



# CELTIC-NEXT Pitch of the Project Proposal



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**Future generation system architecture  
as an enabler for digital society and vertical services**



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# Teaser



*What is the main benefit of the idea/proposal?*

*Future generation mobile system architecture based on fusion of ICT and emerging applications needs to support the future digital society and verticals*

*What makes the added value?*

*Building blocks and features of future system architecture: native AI/ML and analytics capabilities, the integration of terrestrial and NTN networking, core network support for harmonized communication and sensing, enhanced time-engineered networking, in-network computing and deep-edge-cloud continuum*

*Why should I participate in the project?*

*It is the early-stage opportunity to influence on future system architecture and industrial technology roadmap.*



# Organisation Profile

*Huawei Technologies Sweden AB is a research and development center that has been in Sweden for two decades. With more than 600 ICT experts and world-leading researchers and consultants, Huawei Sweden has become an integral part of the Swedish and European tech ecosystem. The company is involved in national and European projects and seek growth opportunities in fixed and mobile networks - introducing networks beyond 5G/towards 6G and cloud solutions.*

*Huawei Sweden also participates in many standardization organizations and international forums, e.g. 3GPP, ETSI MEC, 5GAA (5G Automotive Association), and 5G-ACIA (Alliance for Connected Industries and Automation).*



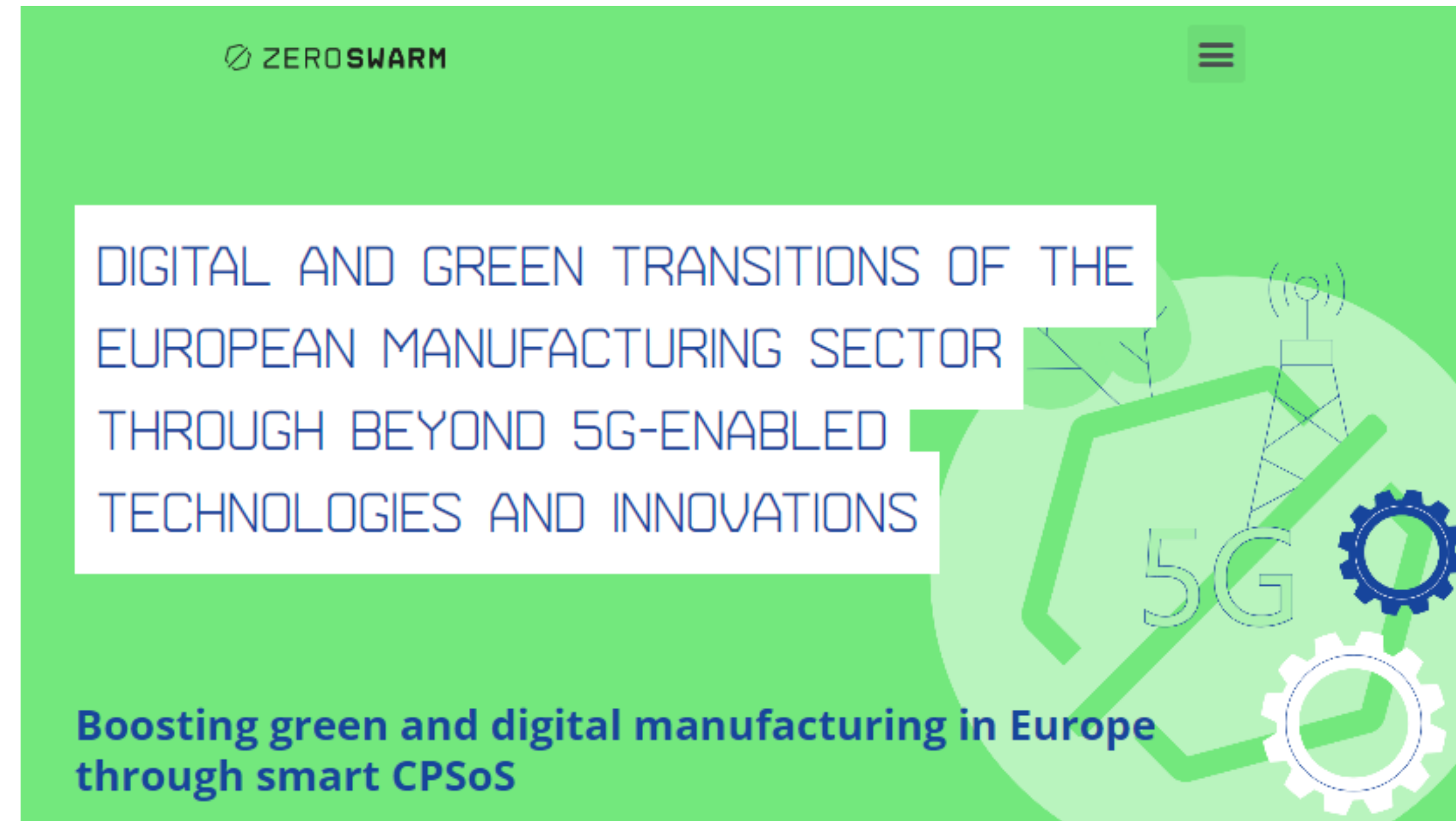
Stockholm Research Center

# Team Profile

*Our team is Cloud Core Network lab of Huawei Sweden AB. In our role, besides participation in SDOs, e.g. 3GPP/ETSI, and reference initiatives such as 5G-MAG; 5G-ACIA; 5GAA, we would like to collaborate in the National and European research ecosystems and the **CELTIC-NEXT** provides unique opportunity for this.*

*So far, we are engaged in one **Horizon Europe Project** called **Zero-SWARM**, which focuses on the uptake of 5G and beyond mobile communication in manufacturing sector aiming for green and digital transformation.*

*The **CELTIC-NEXT** call is a good chance for us to develop and elaborate more ideas and solutions as an extension of Zero-SWARM in the context of further evolution from B5G towards 6G.*



[zero-swarm.eu](https://zero-swarm.eu)



# Proposal Introduction

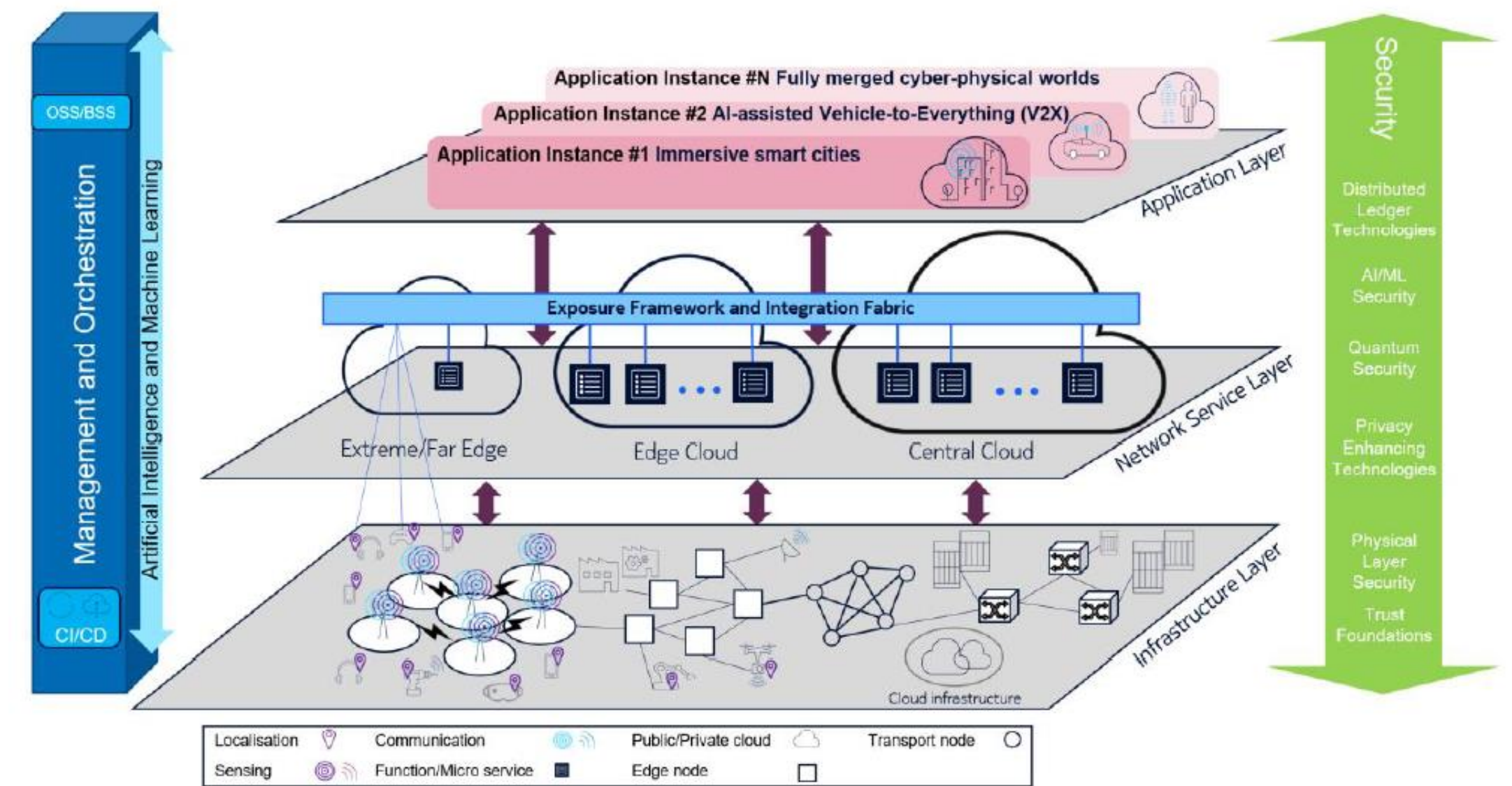
*Following the 5G trend, 6G use cases will continue to impose new functional requirements, introduce novel deployment models, promote various network sizes, different governance and ownership models and usage intensity.*

*In 6G, the whole network can be perceived as a distributed computer with embedded automation able to offer secure, trusted, and tailored communication services.*

*This vision is very much in line with digital transformation view promoted by the CELTIC-NEXT.*

*This implies various changes to the current network system architecture as the complexity of the whole system is increasing with the decentralization and distribution of the network and computing functionalities.*

*Therefore, higher degrees of intelligence and automated management of the next generation networks as well as new capabilities and APIs are needed compared to what has been achieved in 5G.*



Source: (Hexa-X Deliverable D1.3, “Targets and requirements for 6G – initial E2E architecture”, Mar. 2022, [Online]. Available: [https://hexa-x.eu/wp-content/uploads/2022/03/Hexa-X\\_D1.3.pdf](https://hexa-x.eu/wp-content/uploads/2022/03/Hexa-X_D1.3.pdf))

*The ultimate goal would be to propose a **future system architecture** able to offer enhancements compared to the previous generation from the perspective of functionality, reduced complexity, manageability, energy awareness as well as easy of use for customized use case deployments.*

# Proposal Introduction



The project length (if approved): 36 months, starting from Q4 2023 or Q1 2024

Key words: 6G, 6G system architecture, 6G core network design, verticals, ICT and OT convergence, IIoT, edge-cloud continuum.

Expected outcome: is to develop future system architecture framework based on ICT and emerging applications and requirements that allows going well beyond 5G capabilities developed under existing 3GPP and MEC technical standards towards more green and suitable network solutions in 6G.

Potential impacts: It will support industry and digital economies by means of developing the essential technology components as a basis for next generation system architecture to a fully connected, computed, green and intelligent world.



# Partners



- 1) We are looking for Swedish partners to fulfil Vinnova's requirements on a good balance between large companies, SMEs, academia and at least one Swedish SME*
- 2) We are looking for European partners to complete our Swedish group and form full consortium from representatives of different countries. It is desirable to have representatives from both ICT and OT sectors*
- 3) We are looking for a company (probably SME) who can lead the proposal*

*Existing consortium, involved countries:*

*Companies that expressed so far interest to the project idea are: UWE Bristol (UK), HolictiCRM (Hungary), University of Lulea (Sweden)*



# Contact Info

**For more information and for interest to participate please contact:**

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**Presentation available via:**

