



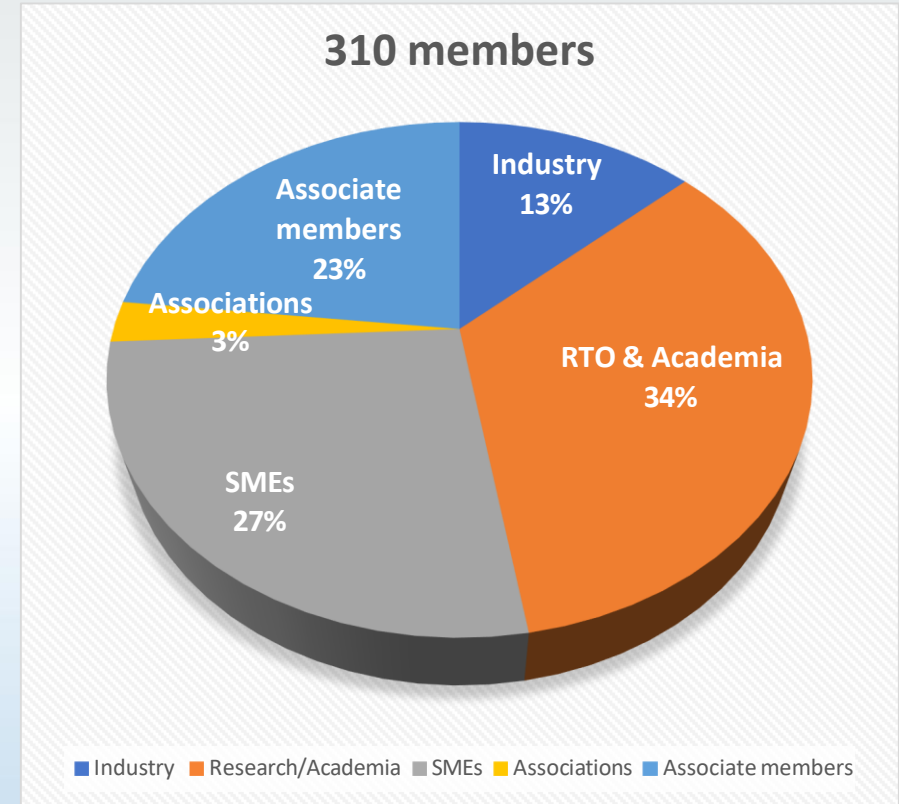
The European path towards 6G networks

The Voice of European Industry and Research for Next Generation Networks and Services

Dr. Colin Willcock,

Chairman of the Board, 6G Smart Networks and Services Industry Association (6G-IA)

The VOICE of EUROPEAN INDUSTRY for the DEVELOPMENT and EVOLUTION of 6G



What societal values will 6G address?

Societal Key Values and Key Value Indicators analysed through 6G use cases

May 2022

Date: 2022-05-31 Version: 1.0

DOI: 10.5281/zenodo.6557534
URL: <https://doi.org/10.5281/zenodo.6557534>

View on 5G Architecture

Version 4.0, October 2021

Date: 2021-10-29 Status: Public Release

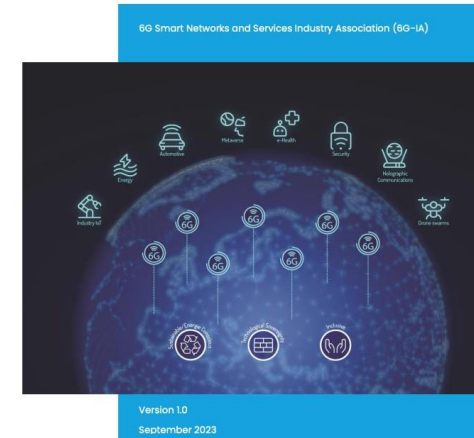
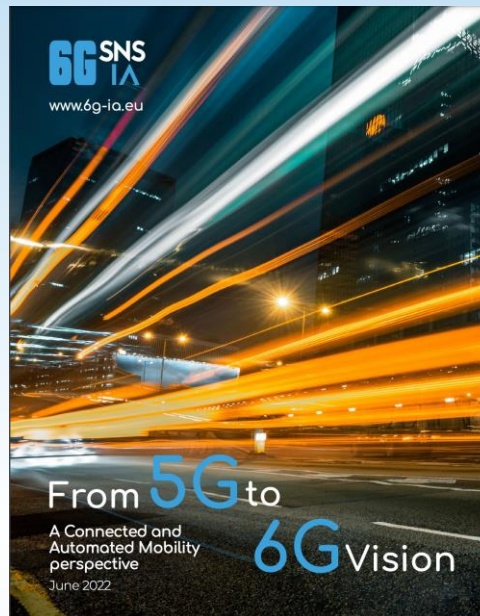
DOI: 10.5281/zenodo.5155657
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WHITE PAPER THE EUROPEAN VISION FOR THE 6G NETWORK ECOSYSTEM

DOI: 10.5281/zenodo.6577906
URL: <https://doi.org/10.5281/zenodo.6577906>

[Download the White Paper](#)



Position paper KEY STRATEGIES FOR 6G SMART NETWORKS AND SERVICES

DOI: 10.5281/zenodo.8315347
URL: <https://6g-ia.eu/plans-papers/>

[Download the White Paper](#)

Whitepaper Beyond 5G/6G KPIs and Target Values

Version 1.0 – June 2022

Date: 02-06-2022 Version: 1.0 June 2022

DOI: 10.5281/zenodo.6577506
URL: <https://doi.org/10.5281/zenodo.6577506>

Network Applications: Opening up 5G and beyond networks 5G-PPP projects analysis

September 2022

Date: 2022 Version: 1.0

DOI: 10.5281/zenodo.7123919
URL: <https://doi.org/10.5281/zenodo.7123919>
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More than 40 white papers. All of them are publicly available at <https://6g-ia.eu/plans-papers/> and at <https://5g-ppp.eu/white-papers>

6G SNS

[Know more here](#)

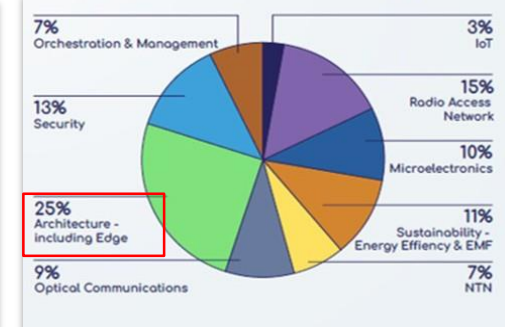
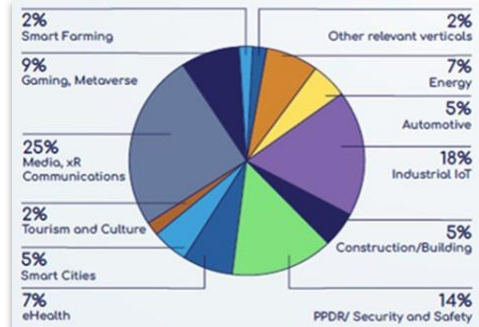
- **The Smart Networks and Services Joint Undertaking** is a major 6G research program
- **1.8 B€ publicly funding for Next generation networks [equal resources from the private side and public side]**

Project portfolio

**1st Call
of projects
(Q1-2023)**

35 projects
288 beneficiaries

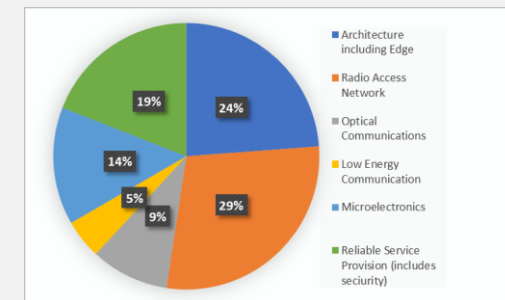
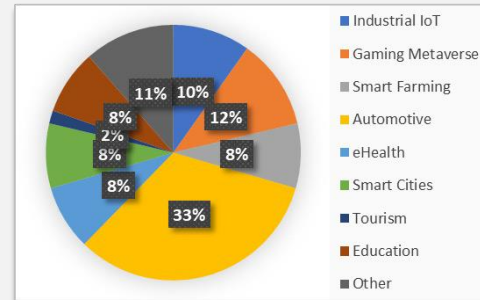
250 Million €



**2nd Call
of projects
(Q1-2024)**

27 projects
218 beneficiaries

130 Million €



**3rd Call
of projects
(Q1-2025)**

16 projects
TBC

129 Million €
TBC



Key Technologies under investigation (1/2)



SYSTEM ARCHITECTURE & CONTROL
 (Communication/computation co-design, AI governance, programmability, deterministic networking etc.)



NETWORK & SERVICE SECURITY
 (Larger attack surface, micro-segmentation, Security as a Service, etc.)



EDGE & UBIQUITOUS COMPUTING
 (Responsiveness, reduced data flows, distributed microservices)



NON-TERRESTRIAL NETWORKS
 (Single access network, edge flying nodes (computing & storage), resource sharing)



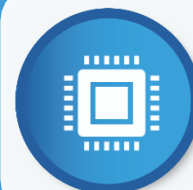
RADIO & SIGNAL PROCESSING
 (THz, VLC, spectrum refarming, 6G RAN modulation, beamforming,, cell free JCAS, RIS, disaggregated RAN etc.)



SPECIAL PURPOSE (SUB)-NETWORKS
 (Vertical sub-networks such as in-body, in-robot, in-car networks, etc.)



OPTICAL NETWORKS
 (Intrinsically secure, green and flexible transport networks)



DEVICES & COMPONENTS
 (Efficient Tx/Rx modules, optical & hybrid transceivers, advanced micro-electronics, Neural processing units, etc.)



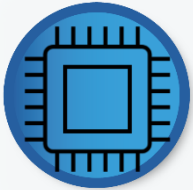
AI and ML

(e2e reference framework, data infrastructure and functionalities, placement of AI, reliable AI, conflict resolution, production of open data sets)



Sustainability

(Lighthouse project on 6G for sustainability and sustainable 6G networks.)



6G platforms

(6G RAN, core and transport, security, open-source solutions, microelectronics for 6G, etc)



Large scale trials

(10+ vertical areas.)

Cross technology flagship



Understand future societal and business needs

- Exploratory projects
- Preliminary Research

Unlock a healthy ecosystem

- Evolutionary 5G
- Key verticals
- 6G Exploration
- 6G Requirements
- 6G Concepts definition

Develop early Systems

- 6G Detail Design System
- Optimization
- Standardisation
- Pre-6G Platforms

Deliver on a multi-dimensional Promise

- Full 6G system
- Pre-commercial services
- Early 6G Trials

Sustainability
Microelectronics
International cooperation

6G Specifications

WRC23

WRC27

IMT-2030 tech

IMT-2030 Vision

IMT-2030 Req.

Initial 6G

IMT-2030 Rec.

R17

R18

R19

R20

R21

R22

R23

Place Europe as the centre of gravity for **International Collaboration**



Governance Structure

Smart Networks and Services
Joint Undertaking

JU
Members



States
Representatives
Group



Stakeholders
Group



International
Partnerships



- **Representation of Private & Public Sector (50/50)**
- Governing Board: Strategic orientation and roadmap
- Long term commitment (planning and implementation)
- **Synergies with national investments and 6G R&I plans** , through a coordinated approach.
- Consultation and Strategic Guidance.
- Strategic coordination of EU piloting and deployment initiatives
- **Synergies with other partnerships and associations**
- Advisory body
- **Cooperation in mutually relevant domains**
- Associated Countries / multilateral participation
- Long term collaborative cross-roadmaps possible

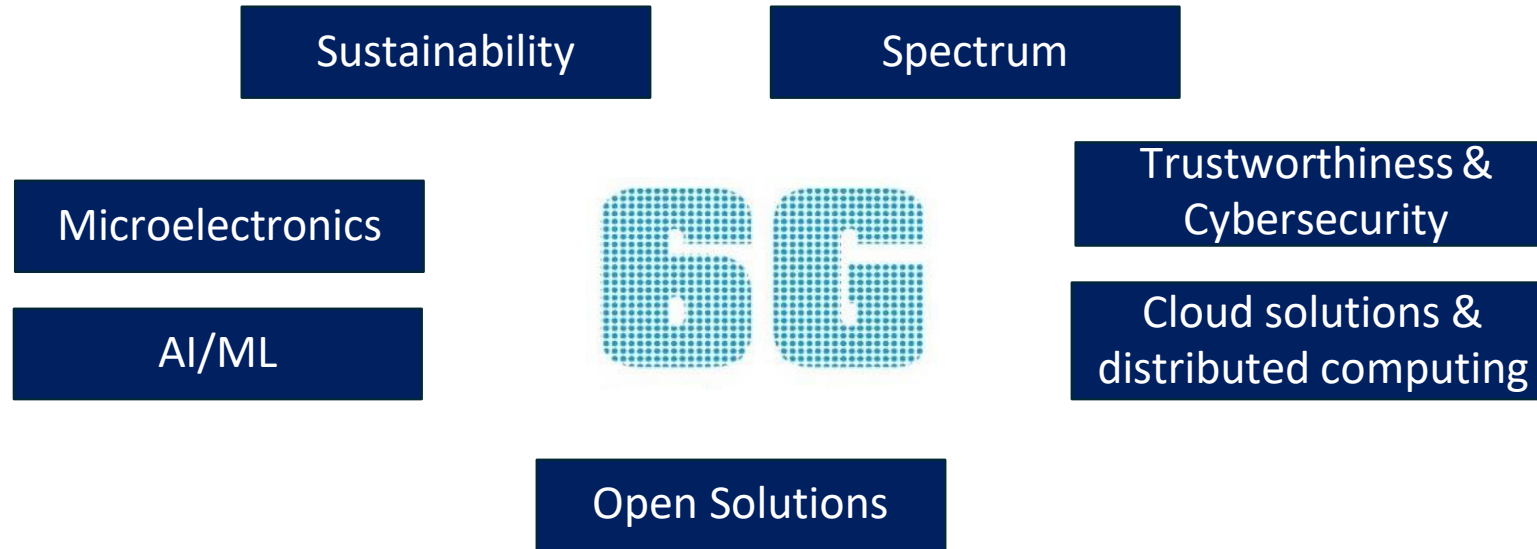
Working for global standards is a key priority

Global consensus on the 6G Path at R&D priorities (including 6G main applicability areas) during pre-standardization phase (as done during 5G PPP Programme)

Coordinated call for projects that will open further collaborations (e.g., SNS calls EU-USA, EU- Japan, EU Republic of Korea)

Bilateral – Multilateral cooperation on key activities (e.g., EU-US TTC, EU digital partnerships)

Dissemination of findings at global events (e.g., Global 5G event, Techritory, ...)





Thanks for your attention!

Dr. Colin Willcock

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