



Towards a European 6G initiative
«Smart Networks and Services »
Status and plans

VFCS event, Lisbon, 25 November 2021

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Beyond 5G/6G: Global Context

	B5G/6G Initiative
	<ul style="list-style-type: none">- “Secure 5G & Beyond Act” March 2020- DoD Testbed programme, \$ 600 million- Next-G initiative, industry federation (ATIS); RINGS (NSF)- Open RAN Drive, \$2Bn
	<ul style="list-style-type: none">- MIC “Roadmap towards 6G”, June 2020, B5G Promotion Consortium- METI support- \$300+200million- Open RAN Drive, \$2Bn
	<ul style="list-style-type: none">- MSIT 6G programme, September 2020, 5G Forum- ≈ \$200 million public support
	<ul style="list-style-type: none">- MIIT 6G programme, creation of IMT 2030 Promotion committee (2019)- Multi € Billion until 2035, including industrialisation
	<ul style="list-style-type: none">- 6G Smart Networks and Services Partnership proposal: € 900 millions / 7 yrs- Drivers: <i>Strategic autonomy, Green Deal, Cybersecurity</i>- Member States Initiatives: Finland, Germany, France, Austria ..

Motivations from 5G to 6G

New classes of applications

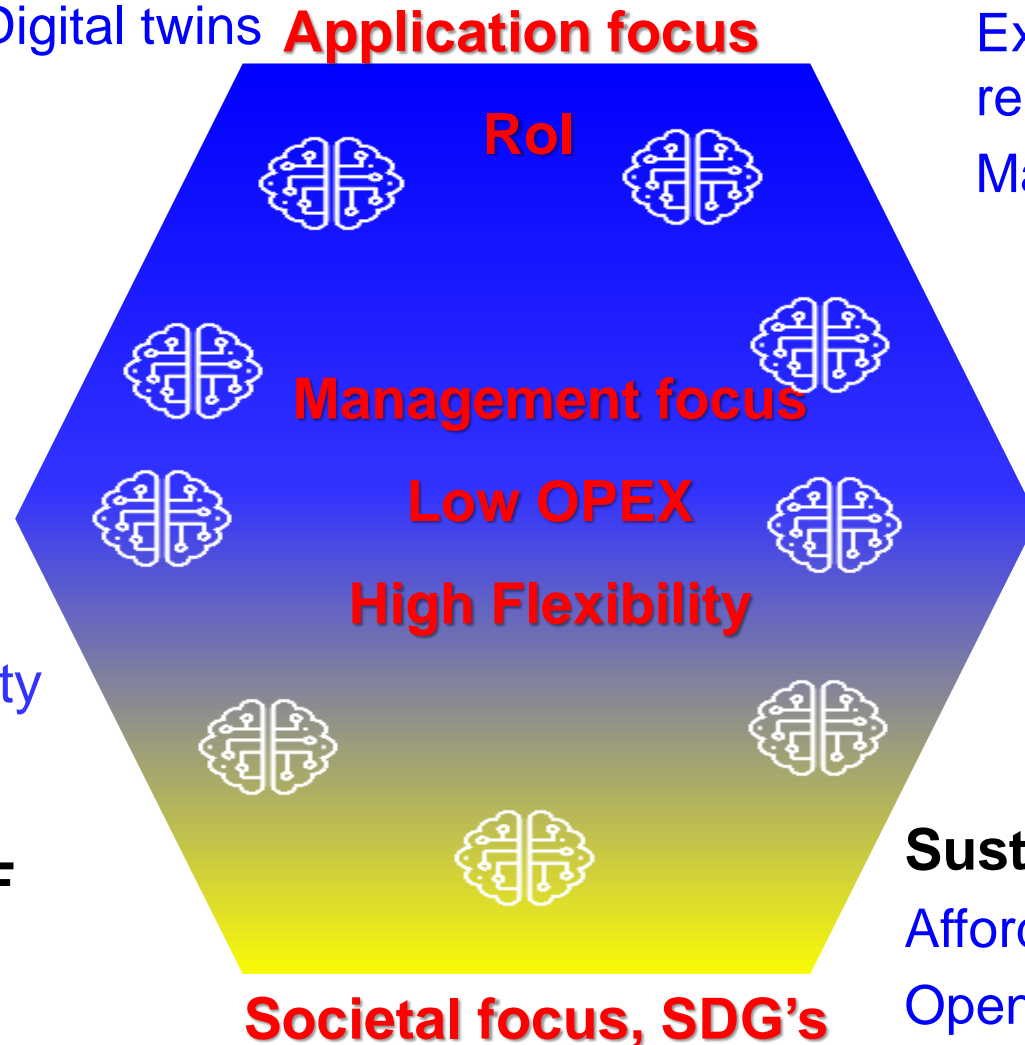
XR, Holographic coms, Digital twins
Internet of Senses
Deterministic E2E

Automated & autonomous Infra/Service Mgt

-Programmability
-Intelligence connectivity

Ultra low energy/EMF

-connectivity
-use cases



Vertical use cases beyond 5G

Extending 5G KPI's in speed, latency, reliability, density, positioning
Massive M2M

Ultra high security/trust/ Privacy

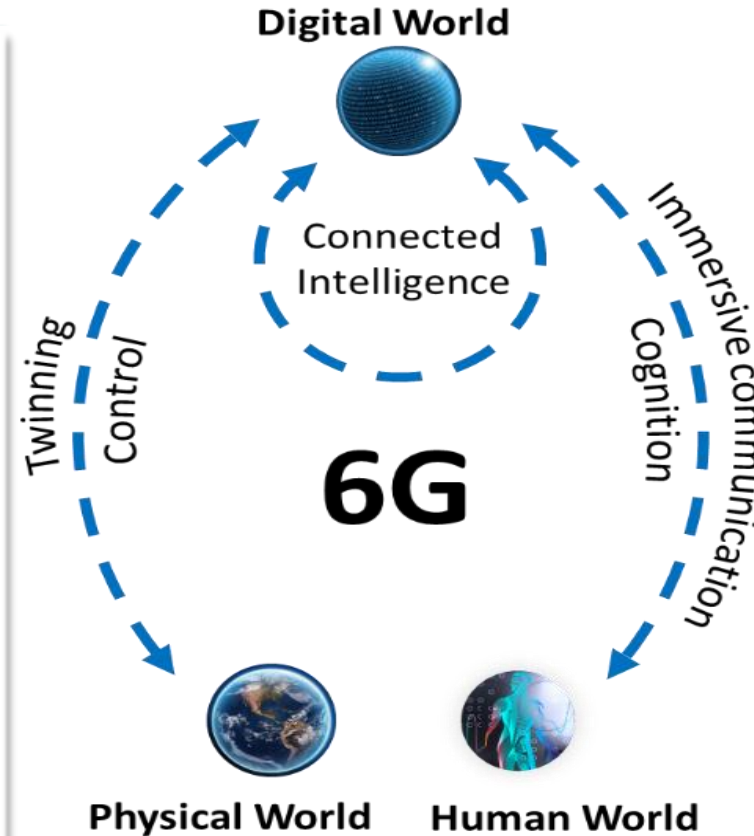
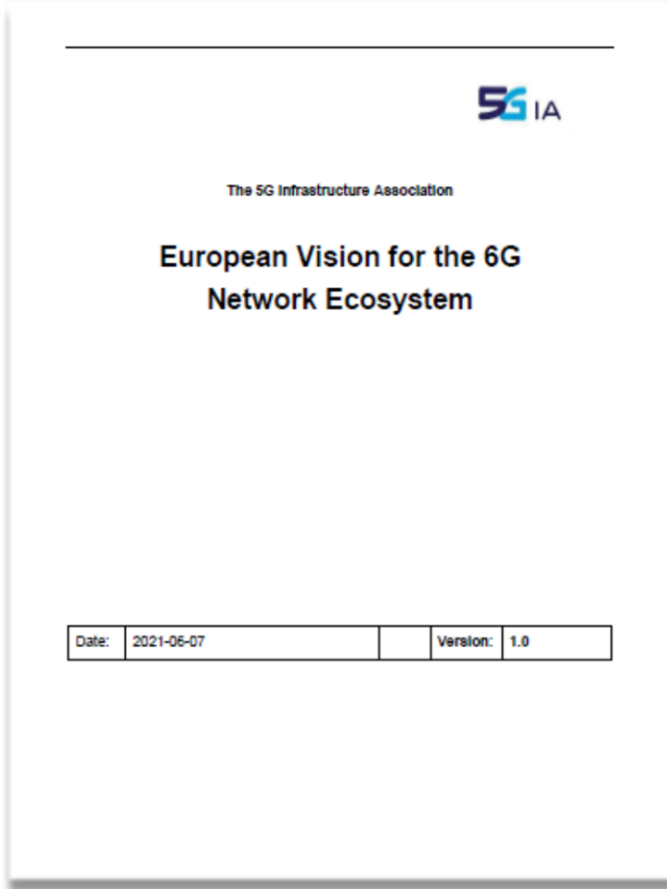
E2E, From component to application

Sustainable Development goals

Affordability, Accessibility
Openness..



Vision



Massive Digitisation:
representation



Connected Intelligence:
Awareness, RT status



Network Compute Fabric
Decision, action

➤ <https://5g-ppp.eu/5g-ppp-phase-3-6-projects/>

➤ <https://hexa-x.eu/deliverables/>

➤ <https://5g-ppp.eu/wp-content/uploads/2021/06/WhitePaper-6G-Europe.pdf>



Towards a 6G European Initiative

5G PPP - Bridging phase

1 flagship + 8 6G exploratory projects = 60 M€



Strategic
Autonomy in
critical technology
areas



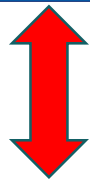
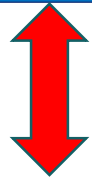
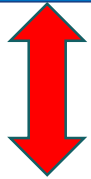
European Green
Deal



Full digitalisation
of the Industry



EU Industry
global
competitiveness



Industry 6G Partnership Proposal - Smart Networks & Services Joint Undertaking

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

6G SNS
IA



2020
NETworld

NESSI



Alliance for
Internet of Things
Innovation

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

6G Vision and technologies across a comprehensive supply chain

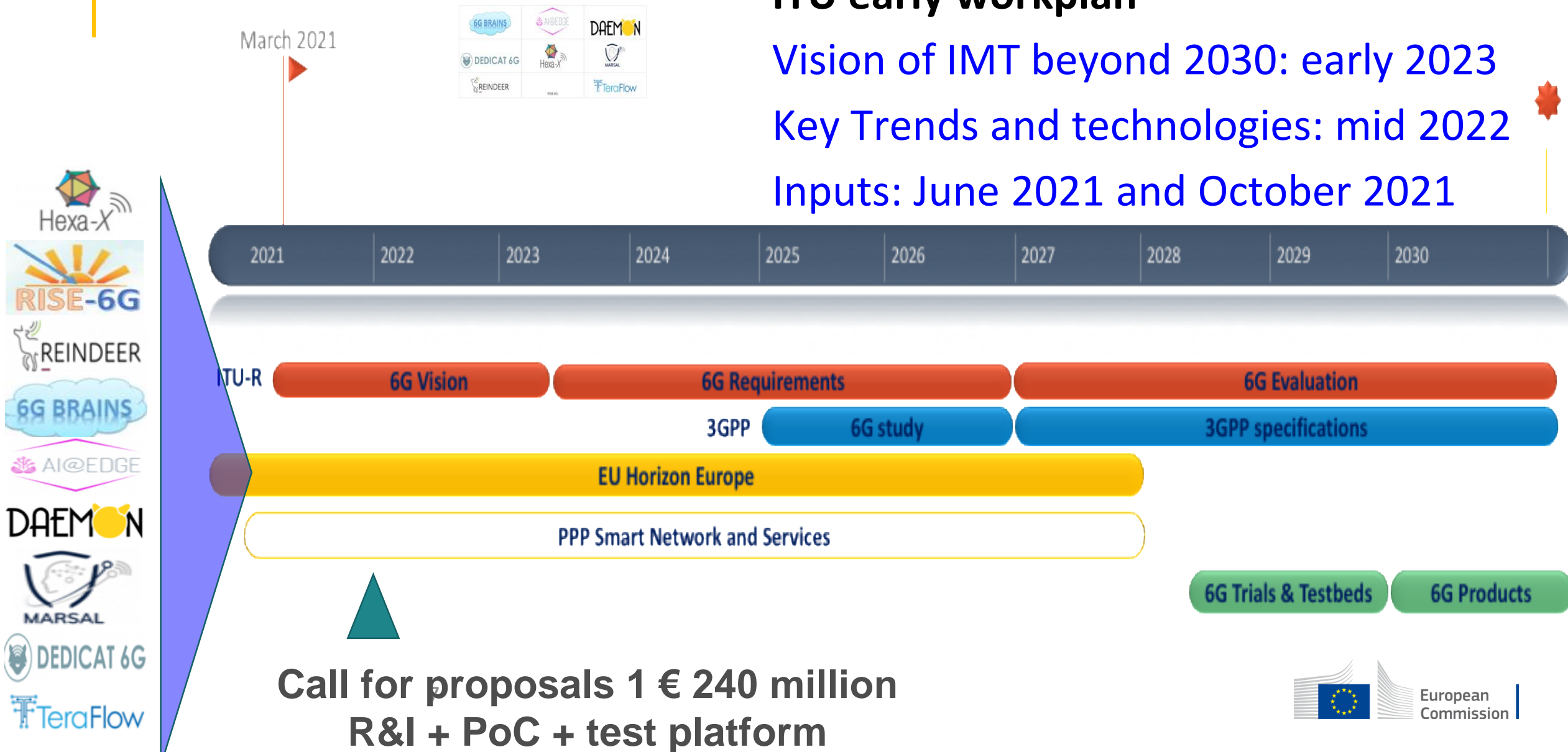
Tentative Timeline

ITU early workplan

Vision of IMT beyond 2030: early 2023

Key Trends and technologies: mid 2022

Inputs: June 2021 and October 2021



Proposed structure of the Work Programme (Draft)



5G Evolution (40%) → evolutionary path



6G (60%) → revolutionary path

Stream A (RIA): Smart communication components, systems and networks for 5G mid-term Evolution systems

- **Radio:**
 1. Address basic building blocks
 2. Develop of RAN systems considering integrated terrestrial and NTN
- **Architecture and Core:**
 3. Evolved architectures
 4. Advanced cloud and edge solutions
 5. Converged packet-optical transport network
- **System and security:**
 6. Secure and reliable softwarization
 7. Real-time zero-touch service technologies

Stream B (RIA): Research for radical technology advancement towards 6G

➤ System Architecture

➤ Wireless Communication Technology and Signal Processing

Cross Strand “Holistic” –Project

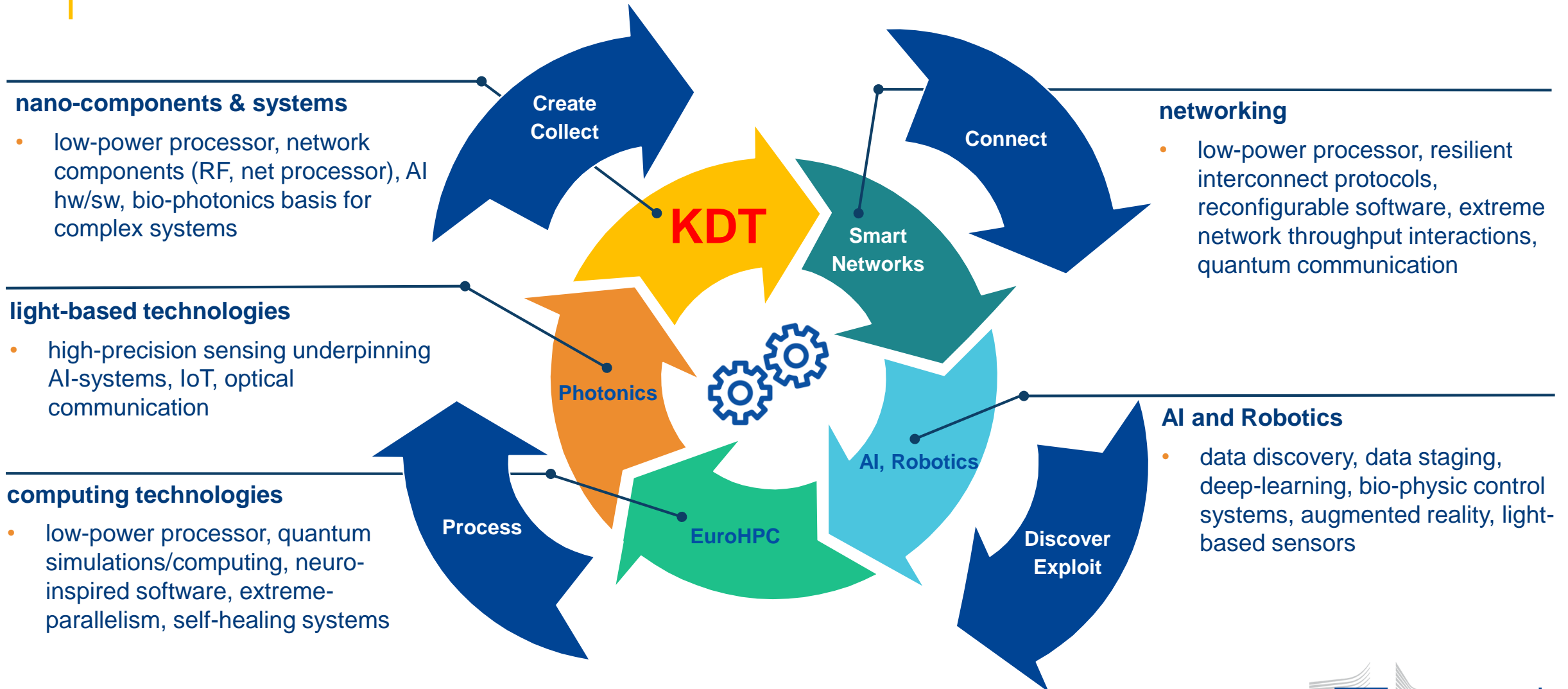
➤ Trustworthy and Secure Service Development and Provision

➤ Communication Infrastructure Technologies

Stream D (IA): Large Scale SNS Trials and Pilots with Verticals

Stream C (RIA): SNS experimental infrastructures

Cooperation Opportunities



Beyond 2022

The SNS Work Plan will be updated in 2022

→ Starting with the Updating the Strategic Research and Innovation agenda

Your work is essential to design the European technological (and societal) agenda which will make Europe a lead region for B5G and 6G

And we are very grateful for that!

Thank You !

More info:

Smart Networks and Services (6G) Roadmap proposal

<https://5g-ia.eu/sns-horizon-europe/>

Horizon Europe Partnerships (23 Feb PR)

https://ec.europa.eu/commission/presscorner/detail/en/IP_21_702

Smart Network and Services (6G) EC announcement

<https://ec.europa.eu/digital-single-market/en/news/europe-puts-forward-proposal-joint-undertaking-smart-networks-and-services-towards-6g>