ECS 2024 GHENT BELGIUM 5-6 December

Embedded Intelligence

A-IQ Ready

Artificial Intelligence for Realtime Distributed Systems at the Edge

EDGE A-IQ READY

Challenges and objectives

The A-IQ Ready project aims to introduce and implement an intelligent autonomous electronic component system (ECS) suitable for our digital age, leveraging essential technologies. Edge continuum orchestration for AI, distributed collaborative intelligence, and quantum sensing have the potential to revolutionize numerous services and industries. These technologies will drive Europe toward the realization of Society 5.0.

O1: Improve sensing	O2: Build AI methods	O3: Provide an open AI Edge Continuum	O4: Build applications	O5: Europe's competitiveness for
accuracy, latency and trustworthiness in complex environments.	for multi-agent autonomy in uncertain environments.	platform.	relevant for the digital society.	resilient, prosperous and safe digital society.
AIoT, SoS, Digital ECS	AI-SoS , Algorithms	AI edge continuum	Digital Life on Edge	Digital Economy for Society 5.0

Technical goals

A-IQ Ready addresses two major trends: the **Internet of Things (IoT)**, projected to generate revenues ranging from **$1 billion to $1 trillion**, and the shift **from cloud to edge computing**. The project will leverage three disruptive technologies—**quantum sensor**, **neuromorphic acceleration**, and **AI in multi-agent systems**—to establish the edge continuum as the digital backbone for Society 5.0.

A-IQ Ready Supply Chains

OUTPUT ENABLERS

SC1. Safe co-existence
of automated and manual transport at industrial sites

SC2. Search & Rescue (SAR)
and emergency response for civil safety

SC3. Digital Health
and Emergency recognition for Driver and Operator

SC4. Propulsion health
and availability in safety critical situations

TECHNOLOGY PROVIDERS

SC5. Quantum sensor
Multi-modal, multi-physics sensing at highest precision

SC6. Hybrid Computing
(Quantum Computing & High-Performance Computing)

SC7. Cooperative Multi-Agent Systems
(Decentralized AI for Emergent Industrial Solutions)

CONCEPT

SC8. AI, Architectures, Tools and Methodologies
(for open source and cross domain fertilization)

Contact details:

Coordinator
Reiner John
AVL List GmbH
Reiner.John@avl.com

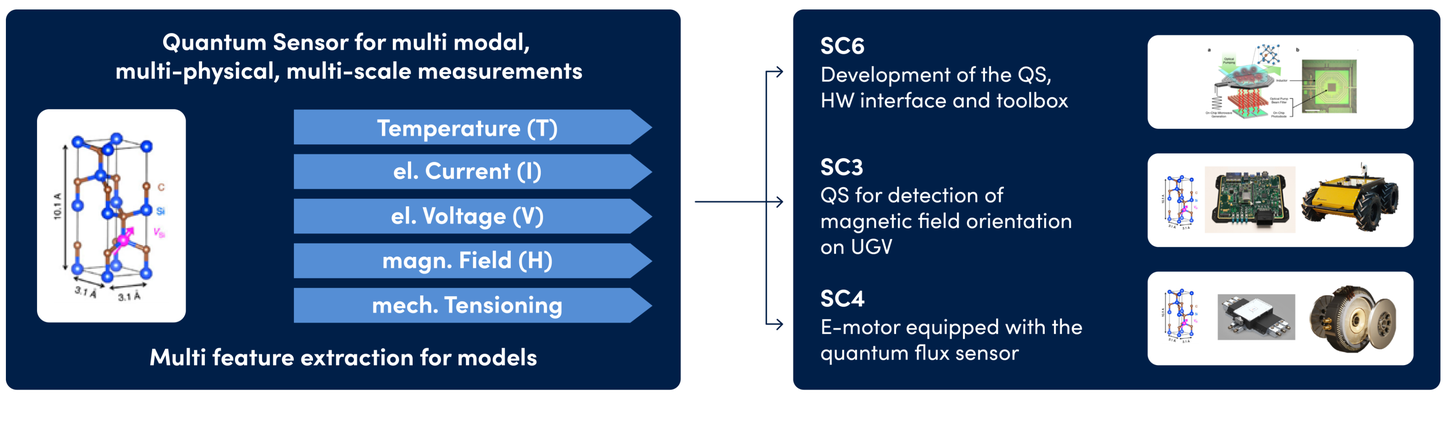
Katrin Al Jezany
AVL List GmbH
Katrin.AlJezany@avl.com

General info:

Number of partners: 49
Number of countries: 16
Project start: 1 January 2023
Duration: 36 months
Total budget: € ~35M
EU contribution: € ~10.9M

Expected impact

Quantum sensors can achieve the highest precision and sensitivity for multi-physical characterization, optimizing systems at the edge. In the A-IQ Ready project, technologies from SC3, SC4, and SC6 will integrate the same quantum sensor technology into various processing platforms, enabling a range of applications.



A-IQ READY receives funding within the Chips Joint Undertaking (Chips JU) - the Public-Private Partnership for research, development and innovation under Horizon Europe – and National Authorities under grant agreement n° 101096658.

Chips JU

Funded by the European Union