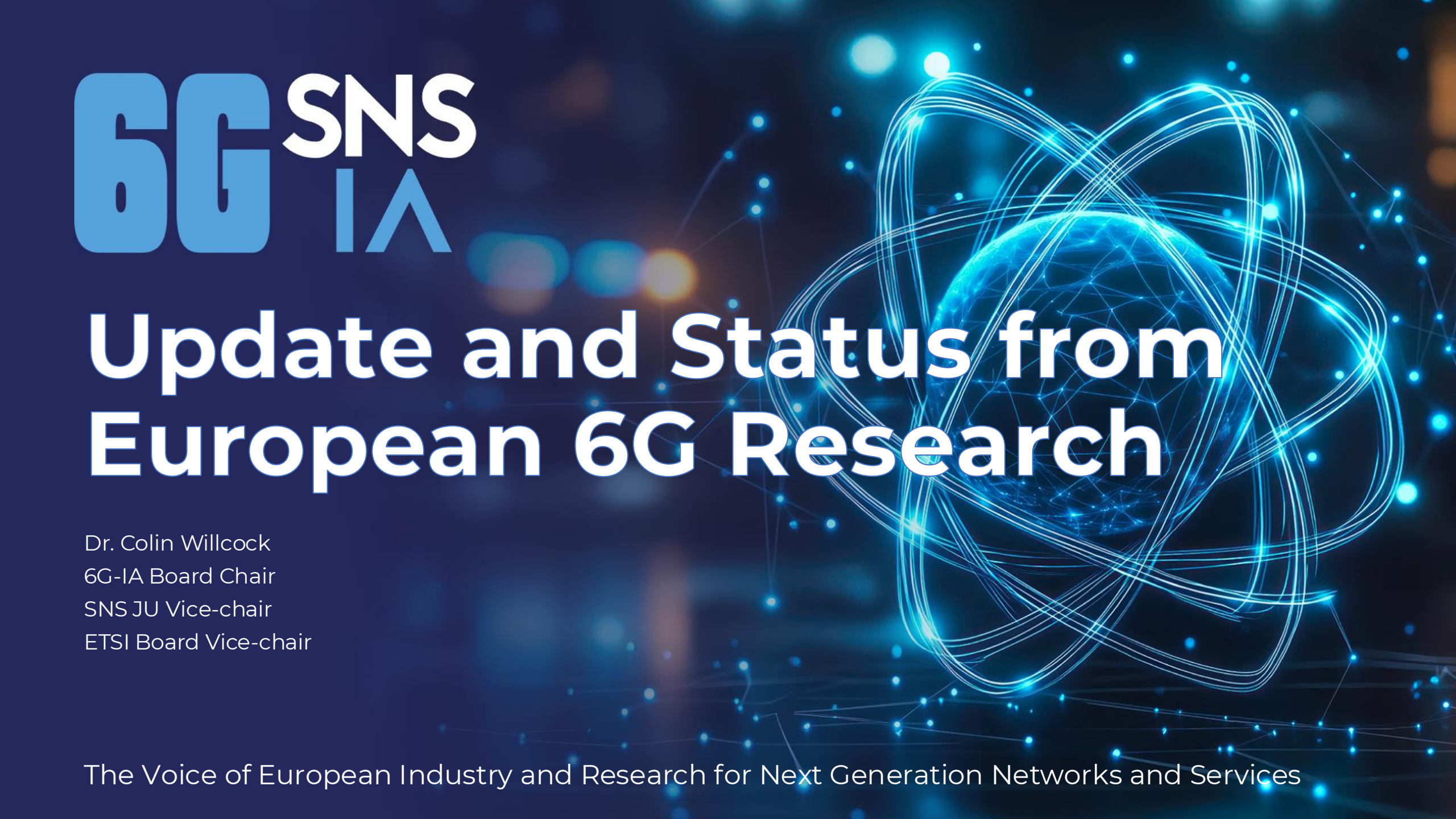


Update and Status from European 6G Research

Dr. Colin Willcock
6G-IA Board Chair
SNS JU Vice-chair
ETSI Board Vice-chair

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

Who We Are - What we represent

Strong contributors to EU economy:

- **€ 210 Billion** of European revenues (EU board Members)
- **€ 420 Billion** of European revenues (all EU industry members)
- More than **200 5G Network** deployments in the world.

Focus on:

- **advanced Networking** Tech, systems
- EU industry competitiveness
  - Sustainability
  - Sovereignty.

An industry driven Association of ~400 Members

Committed to Innovation

- Typical R&D investment: 20% of revenues for lead supply companies
- About 40% of Standard Essential Patents from 2G to 5G
- Leading the initiation of new Digital Markets, 5G and 6G for Verticals

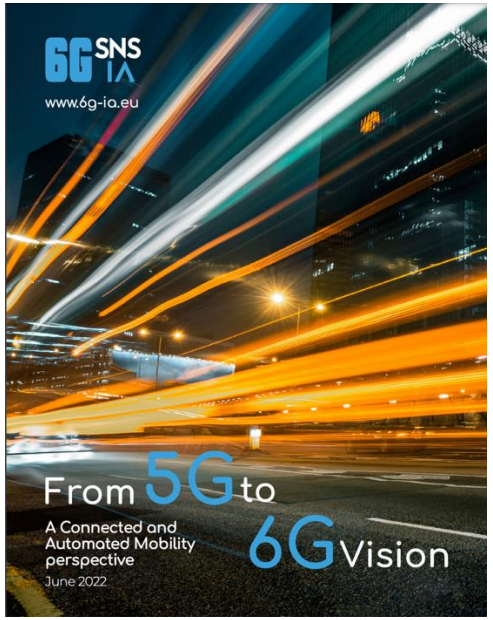
Committed to collaborative research

- € 900 millions of private investments in EC 6G Programme
- Partnerships with >130 EU academics and RTOs

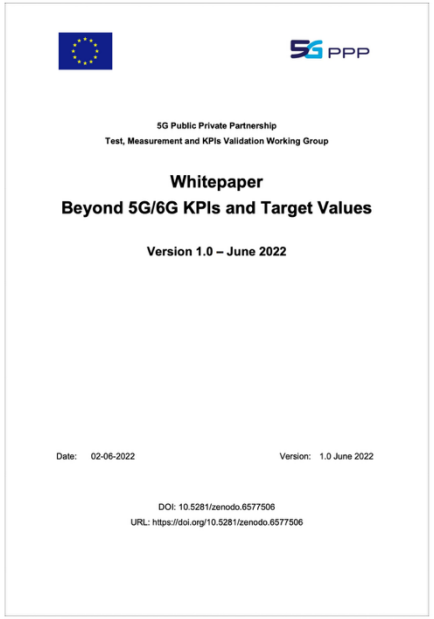
6G-IA International MoUs/Joint R&I

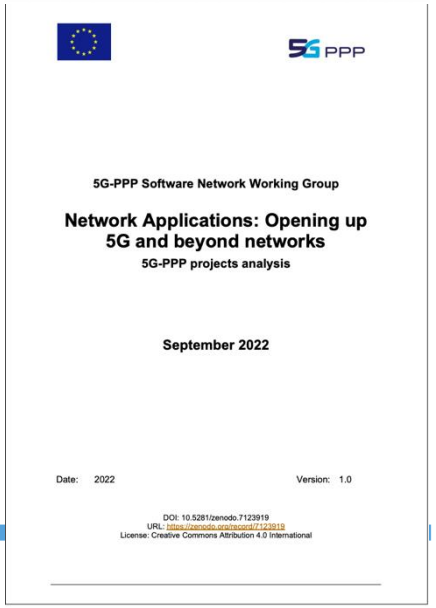
European Vision & Strategy for 6G networks

[Download the White Paper]



[Download the White Paper]





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

European - Level 6G Research

- The Smart Networks and Services Joint Undertaking is a major European 6G research program

- 1.8 B€ funding for Next generation networks [equal resources from the private side and public side]

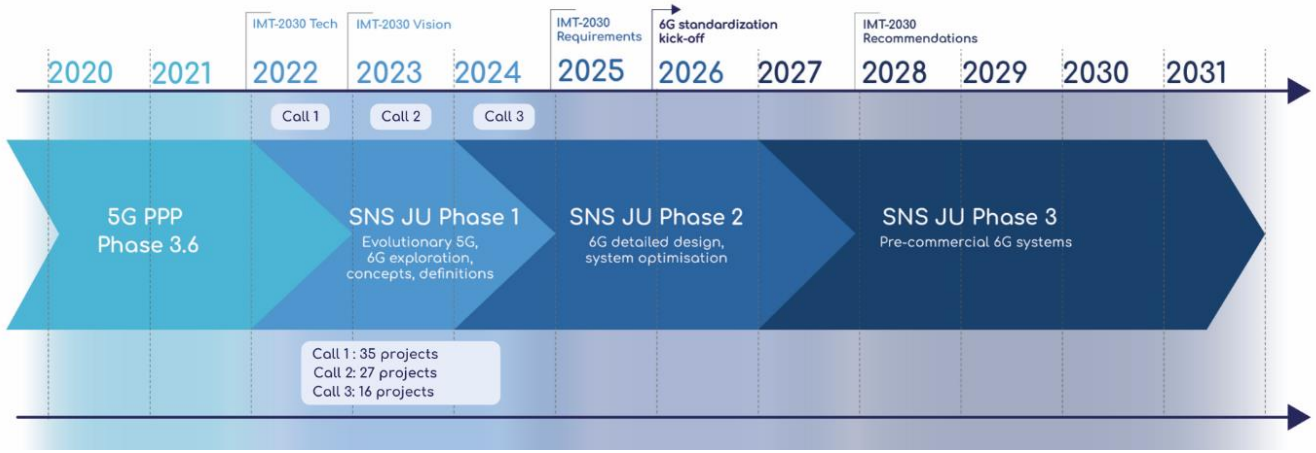
Know more here

The SNS JU so far....

3 Calls

79 Funded Projects

501 € Million invested



1244 Total entities funded

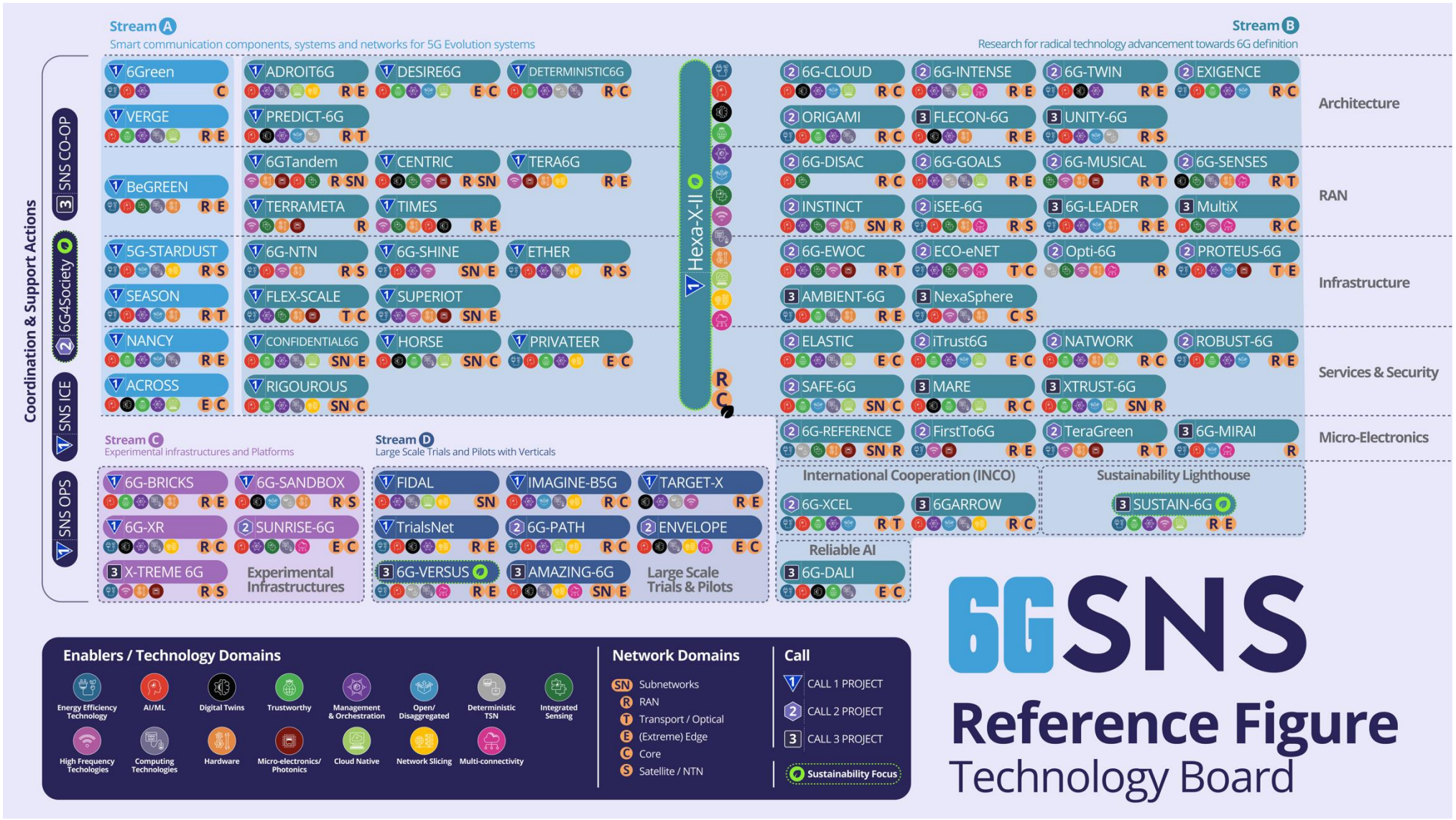
505 Unique entities funded

297 6G-IA members (59% of Unique Beneficiaries)

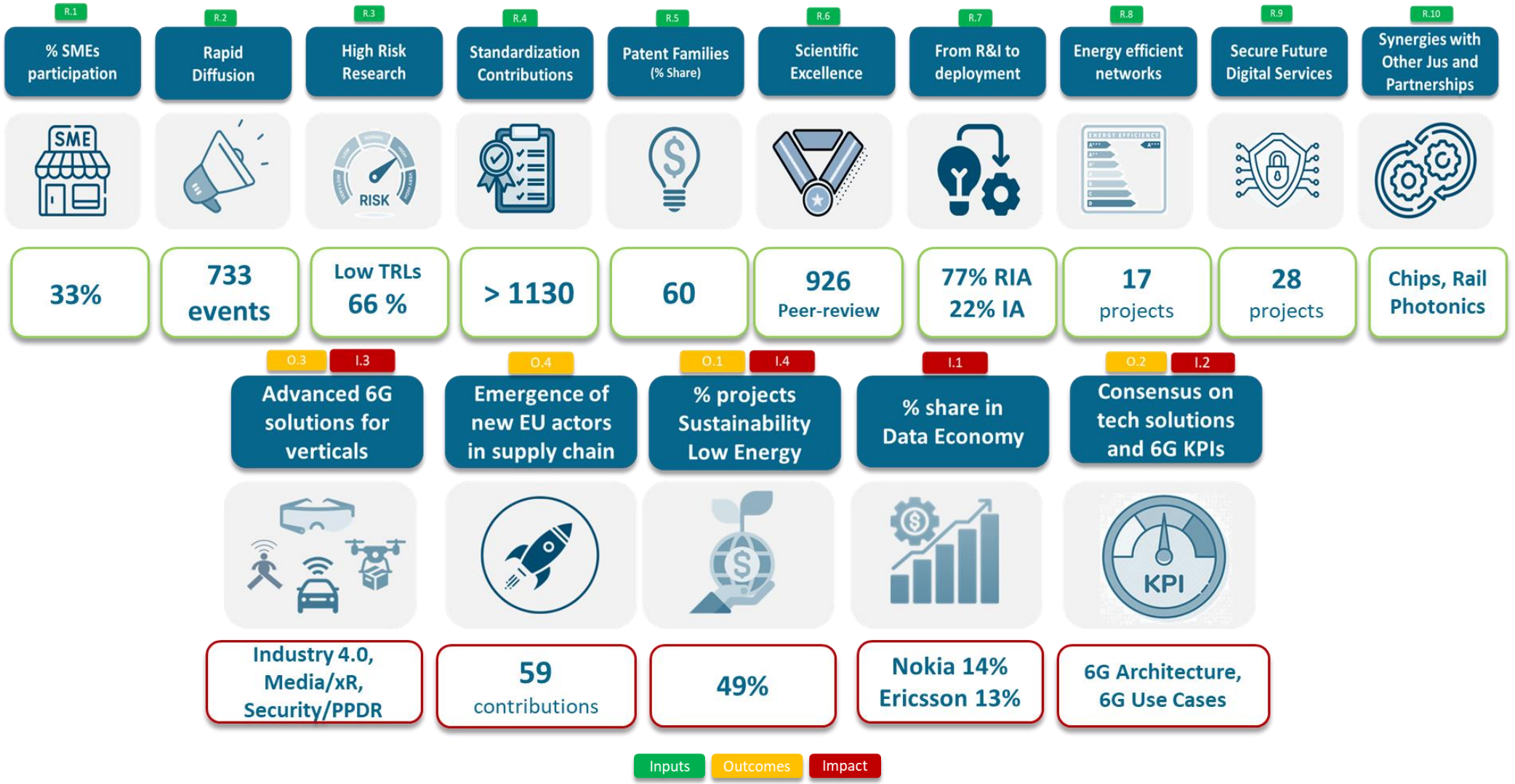
26% SME participants, claiming 24% of EU funding

33 participating countries

The SNS JU so far....



Key outcomes of SNS JU Program

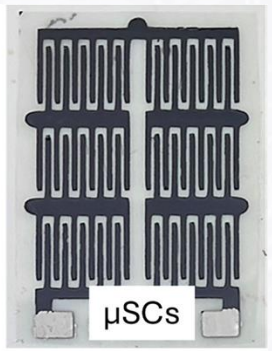


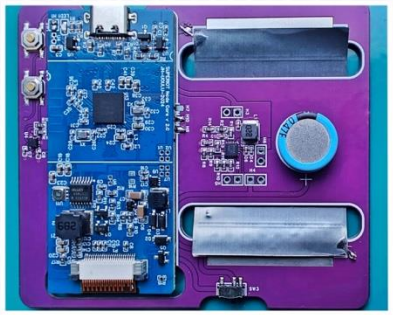
European 6G Usecase Families

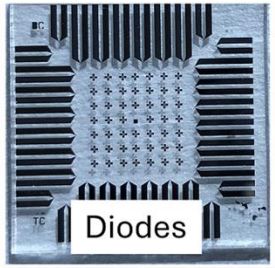
Scalable electronic components via printed and thin-film deposition for sustainable IoT sensor nodes

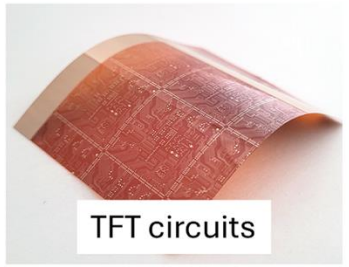
SUPERIOT

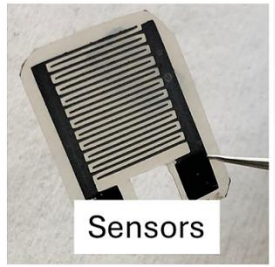
- Material-conserving and scalable printing and thin film deposition techniques
- Improved sustainability based on novel materials and fabrication processes
- Components enabling light sensing with resistive sensors
- Thin Film Transistors (TFTs)
- Energy harvesting with organic photovoltaics (OPV)
- Energy storage with micro supercapacitors (μSC)

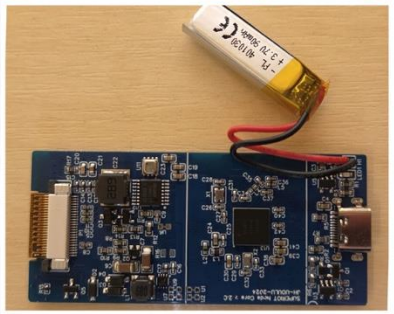


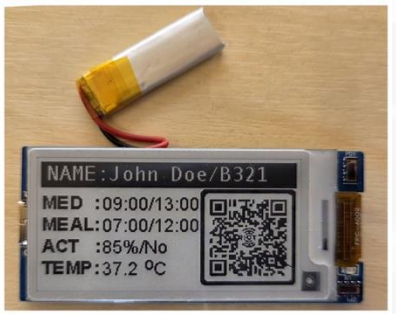








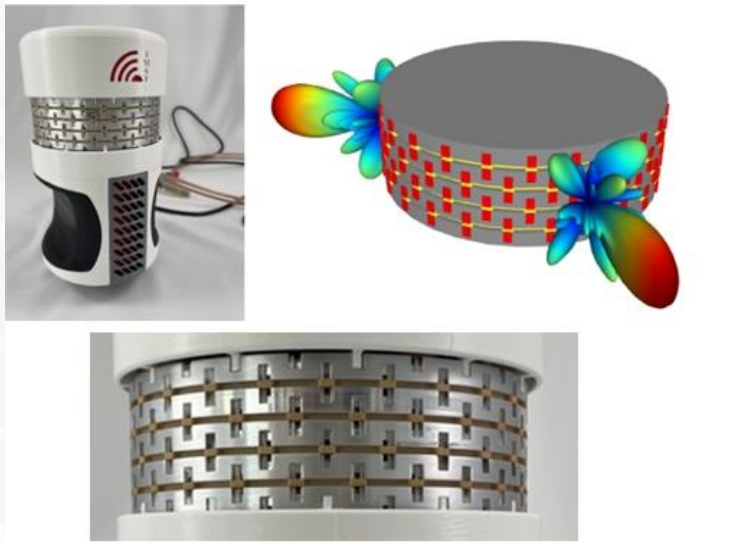




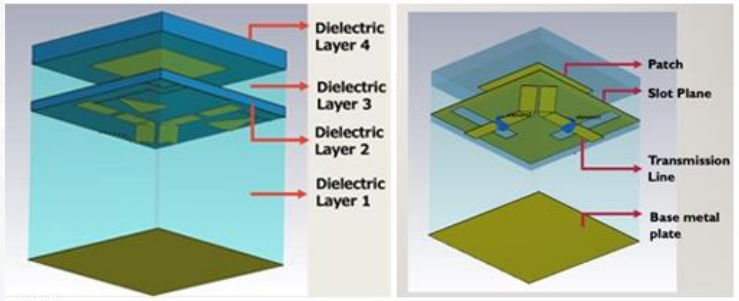
RIS Antenna Design & Fabrication

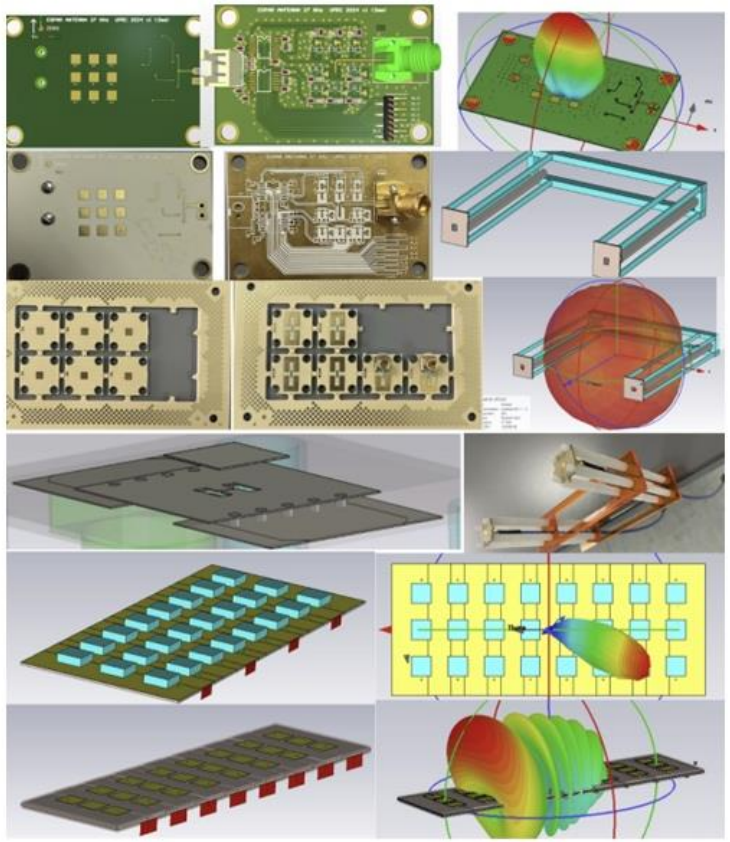
iSEE-6G

- Design & Fabrication of Tx/Rx cylindrical RIS Antenna
  - FR2 frequencies (24-30GHz)
  - Dual polarization with 24 beamformer
  - 2×96 elements
  - 48 patterns (7o beamwidth, 21dBi gain)
- Enabling real on-the-field testing of various RIS scenarios
- Tailored for UAV applications



Cylindrical array with 48 directional patterns



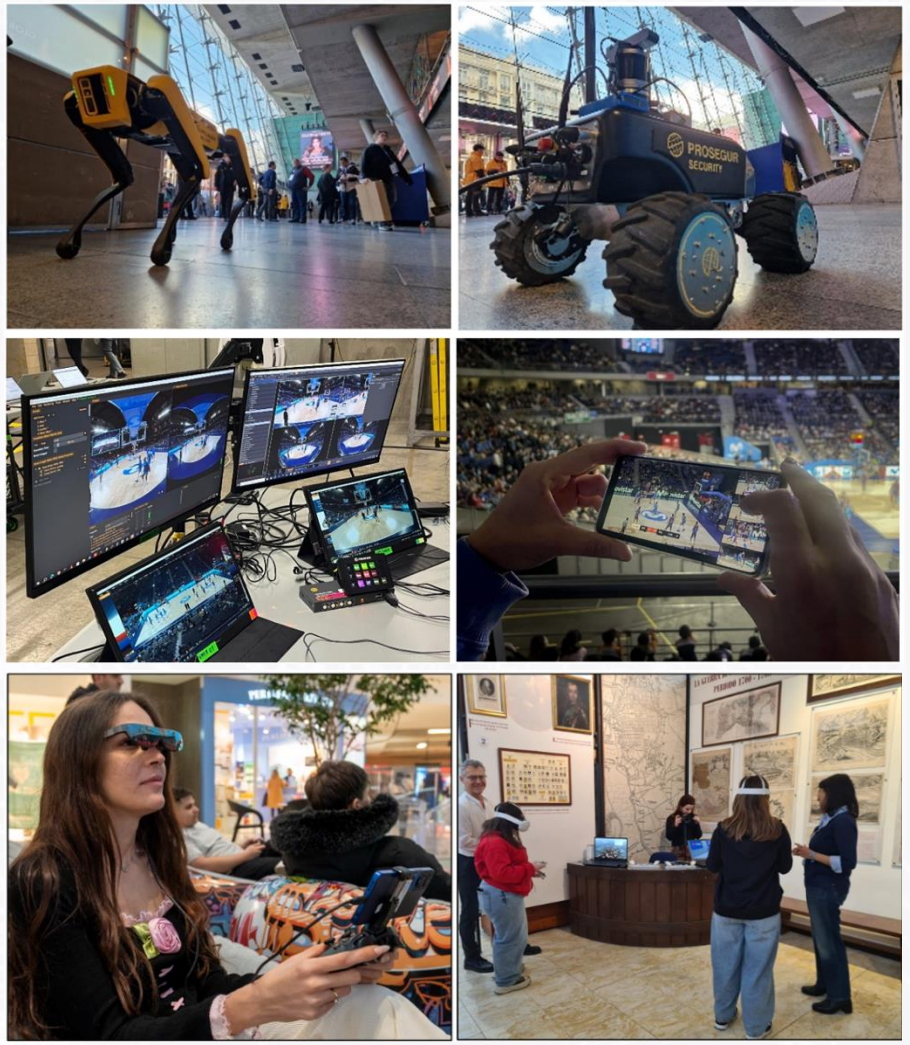


Semi-spherical patch and parasitic antenna designs

Vertical Trials during live events

Trials Net

- Showcasing B5G capabilities to live audiences in actual vertical environments (more than 1000 real users)
- Technologies
  - AI event detection
  - mmW Tx-Rx
- Use Cases
  - Smart Crowd Monitoring
  - Immersive Fan Engagement (XR/AR)
  - Extended XR Museum Experience
- Locations
  - Movistar Arena (Madrid) – during Real Madrid match
  - 4 museums in Turin (IT)



Vertical Trials with live Port operations

Imagine B5G

- Trials in real port operational environment
- 5 Vertical companies participated in the Trials with real solutions
- Technologies
  - AI event detection
  - mmW Tx-Rx
- Use Cases
  - Remote maintenance,
  - Emergency response,
  - Multi-vehicle coordination using unmanned aerial/surface/ground vehicles (UAVs, USVs and UGVs)
  - XR tools
- Location
  - Port of Valencia (ES)

Thanks for your attention!

Dr. Colin Willcock

Chairman of the Board 6G Smart Networks and Services Industry Association (6G-IA)
Vice-Chairman of the Board Smart Networks and Services Joint Undertaking (SNS-JU)
Vice-Chairman of the Board European Telecommunications Standards Institute (ETSI)

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