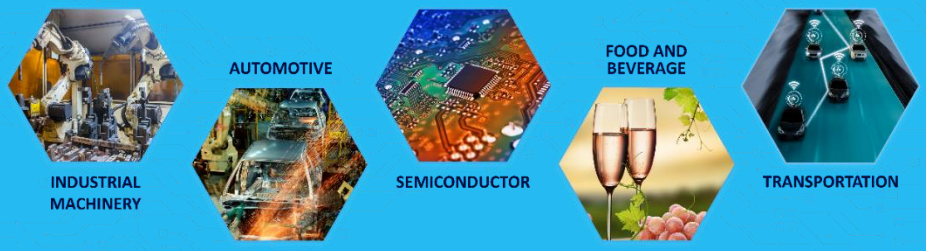
AI4DI Newsletter No.6



Newsletter No.6
October 2022

INSIDE THIS ISSUE

OVERVIEW

Start date:	1 May 2019
Duration:	43 months
Total budget:	30 M€
EU budget contribution:	8.8 M€
National budget contribution:	8 M€
Number of participants:	41

About AI4DI

AI4DI's mission is bringing AI from the cloud to the edge and making Europe a leader in silicon-born AI by advancing Moore's law and accelerating edge processing adoption in different industries through reference demonstrators.

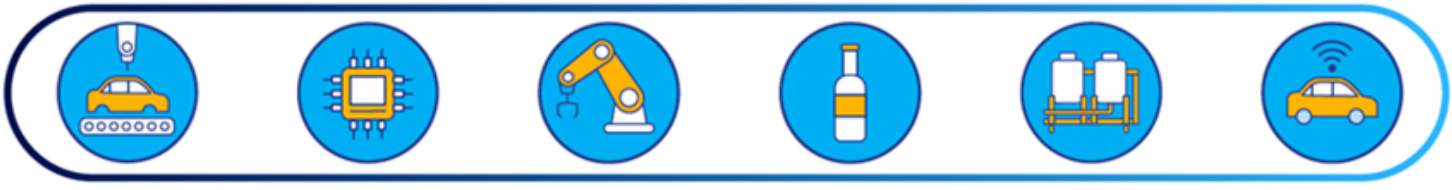
AI4DI objective is to research and develop AI technologies implemented to different industrial sector applications and deployed under conditions as close as possible to real-life.

The project aims to enhance processes based on repetitive tasks, focusing on replacing process identification and validation methods with intelligent technologies across industries such as automotive, semiconductor, machinery, food and beverage, and transportation.

The project's goal is to provide AI-based technologies at the edge for digitising the industry by reducing costs, saving time, and increasing quality by enhancing industrial processes.

AI4DI's advancements enable optimising/improving the industrial processes, products, services, and support building and sustaining a dynamic AI technology ecosystem in Europe.

ECSEL Joint Undertaking
Electronic Components and Systems for European Leadership



International Workshop on Edge Artificial Intelligence for Industrial Applications (EAI4IA)

Event organizers and ECSEL-JU / KDT-JU Officers

The International Workshop on Edge Artificial Intelligence for Industrial Applications (EAI4IA) was co-located with the International Joint Conference on Artificial Intelligence and the European Conference on Artificial Intelligence (IJCAI-ECAI 2022) in Vienna, Austria. EAI4IA linked researchers and practitioners working on providing edge artificial intelligence methods, techniques, and tools to augment industrial applications. EAI4IA comprised of technical presentations, keynotes and panel discussions focusing on industrial-edge AI hardware, software and AI frameworks.

The workshop created opportunities to stimulate research and innovation in the emerging domain of industrial edge AI, connecting research and industry communities to exchange experiences, discussed challenges and proposed new research tracks to support the digitalization of the industry and advance Society 5.0 developments. The workshop acted as a forum where researchers and practitioners shared thoughts and experiences, discussed current and future challenges, and influenced industrial AI technology and operations in an open atmosphere.

AI4DI Consortium General Assembly meeting

AI4DI Consortium held a General Assembly meeting on the last day of the EAI4IA workshop. During the meeting, the main question addressed by the partners was how to effectively exploit and present the project results, culminating in a detailed exploitation plan development and preparation for the final review meeting. As this was the first in-person event after the COVID-19 pandemic, partners enjoyed meeting each other and also discussing future collaboration opportunities to build upon the AI4DI results.

The event was also a great chance for the partners to present their results for the other supply chains and to remember how exciting it is to give presentations in person!

The International Workshop on Embedded Artificial Intelligence (EAI) - Devices, Systems, and Industrial

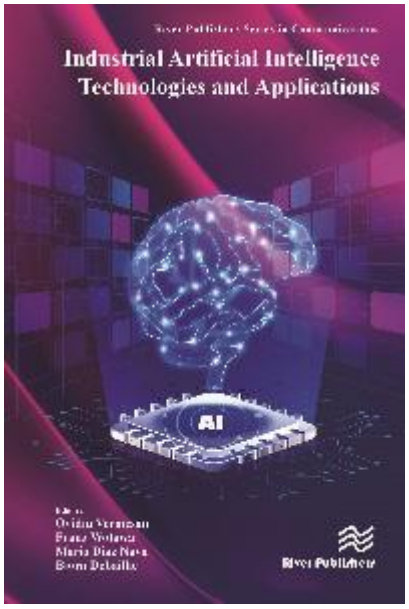
The International Workshop on Embedded Artificial Intelligence (EAI) - Devices, Systems, and Industrial Applications was part of the ESSCIRC ESSDERC 2022 European Solid-state Circuits and Devices Conference held in Milan, Italy, on 19 September 2022.

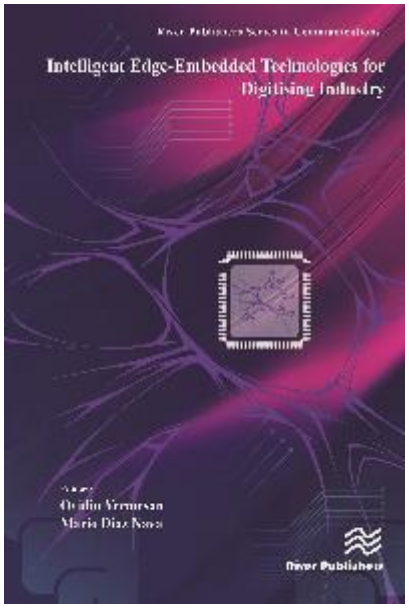
Recent technological developments in sensors, edge computing, connectivity, and artificial intelligence (AI) technologies have accelerated the integration of data analysis based on embedded AI capabilities into resource-constrained, energy efficient hardware devices for processing information at the network edge. New sensors, scalability, low power consumption, efficient connectivity and low latency in the edge infrastructure drive the expansion of the micro-, deep-, and meta-edge continuum and distributed AI-based computing architectures to support smarter applications. Hardware, software, algorithms, frameworks, and toolchains are essential for unlocking edge AI technologies' potential for various applications in several industrial sectors.

New edge processing circuits and devices are emerging, including CPUs, GPUs, TPUs, ASICs, FPGAs, SoC accelerators with novel neuromorphic processing architectures. This workshop brought together academics, researchers, and industry practitioners from various fields, including AI, cyber-physical, and embedded systems, microelectronics circuits and devices, edge computing, and autonomous integrated systems. Different views on current and future embedded AI were discussed, and the latest developments in devices, techniques, and industrial-edge applications were presented.

The workshop included invited keynote talks and presentations with audience opportunities to interact with the speakers, discuss novel and exciting research, and establish new and fruitful collaborations in the embedded AI field. The EAI workshop was co-organised by three large-scale ECSEL JU projects, AI4DI, ANDANTE, and TEMPO, to provide a platform to exchange knowledge and ideas among experts and professionals interested in advances in AI circuits and device design, AI hardware architectures, industrial edge AI technologies, toolchains and applications.

AI4DI Publications: two more books published!





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