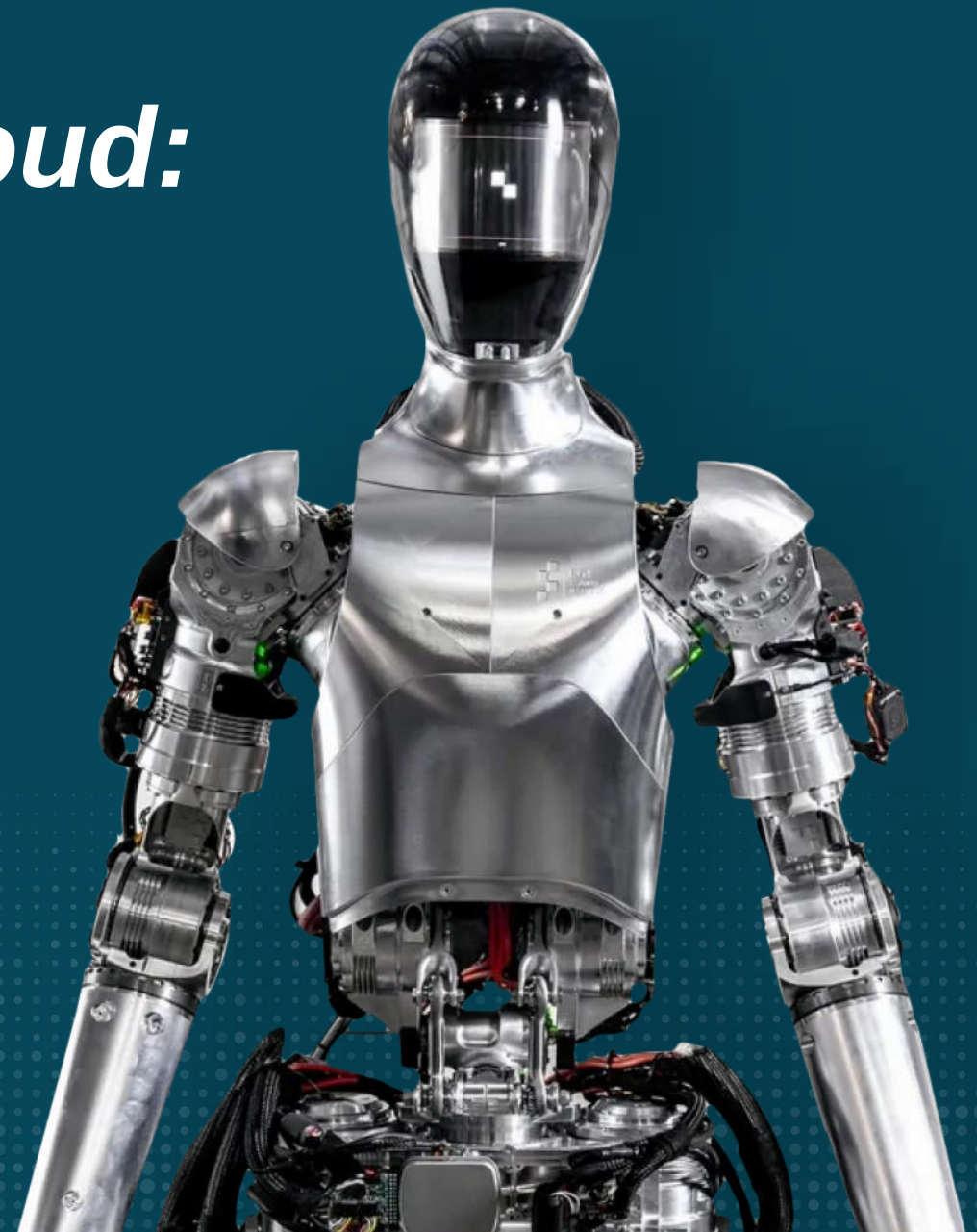
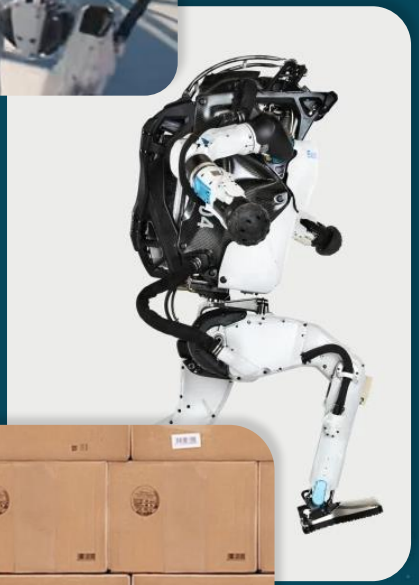
# *AI, IoT and Multi-Cloud:*

## *Do we need a new Internet?*

Ivo Ivanov,
CEO DE-CIX Group





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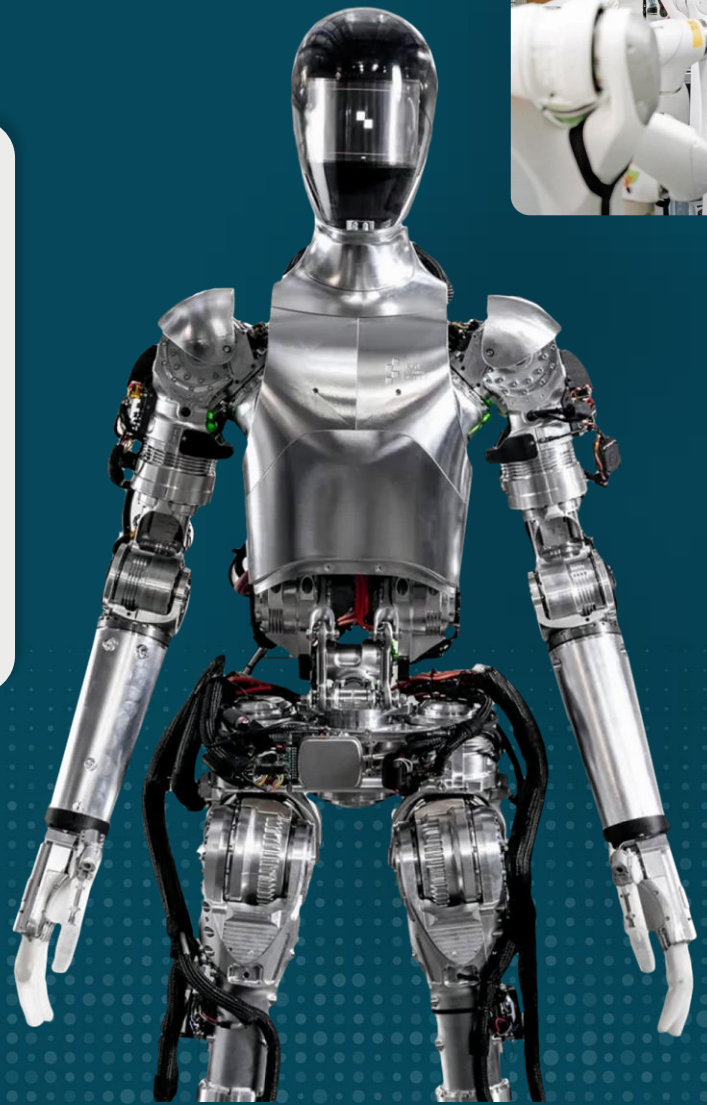

FedEx
Walmart

100m
48
Self-Driving

EXTREME WEATHER
ON EARTH

# A change of paradigm driven by trends & technologies

**New services & business models integrating multiple technologies…**

**AI**

**LEO Satellites, 5G, 6G**

**Immersive Internet**

**Augmented & Virtual Reality**

**IoT**

**Cloud**

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**(soon likely) all running at the speed of human perception**

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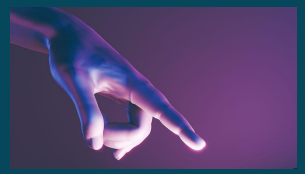

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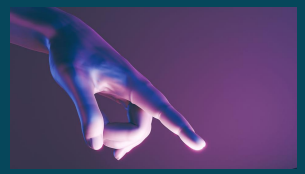

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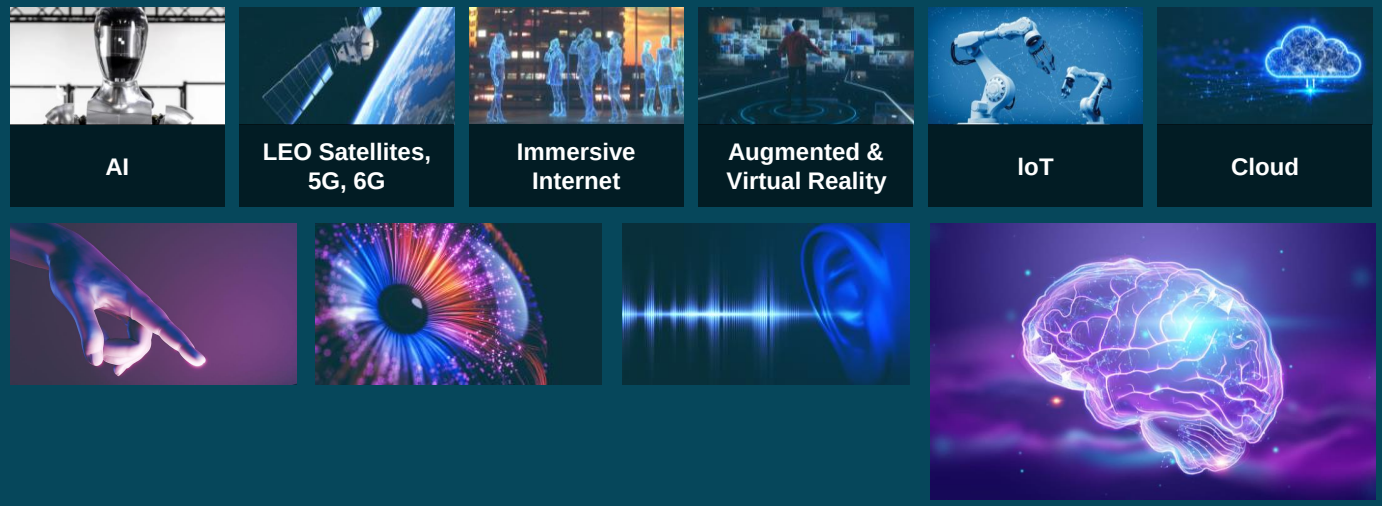

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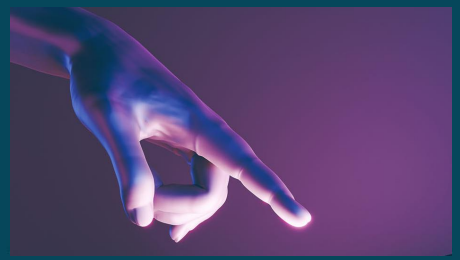

# A change of paradigm driven by trends & technologies

AI

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Immersive Internet

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IoT

Cloud

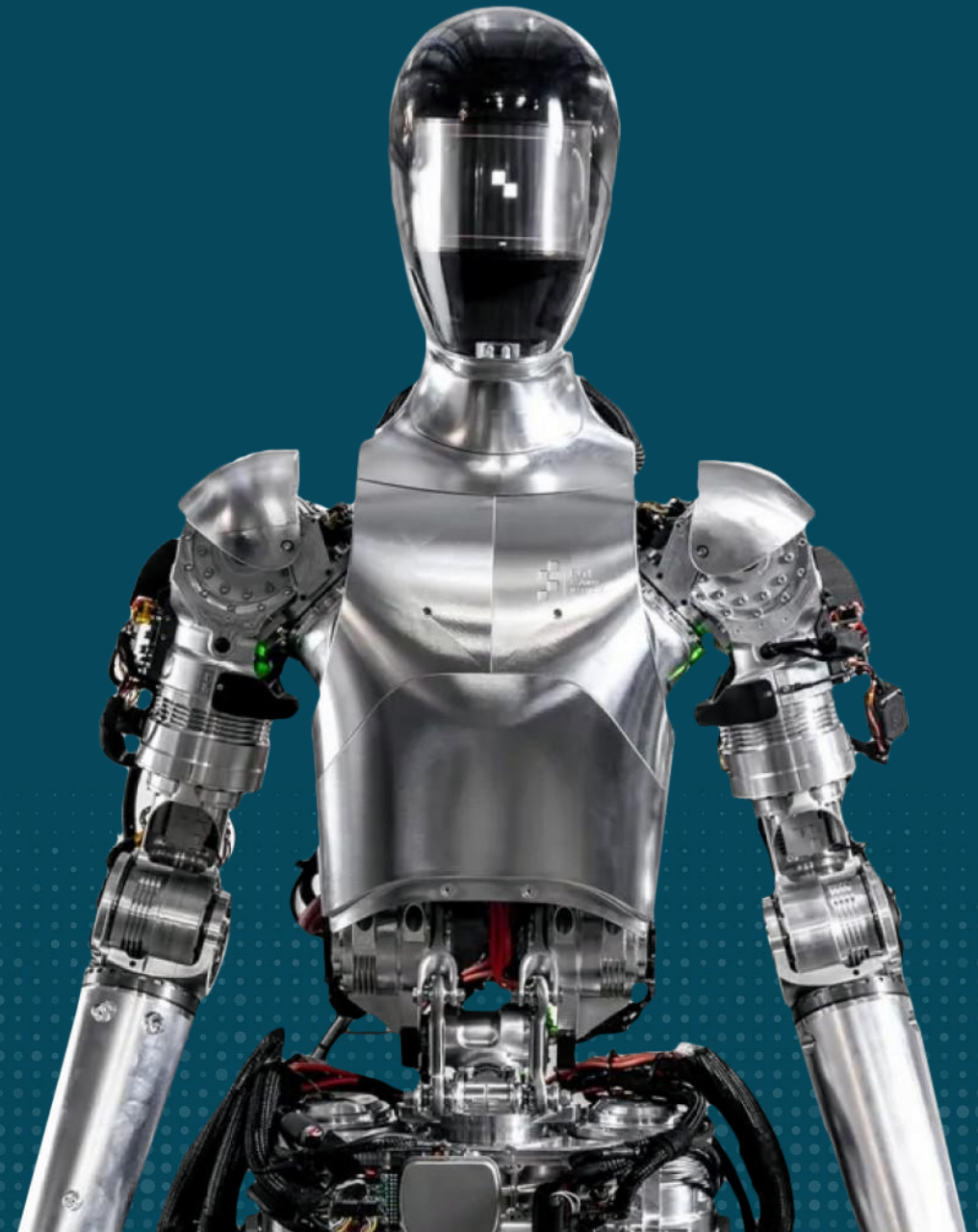
**Pushing the limits beyond the borders of today's Internet**

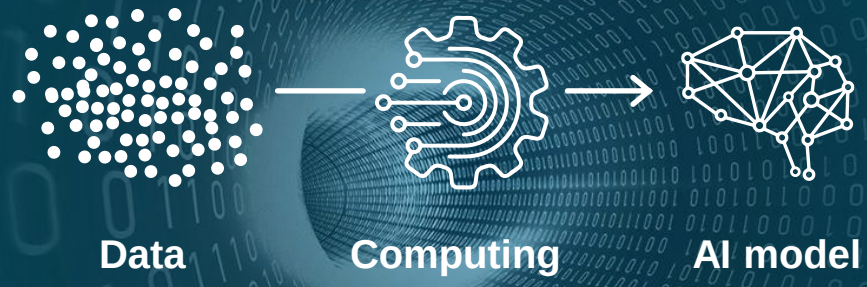
**&**

**Creating new requirements for a new Internet**

# *AI as benchmark to set the borders of a new Internet*

*What does it take to run AI on digital infrastructure?*

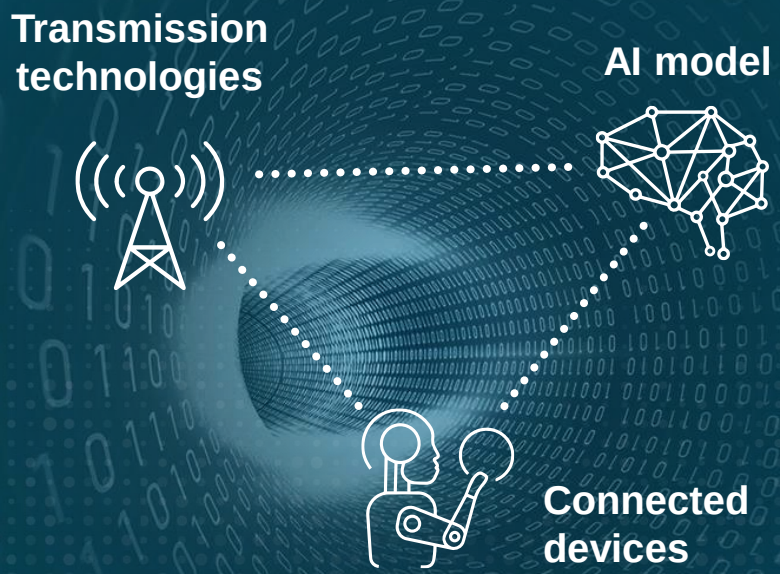





## AI Training

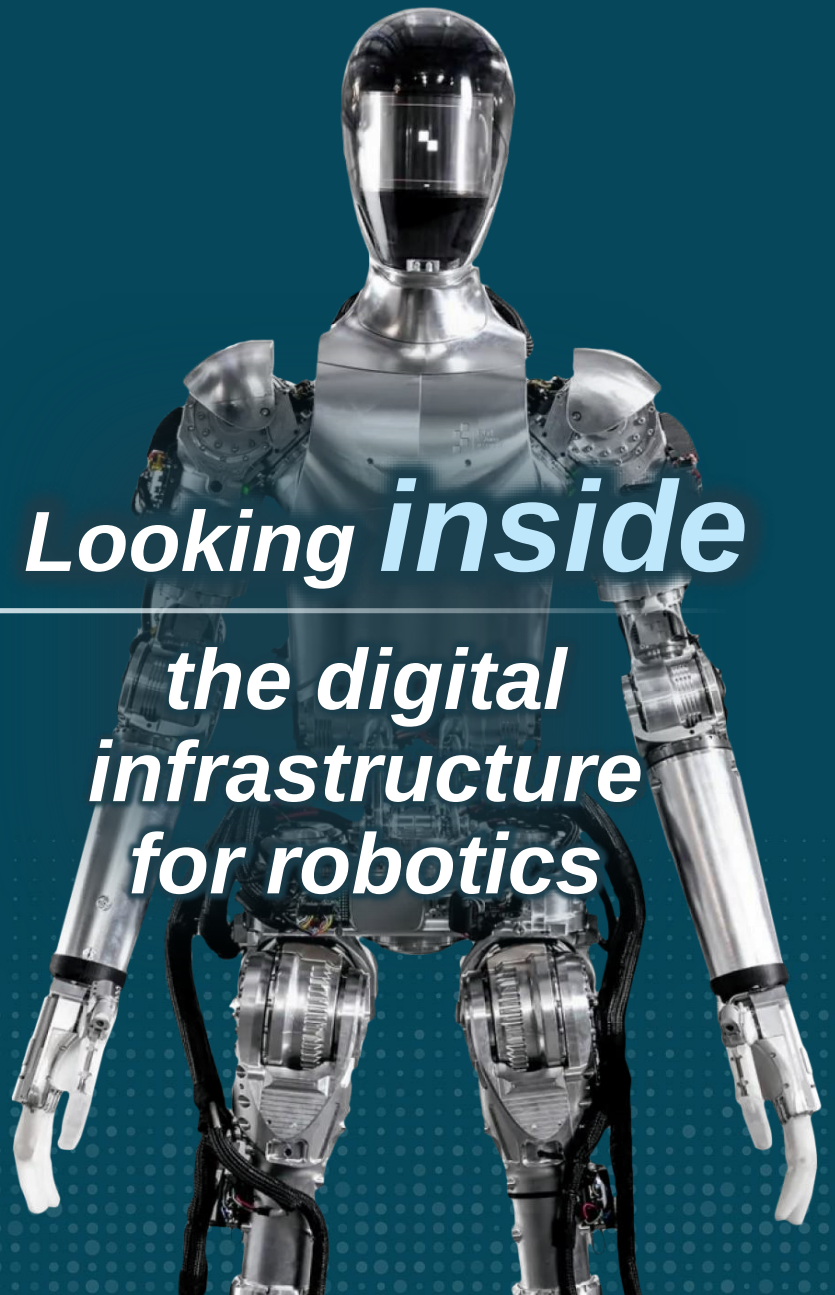
Develop the model in the first place, periodic retraining of the model

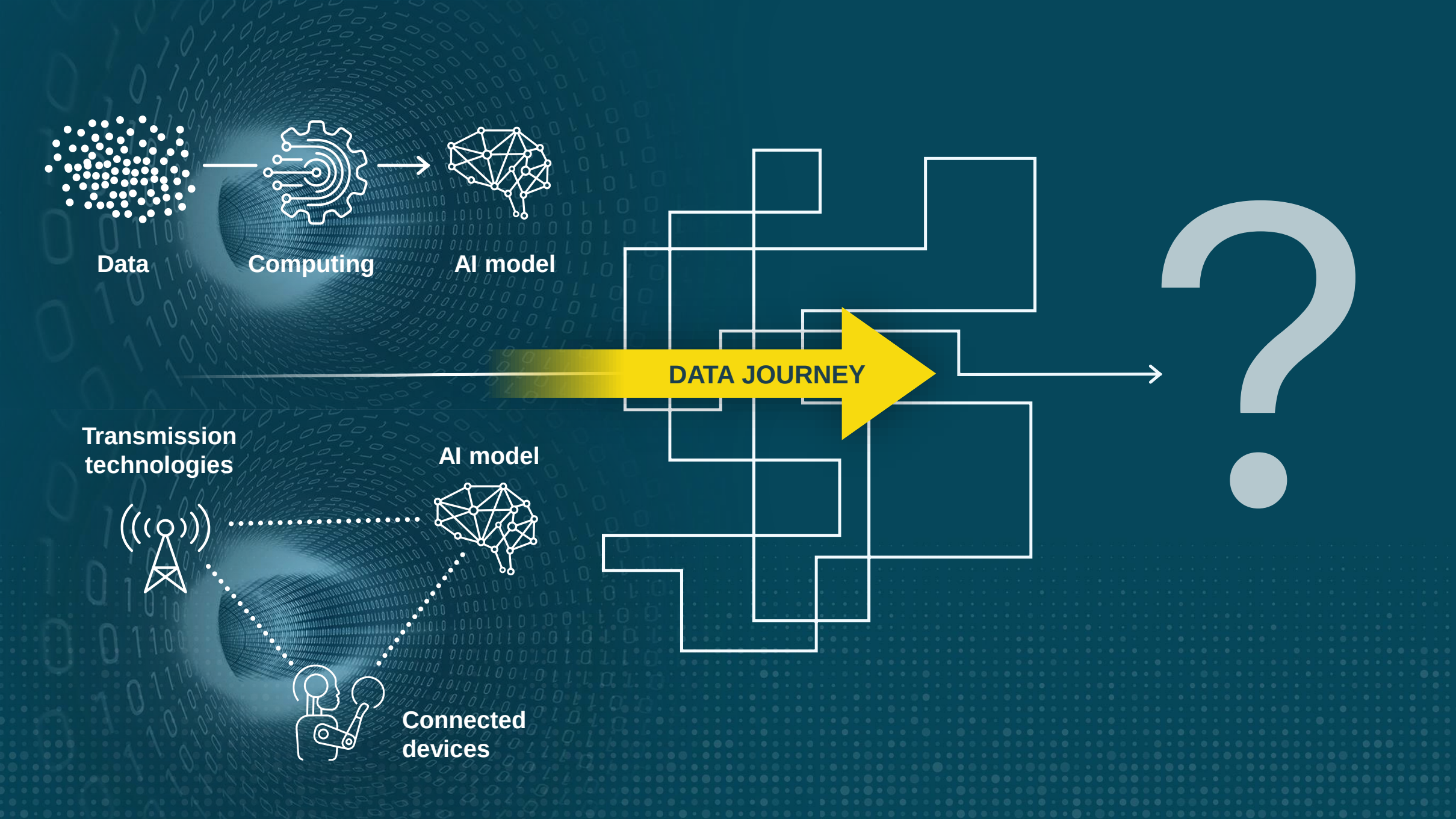
# Looking *inside* *the digital infrastructure for robotics*

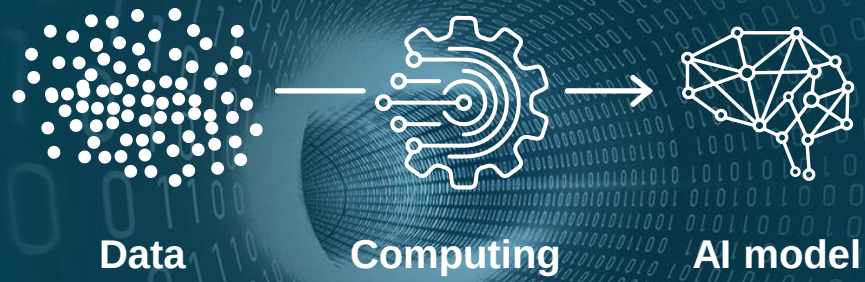



## AI Inference (“AI in action”)

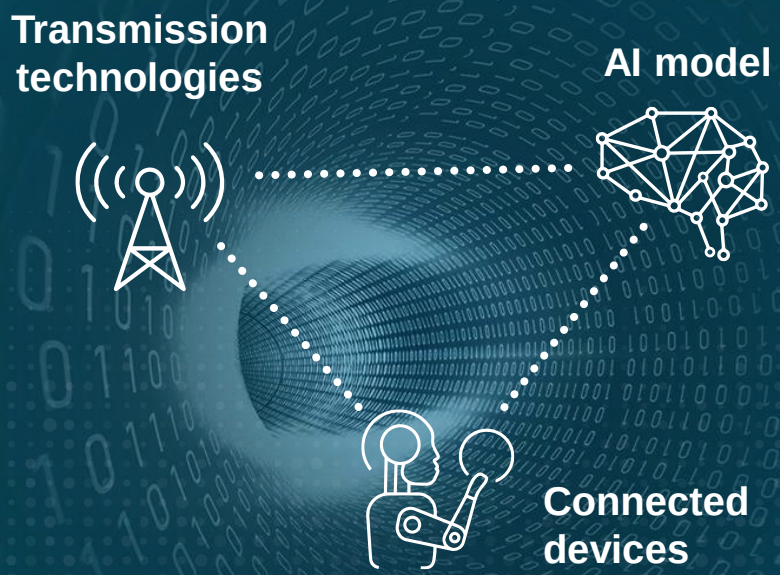
AI-based diagnostics, simulate, predict, pilot




Data
Computing
AI model
DATA JOURNEY
Transmission technologies
AI model
Connected devices




CONTROL THE DATA JOURNEY

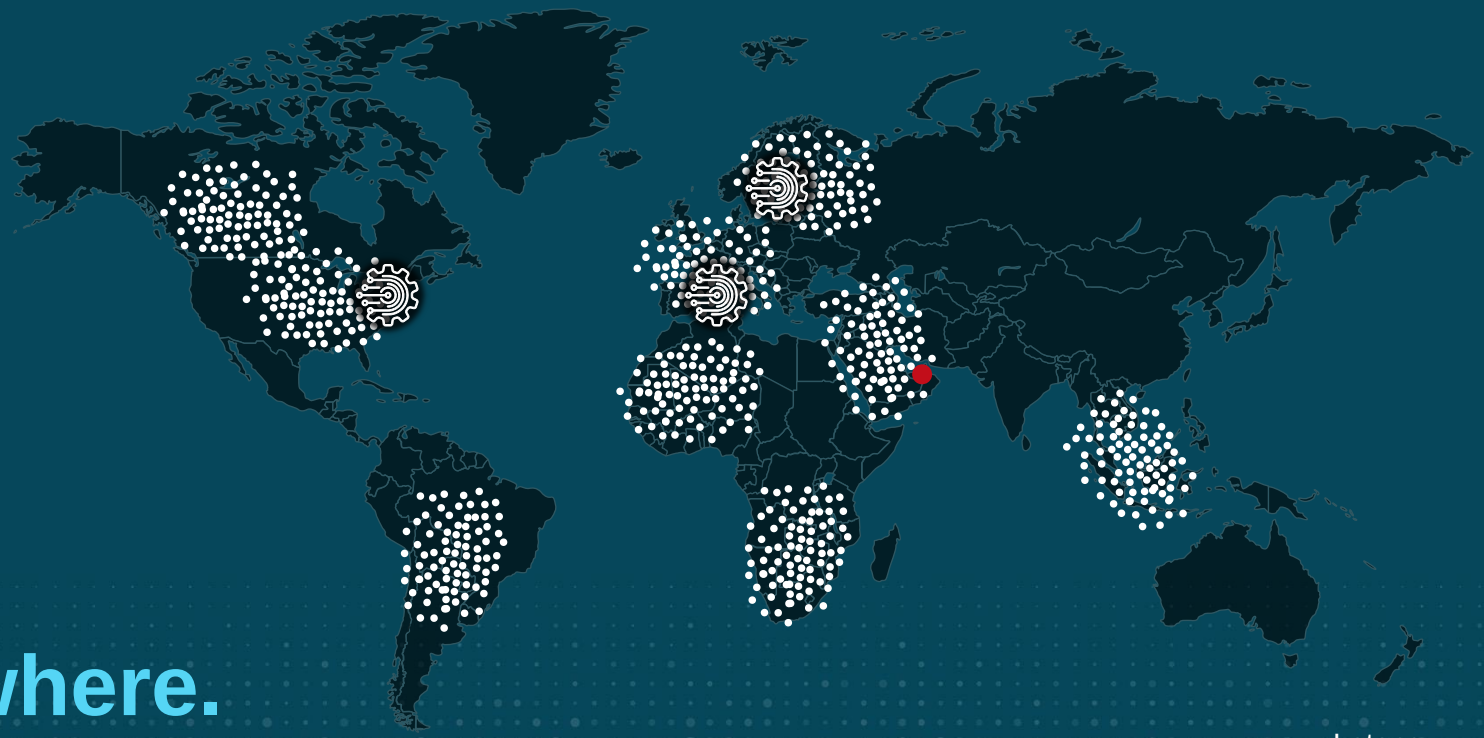



SIMPLICITY

SECURITY & COMPLIANCE

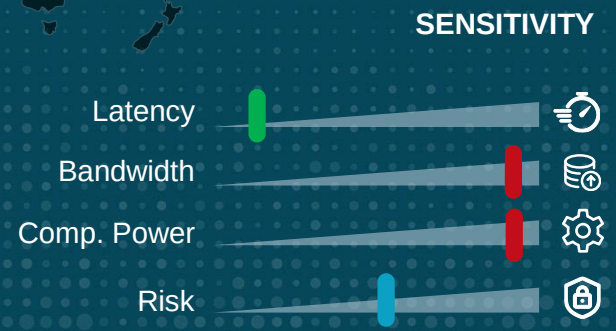
PERFORMANCE

## AI Training
requires manageability of multi-cloud data sourcing & computing



Data
**everywhere.**

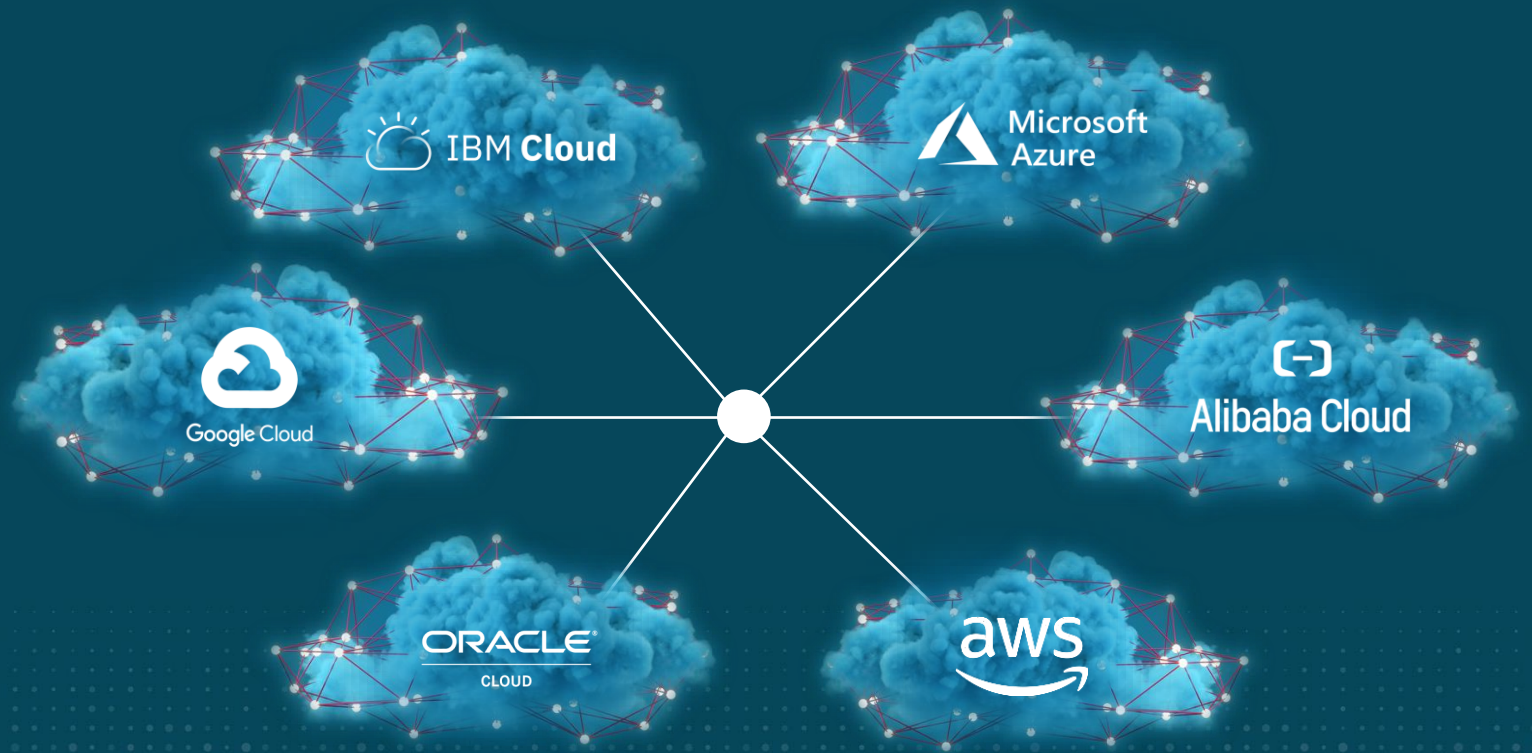
Computing power
**somewhere.**



## AI Training
requires manageability of multi-cloud data sourcing & computing

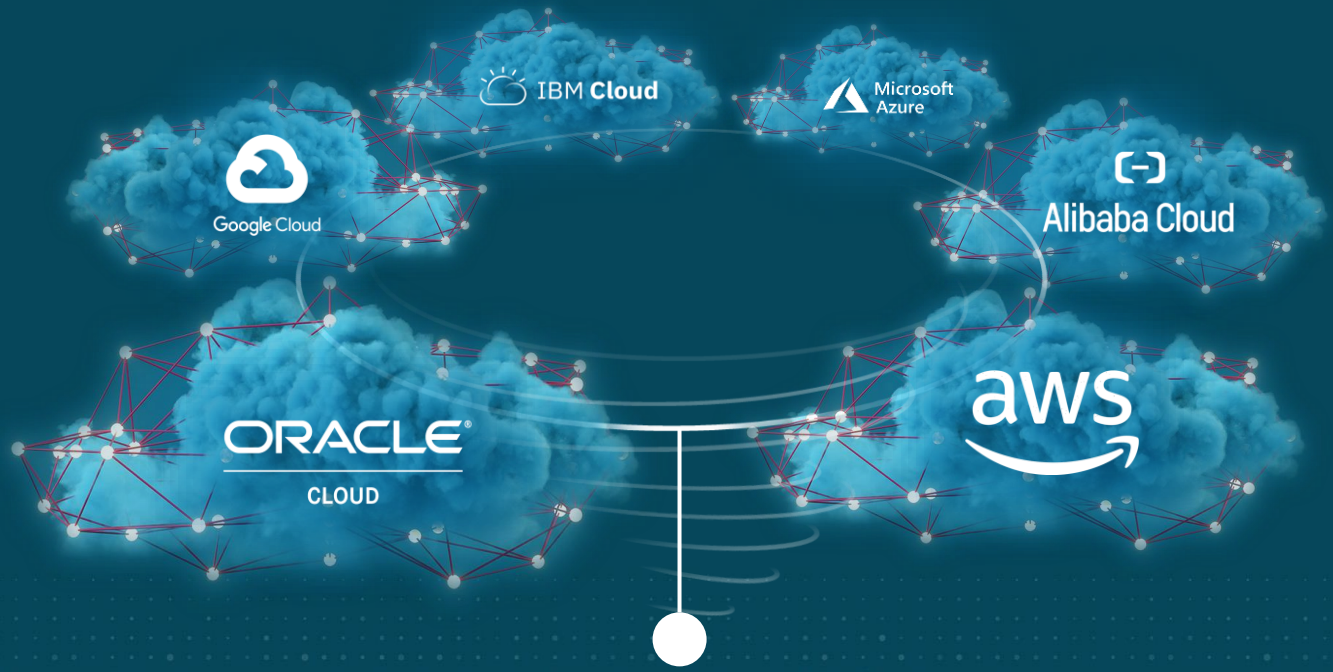
**Agile, scalable, affordable, secure**

- **Single access**
- **Low-risk & low-cost experiment**
- **Data sovereignty & integrity**



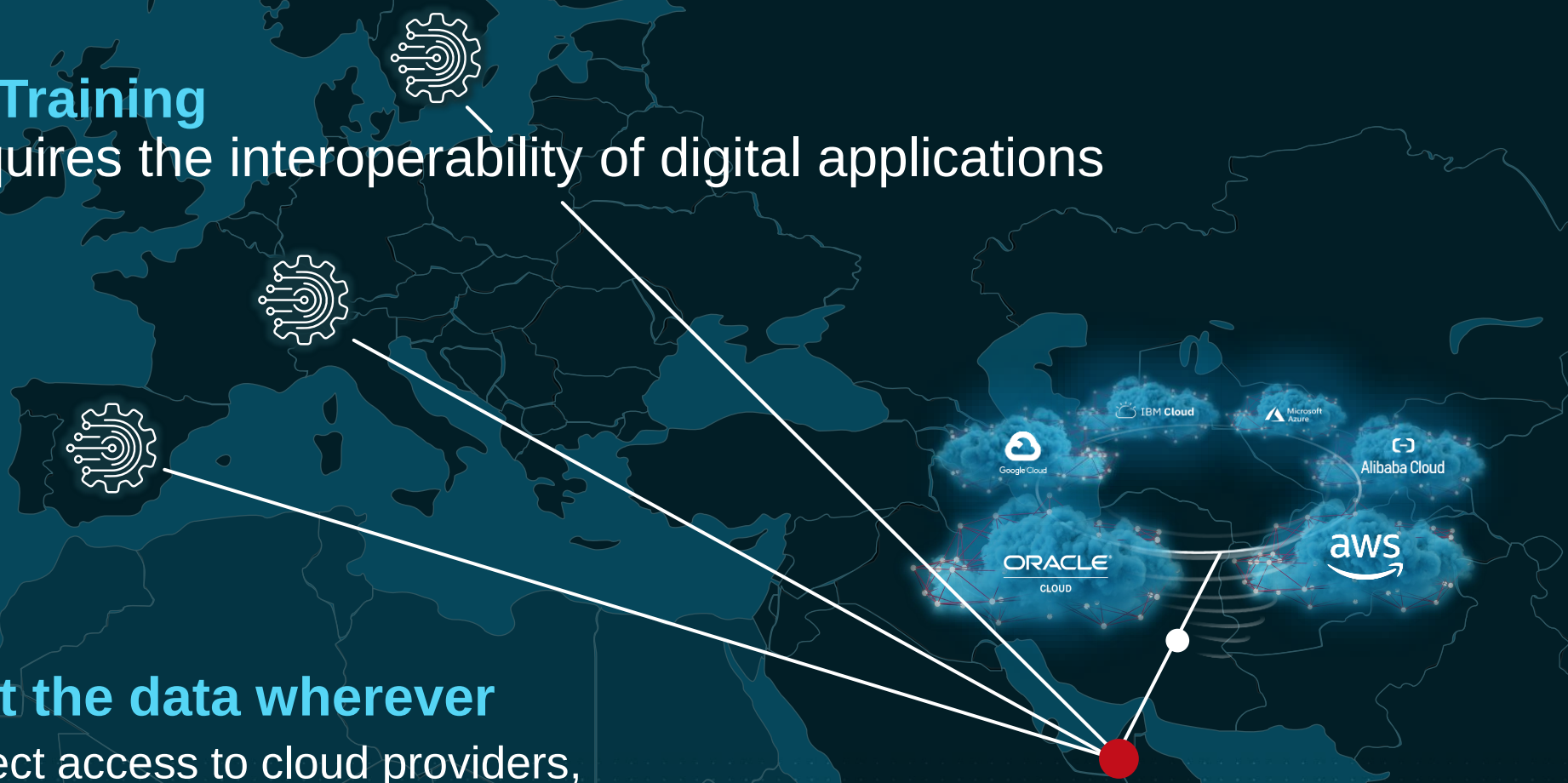

**Reaching *all* cloud service providers with 1 access**

## AI Training
requires the interoperability of digital applications



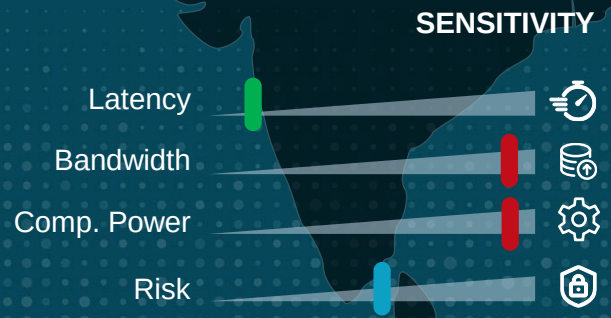

**Cloud-to-Cloud**
**&**
**Hybrid-Cloud connectivity**

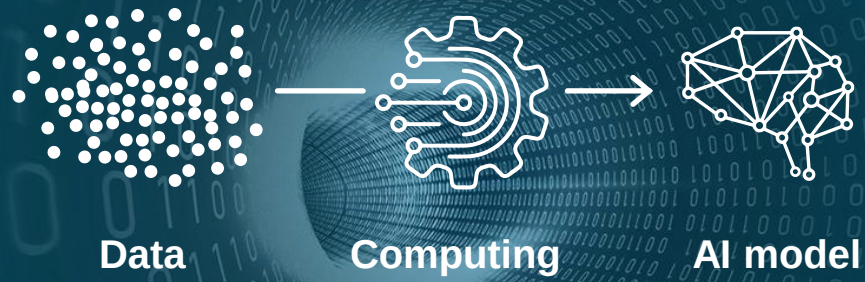
## AI Training
requires the interoperability of digital applications




## Get the data wherever
Direct access to cloud providers,
short data pathways (cloud router)

## Get the computing power somewhere
Direct connectivity to hyperscalers for AI training



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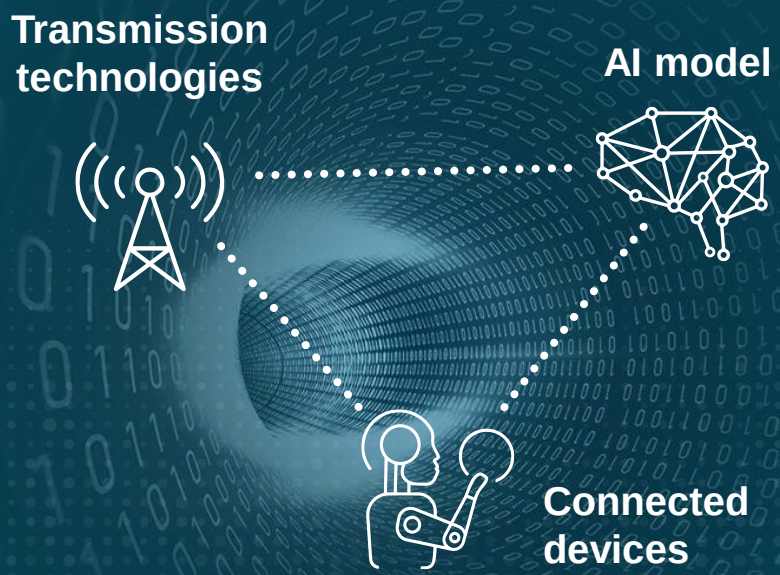
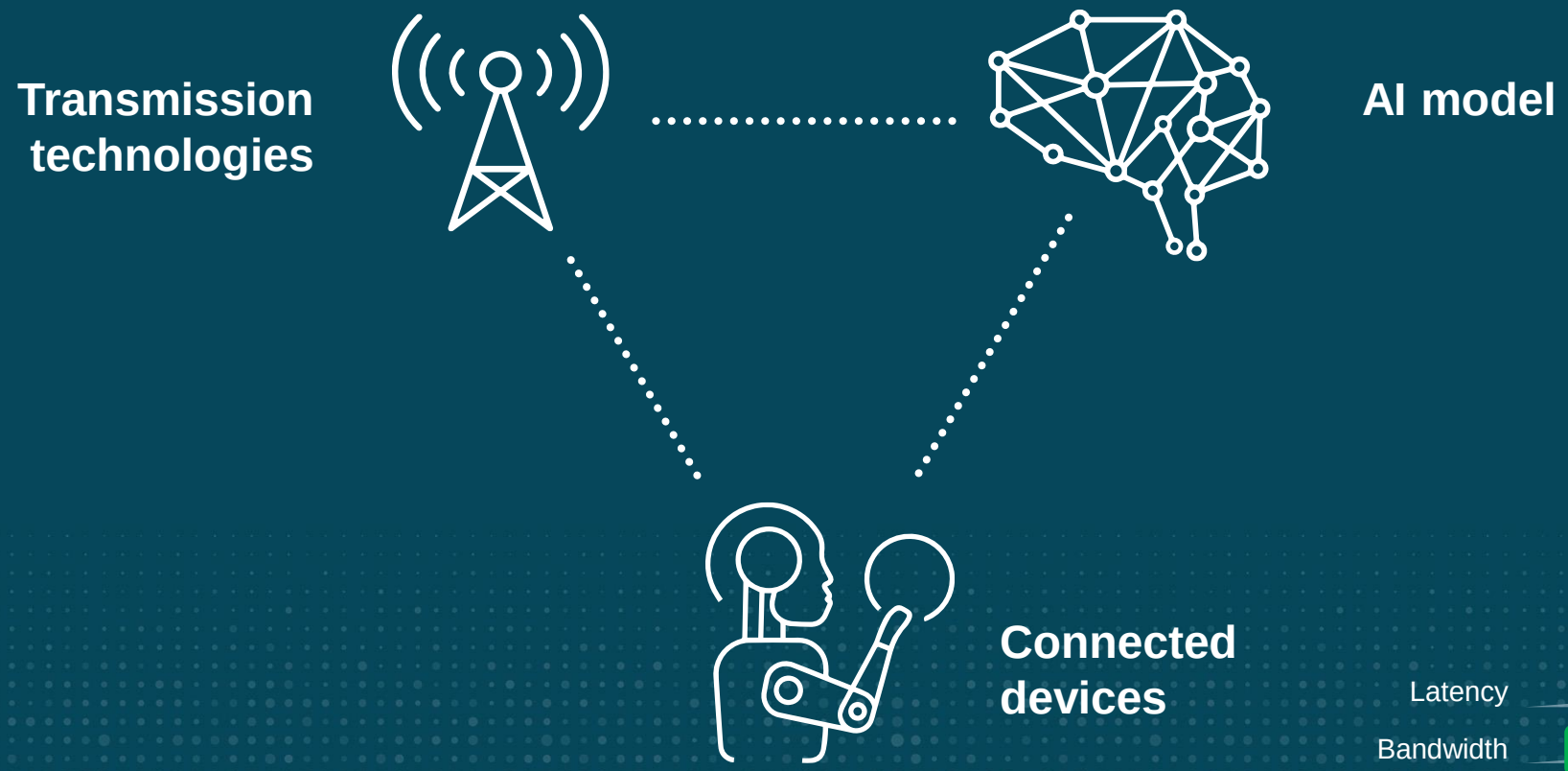



SIMPLICITY

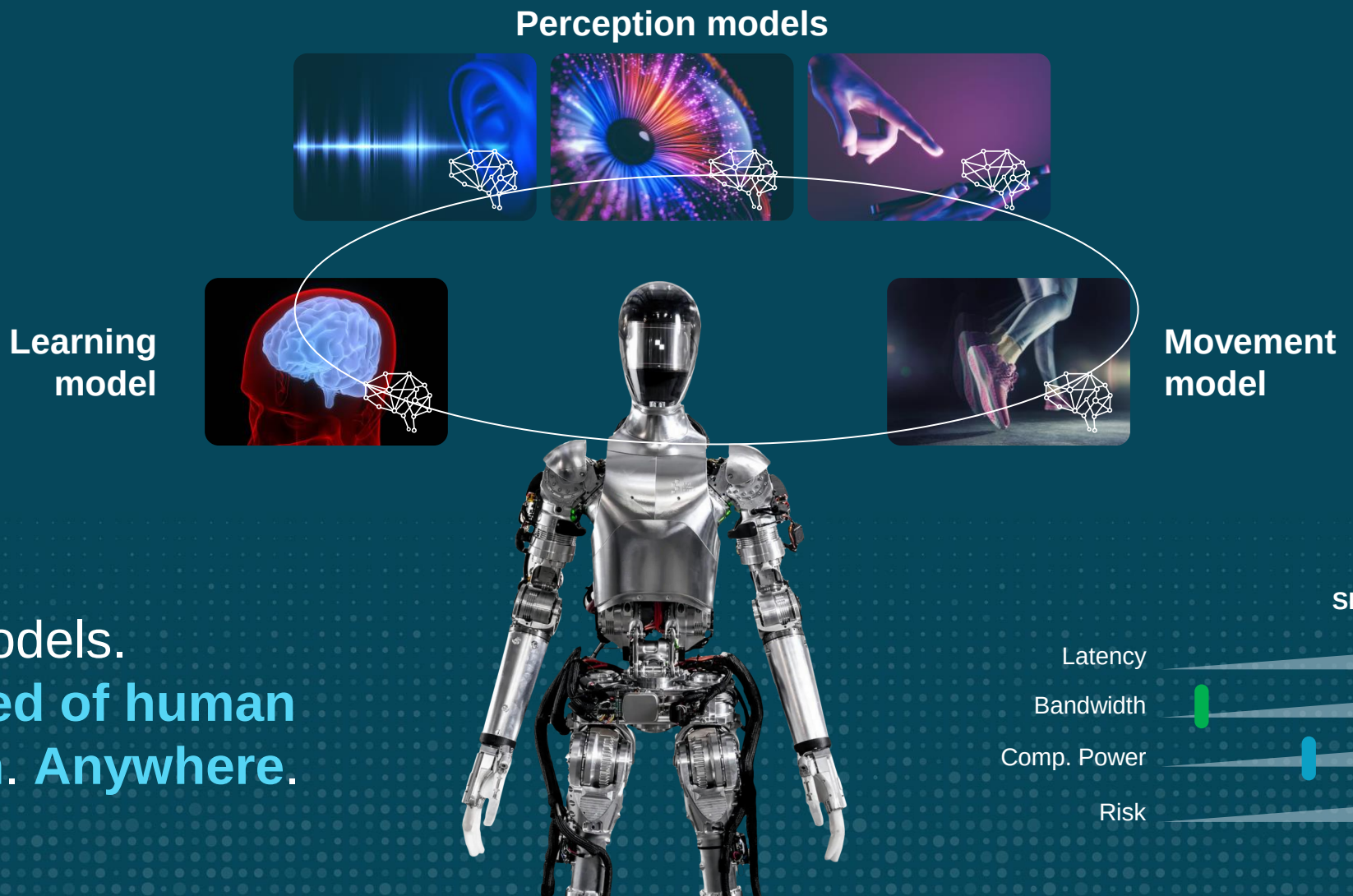
SECURITY & COMPLIANCE

PERFORMANCE

# **AI Inference** Triangle



## **AI Inference**
requires manageability of multi-AI models

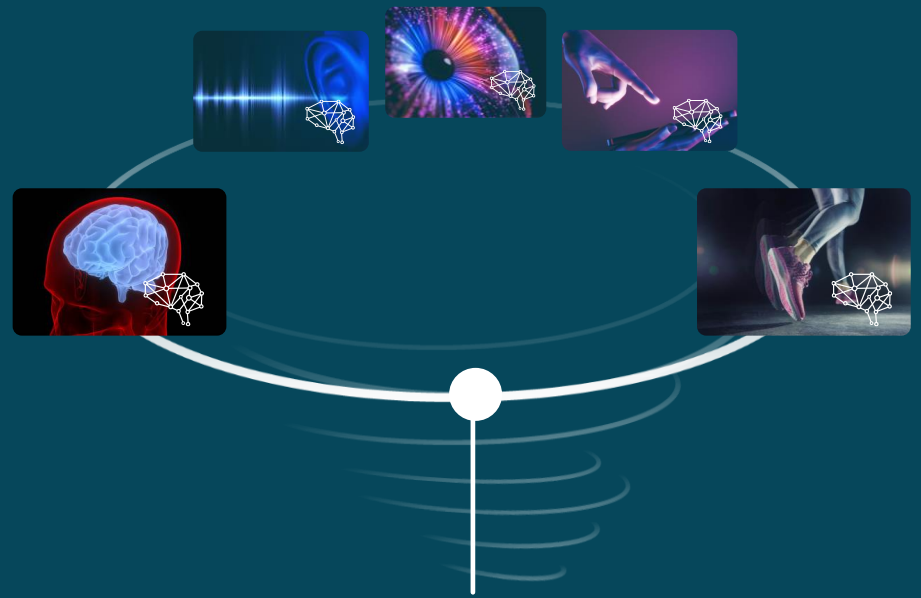



**Multi-AI** models.
At **the speed of human perception**. **Anywhere**.

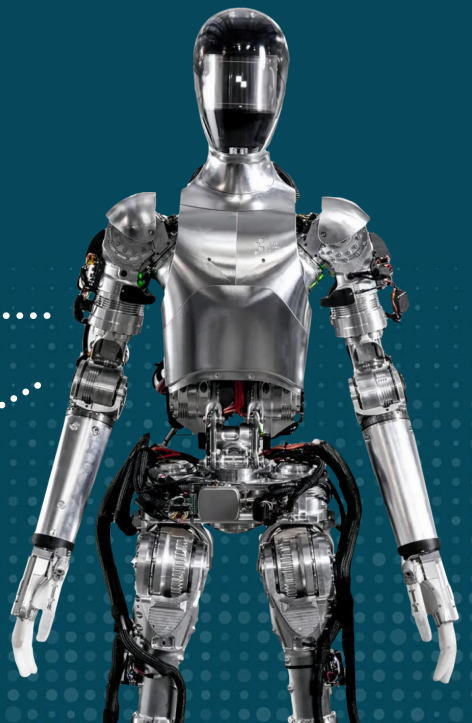
**SENSITIVITY**

Latency
Bandwidth
Comp. Power
Risk

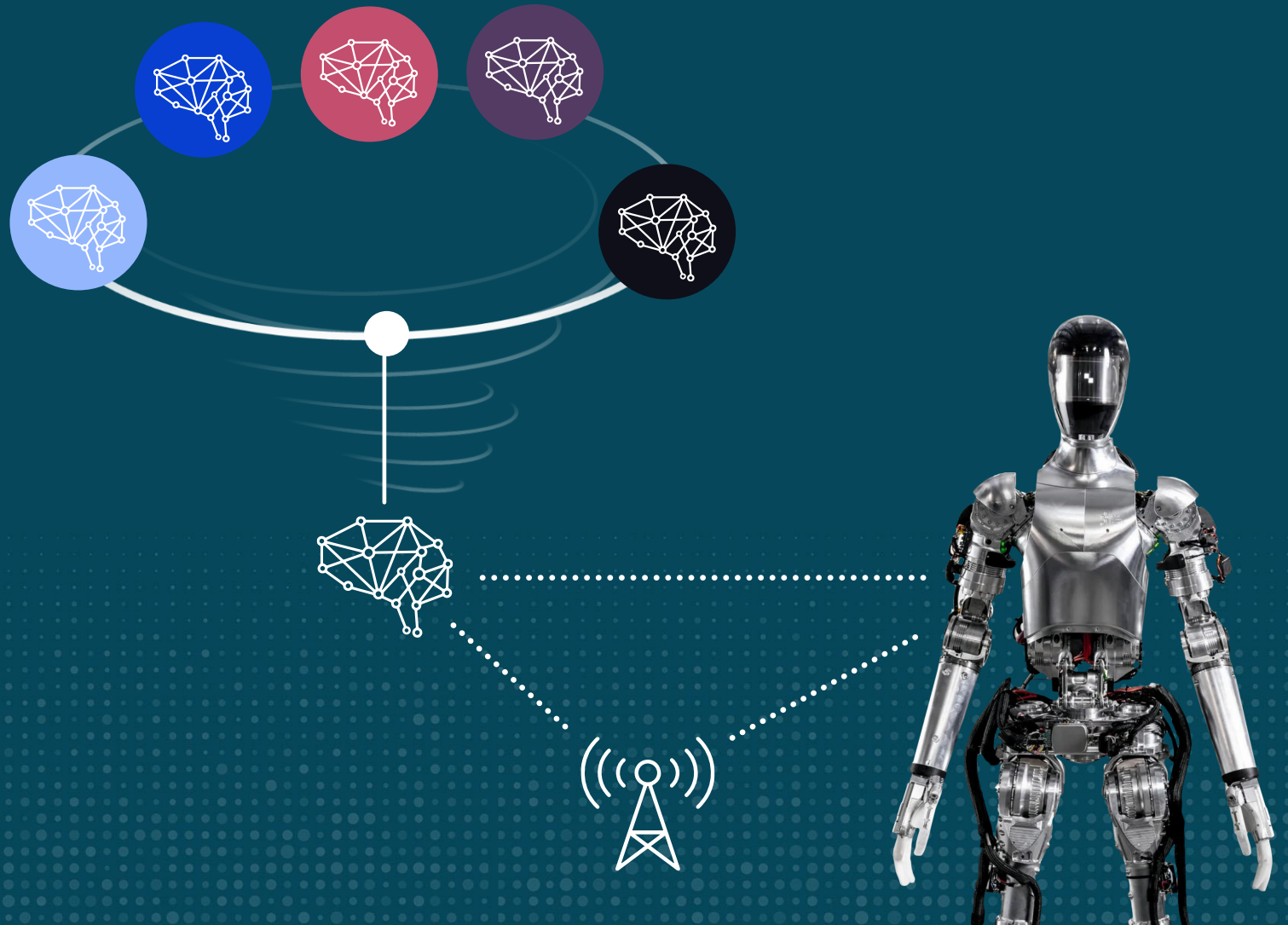
**AI Inference**
requires manageability of multi-AI models



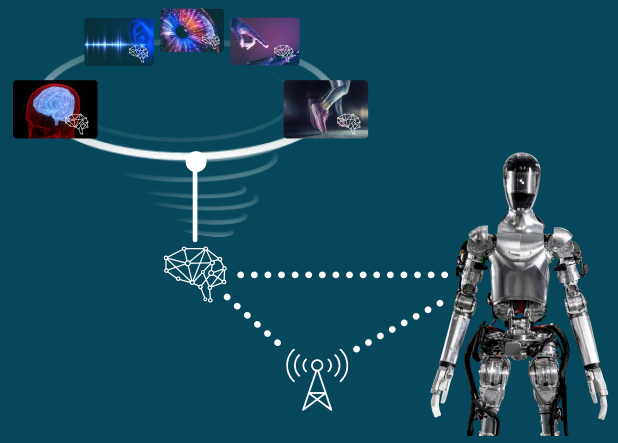
**Synchronize multi-AI models**
Interoperability, towards real time



**AI Inference**
requires AI exchanges operating multi-AI models

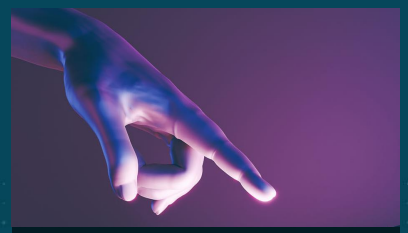


## AI Inference
requires the speed of human perception



**0.5 ms**

**13 ms**



**20 ms**

**65 ms**

**Towards real time**

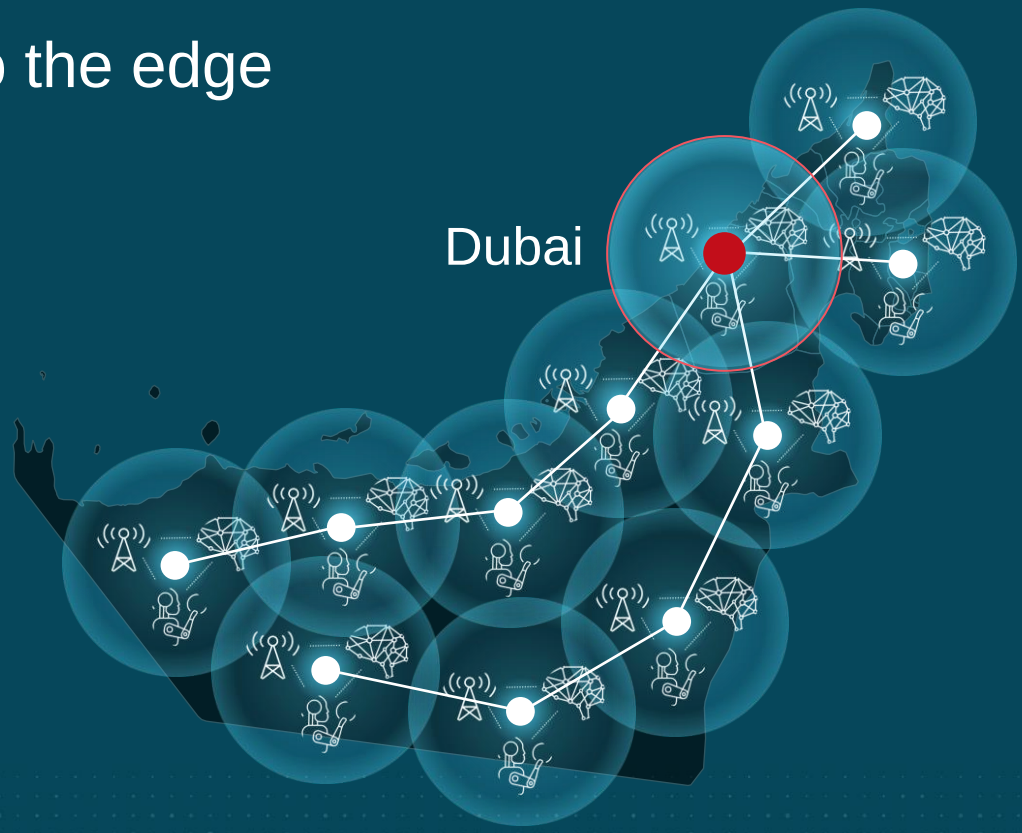
| < 1 ms | < 13 ms | < 20 ms | < 65 ms |
|---|---|---|---|
| < 80 km | < 1,200 km | < 1,800 km | < 5,200 km |

# **AI Inference**
requires the speed of human perception

# AI Inference
requires an infrastructure closer to the edge

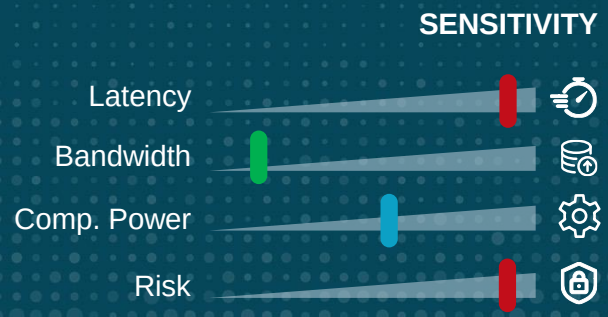
## Get the speed & reach:
## XXS Everywhere

- Hyper-localization & distribution of the AI Infrastructure
- Operated by AI exchanges
- Integration with all other close IXs and AI exchanges
- Integration of latest technologies (AI exchanges powered by AI!)

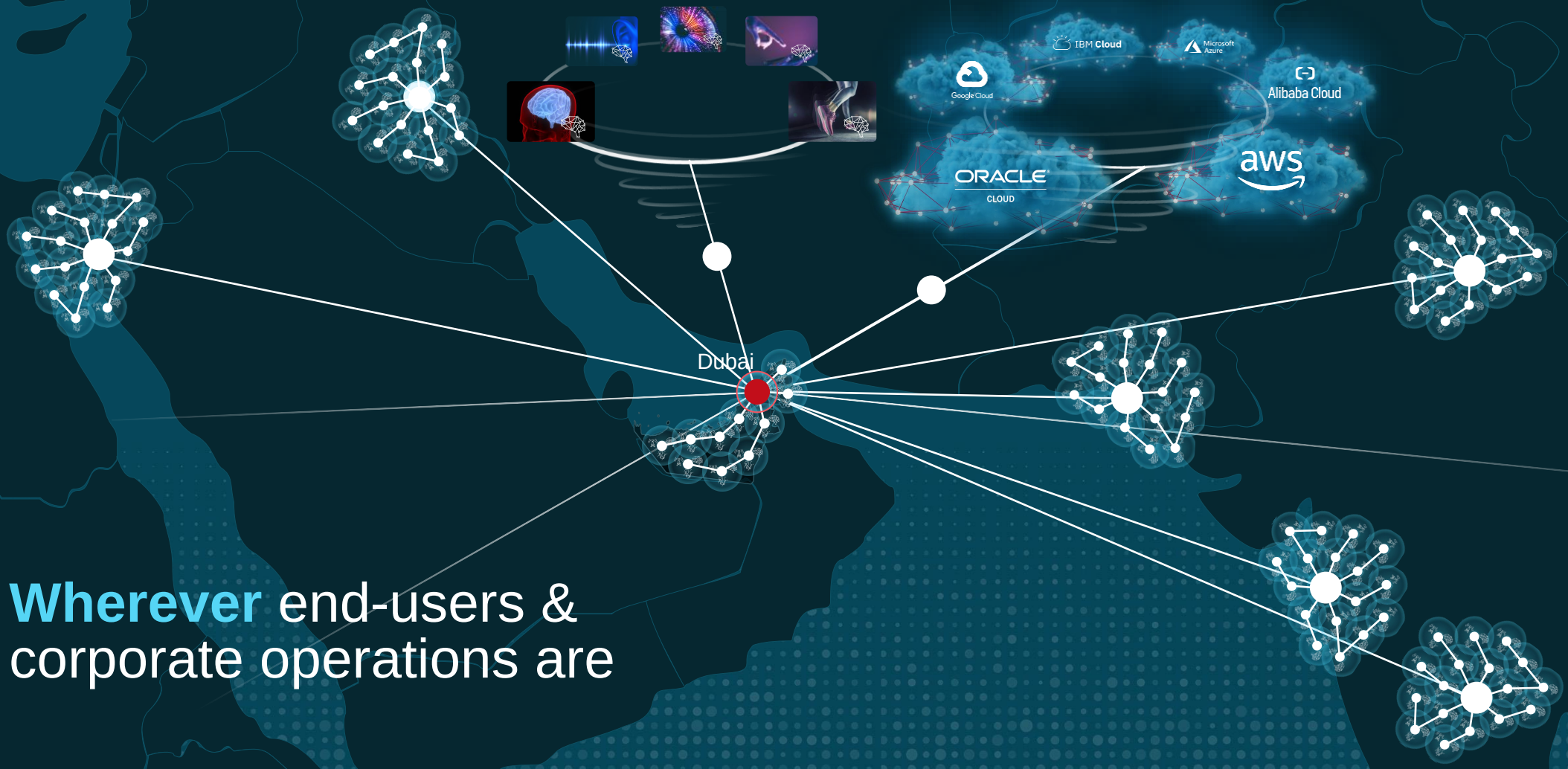


**< 1 ms**

**< 80 km**



**AI Inference**
requires integration into the corporate ecosystem




**Wherever** end-users &
corporate operations are

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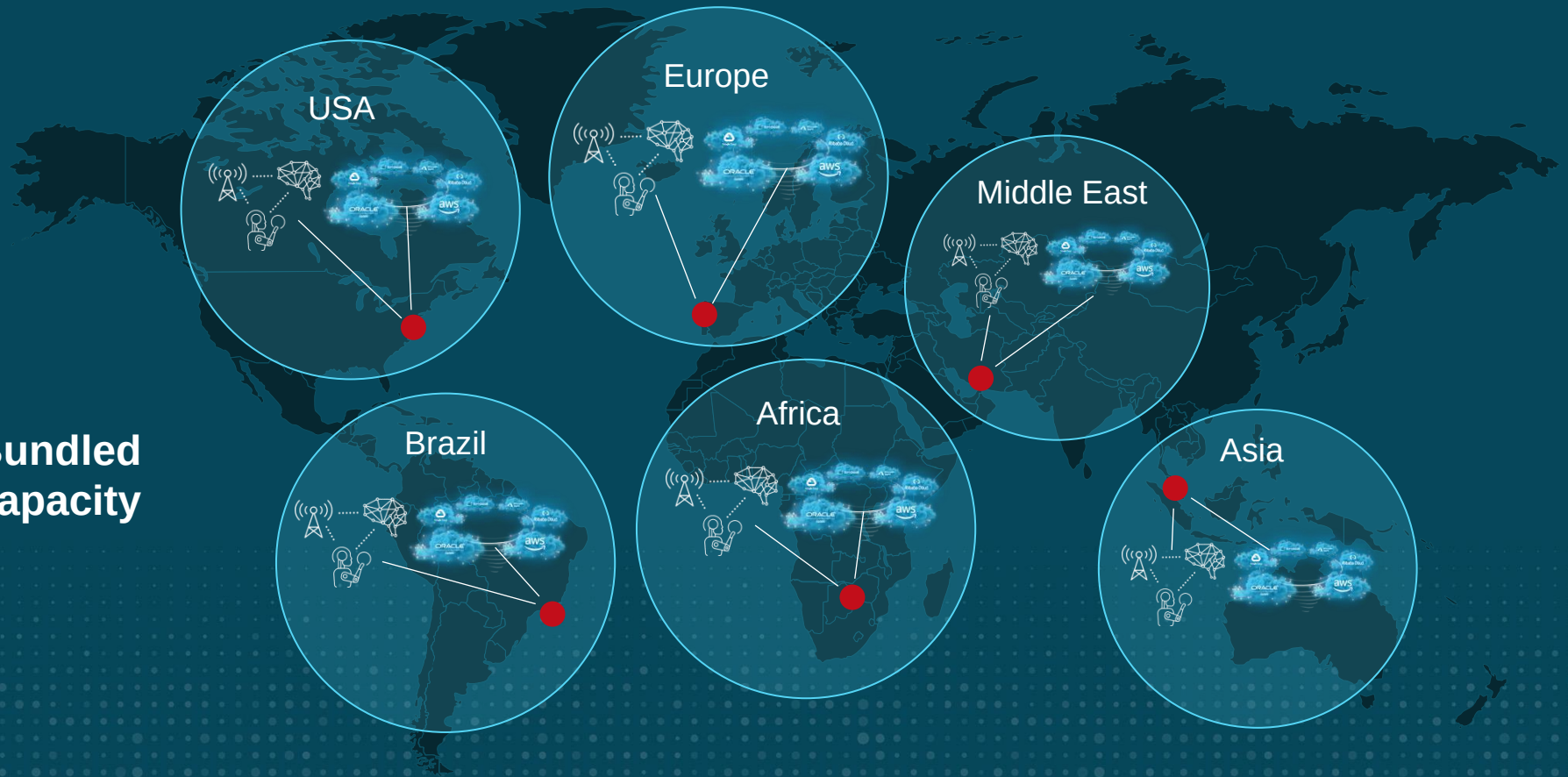
requires integration into the corporate ecosystem




**Bundled capacity**

**Build your own ecosystem – Control the end-to-end data journey, everywhere.**

Data center & carrier neutral | Multi-locations, glocal | Bundled capacity | Multi-cloud

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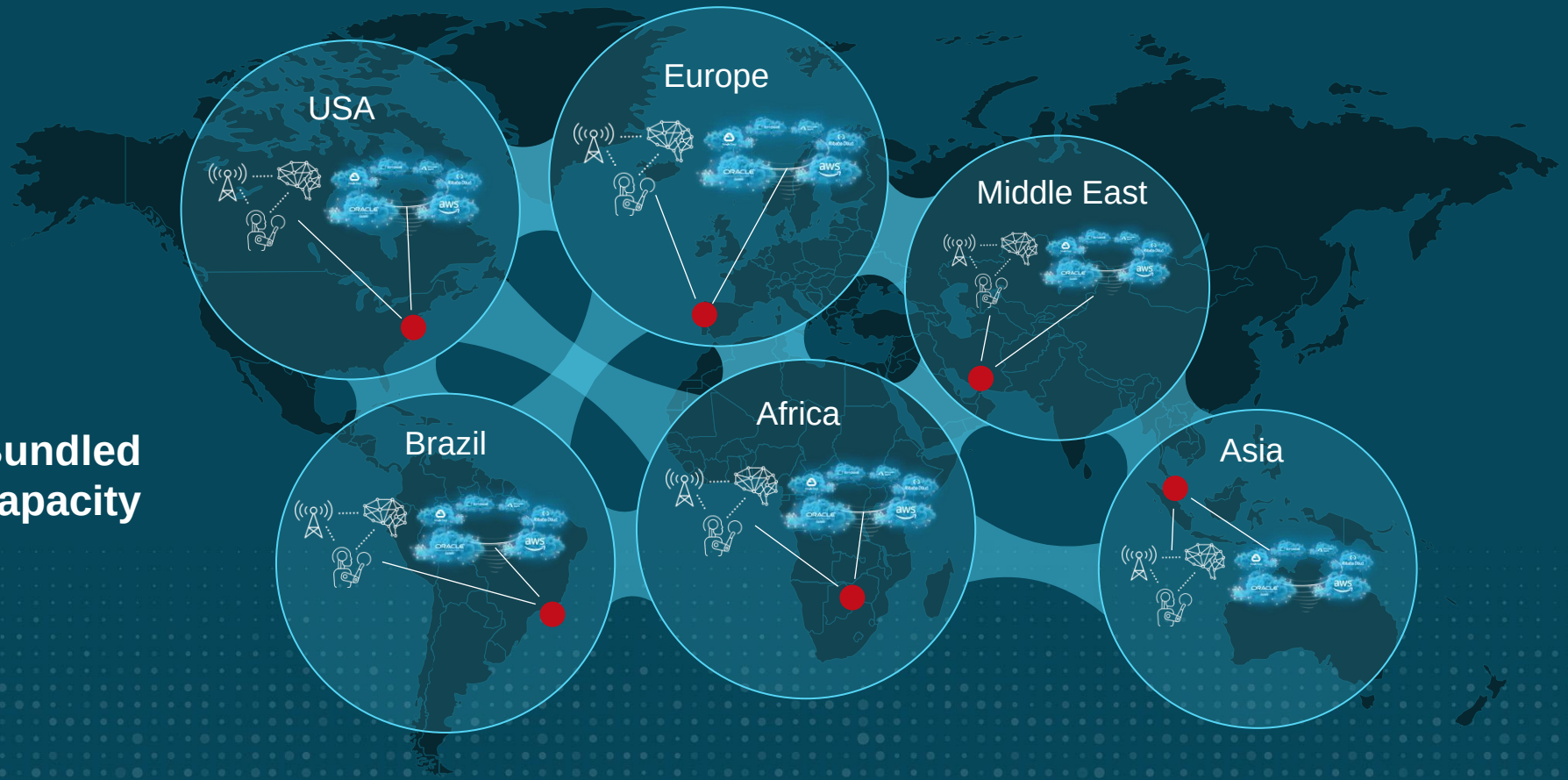


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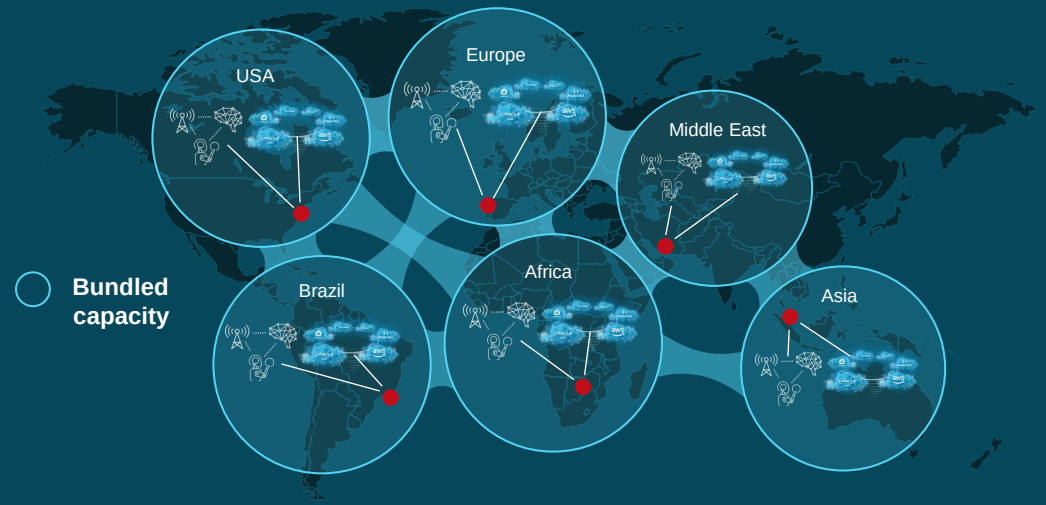


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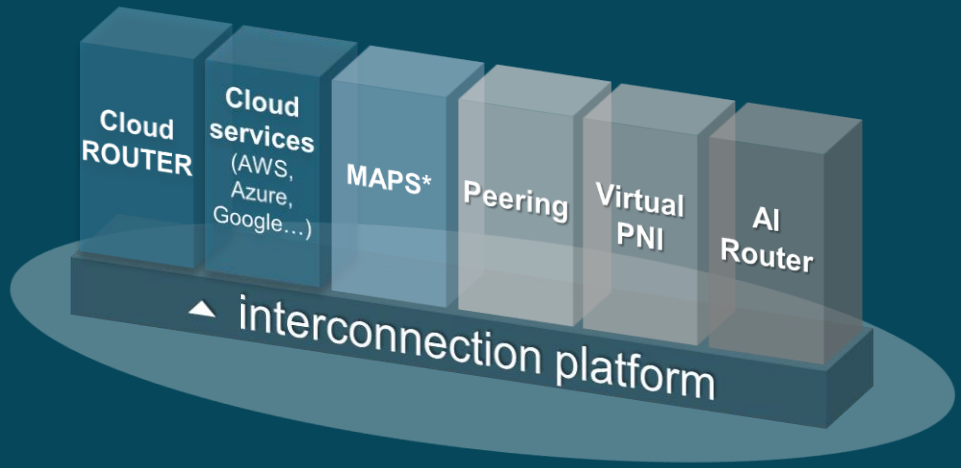
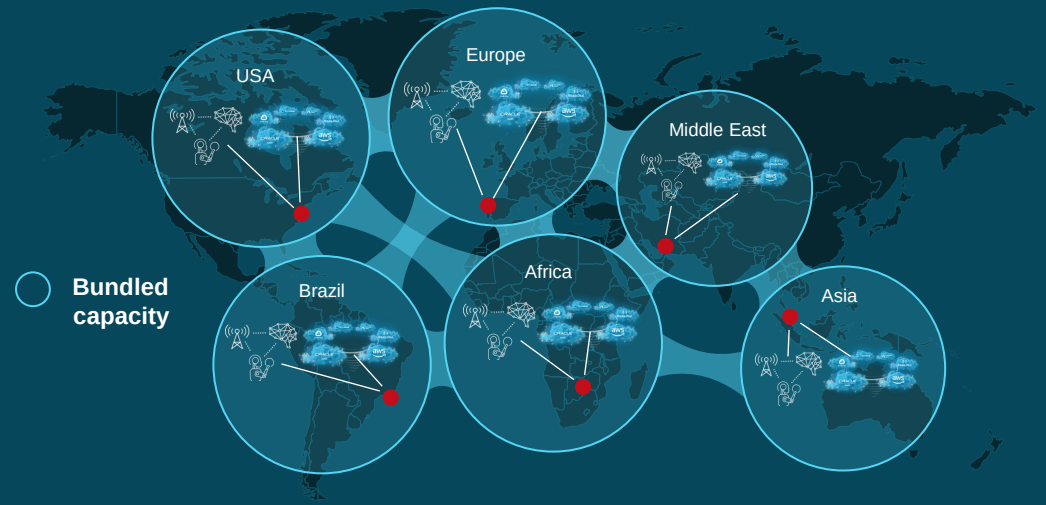



**Self-service management…**
**at a mouse-click**

☑ **Control** of the end-to-end journey of your data: **security & compliance**

☑ **Independent & secure infrastructure**

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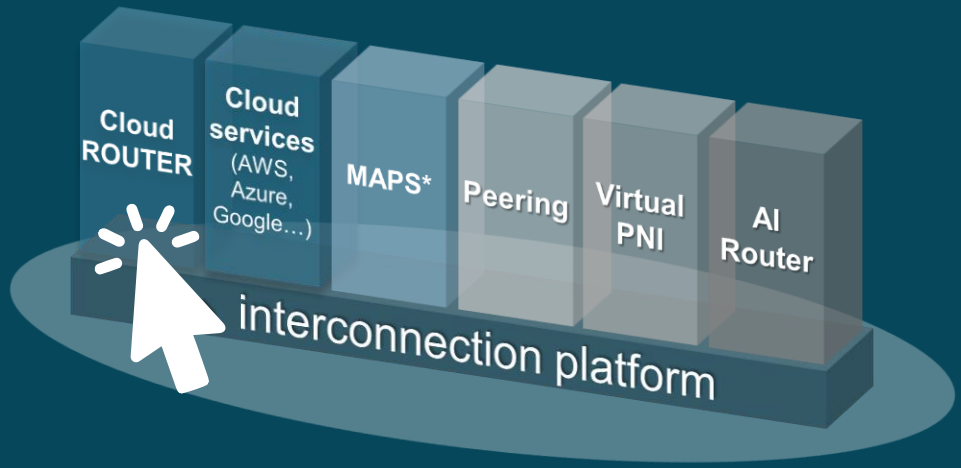


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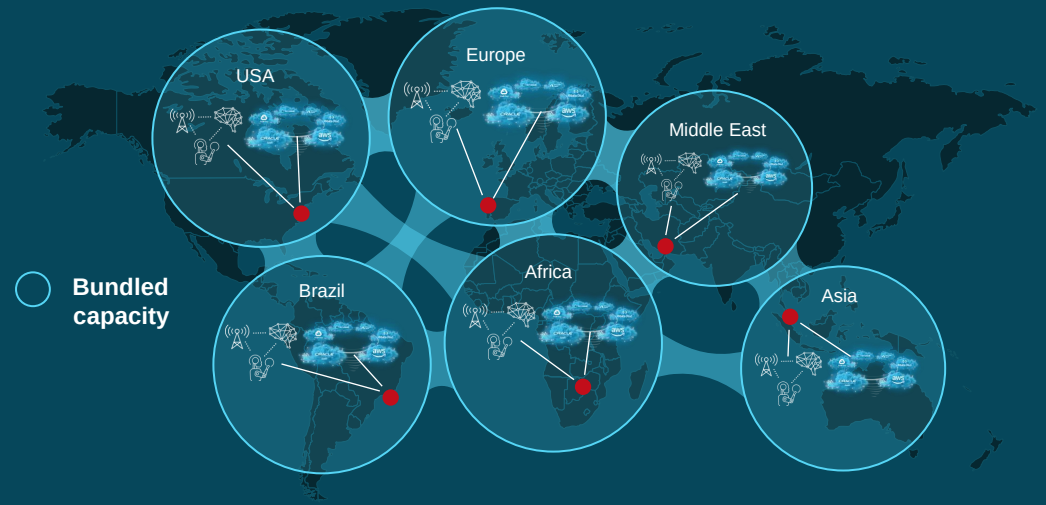


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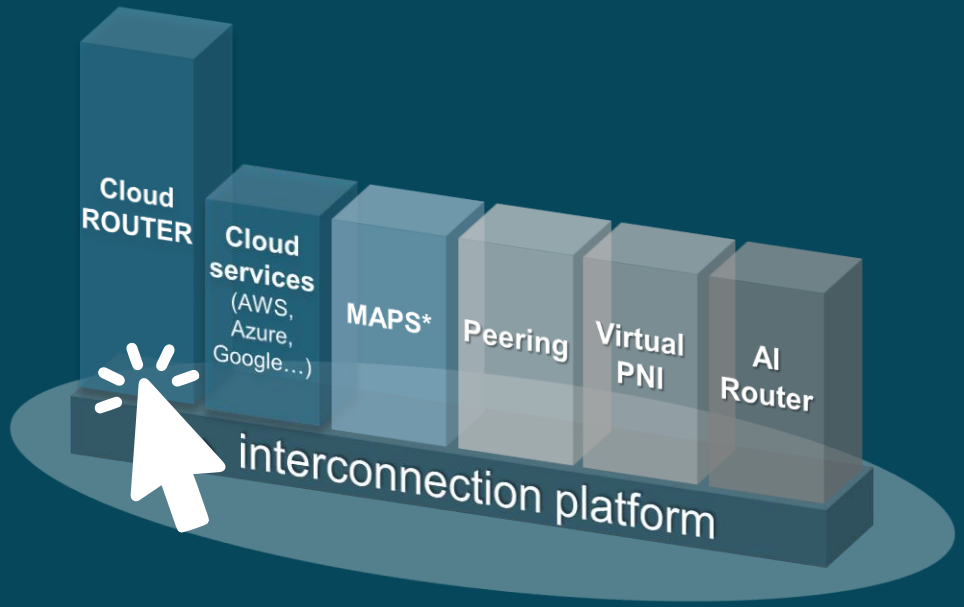


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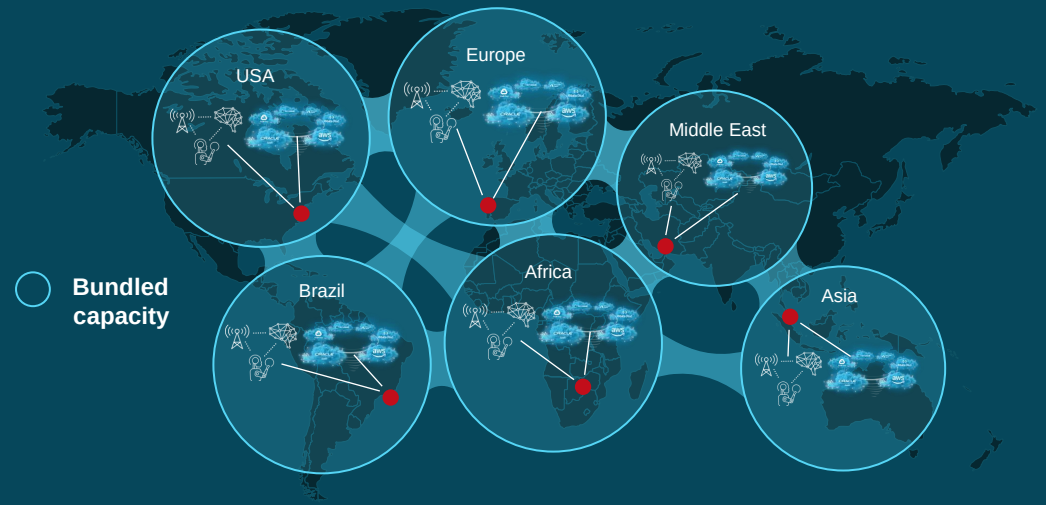


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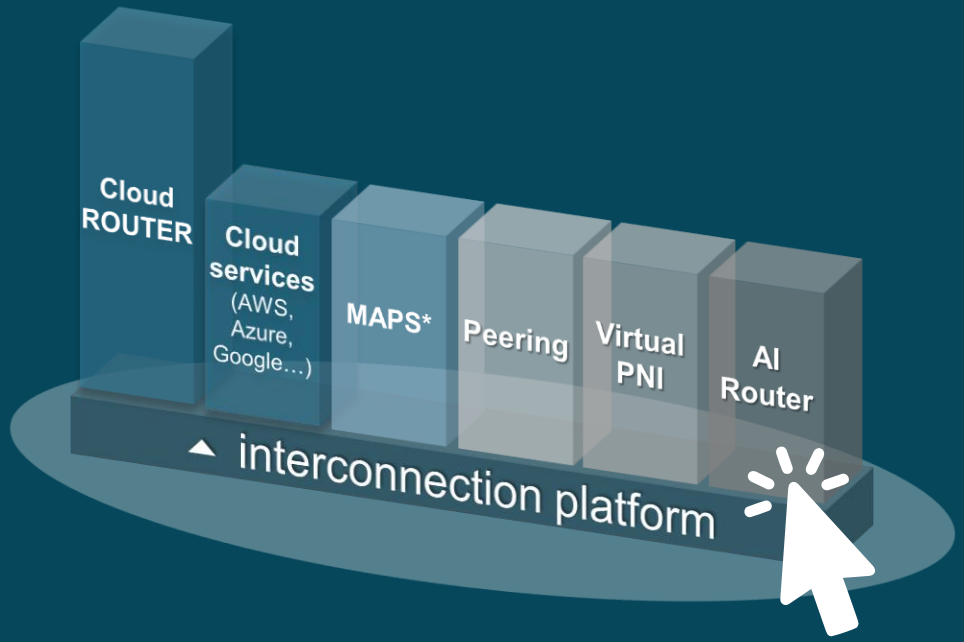


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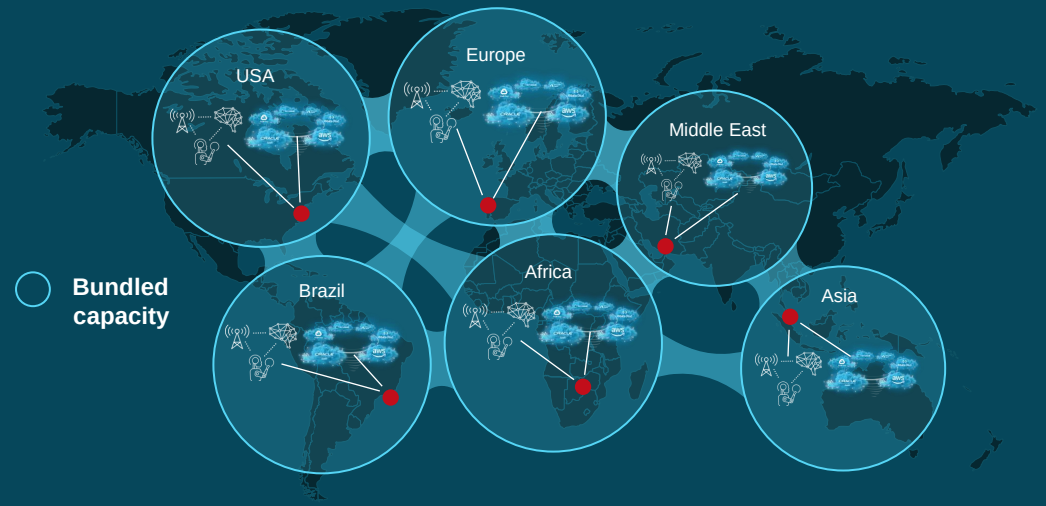


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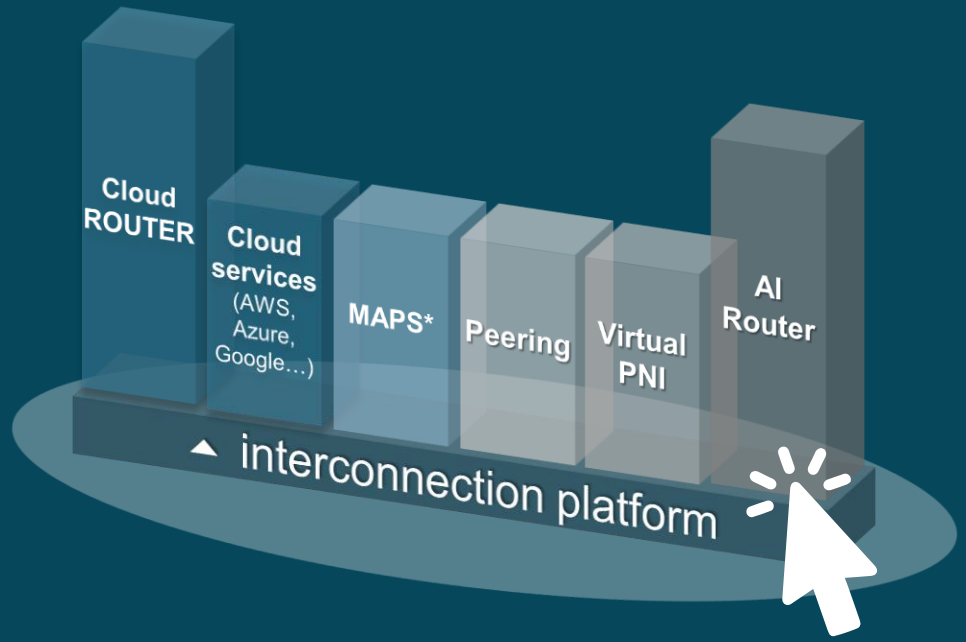


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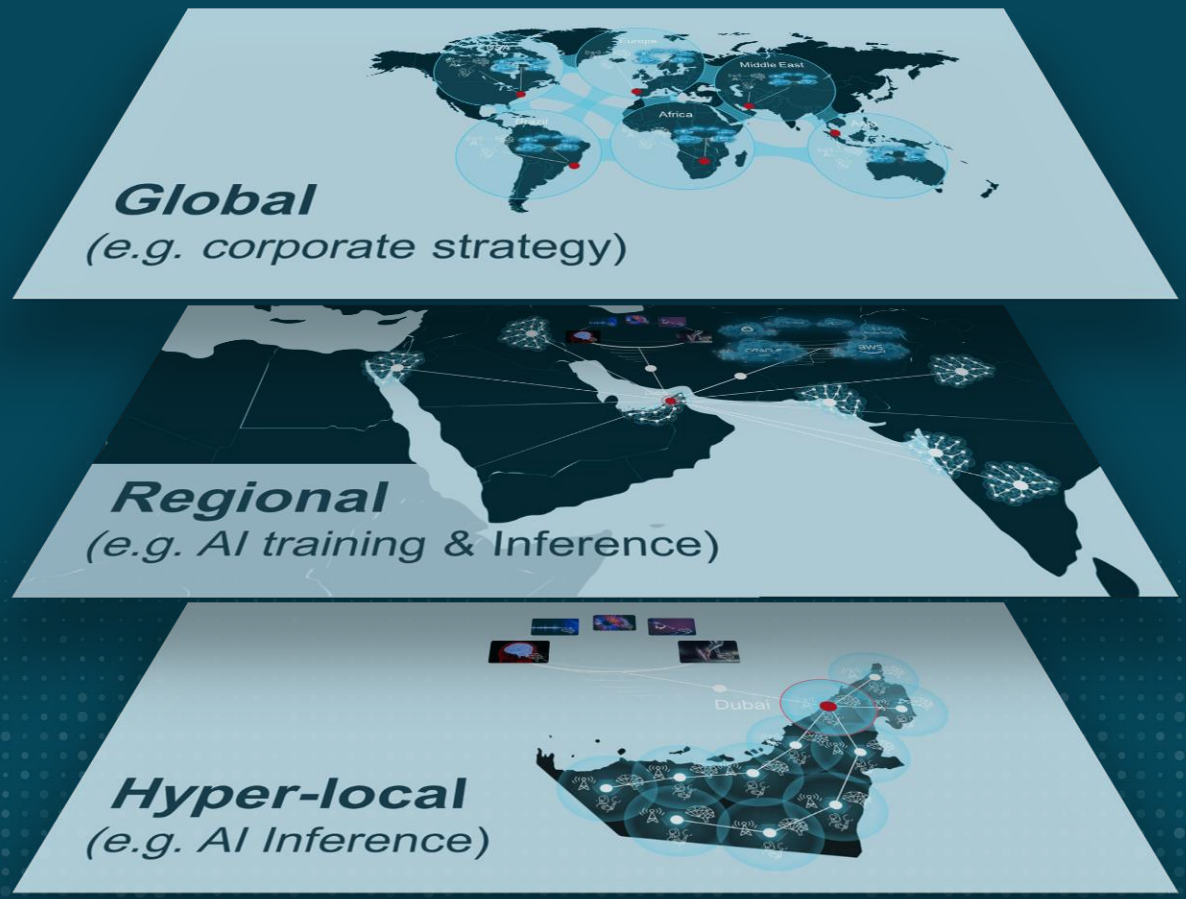
☑ **Independent & secure infrastructure**

# AI ready digital infrastructure

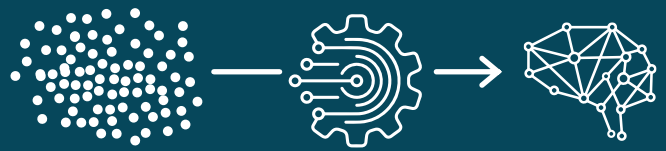
AI-enabled. Edge. Densified. Distributed. Interconnected.

- ☑ **Control of the end-to-end journey of your data: performance**
- ☑ **High speed, capacity & reach infrastructure**



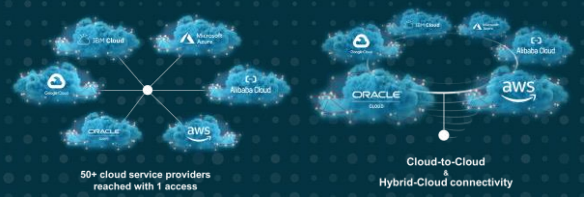
# New borders set by AI – **Time for a new Internet!**

## AI training



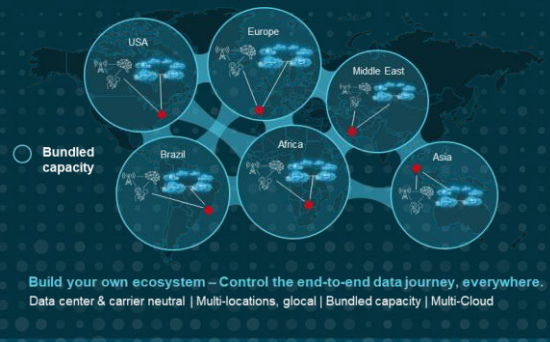
## AI Inference

*interoperability of digital applications*




*closer to the edge, distributed & integrated*

*build your own interconnection ecosystem*



# New borders set by AI – **Time for a new Internet!**

AI training

AI Inference

*interoperability of digital applications*

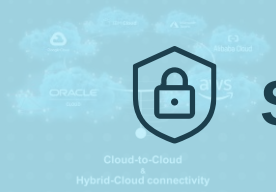
*closer to the edge, distributed & integrated*

*build your own interconnection ecosystem*

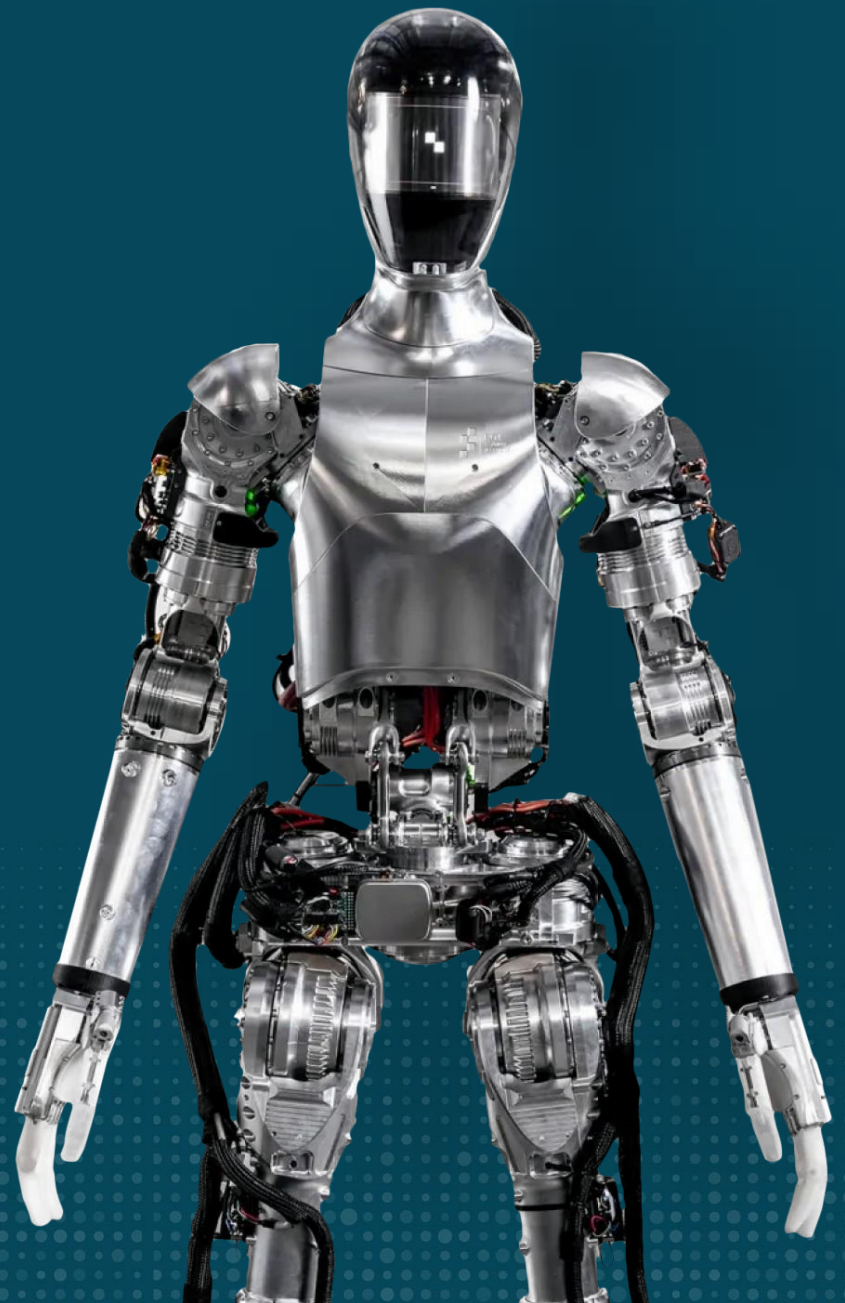
**SIMPLICITY**

**SECURITY & COMPLIANCE**

**PERFORMANCE**



Build your own ecosystem – Control the end-to-end data journey, everywhere.
Data center & carrier neutral | Multi-locations, glocal | Bundled capacity | Multi-Cloud

# *Thank you!*

Ivo Ivanov,
CEO DE-CIX Group