



VTT

EU SNS Hexa-X-II EMETA workshop

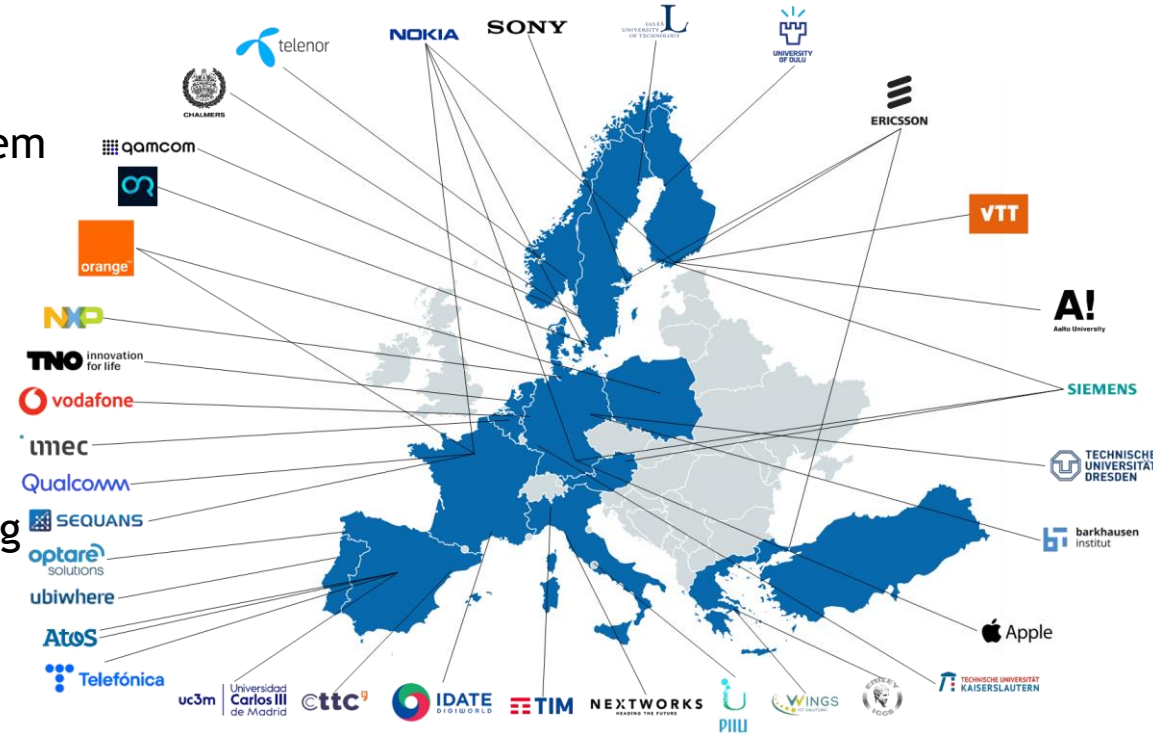
By: Pawani Porambage

16/08/2023 VTT – beyond the obvious

Hexa-X-II overview



- Hexa-X-II is the next European level 6G Flagship
- Focus will be continued development of technology and define the 6G platform and system
- Funded through Horizon Europe SNS-JU
- 44 partners
 - Cover the entire value-stack from hardware to system to platform to applications to service providers and a strong academic presence
- Nokia is overall leader
- Ericsson is technical manager



Consortium



Service providers



Applications and software



Platform



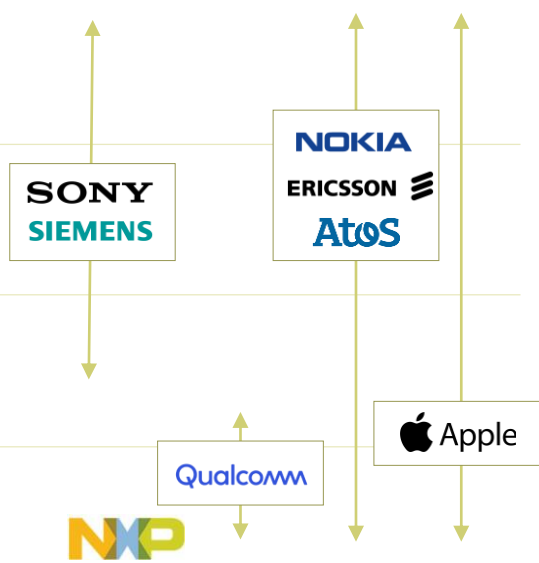
System and technology



Chipset and hardware



Qualcomm



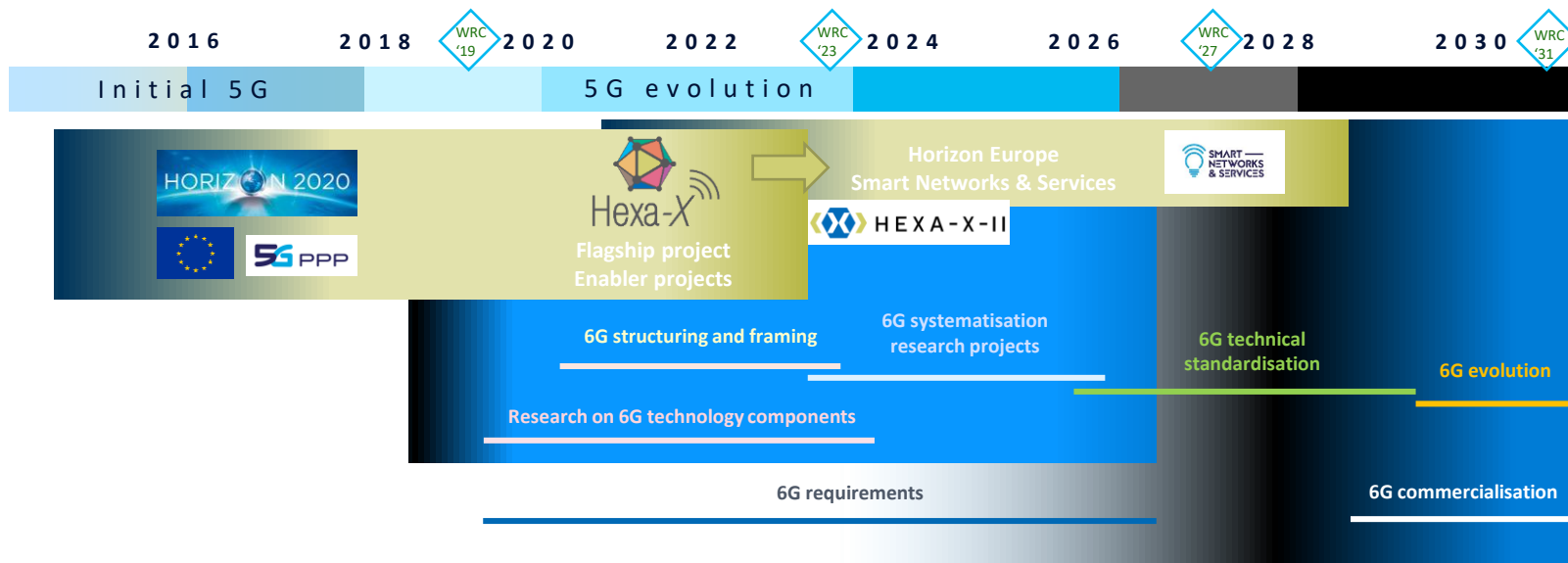
6G ecosystems and offering

Academia and RTO

SME

Large enterprise

Timeline



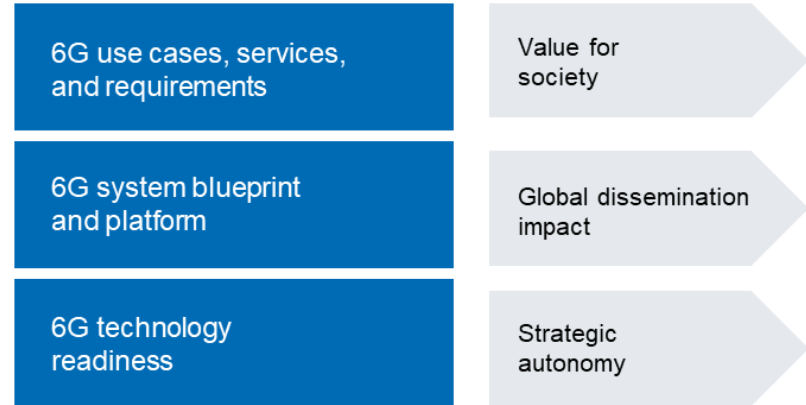
Overall objectives of Hexa-X-II



A holistic flagship towards the 6G platform and system to inspire digital transformation for the world to act together in meeting needs in society and ecosystems with novel 6G services

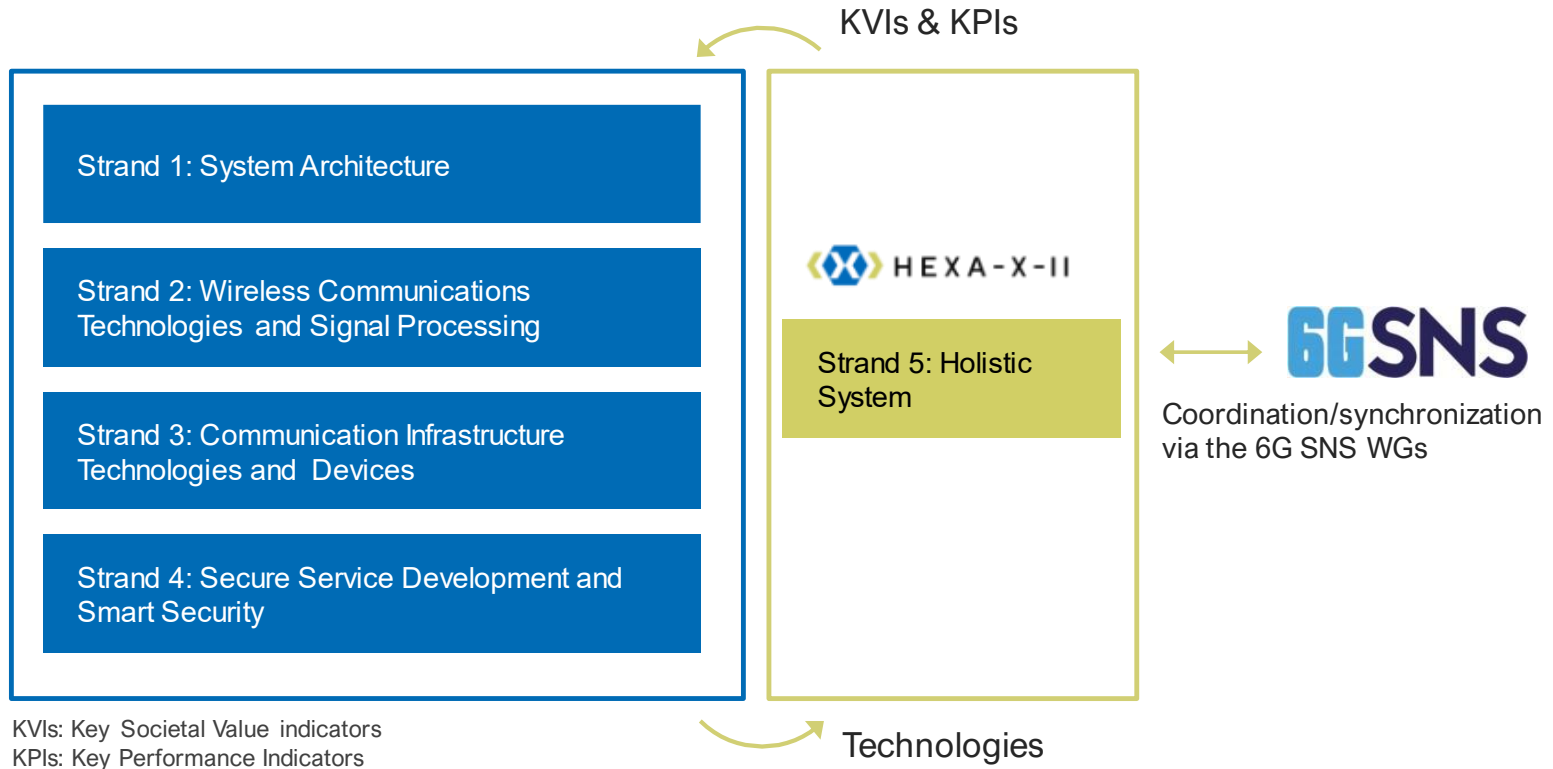


Hexa-X & Horizon-2020 candidate enablers

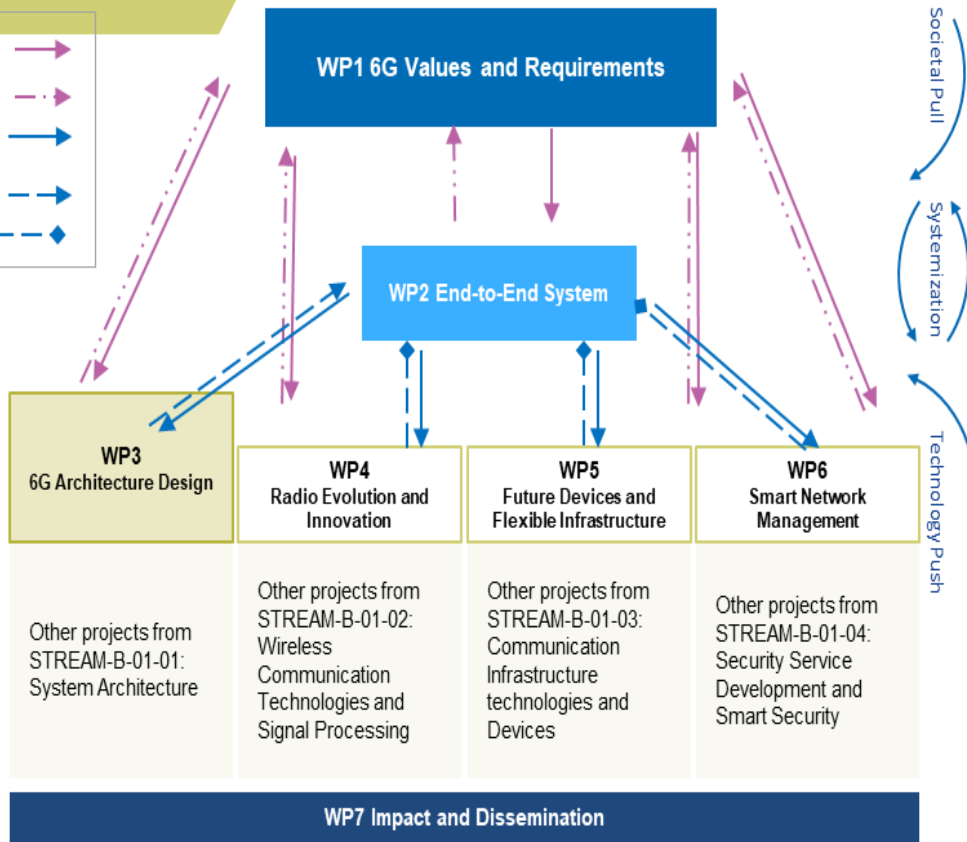
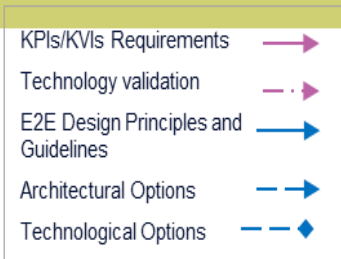


SNS stream B projects

Interactions with other SNS JU projects



WP structure



6G Use cases and requirements

Objective 1 – WP1 Requirements for the sustainable, inclusive, and trustworthy network platform

6G system blueprint and network platform

Objective 2 – WP2 Design blueprint of the sustainable, inclusive, and trustworthy network platform, and system validation

6G technology readiness

Objective 3 – WP3,4,5
Enhanced connectivity for 6G service

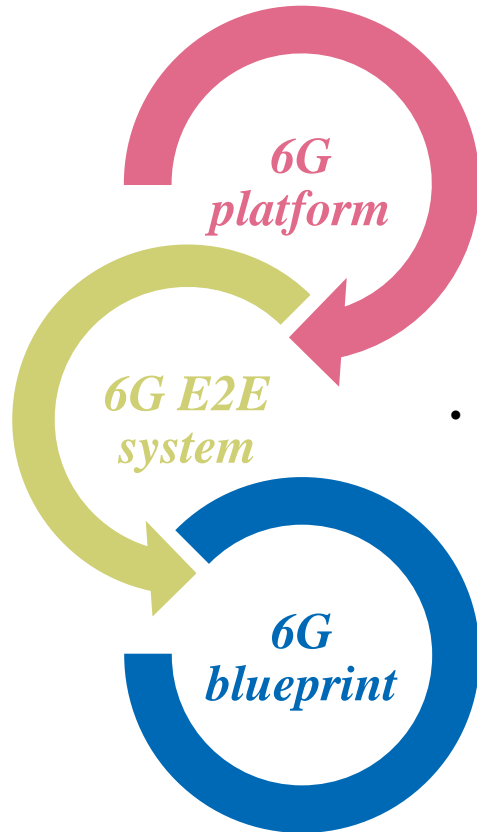
Objective 4 – WP3, 4, 6
Network sensing, compute, and AI novel digital services

Objective 5 – WP2, 3, 5, 6
Efficient network realization, implementation, and management

6G harmonisation

Objective 6 – WP7
Impact creation towards a global & holistic 6G era

Hexa-X-II WP2 key terms



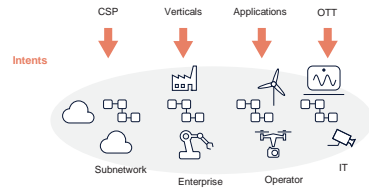
- The external view of a set of technologies and interfaces delivering 6G services to applications, ecosystems, verticals, users etc. enabling value.
- The technical realization of 6G platform which includes the technology enablers and their interaction.
- A reference architecture that meets the E2E system needs with respect to hardware, software and applications.

Hexa-X-II WP2 objectives and technical concepts

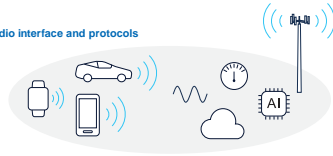


Main objective of WP2 is to design a system blueprint aiming at the sustainable, inclusive, and trustworthy 6G platform, and to provide the E2E system validation.

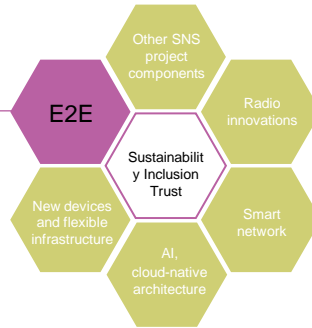
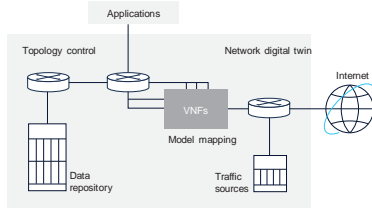
Multi-stakeholder service management automation



6G radio interface and protocols



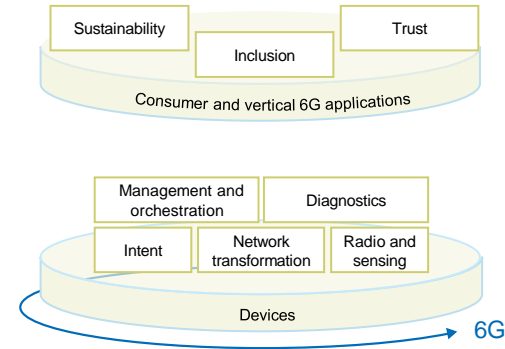
Digital twin for system-level security and resilience



6G network platform blueprint



E2E system validation



Hexa-X-II WP2 technical concept on E2E system.



Design the blueprint of the sustainable, inclusive, and trustworthy 6G platform, and provide the e2e system validation.

- T2.1: overall **design of the 6G system**, harmonize the end-to-end design principles
- T2.2: overall **design of the radio interface and protocol** of the 6G SNS platform
- T2.3: **intent-based end-to-end service management automation** framework in multi-stakeholder scenarios
- T2.4: **validation framework on security, privacy**, and the associated **resiliency** issues
- T2.5: Develop **system Proof of Concepts (PoCs)** to evaluate at the e2e level the proposed 6G system, and to **validate if the system can reach the 6G targeted KPIs/KVIs**

Overall view of system PoCs in Hexa-X-II



Key enablers

| KVI: Sustainability, trustworthiness (resilience) | |
|--|--------------------|
| Management and orchestration | Diagnostics intent |
| Network architecture and transformation Trustworthy flexible topologies, Beyond communications | |
| 6G device components | 6G radio aspects |

Cobots



| KVI: Sustainability, trustworthiness (resilience) and inclusion | |
|--|--------------------|
| Management and orchestration | Diagnostics intent |
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Cobots, twinning



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Cobots, twinning, XR, IoSenses



Gradual addition

6G

bey⁰nd

the obvious

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