

Key orientations of the SNS R&I Work Programme 2023

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SNS JU Work Programme 2021-2022

~250 M€: 35 R&I Projects selected

→ **Some Gaps of Coverage**



5G Evolution

6G

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

Stream B (RIA): Research for revolutionary 6G technology and systems

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

Stream C (RIA): SNS experimental infrastructures

6G SNS

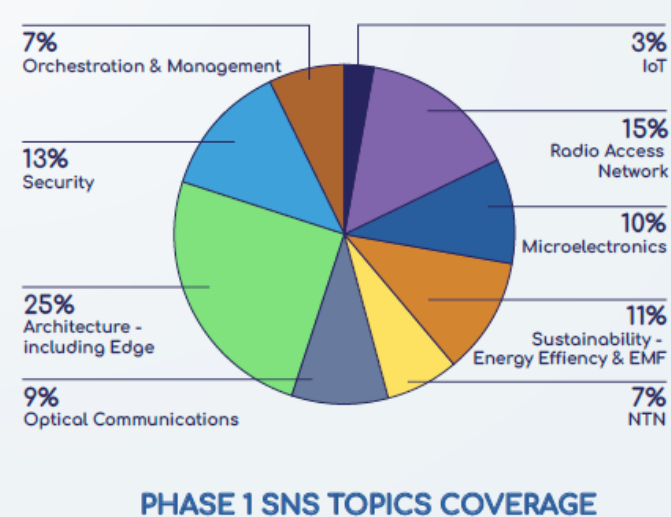
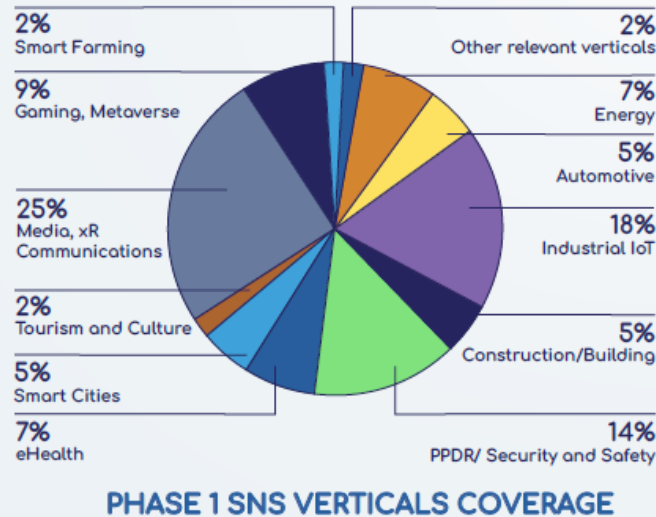
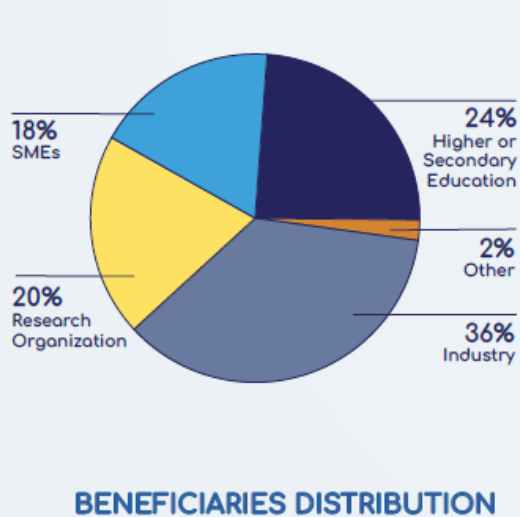


SNS JU Call 1 (2022): Funding and results



PHASE 1 PROJECTS TO START 1/1/2023

35 R&I Projects, 9 Key Technological Areas, 250 M€ Investments



- 288 unique beneficiaries
- ~30% not 6G-IA members
- Covering 10+ different Vertical Industries

Example Gap Topics

➤ Gaps Stream B:

- Wireless for below 100 GHz communication and L2 solutions
- Spectrum re-farming and re-utilization
- Nano-things networking
- Troposphere networking
- Visible light communications
- Missing aspects in Architecture and Security Strands (e.g., energy efficiency enablers, new communication paradigms with enhanced intelligence, service deployment for complex services, secure time sensitive and computation intensive applications, zero-touch integrated security deployment)

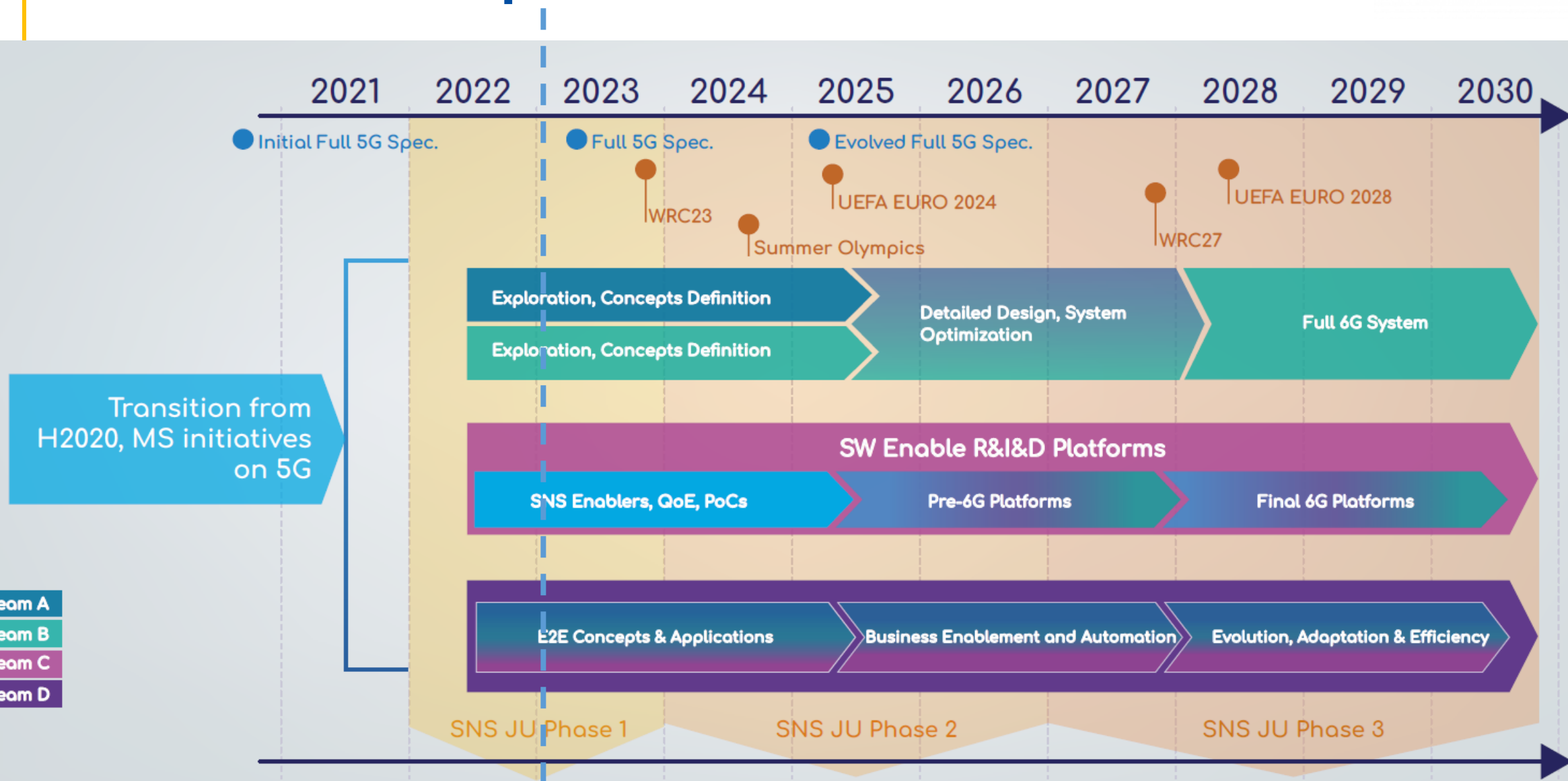
➤ Stream C and D main gaps:

- Federating/holistic test platform; some use cases (e.g. automotive)

Towards SNS Phase 2 and 2023-(24) Work Programme

- Stream A discontinued as comes too late to further influence 5G Advanced standardization). Remaining topics all focused on 6G relevance (long term)
- Closing the gap with phase 1;
- New issues:
 - Microelectronics coverage (2023, 2024), KDT cooperation (focus topic)
 - Sustainability (2023 general objective, 2024 flagship)
 - Policy oriented topic (2023, societal challenges)
 - International cooperation (2023 US, 2024 JP, RoK- TBC)
- Continuity and expansion of Streams B, C, D topics

SNS JU Roadmap



Stream B orientations

- Still early phases of 6G → keep focus on low TRL topics
- Phase 1 topics architecture, wireless, security, com technologies still relevant with some adaptation to avoid overlap with Phase 1 projects
- Importance to mobilize the microelectronics sector, especially if new radio tech is needed (but not only radio)
- Expand International cooperation with the US (Trade and Technology Council conclusions, 6G-IA MoU of cooperation with NextG Alliance)
- Start preparing for standardization phase (indicative opening around 2025)

Stream C orientations

- Selected phase 1 projects quite focused per application/technology
- May need a more holistic project, with large set of potential service offering
- Federation of platforms as a next step towards a pan European, cross platform framework
- Potential to open federation to non-EU platform for global experiments
- Potential synergies with developments from Member States initiatives
- Potential to integrate KDT Projects outcomes into SNS Platforms
- Reusability & evolvability, accessibility & openness, E2E, full value chain...

Stream D orientations

- The validation of SNS KPIs and KVIs in the context of very advanced use cases
- Open vertical pilots to focused set of use cases, either because specifically important or because not so well covered by Phase 1 projects
- Allow vertical pilots using technologies developed in phase 1, following the spiral model.
- Leverage existing (accessible & open) platforms (e.g. developed under Stream C).
- Evaluation of sustainability aspects
- Create a strong link with vertical industries from the onset

CSA orientations

- Address public policy objectives as well as existing and future legislation and guidance notably in the area of societal benefits, security/trust/resilience, sustainability and industrial competitiveness
- identify potential non technological roadblocks towards wider acceptance of 6G technologies
- raise awareness on the relevant framework taking into account various societal/policy issues
- Support other EU projects and SNS Working Groups on the relevant topics

SNS R&I Work Programme 2023-2024

Min IKOP as one evaluation criterion

Eligibility Criterion: at least 50% of the budget implemented by 6G-IA members

Eligibility Criterion: restricted to 6G-IA members with provision of 20% for cascade funding (open to all)

2023

Low TRL topics including those not covered during the 1st call

- Architecture
- Wireless
- Infrastructure & devices
- Security & Service Provision
- Micro-electronics for 6G

Additionally

- Collaboration EU -USA

132M€ in 2023

Stream B (90M€ - RIA): Research for technology advancement towards 6G

- 1 federation & possible extension with national testbeds

Stream C (14M€ - RIA): SNS experimental infrastructures

- Automotive
- Health, Smart Cities, Farming, Education (one or more)

Stream D (27M€ - IA): Large Scale SNS Trials and Pilots with Verticals

- Societal Challenges

CSA (1M€): Support Action

2024

PoC and Standardization

- Architecture
- Wireless
- Infrastructure & devices
- Security & Service Provision

Additionally

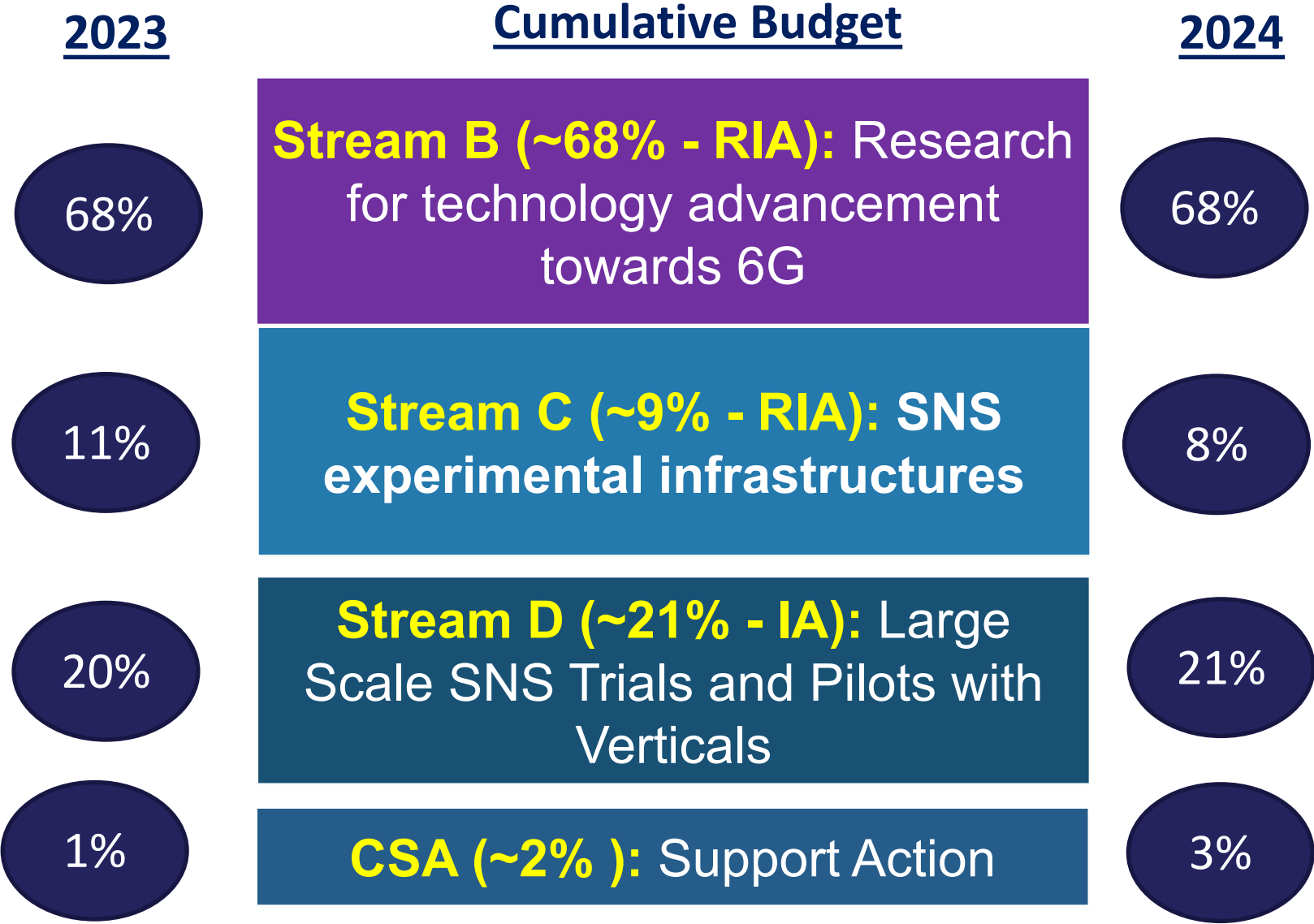
- Collaboration EU with JP&SK
- Sustainability lighthouse

- Microelectronics for 6G lighthouse

- Vertical use cases implementing 6G Vision

- SNS Operational Support

SNS R&I Work Programme 2023-2024



2023 EC Budget:
132 M€
 2024 EC Budget:
129 M€

Call 2 budget



Streams / Topics	Topic (Aggregated) Budget (in M€)	Targeted number of projects	Indicative EU contribution per project
HORIZON-JU-SNS-2023-STREAM-B (RIA)			
01-01: System Architecture	20	5	4
01-02: Wireless Communication Technologies and Signal Processing	24	6	4
01-03: Communication Infrastructure Technologies and Devices	12	3	4
01-04: Reliable Services and Smart Security	16	4	4
01-05: Microelectronic-based solutions for 6G networks	15	3	5
01-06: EU-US 6G R&I Cooperation	3	1	3
HORIZON-JU-SNS-2023-STREAM-C (RIA)			
01-01: Complementary SNS experimental Pan-EU federated Infrastructure	14	1	14
HORIZON-JU-SNS-2023-STREAM-D (IA, with FSTP)			
01-01: SNS Large Scale Trials and Pilots (LST&Ps) with Verticals (IA) – Focused Call	27	2	10 to 14
HORIZON-JU-SNS-2023-STREAM-CSA (CSA)			
01-01: SNS Societal Challenges	1	1	1
Total (M€)	132	26	