D2.8: Status Report on BDVe network and marketplace activities at M18

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Abstract:	This report is a summary of the activities since the beginning of 2017 for establishing a Marketplace and relations with a network of intermediaries to promote the outcomes of the BDV PPP.

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Definitions, Acronyms and Abbreviations

Acronym	Title
ABC	Acceleration Business City
BDVA	Big Data Value Association
BDVe	Big Data Value eCosystem project
BDV PPP	Big Data Value Public-Private Partnership
BRAINPORT	BRAINPORT EINDHOVEN
CARTIF	CARTIF Technology Centre
CENTIC	Centro Tecnológico TIC, Tecnologías de la Información y las comunicaciones
EBDVF	European Big Data Value Forum
EDI	European Data Incubator
EFFRA	European Factories of the Future Research Association
FoF	Factories of the Future
ITI	Instituto Tecnológico de Informática
JIC	Jihomoravské inovační centrum (South Moravian Innovation Center)
KPI	Key Performance Indicator
MNC	Multinational Company
REBELS	REBELS Valley
SDIL	Smart Data Innovation Lab
SDSC	Smart Data Solution Centre
SME	Small Medium Enterprise

Table 1: Definitions, Acronyms and Abbreviations

Executive Summary

The mission of BDVe is to support the Big Data Value PPP in realizing a vibrant data-driven EU economy. The BDve project will pay special attention to incubators, accelerators and other innovation clusters, the Innovation Boosters, to ensure that small players, that are normally the most innovative ones, are key in the development of the PPP, and that the PPP key findings will be shared and discussed trough such network of Big Data intermediaries.

These objectives have been supported by several actions:

a) Building a network of intermediaries through a selection process targeting all the potential across the Europe.

b) Creation of an innovation Marketplace that, will collect and share innovative ideas and technologies produced by the BDV-PPP among the PPP and the intermediaries, with the aim to boost the results of the PPP projects.

For the action a) we started from analogous processes based on the EIT Digital experience on building hubs across Europe. We started:

1. scouting the possible intermediaries and selecting who have a medium maturity level on big Data topics (based on #startups that deals with Big Data, events organized or participated on Big Data, etc.) and already have experience in being part of a network,

2. engaging the selected ones through a formal interview process where a hypothesized value proposition is shared and discussed to understand the real expectations.

3. defining a next step roadmap based on the commonalities identified among all the intermediaries and enlarging the network by repeating the above actions 1 and 2.

4. providing the feedbacks gathered from the intermediaries to the PPP in order to establish the right matchmaking channels and maximize the exploitation of the results.

1   Introduction

The aim of this deliverable is to report on the work done, within WP2 "IMPACT, Framing the European Data Economy to maximize Impact", to boost the take-up of the BDV-PPP outcomes through a network of intermediaries (incubators, accelerators, regional clusters, etc.). In order to achieve maximum exposure, the resulting network of intermediaries will ensure that the PPP can easily connect to key audiences, in particular startups, SMEs and web entrepreneurs.

The specific objectives are:

a) To build a PPP network of intermediaries, targeting all the potentially relevant innovation mediators across Europe; and

b) To create an Innovation Marketplace that will collect and share innovative ideas and technologies produced by the Big Data PPP projects.

The PPP network of intermediaries will also provide a channel to promote the PPP outcomes, innovations, and technologies that are published on the marketplace.

This document reports two main activities:

• Engagement of the BDVe network of intermediaries adopting, when possible, the process approach developed by EIT Digital,

• Initial set-up of the Marketplace, structure and services, based on the inputs coming from the baseline survey for BDV PPP Monitoring Report 2016 and the investigation of already existing Innovation portals/marketplaces.

2   Engaging the Network of intermediaries

As described in detail in Deliverable D3.7 *Value Proposition and engagement plan for entrepreneurs and SMEs*, three target groups of stakeholders within the SMEs/startup ecosystem were defined, Intermediaries, SMEs, and Investors. The aim is to engage actors from "outside" into the activities of the BDV PPP to help supporting the uptake of the BDV PPP results.

In this deliverable we will focus on the group of the so called "Intermediaries" - acting as Innovation Mediators – that could facilitate the interaction between the BDV PPP and innovative startups and entrepreneurs in general to help to engage them into the activities of the BDV PPP. The work done in the engagement of SMEs and Investors is described in detail in D3.8 *Startups and SME ecosystem characterization*.

The goals of engaging a network of intermediaries are:

1) to raise awareness of European Big Data solutions and technologies, 2) to build a network of players active in the Big Data ecosystem, and 3) to develop a framework

that supports the acceleration and broad uptake of data-driven business in Europe across verticals.

Three main categories of Intermediaries can be distinguished as:

- Innovation Clusters
- Business and Science Incubators
- Startup Accelerators

A detailed description of these categories is presented in an earlier BDVe deliverable (D3.7).

Here we will report on the activities performed in:

1.) *selecting 'network nodes'* (incubators, accelerators, innovation clusters, etc.) targeting all relevant innovation mediators across Europe, and

2.) *the activities performed to engage and consult with an initial batch of intermediaries*; and

3.) the definition of a credible value proposition for the PPP actors and for the intermediaries. The value proposition for end-users (startups/SMEs) is key in the wider engagement of intermediaries with limited time and resources.

The ongoing work with all identified stakeholders in the SME/startup ecosystem will evolve over time and might include in the future also new stakeholders, like e.g., MNCs. Therefore, as one of the next steps, a more detailed stakeholder analysis will be carried out and reported in the next edition of this deliverable.

2.1 EIT Digital I3H and ARISE Approaches

As briefly described in Deliverable D3.7, the experience and success of earlier PPPs is effective and early engagement of intermediaries from outside the BDV PPP is relatively limited.

The most relevant and significant experience we had in EIT Digital for creating such a network of "intermediaries" (accelerators and incubators in Europe) was the I3H Incubating Internet Innovation Hubs[1] project, launched as part of the Future Internet PPP (FIWARE)[2]. The I3H approach led to the successful creation of a network of intermediaries entrusted with accelerating startups and SMEs in the development of applications and services based on FIWARE technology 'enablers'' (for more details see Annex i.I).

The approach developed by the I3H project was also adopted for creating the ARISE Europe network[3], which is part of the EIT Regional Innovation Schema, a program designed to stimulate regional growth in EU countries where there is no EIT Digital

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[1] https://www.eitdigital.eu/about-us/collaborations/i3h/

[2] See at https://ec.europa.eu/digital-single-market/en/future-internet-public-private-partnership and https://www.fi-ppp.eu.

[3] https://www.eitdigital.eu/about-us/arise-europe/

presence, its objective is to connect local and regional Innovation Centers to EIT Digital's innovation and education ecosystem.

The mission of the ARISE program is:

- Connect the most innovative local ecosystems to a network of about 140 Partners representing global companies, leading research centers and top ranked universities
- Strengthen Innovation Centers capabilities, linking them to EIT Digital's Innovation Activities, Business Communities, Access to Market and Access to Finance Services
- Foster entrepreneurial skill development by connecting local talents and educators to our schools

Both I3H and ARISE adopted the process schematized below

1. **Identify the scope and the objectives** for the creation of a networks of accelerators and incubators, widely distributed in Europe, which in turn support a more granular ecosystem of startups incubated/accelerated, local and regional government institutions, academic research institutions;

2. **Identify the target groups** (**incubators/accelerators/innovation clusters etc.) and countries**. As a starting point we refer to specific studies or surveys to identify the most appealing regions/cities in Europe. -referenced it with a survey that collects information on EU countries ranked by GDP, as an indicator of the European economies[4]. In the ARISE program the analysis built on the European Innovation Scoreboard[5], because the scope of the project was to target Regions that have the most innovative local ecosystems and connect them to the EIT Digital network.

3. **Identify the incubation services (like training, technical support, coaching, market studies, events, hackatons, soft landing in new markets, etc.) to be provided to the target groups (incubators/ accelerators/ innovation clusters,** etc): linking in in EIT Digital's Innovation Activities, Business Development, Business Communities, Access to Finance, Idea Challenge, and Professional School;

Once business development and training services offered by EIT Digital are defined, EIT Digital starts with an **Open Call process** targeting the intermediaries.

Applications can then be submitted on an application portal through a questionnaire collecting information on the applying organization, that will permit to score the applicants. Examples of gathered information are: organization history and past successes, its ecosystem and the services it provides, its competences, skills and key

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[4] www.lisboncouncil.net/component/downloads/?id=897

[5] http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en

resources, as well as plans for the future, and the major benefits they expect from the collaboration with EIT Digital.

After the conclusion of the Open Call process, typically 4-6 weeks, EIT Digital starts with a two-stage selection Process. In *the first stage*, the submitted applications will be evaluated and shortlisted based on evaluation criteria that depend on the scope and objectives identified at the beginning of the process (**selection**). For I3H two main criteria were identified, one related to the local and regional impact on the ICT and startup ecosystem, and one based on the "FIWAREness", such as the ability to sustain FIWARE adoption in the region and the capability to participate in on-going FI-PPP projects.

The second stage consists of discussion (**engagement**) and negotiation of the content of the cooperation (**value proposition**) with the shortlisted applicants. The discussion and negotiation focus on the activities to be performed, on **the funding provided** by EIT Digital (Grants) and on the co-financing rules by the shortlisted organizations.

In some cases (as for the I3H project), when grants or financial support is given, a stage gate process (**monitoring**) associated with the payment milestone could be set and at each gate EIT Digital could decide if the organizations selected have reached the partial objective or not in order to get the payment and move to the next gate.

The logic of the approach sketched above was adopted in the creation of the network of intermediaries as described in the next sections.

2.2 Scouting criteria and Intermediaries List

As the BDVe project did not foresee financial support to third parties in the creation of the network of intermediaries, a different strategy had to be implemented. For the selection of potential candidates (the *scouting*), the approach described above was adequate. However, for the *engagement* stage alternative value propositions would need to be designed to interest *candidate intermediaries*.

In sum, the following steps have been identified for the BDVe NoE:

   a) Identification of objectives and scope
   b) Identification of target groups (intermediaries) and countries
   c) Definition of value propositions for intermediaries (see 2.3)
   d) Scouting the intermediaries for each identified category
   e) Selection process (as indicated in the DoA)
   f) Engagement of the selected intermediaries (see 2.4)
   g) Monitoring (next step activities)

Figure 1 illustrates the differences between the standard EIT Digital approach and the approach proposed for the BDVe Network of Intermediaries. The key differences between the two approaches regard mainly the engagement process:

1.) In the EIT Digital approach, both for I3H and the ARISE network, grants have been provided in addition to giving access to a bigger network with all its benefits. This grant provision implies also a formal monitoring process for evaluating the fulfilment of the objectives agreed upon with the intermediaries.

2.) In the BDVe approach, we had to focus on only non-monetary aspects such as providing valuable value propositions for the targeted intermediaries
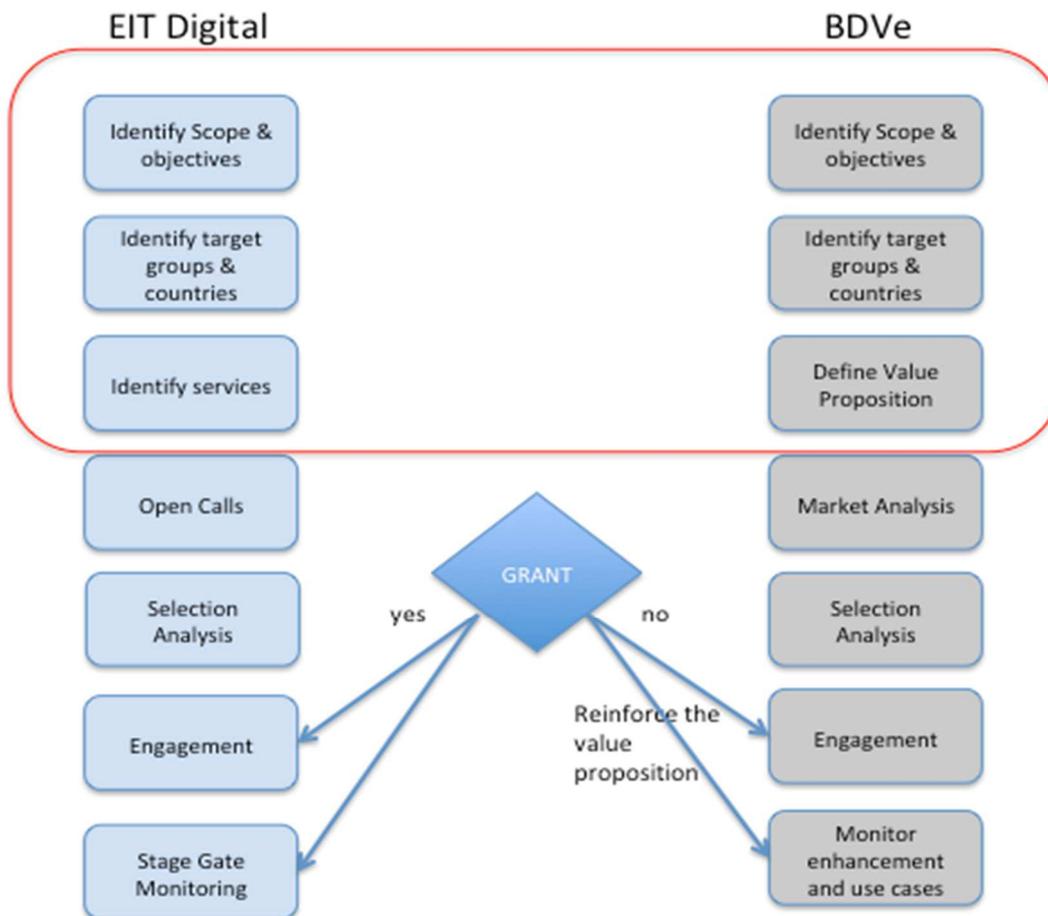
Figure 1 - EIT Digital vs BDVe approach

2.2.1 Identification of the Objectives and Scope

One of the main objectives of the BDVe project is to support the *building of a vibrant community around the PPP*. SMEs and startups play a central role in Data-driven Innovation so there is special emphasis on stimulating and attracting them to the Big Data PPP. BDVe aims to achieve this, inter alia, by interconnecting a network of intermediaries (incubators, accelerators, regional clusters, etc.) that will help boost the take-up of BDV-PPP outcomes in novel applications and and services. The network of intermediaries will ensure that the PPP can easily connect to key audiences including startups and web entrepreneurs, thereby increasing exposure and take-up of Big Data PPP research and innovation outcomes.

2.2.2 Identification of the Target Groups and Countries

In the selection of candidate intermediaries BDVe differentiates between:

- Business and Science Incubators;
- Startups Accelerators; and
- Innovation Clusters.

For each group a representative number of candidates will be sought that are geographically distributed making sure to include countries with actively developing markets in Big Data services and applications. Where countries have strategies in increase the awareness and competencies around Big Data the NoI aims to leverage these.

2.2.3 Scouting the Intermediaries for each Identified Category

We have collected candidate nodes from publicly available information on platforms such as e.g. Gust[6] and F6S[7]. The main selection criterion is based on the fact that accelerators and incubators are present in Europe with a significant ecosystem of startups and valuable services offered. Innovation clusters need to represent a wide ecosystem supporting the innovation growth in the region and they need to be able to attract external companies to an environment conducive to R&D investment.

The selected candidate incubators/accelerators are listed in Annex i.II. For each accelerator/incubator the following information is collected (for the description of the categories please refer to Deliverable D3.7):

- Link to the web page
- Country
- N° of startups managed
- N° of startups that deals with Big Data topics
- Services offered
- Qualitative KPI on Big Data Maturity Level (Low-Medium-High) for the category that comes from the involvement of the incubator/accelerator and their ecosystem in Big Data activities.
- Notes

For the intermediaries' category *Innovation Clusters,* we started from organizations that are already members of the BDVA ecosystem.

Selection process for the incubators/accelerators as indicated in the DoA

Starting from the above-mentioned list we focused on the incubators/accelerators that have:

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[6] http://gust.com/accelerator_reports/2016/europe/

[7] https://www.f6s.com

1) a significant number of startups in their ecosystem (**dimension and extension of the innovation ecosystem**),

2) a qualitative KPI medium-high (**track record in supporting big data innovations**) and that are located in high potential countries (especially Eastern Europe).

The first batch of intermediaries contacted comes from more established EIT Digital ARISE and iHub networks[8] complemented with a limited number of Innovation Clusters that are members of BDVA, and some Business incubators. The latter ones are indicated in the list below as Incubator 1, …, Incubator 5 due the fact that, at the time of writing this deliverable, we had not received the consent to publish the interviews mentioning the name of the related incubator and the name of the interviewed person. In case we get their consent, the list will be updated with the names and reported in the deliverable D2.9 at month M36.

Following is a list of selected intermediaries.

- *Incubators/Accelerators*
  - ABC Accelerator – Slovenia
  - JIC – Czech Republic
  - RebelValley – Poland
  - Found.ation – Greece
  - Neulogy – Slovak Republic
  - Technoport – Luxembourg
  - SDSC – Germany
  - Business Incubator 1 – Spain
  - Business Incubator 2 – Spain
  - Business Incubator 3 – Spain
  - Business Incubator 4 – Spain
  - Business Incubator 5 - Spain

- *Innovation Clusters*
  - Brainport Foundation Eindhoven – Netherland
  - CENTIC – Spain
  - ITI – Spain
  - IMT-Teralab – France
  - SDIL – Germany (not yet received feedback)
  - CARTIF - Spain

Please refer to Annex i.III for the description of above listed main activities.

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[8] https://www.eitdigital.eu/about-us/collaborations/i3h/

2.3 Value Proposition

The four pillars of the BDV-PPP and BDVA value proposition for the intermediaries and their target audiences are:

➢ Enhanced access to Big Data customers
➢ Increasing "Deal flow" (important KPI for of high potential Big Data startups)
➢ Opening BDV affiliated investor network
➢ Preferential access to BDV affiliate skills development programmes

In the section below, we will elaborate the propositions where we distinguish between Innovation Clusters and Accelerator/Incubators. For a complete and detailed description of the intermediaries please refer to the Deliverable D3.7.

2.3.1 Innovation Clusters

For the Innovation Clusters, general activities and objectives[9] (**Figure 2**) were compared with what we are able to offer as an *outcome* of the BDV-PPP projects, and the *tools* that BDVe is providing to the BDV-PPP (e.g. the marketplace and the access to skills and mobility information).

From Figure 2 we can see that the most frequently used activities are:

• Information and contact brokerage
• Networking and organization events
• Practical assistance and advice
• Events and Training

Figure 2 - Innovation Cluster objectives and activities

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[9] DG Enterprise and Industry Report - Innovation Cluster in Europe: A statistical analysis and overview of current policy support - 29/9/2016

Based on this matching exercise we identified the following potential value propositions:

- Increasing "matchmaking opportunities":
  - o Quick access to Big Data potential customers - prototype testing, new deals,
  - o Access to strategic corporate partners – joint strategic partnership, joint product development
- Co-organisation of events, e.g. Demo Days with the aim to facilitate the networking.
- Access to the BDV-PPP Innovation Marketplace
  - o Access to technology/communities/solutions/knowledge
  - o Online matching services (demand/offer)
- Skills Development leveraging BDVe skills programmes (EduHub, Badges, CoE, Mobility Programmes, etc.)
- The BDVe Business Model Tool to explore data-drive business opportunities (DemoX)

2.3.2 Incubators/Accelerators

For an increasing number of startups in Europe (about 5500 based on F6S statistics) Big Data is high on the agenda. Based on the analysis presented in Deliverable D3.7 - on the objectives and activities of incubators/accelerators we can define the value propositions as described below.

1. Increasing *matchmaking opportunities*,, in particular through
   a. Quick access to Big Data potential customers - prototype testing, new deals
   b. Access to strategic corporate partners – joint strategic partnership, joint product development
   c. *Joint Innovation projects* with BDV-PPP/BDVA partners/members
2. *Access to BDV affiliated investor networks* (for startups)
3. Access to the *BDV-PPP Innovation Marketplace* both for the Intermediaries and their startups:
   a. Access to technology/communities/solutions/knowledge.
   b. Online matchmaking services (demand/offer).
   c. Forum page for interaction.
4. *Co-organisation of events*, e.g. Demo Days for startups/scaleups with the aim to facilitate the networking
5. *Business Model Tool to explore data-drive business opportunities* (DemoX):
   a. Onsite or webinar session.
   b. One day workshop – train facilitators.

The following sub-chapter will describe some of the value propositions in more detail. The different value propositions are grouped as follows:

- networking (matchmaking opportunities), that includes the **events** participation or co-organized events, online **matching services** through the access to the marketplace or even the possibility to cooperate (intermediaries and partner of the BDV-PPP projects and/or BDVA members) in further **R&D projects**.
- Access to Finance (BDV Investor Group)
- Data-driven Business Modelling (BDVe's new DemoX tool)

2.3.3 Matchmaking Opportunities

What we are offering to the intermediaries is the chance to be part of a *network* of potential customers/partners or enter in contact with them, and benefit from (access to) the PPP outcomes.

BDVA members and BDV-PPP partners represent over 600 organizations comprising SMEs, Corporates, Academic and R&D Institutes. This entire community is focused on Big Data with which the intermediaries can interact.

The first feedback received from the intermediaries confirms that connecting incubators & accelerators and their startups with these international players, creates a win-win-win opportunity.

The aim of building sustainable networks and match with partners can be different. There are opportunities to find gateways to market, start common product development procedures, find team-members and business professionals, connect to R&D facilities and research institutions, and more.

The matchmaking opportunities with intermediaries will be facilitated through targeted **events**, the PPP **marketplace**, and by brokering **joint projects** with BDV actors.

2.3.3.1 Events

We are proposing to the contacted intermediaries' participation or co-organisation of BDVA/e events & panels allowing them to showcase interesting business propositions and draw attention to the topics of relevance to intermediaries. Co-organization will surely stimulate the interaction with BDV-PPP partners that are the main actors in the events organized by BDVA/e.

An upcoming BDVA/e event that could benefit from this approach is the **EBDVF18 in Vienna**. EBDVF will have keynotes and presentations covering cutting-edge industrial applications of Big Data technologies, artificial intelligence, innovative business cases of the data economy, inspiring future visions, and insights on EU policy-making and R&D&I funding in this area. Discussions are ongoing with interested intermediaries to organise **an investor session** for interested startups/intermediaries.

Another way to promote the matchmaking opportunity is to co-organise Demo Days where both the BDV-PPP projects and the intermediaries' SMEs/startups can present their solutions on defined topics.

Some of the intermediaries interviewed (for ex. Technoport Luxemburg) have regional grants for organising in- country matchmaking events dedicated to Big Data where BDV-PPP projects can be invited and disseminate their outcomes and reached objectives.

2.3.3.2 Marketplace

The marketplace is a collaborative environment where innovative ideas and technologies produced by the Big Data PPP are collected and shared. The Innovation Marketplace (see detailed description in section 3 below), provides an overview of the products, solutions, and services that represent the published outcomes of the PPP. We believe that this is a useful instrument to disseminate the PPP results, not only within the BDVA and BDV-PPP ecosystem but also outside creating the opportunity to "connect" demand and offer. Building a marketplace that provides the intermediaries and the supported ecosystem access to the outcomes may prove a key asset.

The intermediaries would have access to technologies, communities, solutions, and knowledge. For each solution selected they will have all the necessary information to get in contact with the company that is the owner of the technology/solution.

From the interviews (section 2.4) it is clear that some of the intermediaries would like to access BDV datasets to perform trials with realistic data. The ABC Accelerator suggested that a Value Proposition could be synthetized on three main services:

- Access to Market (through Matchmaking Opportunities and Marketplace)
- Access to Finance (through the BDV affiliated investor network)
- Access to Data (through the Marketplace asking for a new asset from the BDV-PPP projects)

2.3.3.3 Joint Innovation projects at Regional and EU level

Joint innovation projects in partnership with BDVe are another potential benefit for intermediaries. Interviewed intermediaries in Poland, explain the difficulties of joining international consortia to obtain research and innovation grants when applying for Horizon 2020 funding[10]. In their view the Polish ICT ecosystem is not recognised as a valuable partner in the EU Research community. Their experience is supported by the statistics results where for the total number of applications to H2020 2014-2016 per thousand of R&D personnel, Poland is ranked last. Joint Innovation Projects with BDVe could help countries like Poland to increase their success rate in obtaining EU funding for research and innovation in Big Data.

2.3.4 DemoX Data Driven Business Model

To reflect the economics of data, the disruptive potential of data-driven innovation as well as the high dynamics of data ecosystems, the development of data-driven business opportunities requires a framework to guide the development of business propositions that factor in both supply & demand sides. In Task 2.2. of BDVe *Work Package 2 on impact and investment,* a tool was developed to address this. It is called *the **D**ata-driven **E**cosystem **Mo**deling DemoX approach,* aimed at *the identification of data-driven business opportunities.* The tool combines recent

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[10]

https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/h2020_threeyearson_a4_horizontal_2018_web.pdf

insights in data-driven innovation with the Business Model Canvas to reach a large audience of data-centric companies.

Business Model Support is one of the services that Incubators & Accelerators provide to their ecosystem under the Business Services category. Some of the Innovation Clusters, such as Brainport Eindhoven, have their own incubation & acceleration services for startups. The use of the DemoX method could bring additional value by validating propositions and collecting intelligence on emerging opportunities with Big Data in dedicated session or webinars.

2.3.5 Investor Network

As described in detail in the Deliverable D3.8 *Startups and SME Ecosystem Characterization*, the Big Data Value investors group (BDV IG) is planned to be a group of private investors (venture capital investors, business angels, and other private investors), who is interested in investment opportunities in Big Data, linked-data, or data-intensive startups. Actually, all the activities related to the preparation of the ground for the setup of the BDV IG and its functioning with a group of 10 investors, have been completed. By the end of 2018 the overall mechanism of the BDV IG will be in place for investors, SMEs and startups to exchange communication and establish business deals.

In the coming months the following activities are planned regarding the BDV IG:

- foster the relationships between private investors and startups and SMEs via the market place;
- look for more private investors, willing to invest in startups involved in the data driven economy

Facilitating access to finance is a core service expected from incubator and accelerators. The intermediaries could extend their existing networks with a group of investors dedicated to investing in Big Data startups.

2.4 Intermediaries Engagement Activities

As described above, engagement will be a two-step process:

1) **prepare and send an email** explaining why we are contacting them and asking them for a brief interview by skype or phone call.

2) hold the **interview** following an interactive approach, explaining who we are, why are we calling them, how they have been selected, the BDVe project, the scope of the engagement, the value proposition, and to get some feedback from them on this initiative.

Interviews were held with all contacted intermediaries over a period of two months. The summary of the interviews can be found in the Annex i.IV. *On the whole the feedback was highly valuable in the design of the network of intermediaries.*

Figure 3 provides an overview of *values* of interest for the contacted organisations. In the picture below some columns have been added in red showing some new value propositions that have been suggested by some interview partners.

The most scored value propositions for the category incubators/accelerators are the **Matchmaking Opportunities and the Marketplace**. This is in line with the main services that incubators/accelerators provide to their startups and scale-ups. Even for the Innovation Clusters, the Marketplace is a value propositions that scored well.

In addition, many respondents suggested for the BDVe to facilitate **access to data,** coming from the BDV-PPP projects. Teralab stresses "*that a valuable marketplace should have as minimum asset good use cases, good data and good competencies*". There was also interest in the new **data-driven business modelling tool** designed by BDVe (DemoX).(). Business Incubators in particular expressed interest in using the tool with their startup audience.

Additional value propositions suggested by the respondents include Access to Data and Big Data Skills. This could be addressed by the PPP as follows:

- to include datasets as one of the assets of the Innovation Marketplace

- to enrich the offering that we have in WP4 taking in account what the intermediaries would like to have (access to job, internship and promotion at the regional universities, etc.)

	Matchmaking	Joint R&D Projects	Investor Network	Marketplace	organization events	Access to data	Branding/visibility	Internship / Skills	DemoX Business Model	Big Data maturity Assessment	Access to Job / speed dating
ABC	✓			✓		✓	✓				
JIC	✓			✓	✓						
SDSC	✓		✓	✓	✓	✓			✓		
REBEL	✓	✓		✓					✓		
FOUND.ATION	✓		✓						✓		
NEULOGY	✓			✓	✓						
TECHNOPORT	✓			✓	✓	✓		✓	✓		
INCUBATOR 1	✓	✓	✓	✓	✓		✓				
INCUBATOR 2	✓	✓	✓	✓	✓	✓	✓	✓			
INCUBATOR 3	✓	✓	✓	✓	✓	✓	✓	✓			✓
INCUBATOR 4	✓	✓		✓	✓		✓	✓			✓
INCUBATOR 5		✓	✓	✓	✓		✓			✓	✓
CENTIC	✓			✓	✓			✓			
BRAINPORT	✓			✓	✓				✓		
ITI	✓	✓	✓	✓	✓	✓	✓	✓		✓	
TERALAB				✓		✓		✓			✓
SDIL		✓		✓		✓		✓	✓	✓	✓
CARTIF	✓			✓				✓	✓		

Figure 3 - Intermediaries feedback on Value Propositions

The flags in yellow colour in the picture are showing that some intermediaries are not fully committed or that they have to better understand the value.

For example, the yellow check on the DemoX signifies that all intermediaries, that have expressed their positive feedback, think that the proposition is valuable, but they would like to have more detailed information.

The yellow check for CENTIC in the internship/skills general value proposition expresses their intention to create an *Innovation Centre for Big Data in the Murcia Region*. BDVe will support not only the creation of a network of already existing Centres of Excellence in Big Data, as part of WP4 ((described in detail in deliverable D4.1 CoE Report – v1.0) but will also provide expert guidance and (non-financial) support to members states, in this case in the Region of Murcia – Spain when looking to establish new National BDV Centers of Excellence. This should amount to a win-win proposition.

Brainport Eindhoven, a large Innovation Cluster dedicated primarily to Smart Cities applications, instead suggests that matchmaking and co-organization events are important but only if such events are done in two stages: *first organise matchmaking at regional level* on common local topics to be discussed, and only then move to a more wider approach with a general event.

For Intermediaries that are also i-Spaces like ITI, the value proposition needs to be aligned with the general i-Spaces value proposition, including the typical i-Space capabilities.

ITI also suggested splitting the **matchmaking** opportunities in access to PPP projects, and access to other stakeholders as shown in box 1, with the aim to further refine the classification.

Suggestions on classification of matchmaking (proposed by ITI)

Access to PPP projects assets that means not only access to the Innovation Marketplace but also access to:

- Successful stories,
- Best practices,
- Events, and
- Business models

Access to other stakeholders through BDVA/e for example:

- Centres of Excellence;
- Other EC initiatives like (AIOTI, HPC, Robotics, FoF, etc.)
- …

ITI and other Business Incubators also suggested to include in the value proposition:

> a) the organization of Big Data training services and seminars (mainly provided by BDVA and PPP projects),

> b) the opportunity to increase the visibility of SMEs through PPP channels.

A final remark concerned a way to assess the *Big Data Maturity* of intermediaries and their ecosystem. This could inform a roadmap to develop local and regional data-driven innovation ecosystems.

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All contacted candidate intermediaries are interested to be part of the network and to act as innovation booster of the PPP outcomes. The access to the Marketplace assets, and the possibility to increase matchmaking opportunities through co-organized events are considered very valuable from the intermediaries. Moreover, they are also willing to share their assets in terms of access to market and finance (as in the case of Technoport Luxembourg), to organize the PPP specific Big Data events in their regions, and to disseminate the PPP results through the communities to which they belong.

The intermediary engagement process will continue during the lifetime of the project with the aim: 1.) to collect continuous feedback, statistics; and 2.) to connect the emerging network to other BDVe activities and initiatives. New activities informed by the first round of interviews include *enlarging the scope of the skills in the WP4* to include Big Data job postings and creating a tool for the Big Data maturity assessment possibly as an extension to DemoX.

3 Setting up the Innovation Marketplace

The Innovation Marketplace is a portlet designed by the BDVe project to publish and promote the results of the BDV PPP including all projects and the members of BDVA.

These are the two main objectives for the Innovation Market Place:

1.) to promote the innovation results of the Big Data PPP to the wider Big Data Ecosystem outside the PPP; and

2.) to include in this marketplace the findings on data-driven business propositions (collected in part through Task 2.2).)

The Innovation Market Place will be integrated into the overall Portal of the BDV PPP.

The creation of the marketplace was done as a collaboration between WP2 and WP3. The concept and functional specification were provided through WP2. They will be reported in this deliverable. The design specification and the actual development of the marketplace have been carried out in WP3. These WP3 activities are reported in Deliverable D.3.16 *Collaborative Environment/Marketplace*.

The structure of the Innovation Marketplace draws on the following inputs:
- Baseline survey for BDV PPP Monitoring Report 2016
- Investigation of already existing Innovation portals/marketplaces
- Preparation of the functional specifications of the Marketplace

3.1 The baseline

The starting point marketplace was the Survey initiated early 2017 assessing the baseline regarding the contribution of PPP projects to the KPIs of the PPP. This data was collected for the Monitoring Report of the PPP 2016.

The survey was conducted using a template created by BDVA with the involvement of BDVe, in particular of T2.4. It was important to understand what data needed to be collected and to which extent the data required in the survey could inform the design of the marketplace. Concrete examples are e.g., the TRL level of the innovation coming out of the project or the application area (these were then included as fields in the search functionality of the Innovation Marketplace).

More details on the Baseline Survey can be found in Deliverable D2.11 *Intermediate Report on Sectors Workshops, Webinars and Votings.*

3.2 Other European Innovation Portals

Next an in-depth investigation was conducted to understand which types of Innovation Portals/Marketplaces already exist, both within the EC Framework and outside. The consideration of portals external to the EC was important to understand what makes the *Innovation Marketplace* successful in the long run.

3.2.1 Innovation Portals in the EC context

Following a review of relevant portals can be found; in some cases, new versions of these portals have been created or are being upgraded (links to all versions are included below.) New versions of portals created only in 2018 could not be considered for the structured definition of the BDVe Innovation Marketplace. These new versions in some cases include some form of matchmaking and brokerage activities.

3.2.1.1 *Innovation Portal - Factories of the Future (FoF):*

The Innovation Portal from EFFRA started as a database providing detailed information on all European projects in the Factories of the Future (FoF) PPP. It too served as a way to collect information on PPP KPIs. The old portal has been taken recently from http://www.effra.eu/index.php/component/content/article?id=716.

The new EFFRA Innovation Portal has significantly improved, offering in addition to a project database also community building and "mapping" functions. It also includes brokerage activities for future proposals (https://portal.effra.eu/home).

3.2.1.2 *Innovation Radar*

The Innovation Radar has gone through a major change since the start of our investigation. Initially it amounted to a large database providing information about the outcome of all FP7, CIP and H2020 projects in terms of the identification of high potential and key innovations. The methods include the assessment of the maturity of the innovations coming out of project, guidance during project lifetime for steps into the market and supporting innovators through funding. More information can be found here: https://ec.europa.eu/digital-single-market/en/innovation-radar.

For making the outcomes more accessible and attractive for the public, a data driven online tool was added where innovations coming out of the European projects can be assessed customised using different filters: https://www.innoradar.eu/.

3.2.1.3 FIWARE Marketplace

The FIWARE Marketplace – showing all solutions developed in the projects of the PPP – had been created when the Future Internet PPP was still in place. After the end of the PPP and the installation of the FIWARE Foundation, a private entity representing many companies that are involved in FIWARE took over. The focus of the marketplace is now on commercial solutions. Interested companies can offer their FIWARE solutions on the marketplace after having them approved by the FIWARE Foundation. In addition, training and coaching services as well as consultancy and technology services are offered. The FIWARE Marketplace is hosted by Funding Box: http://marketplace.fiware.org/

3.2.1.4 5G PPP (SME promotion)

A slightly different portal is the SME portal offered in the 5G PPP with the aim to offer to the partners in the 5G PPP *and the general public* access to SMEs that have participated in projects of the 5G PPP, offer skills in this domain or created success stories. The SMEs are listed by topic and by vertical, which makes them relatively easy to find (https://www.networld2020.eu/find-the-sme-you-need/).

3.2.1.5 Funding Box

Funding Box is a platform for startups and SMEs to join tech-related communities and obtain public funding. Funding Box is in between EC Portals and other Innovation portals outside the EC context, providing on the one hand much information about public funding, hosting EC communities (e.g., FIWARE, I4MS, etc.) and on the other hand acting as a private company offering their services also outside the EC community. Funding Box offers to "scaleups" information about access to public funding and spaces for interaction in different areas: https://fundingbox.com/explore/spaces.

3.2.2 Innovation Portals/Marketplaces/Startup ecosystem platforms

In order to complete the picture we reviewed international portals/platforms in different areas and with different scopes

3.2.2.1 Tech Marketplace

The Tech Marketplace is an Italian platform organised by a bank, Intesa SanPaolo, in strong collaboration with Confindustria Piccola Industria (Association of small Industry companies) to facilitate the matchmaking between demand and offer of technologies and by that supporting SMEs to find customers and suppliers. In addition to the matchmaking the platform offers information about the latest trends, news and events. It is an interactive concept matching offers with demand. Registration. R is needed access the supply/demand side. Success stories are published in a blog. Trend reports are also provided at https://www.tech-marketplace.com/en/.

3.2.2.2 Gust

Gust (https://gust.com/) is one of the biggest interactive platforms acting globally in the startup ecosystem matching Startups (https://gust.com/startups), Accelerators (https://gust.com/accelerators) and investors (https://gust.com/investors) by

providing separate pages for each category. Direct matchmaking is facilitated – actors can get in touch directly with other actors on the platform (e.g. for financing, acceleration, etc.).

3.2.2.3 F6S

F6S is one of the biggest startup platforms (current number: 2,662,289 founders); it has different search categories (market, actor, location, etc.), and facilitates direct interaction between actors including financing. Information at the time of the investigation and now: ODINE worked with F6S to have their startups registered and monitored there. Data Pitch is using F6S for the registration of the applicants (statups/SMEs) for their Open Calls and now F6S is partner in the European Data Incubator, the second accelerator project in the BDV PPP: https://www.f6s.com/.

3.2.2.4 EGI

EGI is a federation of hundreds of data and compute centres worldwide and tens of cloud providers united by a mission to support research activities. EGI is also committed to supporting business and innovation.[11] EGI is a member of BDVA and is also offering a marketplace like a shop concept (say Amazon marketplace). Their offering can be bought or booked (training), no further interaction is facilitated:

http://marketplace.egi.eu/.

3.2.3 Market place, Role and Functionality

3.2.3.1 Strengths

From the investigation, many "EC related" Marketplaces appear quite static, presenting mainly a big repository of data with little interaction. Information tends to be very much "project-oriented" making it difficult for a visitor, e.g. an investor, from outside to find interesting material.

This was the situation when the decision was taken on how to create the structure for the marketplace; "EC related" Marketplaces did not provide a valid role model. In the meantime, e.g., the new version of the Innovation Radar as published in April 2018[12], shows a different picture with enhanced search facility combined with map functionality.

Portals outside the EC context, acting either on national or international level focus more on interaction (e.g., demand and supply) such as matchmaking. A variety of them were selected with the aim to understand different flavours of portals/platforms/marketplaces, always designed to the target groups they want to serve.

3.2.3.2 Target Groups

The Innovation Marketplace must serve primarily for the actors of the BDV PPP that have different needs concerning the promotion of their results:

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[11] https://www.egi.eu/about/

[12] https://ec.europa.eu/digital-single-market/en/news/launch-eus-innovation-radar-getting-innovations-market-faster

- o Lighthouse projects,
- o i-Spaces
- o Technical projects,
- o Accelerator/Incubator projects – e.g. Data Pitch, EDI

It important to distinguish between solutions coming from SMEs incubated in Data Pitch or EDI and results coming from the projects (Lighthouses, technical projects) as potential "customers" will differ, e.g., investors for the SMEs and corporates for the technical solutions.

3.2.3.3 Needs

The most important criterion for the Innovation Marketplace is the possibility of interaction and matchmaking. It is well understood that the content of the solutions promoted in the Marketplace must be interesting (for example by also providing access to data sets as already mentioned in the previous chapter) but it should not be limited to be a repository of interesting content.

This is of particular importance for SMEs/Startups/Web Entrepreneurs looking for new customers and funding from investors. Moreover, the active promotion of new technology solutions developed in the projects of the PPP, is an important factor.

3.3 Setup of the Marketplace

Based on all the information gathered as described in the previous chapter 3.2, the concept for the structure of the Innovation Marketplace was created and agreed by all involved actors. As it was decided that the marketplace will be developed internally of the BDVe project; many iterations have been done with WP3, T3.5, to define then the programming based on the structure decided.

The Marketplace will thus provide the following functionalities:

- **Search**: here a catalogue of all innovative solutions will be provided that can be browsed by using the different filters and categories according to what is needed

- **Contribute**: all projects under the umbrella of the PPP can upload information about their innovative solutions into the portal to make this information available to all visitors of the portal

- **Participate**: this is one interactive part where questions can be posed, answers found, and interaction is possible. This will be part of the "Forum" pages

Further functionalities, such as the facilitation of active matchmaking e.g., between Demand and Supply, SMEs and Investors, is envisioned to be included in future versions after the successful establishment of the initial version.

The following actors will play key roles on the Innovation Marketplace:

- Owners of solutions developed in the scope of the BDV PPP projects: upload their solutions, manage forums for questions and answers about their solutions.
- Marketplace users that registered: can contact solution owners, browse the forum for questions and answers and add to them new ones in the forum.
- Anonymous users (not registered) will be able to search and browse solutions, but not to participate in the forum or contact solutions owners.
- BDVe members will manage review and publication process for solutions submitted by their owners.

Figure 4 shows the starting page of the Innovation Marketplace as part of the PPP Portal:
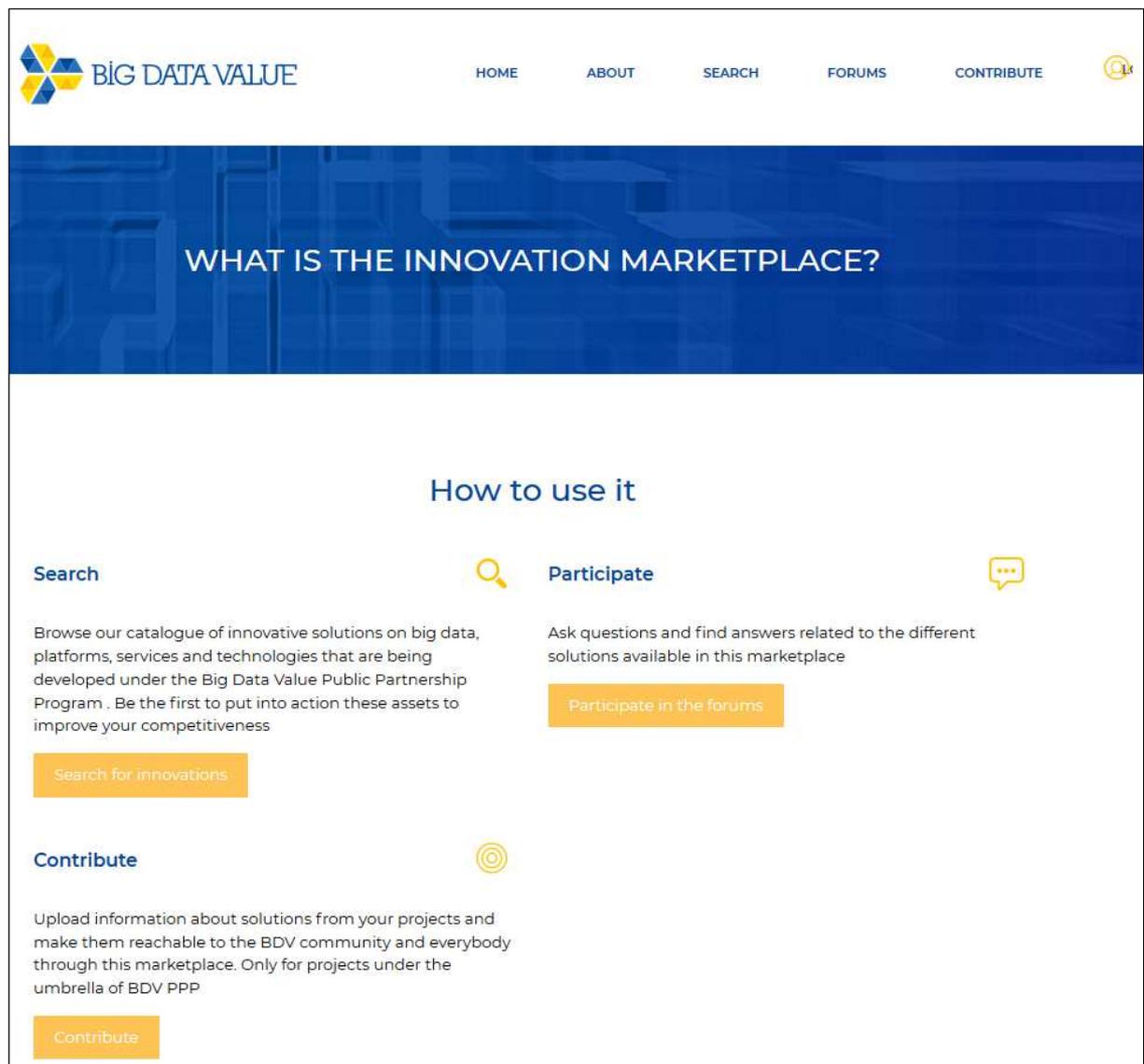
Figure 4 - Starting Page for Innovation Marketplace

To avoid duplication, you are referred for all information related to the detailed description of the structure and all functionalities of the Innovation Marketplace to

D3.16 Collaborative Environment/Marketplace. This includes among others the template for data collection, the defined workflow for the content contribution (information to be put into the Marketplace portal) and all details about the interface.

3.4 First Pilot Phase

As the first projects in the BDV PPP started only in 2017, no results in terms of marketable solutions were available last year. Thus, it was decided to make a new attempt to obtain information for the Innovation Marketplace as part of the 2017 KPI data collection campaign, also to avoid approaching projects twice from different sides for similar information. A survey was sent from BDVA asking for more detailed information covering what is needed for the marketplace.

The aspects were included into the questions necessary for the MR 2017 data collection already reflecting some fields in the marketplace mask for each solution to be promoted:

- Short Name
- Type of innovation (e.g. technology, system, methods, product, service, instruments, processes, etc.)
- Brief description
- Description of the marketable/exploitable value
- TRL (if applicable)
- Sector (if applicable)

After the feedback from projects received for the MR 2017 in April 2017, it was decided to approach a few interesting projects for more details at the BDVe PPP project Meet Up in Sofia in May 2018. In different meetings the Marketplace was presented to all PPP Projects for validation and feedback.

The following issues were raised and discussed in the meeting:

1.) Lighthouse projects are interested in putting their innovations into the marketplace;
2.) Some projects are available to provide also datasets to the public – something that could be very interesting also for the Intermediaries (as indicated in the previous chapter);
3.) Other projects are not in favour of providing datasets publicly as this would mean to anonymise them at costs not covered by the project;
4.) Some projects complained that the solutions to be presented in the marketplace would not be 100% usable for the other projects and that it would make sense to put also commercial solutions from the partner organisations into the marketplace. The plan is that also all BDVA members can put their solutions into the marketplace;
5.) Some projects expressed their doubts on the value of the marketplace as there are already that many around and suggested to have some analytics on top to see the project progress in terms of solutions published in the marketplace.

A first analysis about the innovation strategy and the timeline when marketable/exploitable solutions will be available have been done with Transforming Transport. This exercise has been executed recently and the results can be found in the Annex i.V.

Parallel to the discussion with the technical projects and the Lighthouse projects, there was discussion on how to support SMEs and startups/scaleups coming out of the two BDV accelerator projects, Data Pitch, and EDI.

In the discussions with SMEs and startups in the context of the BDV Investor Group, they asked if there would be a possibility for them to upload their solutions to promoting them and to attract investors (Business Angels, Venture Capitalists, private Investors) also online. This is an important point for facilitating the active matchmaking in the marketplace.

3.5 Lessons Learnt

Based on the trial phase which included the feedback from many different stakeholders of the PPP, we can derive some guiding principles for future work on populating the Innovation Marketplace and making it attractive to a wide audience.

Following activities have been identified to support the take-up of the Innovation Marketplace:

- Approach partners of the PPP individually for collecting their data as they have different needs;
- Provide interesting additional assets such as anonymised datasets
- Involve beyond the partners in the different projects also BDVA members and ultimately the intermediaries;
- Make an additional effort to engage with SMEs/startups/scaleups coming from the PPP, in particular from the accelerator projects, to support them in promoting their innovative solutions;
- Engage all actors in the Innovation Marketplace in an active matchmaking on different levels: supply – demand, SMEs – Investors; and
- Promote solutions that correspond with the trends in the market.

Next, all stakeholders will be approached separately to collect relevant and interesting solutions/findings/assets to populate the marketplace with which to debut BDVe active matchmaking.

4 Conclusion

This report describes the first **engagement of intermediaries in the activities of the PPP** by providing the intermediaries the option to be part of the BDV-PPP network. The activities started with a quite large number of intermediaries because we believe that a higher presence of users in these discussions would provide additional perspectives and elements and would enrich the value proposition and what are the suggestions for the PPP to better exploit their results. To guide this process, we have analysed what usually the intermediaries offer as services to their ecosystems. The report concludes that the following assets will enrich existing value propositions:

- **A marketplace** that will give access to interesting products and technologies in Big Data. The marketplace will be a virtual place where parties interested in Big Data will be able to find the outcomes of the PPP projects.

- **Matchmaking Opportunities** through events co-organization (for ex. Demo Days or thematic events) with the aim to facilitate the networking.

- **Dedicated Data-driven Business Modelling tool (DemoX),** a conceptual model base on action research describing the aspects of supply and demand in data-driven ecosystem. The tool can be used with small companies as well as intermediaries in the definition and validation of the data-driven component of business propositions.

From all the interviews we have collected useful information to tailor the value proposition in a way that constitutes a win-win benefit for both parties, PPP and Intermediaries. Based on the input received, a set of actions will be developed and monitored in from M18 to M36.

Activities that will be included are:

- **Enlarge the network to other intermediaries** that have not been part of the first engagement activity with the objective to effectively boost the take-up of the BDV-PPP outcomes and to seize the emerging business opportunities. Our objective is to double the number of the actual intermediaries interviewed.

- **Identify** with the first interviewed wave some concrete use case with the aim to start the networking process through matchmaking activities.

- **Start with the intermediaries** that have appreciated the value proposition related to the data-driven business model some webinars or a one-day physical meeting providing them all the necessary information to allow the intermediaries to drive such new service with their startups.

- **Share knowledge with those intermediaries** that are not fully engaged in their digital transformation to understand what the value of their data is, data sharing practices and existing solutions. It will be mainly based on **widely disseminating the assets of the enriched value proposition** through the same meetings and workshops as well as other communication channels.

D2.8: Status Report on BDVe network and marketplace activities at M18

For the creation of the *Innovation Marketplace* a baseline survey, an investigation into existing and emerging innovation portals was done to inform an appropriate structure for the BDV PPP Innovation Marketplace. The concept and the structure were defined in strong collaboration with WP3, T3.5, and the implementation was done internally in T3.5 – details on this are reported in D3.16.

In a second step, in collaboration with BDVA, the project collected all information about marketable or exploitable outcomes, from the projects for the Monitoring Report 2017; since most projects started only in 2017 outcomes were expected at the earliest after one year of project lifetime. The initial data collected was not sufficient to start populating the Marketplace. Intense interaction with projects is now underway to feedback on what is needed and what they can provide, taking into account the possibility of duplication of efforts with existing marketplaces.

Annexes

I. EIT Digital Use Cases (I3H) in creating an Intermediaries Network

EIT Digital played an important role in at least two projects: FI-Link and I3H; where was planned to create a network to extend the technology results developing applications and services.

The first one, FI-Links, had the goal to support the process of evolving FI-PPP to a worldwide champion of Internet innovation Companies.

This was achieved taking into account the specific business requirements of both large European industries and SMEs, supporting the adoption of the FI-PPP in non-covered EU regions and beyond, and validating the long-term vision of FI-PPP.

To achieve this goal FI-Links established a number of worldwide and regional links. These links had a two-fold purpose. On the one side FI-Links will define a long-term vision for FI-PPP technologies and business models, on the other side, FI-Links promoted the adoption of FI-PPP results in EU regions and development countries where the take-up of Internet innovation can occur quickly and impact local markets.

For what concerns I3H, the project lead by EIT Digital had the mandate of building an excellence network having few specifics in the concept:

- I3H plants and grows a technology vertical, FIWARE, open source platform for web-based services;
- I3H reaches out to the innovative regions where EIT Digital is not yet present;
- I3H embraces successful, agile accelerators and incubators in partnership for scalable business development.

The process approach followed by EIT Digital was to start from a small network of EIT Digital nodes and then start with a **scouting process** for more hubs inviting the best hubs in Europe up for the mission of Internet innovation.

The first step was to define – from the FIWARE programme's perspective - the ICT hotspots and the most important innovation regions in Europe, and to specify the most important regional and European key players in the European start-up ecosystem in order to build up a network based on cooperation that is also sustainable in the long term.

As the main objective was the promotion of the FIWARE programme, the scope of project's search mainly - but not exclusively - covered accelerators and third generation (business) incubators, as they were considered the **most ideal agents** for incorporating and supporting the FIWARE ecosystem.

In the process of **identifying potential candidates**, EIT Digital first built on the EIT Digital BDA (Business Development Accelerator) teams' pre-existing research efforts,

means the already identified ICT trends (EIT Digital Innovation Radar) together with acceleration business in Europe.

The next step was profiling the potential candidates based on numerous criteria such as local and regional impact on the ICT and startup ecosystem (as defined in Deliverable D.1.1.1), and "FIWAREness" (earlier or ongoing FI-PPP project participation, compatibility with the FIWARE programme, etc).

Networking activities started very early after the beginning of the project, primarily mainly targeting potential candidates for the I3H project Open Calls, but also starting collaboration with the FI-PPP ecosystem as well as reaching out to new stakeholder groups interesting for the FIWARE community as well as for I3H and the to be created IIH/iHub network.

EIT Digital started to identify the services to be offered (the value proposition) and the benefits for the iHubs. After identifying the candidates who matched our requirements, the project team members continued with contacting the responsible personnel via phone, e-mail and personal appointments.

As the I3H consortium experienced a great demand for a European start-up accelerator network, it was decided to be remain open for potential applicants during the whole lifetime of the project, sometimes also trying to approach them actively when potential candidates were considered to be a good fit to the network that had been created.

II.   Intermediaries List

D2.8: Status Report on BDVe network and marketplace activities at M18

Accelerator List	Web Page	Country	# Startup managed	# Startups Data Analytics	Services	Big Data Maturity Level (L-M-H)	Notes
50 Partners	http://en.50partners.fr	France	40+	AI, Analytics, Predictive maintenance	Newtorking, Co-Working space, scale-up, mentoring, funding	Medium	
500 Startups	https://500.co	USA	500+	IoT, Cloud Services	Support, Networking, Fundraising, co working space		
ABC Accelerator	https://abc-accelerator.com	Slovenia			Networking, Virtual Accelerator Platform, co-working spaces, Acceleration stages, Fundraising	Low	ARISE
Accelerace	https://www.accelerace.io	Denmark, Germany, UK	500+		Accelerator, Corporate Innovation, Networking	Medium	
Axel Springer Plug & Play Accelerator,	http://www.axelspringerplugandplay.com	Germany		Generic Mobile Apps.	Mentoring, Netweorking, Funding, Co working, Investor Intro	Low	
Beta-i	http://beta-i.pt	Portugal	600+		Networking, Fundiraising	-	Open Calls Innovation Hub
Bethnal Green Ventures	https://bethnalgreenventures.com	UK	200+		Mentoring, Investment and support,	Low	
Building Global Innovators	http://www.bgi.pt/#/home#header	Portugal	130+	Enterprise IT & Smart Data,	Training, Mentoring, Networking, Investor Pitch, Catalyst	Low	ARISE
BuildIT	http://buildit.ee	Estonia		IoT and hardware	Mentoring, Fundraising, Sales & marketing	Medium	
Data ELITE	http://dataeliteventures.com	USA		Big Data		High	Funding - Incubator
Eleven	http://www.11.me	Bulgaria	100+	Data Analytics, Data Mining	Provide early stage funding from pre-seed to Series A, and access to a tightly knit community of mentors, partners, and investors to help projects reach the next leve	Low	
European Data Innovation Hub	http://www.datainnovationhub.eu/about/	Belgium		Big Data		High	Hub
Found.ation	http://thefoundation.gr	Grrece	85+		Co-Working, Incubation space, Acceleration, Coaching and Mentoring	Low	ARISE
Founder Institute	https://fi.co	Italy	2300+		Mentoring, Funding, ScaleUp	-	
GDS (UK Government)		UK			Teaching, Tutoring	-	acceleration programa in Data Science
H-Farm	http://www.h-farm.com/en	Italy		Analytics and Big Data	Hackatons, Digital Landscape, Startup Genesis, Bootcamp,	Medium	Incubator
Hard Gamma Ventures	http://hardgamma.com	Poland	50+	IoT and Mobile	Ventur Capitalist, Through Gamma Rebels pre stage accelerator	Low	ARISE
Hub:raum (Deutsche Telecom)	https://www.hubraum.com	Germany		AI, IoT, Big Data & Customer Analytics	B.D Programs,	Medium	Corporate accelerator
i5invest	http://i5invest.com	Austria	100+		Investor, Seed Capital, M&A, Advisory Board Roles	Medium	Incubator
iCatapult					The program has two stages: stage one – global startup training program, and stage two – soft landing. The startups receive one-to-one mentoring from many international industry experts before they move to Silicon Valley for three months	Medium	
IGNITE	http://ignite.io/#programmes	UK			Mentoring, Funding, co working space	-	
INCUBIO	https://corporate.canodrom.com/corporate-venturing-incubator/#	Spain		Big Data	Workshop, Startup Radar, Team Creation, Venture Building, Incubation, Venture Capital	Medium	Corporate Incubator

Name	URL	Country	Count	Focus	Services	Level	Notes
Inits	http://www.inits.at/en/founding/our-service-offering/	Austria	180+	ICT, Life Science, Other Technologies	Financing, Consulting, Training, Community, Investors, Working space	Low	ARISE
JIC	https://www.jic.cz/en/services/	Czech Republic	200+		Partnering, Consultancy, Financing, FabLAb	Medium	ARISE
L Marks	https://lmarks.com				Startups accelerator, , Corporate Innovation, Mentorship, networking, Startups discovery,		
NDMC	http://www.ndrc.ie/about-ndrc	UK	200+	Few Startups in IoT	Mentoring, Co working space, Fundraising	Low	early stage startups
Numa	https://paris.numa.co/en/	France	100+		Mentoring, Co working space, Fundraising	Low	tech hub partner
ODINE	https://opendataincubator.eu/about/	UK - Germany - Spain			mentorship, in-house support, dedicated events, media promotion and access to an international network.	High	EU H2020 Project-Incubator
Orange FAB (Orange)	http://orangefabfrance.fr	France	50+	Essentially Mobile Services	Accelerator , co working spaces, funds, International Network, Demo Days	Low	
Oxygen Accelerator	http://www.oxygenaccelerator.com	UK			Funding, Mentoring, co working space		
Seedcamp	seedcamp.com	UK	250+	20+	Community, Global Network, Investment, Mentoring	High	
SeedRocket	http://www.seedrocket.com	Spain	170+		Mentoring, Co-Working space, Investment		
Startup Wise Guys	https://startupwiseguys.com	Estonia	50+		Mentoring, Funding, B2B sales, Co working space, Fundraising	Low	ARISE - Incubator
Startupbootcamp	https://www.startupbootcamp.org	Denmark	500+	Smart City & IoT program Amsterdam & Barcelona 50+ startups	Mentoring, Investing, Networking	-	
STARTUPBUS	https://europe.startupbus.com	Belgium-France-Switzerland	250+		Bootcamp, Teamwork, Entrepreneurial Ecosystem, Coding	-	
StartupSauna	http://startupsauna.com	Finland	200+		Fundraising, Networking, Mentoring	-	
StartupYard	http://startupyard.com	Czech Republic	50+	AR/VR, AI, Robots,Blockchain, Cryptography	Mentoring, Investment, Pitch, Demo Days, 30,000 Euros in direct investment in exchange for 5%	-	Memeber og GAN
Techstarts	https://www.techstars.com	UK - France	1200 + (WW)		Mentorship, Investing, Access to Network	-	
The Lisbon Challenge	http://www.lisbon-challenge.com/#about	Portugal		BLOCKCHAIN, ARTIFICIAL INTELLIGENCE, Machine Learning, Cloud Computing, Big Data	Funding, Mentoring, Validation, Product market-fit	-	
UPtoEleven	https://ut11.net	Austria	10+		Seed Stage, Operational Support, , Mentoring, Infrastructure,	Low	Incubator
Wayra (Telefonica)	https://www.openfuture.org/en/spaces/wayra	Spain		Internet of Things, data analytics, cyber security and artificial intelligence (AI).	Funding, Training, working space	Medium	Corporate accelerator, 11 hubs
Winton Labs	https://www.winton.com/overview	UK			Fundraising	Low	Investor
ZIP	http://zipzg.com/en/	Croatia	70+		Mentorship, Networking, Support and Media Exposure, funding	-	
Start-ups accelerator and incubator UC3M	https://www.uc3m.es/ss/Satellite/UC3MInstitucional/es/PortadaMiniSiteC/1371207143684/Emprende	Spain	85+	Telecommunications, Smart cities, IoT. Aeospace, automotion and security. Industry 4.0	Individualized and specialized business support services. Special focus on: Preparation for investment, Strengthening Technological Base, Networking.	Medium	Creation and consolidation of innovative and technology-based companies
Technology-based companies Area UCM	https://www.ucm.es/estudiantes-emprendedores	Spain	n/a	Information and Communication Technologies (ICT)	Information, advice (business model and strategy), training	Low	Working with another structures in the institution in order to foster entrepreneurship
StartUPV at UPV	https://startupv.webs.upv.es/	Spain	800+	Information and Communication Technologies (ICT), Services to other companies, Engineering services	Work space, training, mentoring and advisors, networking, financing, internationalization, resources and services, access to talent	Medium	More than 25 years working with technological entrepreneurs
Entrepreneurship and innovation UPC	https://www.upc.edu/emprenupc/es/empren-upc-campus-nord/espacio-de-emprendimiento	Spain	250+	Space, Retail, Cybersecurity, Robotics, Machine learning	Identification of business opportunities, search for private and public funding, support in the validation of business project	Medium	
Business Angels Network IESE Business School	https://www.iese.edu/es/empresas-instituciones/apoyo-nuevas-empresas/business-angels/	Spain	200+	Consumption, Logistics and Transportation, Smart cities, Media (music)	Generate and select potentially attractive startups for investors	Medium	

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III.   List of selected intermediaries

- ABC Accelerator – Slovenia

  ABC Accelerator Slovenia is part of a global company, ABC Accelerator Group, with offices in Munich, San Josè and California. The ABC Accelerator Slovenia is the largest private accelerator in South Eastern Europe with technology specific programs. They help the best entrepreneurs in South-Eastern Europe accelerate the growth of their businesses. Their location in Ljubljana, Slovenia, allows their companies to test and quickly implement their solutions in an ideal test market. Through their network of more than 40 partners, they can help them grow globally.

- JIC– Czech Republic

  JIC STARCUBE is an international accelerator based in Brno, Czech Republic. Supported by technology partners AVG, Konica Minolta, Microsoft, Honeywell and Y Soft. JIC is an association of legal entities: South Moravian Region, City of Brno, Brno University of Technology (VUT), Masaryk University, Mendel University, and University of Veterinary and Pharmaceutical Sciences.

- Startup Wise Guys (SWG) – Estonia

  With 100 investments in early stage startups, Startup Wise Guys is one of the top investors in the broader CEE region and Nordics. To help techy startup founders become true entrepreneurs, they are running a world class boutique startup accelerator since 2012. They have accelerated more than 100 startups in 11 cohorts, focusing on B2B SaaS and Fintech early stage startups. Portfolio has already had 1 major exit and overall startup survival and success rate is above 77%.

- ANJE– Portugal

  ANJE is a public interest association under private law and, since 1986, it has been institutionally representing young Portuguese entrepreneurs. Its aim is to satisfy common interests and to make its companies more dynamic. To this end, its main areas of activity are training, entrepreneurship support, business incubation/acceleration and the creation of business associations. With around 5,500 associates, over fifty employees, ten operating areas and several regional centres (North, Centre, Lisbon and Tagus Valley, the Alentejo and the Algarve), ANJE is a pioneering association in the defence of young entrepreneurs and the promotion of young entrepreneurship. It has a prestigious reputation in Portuguese society, political influence with public decision-makers and a stimulating intervention into the business fabric.

- HardGAmma Ventures (RebelValley)– Poland

HardGamma Ventures has been at the forefront of technology investments since its establishment in Warsaw, Poland, back in 2011. It proactively looks for and invests in startups within the software, hardware, IoT and mobile environments among other sectors. It invested in two editions of the Springboard accelerator (Springboard London and Springboard IoT), as well as in Techstars London. They also run their own accelerator, GammaRebels, which is one of the top 100 most influential accelerators globally. GammaRebels also operates a number of pre-acceleration programs.

- Found.ation – Greece

Found.ation is an accelerator, co-working space and entrepreneurial education provider from Athens, Greece. Founded in 2011, Found.ation has hosted or accelerated 85 different startup companies in three acceleration batches, leading them to secure more than 2 million euros in total funding by Greek and International Investors. During the same period, it hosted more than 150 education offerings, events, and hackathons.

- Neulogy – Slovak Republic

Neulogy is one of the leading companies that specializes in technology commercialization in Central European region. With a strong track record of working with and building the local innovation ecosystem, Neulogy helps innovative startups launch their projects, look for funding and reach the growth stage. Neulogy also works with companies, academic institutions, and research centers to conduct world-class R&D and to commercialize technologies with market potential.

- Technoport – Luxembourg

The global mission of Technoport is to help and support individuals and small teams to validate and bridge their ideas to success through three platforms:

    The technology-oriented business incubator

    The coworking

    The Fab-Lab

Through these platforms Technoport aims to achieve its goal to foster creativity and innovative activities in Luxembourg by combining tailored-made services with networks and communities of doers, Infrastructures, and an adequate professional business environment.

- PSNC – Poland

PSNC (Poznan Supercomputing and Networking Centre) is affiliated to the Institute of Bioorganic Chemistry of the Polish Academy of Sciences. Apart from HPC Centre and Network Security Centre, PSNC runs an R&D Centre of Future Internet, e-Infrastructure, Digital Content and Portals, working e.g. on:

middleware, tools and methods for HPC and distributed computing, resource management, scheduling, large scale applications, user management and accounting, infrastructure security mechanisms and policies, grid and cloud management tools, HPC and distributed storage architectures, mobile applications, Internet of Things, operating in IaaS, SaaS and PaaS modes.

- BRAINPORT Foundation Eindhoven (BDVA Associate Member)

  Brainport Foundation is a close-knit partnership of companies, knowledge institutions and authorities in Brainport. Together they set out the path that aims to keep and strengthen the position of Brainport as a top technology region. Brainport Foundation determines the strategy of the development organisation Brainport Development.

- CENTIC (BDVA Associate Member)

  The Technological Centre of Information and Communication Technologies (CENTIC), is a non-profit business Association, promoted by the Regional Government of Murcia (Southeast Spain), founded in 2004 and sponsored by the ICT sector companies of Murcia. The main scope is the technological improvement of the companies in the ICT sector and other companies related to Information Technology, Telecommunications, Contents and Electronics through Research, Development and Innovation activities. Therefore, CENTIC can be considered as an interface or point of reference to the whole ICT regional sector: "We have an excellent know how, is our … duty". Moreover, CENTIC develops binding or collaboration agreements for the development of its activities with national or foreign entities related to the aims of the Association.

  CENTIC is actively involved in the creation of the Digital Innovation Hub (DIH) in the Region of Murcia.

- ITI – Instituto Tecnologico de Informatica (BDVA Associate Member)

  IT Technological Institute (ITI) is a Technological Center specializing in Research, Development and Innovation in **Information and Communication Technologies** (ICT). It belongs to the Network of Technology Institutes of the Valencian Community (REDIT), the Spanish Federation of Innovation and Technology Entities (FEDIT), as well as numerous entities and associations.

  The ITI develops **research, development, innovation and technology transfer,** offering companies the possibility of incorporating the technologies and capacities developed in R + D + I projects into their products, processes or businesses. The technologies and services offered are the result of a combination of cutting edge scientific knowledge and a long experience in collaborating with companies.

  Instituto Tecnológico de Informática develops its activity in dynamic areas and leading edge of ICT technologies (Machine Learning, Computer Vision, Cloud and Systems Distributed, Blockchain, Data Science, Algorithmic Optimization, Wireless Communications) with a view to obtain innovative technologies that

contribute to the constant automation and efficiency in all areas of our society (Industry 4.0, Health, Digital Society, etc.

- IMT - TERALAB (BDVA Associate Member)

    Institut Mines-Télécom GENES, Groupe des Ecoles nationales d'économie et de statistique TeraLab has been designed to provide an immediate answer to the needs of researchers, teachers and companies to develop their knowledge and innovation using Big Data analytics. The project has been accredited by Cap Digital, the French business cluster for digital content and services, and is funded by the Programme d'Investissement d'Avenir.

    TeraLab is part of the Big Data, and beyond of the digital, community. It is a key player in France to stimulate open innovation in this area. TeraLab rewarded at the highest level in November 2016 in Valencia by BDVA - Big Data Value Association. TeraLab is the French iSpace: Innovation Spaces are cross-organizational and cross-sectorial environments allowing challenges to be addressed in an interdisciplinary way and serving as European hubs for Big Data research and innovation activities.

- SDIL – Smart Data Innovation Lab (BDVA iSpaces)

    The Smart Data Innovation Lab (SDIL) offers big data researchers unique access to a large variety of big data and in-memory technologies. Industry and science collaborate closely to find hidden value in big data and generate smart data. Projects focus on the strategic research areas of Industry 4.0, Energy, Smart Cities and personalized Medicine.

    Service Provided:
    - o Infrastructure providing: The infrastructure, including technical support, is provided free-of-charge by the SDIL operation partners to any SDIL project.
    - o Communities: SDIL provides access to experts and domain-specific skills within Data Innovation Communities fostering the exchange of project results. They further provide the possibility for open innovation and bilateral matchmaking between industrial partners and academic institutions.
    - o Data Curation: The SDIL guarantees a sustainable invest to all partners by curating industrial data sources, best practices, and code artefacts, that are contributed on a fair share basis.
    - o Data Anonymization: The SDIL offers various anonymization tools to its projects which are applicable to data from research and industrial sources.

    The SDIL Platform is the powerful in-memory computing infrastructure offered free-of-charge to research projects by our operation partners. It is operated by the Steinbuch Centre for Computing (SCC) at KIT and offers state-of-the-art software and hardware.

    This infrastructure includes:

- SAP HANA in-memory platform,
- Software AG Terracotta in-memory data management system,
- IBM SPSS Modeler and Server, and the IBM InfoSphere BigInsights analytics platform,
- Virtualization and resource-sharing environment for custom analytics and open source.

▪ **Business Incubator 1**

Incubator 1 is an institutional initiative which integrates the resources of its centres, departments, institutes, Social Council, Foundation and Scientific Park in order to promote entrepreneurial culture and the creation of innovative companies transferring the knowledge gained at Spanish University to society. Their services to entrepreneurs include, among others:

o Awards from Ideas Competition and Final Degree Project prizes.

o Training: Entrepreneur school, University Master´s degree, Final Degree Project in Entrepreneurship.

o Additional support services to create your own business such as business incubator, mentors, entrepreneurs club, building a team.

Incubator 1 is one of the main Universities in Madrid (Spain) and it is giving training in Bachelor degrees in subjects as Engineering, Telematics, Telecommunication technologies, Data Science or Computer Science.

▪ **Business Incubator 2**

Incubator 2 is one of the biggest universities in Spain. As a generalist academic entity its ecosystem includes almost every area. Related to Big Data its Schools offer a huge variety of programs in e.g. Big Data and Business Analytics, Data Mining and Business Intelligence, Big Data and Digital Marketing for Truism Sector, Big Data and Block Chain, etc.

They provide:

- Information on how to develop a business project
- Advice on the process of creating a company
- Support in the design of business models
- Training for the development of business skills

Its main objective is to accompany and advise entrepreneurs in the process of evaluating their business idea or in the development of a business plan, as well as resolve any doubts that may arise in the creation phase of the company.

Incubator 2 offers various activities throughout the year, such as:

- Entrepreneur personal advice
- Training and guidance for the creation of companies

- Collaboration with the university community in actions to promote entrepreneurship

▪ **Business Incubator 3**

Incubator 3 is the entrepreneurial ecosystem of one of the Major Universities in Spain, which includes a set of work spaces located in the Incubator 3 aimed at students and graduates of this University with an entrepreneurial initiative.

As part of this entrepreneurial ecosystem, the entrepreneurial projects, startups and companies benefit and take advantage of the institutional support, the services of the Incubator 3 and the network of experts of the Ideas Institute for the Incubator 3.

The Incubator 3 services include: work space, specific training, networking, financing, resources and services, mentoring and advisors, access to talent and internationalization.

Ideas Institute Incubator 3 is the promoter organization of Incubator 3. With more than 20 years of experience in the creation of companies, more than 700 companies and thousands of entrepreneurs advised, Ideas Incubator 3 is configured as a pioneer university entity in this field. The mission is to promote and develop the entrepreneurial culture in the University, to sensitize and energize the university community in the creation and support of new companies, and to support the creation and development of innovative and technology-based companies in the Spanish Region Community. It is also the unit responsible for informing, guiding and advising the university community about the process of creating companies at the University, within the framework of the own regulations.

As a polytechnic university, engineering studies are taught in Incubator 3, specifically, several degrees in Information and Communication Technologies, such as Data science, Computer engineering or Telecommunication technologies and services. It is important to note the existence of university institutes and research structures on topics related to Big Data in order to investigate, develop and innovate in this area. In this sense, we can find own centers and joint research with other entities of a specific scientific-technological area. They are centers of great relevance and intense activity.

▪ **Business Incubator 4**

Incubator 4 has extensive experience and a long history in supporting the creation of companies and is focused on programs for the contrbution to the impetus to the culture of innovation and the entrepreneurial spirit in the entire university community (researchers, students, teachers, administration and services staff and graduates) and to contribute to the increase of the innovative potential of its collectives and their units, favoring the creation of new technology-based companies. More than 250 companies (spinoffs / startups) have been created since 1998.

Services provided:

- Identification of business opportunities
- Support in the structuring and validation of the business project
- Search for public and private funding
- Access to business creation support programs
- Definition and coordination participation of the University in spinoffs
- Follow-up invested companies
- Collaboration with business schools: complementary teams
- Tools and resources to consolidate and grow the project

Two programs orientated to Big Data stand out:

- Data Mining and Business Intelligence Master which equips graduates with solid knowledge and hands-on experience in techniques for managing, analyzing and extracting hidden knowledge from structured and unstructured big data ensembles and in building adaptive analytic systems that are able to exploit that knowledge in modern organizations
- Master in Big Data Management and Analytics, which favors the integration of students into a network of specialists and researchers in BI and BD.

The Innovation Management Service of the Incubator 4 develops the generation strategy of the Incubator 4 Innovation Ecosystems, from where the Incubator 4, defines and implements strategies to promote entrepreneurship and creation spaces, incubation, sector acceleration and corporate venture. From its area, the process of valorization and technological transfer of the Incubator 4 is defined and implemented, as well as the development of the creation and participation model of the Incubator 4 in the new technology-based companies (EBT's), created from technologies and / or knowledge generated in the related Spanish University.

▪ **Business Incubator 5**

The Incubator 5 is a nexus of more than 130 entrepreneurs and investors exploring synergies in order to help create new enterprises.

Since 2003, the Network has been bringing together investors and entrepreneurs from all over Spain through simultaneous Investment Forums in Madrid and Barcelona.

The Incubator 5 is a platform bringing together entrepreneurs seeking financing and investors seeking promising entrepreneurs and early stage companies for investment on an individual basis.

The Network's mission is to facilitate investment opportunities for its members by providing networking forums for the exchange of ideas and experiences and on-going educational opportunities for its members.

The main facts and figures are following: more than one thousand projects presented, more than one hundred and fifty full members, one hundred and ten forums (between Barcelona and Madrid), eight training programs for investors. In terms of investment: over one hundred and fifty companies financed, thirty million of euros in total direct investment, two thousand and five hundred jobs created and between ten thousand and one million and half euro per company.

The Incubator 5 is a reference for many private investors and entrepreneurs. A significant percentage of invested business opportunities are from information and communications technologies.

IV. Interview feedbacks

1.) Survey with ABC (Ales Pustovrh – Co-founder ABC Accelerator)

Interesting survey with ABC Accelerator, they are working on Big Data, some of their startups are involved in Big Data projects. At the moment the hot topic is AI and ABC is part of a wide AI community BTC City Lubjana, where Government, Ministries and Industries are involved (Autonomous Vehicle).

The main interest is on Open Data and Slovenia is one of the countries in Europe where the Open Data are widely adopted and used for Big Data applications.

The interest of being part of the proposed Big Data network is very high and ABC Accelerator suggest being careful in avoiding overlapping with partner that could be present either in other programs (e.g., ARISE) and in the BDV-PPP network.

ABC thinks that a **fruitful** collaboration could be in **accessing several datasets** (raw data) made available by the BDV-PPP projects, nice to have as an asset in the Marketplace.

For what concerns the "**access to**" and "**matchmaking**" services this could be and interesting value because ABC already provide such kind of services and enlarging the offer will provide more values to their startups, on the other side ABC can propose to the BDV-PPP projects a similar offer "Access to" focused on their startups portfolio, the local Government and the local Market. For what concerns the local market ABC wants to highlight that the automotive market is well developed, and a lot of companies are ready to adopt Big Data solutions, then having the opportunities to deal with the customers offering third parties' solutions or technologies, as the BDV-PPP can offers, will be great.

Talking about the opportunities to organize common events and in particular the next **EBDVF 2018** in Vienna ABC says that is a good opportunity and he knows that at least 2 startups should be interested to participate especially if we can organize some **investor sessions**. He knows that we are not able, as CSA, to provide money to engage the startups but he says that it is still a great value to be part of a wider and specialized community.

Formal feedback

Dear Ales,

Thanks for the time dedicated to our conf call, it has been very fruitful.

I have really appreciated your suggestions and the interest shown in starting a win-win collaboration.

I would kindly ask you to provide me with some more detailed feedbacks on the following topics:

1. *Do you believe that what we are thinking and discussed in terms of value proposition for you and your startups are valuable and useful?*

Yes, I believe that tech-focused startups (and in particular AI startups) are interested in the value preposition that you were mentioning. Of course, we should test it with them as well before as I cannot speak in their name. With this, I would like to raise two points: first, not all startups are tech-focused (or AI focused) and second, many startups in our region lack resources and would need to obtain investments and/or paying customers in order to be able to pay for your services.

1. *There is something that I should drop?*

Not necessarily. I would frame your value preposition as the third pillar for business development of tech-startups: Access to finance, Access to markets and Access to (big) data.

1. *Do you think that something else should be added, based on your experience, that could be useful for the incubators?*

Maybe also branding (such as ABC Accelerator, supported by Big Data Network) as this could give proof-of-quality to the chosen partners. Otherwise, some financing is always nice for incubators since they are always on the lookout for financing possibilities (although I understand that you do not offer it).

1. *What do you believe the startups can bring as value propositions to the Big Data network that we are building?*

They can bring use cases and pilot implementations on the Big Data network's technology and platform. Essentially, there are many possible implementations of the existing and developing technology and networks partners cannot know and implement them all. Opening the network and the tech to startups would bring more tech implementations and more pilots.

Kind Regards

Angelo

2.) Survey con Neulogy (Peter Kolesar – CEO)

They provide Consultancy Services for R&D, technologies, and commercialization, (could be considered more an Innovation Cluster than incubator/accelerator).

Services: Business Innovation and Startups, technology transfer and launching of new companies.

There are in Poland, some startups are focused on Big Data, but not so many.

For what concerns the potential values, for them **matchmaking and joint events** make sense, in any case they found values in all value propositions. They would like to start from something concrete, especially for the events, start from small. Neulogy decided to analyse the BDV PPP web site and BDVA for the project, have a look on the propositions and to provide feedback by 15/6.

Answer and feedback

Hi Angelo,

Thank you for the call last Friday.

We have reviewed the potential collaboration opportunities and things that make most sense for us at this stage are:

1. *Matchmaking opportunities for big data startups*

2. Access to Innovation Marketplace
3. Co-organization of events

We would like to connect these opportunities with the activities that we are already doing, such as the Uplift accelerator (and demo days), StartupAwards competition, PowerUp competition and hackathons.

Thank you and looking forward to continueing the discussion!
Peter

3.) Survey con Found.ation (Filippos Zakopoulos – Partner and Managing Director; Dimitris Kalavros Gousiou – Co-Founder and Partner)

Greece's situation is a little bit difficult, in general without great investment opportunities, especially on Big Data. There are very few activities and not so many Startups dedicated to Big Data solutions, few expert and low results.

The need to create competencies is high and they like the potentiality to growth. EIF (European Investment Funds) has launched 9 new investments in Greece and some of them have an impact on Big Data.

Potentially all the value propositions are interesting, but they would like to provide a sort of priority, for example events not always are at high priority now, while **investor network yes, like also matchmaking**.

For Demo X they got the message, but they would like to better understand and have a look to the web links provided and come back with some feedbacks.

Interested to cooperate but maybe in the second part of the year and next year.

4.) Survey with JIC (Monika Vrbkova – International Funding Specialist & External Affairs Manager)

JIC provides services to startups and mature companies that wants to move on an innovation path (JIC Platinn).

They are not addressing directly startups that have specific Big Data competencies.

JIC wants to know how they can contribute to such network; we explained that the collaboration should provide mutual benefits, maybe for not mature countries or incubators at the beginning the value proposition goes mainly from BDV-PPP towards the intermediaries, while the intermediaries could only provide access to their market but not on competencies or technology.

We discussed about the value proposition, some of the points are of interest for JIC, for sure **matchmaking, innovation marketplace and matchmaking at the events** (for ex. **Investor session**). For what concerns the marketplace they ask if is ready and available for contents.

JIC will give their feedback on the propositions soon, providing also a landscape of the Region (South Moravia) and some info about candidate startups.

5.) Survey with PSNC (Adam Olszewski – Innovation & Cluster Manager)

Generally, PSNC is interested into the value propositions but for them they are too generic.

They would like to have a more narrow proposition with some practical uses cases and provide information to their associated partners.

There will be a Cluster meeting where some of the info could be propagated but PSNC wants to know what, benefits, how and timeline.

Firstly, having a presentation of what is BDVE, BDV-PPP and what is BDVA under BDV-PPP is useful (I believe that some information is needed to understand if enter or not as a member)

We will specify better the propositions and come back as soon as possible.

6.) Survey with Technoport (Catherine Delevoye – Project Manager)

Big Data in Luxembourg is a very emerging market, and there are a lot of startups dealing with Big Data topics and making use of data.

Different sectors are involved in such topics, Bio, Health, Fintech, Industries, also providing solutions that secure data and grant the access.

Technoport is also dealing with the Government on such topics and they have budget for disseminating results from BDV-PPP projects.

All the value propositions are very interesting and valuable; they would like to concretely contribute to such topics, high priority with DemoX and matchmaking

They are also supporting Erasmus+ in term of opportunities, collaboration and in general the Big Data skill is one of their hot topics. They will have a look also to the BDV PPP portal on the ecosystem to see if there is EduHub in Luxembourg to be added and are interested also in the Big Data mobility program where they can contribute in adding further opportunities. They want to maximize the impact. Technoport will provide some feedback the week 18-22 June with priorities and next actions. As first action they would like to start with a DemoX webinar.

Following the feedback received related to the different points on the value proposition discussed.

Answer and feedback

Business models

We are offering business modelling support services to our tenant companies and have a strong interest in participating to workshops and trainings for facilitators, whether on site at partners' facilities or online through webinar sessions.

Joint innovation projects

D2.8: Status Report on BDVe network and marketplace activities at M18

Technoport has been involved in the last few years in coordination and support actions, research and innovation projects, Interreg A and B projects and public-private partnerships.

We are contributing to the Wear sustain H2020 project (https://wearsustain.eu/) with a role of coach and legal advisor for entrepreneurs and researchers in the fields of business models, data privacy and data ethics.

Our past projects include CENTRIC, an H2020 Teaming project, aimed at developing a Centre of Excellence on Territorial Management, Mapping and Cadastre in Romania, that will (i) develop innovative applied R&D projects, (ii) promote innovation management and technology transfer services and (iii) offer education, training and mobility activities in the fields of geospatial data, cloud computing, data security, big data analysis, location-based technologies and smart city services.

We moreover have a running partnership with Galway technology centre aimed at stimulating the utilisation of electronics, nanotechnology, industrial biotechnology, advanced materials, artificial intelligence, big data, cloud computing, robotics, photonics and advanced manufacturing technologies within key industry areas and smart specialisation priority sectors in Ireland and Luxembourg (ICT, Industry, Life Sciences and Space).

We are interested in joining coordination and support actions as well as research and innovation projects with a specific role in exploitation of results, internationalisation, business planning, venturing, pilot schemes, legal aspects, matchmaking, mentoring and support services, and/or technology transfer.

Matchmaking opportunities

We are moreover interested in offering opportunities for partnerships to our big data related SME and start-up companies in Luxembourg and beyond, including:

- *Talkwalker - Big data analysis of social media and online content,*
- *Datathings – open source solutions to efficiently analyze large-scale data in motion and support live operational decisions,*
- *Choice Technologies - technology based on machine learning algorithms to continuously analyse utilities' big data to create patterns and predict losses, theft or other network's irregular behaviours,*
- *Vega Research laboratories - data-intensive solutions in the fields of factory automation, biomedical data analysis, image understanding, gas sensing and classification, ambient assisted living, short-term road traffic forecasts and others,*
- *Dnalytics - advanced data mining and data science technologies to enhance medical decisions based on complex, heterogeneous and scarce health data,*
- *Bdm.io – big data-based content solutions for online news and media providers,*
- *Dataiku – advanced machine learning models and statistical algorithms in big dataflows to forecast system failures, supply and demand and optimise customer engagement in various industries,*
- *Aistech – space company whose main purpose is to acquire and manage big data from nanosatellites for the purposes of aircraft tracking, imaging…,*
- *ITTM – big data solutions for process optimisation in healthcare,*

- *Gomspace - Internet of Things big data from tiny satellites,*
- *Kleos - global geo-located intelligence data for search and rescue, defence and maritime surveillance applications,*
- *Scorechain – big data platform for blockchain transactions (risk analysis and compliance),*
- *Blacknut – cloud gaming platform based on big data,*
- *AdwaïsEO - big **data services for space agencies, companies, public institutions and research centres,***
- ***A**groptimize – big data-based decision-making software for agriculture,*
- ***Travelsify** - business-to-business start-up in travel technology creating smart metadata for hotels from big unstructured data so that effective hotel-traveller matching can be built,*
- *Techcyte – using big data, deep machine learning and image recognition to automate microscopy tests for human & veterinary medicine & air quality control,*
- *Wizata - business intelligence, industry 4.0 and predictive maintenance solutions making use of artificial intelligence and big data analysis,*
- *TheMarketsTrust - producing real-time ratings that rely on highly advanced machine learning, big data and market sentiment algorithms for financial institutions such as banks, asset managers, funds and insurance companies.*

*We are willing to contribute actively to the **BDV-PPP Innovation Marketplace** and can offer opportunities for collaborations to the start-ups and other partners both through this platform and through direct contacts and discussions. If relevant, offers for technologies, partnerships, solutions, expertise and knowledge can be complemented by offers for participation to matchmaking and networking events (investment forums, summits e.g. LuxLogAI 2018).*

Co-organisation of events

We can participate to all kinds of events, animate sessions, contribute as a jury member in competitions, and/or bring some experts and speakers in specific data-related topics, including artificial intelligence, machine learning, strategic marketing, product management, sales, customer service management, etc.

Access to BDV affiliated investor networks for start-ups

We can contribute to the deal flow brought to the network of investors by showcasing our relevant companies to them and participating to investor forums or pitches organised by the project.

Other – recruitment

We are interested in having access to universities/schools for dissemination of job/internship offers from our companies, e.g. https://www.talkwalker.com/careers/080581cd-a272-4665-b999-c6b2c7c02cea or https://techcyte.com/about-us/join-techcyte.

We can create awareness about the Education Hub among our partners offering Master degrees or doctoral positions in the field of big data, e.g. the University of Luxembourg

(Interdisciplinary Lab for Intelligent and Adaptive Systems), the University of Alcala in Spain, the University of Stirling in the UK or ENSIMAG in Grenoble.

Create awareness about big data services opportunities

We can disseminate information towards our partners and companies, as well as towards the networks in which we are operating, which provide access to a wide range of start-up companies and SME all over Europe: https://ebn.eu/, https://www.iasp.ws/,…

7.) Survey with RebelValley - Poland (Arek Kwoska - CEO)

RebelValley consider themselves as an Innovation Consulting Boutique, providing Big Companies in Poland solutions and competencies coming from innovative startups incubated for common projects.

They have been granted in June 2018 for an acceleration program on electro mobility and electrical vehicle. For that they are engaging Energy Companies, Big Industries Groups and Telco companies.

For them and for the country Big Data topics are very important in all fields.

RebelValley have several startups incubated that deal with Big Data and in total (even on other topics) they have 20 startups quite close and other 50 in the ecosystem.

Said that Rebel confirm us that the value proposition number 1, matchmaking is very important.

For what concerns the point 2, possible future joint projects in H2020, this is also very important because they do not have a success track record on granted projects there is an overspending from government point of view, they contribute for the 3% to the general budget but get not more than 1% granted.

All the other propositions are very interesting for them the point 4 (marketplace) is functional to point 1, matchmaking.

For Events they will see, they will organize or participate to the Central Europe Startups Awards, but they could also participate to the EBDVF 2018. What has been clarified is that there is no budget for such activities.

For what concerns the point 7 DemoX, is interesting but maybe in a second phase when a new acceleration program will be launched; in any case they would like to know a little more about the DemoX and we have to verifiy if there is the chance to provide some slides for the concept.

8.) Survey with CENTIC - Spain (Germán Sancho Director CENTIC)

During 2017 and 2018 several meetings took place with CENTIC that is currently composed of 50 ICT-based SMEs. The model adopted by CENTIC consists of providing services organized through working groups where all the members can participate. There are:

- two horizontal groups: Communication & Marketing and External interfaces.

- four vertical groups that constitute the project work flow with the complete value chain: Technology survey to identify which technology trends are considered the most promising in a near or close future, Formation to get training on the selected technologies, Projects generation to foster collaborative projects and Exploitation to commercialize the results of the projects.

As an instrument to help its members to increase their turnover through the use of ICT, CENTIC is constantly performing technology survey to identify which technology trends can be useful for its members. Big Data has been identified as a key technology trend that can help SMEs at growing their businesses. For this reason, CENTIC joined the Big Data Value Association (BDVA) in July 2016. Together with Big Data IoT and gamification are also two core technologies of interest for the members and where CENTIC has expertise.

As BDVA member CENTIC attended BDVA Activity Groups and BDVA General Assemblies (Valencia 2016, Versailles 2017).
- 18-19/10/2017: participation of BDVA Activity Group 22: http://centic.es/centic-participa-las-reuniones-del-grupo-g22-big-data-value-association-bruselas/

Apart from participating to the BDVA Summits, CENTIC also performs the following activities related to the life of BDVA in order to maintain its members aware about what is going on in BDVA:
a) Dissemination of the Strategic Research and Innovation Agenda (SRIA):
- http://centic.es/publicaciones-bdva-nueva-actualizacion-agenda-estrategica-europea-sria-oct-2017-bigdata-sria-bdva-investigacion-innovacion/
b) Dissemination of the BDVA Summits to its members:
- 21-23/11/2017: European Big Data Value Forum in Versailles: http://centic.es/european-big-data-value-forum-21-23-noviembre-versalles-se-abre-plazo-registro-bdva_ppp/
- 29/11-02/12/2016: http://centic.es/centic-sponsor-la-bdva-summit-valencia-bdvasummit-bigdata-bdva_ppp/

CENTIC also disseminates other Big Data related events and news (not necessarily related to BDVA):
- 25-26/10/2017: Big Data Congress in Barcelona: http://centic.es/big-data-congress-barcelona-25-26-octubre-2017/
- 12/07/2017: Publication of Generation of Big Data talent in Spain: http://centic.es/publicaciones-generacion-talento-big-data-espana-fundacion-cotec-bigdata-talentobigdata/
- 16/05/2017: Analysis if Big Data strategy in Spain: http://centic.es/publicaciones-analisis-la-estrategia-big-data-espana-planetic/
- 28/02/2017: BIG DATA FÓRUM 2017 new opportunities: http://centic.es/big-data-forum-2017-nuevas-oportunidades-28-febrero-madrid-bigdata/
- 15-16/10/2015: Conference Big Data Spain: http://centic.es/conferencia-big-data-spain-2015-15-16-octubre-2015-madrid/

CENTIC also organizes Big Data related events:
- 11/04/2017: Data Science Day: Big Data and Machine Learning and instruments for the future: http://centic.es/tag/jornada-big-data/

The work performed by CENTIC is particularly useful for those members that are involved in the Big Data business:

Datuary - http://www.datuary.com/ - a company specialized in Business Intelligence, Big Data solutions and Enterprise Web Apps development.

Answare - http://www.answare-tech.com/en/ - involved in the H2020 Transforming Transport project to assess how Big Data is important in the Transport sector.

Visualtis - http://www.visualtis.com/ - involved in smart places and smart markets.

Syscomed - http://www.syscomed.es/ - Remote control and automation of hydraulic systems, environmental, industrial and water networks.

Odin Solutions - http://www.odins.es/ - intelligent monitoring and remote management of infrastructures.

Gesproga - http://www.gesproga.com/ - design, dimensioning, integration and construction of livestock plants.

Take the results and suggestions:

Regarding BDVA and the BDV PPP CENTIC is interested in the following topics:

Have a market place where SME members of CENTIC can promote their solutions (offering for trade) and can also look for partners to complement what they already have.

Have Demo Days and Brokerage events in the Region of Murcia to get more knowledge of the technologies in place and to foster matchmaking with entities from Europe in order to share technological background and look for commercial opportunities.

Open a Virtual Center for Innovation in Big Data in the Region of Murcia that relies on the knowledge of members of BDVA (it might be linked to the DIH being set-up in the Region of Murcia)**.**
- Rationale: All the industrial sectors (Transport, Energy, Health, Banking, Aerospace, etc.) need Big Data solutions. In Murcia the two key traditional industrial sectors asking for Big Data solutions are AgriFood and Tourism. Other emerging sectors are Smart Cities and Industry 4.0. This panorama offers a multitude of opportunities for SMEs from Murcia that can offer their solutions for: data management, data processing, data analytics, data visualization, data security / privacy, etc.
- Description: The aim is to create an Innovation Center in Murcia that will provide knowledge (know-how) on Big Data issues in order to offer new solutions to

industrial sectors mainly in the Region but also outside. The Center could gather knowledge of large companies, SMEs, universities, research centers, ... This Center could serve as a collaboration workshop between Big Data experts, a test bench to test solutions to take off in the industry and could be a reference in Big Data internationally. Being part of BDVA with close to 200 members in Europe, CENTIC can concentrate the knowledge of the members of the BDVA in the Center, give training by experts, try new experiments / pilots, etc.

9.) Survey with Brainport Eindhoven (Wim de Kinderen– International Project Manager)

Brainport is a Regional Agency that serves Public Organizations, Industries and Academic Institutions. It is strategic for the Region.

They have an office also in Brussels to manage interaction with the EU Commission.

They have decided to join BDVA after the Valencia Summit, when they realized that the BDVA, as private part of the PPP, was focused mainly on large companies that deal with Big Data. Brainport that has in his ecosystem also SMEs and Institutions, decided to join the BDVA to carry their contribution to the BDVA especially on Smart City where Brainport is very strong. So, they joined to provide useful role and contribution.

For what concerns the value proposition discussed, Brainport is already part of other initiatives such Vanguard. What Brainport suggests, is to have matchmaking events at regional level first (satellite) and then be part of a more general event. He thinks that is better to match first the local community with a physical approach and for topics of common interest. Therefore, the events proposition is valuable but has to be refined and more focused to be fruitful for all the participants.

For what concerns DemoX, they believe that could be a useful asset, but they would like to discuss first internally. Brainport has committed to add some other value proposition to our proposal coming from their needs and experiences.

10.) Survey with ITI Instituto Tecnologico de Informatica (Daniel Alonso Roman – Project Manager; Daniel Saez Domingo – Head of Strategic and Competitive Intelligence department.

ITI is a Research Centre and Competence and Innovation Centre in different digital activities such as Big Data or AI. The main objective is to transfer knowledge to companies in the Region (Valenciana Community) and in the neighbour regions.

The ITI ecosystem consists of about 250 companies where about 70% are represented by SMEs (only 15% are involved in Big Data projects) and the remaining 30% are large companies, and all are supported in the R&D projects, training, and assessment consultancy. ITI is a Not Profit organization and is composed of about 170 resources. ITI is well connected with the majority of the Universities in Spain, with many international organizations and sectorial associations.

For what concerns the value proposition proposed, ITI noticed that there are several initiatives like the one we have proposing, and we have to define something really

new that differentiate our value propositions with respect to the existing ones. iSpaces for example is a federation that provides some of the value propositions discussed.

The suggestion is to be more focused. Even for the innovation marketplace there are many similar marketplaces, maybe more generalist but still provide the same assets.

For what concerns DemoX, data driven business model, there is already a similar one in one of the iSpaces projects, therefore engaging the iSpaces as intermediaries, we have to avoid entering in conflict with the iSpaces value propositions, we have to find synergies.

Looking at the value proposition (see 2.3) ITI summarizes that as iSpaces there is one that is working on data-driven business models (Know-Center) 7) while most of the others iSpaces already provide matchmaking opportunities and similar innovation marketplace.

Daniel Alonso says that if we want to consider the Marketplace as a valuable value proposition, we have to fill as much as possible with relevant assets, especially for the iSpaces would be nice to have datasets available not necessarily for free, but sharing data would be a plus.

Daniel suggests using the whole BDV-PPP portal as the one stop shop portal for the ITI ecosystem including skills and educational hubs, where to include also best practices, successful stories, demo.

The final proposal is to agree on a common value proposition between iSpaces and PPP adding from our what is missing in iSpaces.

For what concerns the co-organization of events and in particular for EBDVF 18 we will commonly define one or two sessions that will be useful for the eventual SMEs involved (most probably in the 3rd days of the event).

Following additional information was provided by ITI after the one to one interview:

> *As mentioned, the value proposition would be such that whenever any actor thinks of Big Data (either at local, national or European level), they automatically go to the corresponding intermediary. In this way, it would be valuable to include:*
> - ***Access to PPP projects assets****. It should be discussed within the Steering Committee, since I think it is interesting also for projects from a dissemination point of view. Among others:*
>   - o *Successful stories*
>   - ▪ *Best practices (even for other projects)*
>   - ▪ *Business models*
>   - ▪ *Platforms, datasets, toolboxes, APIs … (these will also be in the marketplace).*
>   - ▪ *Events*
>   - o *Others (TBD with PPP SC).*
> - ***Organisation of Training services and seminars*** *working with the actors (BDVA, projects, others, …) in the ecosystem (as offer and demand side), as mentioned in the previous points.*

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- *Big Data Watch, with current information about Big Data: they could be directly informed about publications (white papers, reports, etc …) by BDVA TFs, project results releases, important news / events in the PPP website … I guess it could be part of BDVe C&D strategy …. It would also include the subscription to PPP newsletter.*
- *Visibility through PPP channels. They could have some content published or promoted in the channels of the PPP (newsletter, portal, social media). The contents should be approved by the editorial team (BDVe WP5 and BDVA TF4). We would provide visibility at European level.*
- *Big Data Maturity assessment service to get the maturity level of companies and propose a roadmap (the question here would be who and how offers the service)*
- *Funding opportunities, and possibility to get involved in European consortiums.*

*As for the possibility of some of our associates attending a session in the EBDVF18, honestly, we think this is a very unlikely possibility, since they mostly rely on us to get feedback from those events. Actually, this should also be a role of the intermediary, **to represent associates in events and forums on BDV**.*

11.) Survey with IMT – TERALAB (Pierre Pleven – Strategic Advisor)

Teralab is the French i-Spaces initiative and Pierre is leading the project for more than 1 year. As part of the BDVA he knows very well the aim of BDVA and the objectives that BDVe has to create awareness on Big Data and boost the innovation that comes from the PPP projects. He agrees that creating a network is a good way to have a diffuse knowledge about Big Data topics. When talking about Innovation Marketplace, Pierre noticed to me that there are so many marketplaces available that declare more or less the same services, but what would differentiate our marketplace from the other is having good uses cases, good data available and good competencies (skill & people). Therefore, Pierre says that the key element to have success in Europe for Big Data is not only technology but also educated People. Teralab is training people on big data but what is important is to provide them with good use cases.

Moving to DemoX the BDVe data-driven business model, Pierre is quite critic regarding business model that a-priori establish the path to follow, especially on Big Data. He says that no one can predict which will the value that he will generate, it can be measured only after some practical experiments. There are two partners of the Teralab ecosystem that are also member of the BDVA.

Two main aspects will generate interest in the SMEs and startups in such kind of network: speed dating for hiring Data Scientists; Investor sessions.

12.) Survey with SDIL - SDSC (Michael Beigl – Professor at KIT)

SDIL (Smart Data Innovation Lab) is the German iSpaces initiative, it is considered as an Innovation Data Center in the Region and act as a hub between the industries and the research institutions. The core members are large companies, some of them are the providers of the Data Analytics platform in the SDIL data environment.

The other partner, medium large SMEs, provides dataset, software, algorithms, etc…

The SDIL platform is close to the members, to permit them to make experiments and share data (free o premium).

Talking about the value proposition SDIL says that marketplace is always interesting even if they have their own marketplace, could be interesting link the two marketplaces to provide more value to whom is looking for solutions and data outside the close SDIL marketplace. DemoX is also an interesting value proposition because next year SDIL will launch an accelerator program and for that SDIL is strongly interested to be part of such network of intermediaries.

Michael says that most of the propositions would apply better to the other program inside SDIL that is SDSC (Smart Data Solution Center) that is more an incubator and Michael is also the head of such incubator. Looking at the possible needs of SDSC, Michael says that for what concerns co-organized events, demo days, for the startups not always are interesting, maybe nice events where the success depends on who attends the event. He says that it is more fruitful participating to the events for contacts than for business and the startups look mainly at business. In any case he will think about. For the marketplace also for SDSC he says that is a valuable proposition, especially for the assets that we will provide.

For what concerns the BDV Investor Network, as SDSC he found it very valuable, especially if the Investor Group is able to support a second seed round. The same interest is for SDIL due to its next year programmed accelerator program.

What he rose as a hot topic is the lack of professional skills. We can educate through MScs at the Academic Institutions, but it takes time, is necessary to solve the tactical problem and creating mobility among the companies to increase the knowledge and competence on the job could be the right solution.

13.) Survey with CARTIF (Anibal Renones)

CARTIF is a member of BDVA for 2 years. The interview was conducted by Susanne Kuehrer and Angelo Giuliana as team from EIT Digital.

Susanne introduced BDVe as CSA supporting the PPP.

We have identified intermediaries (Accelerators, Incubators, Innovation Clusters) that are able to boost the PPP outcomes, but also Investors could be considered as intermediaries; therefore, we are constituting an Investor Group dedicated to the investments in Big Data SMEs and startups.

We have identified a value proposition that we were discussing with PPP for the involvement of external members and we are now verifying the proposition identified with these external actors as we cannot give money to support the engagement of external partners into the PPP.

With this value proposition we are not targeting only private companies, but also public associations/organizations.

CARTIF in the Castilla-Leon region interacts with different clusters of different economic sectors and contribute to the dissemination of different documents. For ex. for Manufacturing they presented a White Paper to the cluster for automotive companies they have prepared on Big Data and the value of data.

Susanne presented the Marketplace as one of the value propositions identified where we have solutions from PPP and outside, an interactive place that enables the matchmaking between demand and supply.

CARTIF says that such marketplace is very interesting because is facilitating the matchmaking with an online tool as first approach and then face to face meeting could follow.

They pointed out that when preparing the White Paper on Manufacturing they were only aware of that Lighthouse project but once the Marketplace is there, they would have access to other projects.

Concerning the co-organization of events/workshop, for ex Demo Days for the startups, CARTIF is mostly focused on PPP organised events, or on Regional/National events targeting a specific area of organization or a specific topic (e.g. Smart City), chosen case by case depending on the needs of the company.

CARTIF is more involved with corporate companies/SMEs than startups, but if an entrepreneur comes trying to find support, e.g. for funding, they are helping.

There is a collaboration with the Regional Development Agency where they act as advisor for entrepreneurs that want to provide new technologies on the market, they provide feasibility studies; providing them free of charge. Support to entrepreneurs had been in the past more on an opportunity basis but now due to the collaboration with the Regional Development Center it is more organized.

When talking about skills, CARTIF says that skills are key, because there are not many available talents on big data. They usually apply for exchange of researcher between research institutions or R&D departments in companies (3-6 months period), using public funds normally and if necessary,

There is special budget in the Regional Center to facilitate the exchange.

Based on the explanations from Angelo regarding the planned mobility program in the PPP, Anibal says that the exchange of researchers is not related to ongoing projects but to institutions that are in the field. They send a researcher there without creating a project before.

Susanne introduces the DemoX data-driven business model, and CARTIF says that also having a right business model taking value from the data of a company is a key, so they are interested to approach our DemoX model when all the documentation is available.

When asking for additional ideas they might have for value propositions, CARTIF says that what has been discussed in term of value proposition is a lot, but he will think and come back with some additional topic. A summary of the value propositions presented will be sent to them.

CARTIF gives his consent to use the content of the interview in the public document we are delivering.

14.) Survey with Incubator 1 - Spain

The interviewed is working in the Accelerator and Business Incubator.

It is acting as a relationship system aimed at spreading the entrepreneurial culture and making reality the creation and consolidation of innovative companies, and / or technology-based companies (in Spain, the denomination is EBT´s).

This incubator offers individualized and specialized business support services, with special focus in: preparation for investment, strengthening technological base and networking.

This entrepreneurship and innovation program is specialist in innovative and knowledge-based spin-offs and startups, in Incubator 1 and the Scientific Park main areas of specialization.

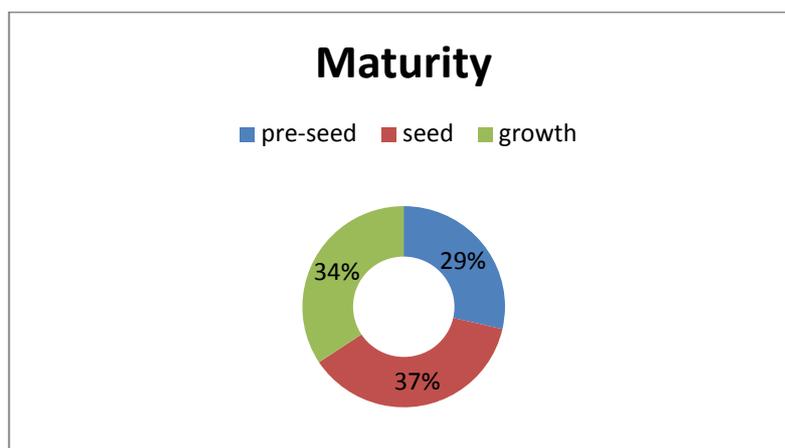In terms of maturity, it is possible to define the following structure (see Figure 5):

Figure 5 - Percentage of projects per maturity level

The graphic shows that in this Incubator 1 is quite similar the number of projects in the pre-seed, seed and growth status, according with the incubator and accelerator services that it is offering.
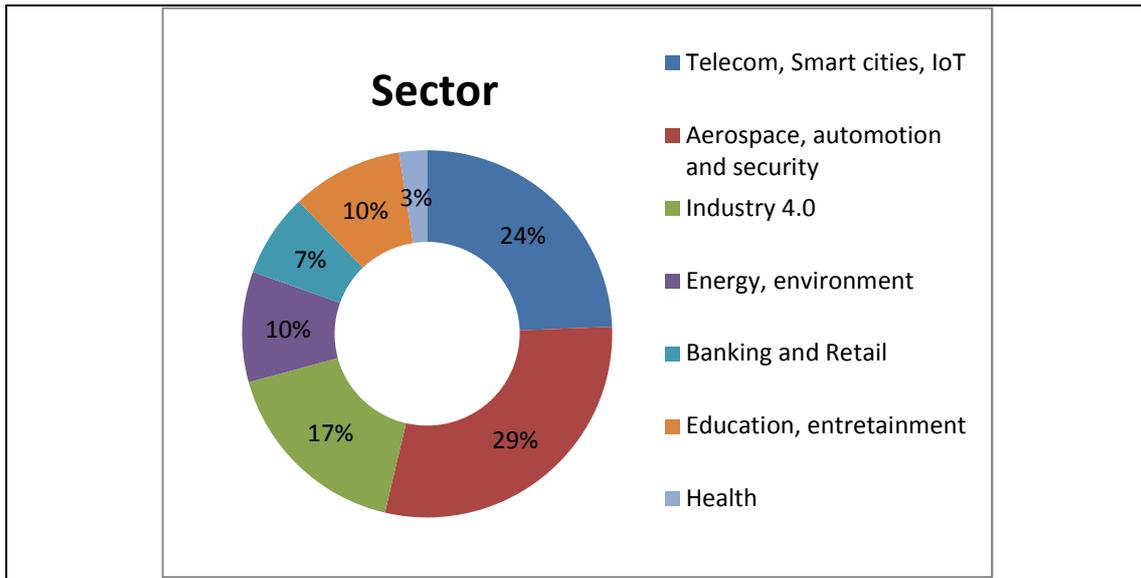
A sectorial analysis offers the following Figure 6:

Figure 6 - Sectorial distribution for startups incubated

It´s important to indicate the predominance of information and telecommunication technologies and services (seventy percent of the total projects in this University if we are considering the three main sectors: telecom, smart cities, IoT plus aerospace, automotion and security plus industry 4.0).

Currently, this start-ups accelerator and incubator program has ideas, technological projects and start-ups related to Big Data, in multiple and different sectors such as Industry 4.0, development of software, retail, fintech, aeronautics/aerospace, health or energy and environment.

As part of its present activity, this area is participating in European projects related to entrepreneurship and acceleration of start-ups. However, as incubator and accelerator program, they are interested in collaborating or attracting European projects related to Big Data because they confirm us that it is quite engaging for the startups as well as for the research groups that are working in this field.

It would be interesting for them to participate in the Marketplace as an interdisciplinary and intersectoral space to research and innovation projects as a business consolidation tool and because of the Incubator 1 assets in the field of undergraduate teaching, postgraduate and research activity.

The main importance in order to take part in a Marketplace with these characteristics is about the possibility to compare offer and demand in Big Data and access to investor network. Aspects such as forum for discussion and promotion of new ideas, participation in Demo Days events for startups or contact with technological partners are less relevance for this institution. Lastly, the consideration of the Marketplace as a place to select projects for the incubator/accelerator,

promotion of the Entrepreneurship program/university or promotion of Big Data awareness are not interesting in this case.

This incubator is currently participating in another Marketplace called Enterprise Europe Network (EEN) that helps companies in order to innovate and grow internationally. This network offers international partnerships (expertise, contacts and events to connect with international partners to grow the business), advice for international growth (expert advice for growth and expansion into international markets) and support for business innovation (solution-driven services to help companies turn the innovative ideas into international commercial successes).

At this time, they are exploring the possibility of participating in other marketplaces.

Two characteristics that they are missing in the Marketplaces and that they would like are dynamization and current information. In this specific case, they indicate information about Big Data startups as an important aspect to consider.

15.) Survey with Incubator 2

The Incubator 2 is one of the biggest universities in Spain. Its Entrepreneur Office basically provides information related to entrepreneurship in any of its development phases. Also, it gives some advice to entrepreneurs from the origin of the idea to the most advanced phases of the start-up, accompanying the entrepreneurs in the design of their business model up to the development of the business strategy.

Incubator 2 Entrepreneur Office participates and promotes initiatives from others similar structures. It consists in e.g. the participation in start-ups awards and contests and the promotion for the participation in such initiatives related to entrepreneurship.

Incubator 2 Entrepreneur Office is part of the Incubator 2 interviewed; a generalist university so the variety of projects it works with could be very high. However, in general terms they all focus on Social and Legal Sciences, offering the market services with some innovation, Arts and Humanities projects and Health Sciences projects, mainly offered by the School of Psychology. It is observing an intense activity from the students of biological Sciences, derived mainly from the existence of internal teaching agents who are promoting innovation and entrepreneurship among their students. This means that Incubator 2 Entrepreneur Office does not work directly with big data start-ups but related with this area. In general, the students of the Faculty of Computer Science access in many occasions to programs of promotion of the external entrepreneurship directly promoted in their Schools, so sometimes it has to make an effort to reach them.

Regarding the value proposition proposed, from Incubator 2 Entrepreneur Office appreciate that based in its experience in similar initiatives they end up becoming

passive tools, and it is more interesting to achieve interrelation, connection and collaboration between the participants. They suggest creating a dynamic and flexible structure that makes its participants consider their belonging to that Marketplace as an investment, and it requires a lot effort on the part of their promoters.

Focus in the Marketplace, Incubator 2 Entrepreneur Office would be interested in be part of it if it is able to create the opportunity to connect its entrepreneurial ecosystem with big data projects. Also, accessing to financing and to a business angel network are extremely important because this is a service very demanding by start-ups as we well know.

16.) Survey with Incubator 3 - Spain

The startups that are working in the Incubator 3 receive the following services: incubation, advisor (in fields such as communication, strategy, business model, intellectual property, validation, etc.), as well as training, access to funding, team building, etc.

In terms of maturity, it is possible to define the following structure – see Figure 7):
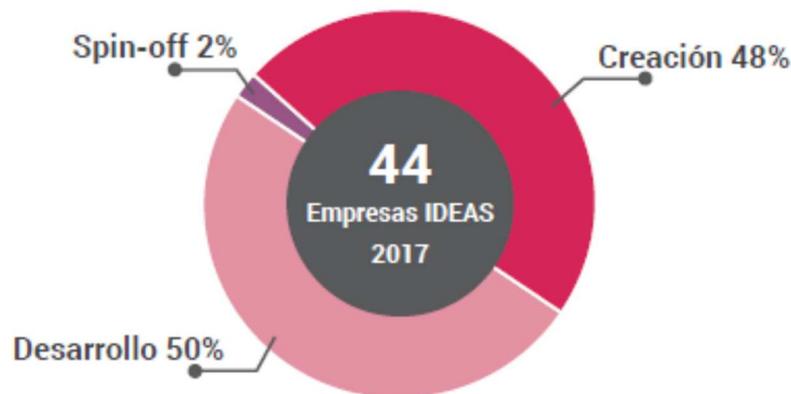

Figure 7 - Percentage Distribution for the Startups Incubated

Last year, almost fifty percent of companies created in this University were related to creation (initial phase), while the other fifty percent were linked to development and growth.

The main areas to be highlighted are presented in the following Figure 8: Information and Communication Technologies (ICT) (26%) followed by Tourism, Leisure and Culture (21%) that has increased with the previous years. As a conclusion, we can indicate that the projects are multi-sectoral.
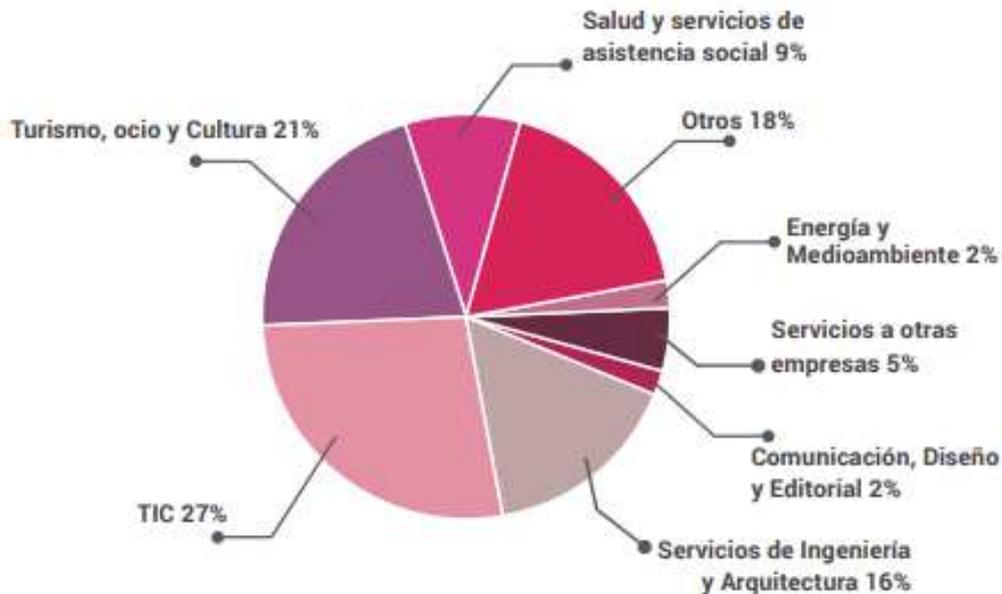
Figure 8 - Sectorial distribution for startups incubated

Currently, this start-up accelerator and incubator program has ideas, technological projects and start-ups related to Big Data, in multiple and different sectors such as environment, water, predictive maintenance, IoT and software in general, among others.

Incubator 3 is participating in several European projects related to entrepreneurship and acceleration of startups.

Ideas Incubator 3 received the European Promotion Awards in 2009. In 2015, Incubator 3 was a success story that contributed to obtain the EU Entrepreneurial region label.

As incubator and accelerator program, they are interested in collaborating and attracting European projects linked to Big Data. In fact, they are trying to promote actively with hackathons and challenges, so every year they have dedicated a small budget to foster these sectors.

Take part in a Marketplace for projects and startups related to Big Data is considered interesting for this Program, especially for the joint collaboration and visibility that they could achieve for their startups.

The three main characteristics in a Marketplace such as BDVe for them are, in order of relevancy: to promote the organization, to select projects for the incubator/accelerator and to contrast offer and demand in Big Data.

It´s interesting but less than these items: to participate in Demo Days events for startups, as a forum for discussion and promotion of new ideas or to promote Big

Data awareness. It is not considered relevant to develop a Marketplace in Big Data in order to contact with technological partners or to access to investors network.

In their opinion, a Marketplace must have the following features:
- Effectiveness of Marketplace services. It´s essential to generate critical mass. The Marketplace would need a slot of time to start well.
- More focused on the main requirement for startups: customers and sales.

17.) Survey with Incubator 4

In the incubation area, Incubator 4 provide hosting of events, workshops, co-working spaces for entrepreneurs, workshops, training and providing the incubated, as far as possible, with technical content and new development opportunities are ensured of services and products. Also, tools and business infrastructures that can demand and need developers, entrepreneurs and hosted start-ups. Additionally, the incubated ones are given access to the wide range of possibilities of linking with the Incubator 4 and its innovation ecosystem.

In the Incubator 4 incubation spaces they have technological projects from all areas of action and knowledge, as UPC is not specialised in one, from the aeronautical sector, agrotech, cleantech, TIC, blockchain, photonics, big data, healthtech, machine learning, computing, etc. They have projects that use big data technologies for different sectors and applications, for the space sector, retail, cybersecurity, robotics, machine learning, etc.

Although they do not participate in platforms such this marketplace, the Incubator 4 does participate in specific knowledge networks with a scientist orientation on different areas of technical knowledge, but at the accelerator level, incubator, no. They will be interested in the Marketplace value proposition if it is oriented with the strategic lines of development of the Incubator 4 Innovation Ecosystem and can provide value to all its agents. They ask for some more specific information about the real activities involved for the institution but a priori it could be able to participate in order to find synergies between projects, technologies and companies from related fields. They consider that a good point to success in the Marketplace project is to invigorate the generation of synergies between members and / or users.

They see as a real value to access to financing and deal flow of projects with the will to create a relationship with the Incubator 4 through common spaces, research activities, project development, etc. The co-organization of events like Demo Days will be a good point of interest for them.

18.) Survey with Incubator 5 - Spain

This Incubator 5 Business Angels Network is defined because they generate and select potentially attractive startups for investors and they have made more than

two hundred investments. It´s a reference in the startups and investment Spanish environment nowadays.

The Incubator 5 Business Angels Network seeks to:

- Link promising business plans and ventures with investors.
- Help potential investors to get started.
- Promote on-going educational opportunities for investors.
- Create a framework for the exchange of ideas and experiences among investors.
- Foster ties and spirit of collaboration among investors.
- Contribute to a culture of transparency in the private investment market.
- Raise awareness regarding the role of private investment in society and business.

The type of projects that they are working is not specific. All kind of sectors and technologies with a strong presence in Information and Communication Technologies (ICT), B2B and B2C business model are welcome.

In economic and financial terms, their investments are between one thousand euros and four thousand euros for average valuations of three millions of euros (see Figure 9).
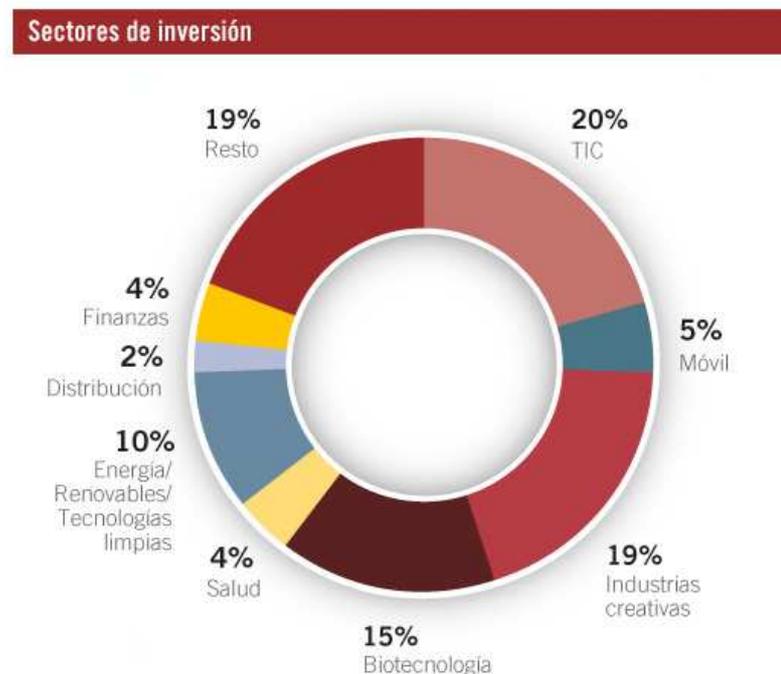

Figure 9 - Percentage of Investments for sectors and technologies

At the moment, they are receiving many Big Data investment opportunities, mainly for these sectors:
- Consumption (the goal is to understand preferences and customers habits and behaviours and to improve shopping experiences)
- Logistics and Transportation
- Smart cities
- Media (music)

As a part of their activity, they are participating in European projects related to entrepreneurship and startups.

In addition, they are involved in two others Marketplace: GUST and F6S (see Chapter 3.2.2 for more detailed information on both).

Initially and as an investors network, they would be interested in collaborating or attracting European projects related to Big Data, although there are certain difficulties in the angel investment segment to materialize international investments.

The three main characteristics in a Marketplace of projects or start-ups related to Big Data as an interdisciplinary and inter-sectoral space of innovation and research are following: a place for selection of projects for investment, the possibility to participate in Demo Days events for startups and a way for contacting with technological partners.

It is considered less relevant to propose a Marketplace as a forum for discussion and promotion of new ideas, in order to promote the own organization, to compare offer and demand in Big Data, to promote Big Data awareness or to access to investors network.

V. Innovations from Lighthouse Project "Transforming Transport"

One of the BDVA PPP Lighthouse projects is Transforming Transport (TT) - https://transformingtransport.eu/ - that represents a strong consortium of 48 leading transport, logistics and information technology stakeholders in Europe. With a budget of EUR 18.7 million and the participation of 48 organisations from 9 countries, the Horizon 2020 Big Data Value TT Lighthouse project is working on finding a more efficient and more sustainable transport paradigm. It aims to show concrete, measurable and verifiable evidence of data value that can be achieved in mobility and logistics.

TT is composed of following 7 domains and 13 pilots:
- WP4: Smart High-ways (Ausol Load Balancing Pilot and Norte Litoral Load Balancing Pilot)

- WP5: Sustainable Connected Vehicles (Sustainable connected cars and Sustainable connected trucks)
- WP6: Proactive Rail Infrastructures (Predictive Rail Asset Management Pilot and Predictive High Speed Network Maintenance Pilot)
- WP7: Ports as Intelligent Logistics Hubs (Valencia Sea Port Pilot and Duisport Inland Port Pilot)
- WP8: Smart Airport Turnaround (Athens International Airport and Malpensa airport)
- WP9: Integrated Urban Mobility (Tampere Integrated Urban Mobility and Logistics Pilot, and Valladolid Integrated Urban Mobility and Freight Pilot)
- WP10: Dynamic Supply Networks (Shared Logistics for E-Commerce Pilot)

Within the Impact work package, one Task (Task 3.6) has two main objectives:
- Support pilots in identifying successful and interesting innovations for their projects.
- Facilitate the market take-up of concrete innovations and services demonstrated in the project, establishing tri-lateral agreements among pilots, technology adopters/customers and private investors.

In order to achieve these objectives, the task has been divided into two strategies called "From Local to Project" and "From Project to Global", described as follows:

With 'From local to project' we intend to identify successful innovations in the transport sector at local level and mostly implemented by SMEs and entrepreneurs by reaching agreements with the most relevant EU incubators and accelerators, SME instrument champions and VC funds. These successful innovations coming from external stakeholders will be invited to be integrated into one of the project use cases offering them a large-scale pan-EU showcase that will contribute to facilitate its take-up and introduction into the market.

In the second part of the strategy, 'from project to global' we intend to support the market take-up of concrete innovations and services demonstrated in the project use cases both to innovation coming from external stakeholders and innovation brought by project partners. This support will be implemented by the establishment of tri-lateral agreements among (1) innovators, (2) technology adopters/customers, and (3) private investors.

As during this period, the majority of pilots were in an initial or early phase, all our efforts have focused on the first of the strategies, "From local to project".

The work carried out has consisted in defining the strategies, gathering sources of information of interest to the pilots in terms of innovation and giving support to certain pilots on certain topics proposed by them.

With regard to information sources, a database has been created for each domain and classified into the following groups: web sites; newsletters, magazines, papers and journals; conferences and workshops; Actors on the sector; EU Incubators and

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Accelerators; SME Instrument Champions; EU Projects; Venture Capitalist funds and Business Angels; EU Platforms;

The total number of sources collected so far by each group are as follows:

- Web sites: 52
- Newsletters, magazines, papers and journals: 59
- Conferences and workshops: 33
- Actors on the sector: 88
- EU Incubators and Accelerators: 39
- SME Instrument Champions: 65
- EU Projects: 72
- Venture Capitalist funds and Business Angels: 31
- EU Platforms: 20

In total, more than 450 sources of information related to innovation in the transport sector are available to the TT project.

Regarding the support provided to identify innovations of interest to the pilots, the following actions/tasks have been carried out:

− Highways pilot: interested in new business models. Also interested in regulation of Bluetooth MAC assignation. We have got in touch with Bluetooth corporation, but no answer received yet.
− Trucks pilot: interested in data sources w.r.t. satellite images and traffic. No additional datasources found yet.
− Railways pilot: interested in point machines, track circuits and overhead line/electrification equipment innovations and SMEs. Database have been updated with info requested.
− Airport pilot: interested in passengers tracking and more accurate planning times in operational airport systems. Database have been updated with info requested.

Regarding quantitative information on how many private companies in your project have introduced or are planning to introduce innovations:

A) Companies introducing innovation(s) new to the market:
   − WP4 (Smart Highways): CINTRA + INDRA
   − WP5 (Sustainable Connected vehicles): Answare (SME) + PTV+ TomTom
   − WP6 (Proactive Rail Infrastructures): Thales + INDRA
   − WP7 (Ports as Intelligent Logistics Hubs): ITI + NOATUM + Orbita (SME) + UDE
− How many of these are SMEs? Answer: 2

B) Companies introducing innovation(s) new to the company:
   − WP4 (Highways): CINTRA + INDRA
   − WP5 (Sustainable Connected vehicles): Answare (SME) + PTV + TomTom
   − WP7 (Ports as Intelligent Logistics Hubs): ITI + NOATUM + Orbita (SME) + UDE

- WP8 (Smart Airport Turnaround): JEPP + INDRA + Airport Gurus + BRTE + SEA + AIA
- WP9 (Integrated Urban Mobility): VTT + Mattersoft + Infotripla (SME) +CARTIF
- WP10 (Dynamic Supply Networks): AUEB + ITAINNOVA + ITML (SME) + Intrasoft + Fraunhofer

- How many of these are SMEs? Answer: 4