Powering the AI Revolution
Why Regional Operators Matter More Than Ever

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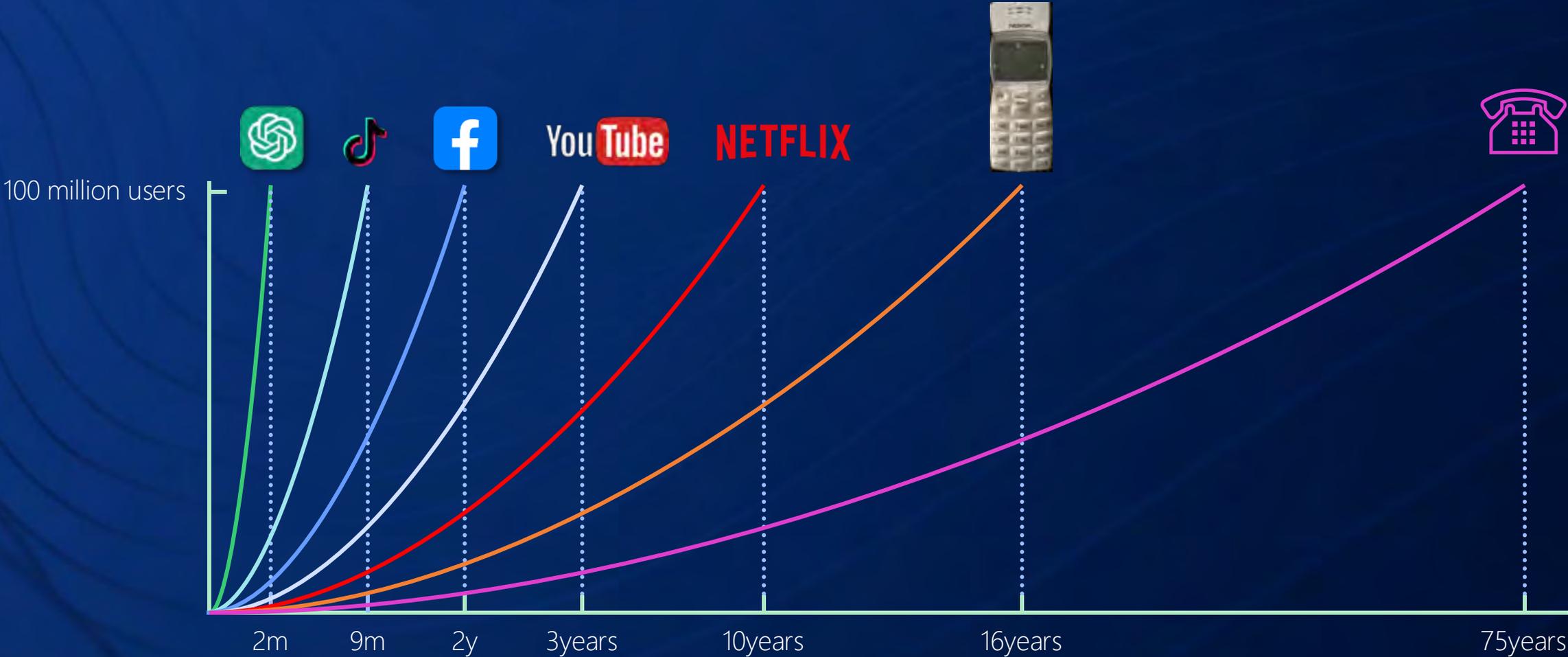WTA 2025 - WAVES OF OPPORTUNITY

WAVES OF OPPORTUNITY

The AI Wave

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Time to 100 million users

100 million users

2m 9m 2y 3years 10years 16years 75years

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Welcome to the AI era

Me at the zoo
First video on

Video era

AI era

2005
April 23

2007

2022
November

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AI and Networks

AI

Networks for AI

AI for Networks

Networks

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AI for Networks

Assistance
to humans

Analytics

Automation

Sense → **Think** → **Act**

Data

Operations

Service
Security
Sustainability

Web

Libraries

Network

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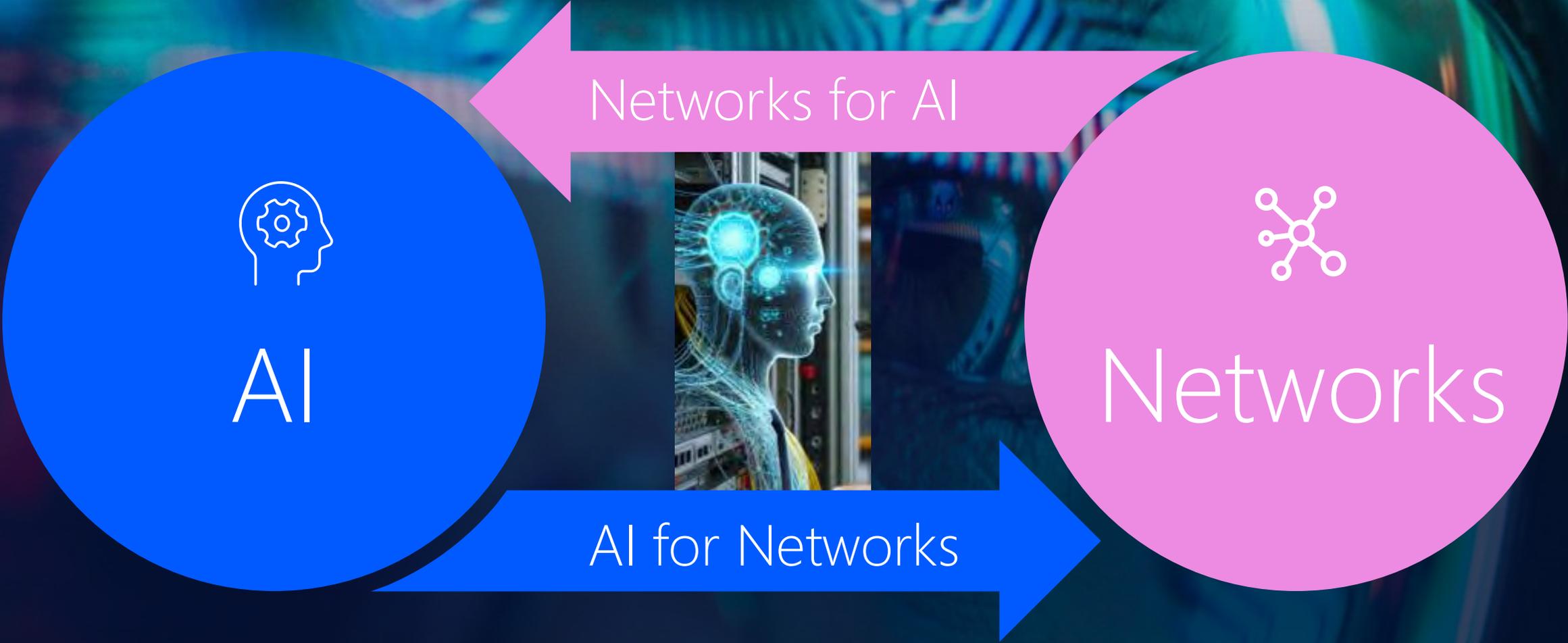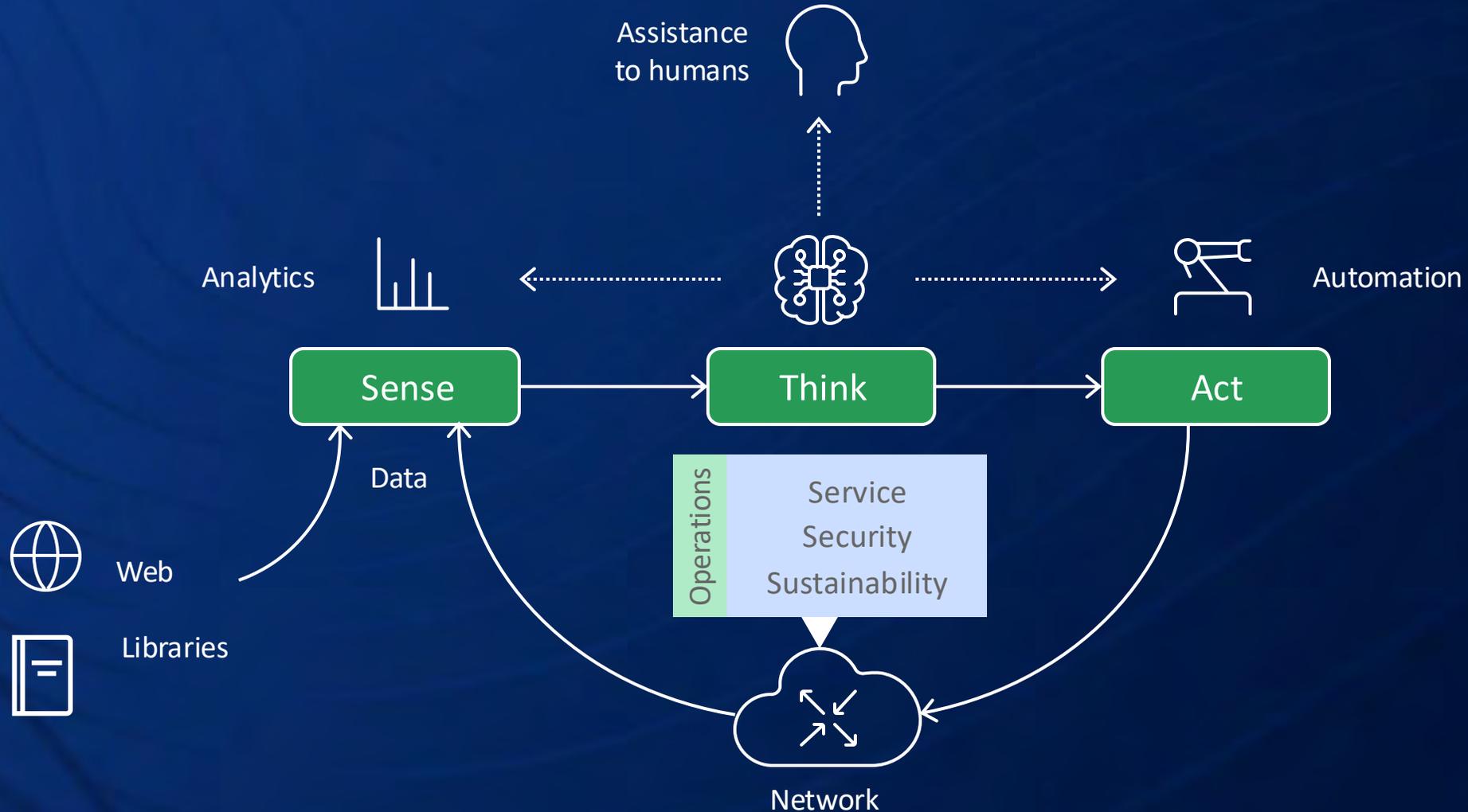
The AI Supercycle

What Happened

Build out of training

- Large number of very large data centers
- DCI - including private, wholesale, managed fiber optical networks

11,000	# of data centers

What's Happening

More training buildouts

- Increased distribution of data centers due to power constraints
- Emergence of campus data center interconnect (DCI) connectivity

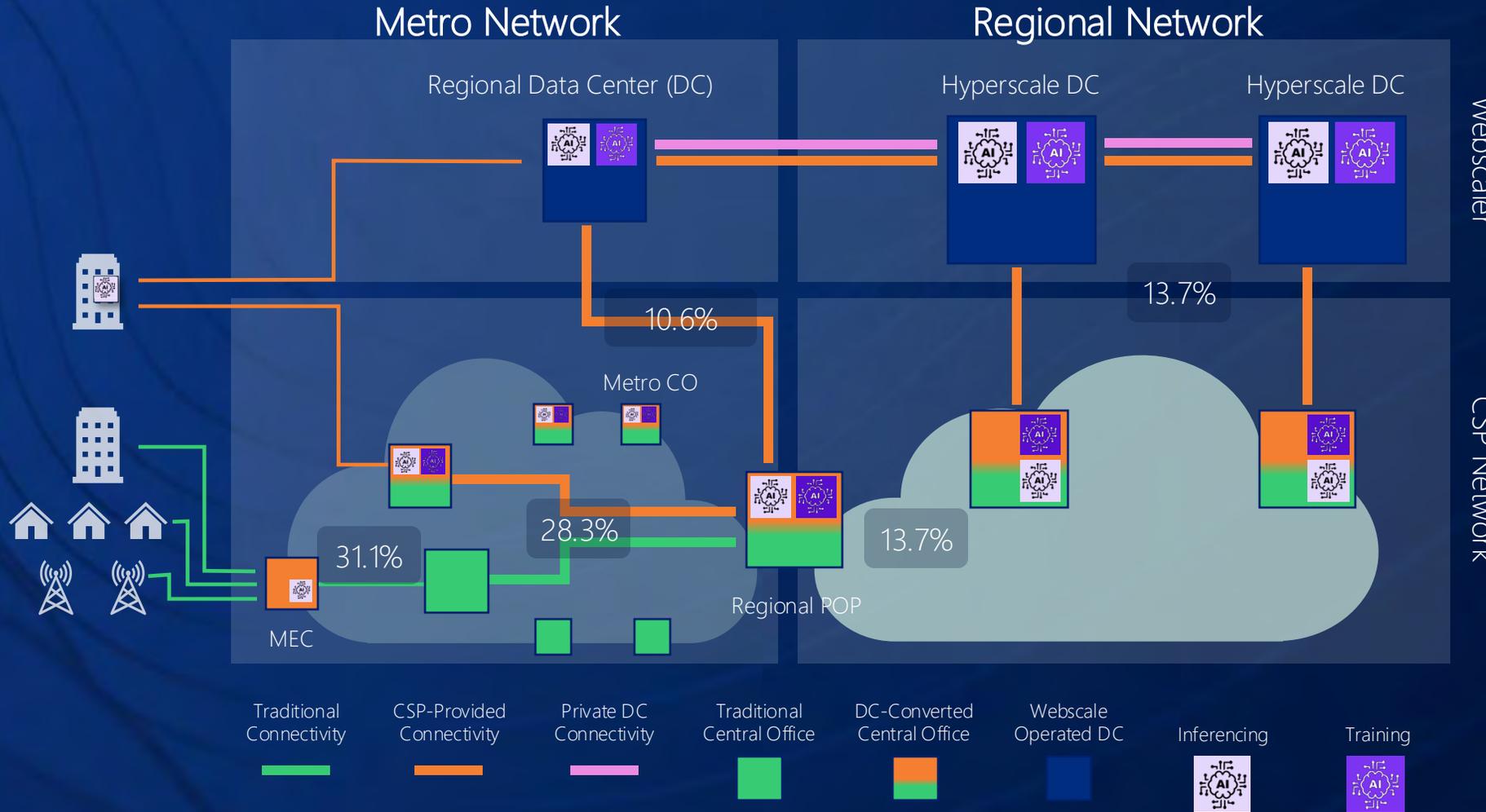| >3x	Growth in data center interconnect (DCI) bandwidth demands to 3386 EB/month

What's Coming

Monetization buildout

- Inferencing data center buildout
- More, smaller, lower power, closer to the end-user
- Wider variety of DCI flavors

21%	AI inferencing hosted in CSP facilities (59% in the metro core, 41% in the metro edge)

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The AI Opportunity for Regional Operators and CSPs

Metro Network

Regional Network

Regional Data Center (DC)

Hyperscale DC

Hyperscale DC

Webscaler

CSP Network

Metro CO

10.6%

13.7%

28.3%

13.7%

MEC

31.1%

Regional POP

75%

of the AI connectivity opportunity is still in front of us

Builds up to now address only what will be <25% of the total volume of traffic generated by AI

| Traditional Connectivity | CSP-Provided Connectivity | Private DC Connectivity | Traditional Central Office | DC-Converted Central Office | Webscale Operated DC | Inferencing | Training |

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The AI Opportunity for Regional Operators and CSPs

Infrastructure

- New data center interconnect (DCI) paths
- Connect customers

Real estate

- AI services
- GPU as a service
- Co-location
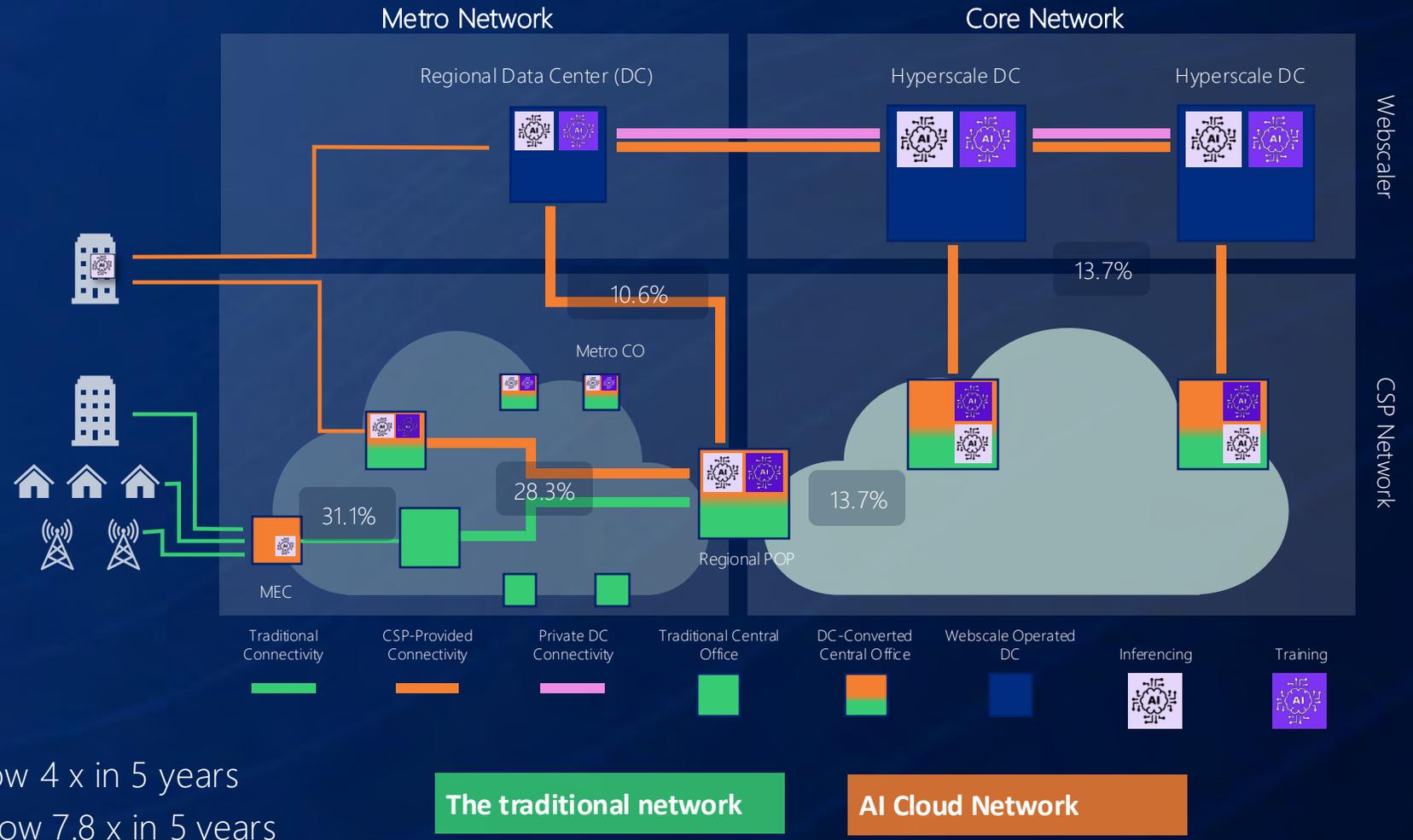
Latency Sensitive AI apps projected to grow 4 x in 5 years
Global consumer AI traffic projected to grow 7.8 x in 5 years

Metro Network

Core Network

Regional Data Center (DC)

Hyperscale DC

Hyperscale DC

Webscaler

CSP Network

10.6%

13.7%

Metro CO

31.1%

28.3%

13.7%

MEC

Regional POP

| Traditional Connectivity | CSP-Provided Connectivity | Private DC Connectivity | Traditional Central Office | DC-Converted Central Office | Webscale Operated DC | Inferencing | Training |

The traditional network

AI Cloud Network

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Key Factoids

75%
AI connectivity opportunity to be built

7.8x
Global consumer AI traffic growth in 5 years
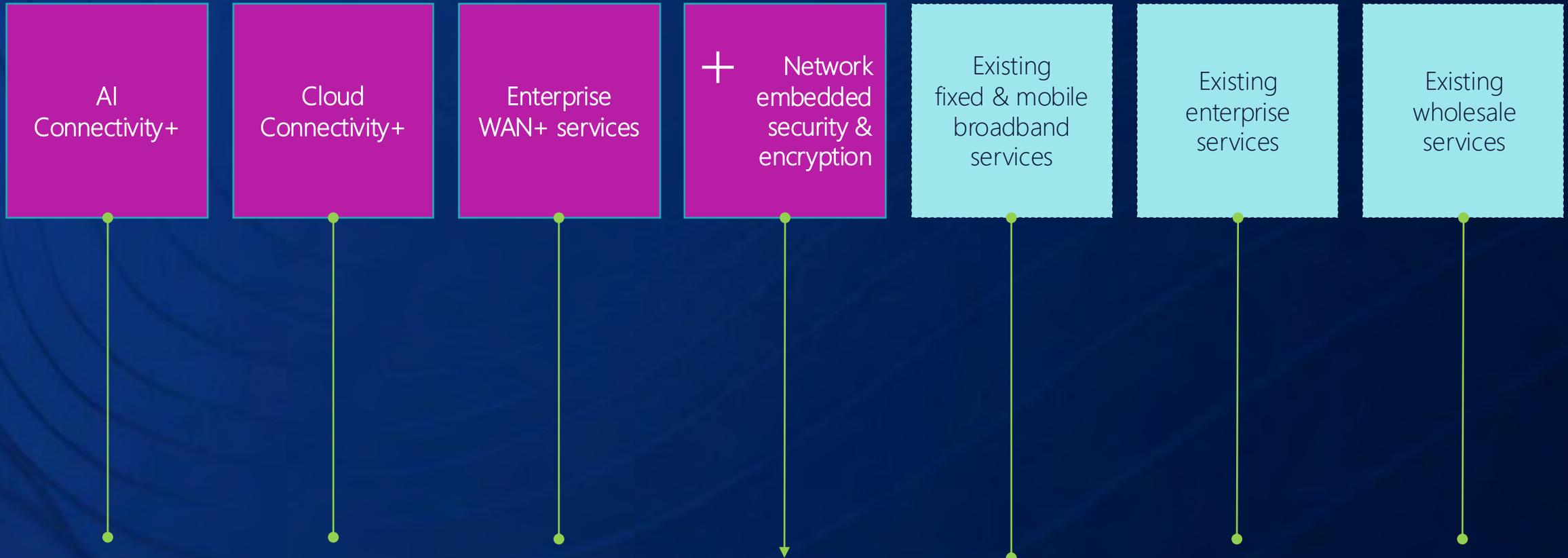
73%
AI traffic will pass through CSPs

21%
inferencing hosted by CSPs

4x
AI applications growth in 5 years

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Impact of AI traffic on the Network

| AI Connectivity+ | Cloud Connectivity+ | Enterprise WAN+ services | + Network embedded security & encryption | Existing fixed & mobile broadband services | Existing enterprise services | Existing wholesale services |

More Bandwidth and capacity across the network

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Aligning technology choices with the business case

Most efficient upgrade on existing infrastructure

Addressing business case for >20G services
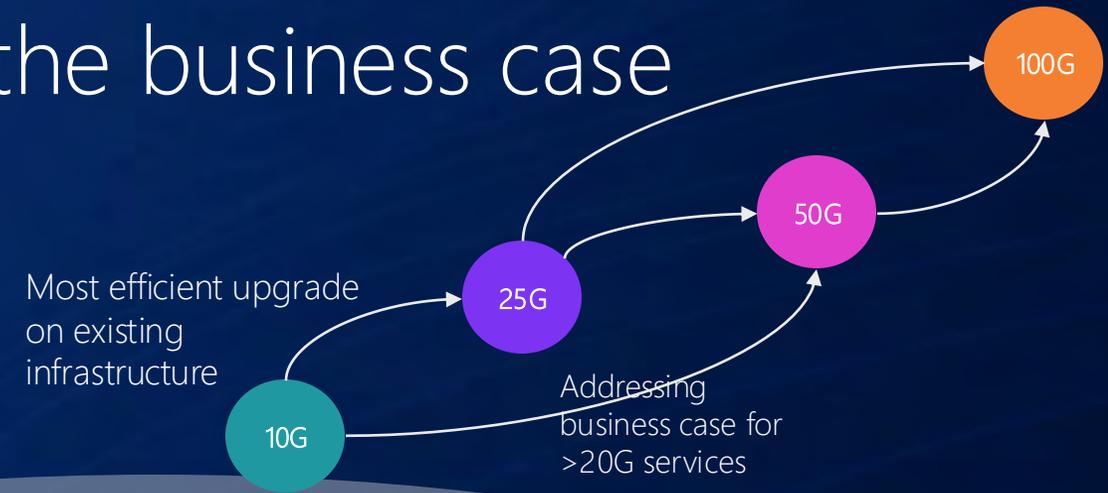
10G · 25G · 50G · 100G

Residential
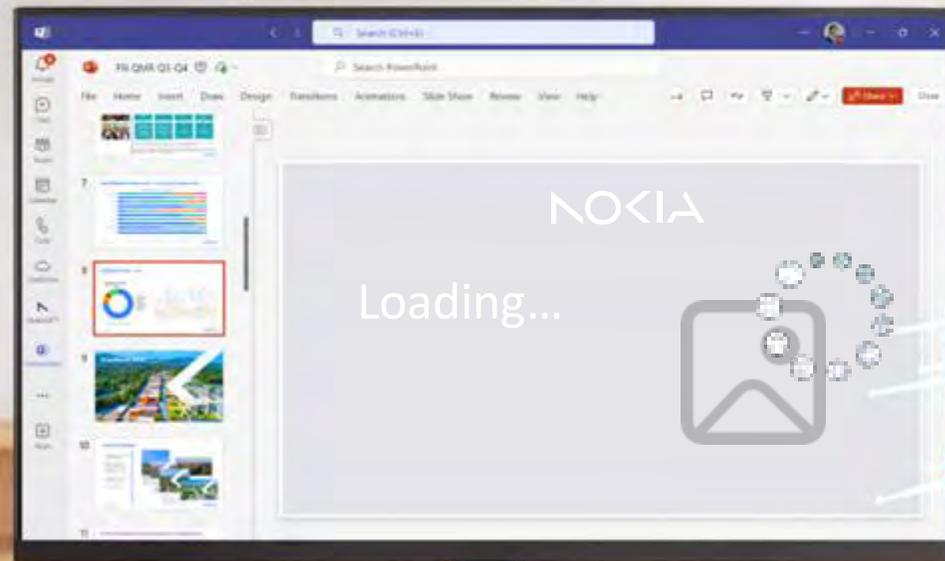
Premium, e.g., enterprise, mobile x-haul

10G 25G 50G 100G

Mainstream for multi-gig services (up to 8.5 Gb/s)

Most efficient mass market premium 10G+ broadband

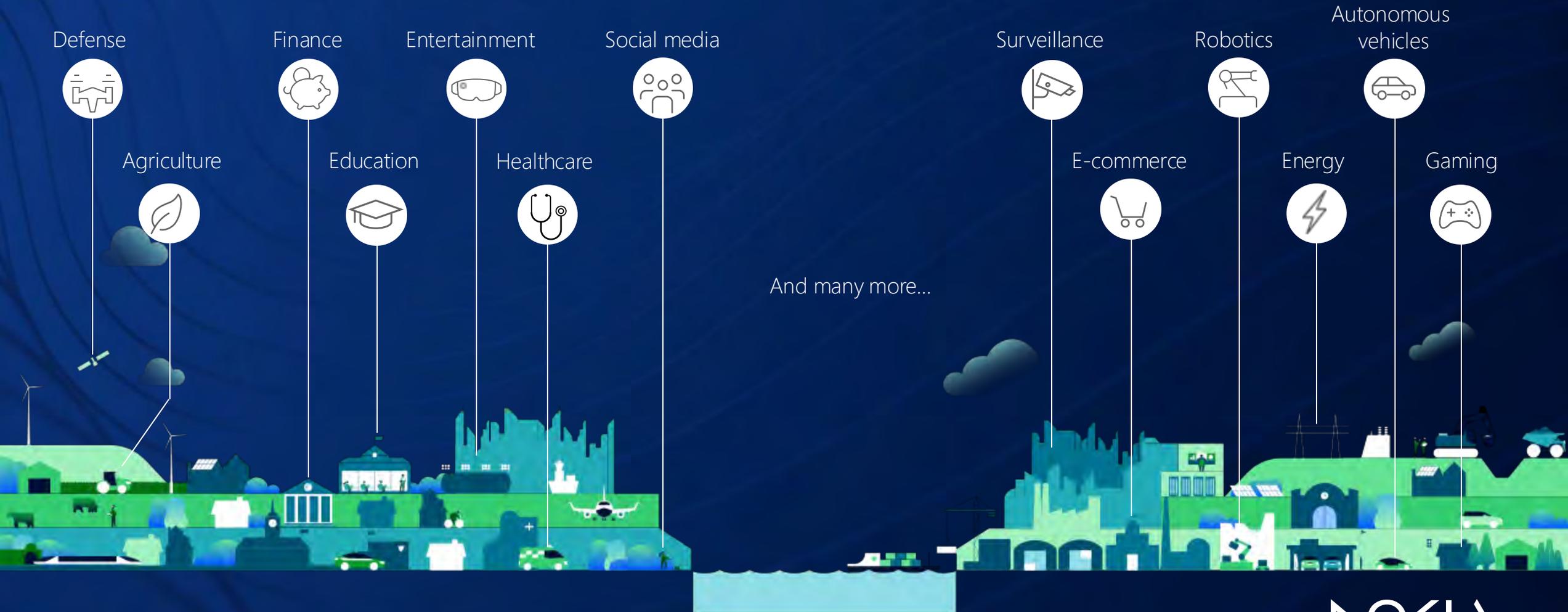>2025 for entreprise Connectivity

>2030

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Multi-gigabit ensures access to the cloud as seamlessly as if the content was stored locally on our devices

Office 365

PC hard drive
typical speed
7Gb/s

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AI is transforming our lives

Defense

Agriculture

Finance

Education

Entertainment

Healthcare

Social media

And many more...

Surveillance

E-commerce

Robotics

Energy

Autonomous vehicles

Gaming

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AI Everywhere

Wearables
- Watch
- Pendant
- Glasses

Robotics
- AI Pets for seniors
- Vacuum cleaners
- Factory assembly line

Compute
- Smartphone
- Laptop
- Server

Appliances
- Thermostat
- Refrigerator
- Dish washer

Vision
- Surveillance/ security cameras

Vehicles
- Self driving cars/trucks
- Drones

Why AI on device?
1. Latency
2. Loss of connectivity results in harm; works standalone
3. Privacy and security (consumer cases)
4. Lower costs for the app developer

Why AI on cloud?
1. Enables cheaper device
2. Battery life, memory, compute limitations of device
3. Better accuracy, including for use cases best supported by Quantum computing in the future.
4. Confidentiality and security (enterprise cases)
5. Build app once for multiple devices

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Google Waymo self-driving taxis

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Aurora self-driving trucks

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Precision farming

Evolution of Media and Entertainment

GenAI → Media & Entertainment 5.0

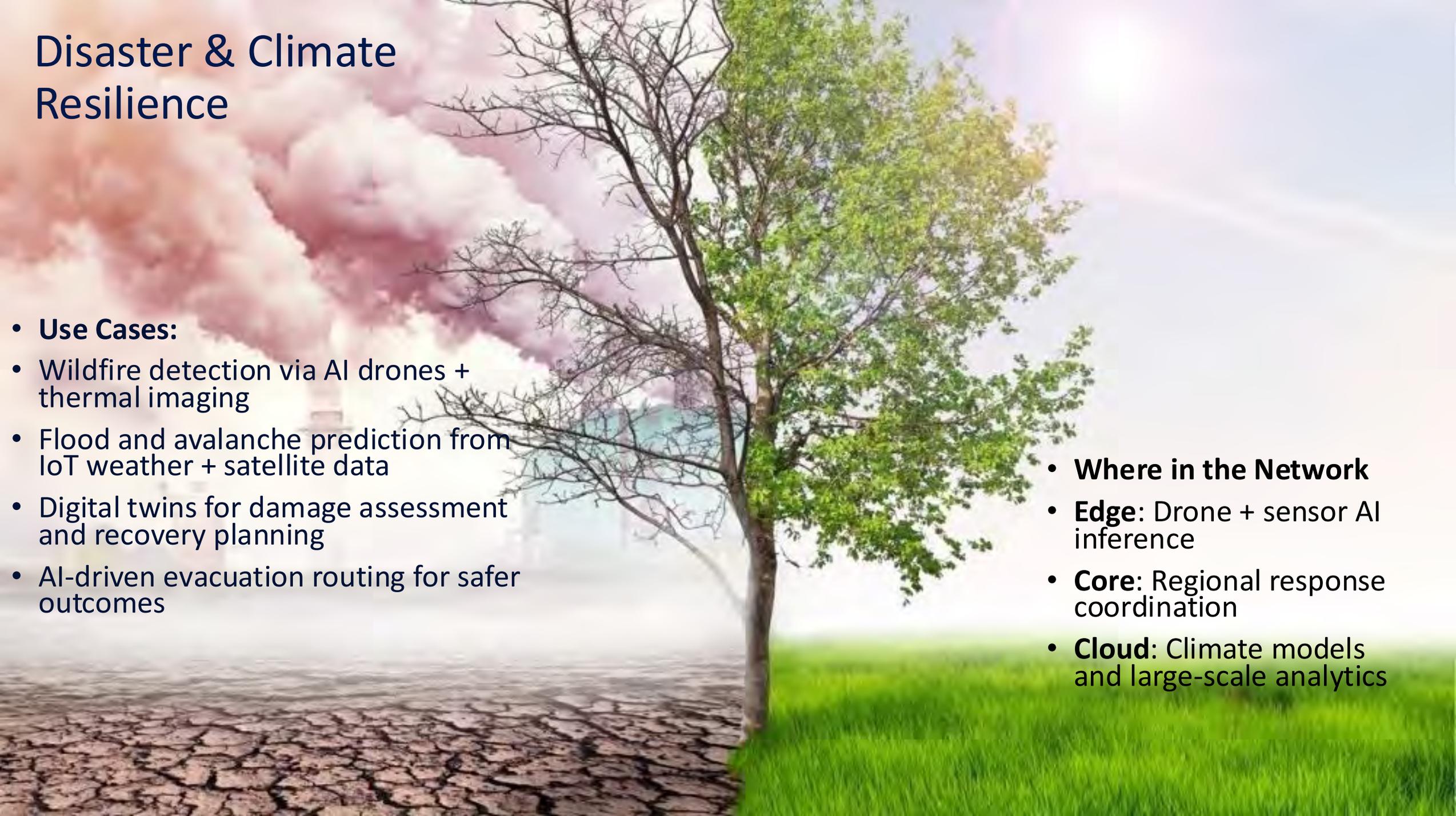| 'Traditional Media'	Spatial Media	Spatial Intelligence	Spatial Agents

Significant impact to Network – Symmetrical traffic patterns

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Disaster & Climate Resilience

- **Use Cases:**
- Wildfire detection via AI drones + thermal imaging
- Flood and avalanche prediction from IoT weather + satellite data
- Digital twins for damage assessment and recovery planning
- AI-driven evacuation routing for safer outcomes

- **Where in the Network**
- **Edge**: Drone + sensor AI inference
- **Core**: Regional response coordination
- **Cloud**: Climate models and large-scale analytics

Rural Healthcare Access

Use Cases:
- AI diagnostics (X-rays, skin scans, cardiology)
- Telemedicine linking rural patients with city specialists
- Wearables for continuous health monitoring
- Drones delivering urgent medical supplies

Where in the Network:
Edge: AI on wearables + local clinic servers
Core: Hospital networks + EHR integration
Cloud: Diagnostic model training + data sharing
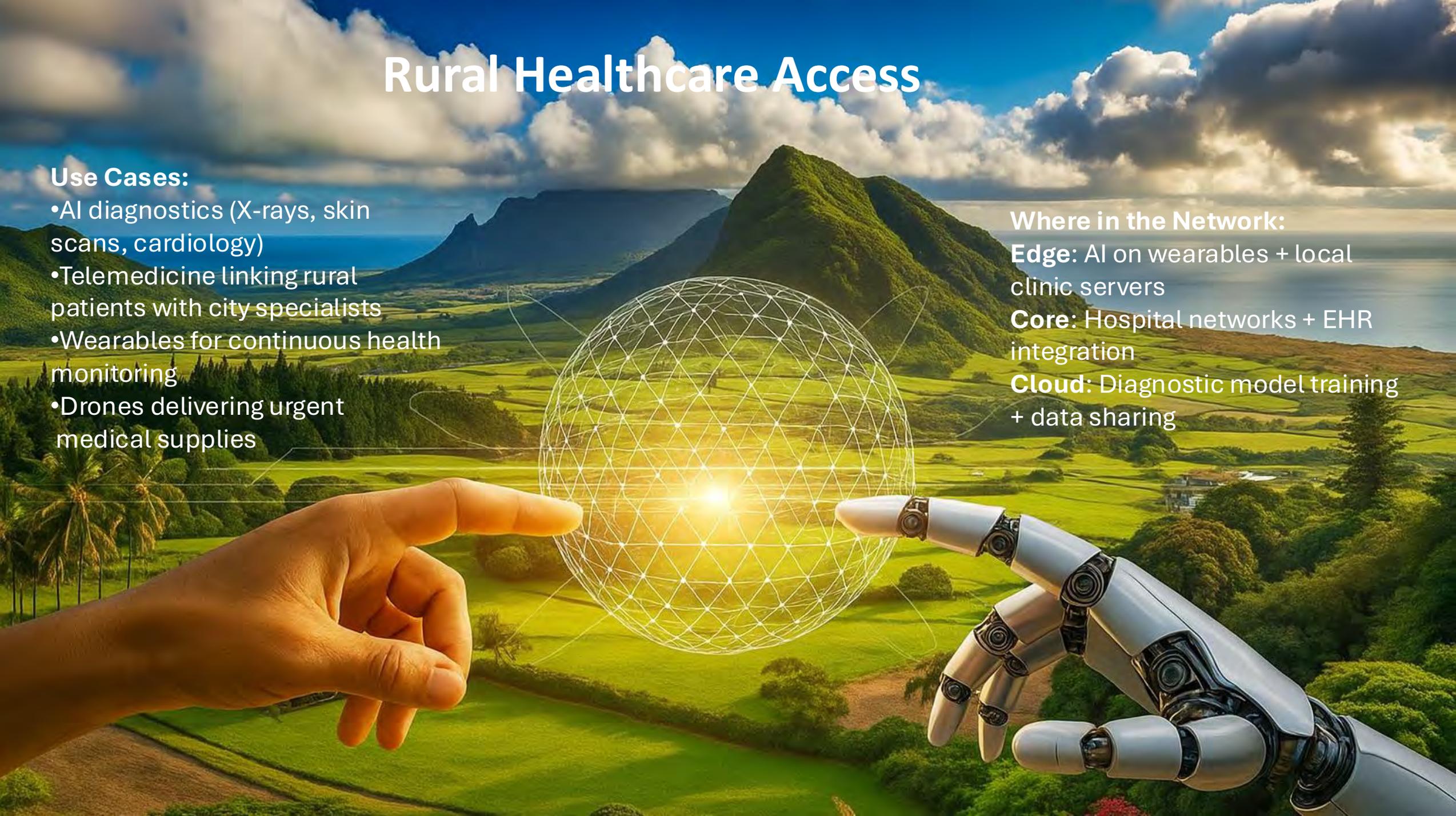
Smart Energy & Infrastructure
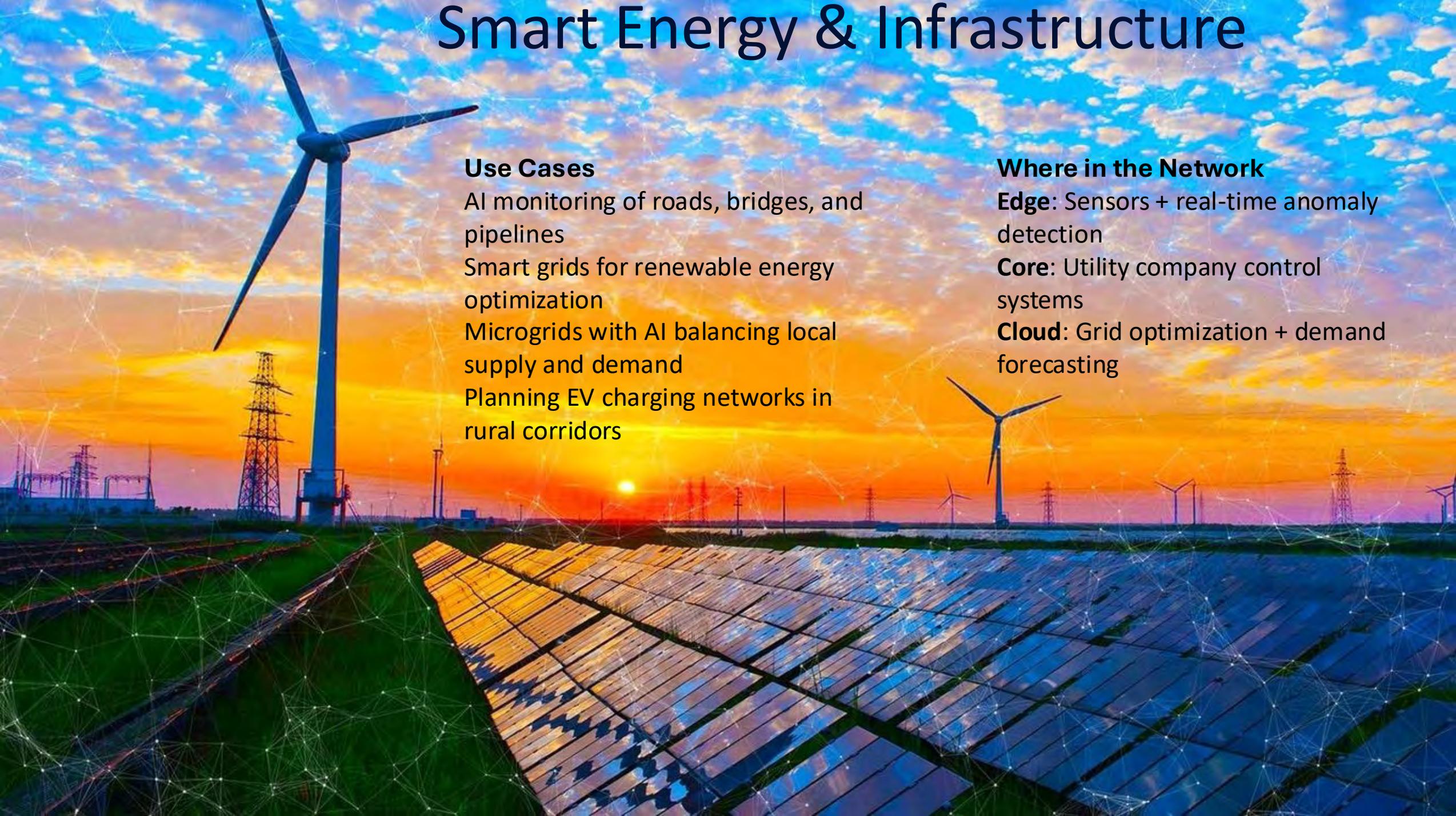
Use Cases

AI monitoring of roads, bridges, and pipelines

Smart grids for renewable energy optimization

Microgrids with AI balancing local supply and demand

Planning EV charging networks in rural corridors

Where in the Network

Edge: Sensors + real-time anomaly detection

Core: Utility company control systems

Cloud: Grid optimization + demand forecasting