



Smart Networks and Services Partnership



NetWorld General Assembly, 16 November 2020

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

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)

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

USA: Secure 5G and Beyond Act, March 2020

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

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*

Societal issues, becoming top priorities

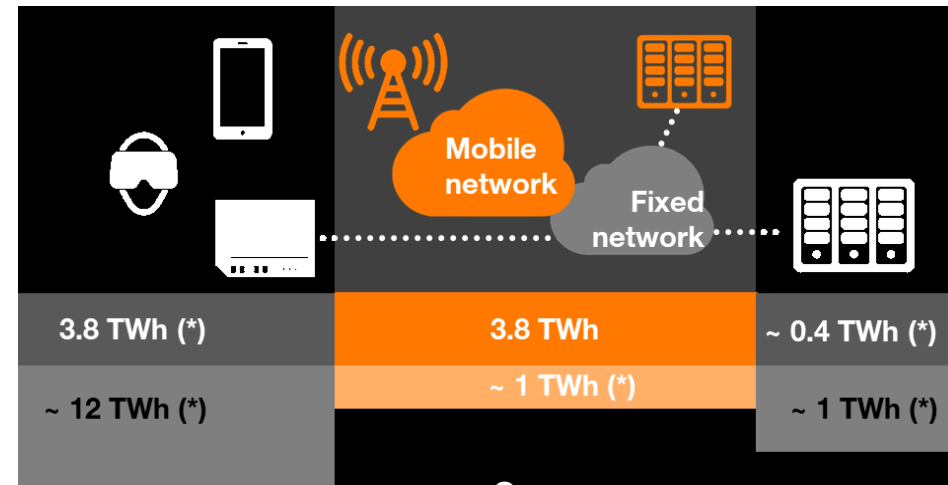
EMF raising concerns, What impact of untested spectrum usages?

→ 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

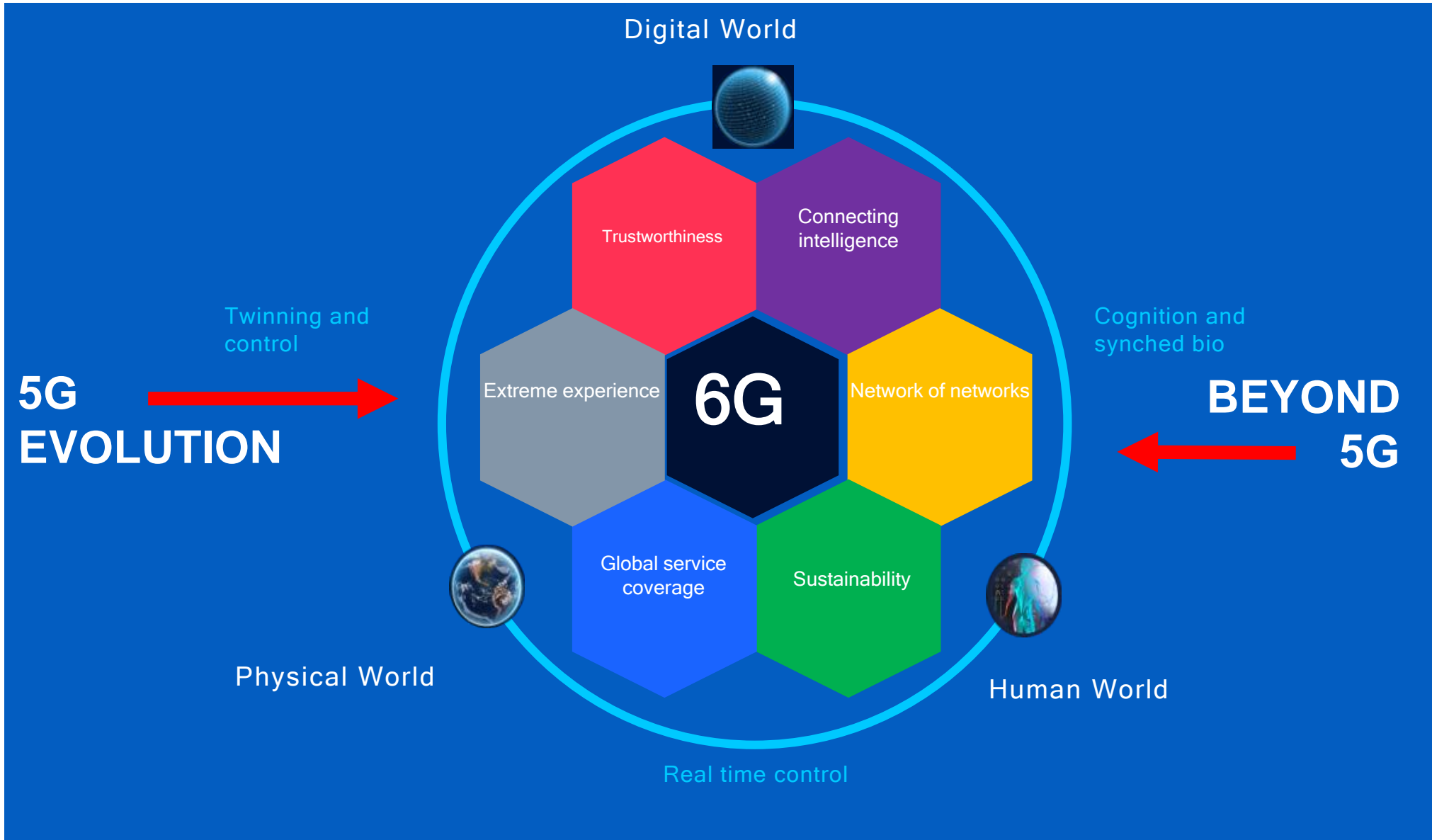
→ Cheaper technology → software, diversified supply chain

Human centricity and trust, data control and governance

Security and Autonomy

→ End to end with embedded critical infrastructures

Developing Vision

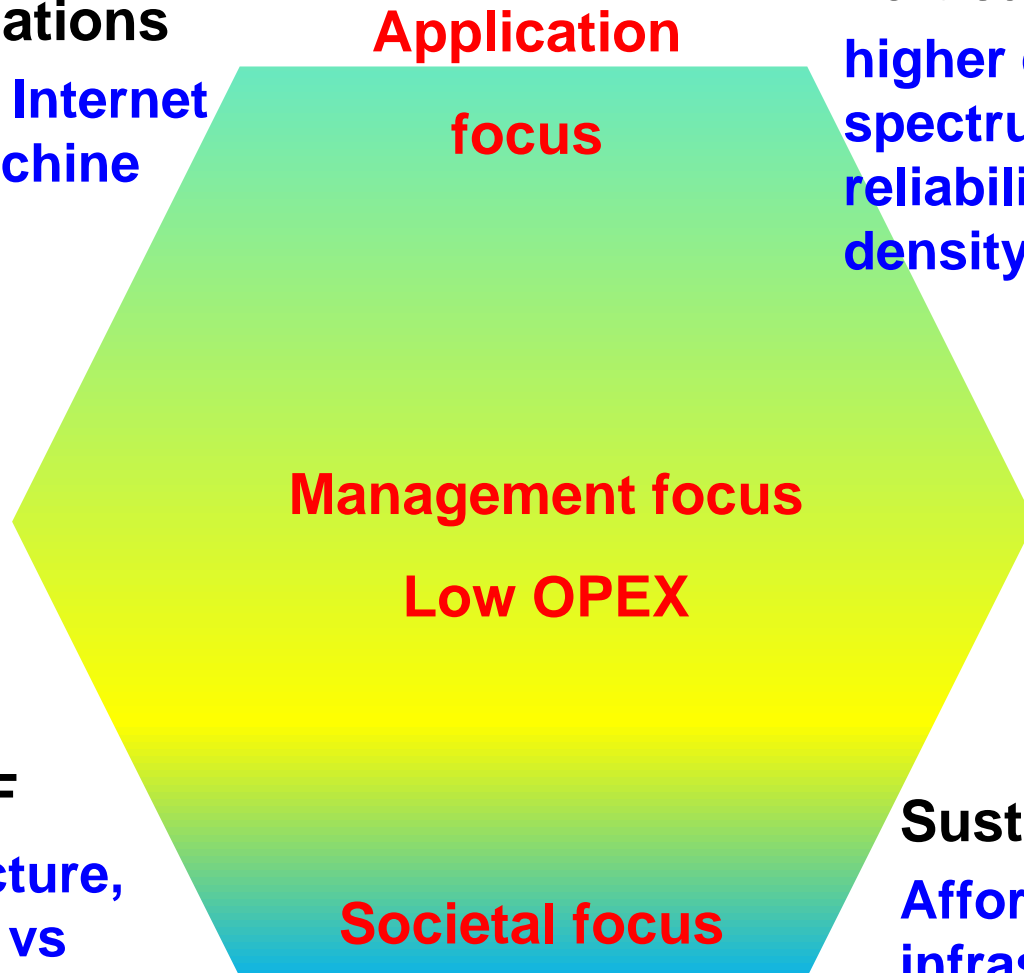


6 Dimensions of 6G

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..

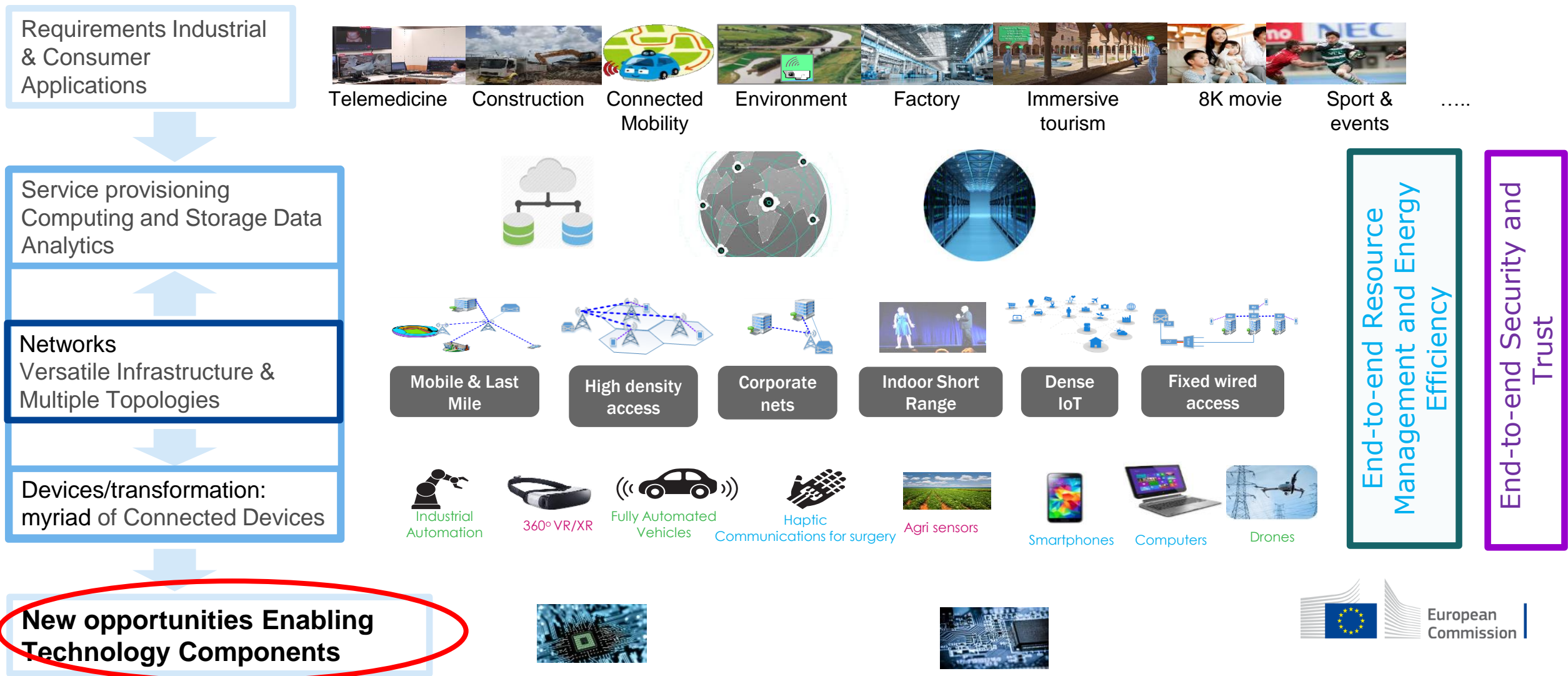


Vertical use cases beyond 5G
higher capacity, xGbs speed, new spectrum, sub ms latency, location, reliability beyond 5x9, ultra high device density

Ultra high security
Quantum, blockchain, from component to application

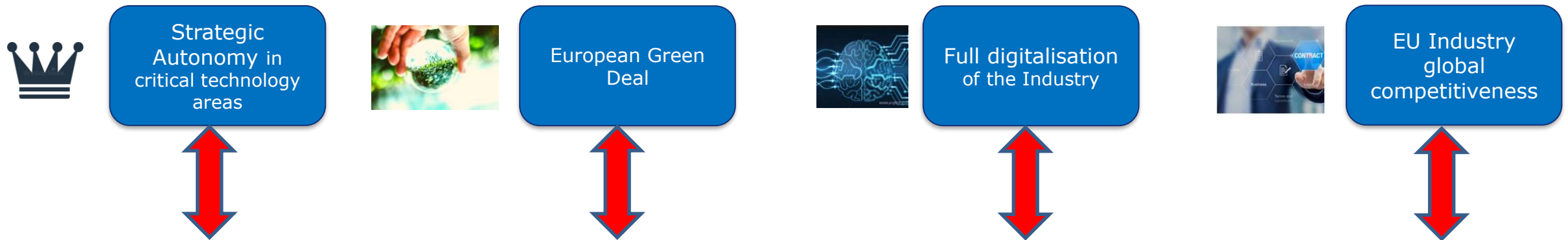
Sustainable Development goals
Affordability of tech, Open RAN, infrastructure access, climate change..

Smart Networks & Services: value chain approach



Towards a European Partnership

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



Industry 6G Partnership Proposal (Smart Networks & Services)

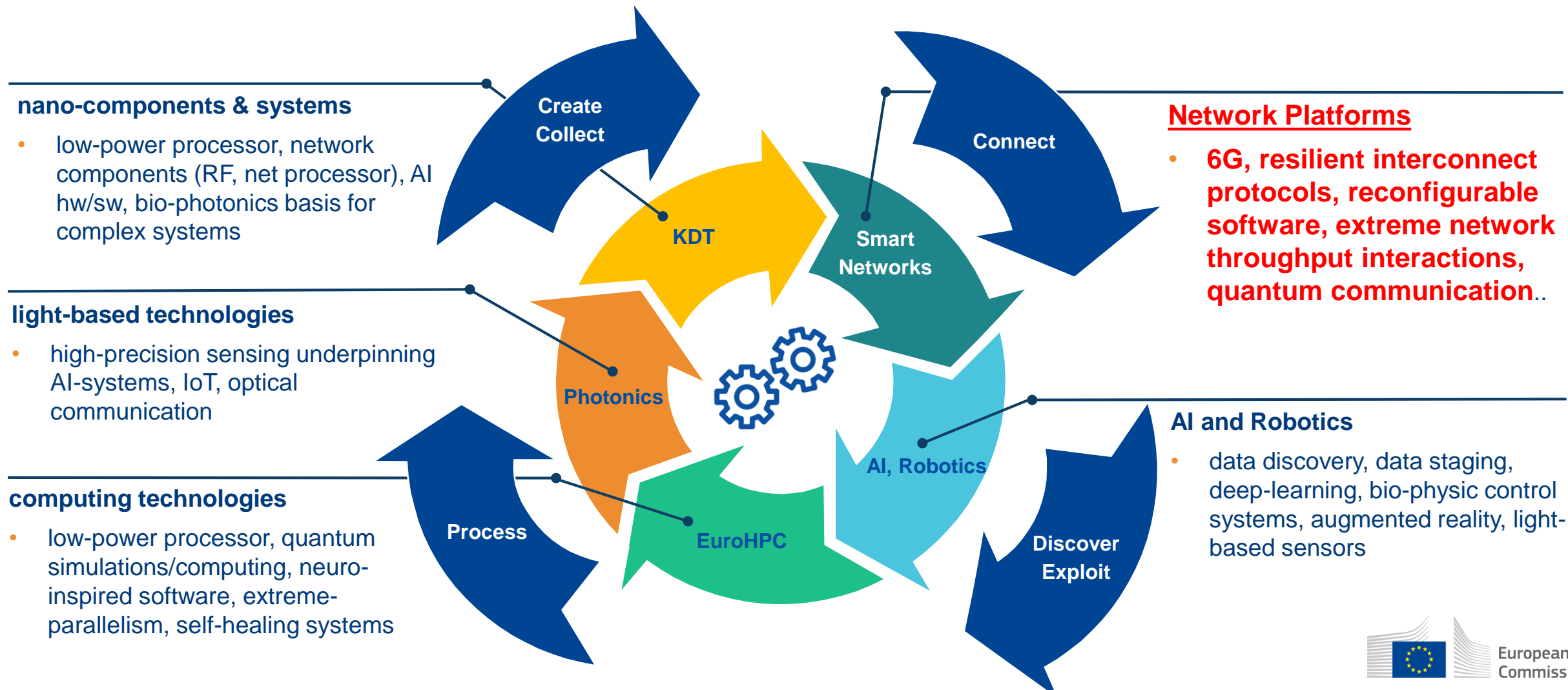
https://ec.europa.eu/info/files/european-partnership-smart-networks-and-services_en



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

6G Vision and technologies across a comprehensive supply chain

Serving the Policy agenda with Digital Partnerships



nano-components & systems

- low-power processor, network components (RF, net processor), AI hw/sw, bio-photonics basis for complex systems

light-based technologies

- high-precision sensing underpinning AI-systems, IoT, optical communication

computing technologies

- low-power processor, quantum simulations/computing, neuro-inspired software, extreme-parallelism, self-healing systems

Network Platforms

- **6G, resilient interconnect protocols, reconfigurable software, extreme network throughput interactions, quantum communication..**

AI and Robotics

- data discovery, data staging, deep-learning, bio-physic control systems, augmented reality, light-based sensors

To come:

Budget...

Single Basic Act, finalisation

Negotiation in Council

Agreement of Private side (final)

Establishment of the office

Work Programme

And later:

Ramp up of the JU stakeholders base !!

More on EC initiative



STANDARDS TECHNOLOGIES MEMBERSHIP COMMITTEES EVENTS ABOUT US IPR MORE ▾

← Back

Boosting the Impact of Research & Innovation through Standardization

Upcoming Events Seminar Plugtests Webinars Past Events Events Contacts Find Us

Virtual Event

€ Free of charge

24-25 November 2020 ▾

Contact us

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



Thank You !