KDT JU
KEY DIGITAL TECHNOLOGIES JOINT UNDERTAKING

EUROPEAN PARTNERSHIP

KDT CALLS 2023

25 November 2022

WARNING

- Information conditional on adoption of WP2023 by KDT GB

CALLS 2023

Action	Topic
Call 2023-1 T1	Global topic according to SRIA 2023 (IA)
Call 2023-1 T2	Focus topic 6G Integrated Radio Front-End for TeraHertz Communications (IA)
Call 2023-1 T3	Focus topic on Integration of trustworthy Edge AI technologies in complex heterogeneous components and systems (IA)
Call 2023-1 T4	Focus Topic on Electronic Control Systems (ECS) for management & control of decentralized energy supply & storage (IA)
Call 2023-2 T1	Global topic according to SRIA 2023 (RIA)
Call 2023-2 T2	Focus Topic on Hardware abstraction layer for a European Vehicle Operating System (RIA)
Call 2023-3 T1	Improving the global demand supply forecast of the semiconductor supply chain (IA)
Call 2023-3 T2	Pan-European network for Advanced Packaging made in Europe (CSA)
Call 2023-3 T3	Coordination of the European software-defined vehicle platform (CSA)

Call 2023-1 and Call 2023-2 are two phase calls with project outline and full project proposal phases.
Call 2023-3 is one phase.

Schedule

For Call 2023-1 and 2023-2

Publication date:	**7 February 2023**
Project Outline:	**3 May 2023**
Full Project Proposal:	**19 September 2023**

For Call 2023-3

Publication date:	**7 February 2023**
Full Project Proposal :	**3 May 2023**

GLOBAL TOPICS

- Call 2023-1 and -2
- Bottom up part of the call
- All challenges of the SRIA 2023 open

Call 2023-1 T2:
Focus Topic on 6G Integrated Radio Front-End for TeraHertz Communications

- Investigate differentiated semiconductor technologies targeting THz connectivity (III-V on Si, FD SOI, RF SOI, advanced BiCMOS) and viable for a wide, cost-effective deployment, **with target for Ft and Fmax of 500 GHz and beyond**, and their optimal combination with CMOS.
- Develop **advanced packaging**, to **address the challenges of higher frequencies and massive MIMO as well as** solutions for integrating **THz antennas, filters and active MMIC**
- **High power, high efficiency heterogeneous integration of III-V and silicon MMICs aiming for THz** scalable large phased-arrays and communication systems
- Work on **antenna and packages at THz**, and on **beamforming for sub-THz and THz**
- **Architecture and design tools and methodologies for radio front-end modules for THz communications**
- **Energy-efficient ultra-wideband and/or ultra-high capacity RF front-end and ultra-wideband baseband interfaces and processors**
- **...**

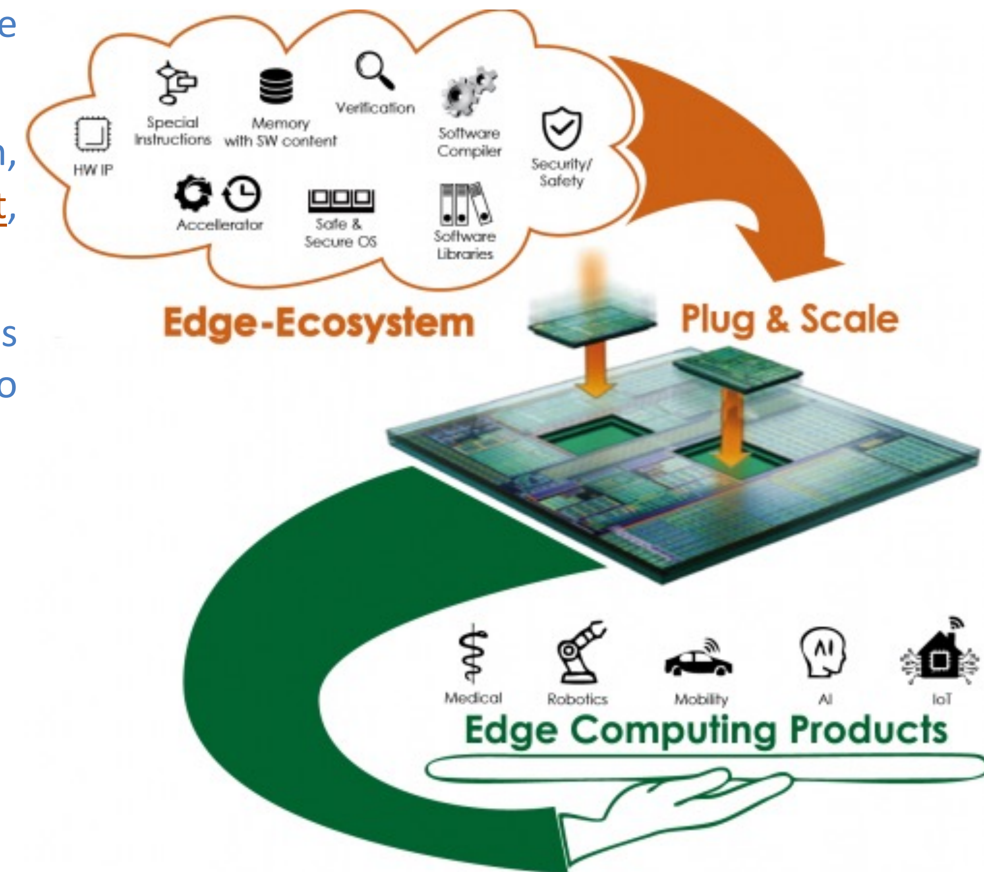
Refer to workshop this morning

CALL 2023-1 T3:
FOCUS TOPIC ON INTEGRATION OF TRUSTWORTHY EDGE AI

Integration of trustworthy edge AI technologies in complex heterogeneous ECS

1. **Interoperable and replicable edge AI hardware and software (HW/SW) solutions** that facilitate the integration, rapid deployment and low maintenance in resource-constrained systems and collaborative edge AI architectures.
2. **Efficient and standard engineering methods and tools** for (HW/SW co-) design, validation, optimization (exploration/mapping), implementation, deployment, qualification/certif. of trustworthy edge AI solutions in complex/heterog. ECS.
3. **Open & integrated platforms and ecosystems** hosting edge AI solution toolkits and design frameworks that provide the necessary trust and transparency to facilitate seamless interoperability by using standards & open interfaces.

Refer to workshop this morning



Call 2023-1 T4:
Focus topic on Electronic Control Systems (ECS) for management & control of decentralized energy supply & storage

1. **Solutions for distributed renewable energy systems** (DRES) with supporting ICT infrastructures are to be researched and investigated **to balance and optimize energy generation, transmission, storage and consumption**.
2. Includes **demand side integration, interfaces and controls for energy conversion and storage units such as heat pumps, cooling units, electrolyzers, fuel cells and batteries**.
3. And **solutions for the management of micro/nano grids and their synergistic interaction**
4. Also **reliability of the DRES in their operation and management.**

Call 2023-2 T2 (RIA): Common open European software-defined vehicle platform

- SDVs will rely heavily on an evolution towards a **central topology with more computing capacity at the edge** leading to a separation of hardware and software
- this will allow continuous innovation at hardware level whilst adding more functions and services and mastering complexity at software level
- a **common toolset** is essential to strengthen the integration of European actors in the automotive value chain and to accommodate for different innovation cyles for hardware and software

Workshop to be organized

CALL 2023-3 T1 (IA):

IMPROVING THE GLOBAL DEMAND SUPPLY FORECAST OF THE SEMICONDUCTOR SUPPLY CHAIN

A **validated and secure platform** that, among others,

- Handle the collection of demand data in an anonymous way
- Delivers aggregated demand data with high granularity
- Transforms this coarse granularity information into fine granularity information, generating the effective demand information
- The fine granularity matches an ontology for the semiconductor supply chain such as under development in the SC3 project;
- The platform should also be secure in all its aspects/functions, and
- The infrastructure needed to house the platform should be scalable

CALL 2023-3 T2 (CSA): PAN-EUROPEAN NETWORK FOR ADVANCED PACKAGING MADE IN EUROPE

- Objectives:
  - map the **current situation in Europe** (analysis of the European R&D strengths in this field);
  - **define a strategy** how RTOs, SMEs and LEs could commonly establish a Pan-European ecosystem for advanced packaging made in Europe.
- Expected outcomes:
  - **Recommendations** for **investments** (in the Chips JU) with regard to Advanced packaging pilot lines and R&D&I projects;
  - **Analysis** of **the value chains** for various applications and **recommendations** on prioritisation;
  - **Analysis** of **Skills** and **education** needs in Europe on the topic; **Recommendations** for future education & skills programmes in the Framework of the Chips Act.

CALL 2023-3 T2 (CSA): COMMON OPEN EUROPEAN SOFTWARE-DEFINED VEHICLE PLATFORM

- to help stakeholders of the open SDV platform to come together and align;
- to support the development of a clear roadmap and ensure timely delivery.
- By fostering agreement on a common open reference architecture, it will ensure the coherence of the developed platform.
- Building a dynamic community is crucial to ensure solutions are rapidly brought to the market, scalable and economically profitable.

Events and Chips JU

- Brokerage events, in Brussels and local (?)
- Mid next year start Chips JU, soon thereafter first calls (?)
- Further events in frame of Chips JU

- Stay tuned and visit our website the ones of AENEAS, EPOSS and INSIDE.