



CELTIC-NEXT Pitch of the Project Proposal



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**Next Generation AI-native Mobile Network
Architecture for Emerging AI Agents**



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What is the main benefit of the idea/proposal?

Native AI-based - next-generation architecture for advanced intelligent communication with humans or machines (robots) with emerging AI agents.

What makes the added value?

Building blocks and features of future native AI-based system architecture:

- *the value proposition, key features, value scenarios, and requirements of the AI-native architecture;*
- *the target architecture, network agent functions, capabilities, and interfaces driven by AI agents;*
 - *the logical architecture, network functions, interface protocols;*
 - *6G AI telecom governance*

Why should I participate in the project?

It is an opportunity to influence the future system architecture of mobile networks.

Organisation Profile



Huawei Sweden – Stockholm Research Center (SRC)



Huawei Technologies Sweden AB is a research center that has been in Sweden for two decades. With more than 300 ICT experts and world-leading researchers and consultants located in Stockholm, Gothenburg and Lund, Huawei Sweden has become an integral part of the Swedish and European tech ecosystem. In particular, the Swedish research center is involved in national and European projects and seek growth opportunities for sustainable green solutions by enhancing emergency communication capabilities.

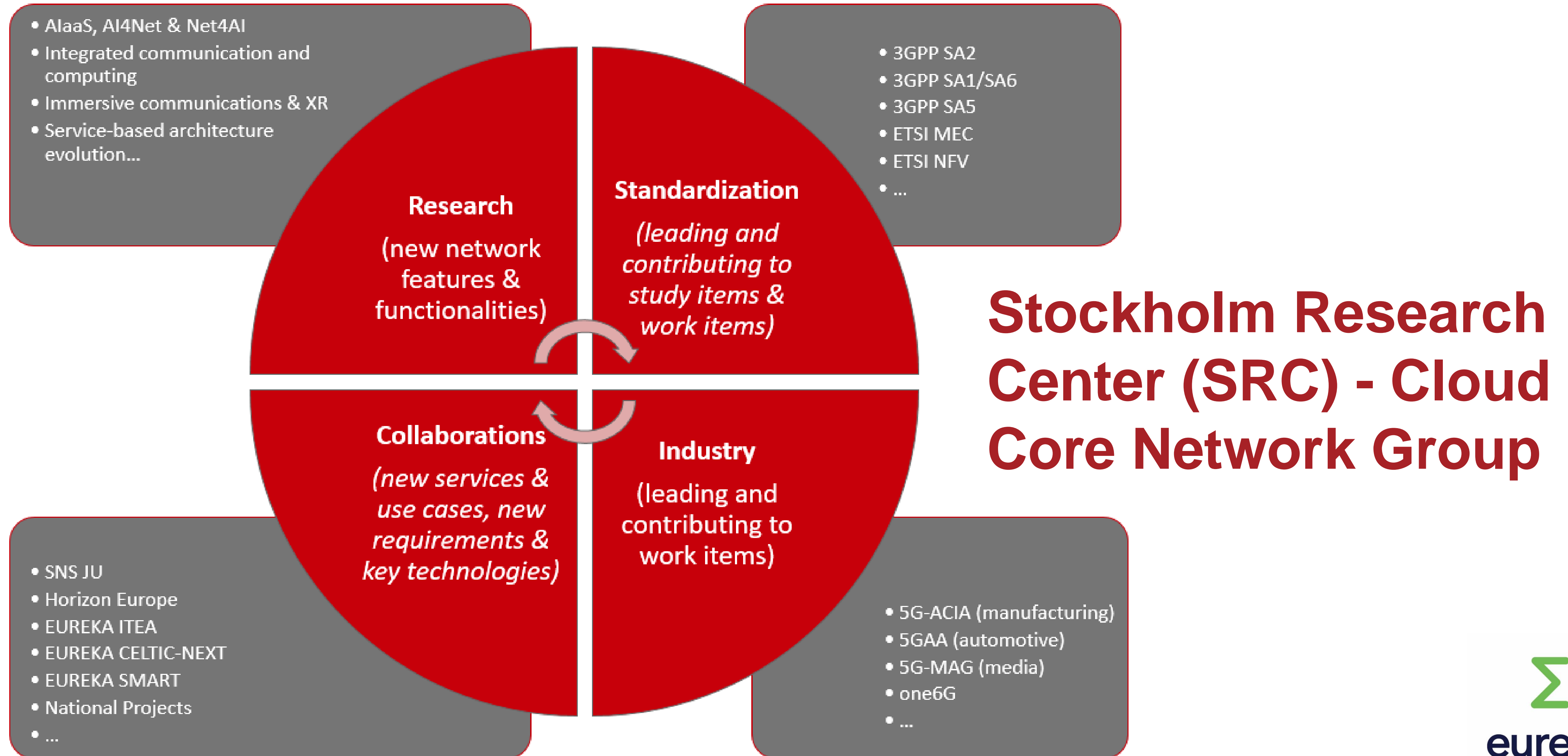
Huawei Sweden also participates and contributes on digital and green transition solutions in many standardization organizations and international forums, e.g. 3GPP, ETSI MEC, 5GAA (5G Automotive Association), and 5G-ACIA (Alliance for Connected Industries and Automation).

In 2000, Huawei established its first overseas R&D office in Stockholm, Sweden. Since then, Huawei has established several research centers across Europe.

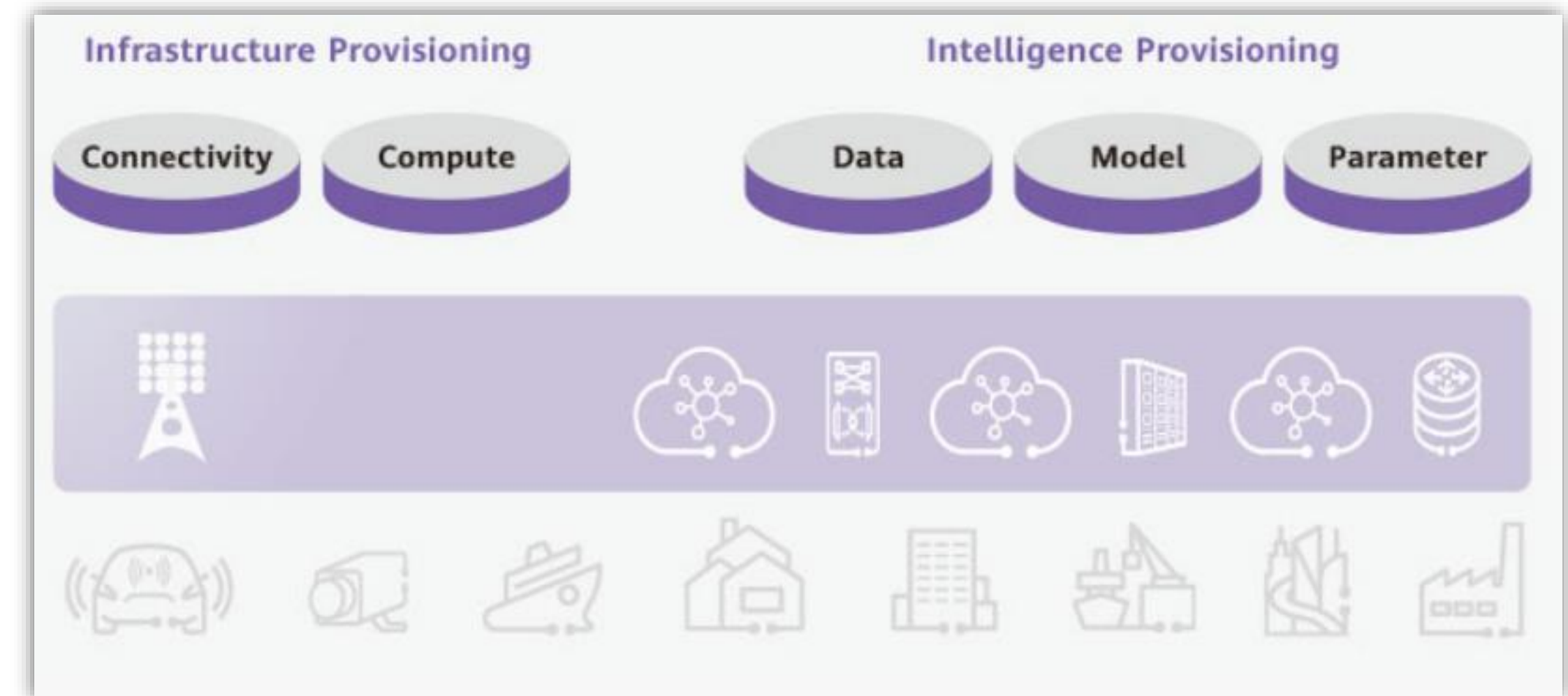


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Team Profile



Proposal Introduction



Source: AI: The bridge to 6G, Huawei WP, 2024.

<https://www.huawei.com/en/huaweitech/publication/202401/ai-bridge-to-6g>

- *The rapid development of AI, including emerging AI devices, AI applications and services, is driving the need for an AI-native architecture that integrates intelligence into network functions, procedures and operations. This proposal explores **next-generation system architecture** to support the needs emerging **AI agents** - intelligent systems capable of real-time decision-making, adaptive learning, and human-like interaction.*
- *By embedding AI agents directly into the communication infrastructure, this approach enhances efficiency, autonomy, and user experience across various domains, from human-machine collaboration to autonomous network planning and design. Unlike conventional AI-driven optimizations, **a native AI-based network architecture treats AI as an intrinsic component rather than an add-on**, enabling more dynamic, flexible and scalable interactions. This research aims to define the basic principles of such architecture, investigate the impact of AI agents on mobile network architecture, and propose a framework for their implementation, **positioning emerging AI agents as key enablers of next-generation communication systems.***

Proposal Introduction



The project length: 36 months, starting from Q4 2025 or Q1 2026

Key words: AI-native mobile network architecture, AI agents, 3GPP system architecture, Network for AI, AI for Network.

Expected outcome: This project will deliver a novel AI-native communication architecture that integrates emerging AI agents for enhanced real-time adaptability, automation, and intelligent interaction towards next-generation networks.

Potential impacts: The proposed native AI-based network architecture with emerging AI agents will improve human-machine and machine-to-machine communication by enabling more autonomous, context-aware, and efficient interactions. This could drive advancements in 6G networks, IoT ecosystems, and AI-driven digital assistants, paving the way for more intelligent and seamless communication infrastructure.



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Partners



We are looking for

- 1) a partner who can lead the proposal*
- 2) Partners that have “Network for AI” and/or “AI for Network” background to form international consortium from representatives of different countries.*



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