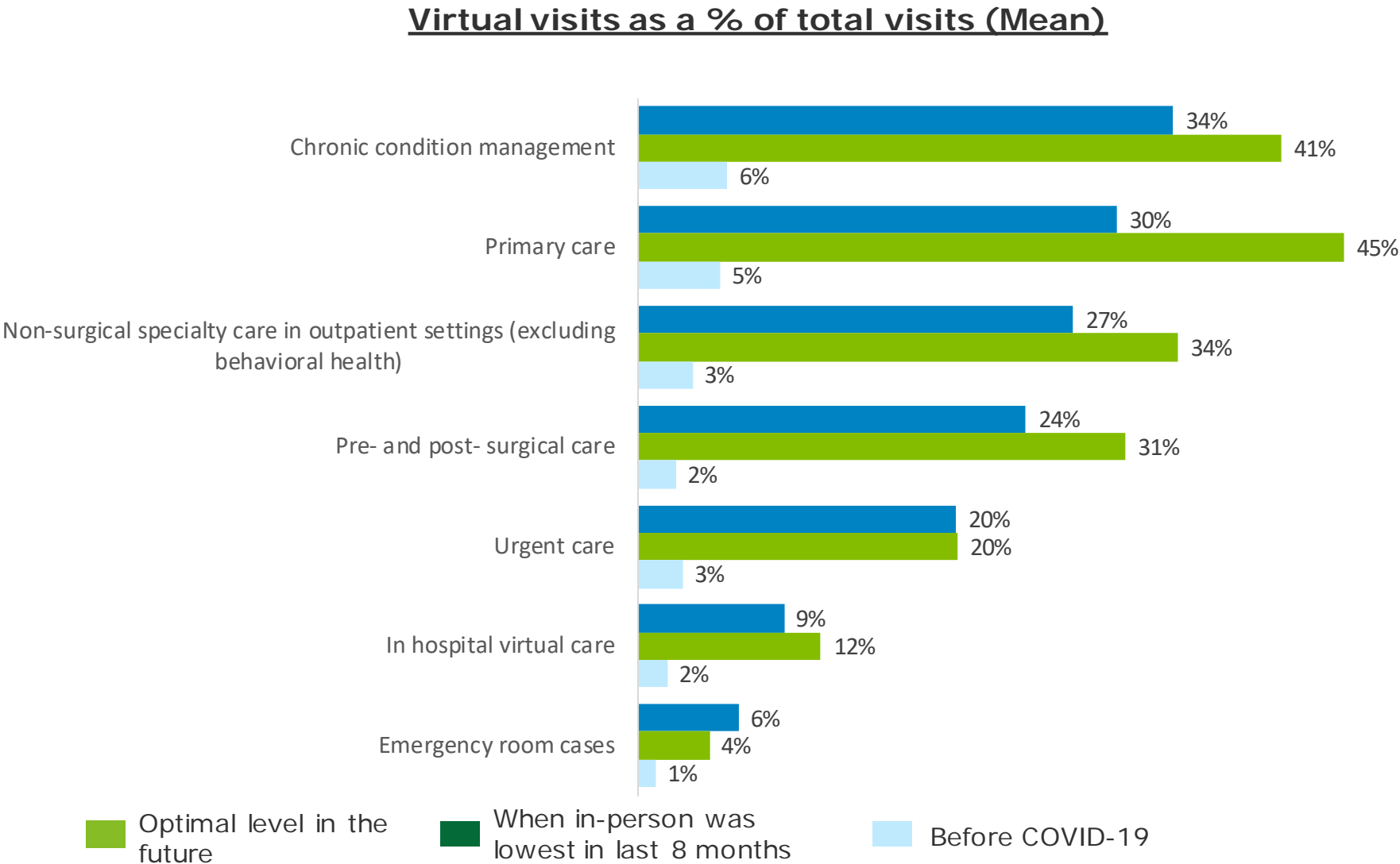
COVID-19 sparks growth in video doctor's visits



Virtual health accelerated

How can health care organizations take advantage of the current momentum?

Figure 3: Clinical leaders thought virtual visits should constitute about a third of all primary care and chronic care management visits in the future vs. only 5% pre-pandemic



Q: For your organization, approximately, what percent of total visits were virtual (or telehealth visits) before the pandemic, at the time when in-person use was the lowest in the last eight months, and what is optimal going forward?

2022 Sneak Peaks:

- Wi-Fi 6 versus 5G in the enterprise
- Fixed wireless access
- The continuing chip shortage
- AI regulation

TMT Predictions: custom events



Duncan Stewart can deliver a (virtual) presentation for your office or industry. Contact him to find out more.

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