



Towards a 6G European Initiative

India Mobile Congress 2020

5G and beyond: Developing EU-IN cooperation for the next generation of standards

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Bernard Barani@ec.Europa.eu
Deputy Head of Unit
European Commission- DG CONNECT

Beyond 5G, 6G: International Momentum

China initiates 6G research, technology to be made available for commercial use by 2030

CKN ⓘ November 12, 2018 ⓘ 2,547



China operational 6G Working group launched early November 2019

LG sets up 6G research centre at KAIST

LG Electronics and Korea Advanced Institute of Science and Technology (KAIST) have opened a 6G research centre to cooperate in the development of the next-generation wireless network.

University of Oulu to begin groundbreaking 6G research as part of Academy of Finland's flagship programme

Korea: MSIT announcement in September,

Taiwan moving to develop B5G, 6G tech

Bryan Chuan, Taipei; Willis Ke, DIGITIMES ⓘ Monday 29 April 2019 ⓘ 0 ⓘ ...

Despite 5G applications still at a budding stage, Taiwan's Ministry of Science and Technology (MOST) is actively seeking B5G (beyond 5G) and 6G academic research projects aiming to meet tech demand by 2030, according to ministry sources.

Japan: MIC, Roadmap B5G June 2020;
Industry White Paper: *5G Evolution and 6G*

USA: Secure 5G and Beyond Act, March 2020

Societal issues, becoming top priorities

EMF raising concerns, What impact of untested spectrum usages?

→ Can we reduce electromagnetic exposure?

Energy, sustainability in hyper-connected society

→ Low energy networks

→ networks for low energy industrial use cases

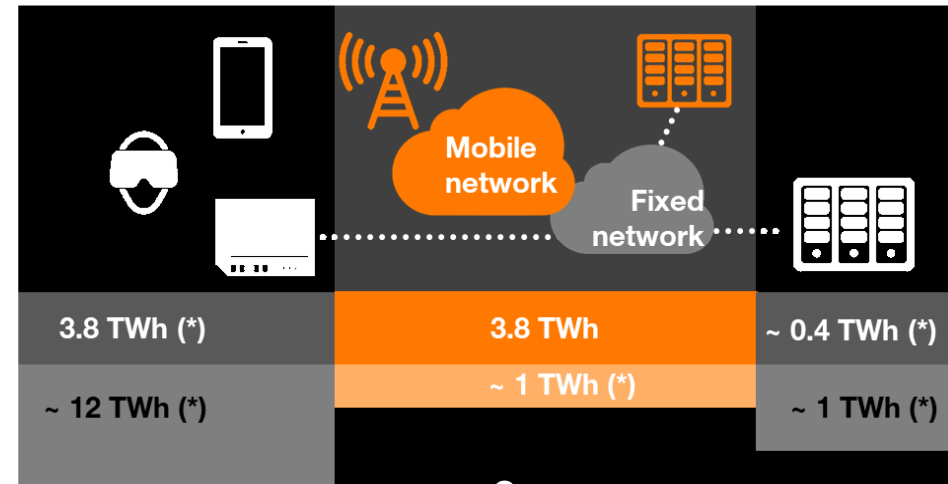
Coverage, 3,5 Billion people without wireless Internet

→ Cheaper technology → software, diversified supply chain

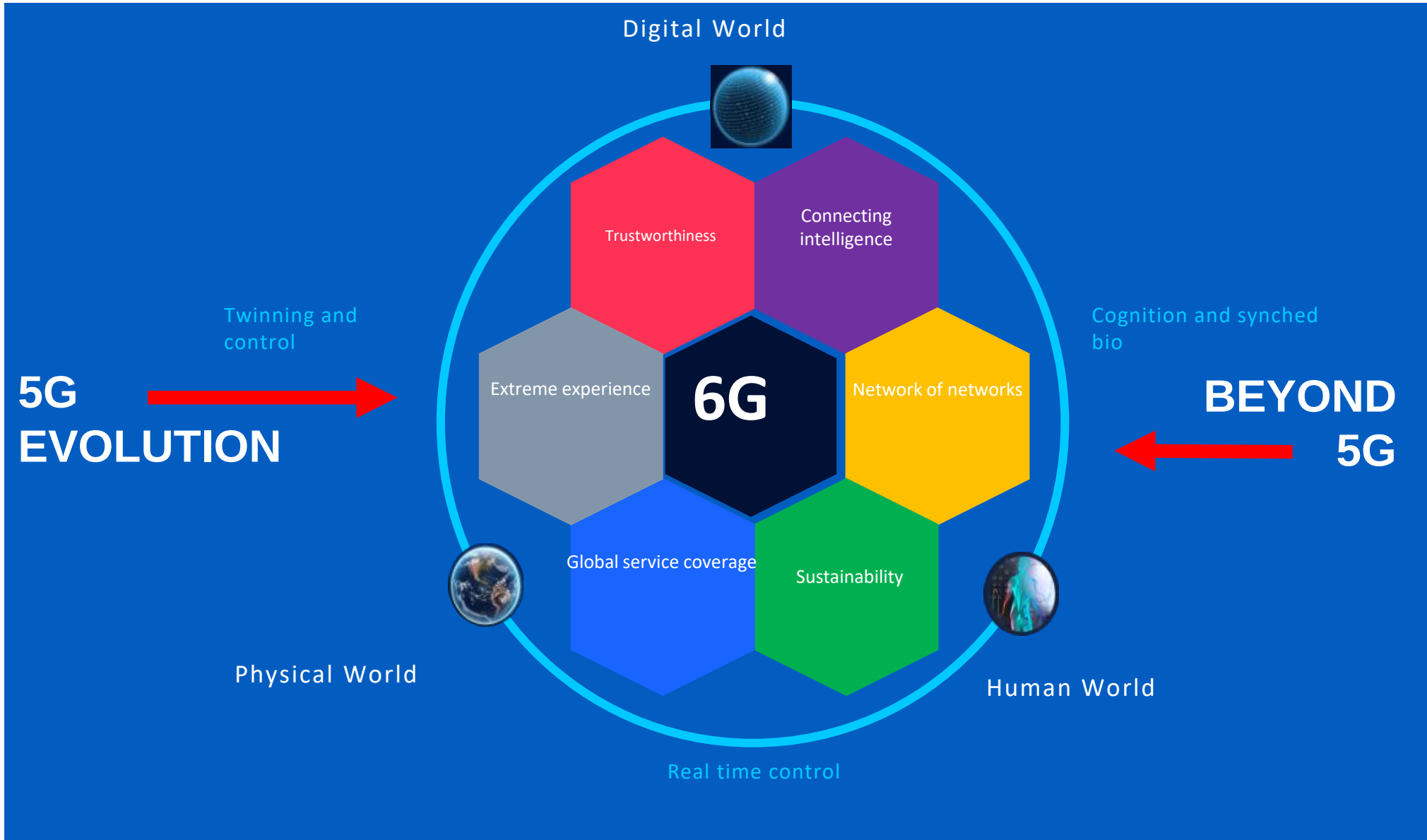
Human centricity and trust, data control and governance

Security and Autonomy

→ End to end with embedded critical infrastructures



Developing Vision

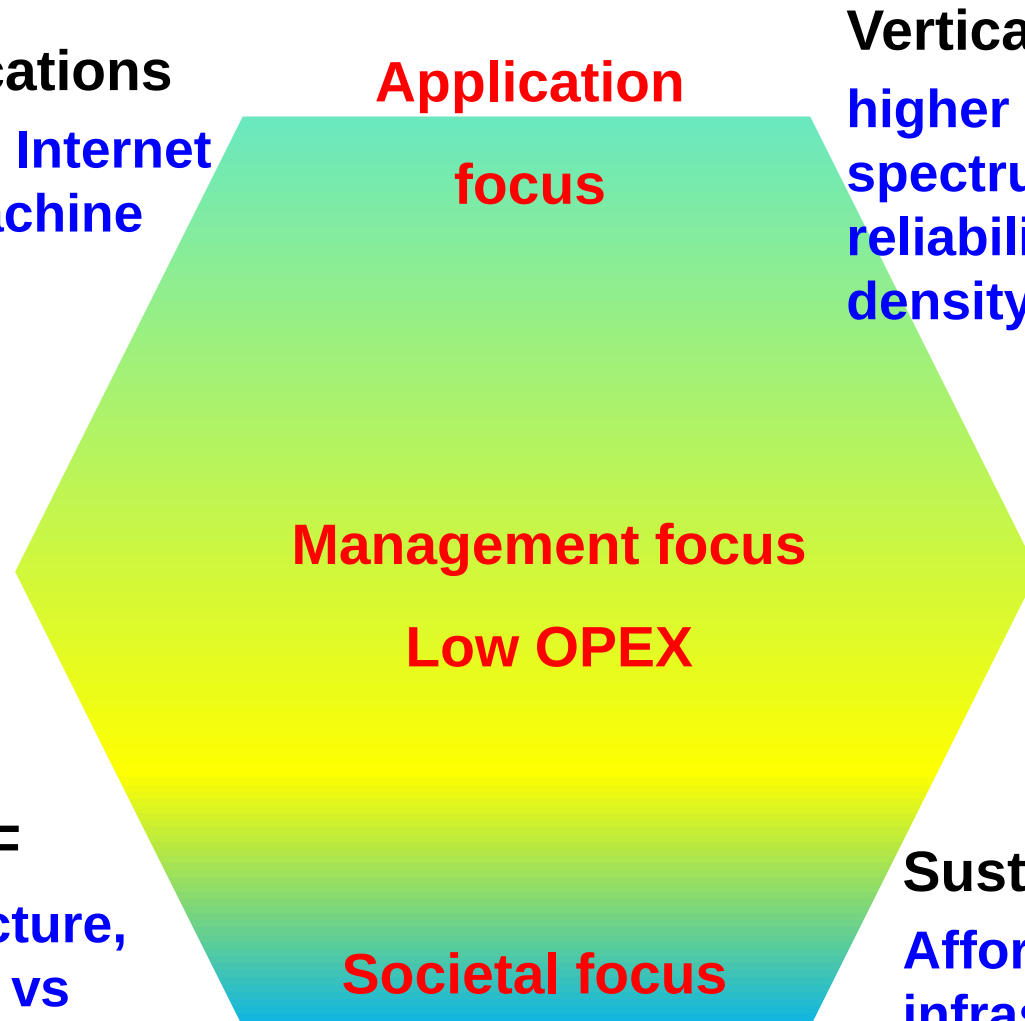


6 Dimensions of 6G

New classes of applications
XR, Holographic coms, Internet of Senses; massive machine coms

Fully Automated Infrastructure
Autonomous management, Distributer IA, Self learning..

Ultra low energy/EMF
Optical techs, architecture, optimizing computing vs networking, EMF aware..



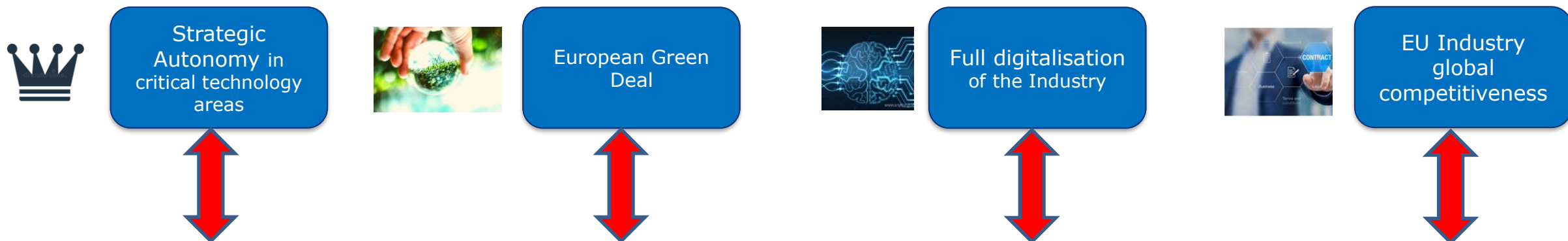
Vertical use cases beyond 5G
higher capacity, xGbs speed, new spectrum, sub ms latency, location, reliability beyond 5x9, ultra high device density

Ultra high security
Quantum, blockchain, from component to application

Sustainable Development goals
Affordability of tech, Open RAN, infrastructure access, climate change..

Towards a 6G European Initiative

5G PPP: ICT-52 implementation of 8 6G exploratory projects, 1 flagship= 60 M€



Industry 6G Partnership Proposal (Smart Networks & Services)

https://ec.europa.eu/info/files/european-partnership-smart-networks-and-services_en



Accelerating 5G Deployment: CEF2, pan European corridors for Connected Cars

6G Vision and technologies across a comprehensive supply chain

Thank You !

Spare Slides

Scene Setter

- 1. A European Green Deal*
- 2. An economy that works for people*
- 3. A Europe fit for the digital age*
- 4. Protecting our European way of life*
- 5. A stronger Europe in the world*
- 6. A new push for European democracy*

- NEW Political agenda

- Digital at the forefront, open strategic autonomy
- Green Deal, sustainability and energy
- Cybersecurity frontstage

- Network technologies, 5G/6G as critical infrastructures

- 6G partnership political support, and announcement

(cybersec toolbox communication, 29 January 2020)

Smart Networks & Services: value chain approach

Requirements Industrial
& Consumer
Applications

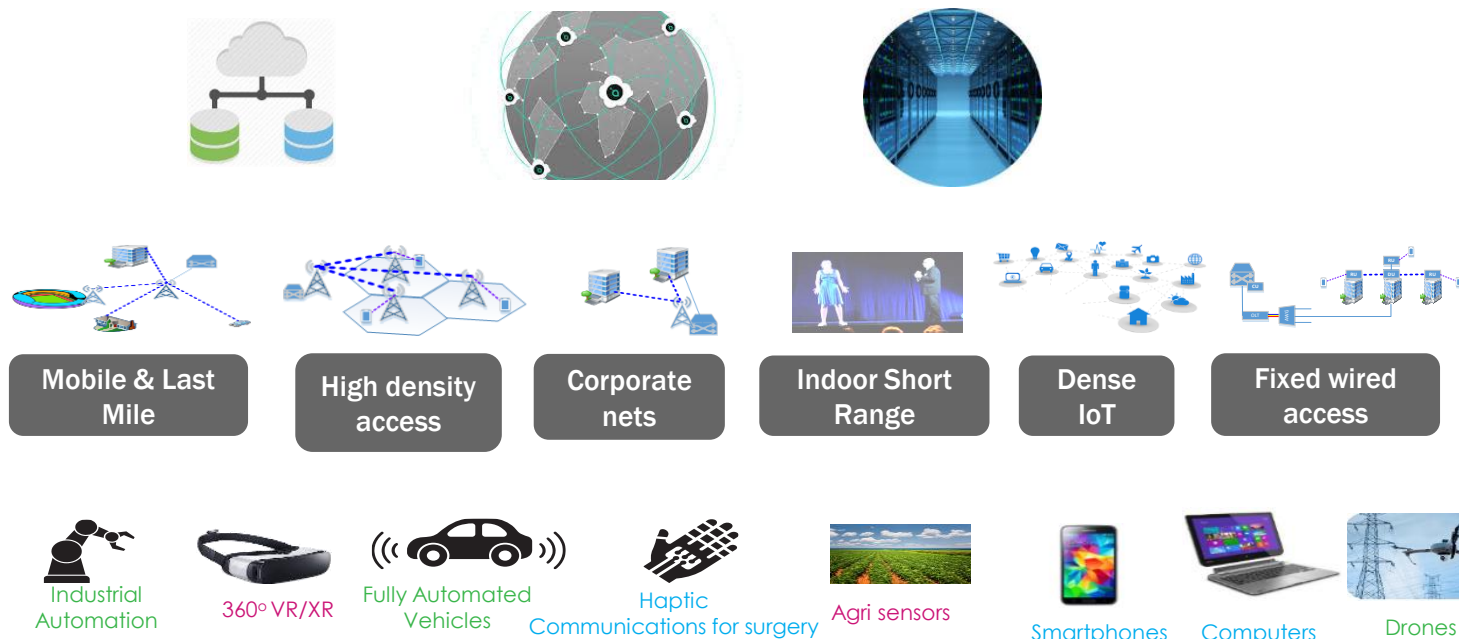


Service provisioning
Computing and Storage Data
Analytics

Networks
Versatile Infrastructure &
Multiple Topologies

Devices/transformation:
myriad of Connected Devices

**New opportunities Enabling
Technology Components**



End-to-end Resource
Management and Energy
Efficiency

End-to-end Security and
Trust

More on EC initiative



The screenshot shows the ETSI website with the 'EVENTS' menu item highlighted. The main banner features a background image of a person working on a circuit board. The event title is 'Boosting the Impact of Research & Innovation through Standardization'. Below the title is a navigation bar with links: 'Upcoming Events', 'Seminar', 'Plugtests', 'Webinars', 'Past Events', 'Events Contacts', and 'Find Us'. At the bottom left, a red circle highlights three icons and their corresponding text: a globe icon for 'Virtual Event', a Euro symbol for 'Free of charge', and a calendar icon for '24-25 November 2020'. A 'Contact us' button is located on the right side of the page.

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<https://www.etsi.org/events/1803-2020-11-boosting-the-impact-of-research-innovation-through-standardization>