



JUST LOOK UP LET'S LIGHT UP THE FUTURE

Guo Ping

Rotating Chairman



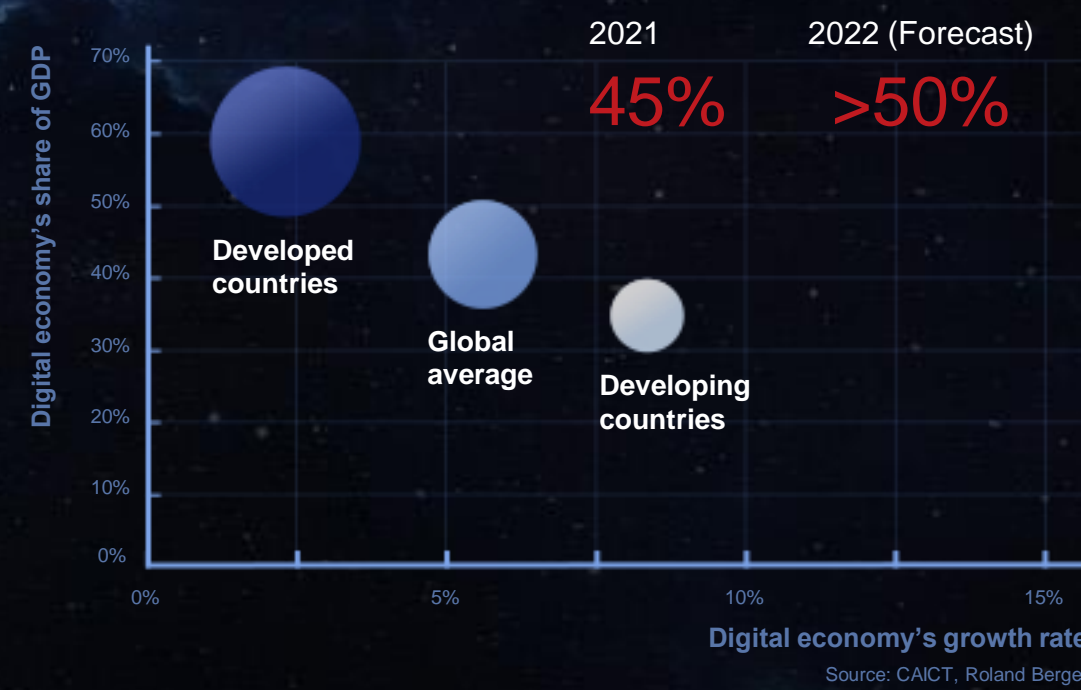
Digitalization



Carbon neutrality

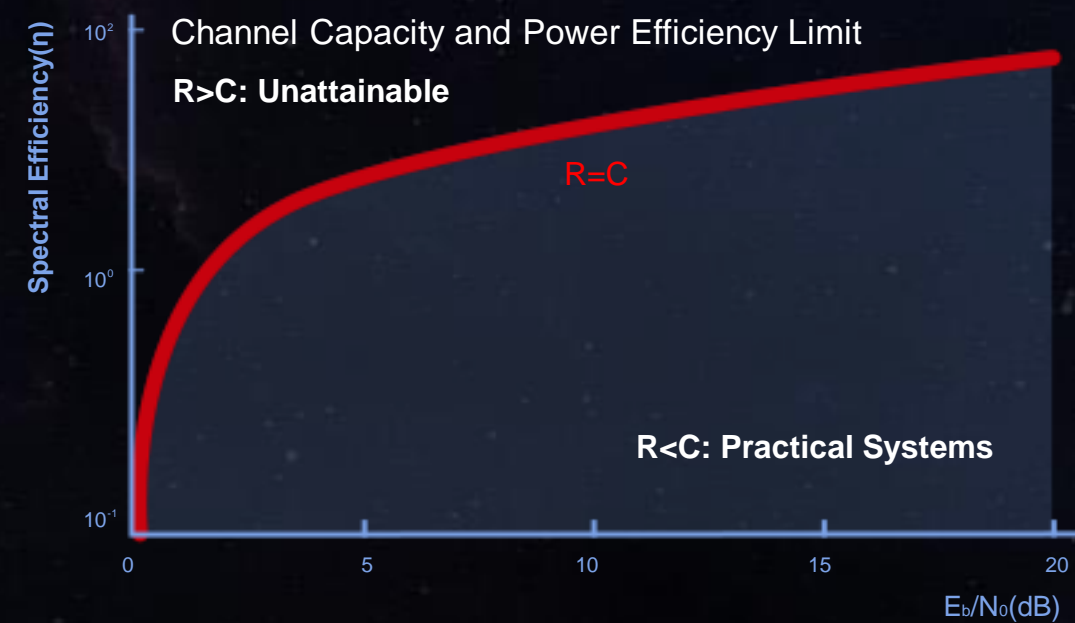
Innovating ICT theories and architectures to support the sustainable development of the digital economy

Digital economy's share of GDP



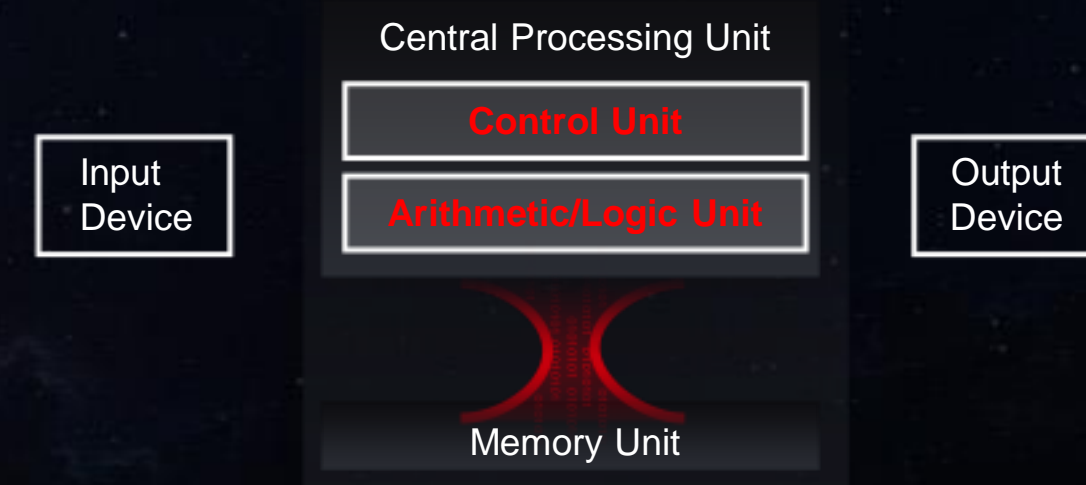
Shannon's theorem

Approaching the limit



von Neumann architecture

Current architecture unfit for large-scale computing



Overcoming energy efficiency bottlenecks with ICT

Further digitalization poses carbon emission pressure



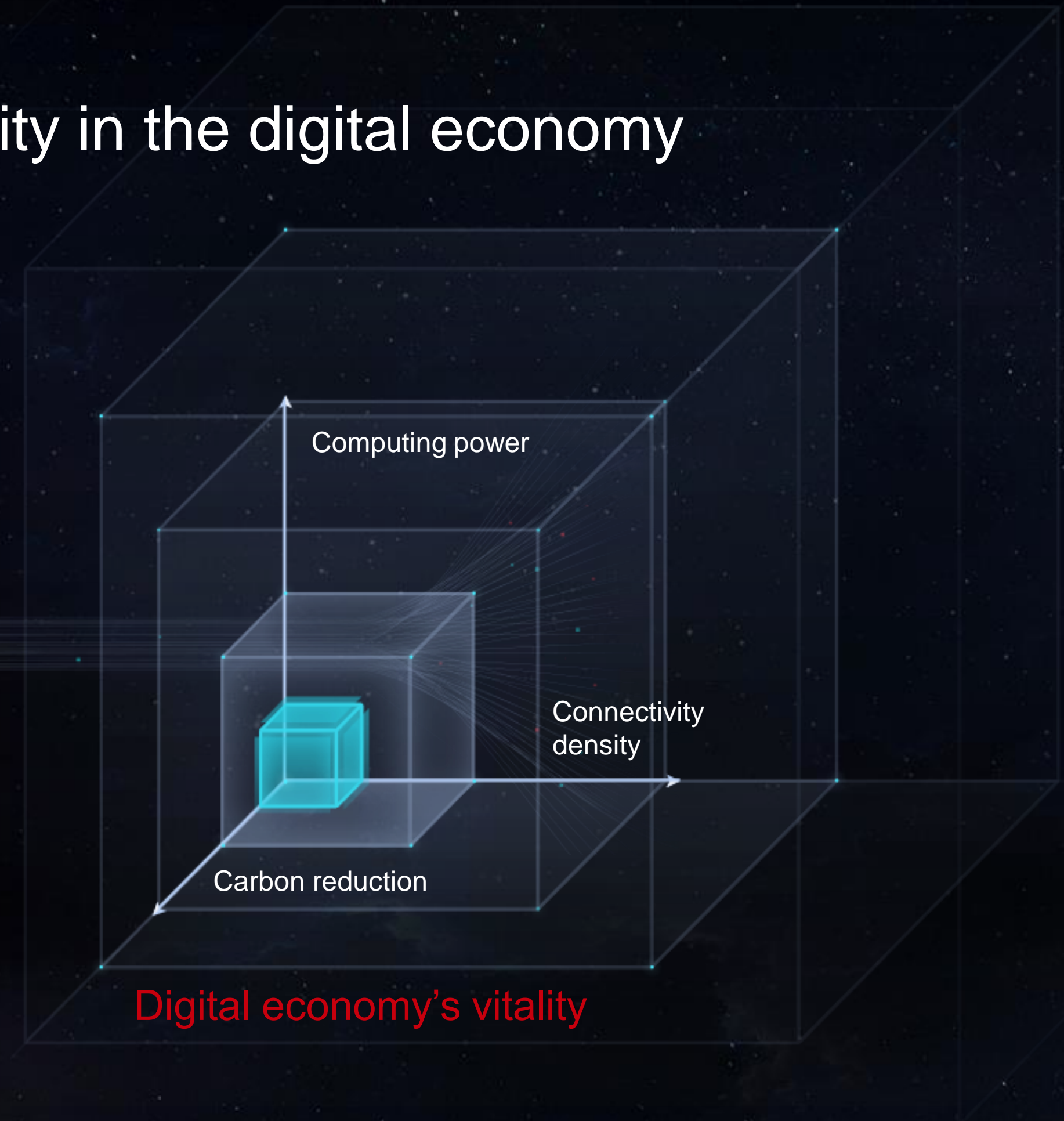
4D data for 147 million km² of the earth's surface
470 ZB of data
4.3 billion tons of CO₂

ICT helps reduce carbon emissions



State Grid-Shandong:
600 Million kWh of green electricity
590,000 tons of CO₂

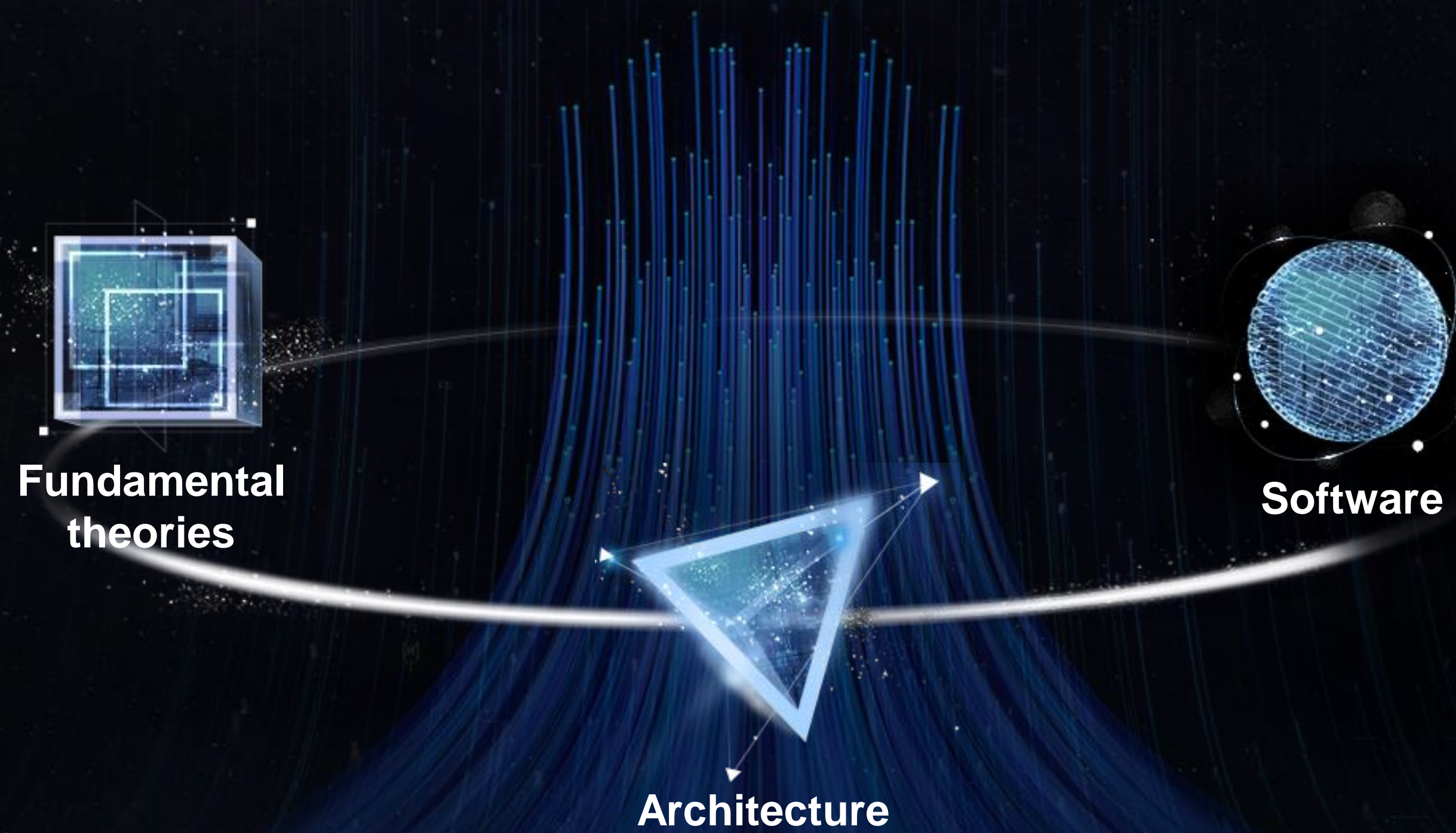
Continued innovation for new vitality in the digital economy



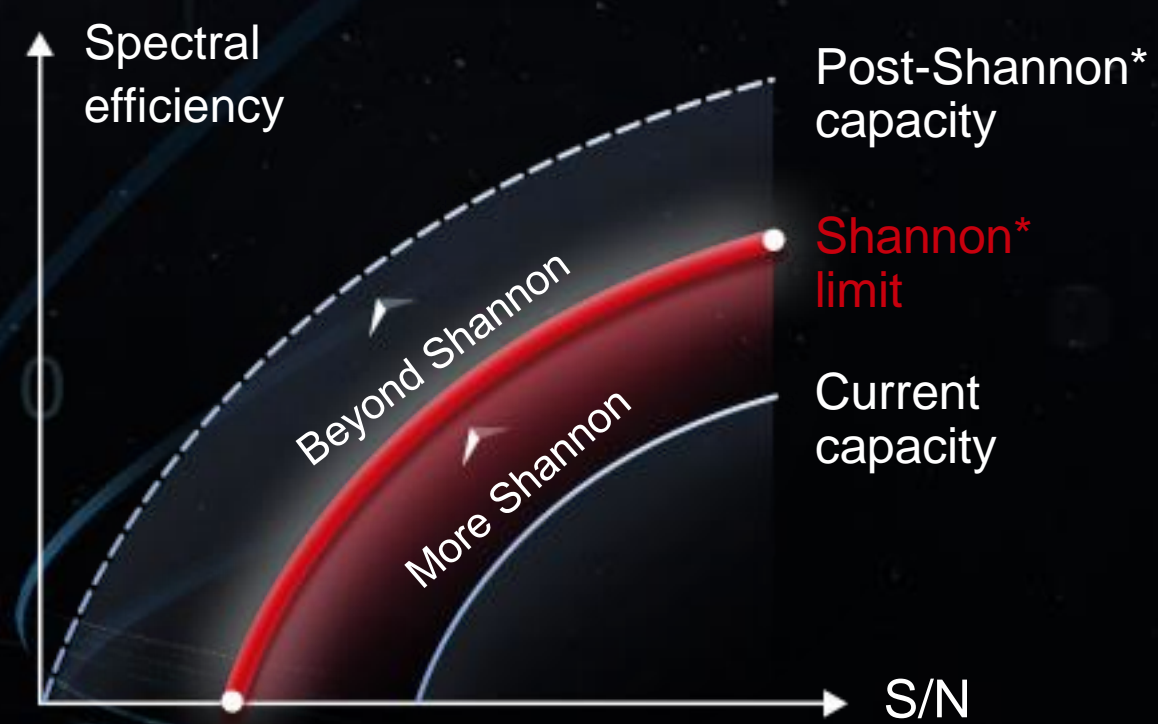
- 📦 Increasing strategic investment into foundational technologies
- 🔗 Working with partners to continuously create value for customer



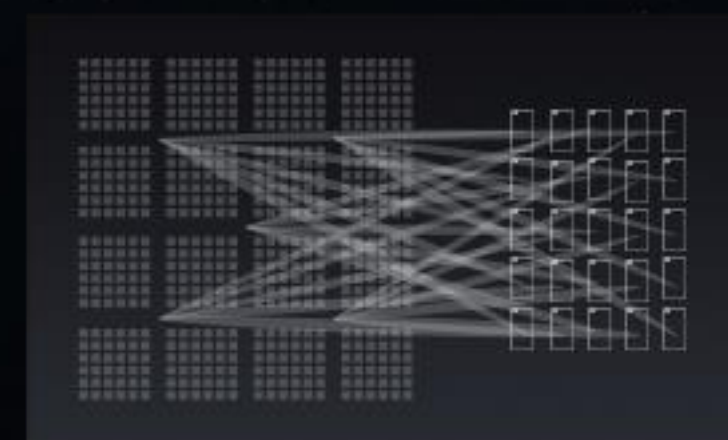
Reshaping 3 areas of the ICT industry



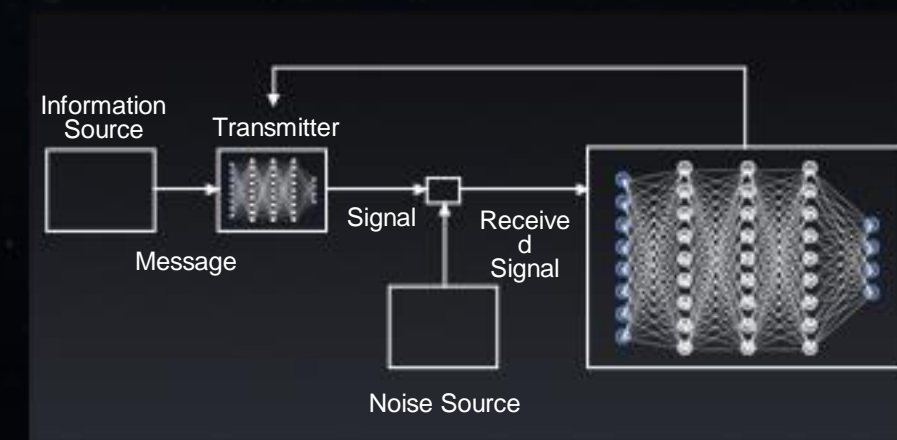
Restructuring fundamental theories: more and beyond Shannon



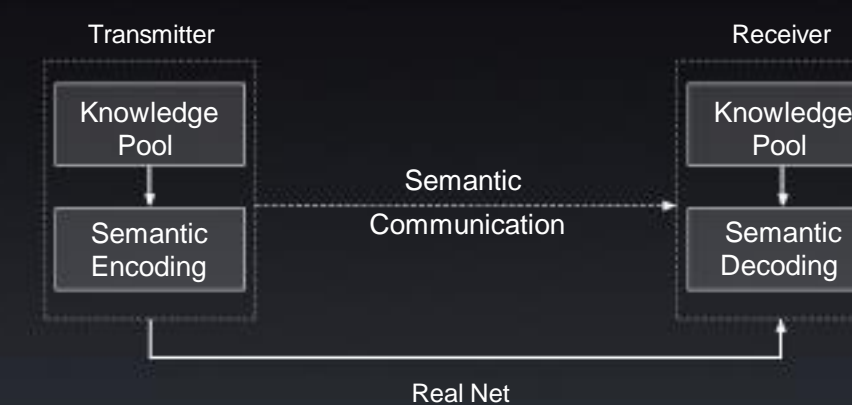
* New MIMO



* Shannon + AI



* Semantic communications



Reshaping system architecture: cross-domain integration to build new sustainable architecture

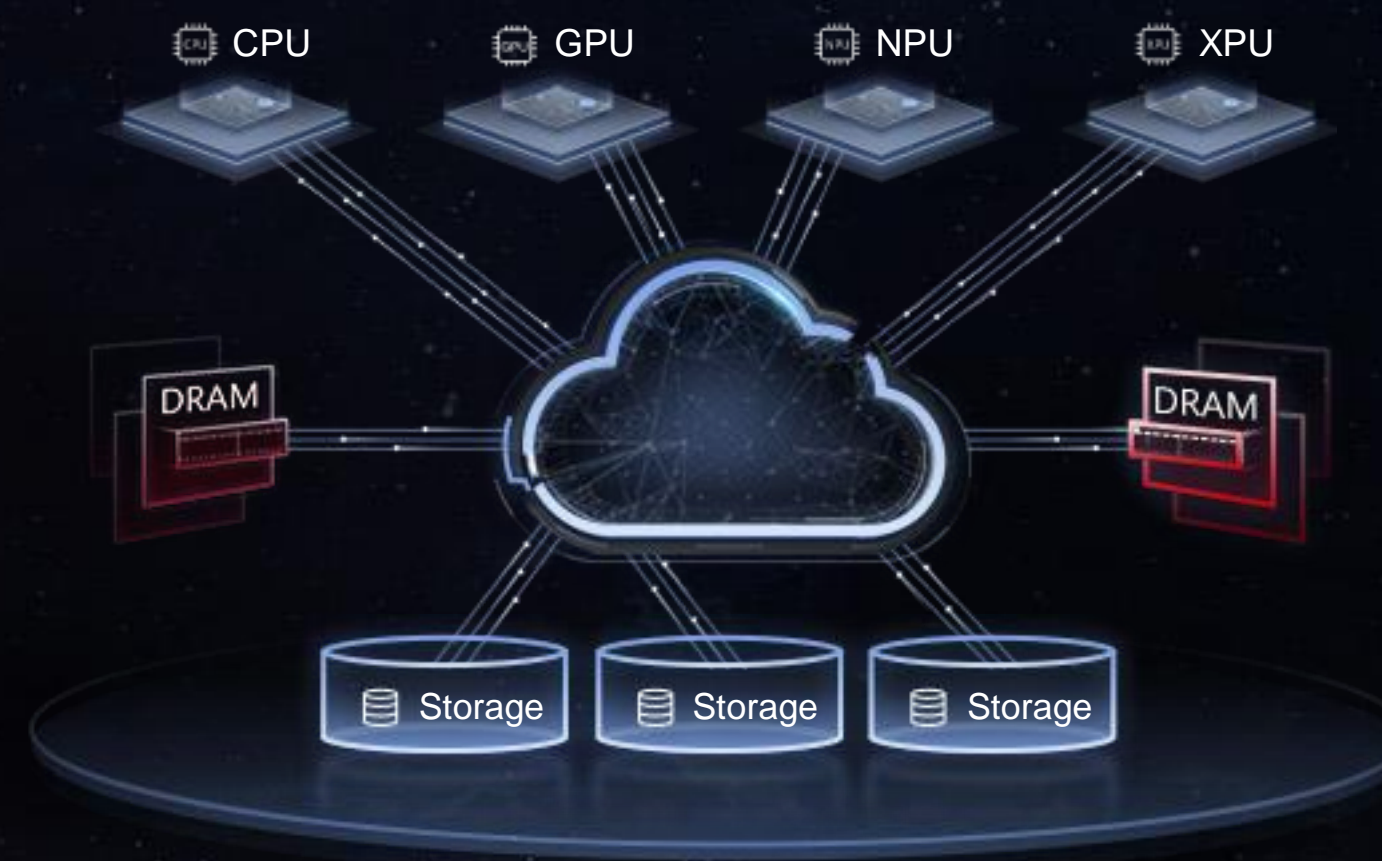
Wireless + Optical

To achieve high frequency, ultra-large bandwidth, and ultra-high speed



New computing architecture

Beyond heterogeneous architecture (BHA)



Refactoring software: building AI-centered, full-stack software



Heavier investment for R&D breakthroughs

Increase R&D spending and rankings

Ranking		R&D Spending	CAGR
2016	2017		
4	1	Alphabet 22.47B\$	15.3%
8	2	HUAWEI 17.46B\$	13%
5	3	Microsoft 16.88B\$	9.7%
2	4	SAMSUNG 15.90B\$	7.5%
11	5	Apple 15.28B\$	13.3%
29	6	Facebook 15.03B\$	25.5%
1	7	VW 13.89B\$	0.3%
7	8	Roche 11.25B\$	4.2%
3	9	intel 11.05B\$	1.2%
9	10	Johnson+Johnson 9.91B\$	6%

Optimized system architecture

Highly reliable and trustworthy supply chain

Doubled software performance

Source: The 2021 EU Industrial R&D Investment Scoreboard, European Commission, JRC/DG R&I.



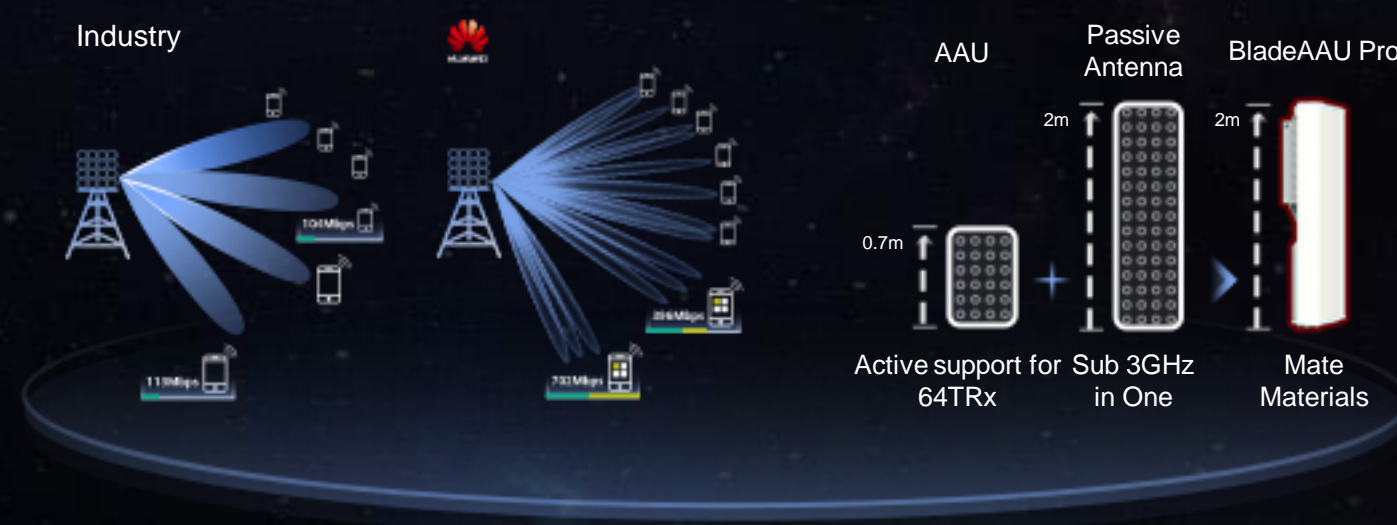
Maximizing customer value through software-hardware synergies

Wireless

3rd-generation MM: simplicity & convergence

AHR Turbo algorithms for Meta AAU

Sub 6GHz in one antenna

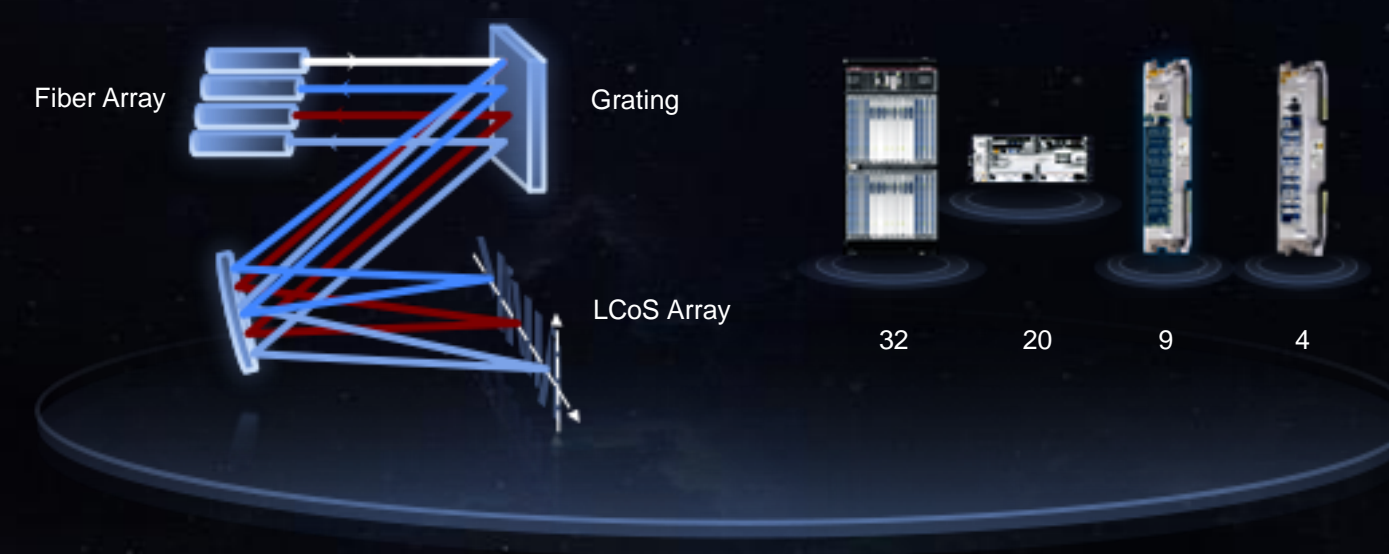


Optical

New-generation optical layers: high integration & reliability

Holographic optics algorithms

OXC One-hop connections

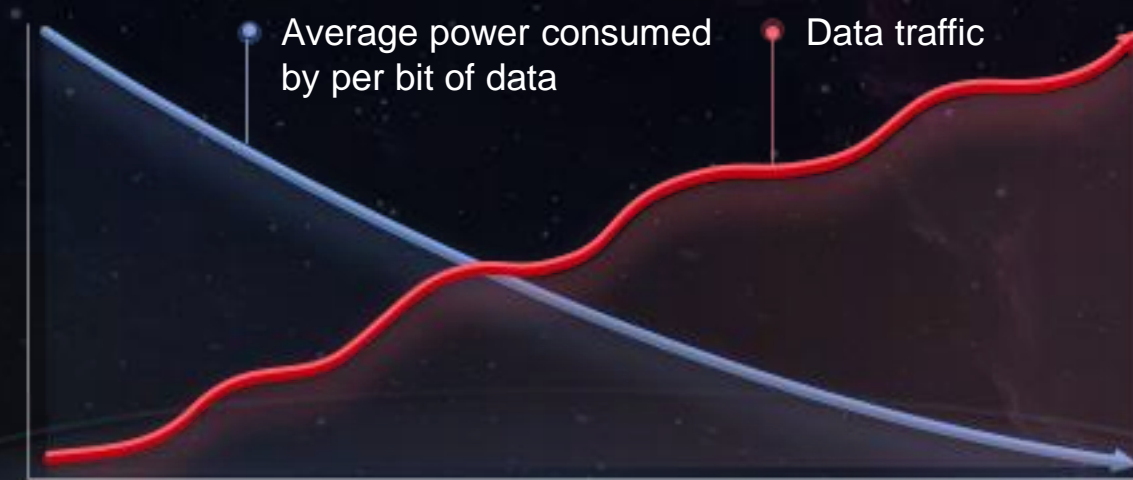


Gaining a head start through a complete suite of ICT capabilities



More bits, less watts

More connections and computing power supported by each watt

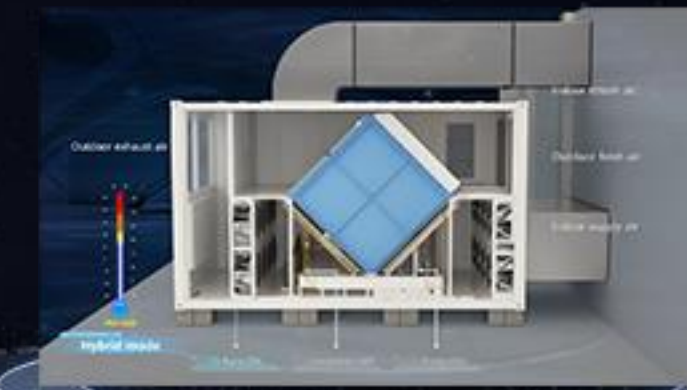


2.7x

More energy efficient for Huawei mainstay products



Software & algorithms breakthroughs
AI-assisted power tracking



Theories breakthroughs
Projectable phase transition for evaporation

Unwavering globalization strategy

Standard

Advocate globally unified standards for the communications industry (e.g. 6G)

Talent

Continue embracing global talent and bring together top talent to address global problems

Procurement

Stick to a global sourcing strategy and join hands with outstanding, high-potential suppliers worldwide

■ ■ ■

We are committed to helping customers who choose us to achieve the greatest business success

Join us for a better future for ICT

GUIDE

Gigaverse
Initiative

Ultra-automation
Speed up

Intelligent Computing
& Network aaS

Differentiated
Experience On-demand

ESG More Bits,
Less Watts