



LEADING NEW ICT

A View From The Tower

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Have you noticed the difference?

1997

Deep Blue

VS

World champion Kasparov



2016

AlphaGo

VS

World champion Lee Sedol



Chess

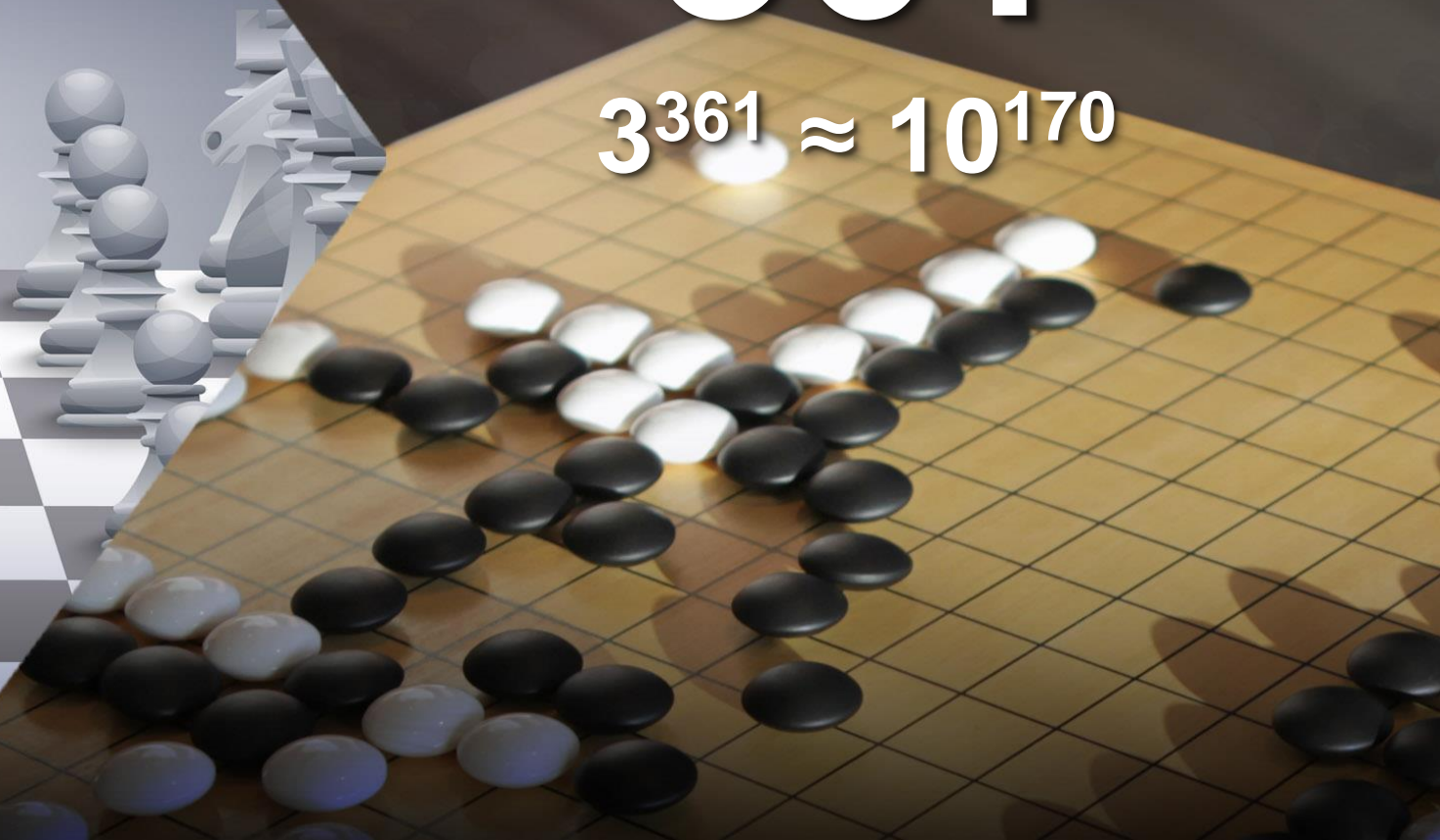
64

$2^{155} \approx 10^{47}$

Go

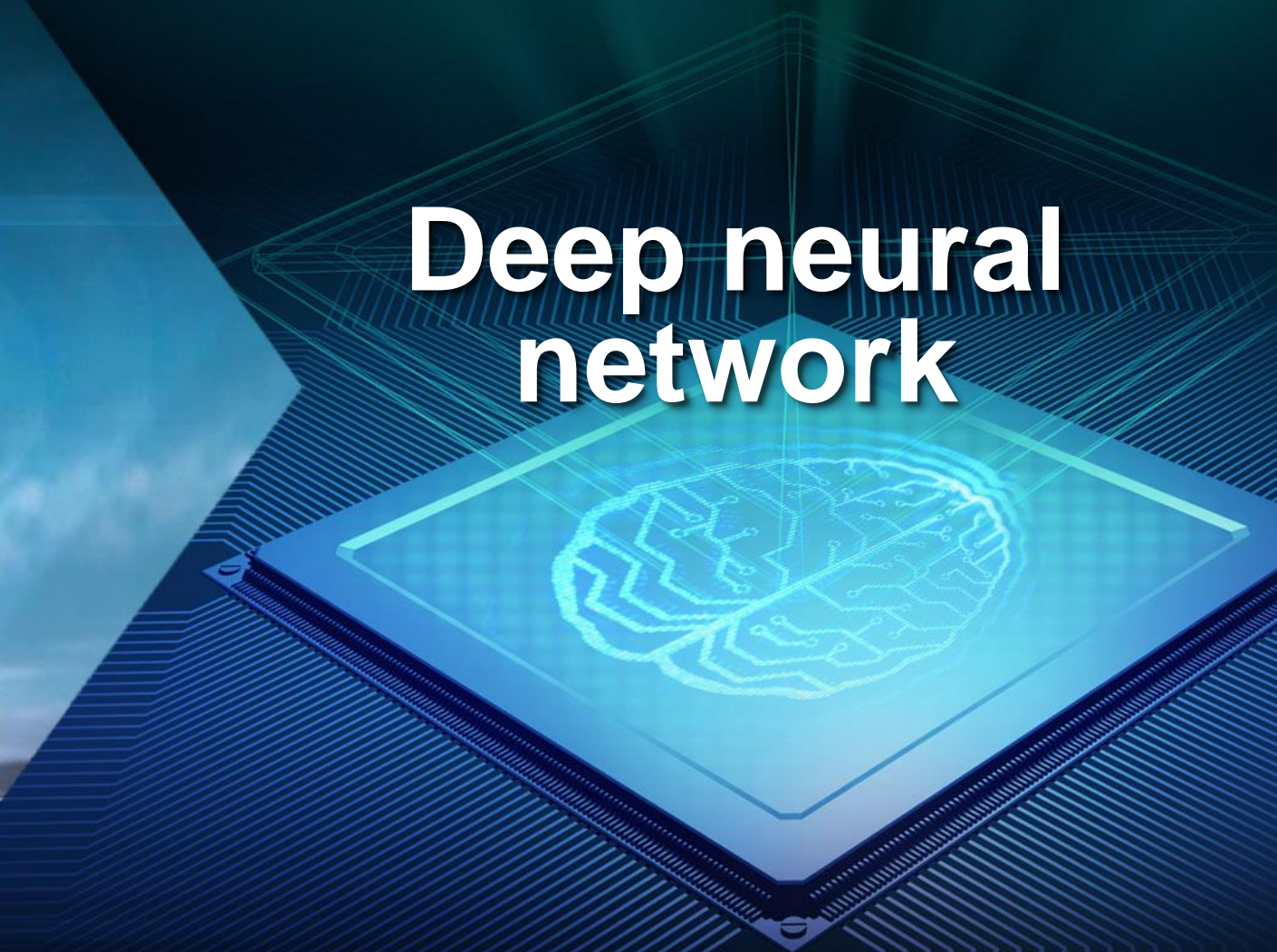
361

$3^{361} \approx 10^{170}$



Was algorithm the


Brute force search

A large white king chess piece stands prominently on the right side of a checkered chessboard. The board is set against a dramatic background of a sunset or sunrise, with a bright sun low on the horizon and a blue sky with wispy clouds. Several other chess pieces are visible: a white knight on the left, a white king in the center, a black king in the background, and a black knight on the right. The scene is lit with a warm, golden light from the sun, creating a sense of depth and drama.

Deep neural network



Mainframe



**Cloud
Computing**

Some Global Trends

Who needs IT when we have The Cloud?



2.5 Exabytes

2 quintillion bytes created every day in the world.

90% of all existing data created in last 2 years

World wide storage capacity doubles every 3 years

4.49 Billion

4.49 Billion web pages on the internet (last time I checked)

2.7 million new servers ship world wide every 3 months

World wide computing capacity doubles every year and a half

Rise of the Industry Cloud



Industry Cloud:

Industry cloud refers to cloud computing services that integrate industry applications and ICT infrastructure provided by industry solutions and ICT infrastructure vendors



The Middle Path

Hybrid Cloud:

The challenge of a seamless experience from private to public



Processing At The Edge



Square Kilometre Array

1 Exabyte Per Day



Processing At The Edge



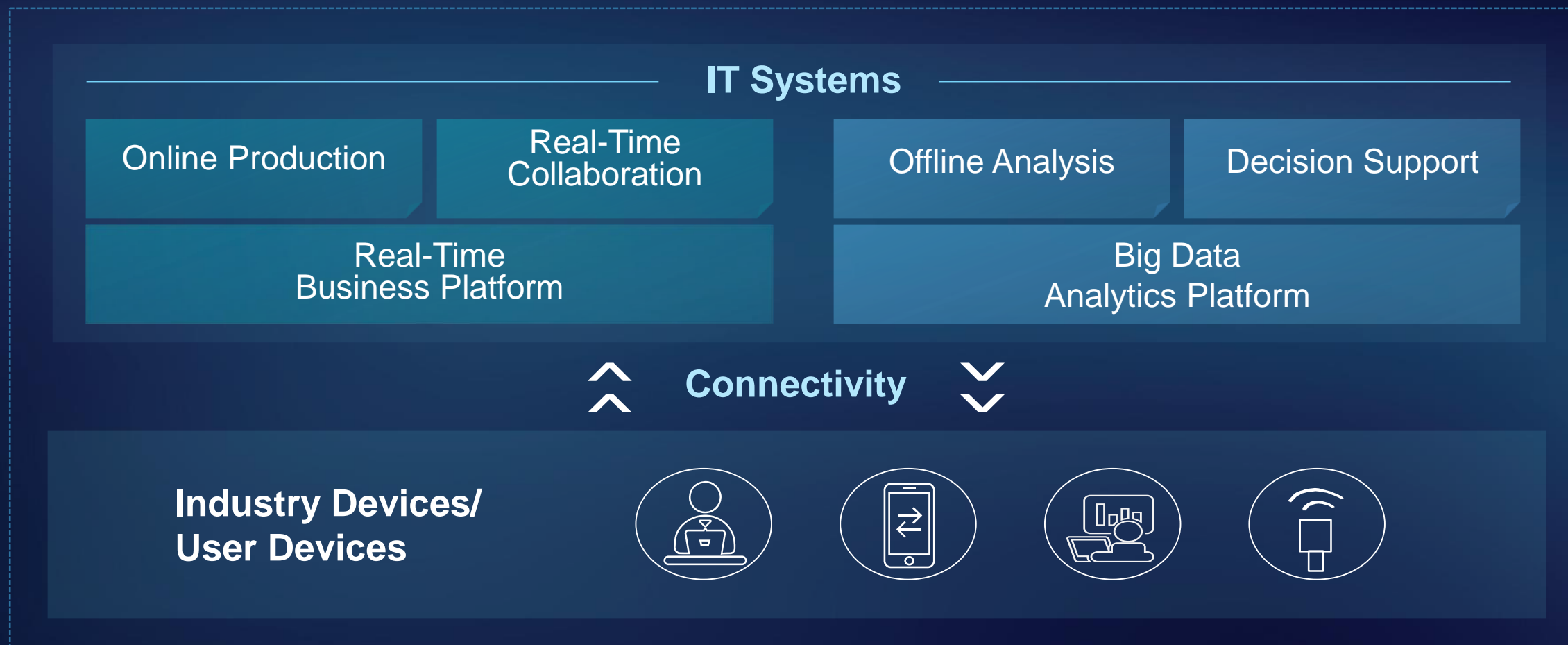
Mars Rover Curiosity

13 Minutes Latency



A New ICT Era

1. ICT is becoming core part of production system



2. Cloud-Pipe-Device collaboration is crucial for digital transformation



3. Innovative technologies are the foundation



Cloud Computing
Shared



Big Data
Value-added



Network



IoT Digitalized

Cloud Computing

- SD-DC², Hardware reconfiguration

Big Data

- Algorithm & Industry Innovation

Network

- 5G/4.5G/eLTE, SDN/Agile Network

IoT

- Intelligence edge, Lite-OS, NB-IoT

A new ICT era is coming...

1980-1995
ICT Stage I



**Office
Automation**



1995-2010
ICT Stage II



**New Business
Processes**

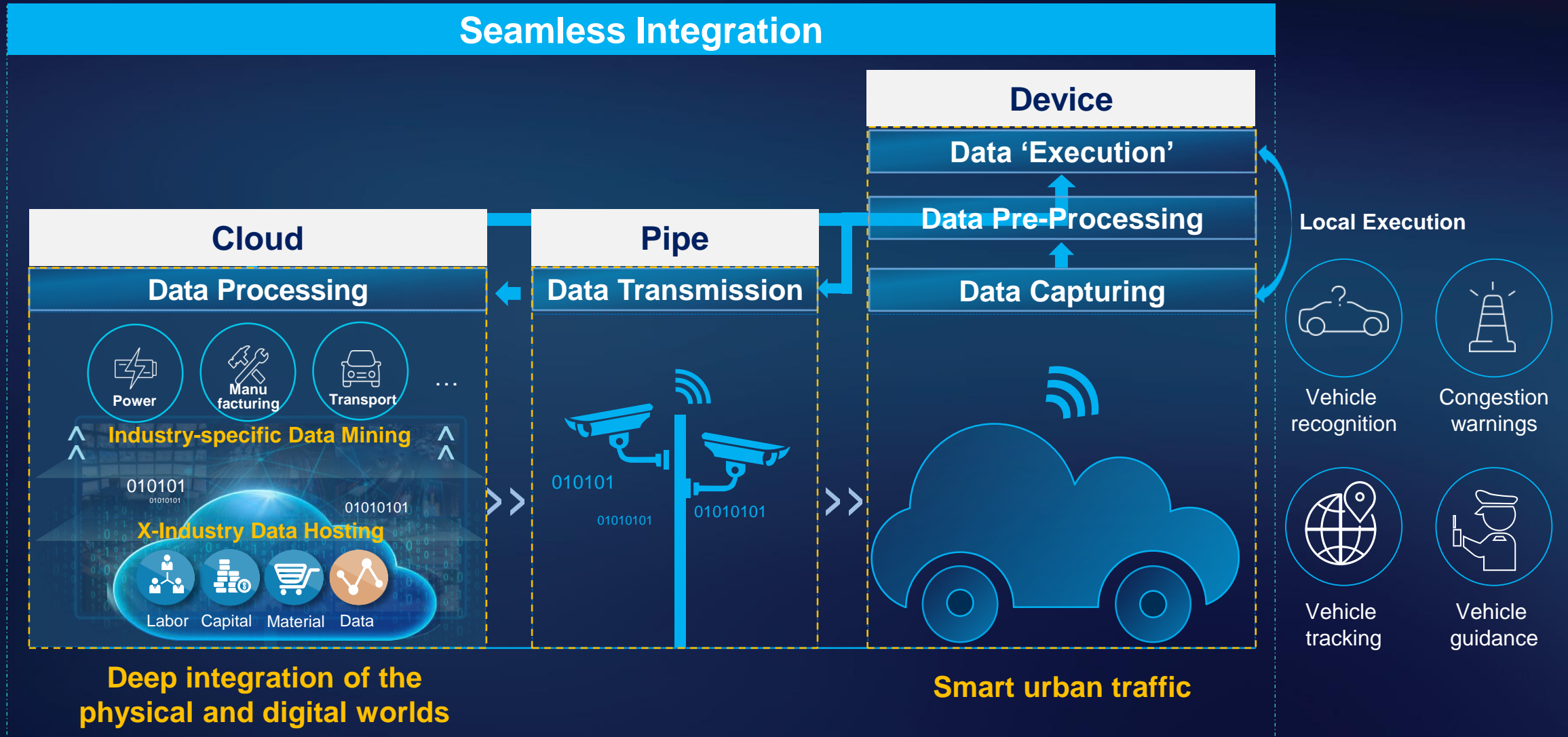


2010-2025
ICT Stage III

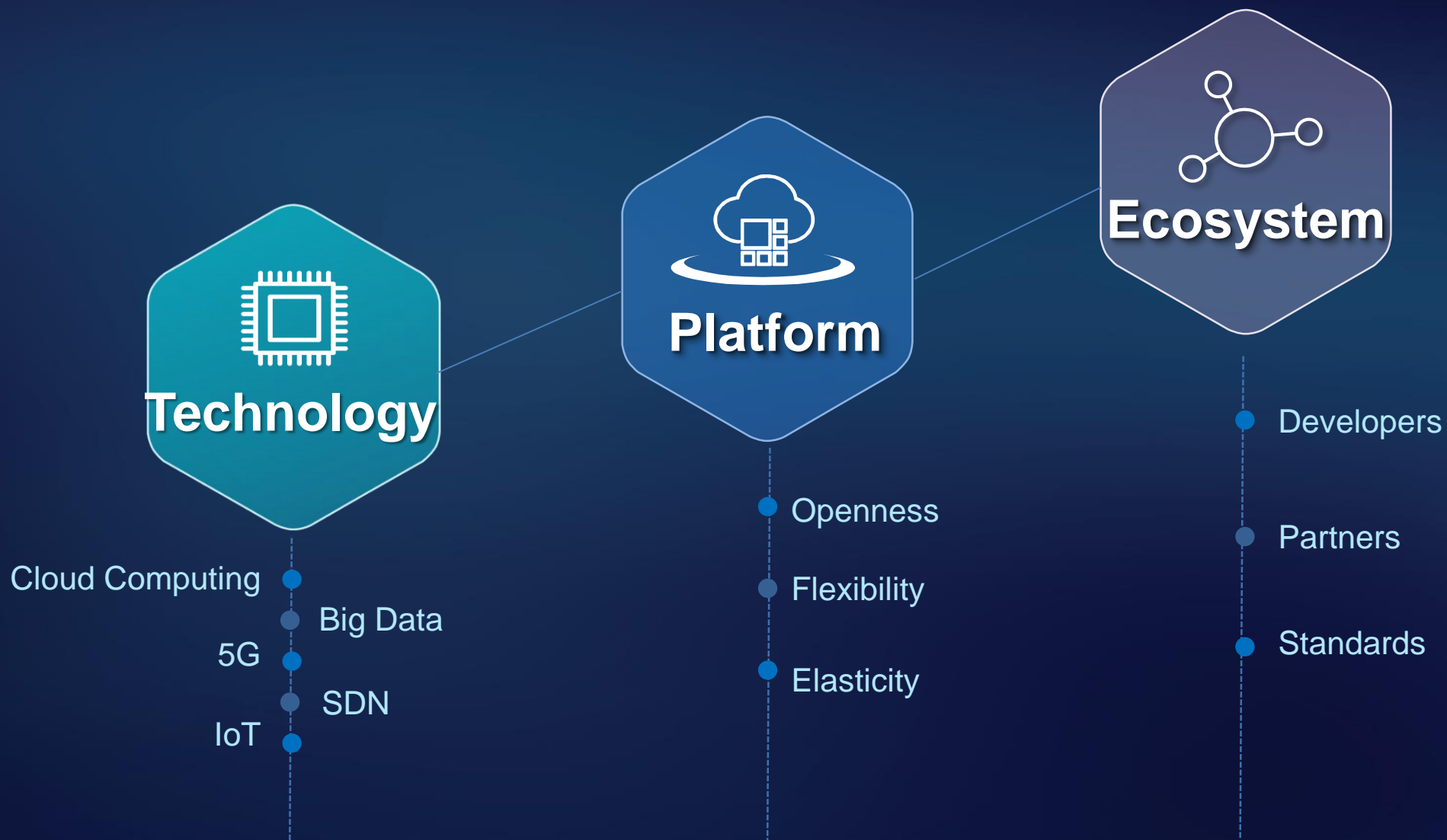


**Core Part of
Production Systems**

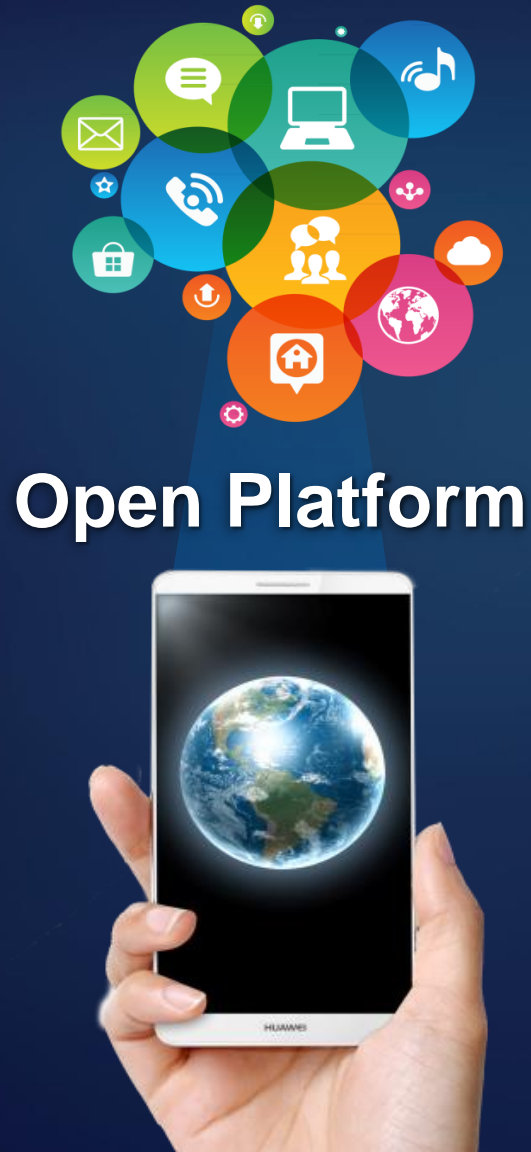
Synergy of the '3' Platform Building Blocks



Technology to Platform to Ecosystem



What happened with the mobile phone industry?



Apps

Operating System, UI

Hardware

200+ Industry Solutions Delivered with Industry Leaders



HW+ Thales

LTE urban rail communications solution



HW+ Altair

Industrial simulation cloud solution



HW+ Honeywell

Smart building solution



200+

HW+ Software AG

IoT solution



HW+ SAP

AMI solution



HW+ Frequentis

Next-generation dispatch solution

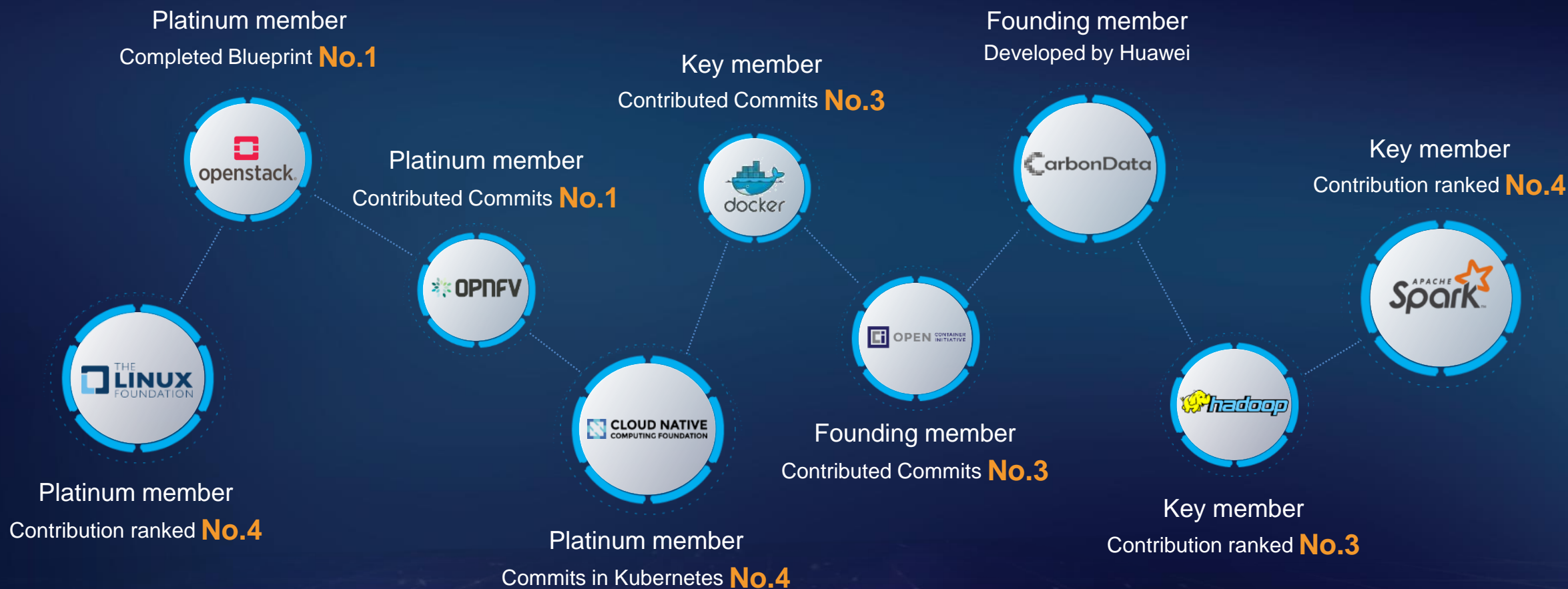


HW+ Infosys

Finacle on KunLun



Contributions to Open-source Organizations



A World of Devices

Rich Data for First Responders

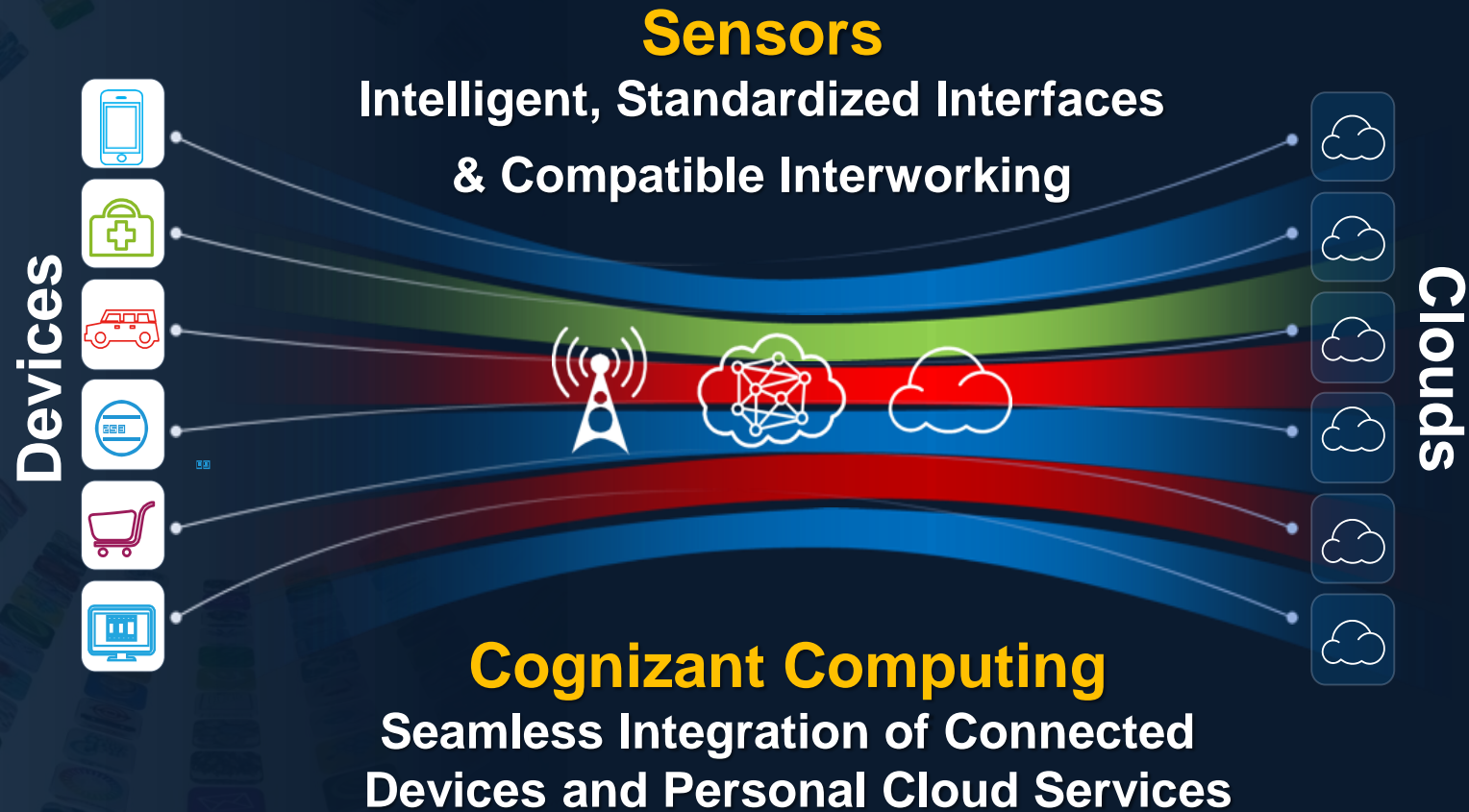
Voice only
Before

Voice + Video + Data
Now

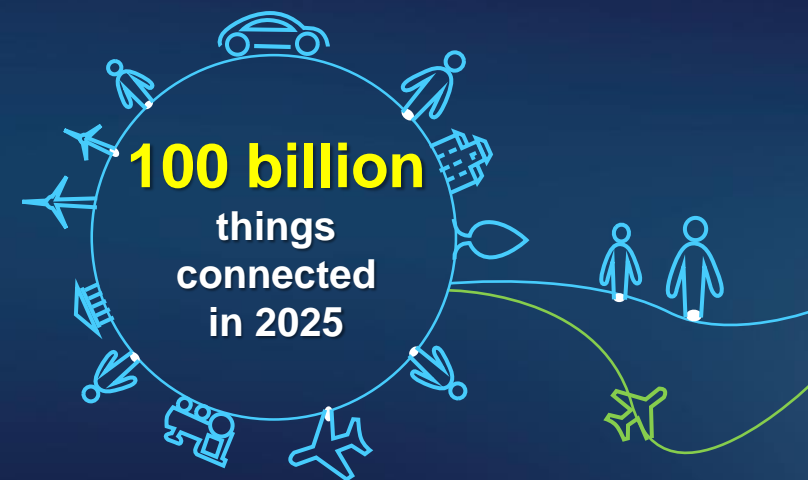
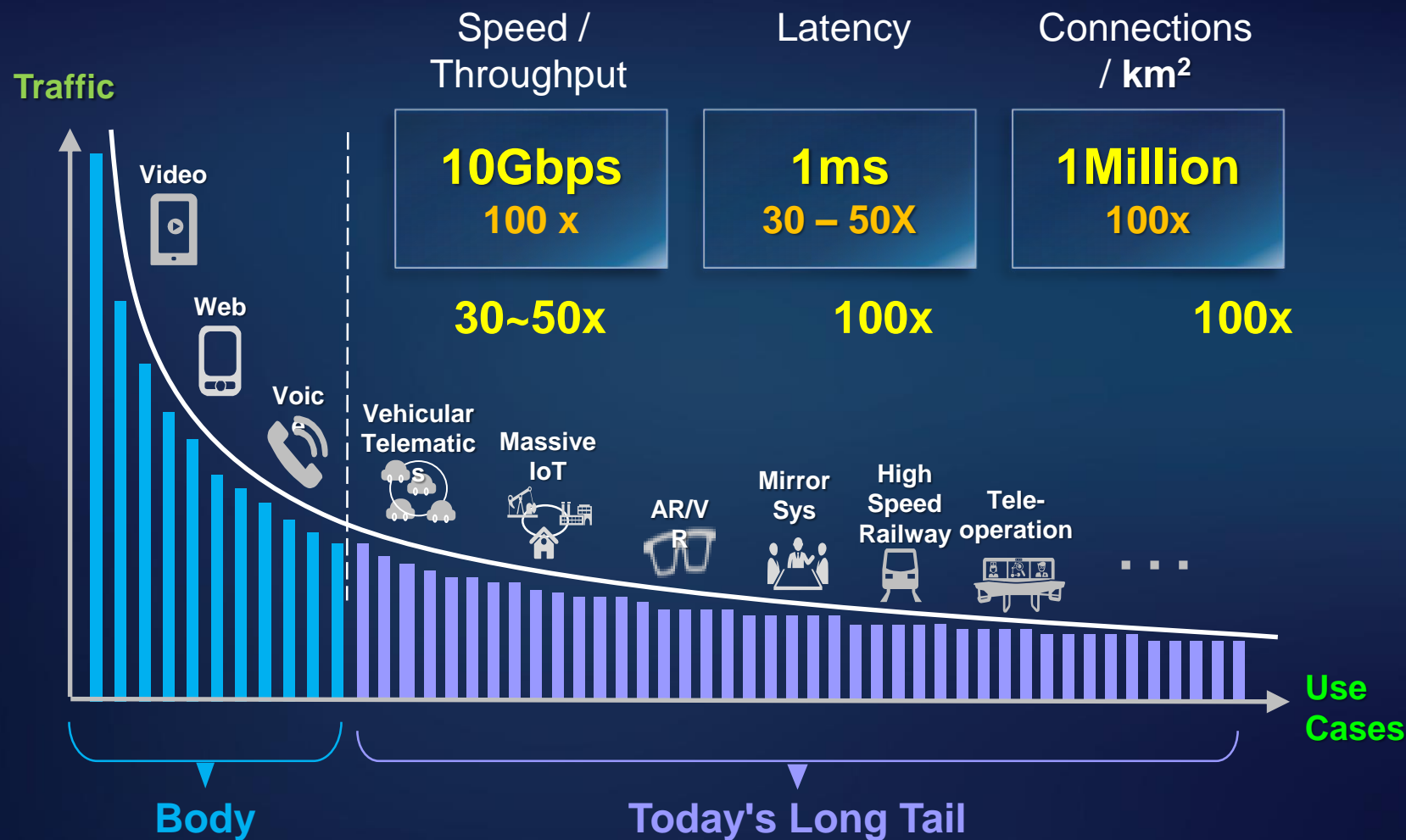
The new wave of data generating machines



Devices & Sensors : Where does the intelligence reside?



Massive connections enabled through 5G



*Massive Connections
with Distinct Scenarios*

Summary

In Summary – Key Points



Cloud

- Rise of Industry Clouds
- Emergence of Hybrid

Architectures

- Edge Processing
- Cloud – Pipe – Device

New ICT

- Open Platforms & Open Ecosystems

Devices

- Data Generating, Data Consuming
- Networks to support device explosion

LEADING NEW ICT
BUILDING A BETTER CONNECTED WORLD



Sources

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