

Special Session Ongoing NTN-Related EC/SNS Projects

Room Talaia, 28 February 2025

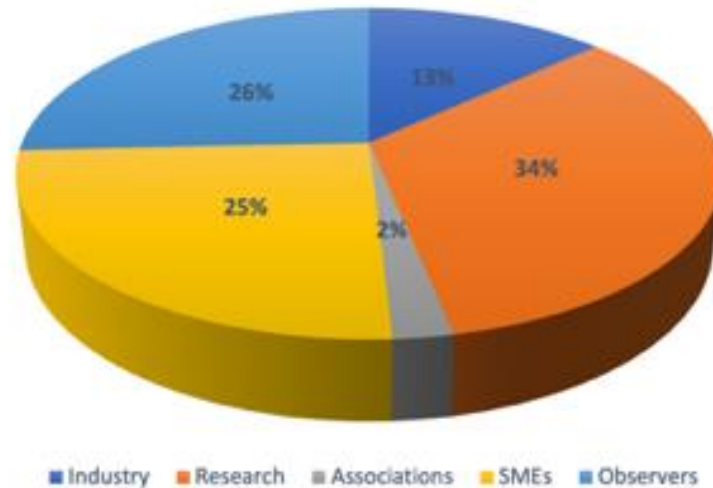
Bernard Barani

Senior Consultant, 6G Smart Networks and Services Industry Association (6G-IA)

Strong Commitment of Stakeholders

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

6G-IA Members Distribution - 3 February 2025



6G-IA MEMBERSHIP EVOLUTION



6G-IA members include all main vendors, European operators, Verticals, top universities and research centers, a significant number of SMEs, and other associations related to the ICT domain.

Critical mass of members for impactful results has been achieved and ready for expansion

The SNS JU so far....

6G SNS

3

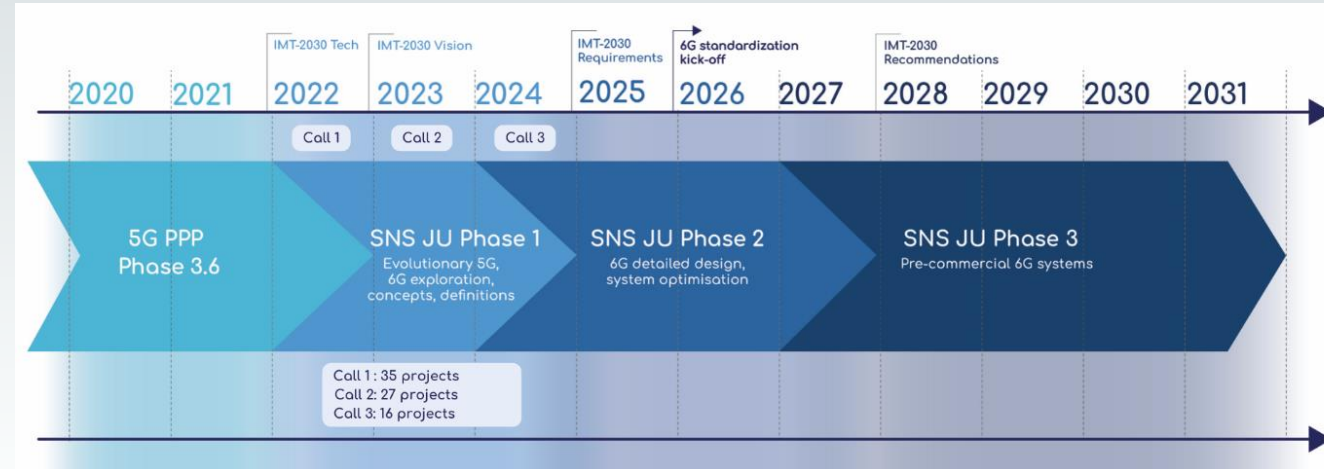
Calls

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

NTN as full part of 6G R&I

Examples
Non-exhaustive

Smart
Network
Infrastructure
(6G capabilities)



Convergence
with other
adjacent
technologies

6G will require significant **technological breakthroughs** to enable its ambitious goals

AI-Driven Architecture



- Programmability and Control
- AI governance
- Deterministic networking

Radio & Signal Processing



- 6G RAN modulation
- Disaggregated RAN
- Beamforming, RIS
- THz bands, VLC
- Harmonized Comms and Sensing

Optical Networks



- Intrinsically secure, green and flexible transport networks.
- Sustainability

Ubiquitous Computing



- Edge-Cloud Integration
- Responsiveness, reduced data flows
- Distributed microservices

Security



- Network and Services
- Larger attack surface
- Micro-segmentation
- Security as-a-Service

Non-terrestrial Networks



- **Integration with TN**
- (LEO) networks
- UAM services
- Edge flying nodes

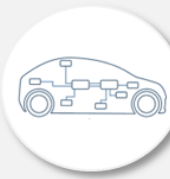
Focus of today

Devices & Components



- **Advanced micro-electronics**
- Efficient Tx/Rx modules
- Optical & hybrid transceivers
- Neural processing units

Special purpose (sub)-networks



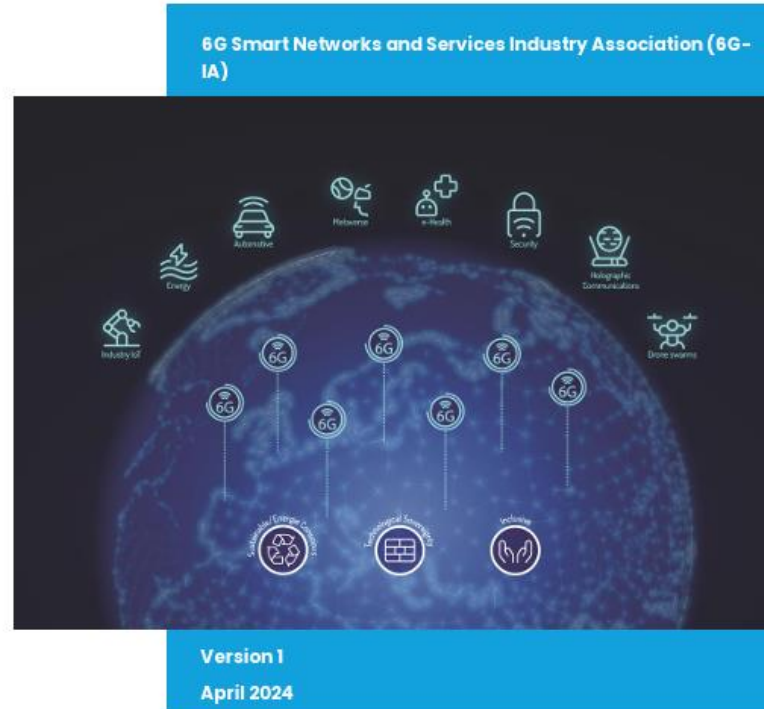
- **Vertical sub-networks** such as in-body, in-robot, in-car networks, etc

Future Emerging Technologies



- May have deep impact in the future
- Do not have a clear industrial path yet

Looking into the Future, 6G-IA NTN Workshop, April 2024



Not yet approved by the 6G-IA Board

Position paper

RESEARCH PRIORITIES ON NON TERRESTRIAL NETWORKS (NTN)

NTN Roadmap defined as spin off of this work for the next 3 years;

NTN integral part of Work Programme 2025, to be published;

NTN roadmap revision, complementary workshops under consideration.

WP 2026 under elaboration

Session Agenda



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CTTC

Tentative Panel Discussion

- Priority Use Cases (D2D, Governmental, aeronautical, IoT, Coverage extension...)?
- Use cases with highest tech challenges and benefitting from 6G?
- Unification concept: what may remain satellite specific?
- How NTN does impose specific 6G architecture requirements?
- AI and NTN, specific AI benefits for NTN?
- 3G PP status, what remains a priority at 3G PP level?
- Your views on future topics where SNS should concentrate on?
Is the domain mature to support projects under Stream D?