6G SNS

The Road so Far

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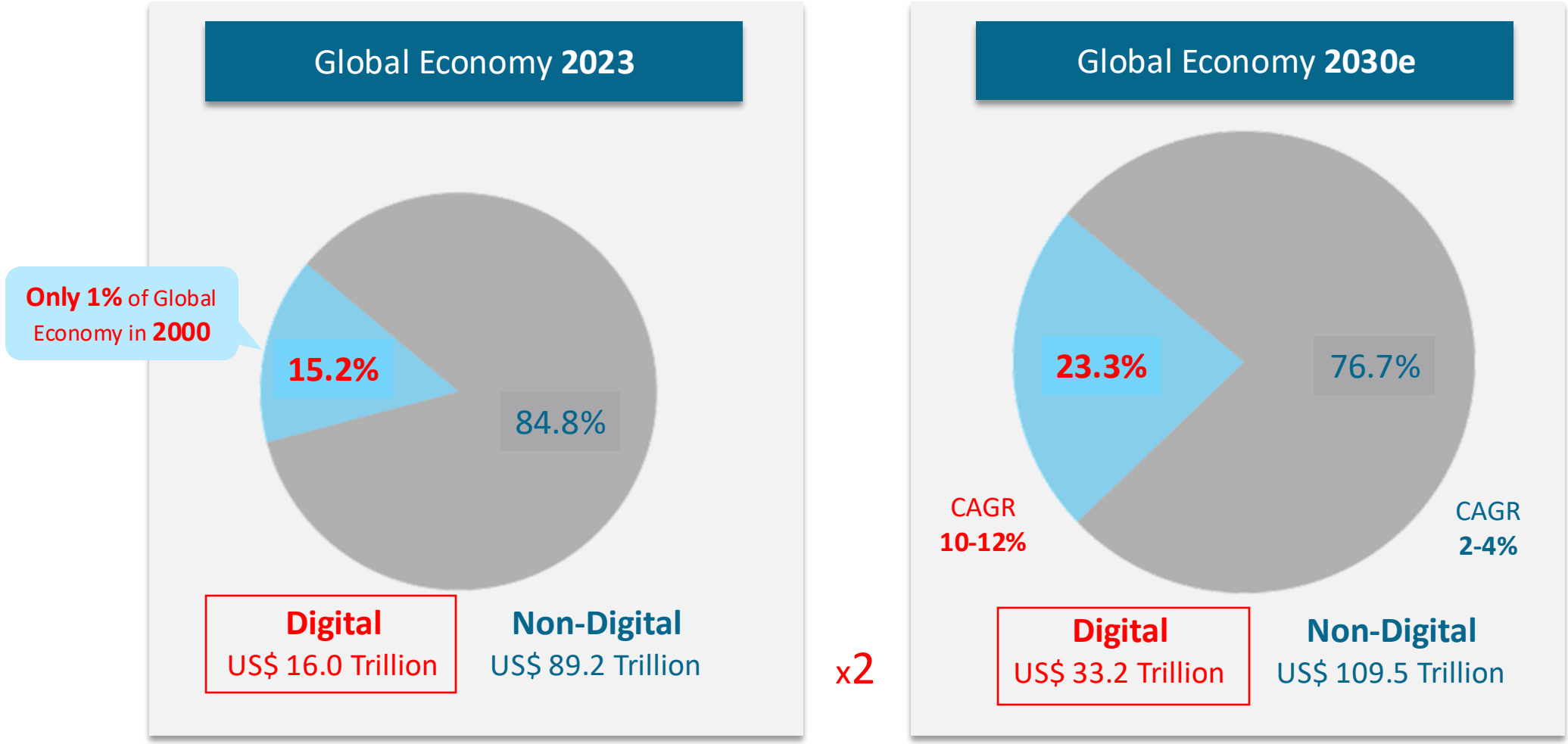
6G SNS IA

Overview

1. Opportunities and Challenges for Europe in Digital technologies
2. SNS-JU key deliverables on Policy and Technology areas
3. Looking ahead in our SNS-JU Journey

Digital economy projected to **double** in size **2023-2030**

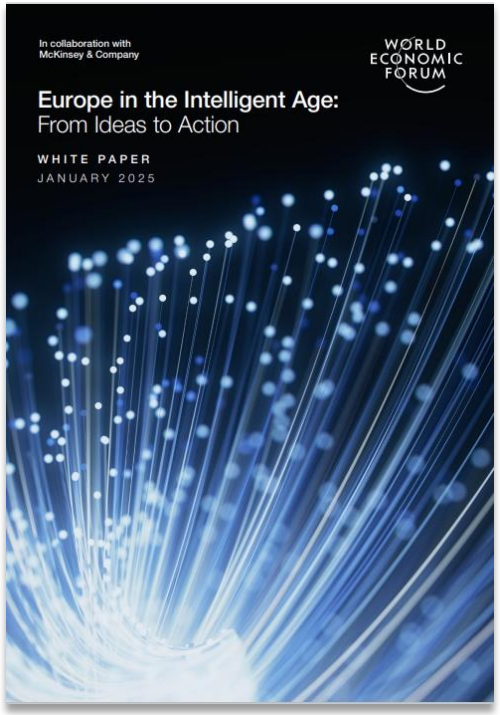
Due to technological advances and increasing digital adoption across sectors

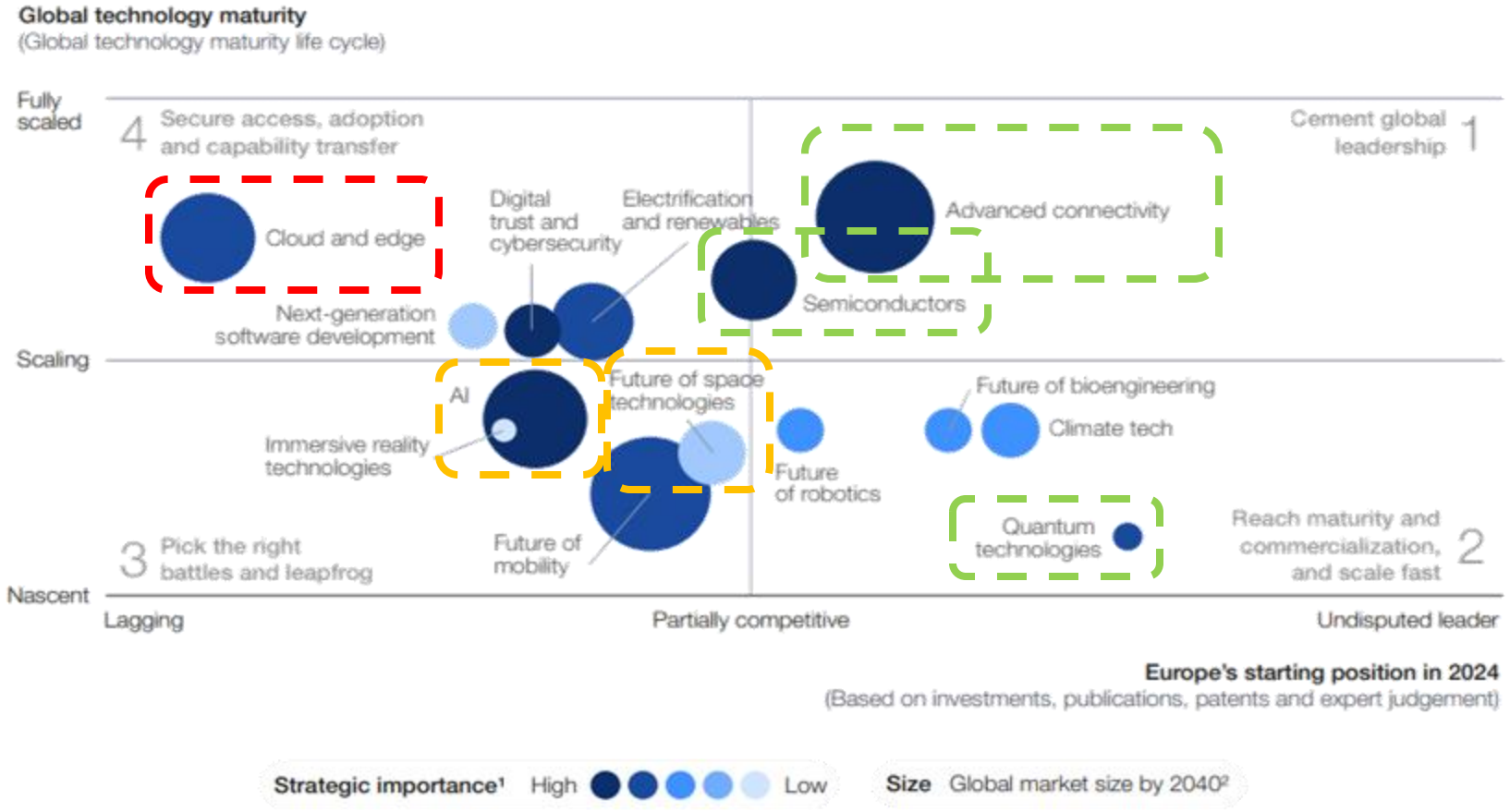


Source: Mid-range projections based on World Economic Forum, OECD Digital Economy Outlook, McKinsey Global Institute, World Bank and IMF Reports

European position in future technology domains

Advanced connectivity offers a unique opportunity for European Leadership



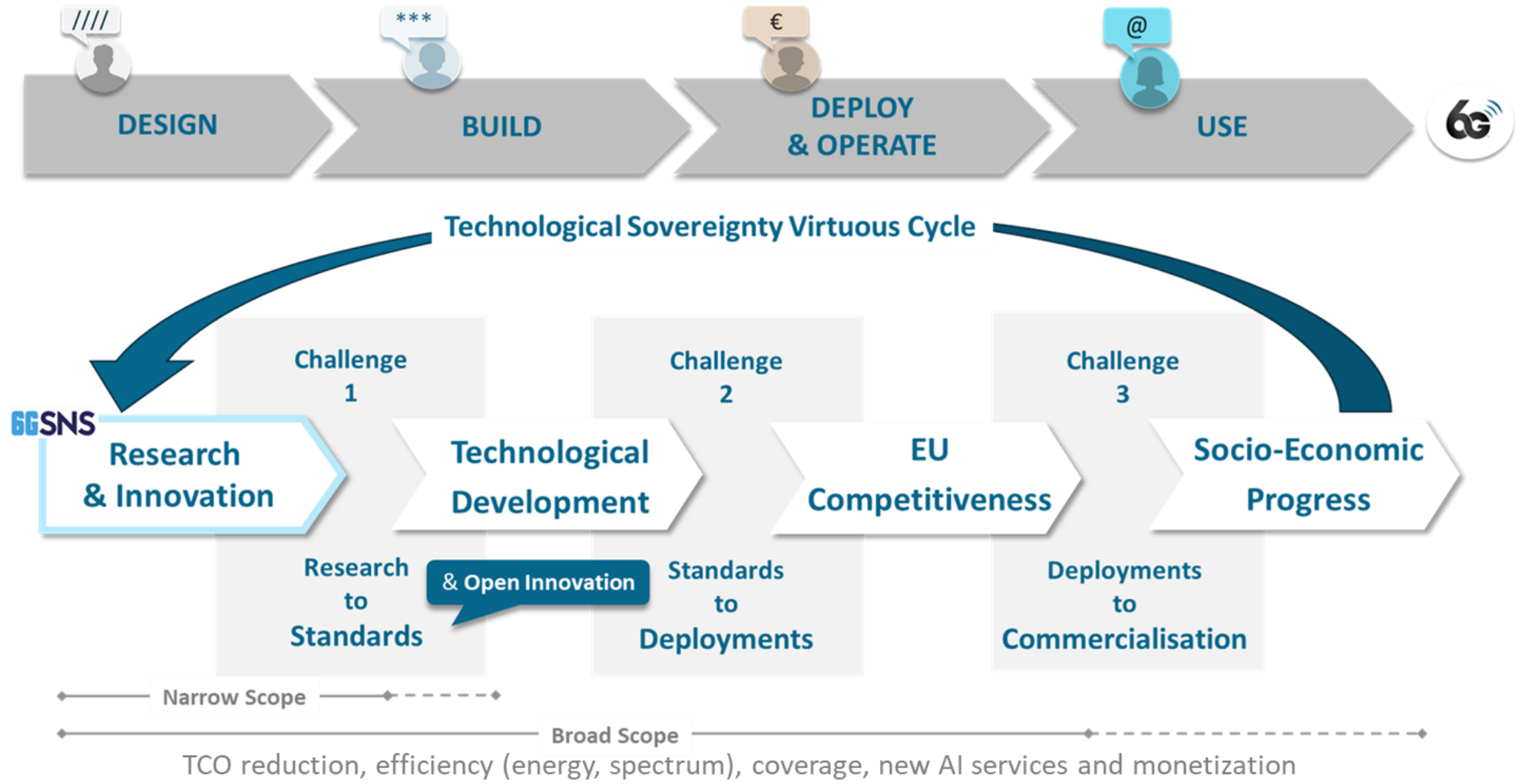


1. Contribution to European sovereignty (based on analysis of import/export tariffs) 2. Market size by revenue based on estimates in MGI reports "The next big arenas of competition" (2024) and "Securing Europe's competitiveness" (2022)

Source: McKinsey, MGI, expert interviews

This discussion isn't just about networks

It's also about technological sovereignty, competitiveness and socio-economic progress



SNS JU is **fully aligned** with Europe's **Strategic Priorities**

Consistent with Draghi Report, competitiveness compass, …..

Strategic Priorities

EU-wide collective effort

Creating a human-centric digital world reflecting European values

Competitiveness	Industrial leadership	Sustainable Development	Societal Impact	Technological Sovereignty & Security
Seizing a fair share of the "Trillion €" opportunity in future network-based industrial sectors	Starting the 6G race with an **aspiration to leverage EU technological leadership**	**Support EU Green Deal targets** Building on a **clear promise of Sustainability**	Smart connectivity underpinning key societal issues such as **Safety, Inclusion and Trustworthiness**	**Value chain approach** for a comprehensive EU supply capacity, from components to cloud services, in line with 5G cybersecurity toolbox and HE guidelines

Collaboration and Partnerships : Our response to the magnitude of the challenges

Europe made a bold and early commitment with SNS JU

More than **100 projects** in our SNS portfolio by end of 2025

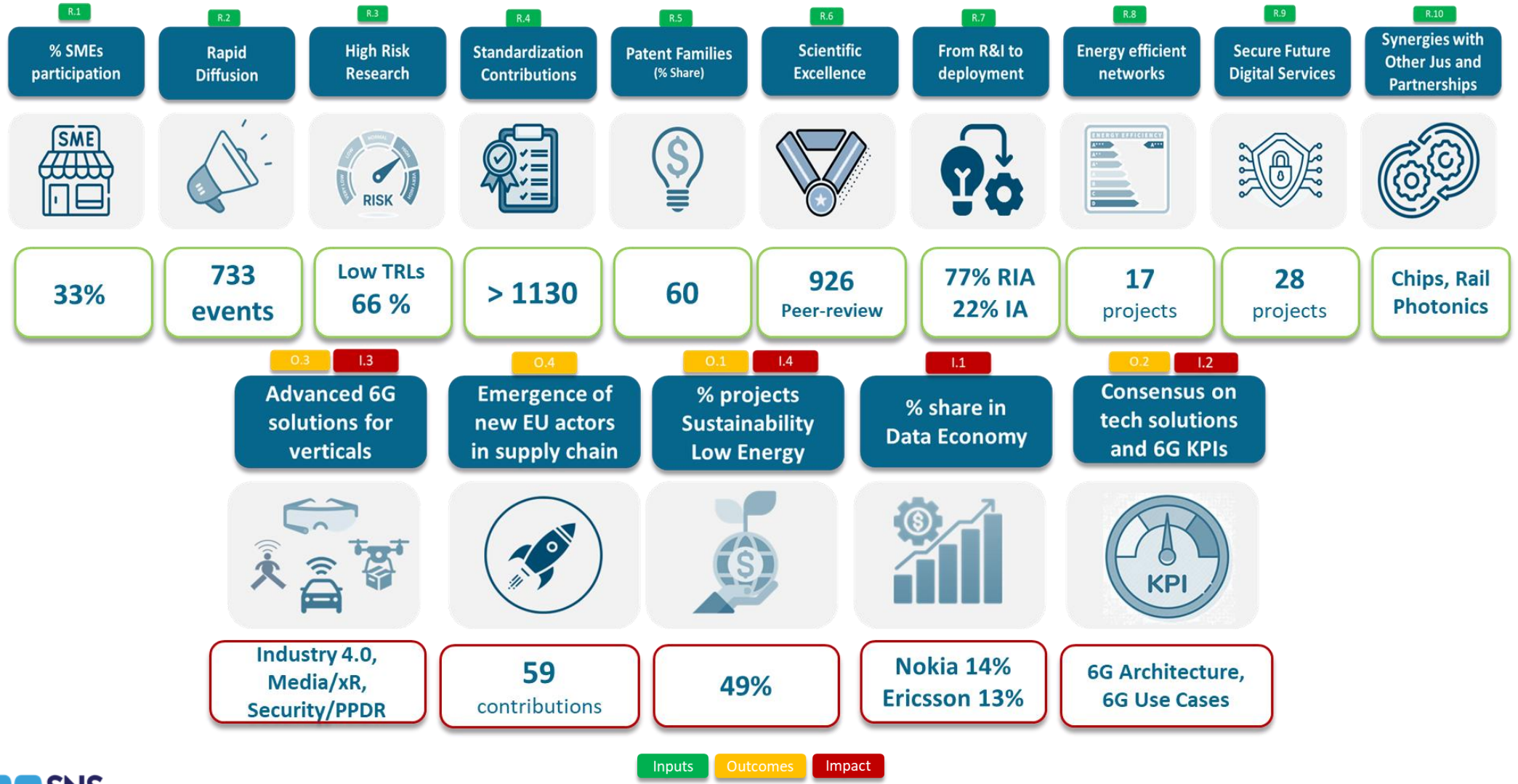
~630 MM € of public funding

investment in SNS JU Calls

	Call 1 Started Jan '23	Call 2 Started Jan '24	Call 3 Started Jan '25	2025 Calls To be Started in 2026
Stream A 5G Evolution systems	**Components, systems & networks** **7** Complementarity projects validate **complete system** view			
Stream B Research for radical technology advancement towards **6G definition**	**System Architecture** **Wireless & Signal** **Infrastructure & Devices** **Security** **Microelectronics** **Sustainability** **International Collab** **19** projects research **Novel technologies** expected to be adopted in commercial networks in a **mid /long-term horizon**	**24** projects working on Innovative solutions towards real life networks over a **long-term horizon.** Also targets **International Cooperation**	**12** projects targeting a higher TRL range, compared to previous calls, aiming to produce **more mature results** and impact on standardization . Includes lighthouse project on **Sustainability** and targets **International Cooperation**	**16** projects on **Forward looking topics** (advance architectures and IoT), **Wireless tech** (MIMO, AI/ML, Spectrum sharing, Open RAN), **NTN- TN** unification/integration, Optical networks and **Photonics**, **Security and Resilience**, and **Microelectronics.**
Stream C Experimental Infras/Platforms	**Platforms** **Enablers/ Proof Concept** **3** projects validate **6G technical enablers**	**1** Europe-wide **experimental infrastructure(s)** to support SNS program	**1** project on integration of **microelectronics** components	**1** project on **Telco cloud** and service provision enablers
Stream D Large Scale Trials With Verticals	**Applications & services** **Business ecosystems** **4** projects on specific verticals with **high economic and societal importance**	**2** projects focusing on i) **Automotive** ii) **Health, Smart Cities, Farming and Education**	**2** projects on advanced **5G/6G technologies in/for verticals**, with special focus on sustainability	**4** projects on (1) Industry/Manufacturing, (2)Media (3)Transportation/Logistics, (4) Emergency Services and (5) Health
	Call 1 240 MM €	**Call 2** 132 MM €	**Call 3** 129 MM €	**Call 4** 128 MM €

Key outcomes of SNS JU Program

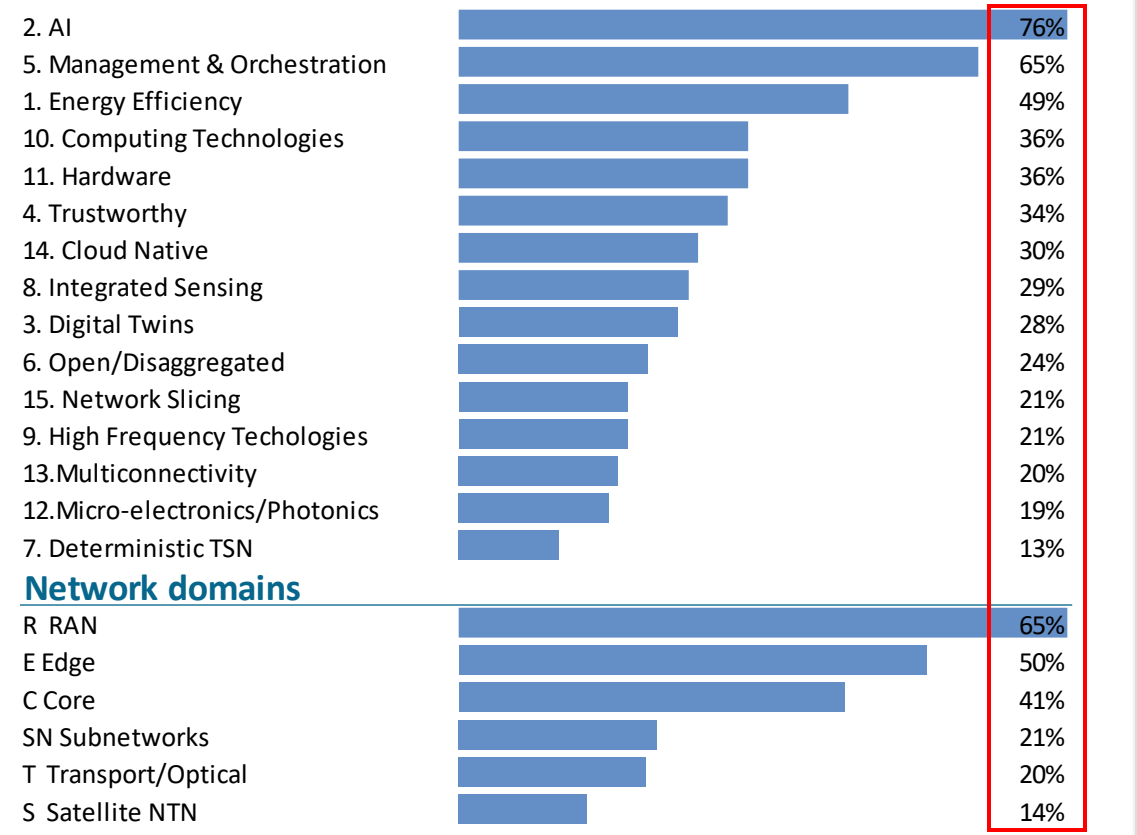
Focus on delivering next generation of secure, inclusive, and sovereign networks.



SNS-JU **research portfolio** is both ambitious and focused

Covering R&I, experimental platforms, pilots and trials in various technologies relevant to 6G

Key Technology Domains researched by SNS-JU projects

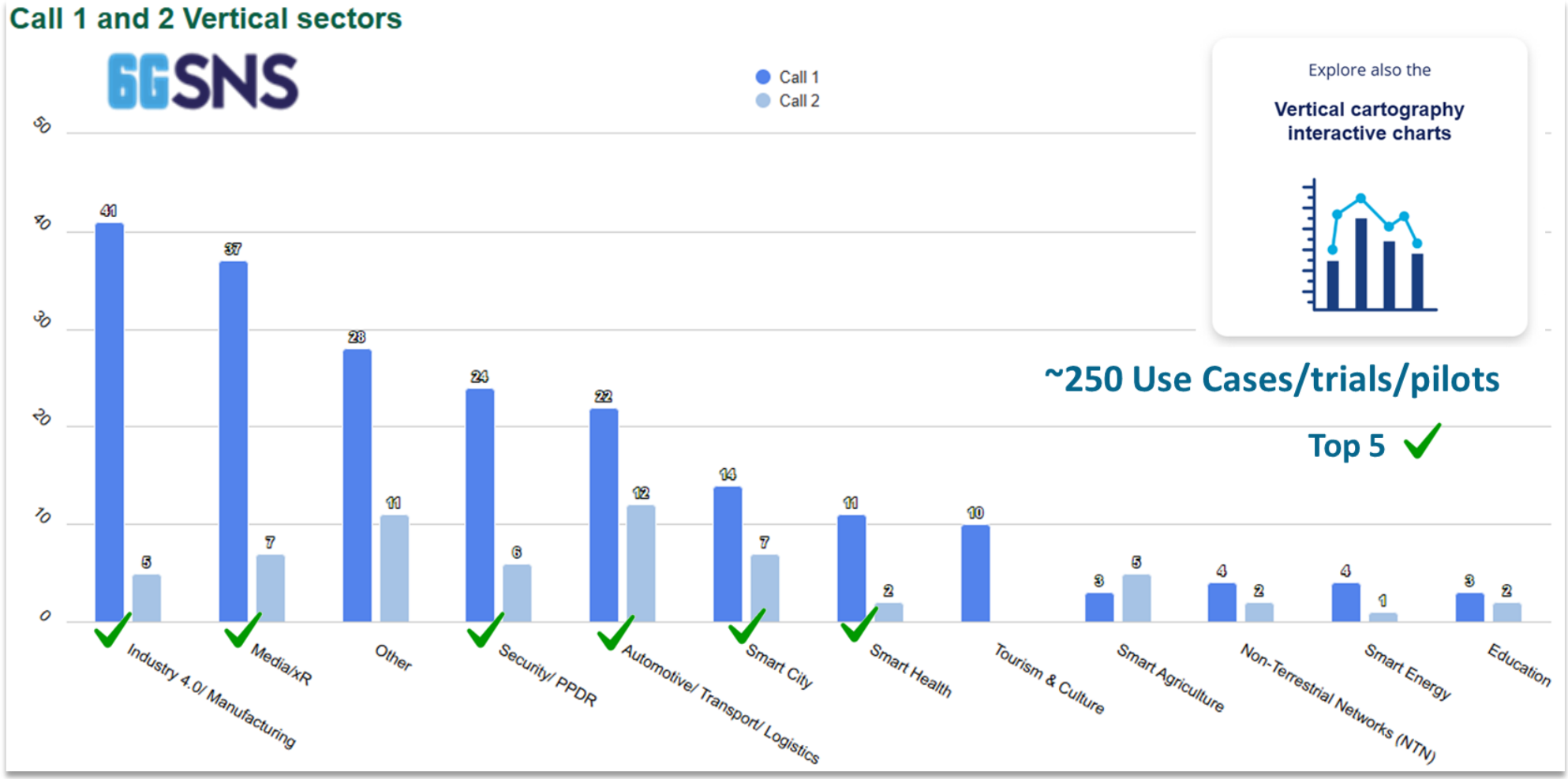


Priority areas include:

- **AI-native** and cognitive networks
- Sustainable and **energy-efficient** network architectures
- **Resilient** supply chains and **secure-by-design** components
- **Cloud Native** and Softwarization
- Development of **6G Use cases**

Engagement of **Vertical industries** is a key priority for us

~ **250 vertical Use cases** validated by SNS JU projects



Verticals Cartography | 6G SNS Tracker

SNS-JU has coordinated **research-to-standards**

6G use cases submitted to 3GPP Standardization discussions

6G USE CASES: 3GPP SA1 Workshop (Rotterdam, May 2024)

Implication: New digital opportunities will emerge in the next 5 years

JU model is a **powerful tool for industrial competitiveness**

A mission-driven JU based on **partnership**, structured **governance** and **transparent accountability**

Demonstrated strengths

- **Deep alignment between industrial and public policy priorities**
- **Shared Risks and Resources**
- **Access to Market Knowledge / Talent pools**
- **Ecosystem building**
- **Agility & adaptability**

What else is needed

- **Integrate new policy priorities and provide feedback to policy** (e.g. AI Continent, Security & resilience, NTN-TN integration, Defense)
- **Pilots/Pre-deployment to build 6G business cases & facilitate monetization**
- **End to end approach - from R&I to impact**
- **Strengthen synergies**
- **Simplification** (administrative/procedural aspects)

The JU model **delivers well on R&I aligned with industrial and policy priorities, bringing together stakeholders** to ensure Europe's leadership in telecom R&D.

This structure supports **competitiveness**, accelerates **technology development**, and **safeguards European values** such as openness, security, and interoperability.

A context of **global competition** and **geopolitical uncertainties**

Sustained public investment in **telecom R&D is essential** to uphold the EU's long-term interests

1. 6G is not a tech push, it's a system design challenge underpinning **digital sovereignty, economic competitiveness and societal resilience**.
2. SNS JU research program has demonstrated **strong achievements** on both **policy objectives and technological advancement.**
3. A key enabler of this success has been the JU's **partnership and collaboration-based** model.
4. To meet new policy priorities & industrial challenges the **JU model could evolve** as an agile, adaptable tool.

6GSNS

SMART NETWORKS AND SERVICES
JOINT UNDERTAKING

THANK YOU FOR YOUR ATTENTION

Contact us: smart-networks.europa.eu