Hexa-X-II workshop on enablers for 6G system
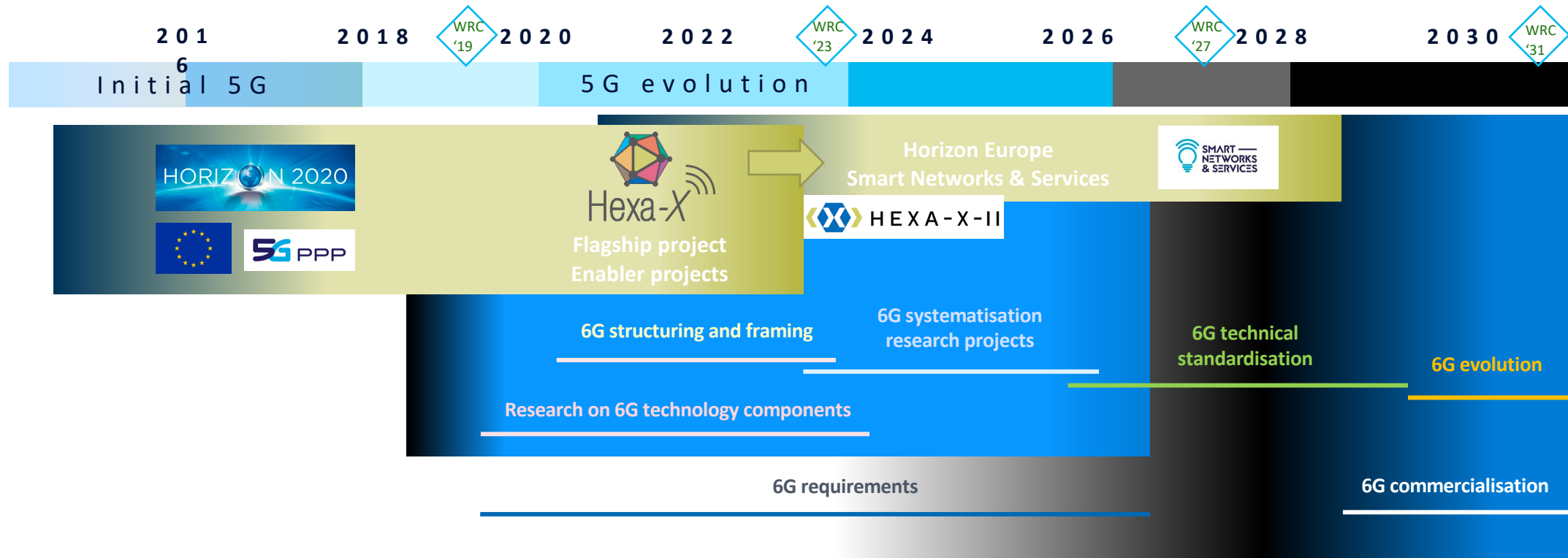
Welcome, introduction

hexa-x-ii.eu

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Timeline

# Wide set of deliverables available from the Hexa-X site

- 6G will be much broader than the radio-access technology
  A flexible platform providing connectivity, data, compute, intelligence, and sensing

- New results available at hexa-x.eu/deliverables/
  - D1.2 Expanded 6G vision, use cases and societal values – including aspects of sustainability, security and spectrum
  - D1.4 Hexa-X architecture for B5G/6G networks – final release
  - D2.3 Radio models and enabling techniques towards ultra-high data rate links and capacity in 6G
  - D2.4 Enabling radio technologies and roadmap towards 6G
  - D3.3 Final models and measurements for localisation and sensing
  - D4.3 AI-driven communication & computation co-design: final solutions
  - D5.3 Final 6G architectural enablers and technological solutions
  - D6.3 Final evaluation of service management and orchestration mechanisms
  - D7.3 Special-purpose functionalities: final solutions
  - 6 demos and their videos, Best booth award at the EUCNC & 6G Summit 2023
  - Joint book with 5G PPP WG architecture now publishers - Towards Sustainable and Trustworthy 6G: Challenges, Enablers, and Architectural Design

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

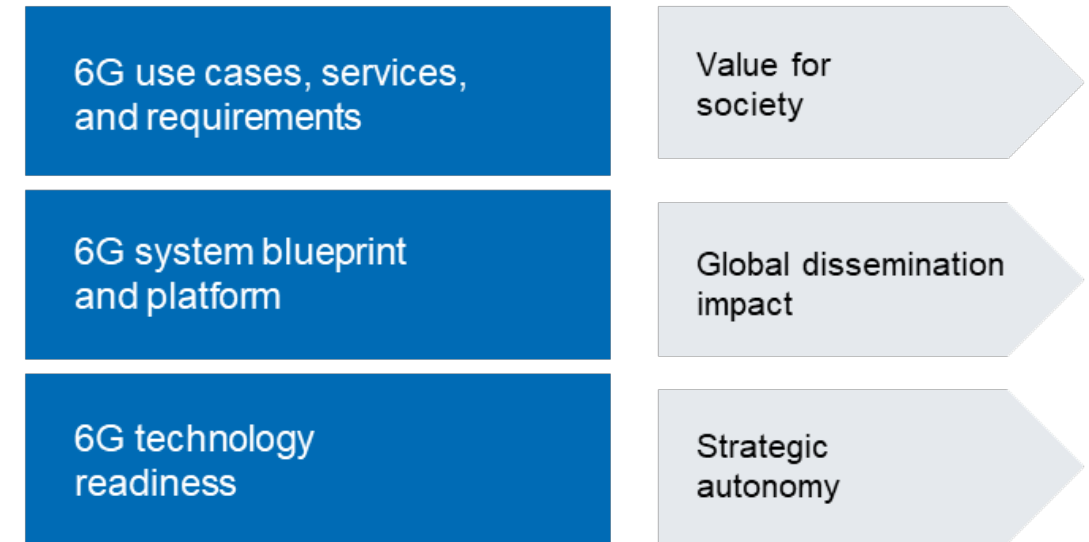- Ericsson is technical manager
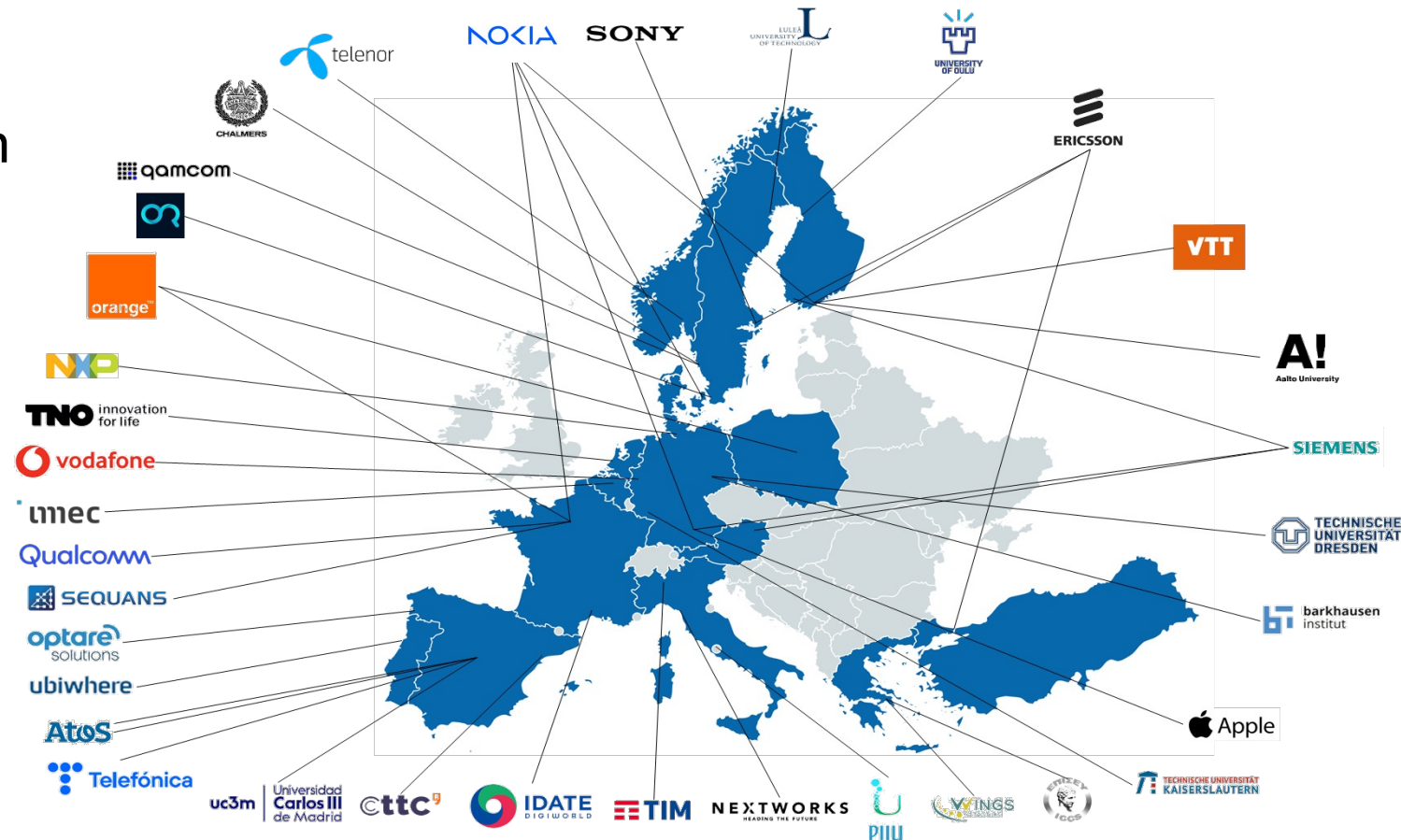
Overall objectives of Hexa-X-II

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-II consortium

Service providers	TNO PIILI	One Reality	orange™ TIM vodafone Telefónica telenor
Applications and software	IDATE DIGIWORLD	optare solutions ubiwhere SUITING THE FUTURE	
Platform	TECHNISCHE UNIVERSITÄT DRESDEN ttc CHALMERS UNIVERSITY OF TECHNOLOGY UNIVERSITY VTT ICCS	WINGS ICT SOLUTIONS NEXTWORKS ENGINEERING FORWARD SONY SIEMENS	NOKIA ERICSSON Atos
System and technology	A! Aalto University TECHNISCHE UNIVERSITÄT KAISERSLAUTERN uc3m Universidad Carlos III de Madrid LULEÅ TEKNISKA UNIVERSITET barkhausen institut	qamcom	Apple
Chipset and hardware	imec	SEQUANS COMMUNICATIONS	Qualcomm NXP
6G ecosystems and offering	Academia and RTO	SME	Large enterprise

Hexa-X-II deliverables

| Id	Deliverable name	Date
D1.1	Environmental, societal and economical drivers and goals for 6G	July 2023
D2.1	Draft foundation for 6G system design	July 2023
D3.2	Initial Architectural enablers	Nov 2023
D4.2	Radio Design and Spectrum Access requirements and key enablers for 6G Evolution	Nov 2023
D5.2	Characteristics and classification of 6G device classes	Nov 2023
D6.2	Foundations on 6G Smart Network Management and Orchestration Enablers	Nov 2023
D1.2	6G use cases and requirements	Jan 2024
D1.3	Environmental and social view on 6G	April 2024
D2.2	Foundation of overall 6G system design and preliminary evaluation results	Jan 2024

Objectives of the workshop

- Improve the European joint approach towards 6G

- Harmonize our approach towards the E2E system view, including architecture and enablers
  - Via sharing information and interaction on related approach towards 6G in different projects

- Overall Hexa-X-II will provide the complete system perspective of the future 6G SNS platform from an architectural and functional perspective as well as from an end-to-end, user-to-user (human and augmented) perspective, integrating key results of other Stream B Strands as they become available."

Figure 5. Interactions with the strands in the SNS Stream B
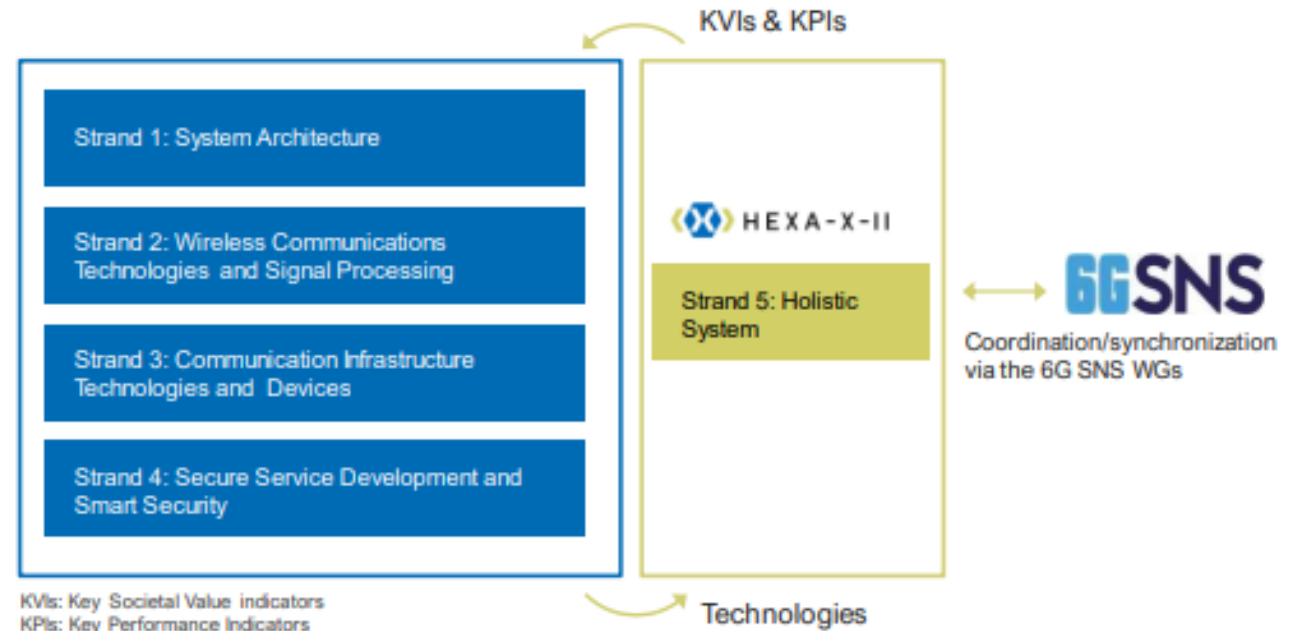
Hexa-X-II standardization activities & objectives of WS

- Communicating the results and impact on standardization
- Support harmonization across SNS stream B projects
- Assessing the performance of various concepts at E2E system level

Standardization and industry group activities

3GPP – R20/R21 releases onwards
- SA1 , SA2, SA3, SA5, RA
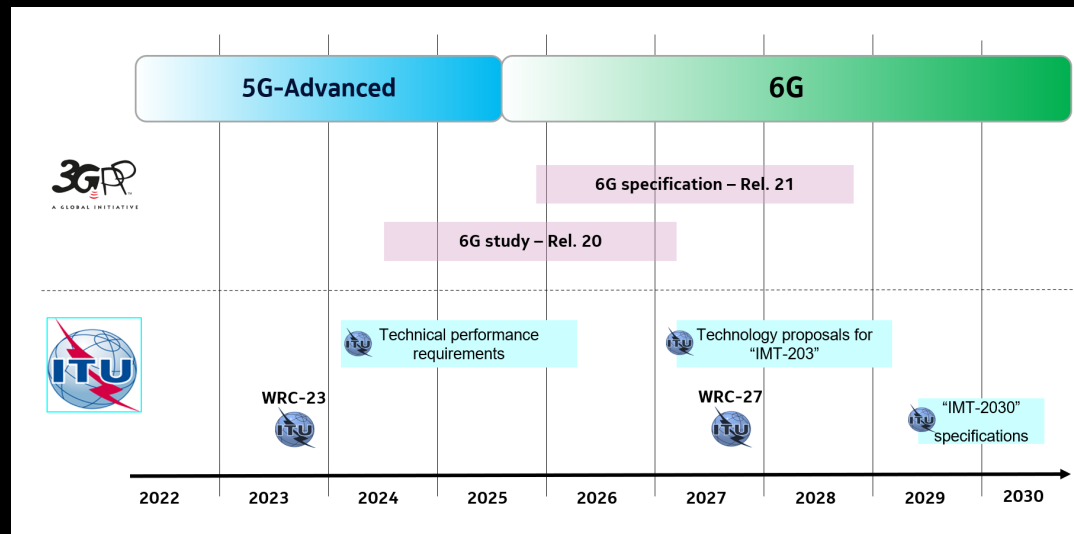
ITU-R/T

ETSI
- ZSM, MEC, THz, NFV, ISG SAI, OSM

NGMN

GSMA

O-RAN nGRG

IETF

IRTF

BEREC

	Targeted by the end of the project	Achieved
Standards and industry groups impacted	3GPP RAN, 3GPP SA, ITU, NGMN, ORAN nGRG, GSMA, BEREC, ETSI, TMFroum, IETF, IRTF	3GPP RAN, 3GPP SA, ITU, ETSI, IETF, IRTF
Total number of standards contributions by participants based on work in Hexa-X	More than 120	103

HEXA-X-II.EU // (X) (in) (YouTube)

Co-funded by the European Union

6GSNS