BDVA's input to the Digitising European Industry Working Group 2
"Strengthening leadership in digital technologies and in digital industrial platforms across value chains in all sectors of the economy"
Follow up to the workshop on October 21st, 2016

Connected Smart Factory Subgroup

November 2016

The Big Data Value Association, representative of the Big Data Value (BDV) PPP, was invited to participate in the Digitising European Industry Working Group 2 workshop that took place in Brussels on October 21st, 2016. Three representatives of our Industry-led association joined the workshop and contributed in the different subgroups. This document is the BDVA response to the requested input by the European Commission to the questions addressed during the workshop, and in particular to the subgroup "**Connected Smart Factory**". BDVA has also submitted input for the "Industrial Data Platforms" and the "Digital transformation of health and care" subgroups through different and independent documents.

This input is provided by **BDVA TF7 (Applications domains) Manufacturing (emerging Subgroup)** represented by a group of BDVA members active in this domain.

What is the current landscape of activities in **Europe (national initiatives, EU funded activities, other)?**

Industry-driven initiatives are currently in place in several Countries / Regions under the framework of Industry 4.0. In H2020, the Factories of the Future PPP (especially in its DG CNECT part) is aiming at achieving EU leadership in Industrial Digital Platforms (projects FITMAN – an FI PPP indeed -, CREMA, C2NET for instance) and in filling the gap between research and market (I4MS initiative). However, there is currently no unified vision and awareness about what Data Economy could mean for Manufacturing Industry. Recently, a new sub-group in the BDV PPP has been created with the final aim to support Manufacturing Industry to master the new business value coming from the data economy. By mapping BDVA SRIA priorities to Industry 4.0 scenarios, this new community is being working towards a position paper identifying how BD technologies could enable Digitising Industry principles of smart products, data-driven processes and discovering new business models such as servitisation, sharing and circular economy. An EFFRA lead CSA project entitled ConnectedFactories has recently started to analyse, etc., all the relevant digitizing or IoT platforms for manufacturing, and it would be important and effective for the BDVA community to join, etc., the project. ARTEMIS/ECSEL also deals with big data matters, both in their SRA and projects. Big data topics are also emerging in process industry and the SPIRE PPP is reflecting the change in their latest drafts of SRA.

Where do we want to go?

- ### What kinds of next-generation platforms are needed (if any)?

Several projects have been addressing the **software engineering** side of the platform (i.e. the ecosystem of FIWARE Generic Enablers and their Reference Implementations), the Interoperability Specification (IOS) and a Reference Technology Platform (RTP) for safety-critical systems in CRYSTAL, the Local Cloud approach to factory automation in ARROWHEAD, both ARTEMIS projects, while the **data engineering** side has not been properly addressed yet (i.e. the FIWARE Lab Datasets covers only the Smart Cities and Smart Energy domains https://data.lab.fiware.org/it/dataset). The idea would be to create not only a "FIWARE Platform for Industrial Analytics" but also an open experimentation environment "Open Data for Industrial Analytics Experiments" with several examples of datasets and a configurable plant/product/ecosystem simulator to continuously generate anonymised data in Real Time for experimental purposes. This concept of experimentation incubators (as for the Big Data PPP) fits perfectly with the iSpace defined in the Big Data Value Association.

- ### What kinds of large-scale federating initiatives are needed (if any)?

Factories of the Future PPP has a critical mass of projects but cannot be perceived as one single large scale project. In IoT, the 5 LSP are not addressing Manufacturing. The need for a Big Data PPP Lighthouse in Smart Manufacturing is extremely urgent, to test and experiment the wealth of digital platforms developed in the recent years in our domain. Similarly, there is a growing need to implements such for process industries and smart energy. In the future, the 5G technologies tentatively play a central role in many ways.

- ### what concrete gaps/problems could be addressed through platform development and large-scale initiatives at EU level?

There are too many platforms around (e.g. 360+ in IOT as reported by https://iot-analytics.com/iot-market-reports/), the most advanced of them in the hands of US (e.g. GE PREDIX, Amazon AWS, Microsoft Azure). FIWARE, CRYSTAL, ARROWHEAD are genuine EU initiatives; Moreover, commercial platforms are emerging from, e.g., ABB, Siemens, Dassault. A FIWARE reference platform for Industrial Analytics is needed.

How do we bridge the gap between what we have and what we want to achieve?

- How to combine large-scale demonstrators across the EU and across Member States, taking into account already ongoing national developments?

In order to create strong synergies with DG REGIO and DG GROW initiatives (such as the Vanguard Efficient and Sustainable Manufacturing or the Industrial Modernisation), it is perhaps advisable to look preferably at regions and cross-regional initiatives and to address the National level at a second stage.

Who are the main stakeholders to be involved?

- ## How can PPPs contribute to building platforms?

Public-funded platforms MUST be open (if not open source). Private platforms providers MUST be involved and extend-enrich their proprietary solution with Open Platform (firstly for interoperability, then with integration purposes).

About BDVA

The Big Data Value Association AISBL (BDVA) is a fully self-financed non–for-profit organisation under Belgian law. The Big Data Value Association (BDVA) is the private counterpart to the EU Commission to implement the BDV PPP programme (Big Data Value PPP). BDVA has over 150 members all over Europe with a well-balanced composition of large and small and medium-sized industries as well as research organizations.

The BDV PPP was launched in 2014, but its operationalization has been especially pushed forward with the launch of the LEIT work programme 2016/2017

The objectives of the Association) are to **boost European Big Data Value research, development and innovation and to foster a positive perception of Big Data Value**. In particular, BDVA aims at:

- strengthening competitiveness and ensuring industrial leadership of providers and end users of Big Data Value technology-based systems and services;
- promoting the widest and best uptake of Big Data Value technologies and services for professional and private use;
- establishing the excellence of the science base of creation of value from BIG DATA.

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In Collaboration with BDVA TF7 (applications) Manufacturing emerging domain