Periodic Reporting for period 2 - BOOST 4.0 (Big Data Value Spaces for COmpetitiveness of European COnnected Smart FacTories 4.0)

Reporting period: 2019-07-01 to 2020-12-31

Summary of the context and overall objectives of the project

Boost 4.0 starting 1st January 2018 and with a duration of 3 years, is the biggest European initiative in Big Data for Industry 4.0. With a 20M€ budget and leveraging 100M€ of private investment, Boost4.0 will lead the construction of the European Industrial Data Space to improve the competitiveness of
Industry 4.0 and will guide the European manufacturing industry in the introduction of Big Data in the factory, providing the industrial sector with the necessary tools to obtain the maximum benefit of Big Data.

OBJECTIVES
- Global Standards: Contribution to the international standardization of European Industrial Data Space data models and open interfaces aligned with the European Reference Architectural Model Industry 4.0 (RAMI 4.0).
- Secure Digital Infrastructures: Adaptation and extension of cloud and edge digital infrastructures to ensure high performance operation of the European Industrial Data Space; i.e., support of high-speed processing and analysis of huge and very heterogeneous industrial data sources.
- Trusted Big Data Middleware: Integration of the four main open source European initiatives (Industrial Data Space, FIWARE, Hyperledger, Big Data Europe) to support the development of open connectors and big data middleware with native blockchain support in the European Industrial Data Space.
- Digital Manufacturing Platforms: Open interfaces for the development of big data pipelines for advanced analysis services and data visualization supported by the main digital engineering, simulation, operations and industrial quality control platforms.
- Certification: European certification program of equipment, infrastructures, platforms and big data services for their operation in the European Industrial Data Space.

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far

The European Industrial Data Space and Big Data Services:
- Deployed and assessed in the factories of the 10 main European manufacturing leaders.
- Evaluated in 3 strategic economic sectors (automotive, manufacturing equipment and household appliances).
- Adopted by 3 factories in traditional and highly regulated manufacturing sectors (textile, ceramics, aero)

Progress beyond the state of the art and expected potential impact (including the socio-economic impact and the wider societal implications of the project so far)

1 big data reference architecture
1 eids business reference architecture
1 relatvie business value application framework
4 big data value newtork scenarios
10 pilot factories ramped-up
40 big data business processes
3 replication pilot factories
6 big data replication business process
12 open big data pipelinees PoC and scale-up
2 International Industry 4.0 agreements
4 standardization communities participation
4 open initiatives aligned
3 big data architectural patterns aligned
1 IDS connector OSS implementation available

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