Artificial Intelligence for Digitizing Industry

Results

Project Information

**AI4DI**
Grant agreement ID: 826060

**Funded under**
H2020-EU.2.1.1.7.

**Project website**

**Status**
Ongoing project

**Overall budget**
€ 30 062 525

**EU contribution**
€ 8 763 190,67

Coordinated by
INFINEON TECHNOLOGIES AG
Germany

Start date
1 May 2019

End date
31 May 2022

Deliverables

Documents, reports (12)

**Functional requirement and specifications of machinery and industrial equipment**

[T1.4] The partners will create a report describing definitions of requirements for a robotic arm, object recognition, sensitive robot skins, and contactless human-machine interaction.

**Requirements for silicon package fault detection and wafer inspection**

[T1.3] In this report, the partners provide a report describing requirements for different approaches on silicon package fault detection and wafer inspection. This includes wafer visual inspection requirements, design of an imaging geometry, an analysis of silicon package fault detection and the AI relevant data structures.
Requirements for learning systems
[T1.4] In this report the requirements for the implementations of learning systems are described.

Functional and non-functional requirements for smart robots
[T1.4] The partners will create a report describing definitions of requirements for a robotic arm, object recognition, sensitive robot skins, and contactless human-machine interaction.

Workshop on AI requirements for digitizing industry
[T1.1] Workshop organized with AI stakeholders (ECSEL and external) involved in digitizing industry. The workshop format is organized as a combination of experts’ key notes and brainstorm sessions to discuss the content of AI requirements for digitizing industry, the criteria of selection and present findings from market research reports and questionnaires.

Requirements for autonomous reconfigurable battery systems
[T1.2] A report is created describing the requirements of intelligent energy storage systems.

Definition of requirements for AI in transportation
[T1.6] In this report the specifications of AI based MaaS operation concepts and distributed data pipelines are provided.

Specification of AI supported automotive logistics processes and robotic controlled cell manufacturing
[T1.2] Related to the state of the art and science in this report the specification is presented on the concrete processes of control of logistic systems and robot supporting work systems within the factory. Derived from this, the synergies with other industries and the outlook for the further development of hardware software and method requirements are evaluated.

Report on standardization activities (1st version)
[T7.3] Document outlining project’s standardization strategy and partners’ standardization efforts in period 1.

Report on requirements and specifications for smarter food and beverage production based on AI-technologies
[T1.5] Defining the requirements and specifications for the food and beverage processing and manufacturing industry use cases. The focus is on exploiting new AI technologies, IIoT devices, and infrastructure to increase quality, productivity, autonomy, safety, etc.

Management and Quality Assurance Handbook
This deliverable will define management processes and rules for the involved partners for the duration of project solution. It will be useful mainly for administrative personnel inside of the project.

Specification of FMEA generator and materials simulation algorithms

[T1.3] The partners will define specifications for an AI based FMEA generator and materials simulation algorithms and provide a report.

Publications

Conference proceedings (2)

On the Use of Answer Set Programming for Model-based Diagnosis

**Author(s):** Franz Wotawa  
**Published in:** International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems, Issue 33th edition, 2020, Page(s) 12

DORY: Lightweight memory hierarchy management for deep NN inference on IoT endnodes - work-in-progress

**Author(s):** Alessio Burrello, Francesco Conti, Angelo Garofalo, Davide Rossi, Luca Benini  
**Published in:** Proceedings of the International Conference on Hardware/Software Codesign and System Synthesis Companion, 2019, Page(s) 1-2  
**DOI:** 10.1145/3349567.3351726

Peer reviewed articles (2)

CMix-NN: Mixed Low-Precision CNN Library for Memory-Constrained Edge Devices

**Author(s):** Alessandro Capotondi, Manuele Rusci, Marco Fariselli, Luca Benini  
**Published in:** IEEE Transactions on Circuits and Systems II: Express Briefs,