

Global Unified Standard & Closer Cooperation

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24th Nov 2021



Agenda



1 Industry Trend

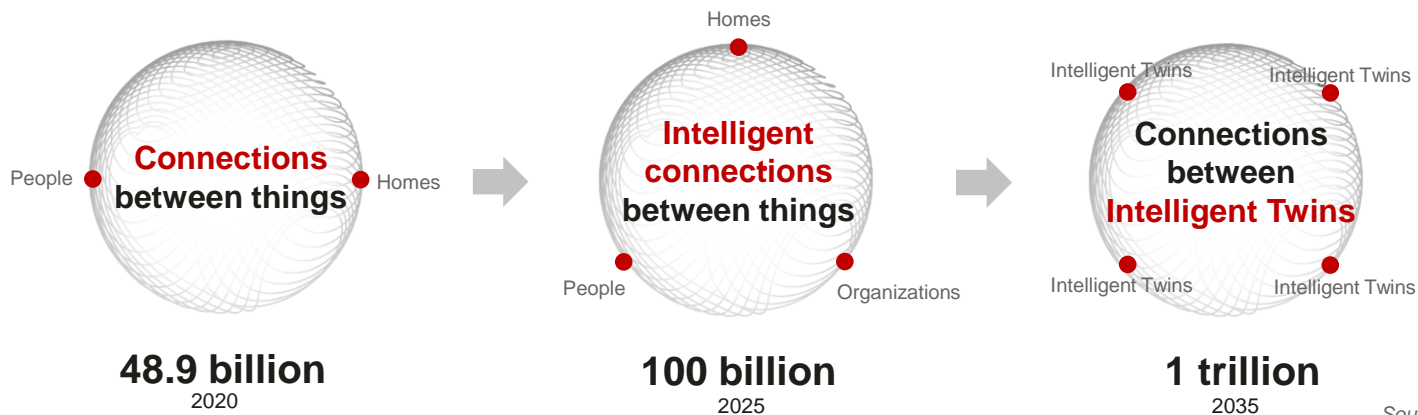


2 Global Unified Standard



3 Closer Cooperation

Ubiquitous Connectivity



Source: Huawei GIV, ARM



“Connectivity has never been so important” – Mats Granryd, Director General of GSMA

Operators	Governments
<p><u>Connectivity is cornerstone:</u> 5G/5.5G network + industry-dedicated network</p> <p>80%+ operators provide dedicated network services to enterprises by end of 2020</p> <p>70% operators provided 5G services in 2020</p>	<p>EU launches VHCN / recovery plan Wireless VHCN & FTTH Download speed >=150Mbps</p> <p>China spearheads ahead in 5G new infrastructure</p> <p>5G investment grew 50% from 2.7 to 4 trillion KRW in H1'20</p>
<p><u>Go-beyond-connectivity is direction:</u> cloud + security + IoT + AI</p> <p>87% operators provided cloud services to enterprises</p> <p>94% operators will provide IoT solutions by 2022</p>	

Source: GSMA Intelligence

An intelligent & sustainable world is on the horizon: 12 megatrends for 2030

Trend 1
Living with Bots

The adoption rate of intelligent domestic robots will reach 14%.

Trend 2
Super Sight

The percentage of companies using AR/VR will increase to 10%.

Trend 3
Zero Search

The adoption rate of intelligent personal digital assistants will reach 90%.

Trend 4
Tailored Streets

C-V2X (Cellular Vehicle-to-Everything) technology will be installed in 15% of the world's vehicles.

Trend 11
Renewable Energy

Will take 50% of the energy used in the world in 2030.

Trend 5
Working with Bots

Industrial robots will work side by side with people in manufacturing, with 103 robots for every 10,000 employees.

Trend 6
Augmented Creativity

97% of large enterprises will be using AI in their services and operations.

Trend 7
Frictionless Communication
Enterprises will be making efficient use of 86% of the data that they produce.



Trend 12
Electrification

Electric Vehicle will take 50% of the vehicle market share in 2030.

Trend 8
Symbiotic Economy

85% of business applications will be cloud-based.

Trend 9
5G's Rapid Rollout

5G networks will cover 58% of the world's population.

Trend 10
Global Digital Governance

The amount of global data produced annually will reach 180 ZB.

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3GPP unified global standard is the cornerstone of the mobile communication industry - Leading IOT & Green (example)

Principles
Transparent, open, non-discriminatory



The rules of the game
Contribution Driven, Consensus-based, and FRAND



Future

Leading the Connected Future



Unified global standards

History

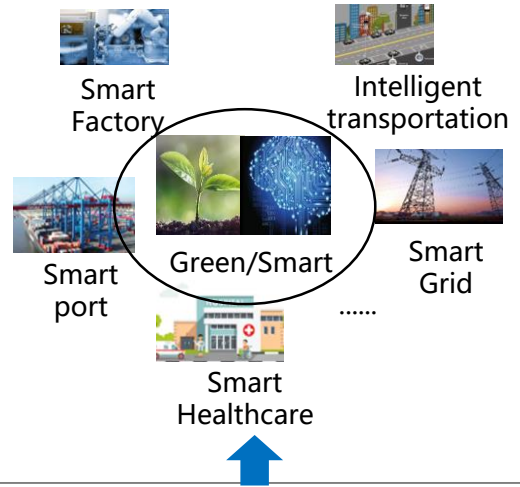
6G in 2030: full coverage, Full spectrum, full application, and strong security?

5.5G by 2025: from people-centered to people+ things - centered

5G: NR (global unified standard)

4G: LTE FDD/TDD, WiMAX

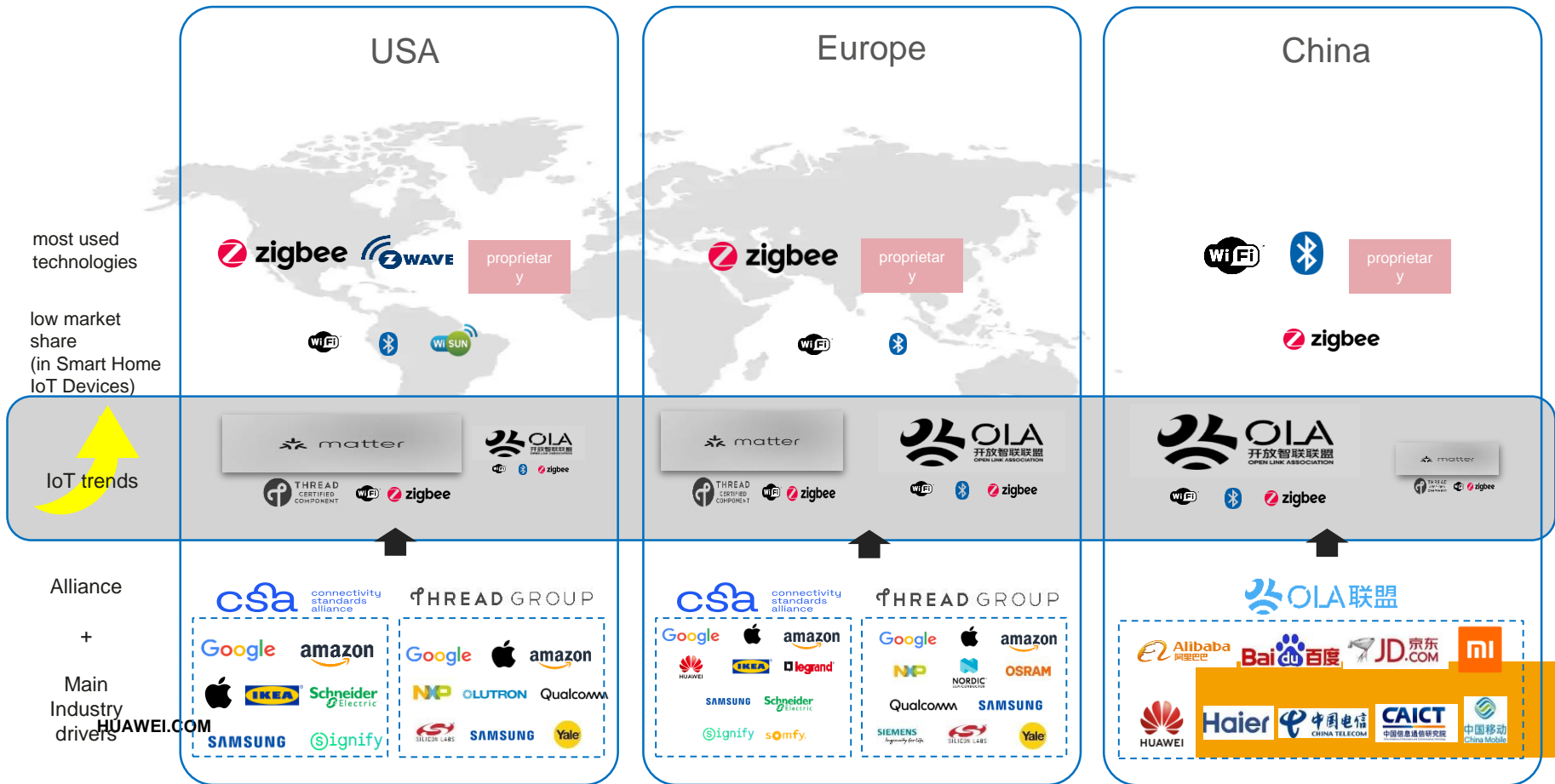
3G: WCDMA, TDSCDMA, CDMA2000, WiMAX, DECT



- 3GPP conference participants annual increase 15%.
- Member companies is around 700, vertical and academic members increasing
- **Global cooperation platform:** Europe is the leader. 60% members are from ETSI. 15% members are from CCSA. About 10% members are from ATIS, with great influence.



Global Unified Ecosystem - Smart Home IoT



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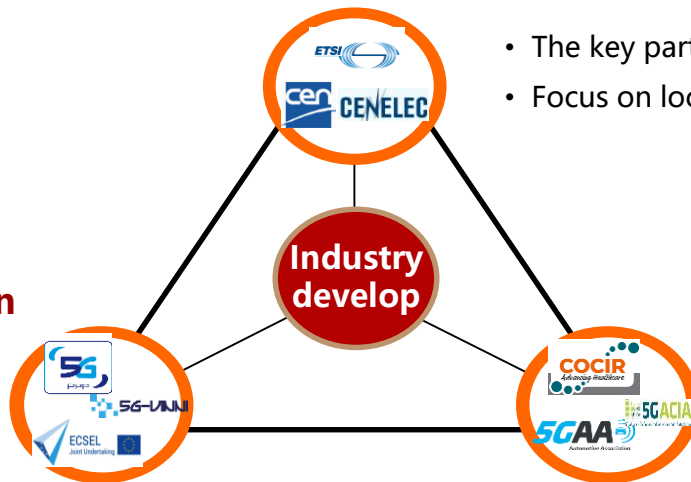
3 Closer Cooperation

Three Elements of European Industry Cooperation

Standards + Research + Industry

Standards Involvements

- The key part of global standard contributions
- Focus on local requirements



Research Projects Participation

- Strong local research & trial support
- Long term cooperation

Ecosystem building

- Industry alliance, open source, etc.
- From "benefit Huawei" to "benefit industry chain"

6G Technical trend

□ ITU report of 6G Technical Trend will be ready in June 2022

- Main contents: emerging services and applications, technology trends and enablers, enhance radio interface, enhance radio network, and enablers for terminal technologies

Technology trends and enablers

- AI in communications
- Integrated sensing and communication
- Convergence of communication and computing architecture
- Ubiquitous computing and data services
- Efficient spectrum utilization
- Enhance energy efficiency and low power consumption
- Enhanced services and applications
- Enhance trustworthiness

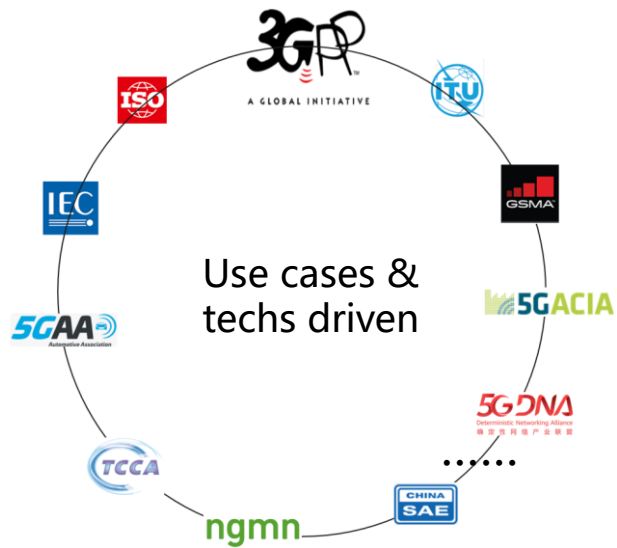
Enhance radio interface

- Modulation, coding and multiple access
- Antenna technologies & extreme MIMO
- In-band full-duplex
- Multiple physical dimension transmission (e.g. RIS, OAM)
- THz communications
- Visible light communications
- Ultra-high accuracy positioning
- Interference cancellation techniques
- NTN

Enhance radio network

- Slicing for Massive-Broadband URLLC RAN
- Enhanced resiliency and QoS guarantees
- Stand-alone support of voice services
- Radio architecture to support new operation and business models
- Support Digital Twin Network
- Interconnection with non-terrestrial networks
- Support for ultra-dense radio deployments
- Enhance RAN infrastructure sharing

Closer Cooperation



Thank you.

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每个组织，构建万物互联的智能世界。

Bring digital to every person, home, and
organization for a fully connected,
intelligent world.

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