

Reimagining Networking in the Age of AI Empowering Engineers to Shape the Future

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CTO Network Infrastructure

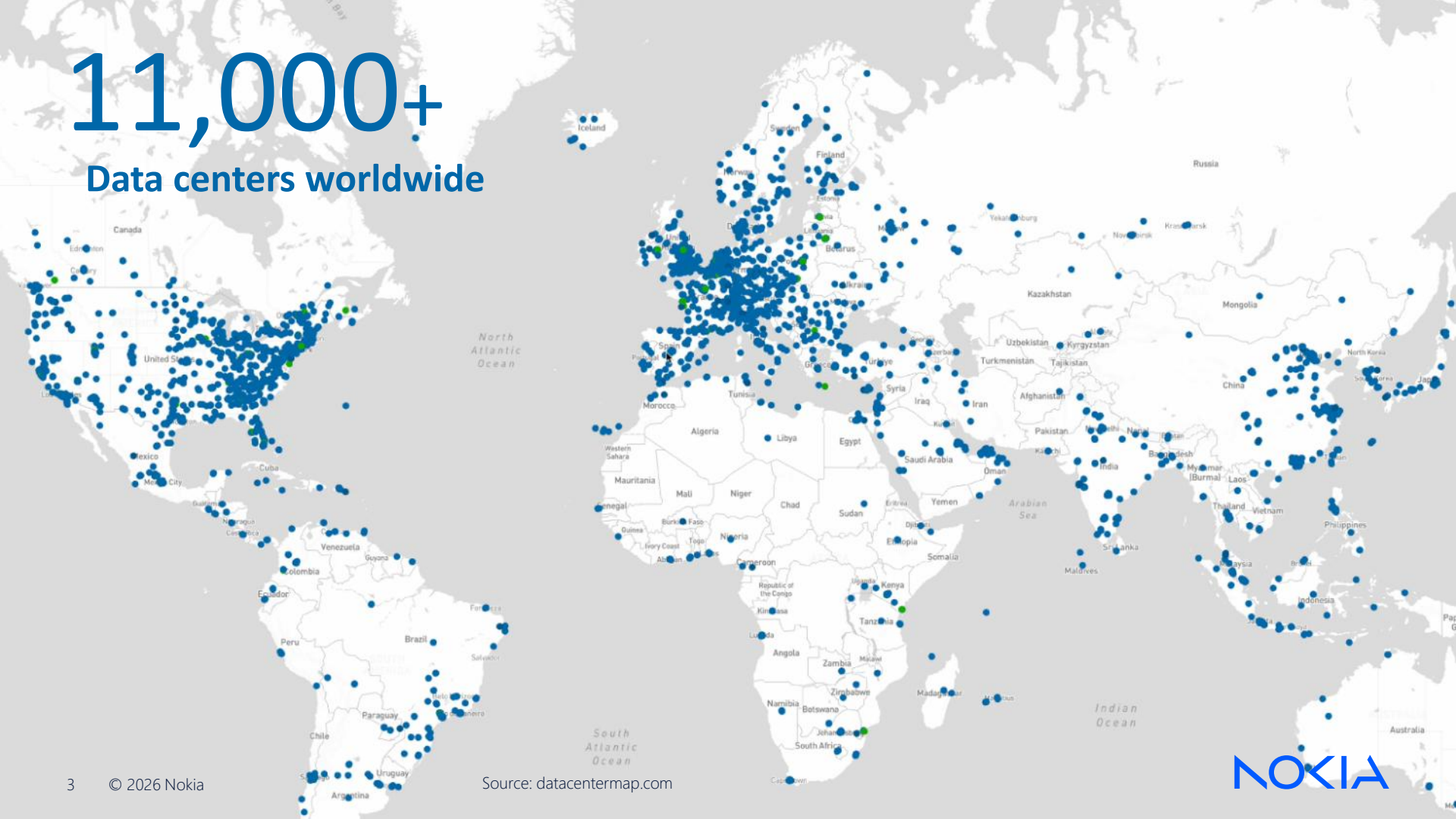
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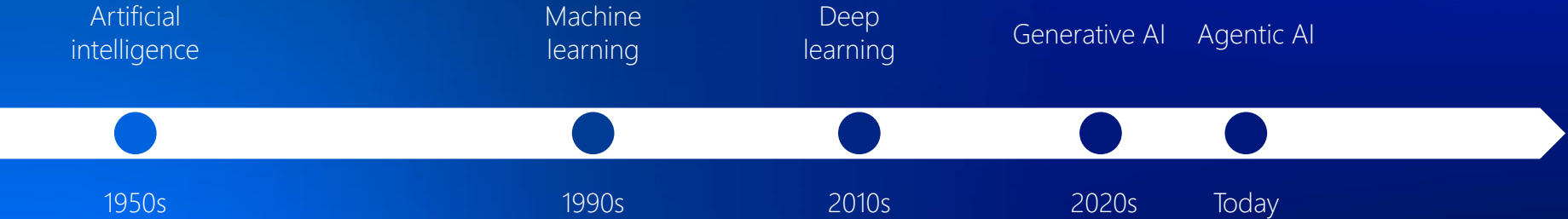
NOKIA

11,000+

Data centers worldwide

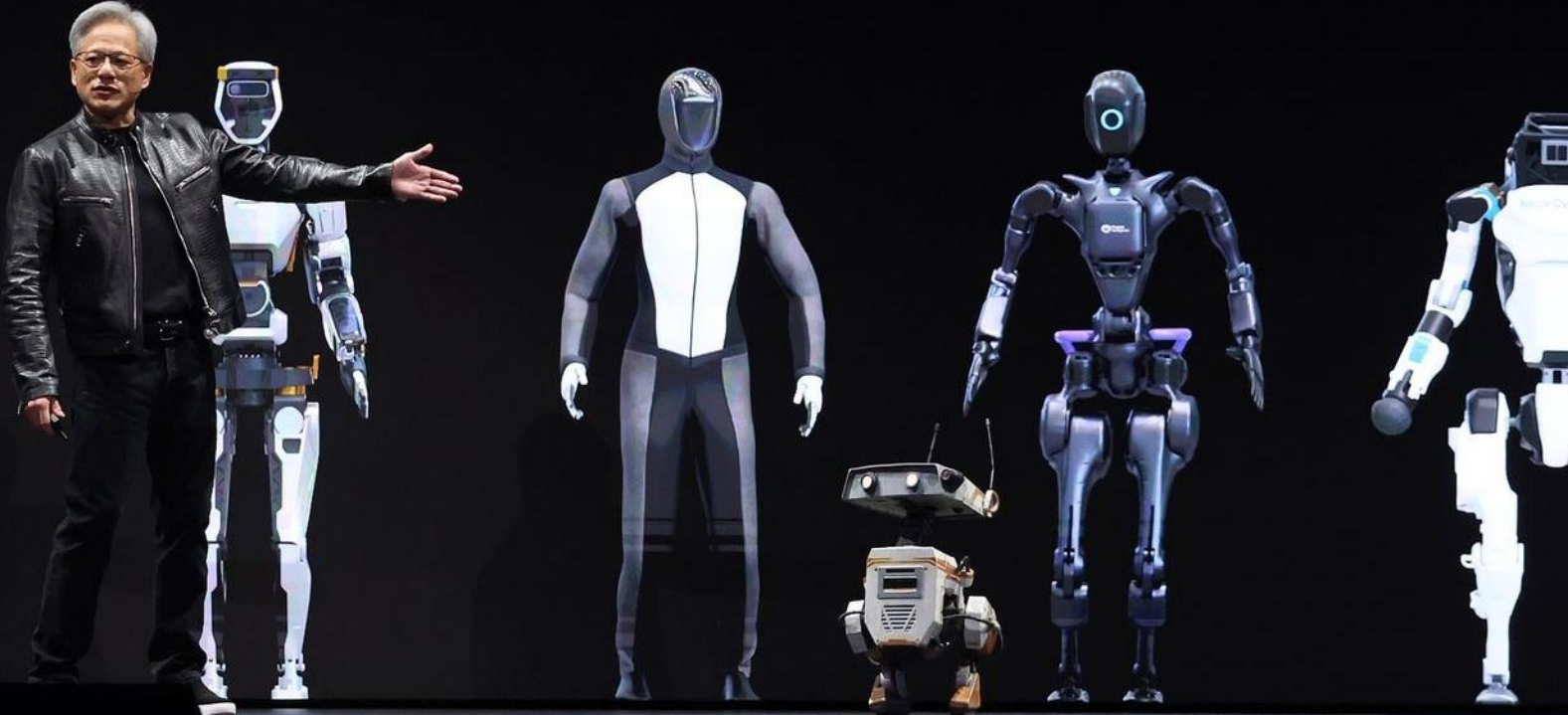


AI Supercycle



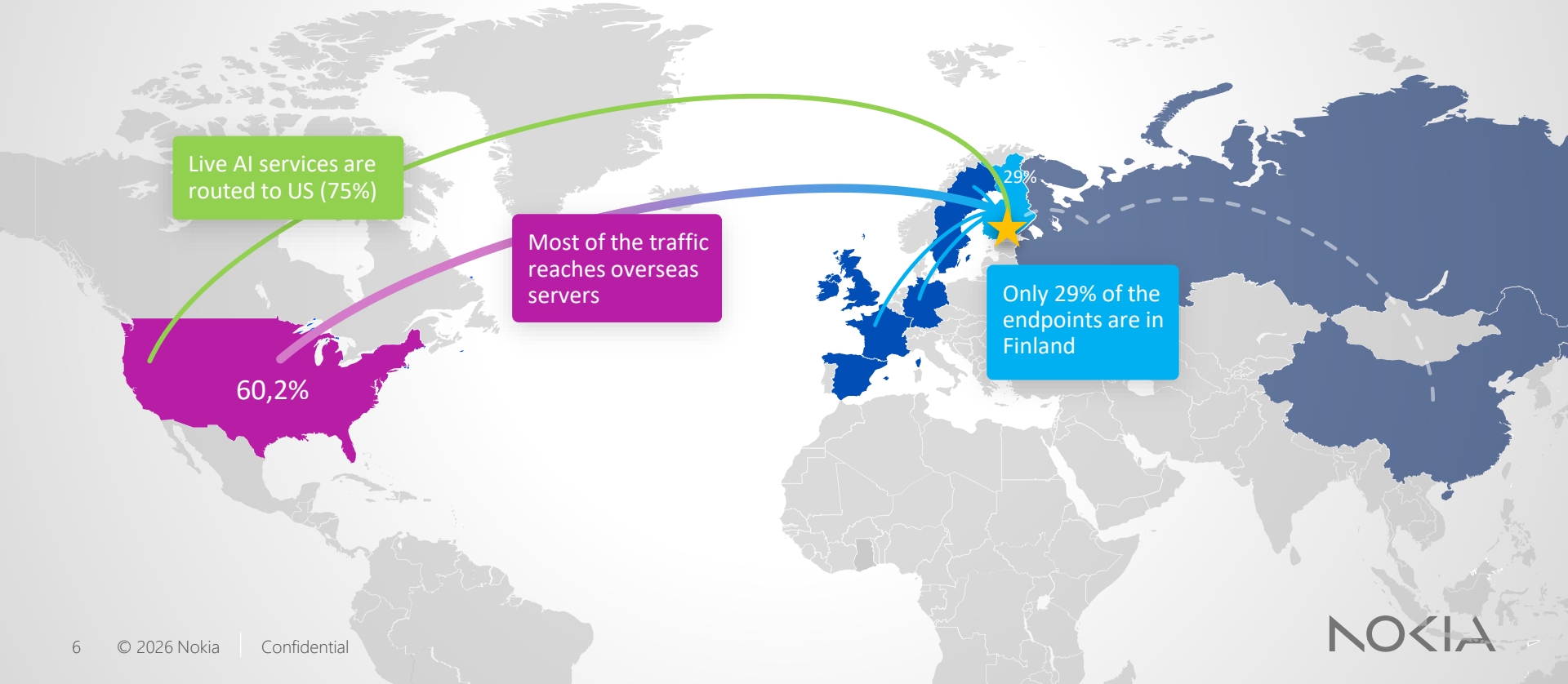
AI Supercycle

Physical AI



AI Traffic Routing vs. Data Sovereignty and Privacy

Inference across borders and nations – where is our data going?



Data center hot topics



Energy

GPU
1kW
=
600kW
per rack

(Rubin Ultra NVL 576 GPU)



Energy



Cooling

An AI factory can consume millions of liters of water per day for cooling

1 prompt = 10-15ml



Energy



Cooling



Location



Is the future of data centers under the sea?

An AI factory can consume millions of liters of water per day




Energy



Cooling



Location

 **Starcloud**

Why we should
train AI in orbit

Space provides efficient
cooling and abundant
solar energy

Compromising the Integrity of Machine Learning



Energy



Cooling



Location



Poisoning





Energy



Cooling



Location



Poisoning

Quantum computers are going to break our decades long security & cryptography frameworks

Breaking the cryptography, integrity attack could “poison” the AI answer.



Energy



Cooling



Location



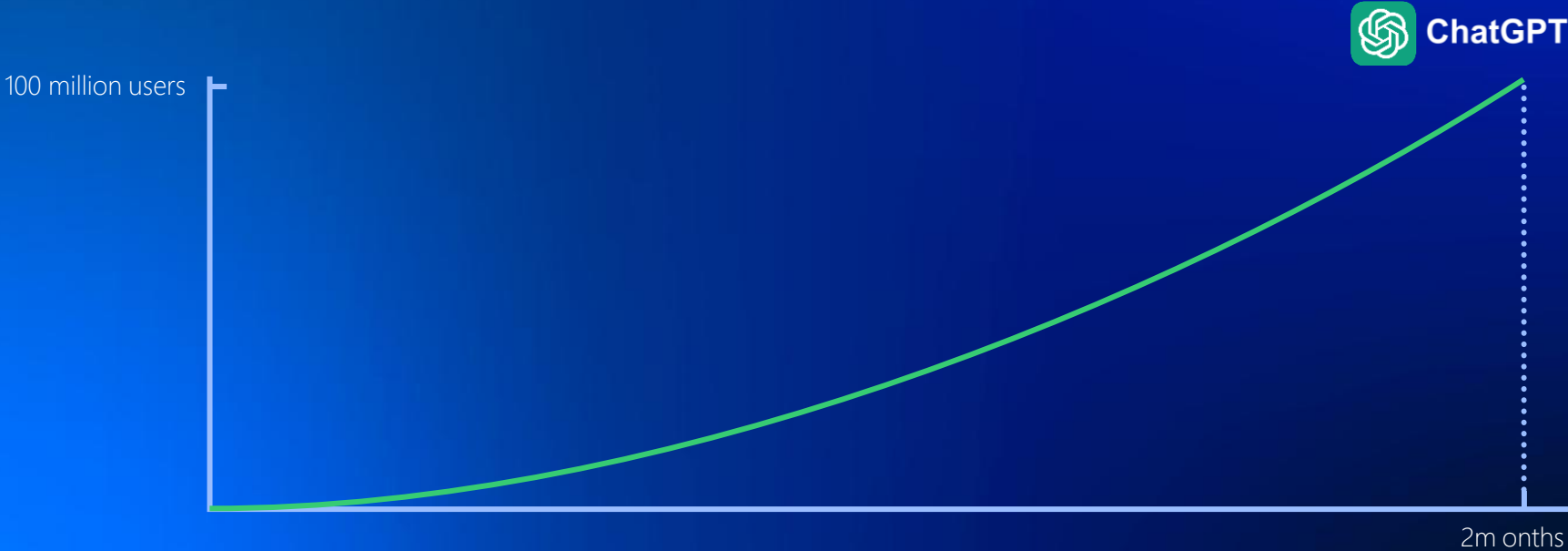
Poisoning



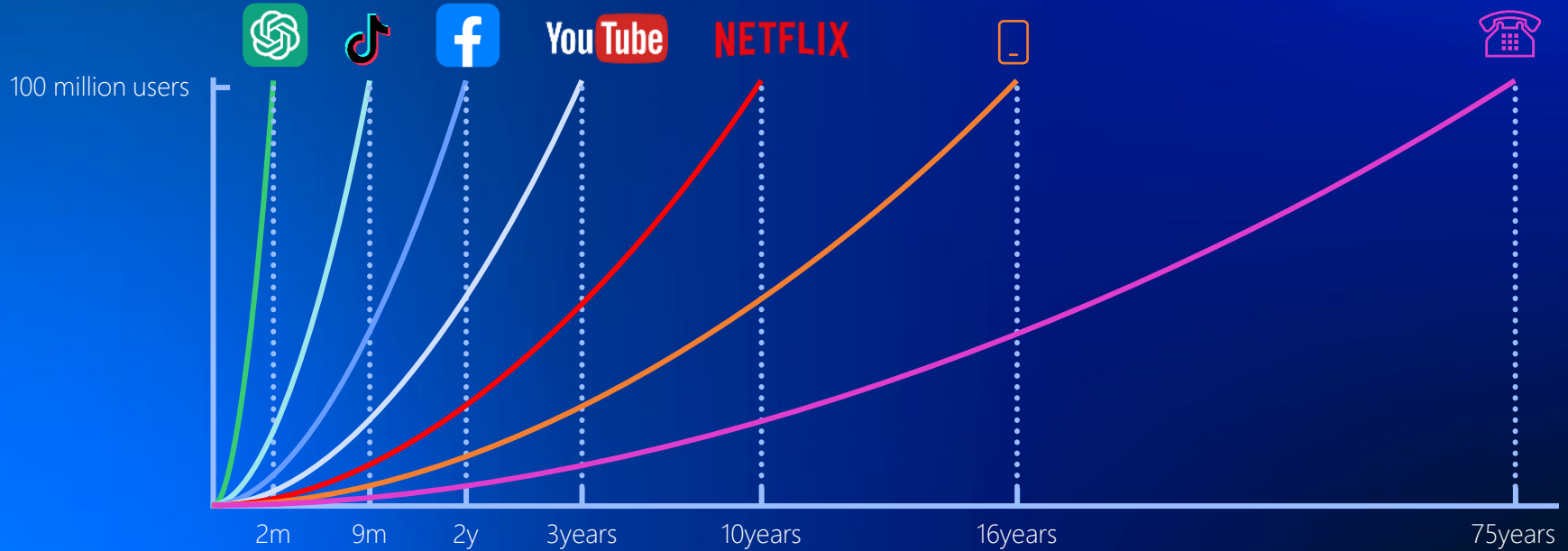
Connectivity

Connectivity is becoming a critical requirement for AI data centers

Time to 100 million users



Time to 100 million users



The network-cloud continuum

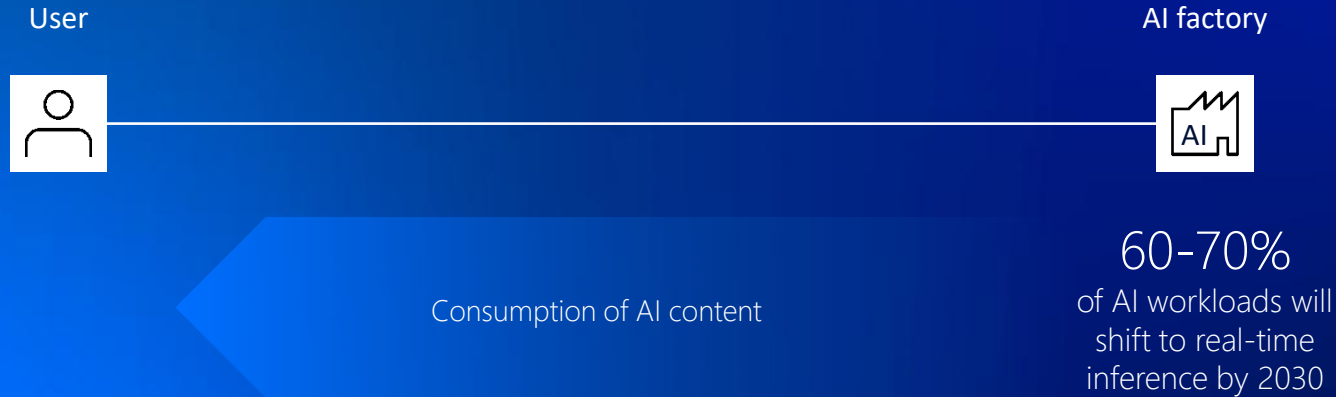
AI training

AI factory



The network-cloud continuum

AI inferencing



The network-cloud continuum



Tiny
language
models

Small
language
models

AI workloads

Large
language
models

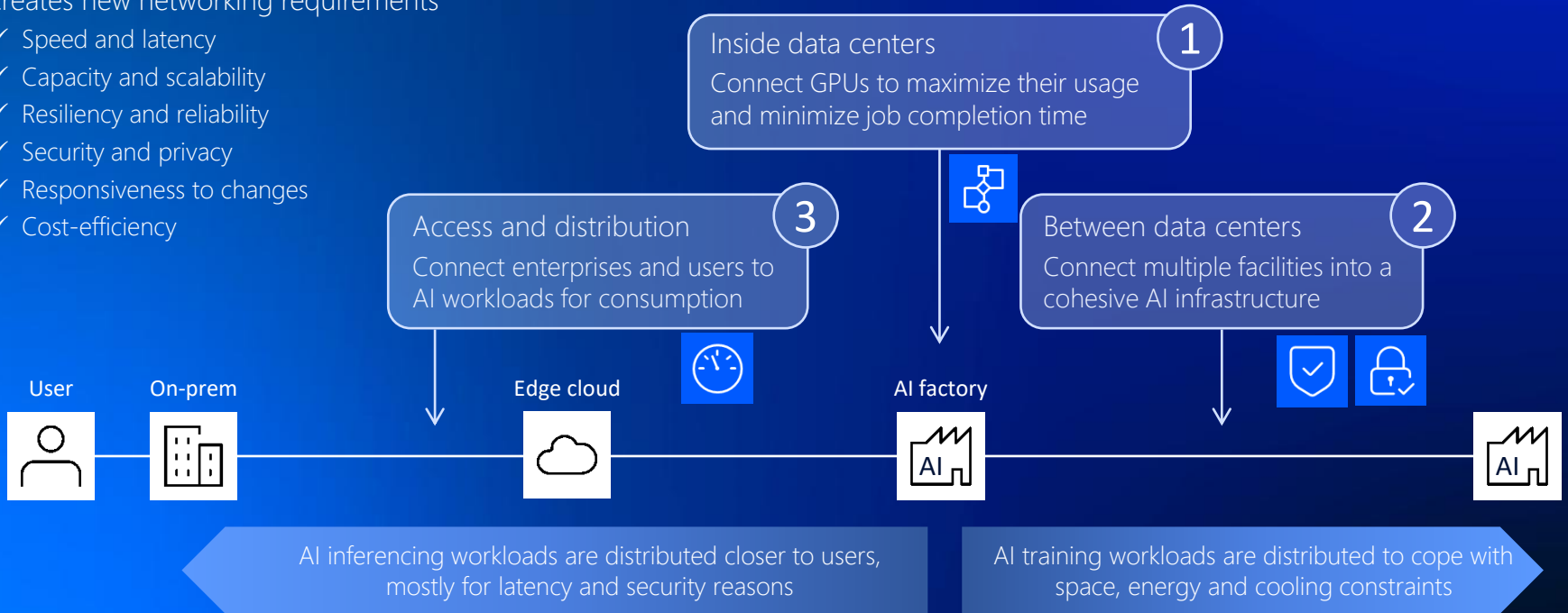
Constraints

- Latency
- Data sovereignty
- Security/Privacy
- Bandwidth efficiency
- Cost of extracting data
- Power availability
- ...

The critical role of the network

The explosive growth of AI and data center creates new networking requirements

- ✓ Speed and latency
- ✓ Capacity and scalability
- ✓ Resiliency and reliability
- ✓ Security and privacy
- ✓ Responsiveness to changes
- ✓ Cost-efficiency



An aerial, top-down view of a city at night. The skyscrapers are densely packed and their windows are illuminated with a mix of blue, purple, and orange lights, creating a vibrant, glowing pattern. The perspective is looking straight down, showing the grid-like structure of the buildings.

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