



**BIG DATA VALUE**  
eCOSYSTEM

## **D3.7 Value proposition and engagement plan for entrepreneurs and SMEs**

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Editor(s):	Antonio Alfaro, Tatjana Gornostaja, Bas Kotterink, Susanne Kuehrer, Victoria Moreno, Tonny Velin
Responsible Partner:	TILDE
Contributors	BDVA/ANSWARE, EIT, TNO
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## Contents

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<b>1</b>	<b>INTRODUCTION .....</b>	<b>8</b>
<b>2</b>	<b>VALUE PROPOSITION AND ENGAGEMENT PLAN FOR INTERMEDIARIES.....</b>	<b>10</b>
2.1	INTRODUCTION .....	10
2.2	INTERMEDIARIES AND THEIR ROLES.....	10
2.2.1	Innovation Clusters .....	12
2.2.2	Business and Science Incubators .....	13
2.2.3	Startup Accelerators .....	14
2.2.4	Incubators and Accelerators engaging in Big Data .....	15
2.2.5	Innovation Clusters .....	16
2.2.5.1	DIHs and Big Data .....	17
2.3	INTERMEDIARIES IN THE BDV PPP AND BDVA .....	18
2.4	VALUE PROPOSITION FOR INTERMEDIARIES .....	19
2.5	ENGAGEMENT PLAN FOR INTERMEDIARIES.....	20
<b>3</b>	<b>VALUE PROPOSITION AND ENGAGEMENT PLAN FOR SMES .....</b>	<b>21</b>
3.1	WORK WITH SMES IN OTHER PPPS .....	21
3.2	SMES IN THE BDV PPP AND BDVA .....	25
3.3	VALUE PROPOSITION AND ENGAGEMENT PLAN FOR SMES.....	26
<b>4</b>	<b>VALUE PROPOSITION AND ENGAGEMENT PLAN FOR INVESTORS.....</b>	<b>29</b>
4.1	WORK WITH INVESTORS IN OTHER PPPS.....	29
4.2	VALUE PROPOSITION AND ENGAGEMENT PLAN FOR INVESTORS.....	30
4.2.1	Big Data Value investors group.....	30
4.2.1.1	What is the purpose of the BDV IG?.....	31
4.2.1.2	Who can become a member of the BDV IG?.....	31
4.2.1.3	How are investors, startups and SMEs selected and structured?..	31
4.2.1.4	What are the services provided by the BDV PPP to the BDV IG?..	32
4.2.1.5	Is there any restriction on number of members? .....	33
4.2.1.6	How long is the period of membership and can it be extended? ..	33
4.2.1.7	What are working methods? .....	33
4.2.1.8	What will the working method imply for members in practical terms for investors representatives (time and effort to be devoted)? .....	33
4.2.1.9	What will the working method imply for service providers and/or facilitators in practical terms (time and effort to be devoted)?.....	34
4.2.1.10	How many meetings will be held each year and where will they be held?	34
4.2.1.11	Who will organise and chair the meetings? .....	34

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

4.2.1.12	How will topics for the agenda be generated? .....	34
4.2.1.13	Who will provide secretariat for the group?.....	34
4.2.1.14	Sharing of information and resources (including confidential materials): How will group members share information and resources?.....	35
4.2.1.15	How will confidential materials be identified and dealt with? .....	35
<b>5</b>	<b>CONCLUSIONS .....</b>	<b>36</b>
5.1	CONTACT DETAILS FOR INTERESTED PARTIES.....	36
<b>6</b>	<b>ANNEX: THE STARTUP ECOSYSTEM .....</b>	<b>37</b>
6.1	WHAT IS A STARTUP?.....	37
6.2	THE EUROPEAN ECOSYSTEM .....	38
6.3	ACCELERATORS .....	39
6.4	EXPANSION INTO NEW MARKETS .....	40

## List of Figures

---

FIGURE 1. CHARACTERISTICS OF STARTUP ACCELERATION (SOURCE COHEN AND HOCHBERG )	12
FIGURE 2. EVOLUTION OF THE BUSINESS INCUBATOR MODEL .....	13
FIGURE 3. TYPOLOGY OF INCUBATORS .....	14
FIGURE 4. "HOT MARKETS" FOR ACCELERATORS .....	15
FIGURE 5. DIH GRAPHICAL REPRESENTATION .....	16
FIGURE 6. SELECTION AND STRUCTURE OF INVESTORS, STARTUPS AND SMES.....	32
FIGURE 7. STARTUP MARKET INCREASE SINCE 2009.....	38
FIGURE 8. ACCELERATOR GROWTH IN F6S .....	39

## Definitions, Acronyms, and Abbreviations

Acronym	Title
SME	Small and medium sized enterprise
PPP	Public-Private Partnership
BDVe	Big Data Value Ecosystem
BDVA	Big Data Value Association
BDV IG	Big Data Value investors group
BDV PPP	Big Data Value Public-Private-Partnership
SRIA	Strategic Research and Innovation Agenda
DIH	Digital Innovation Hubs
IoT	Internet of Things
VC	Venture capital
NDA	Non-Disclosure Agreement

**Table 1: Definitions, Acronyms, and Abbreviations**

## Executive Summary

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The present document defines value proposition and sets engagement plan for entrepreneurs and small and medium-sized enterprises (SMEs). The work was done within the BDVe project:

- Work Package 2 “IMPACT. Framing the European Data Economy to maximise Impact”,
- Work Package 3 “ECOSYSTEM. Community building and engagement”,
- and Work Package 5 “MARKETING. Communicating and disseminating PPP results under a recognised brand”.

The three target groups of stakeholders were defined:

- **intermediaries;**
- **SMEs;**
- **investors.**

During the initial phase of the project, the work was focused on the following three actions:

- **state-of-art analysis;**
- **value proposition definition;**
- **channel identification and engagement plan.**

The present document will help to monitor the progress and effectiveness of the ecosystem in view of entrepreneurs and SMEs during the BDVe project.

# 1 Introduction

The present document defines value proposition and sets engagement plan for entrepreneurs and SMEs. The work was done within the BDVe project:

- Work Package 2 “IMPACT. Framing the European Data Economy to maximise Impact”,
- Work Package 3 “ECOSYSTEM. Community building and engagement”,
- and Work Package 5 “MARKETING. Communicating and disseminating PPP results under a recognised brand”.

The work was done in collaboration with the Big Data Value Association (BDVA) Task Forces “Programme”, “Business”, “Communication”, and others.

The three target groups of stakeholders were defined:

- **intermediaries** (incubators and accelerators, see [Section 2](#));
- **SMEs** (see [Section 3](#));
- **investors** (venture capital, business angels, and other private investors, named “investors” hereinafter, see [Section 4](#)).

During the initial phase of the project, the work was focused on the following three actions:

- **state-of-art analysis** – how other Leadership in Enabling and Industrial Technologies PPPs engage with the defined target groups, we analysed the following PPPs:
  - FoF: Factories of the Future<sup>1</sup>,
  - EeB: Energy-efficient Buildings<sup>2</sup>,
  - SPIRE: Sustainable Process Industry<sup>3</sup>,
  - EGVI: European Green Vehicles Initiative<sup>4</sup>,
  - 5G: 5G Infrastructure<sup>5</sup>,
  - PHOTONICS 21<sup>6</sup>,
  - euRobotics<sup>7</sup>,
  - and ETP4HPC: European Technology Platform for High Performance Computing;<sup>8</sup>

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<sup>1</sup> <http://www.effra.eu>

<sup>2</sup> <http://e2b.ectp.org>

<sup>3</sup> <http://www.spire2030.eu>

<sup>4</sup> <http://www.egvi.eu>

<sup>5</sup> <http://5g-ppp.eu>

<sup>6</sup> <http://www.photonics21.org>

<sup>7</sup> <http://www.eu-robotics.net>

<sup>8</sup> <http://www.etp4hpc.eu>



### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

- **value proposition definition** – what benefits the target groups can get, i.e. the incentives for them to contribute to the Big Data Value Public-Private Partnership (BDV PPP) independently of whether they are a contractual party or not;
- **channel identification and engagement plan** – what are actions and responsibilities to address the target groups inside and outside the BDV PPP, locally and regionally, in collaboration with sectorial communities.

The present document will help to monitor the progress and effectiveness of the ecosystem in view of entrepreneurs and SMEs during the BDVe project.

## 2 Value proposition and engagement plan for intermediaries

### 2.1 Introduction

Intermediaries have been identified as a group that could facilitate the interaction – acting as mediators – between the Big Data Value Public-Private partnership (BDV PPP) and innovative startups and entrepreneurs in general to help to engage them into the activities of the BDV PPP, for example, by becoming an active member of the BDVA or by supporting them in their growth and international expansion. The main actors representing this group of intermediaries are as follows:

- **Innovation Clusters**
- **Business and Science Incubators**
- **Startup Accelerators**

With a broad range of available approaches, modalities, and application domains, these intermediaries complement and strengthen the ways in which the BDV PPP reaches out to and engage relevant startups and entrepreneurs in general.

The experience and track record of existing PPPs in effective and early engagement of intermediaries from outside the BDV PPP is rather limited. The most relevant and significant experience to date is the network of “intermediaries” (accelerators and incubators in Europe) launched as part of the Future Internet PPP (FIWARE).<sup>9</sup> This network helped to promote FIWARE to startups and it supported them on their way to market strategies. Although FIWARE can be seen as the most active PPP in terms of engaging and accelerating startups, there is still a gap in performance, if we compare it with the results of leading commercial accelerators. In this section, we outline some of the ways to further advance the participation and acceleration of startups and entrepreneurs by drawing on the experience of industry leading and high performance intermediaries.

### 2.2 Intermediaries and their roles

The best “known” intermediaries for startups and entrepreneurs aimed at bringing new products to market are *accelerators* and *incubators*. There is no formal distinction between the two but in general, as a product of the Internet age, the accelerators tended initially on Web applications and services and early stage startups. In recent years, they have expanded into many verticals and more complex

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<sup>9</sup> See at <https://ec.europa.eu/digital-single-market/en/future-internet-public-private-partnership> and <https://www.fi-ppp.eu>.

physical products for the Internet of Things (IoT) but keeping a focus on intensive, hands-on, short (3-6 months) programmes. Science and business Incubators tend to run longer programmes with a focus on more research and development intensive product development. Incubators also tend to take their portfolio businesses through all stages of their lifecycle.

Where accelerators have moved into more complex product areas, incubators are adding shorter pressure cooker style programmes to their offering. Although the programs of accelerators and incubators are converging, there is still a marked difference in audience. Commercial accelerators tend to attract more business-savvy startups aimed at rapid growth, whereas many incubators bring in university startups aiming to transform their technologies into business propositions. The subtle difference is captured well in the following quote:

*“If an accelerator is a greenhouse for young plants to get the optimal conditions to grow, an incubator matches quality seeds with the best soil for sprouting and growth.”<sup>10</sup>*

While accelerators tend to be commercially driven, incubators have a more diverse basis. They can be corporate driven (business incubators)<sup>11</sup>, public sector based, university funded (for example, in science parks), or even virtual or network driven. Both, incubators and accelerators, help to guide new businesses with a range of services, such as mentorship, office space, and networking opportunities. Startups apply to the programmes hoping to gain resources and support to get to the next stage – be it scaling up, diversifying their business model, or increasing sales (see Figure 1).

There is now a wide variety of accelerators and incubators ranging from one weekend startup launches made popular by Startup weekend<sup>12</sup> up to the multi-year research and development intensive high technology incubator Yes-Delft<sup>13</sup>. Many programmes also have a sectoral (Health, Energy, High tech, Fintech, Cleantech) or technology focus (IoT, 3D printing, etc).

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<sup>10</sup> See at <https://www.techrepublic.com/article/accelerators-vs-incubators-what-startups-need-to-know>.

<sup>11</sup> See here as an example SAP: <http://startups.sap.com>.

<sup>12</sup> See at <https://startupweekend.org>.

<sup>13</sup> See at <https://www.yesdelft.com>.

	Accelerators	Incubators	Angel Investors
Duration	3 months	1-5 years	Ongoing
Cohorts	Yes	No	No
Business model	Investment; non-profit	Rent; non-profit	Investment
Selection Frequency	Competitive, cyclical	Non competitive	Competitive, ongoing
Venture Stage	Early	Early, or late	Early
Education offered	Seminar	Ad hoc, hr/legal	None
Venture Location	Usually on-site	On-site	Off-site
Mentorship	Intense, by self or others	Minimal, tactical	As needed, by investor

Figure 1. Characteristics of startup acceleration (Source Cohen and Hochberg <sup>14</sup>)

### 2.2.1 Innovation Clusters

In addition to accelerators and incubators, we can consider “Innovation Clusters” as a separate category of intermediaries. Importantly, these city or region based programmes also covers the Digital Innovation Hubs (DIHs), a concept strongly promoted by the European Commission.<sup>15</sup> The DIH initiative is centred on programmes with a strong European Commission affiliation. Most of these programmes include accelerator or incubator components, often with cascading funds where budget is reserved and distributed to startups and SMEs to join European projects through a process of Open Calls, much like regular incubators. More information on Innovation Clusters in the next section.

*The aim of the BDVe project is to engage and work with the best programmes to ensure significant numbers of Big Data startups, SMEs, and entrepreneurs in general take part in creating a successful European Big Data Ecosystem.*

<sup>14</sup> See at <http://www.ecosysteminsights.org/everything-you-wanted-to-know-about-accelerators>.

<sup>15</sup> See at <https://ec.europa.eu/digital-single-market/en/digital-innovation-hubs>.

## 2.2.2 Business and Science Incubators

Incubators normally take on startups that are still in their infant stage and provide a startup company with a longer process of devising a business plan to help the startup management to concentrate on its business operations, to become more focused on the critical goal of scaling up the business and increasing revenues. In the report already produced in 2002, the European Commission not only defined the evolution of the Business Incubator Model, but categorised the Business Incubators as shown in Figure 2.<sup>16</sup>

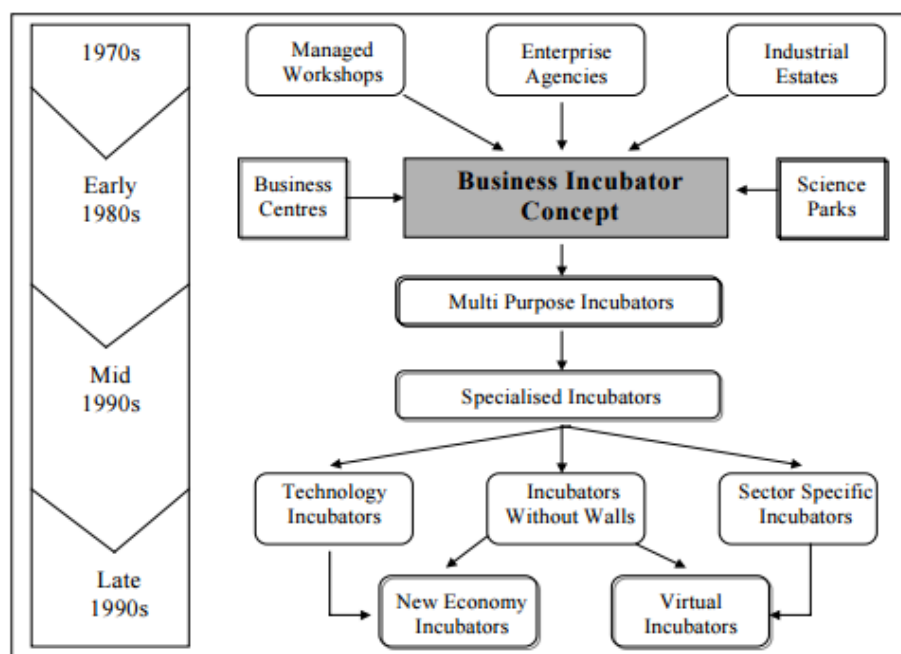


Figure 2. Evolution of the Business Incubator Model

Based on the above-mentioned report and the studies by Vasily Ryzhonkov<sup>17</sup>, the following generations of incubators can be defined:

- First generation: incubation provided within physical facility (infrastructure) by offering space and shared office resources.
- Second generation: incubation as business support service by offering coaching and training services also.
- Third generation: business incubation viewed from networks' perspective (see in grey background in Figure 3): offering access to external resources (including technological, professional, and financial networks) also.

<sup>16</sup> See at

<http://ec.europa.eu/DocsRoom/documents/2767/attachments/1/translations/en/renditions/pdf>.

<sup>17</sup> See at <https://worldbusinessincubation.wordpress.com/2012/12/10/business-incubation-and-business-incubator-defined>.

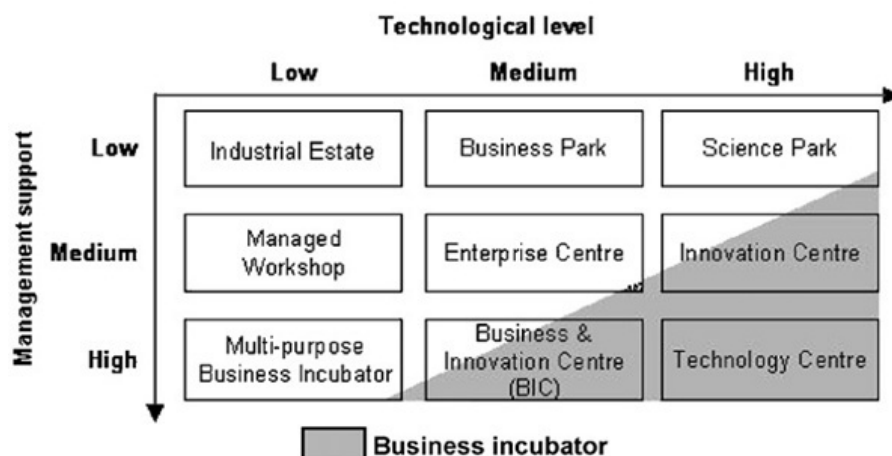


Figure 3. Typology of Incubators

All known incubators are third generation incubators offering the widest possible support within their ecosystem to startups and entrepreneurs.

### 2.2.3 Startup Accelerators

The emergence of accelerators is closely linked to the rise of Internet or technology startups, so it is important to understand what they represent. A detailed view on the startup ecosystem including a history about the emergence of startup accelerators can be found in the annex. Numa<sup>18</sup> provides the following working definition:

*Startup accelerators, or seed accelerators, are typically for-profit organisations that foster a physical environment that supports accelerated growth for startups.”<sup>19</sup>*

The Internet Startups needed a support environment that reflected the fast-paced nature of their business. Although they share origins with the business incubators, Startup accelerators introduced more agile approaches to business development and support to serve their fast paced Internet based clientele. This approach is best captured in the ‘Lean Startup’ method.<sup>20</sup> Although the concept of acceleration has evolved over the last decade and spawned different models, there are some basic characteristics accelerators tend to share that sets them apart from traditional incubators<sup>21</sup>. They are as follows:

<sup>18</sup> NUMA [numa] (Paris, 2014) is a neologism made up by ‘numérique’ standing for digital and ‘humain’ standing for human, see at <https://paris.numa.co/qui-sommes-nous>.

<sup>19</sup> Accelerate Now. Current trends and strategies for the future, NUMA, 2014. The article quotes an upcoming book ‘Accelerate, Founder Insights into Accelerator Programs’, by Luke Deering, FG Press (2015).

<sup>20</sup> A concept developed by Eric Reiss in his book “The Lean Startup” (2012).

<sup>21</sup> See at [http://www.nesta.org.uk/sites/default/files/the\\_startup\\_factories\\_0.pdf](http://www.nesta.org.uk/sites/default/files/the_startup_factories_0.pdf).

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

- An application process that is open to all, yet highly competitive.
- Provision of pre-seed investment, usually in exchange for equity.
- A focus on small teams not individual founders.
- Time-limited support comprising programmed events and intensive mentoring.
- Cohorts or ‘classes’ of startups rather than individual companies.

### 2.2.4 Incubators and Accelerators engaging in Big Data

The rise of Big Data and IoT as an investment area for accelerators becomes visible when looking at the markets those accelerators plan to invest in when interviewed for the European Accelerator Report in 2014 (Figure 4<sup>22</sup>).

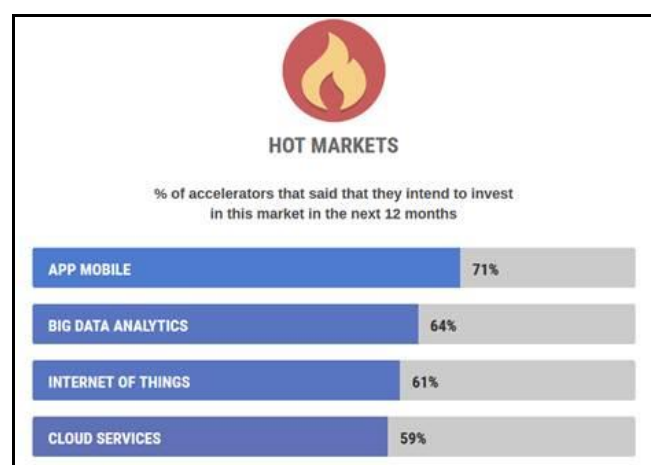


Figure 4. “Hot markets” for accelerators

As of May 2017, there are nearly 13K Data Analytics startups registered on the F6S startup platform, 40% of which are in Europe (5.5K).<sup>23</sup>

*The BDVe project will primarily target Big Data related startup accelerators and business incubators that are firmly rooted in the local startup ecosystem that have a regional importance or function.*

The first Big Data Incubator project of the BDV PPP is the Data Pitch project.<sup>24</sup> This project is aimed at creating a transnational, Europe-wide data innovation ecosystem, to join big data owners and technology providers with startups and SMEs to bring

<sup>22</sup> Fundacity (2014), see at <http://www.fundacity.com/european-accelerator-report-2014>.

<sup>23</sup> See at <https://www.f6s.com>.

<sup>24</sup> See at <https://datapitch.eu>.

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

fresh ideas for data-driven products and services. Data Pitch can be seen as providing a mix of accelerator and incubator services. It builds on the Seventh Framework Programme (FP7) funded Open Data incubator ODINE.<sup>25</sup> The challenge for Data Pitch will be to bring more innovations to market, for example, by an increased level of second stage funding deals closed by startups and SMEs selected by the programme. This has proven to be a challenge for many of the Publicly Funded European Incubators in the framework programmes.

## 2.2.5 Innovation Clusters

The category 'Innovation Clusters' concerns intermediaries with a city or region based focus that play a role in fostering a climate conducive to the growing and scaling of innovative startups. The European Commission promotes the concept of Digital Innovation Hubs (DIHs) as

*'ecosystems that consist of SMEs, large industries, startups, researchers, accelerators, and investors, and that are aimed at creating the best conditions for long-term business success for all involved'*<sup>26</sup>.

The DIH initiative aims to create stronger synergies between the existing and upcoming innovation ecosystems.

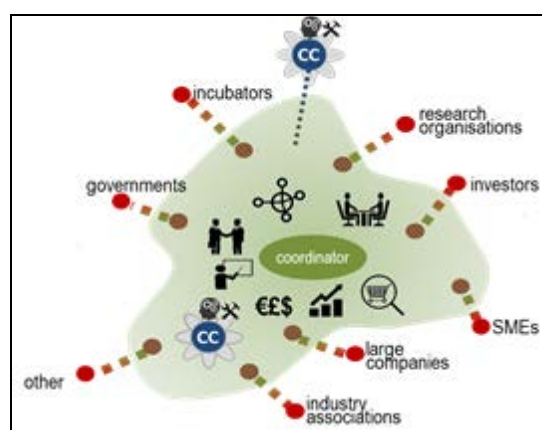


Figure 5. DIH graphical representation<sup>27</sup>

The initiative was launched to create a PAN-European network of DIHs that would interlink Innovation Clusters across a number of European programmes and projects, including the following ones: Innovation for Manufacturing SMEs (I4MS)<sup>28</sup> and Smart

<sup>25</sup> See at <https://opendataincubator.eu>.

<sup>26</sup> See at [https://ec.europa.eu/digital-single-market/en/glossary#letter\\_d](https://ec.europa.eu/digital-single-market/en/glossary#letter_d).

<sup>27</sup> See at <http://s3platform.jrc.ec.europa.eu/digital-innovation-hubs>.

<sup>28</sup> See at <http://i4ms.eu>.



Anything Everywhere (SAE)<sup>29</sup>, European Institute of Innovation and Technology (EIT)<sup>30</sup>, Knowledge and Innovation Community (KIC)<sup>31</sup>, European Coordination Hub for Open Robotics Development (ECHORD++)<sup>32</sup>, Access Center for Photonics Innovation Solutions and Technology Support (ACTPHAST)<sup>33</sup>, Supercomputing Exercise for SMEs (SESAME NET)<sup>34</sup>, and others. It also aims to establish many new DIHs.

#### 2.2.5.1 DIHs and Big Data

Although the DIH programme has no exclusive focus on data, the importance of Digital Technologies in boosting the competitiveness of regional ecosystems ensures a strong role for Big Data and thus the need for the BDV PPP to develop partnerships with the European Commission's DIH initiative. The current list of DIHs already includes the ODINE incubator, which suggests a future role for the Data Pitch and any future Big Data incubators in the BDV PPP. Given the emphasis on city or region based innovation ecosystems there is also scope for i-Spaces to link up with or even join the DIH network.

In addition to European initiatives such as DIHs, there are further public and private innovation clusters at national and regional levels. Beyond the scale of incubators, we can distinguish three main types as follows:

- **Factory style breeding grounds** like Google's TechHubs<sup>35</sup>, such as Google Campus in London and Factory Berlin: here the main actors of the startup ecosystem co-locate and share facilities in one location the size of a factory compound under the umbrella of privately or publicly funded initiative. Innovation factories share the following characteristics:
  - Supporting startups on their journey to becoming a successful company using a mix of educational programmes, mentoring, and network events.
  - Shared facilities (on/offline), such as legal and accounting support and the sharing of lab spaces and equipment.
  - Access to public and private investors (seed or venture capital) and other financing instruments.
- **City and regional level initiatives** like Eindhoven Strijp-S, Stockholm, and Tel Aviv. These initiatives are characterised by the combination of online and offline communities of creative, technology and industrial actors with a

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<sup>29</sup> See at <https://smartanythingeverywhere.eu>.

<sup>30</sup> See at <https://eit.europa.eu>.

<sup>31</sup> See at <https://eit.europa.eu/activities/innovation-communities>.

<sup>32</sup> See at <http://echord.eu>.

<sup>33</sup> See at <http://www.actphast.eu>.

<sup>34</sup> See at <https://sesamenet.eu>.

<sup>35</sup> At the moment, Google has 9 such hubs in the US and at least 3 in Europe, see at <https://www.googleforentrepreneurs.com/startup-communities/the-north-america-tech-hub-network>.

regional scope from neighbourhoods to multiple cities. For example, the tight knit startup ecosystem of Tel Aviv boasts 53 accelerators, 79 venture capital (VC) funds, 29 co-working spaces, and 66 research and development institutes. The services across the Tel Aviv ecosystem have a strong focus on marketing, coding, and design.

- **Community based marketplaces**, such as Fablab, Kickstarter, and others. This virtual variety of innovation clusters has a strong online community and platform component. Both ‘makers’/producers and users/consumers are engaged in the creation, sharing, and trading of goods and services. Marketplaces can emerge on top of existing online platforms (for example, Facebook, Amazon, Ebay, iOS, Android), have dedicated platforms (Etsy, F6S, Github) or create ‘aftermarket’ communities organised across multiple platforms. Blockchain based Fintech communities, such as Bitcoin, Ethereum, and Hyperledger, and more in general, the Maker’s movement are recent examples. Most marketplaces organise offline events and meetups.<sup>36</sup>

## 2.3 Intermediaries in the BDV PPP and BDVA

To advance innovation and acceleration in the BDV PPP, BDVA developed the concept of i-Spaces, which go beyond incubation and should probably be considered as small Big Data Innovation Clusters. The definition of i-Spaces in the BDVA Strategic Research and Innovation Agenda (SRIA)<sup>37</sup> is as follows:

*i-Spaces are cross-organisation, cross-sector, interdisciplinary Innovation Spaces to anchor targeted research and innovation projects. They offer secure accelerator-style environments to experiment with private data and open data, bringing technology and application development together. i-Spaces will act as incubators for new businesses and the development of skills, competence, and best practices.*

*The BDVe project will push for an effective and efficient way of linking up with Big Data actors from across these innovation and technology communities.*

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<sup>36</sup> In BDVe, instead of creating something from scratch, we plan to make use of existing instruments, for example, F6S – we can leverage this existing marketplace and act as the “glue” linking existing fragmented pieces making the puzzle filled in (and thus not compete however create the ecosystem).

<sup>37</sup> BDVA Strategic Research and Innovation Agenda, see at <http://www.bdva.eu/?q=SRIA>.

## 2.4 Value proposition for intermediaries

It is crucial for the BDV PPP to reach out to intermediaries to enlarge the Big Data Innovation community and to increase (relative to earlier PPP efforts) the take-up of the BDV PPP solutions by the market. To ensure we can engage high profile intermediaries from outside the BDV PPP without relying on direct financial rewards, strong value propositions need to be created that will gather their attention. These benefits should centre on a limited number of key benefits that the BDV PPP can deliver for startups, for example:

- **Enhanced access** for potential startups, in particular scale-ups<sup>38</sup> **to Big Data customers and strategic corporate partners** that will facilitate access to new markets, new channels, and new countries.
- **Increasing ‘deal flow’**<sup>39</sup> as a measure **of high potential Big Data startups** (in both directions) moving between the BDV PPP and its partner programmes
- **Opening BDV affiliated investor networks** to startups coming from programmes run by partnering intermediaries (see approach presented in section 4).
- **Preferential access to BDV PPP affiliate skills development programmes** (see the BDVe project Work Package 4 “SKILLS: Skills, Education, and Centers of Excellence”).

To foster efficient partnerships with established Innovation clusters, the BDV PPP could create concrete value propositions, for example:

- access to potential customers for *prototype testing*,
- collaboration with industrial partners in *product development*,
- *cross border collaboration*,
- reciprocal promotion of innovative results/solutions,
- joint innovation projects (Members of BDVA and Innovation Cluster),
- BDV PPP acting as *mediator for cross-sectorial solutions* in Big Data.

Although there is a clear understanding and scope for developing an attractive value proposition for intermediaries, further interaction with key intermediaries is required to come to the final definition of offerings, including modalities for cooperation. The next section will set out the steps to achieve this goal.

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<sup>38</sup> For more information on scale-ups see at <http://startupeuropepartnership.eu/scaleups-when-does-a-startup-turn-into-a-scaleup>.

<sup>39</sup> In accelerator terms *deal flow* corresponds to the number (and quality) of startup applications they receive. In practice good deal flow is the result of intensive acquisition and networking. For venture capital investors, deal flow is a measure of the number of business acquisitions/investment opportunities they receive in a given period.

## 2.5 Engagement plan for intermediaries

The engagement plan proposed to arrive at attractive value propositions agreed with key intermediaries is set out below.

- **Phase 1. Mapping and identifying key partner intermediaries**

This exercise will be based on clear criteria for the selection of the targeted intermediaries to ensure best fit with the needs of the BDV PPP. They will consider the aims of the BDV PPP SRIA especially for selecting Lighthouse projects and i-Spaces. This will be important particularly for selecting partnering incubators or accelerators as few of them are focused exclusively on “Big Data”. A map with all potential interesting intermediaries (including innovation clusters) will be created drawing on data from existing platforms such as F6S. F6S tracks startups in a number of EC startup programmes including major initiatives such as FIWARE and the SME instrument.

- **Phase 2. Designing partnership offerings**

Potential candidates will be approached in an open process with the aim to jointly develop and agree on concrete offerings or partnerships along the lines set out previously. The approach will be crosschecked with big players in the field, for example, Global Accelerator Network (GAN), F6S<sup>40</sup>, Gust<sup>41</sup>, and others. The mutual benefit must be for all intermediaries and all startups, SMEs, and entrepreneurs in the ecosystem of Big Data to enlarge the community.

- **Phase 3. Implementing the partnership deals with the help of BDVA/BDVe/PPP partners**

The final stage of securing partnership deals is to draw-up Memorandum of Understanding and other agreements or contracts to formalise ways of working together. The agreements could cover the range of cooperation. The types of agreements will be described in an elaborate version of the engagement plan.

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<sup>40</sup> F6S is a startup platform and community that manages the majority of Accelerator based Open Calls, see at <http://www.F6S.com>.

<sup>41</sup> Gust is a Startup Funding & Investing platform, see at <https://gust.com>.

## 3 Value proposition and engagement plan for SMEs

### 3.1 Work with SMEs in other PPPs

SMEs are the backbone of Europe's economy. They represent 99% of all businesses in the EU. In the past five years, they have created around 85% of new jobs and provided two-thirds of the total private sector employment in the EU.<sup>42</sup> The European Commission considers SMEs and entrepreneurship as key to ensuring economic growth, innovation, job creation, and social integration in the EU.

Based on the state-of-art analysis about how other PPPs engage with SMEs and what dedicated Key Progress Indicators they have, the main findings and conclusions are as follows:

- Factories of the Future (FoF):<sup>43</sup>
  - The European Commission initiated the call under the FoF PPP "ICT Innovation for Manufacturing SMEs" (I4MS)<sup>44</sup>, designed to support the adaption of innovative ICT in Europe's manufacturing SMEs. I4MS brings together eleven FoF PPP projects as Integrated Projects (IPs) and two "roadmapping" projects. IPs have the unique approach of launching their own open calls for experiments and validation activities with a simpler application process, financial support, and short run time (like the BDV PPP concept of i-Spaces). They are ideally designed to be accessible to SMEs and allow them to experience European collaborative research while making new connections and sharing knowledge.
- Energy-efficient Buildings (EeB):<sup>45</sup>
  - The NewBEE project under the EeB PPP establishes the platform to support energy efficient retrofitting projects by SMEs. NewBEE provides SMEs with the access to competitive knowledge about emerging technologies in the field, it proposes new organisational and business models to allow construction of SMEs to create an alliance of stakeholders that enables SMEs to compete with large contractors.

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<sup>42</sup> See at [https://ec.europa.eu/growth/smes\\_en](https://ec.europa.eu/growth/smes_en) and the SME definition at [https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition\\_en](https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en).

<sup>43</sup> See at <http://www.effra.eu/index.php/research-a-innovation-65/i4ms>.

<sup>44</sup> The topic FOF-12-2017, see at <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/fof-12-2017.html>.

<sup>45</sup> See at [http://e2b.ectp.org/fileadmin/user\\_upload/documents/E2B/0\\_EeB\\_PPP\\_Project-Reviews\\_Roadmaps/EeB\\_PPP\\_Project\\_Review\\_2017.pdf](http://e2b.ectp.org/fileadmin/user_upload/documents/E2B/0_EeB_PPP_Project-Reviews_Roadmaps/EeB_PPP_Project_Review_2017.pdf) and other EeB reports.

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

NewBEE's solution includes a marketplace, pre-assessment tool, energy performance assessment, and business model assessment.

- The EeB PPP sets up training schemes for continuous improvement of worker skills to meet the demand for SMEs.
- Sustainable Process Industry (SPIRE):<sup>46</sup>
  - The SPIRE roadmap represents opportunities for SMEs to grow their innovation potential by stimulating their engagement through consolidating their entrepreneurial culture and giving greater added value to their ability to undertake new activities. The cross-sectorial character of the SPIRE roadmap facilitates the formation of SME clusters to expand their innovation capacity and leverage shared knowledge.
- European Green Vehicles Initiative (EGVI):
  - SMEs are encouraged to engage and to be represented in the Association, either through direct membership or via their participation in sector associations.<sup>47</sup>
  - The project GO4SEM (Global Opportunities for SMEs in Electro-Mobility) is funded under the umbrella of the EGVI. It detects and analyses the specific technology and product needs in emerging e-mobility supply chains in third countries. It uses this analysis to assess and evaluate strengths and weaknesses of global e-mobility supply chains and to define possible opportunities for European SMEs for a competitive entry in those supply chains, whereby a special focus on ICT is taken. It indicates research and development priorities for the European SMEs and other stakeholders to improve or develop the adequate technologies for these opportunities. As a result, the GO4SEM project gives input through the core group members and the associated partners assisting the European Commission in setting up ICT focused research agendas for Horizon 2020 and the future EGVI PPP, especially with respect to dedicated initiatives targeting SMEs. In addition, since the complete e-mobility supply chain is considered, it is expected that these recommendations will stimulate discussions and agendas in other areas.<sup>48</sup>
  - As one of the sector's weaknesses the difficulty for SMEs to access all standards is identified.<sup>49</sup>
- 5G Infrastructure (5G): Within the 5G PPP there are many cross-project work groups (including the SME work group), where multiple projects identify the

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<sup>46</sup> See at <https://www.spire2030.eu/what/walking-the-spire-roadmap/spire-Roadmap>.

<sup>47</sup> See at <http://www.egvi.eu/uploads/Modules/MCMedias/1380874049332/ppp-egvi-roadmap-final-sept2013.pdf> and other EGVI publications.

<sup>48</sup> See at [http://www.egvi.eu/uploads/Modules/Publications/project-portfolio-egci-\(june2014\).pdf](http://www.egvi.eu/uploads/Modules/Publications/project-portfolio-egci-(june2014).pdf).

<sup>49</sup> See at [http://www.egvi.eu/uploads/Modules/Publications/eposs-sra\\_pre-print-september-2013.pdf](http://www.egvi.eu/uploads/Modules/Publications/eposs-sra_pre-print-september-2013.pdf).

shared issues and develop supported program level position on technical and strategic items. The main objectives of the 5G SME work group are as follows:

- Help and support SMEs participation in the 5G PPP and more generally in the European research and development projects.
  - Reach the target of at least 20% of the 5G PPP funding going to SMEs.
  - Improve visibility of SMEs in the 5G PPP and in general in the European research and development programmes and ease/promote their participation in the NetWorld 2020.<sup>50</sup>
  - Activate channels that may enable, facilitate, and promote SME contribution into the NetWorld 2020 SRIA and research topics and SME involvement through other strategic documents related to NetWorld 2020 and to the 5G PPP.
  - Ensure that the interests of SMEs, a key player in the European economy, are adequately considered, more particularly in NetWorld 2020 and in the 5G PPP.
  - Act as a representative/interlocutor of SMEs in the telecom domain, more particularly in NetWorld 2020 and in the 5G PPP.
  - Help SMEs to access European funds, for example, the work group “pre-digests” material and helps SMEs to find their way into the 5G PPP related funding and beyond.
  - Analyse the participation of SMEs in projects, potentially prepare questionnaire, and transmit the conclusions and results to the European Commission, particularly for the 5G PPP.
- PHOTONICS 21:<sup>51</sup>
    - Emphasis is given to supporting the innovation of the large number of SMEs active in this area and helping them to grow further to become global players, creating new business opportunities and thus strengthening their competitiveness, as well as reducing administrative burden for SME participation, associated with proposing and participating in a project.
    - In addition, a fast-track funding vehicle for photonics SMEs is envisaged within the Photonics PPP. Further synergies with regional innovation clusters are established to promote SME development through, for example, the establishment of open innovation models along the value chain. This allows SMEs to operate within a streamlined, more market-oriented set of rules, allowing prototype development for shorter-term commercialisation, rather than being limited only to pre-competitive research and development.

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<sup>50</sup> See at <https://www.networld2020.eu>.

<sup>51</sup> See at [http://www.photonics21.org/download/Brochures/Photonics\\_Roadmap\\_final\\_lowres.pdf](http://www.photonics21.org/download/Brochures/Photonics_Roadmap_final_lowres.pdf).

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

- Finally, access to funding: Photonics PPP strategy and guide research and development funding to innovative European SMEs, including VC investments and dedicated SME support.
- euRobotics:
  - Provides greater access to capital investments and support for SMEs to ensure that SMEs can grow to midscale companies and that ideas are effectively transferred from academic laboratory to industrial manufacturing. The gearing effect of investment in innovation is clearly understood and the impact of a well-structured policy is seen in the generation of new startups and the stimulation of technology transfer. The PPP creates an environment in which SMEs can flourish.<sup>52</sup>
  - Addressing the manufacturing needs of SMEs is an important step in changing the capability of robot technology suppliers. These needs centre around the following factors:
    - the need to design systems that are cost effective at lower lot sizes;
    - the need to design systems that are intuitive to use and are easily adapted to changes in task without the need to use skilled systems configuration personnel;
    - the ability to work safely in close physical collaboration with human operators.
  - In addition to these important design challenges, there is also a need to address the dissemination of good practice and knowledge about automation to SMEs. This is made more difficult by the geographic spread of SMEs and the diversity of their requirements. In addition, SMEs are typically unwilling to invest unless there is a very clear benefit in terms of cost saving or revenue generation. The specialised nature of most manufacturing SMEs means that solutions must be highly adaptable and deployment must be low cost. Finally, Europe is active in the international Working Groups developing robot standards. Notably few EU countries are currently involved and the spread of representation across domains and organisational types is poor, hardly any SMEs are involved. SMEs are often the most technically active organisations and are likely to benefit from clear well defined and relevant standards, particularly with respect to safety and module interfaces. The time constraints and cost of participation are likely to be the main factors prohibiting SME engagement in standardisation. The euRobotics PPP addresses this shortfall.<sup>53</sup>

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<sup>52</sup> See at [https://www.eu-robotics.net/cms/upload/topic\\_groups/SRA2020\\_SPARC.pdf](https://www.eu-robotics.net/cms/upload/topic_groups/SRA2020_SPARC.pdf).

<sup>53</sup> See at [https://www.eu-robotics.net/cms/upload/topic\\_groups/H2020\\_Robotics\\_Multi-Annual\\_Roadmap\\_ICT-2017B.pdf](https://www.eu-robotics.net/cms/upload/topic_groups/H2020_Robotics_Multi-Annual_Roadmap_ICT-2017B.pdf).



- European Technology Platform for High Performance Computing (ETP4HPC):
  - ETP4HPC and EuroLab4HPC<sup>54</sup> work together to issue consistent roadmaps and to maximise the impact of research projects especially by the creation of startups and the development of SMEs.<sup>55</sup>
  - Today, HPC is mostly used in large HPC research centres and some large enterprises. It needs to become much more pervasive across the entire industry, including SMEs. One of the objectives is to expand the HPC user base, especially SMEs (through facilitating access to resources and technologies) and to open the possibilities for SMEs to participate in the provision of competitive HPC technology solutions. SMEs play a critical role in the HPC ecosystem. The creation of startups is an efficient means to transform research and innovation ideas into market values. The entrepreneurs (coming from the academic world or the industry) need to find a favourable environment to create companies and to develop them. Existing SMEs need also to be able to develop themselves and benefit from an environment with adapted services, good relationship with academic research and support of large companies to facilitate their growth. In Europe, HPC independent software vendors are often SMEs. As they have limited resources to adapt their applications to the technology evolution, the ETP4HPC PPP provides them with means to overcome this issue and to continue their growth, by facilitating the creation of this favourable environment for new and existing SMEs.<sup>56</sup>

## 3.2 SMEs in the BDV PPP and BDVA

The BDVA is an organisation led by industry and representing European large and SME industry and research. One of the BDV PPP general objectives is to facilitate the acceleration of business ecosystems and appropriate business models with a particular focus on SMEs, enforced by Europe-wide benchmarking of usage, efficiency, and benefits. One of the strengths of the European Big Data market and business is that there are many SMEs that are dynamic and flexible and can react quickly to market changes. On the other hand, there are some threats, for example, legal barriers to market entry for SMEs, which are resolved within i-Spaces.<sup>57</sup>

In the Big Data ecosystem, SMEs are key actors in terms of agility and creativity. They participate in building and evaluating solutions within Lighthouse projects and provide applications to i-Space projects. The latter provide business support

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<sup>54</sup> EuroLab-4-HPC is a two-year Horizon 2020 funded project commitment to build the foundation for a European Research Center of Excellence in High-Performance Computing (HPC) Systems, see at <https://www.eurolab4hpc.eu>.

<sup>55</sup> See at <http://www.etp4hpc.eu/pujades/files/ETP4HPC%20SRA%20%20Single%20Page.pdf>.

<sup>56</sup> See at <http://www.etp4hpc.eu/pujades/files/Joint-ETP-Vision-FV.pdf>.

<sup>57</sup> See at [http://bdva.eu/sites/default/files/EuropeanBigDataValuePartnership\\_SRIA\\_v3.pdf](http://bdva.eu/sites/default/files/EuropeanBigDataValuePartnership_SRIA_v3.pdf).

facilitating SME (and startup) inclusion in the value creation process in leveraging community engagement. In addition, i-Spaces provide tools for continuous benchmarking so that businesses, and startups and SMEs in particular, can evaluate whether their products and services will work in a real-world context.

During the initial phase of the BDVe project, the work was focused on the BDV PPP SMEs (technology providers and users), those participating in the BDV PPP projects or being members of the BDVA. The list of participating SMEs was created for further activities within the engagement plan. In addition, SMEs participating in the ODINE incubator were identified and the Data Landscape portal was enriched with the data about them.<sup>58</sup> The next enrichment exercise is planned in December 2017 with the list of companies re-using Open Data and presenting their use cases on the European Data Portal.<sup>59</sup>

## 3.3 Value proposition and engagement plan for SMEs

The three pillars of the BDV PPP and BDVA value proposition for SMEs are the following:

- **Access**
  - Access to policy decisions via BDV PPP website, social media, publications, events, BDVA SME group, BDVe studies (for example, on emerging Big Data opportunities), and other channels. (Ongoing action)
  - Access to knowledge and skills via BDVe and BDVA activities within education and skills. When it comes to SMEs, the issues of skills and training along with reliable legal frameworks and reference applications, as well as access to an ecosystem in general become central for a fast take-up of the opportunities offered by Big Data (Planned action)
  - Access to standards (with the focus on technical, legal, and contractual barriers) via the BDVe and BDVA activities, including the initiated standardisation group.<sup>60</sup> In this view, a recent workshop on data access and data sharing: the real impact on SMEs and startups business models, organised by the DG Justice and DG CNECT is particularly interesting.<sup>61</sup> (Planned action)
  - Access to European funding via research and innovation projects and networks of intermediaries (see [Section 2](#)), as well as private

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<sup>58</sup> The Data Landscape portal was enriched with the data about the identified SMEs, available at <http://www.datalandscape.eu> and D3.6 Enriched Map of Big Data players in Europe: SMEs and startups.

<sup>59</sup> See at <https://www.europeandataportal.eu/en/using-data/use-cases>.

<sup>60</sup> The “Glossary for Barriers to SME Access to International Markets” will be also used as a reference, see at <http://www.oecd.org/cfe/smes/glossaryforbarrierstosmeaccessinternationalmarkets.htm>.

<sup>61</sup> See at <https://webcast.ec.europa.eu/workshop-data-economy-smes>.

investments via the BDV investors group (see [Section 4](#)). (Planned action)

- **Visibility and recognition**
  - Showcase service: to provide the research, development, and innovation community inside and outside the BDV PPP and BDVA with the information about the competences and expertise of SMEs involved in Big Data, we will create an SME dedicated site based on the BDVA website<sup>62</sup> as an instrument for SMEs to demonstrate their data technologies, products, and services technologies and thus to find potential partners, clients, and/or investors. The SME site will become the voice of the Big Data SME community, both service providers and users. This may be especially useful for SMEs that cannot afford costs associated to such a service. (Planned action)
  - Data Landscape: the portal database will be enriched on a continuous basis during the BDVe project reaching out SMEs participating in the BDV PPP projects, as well as those participating in partners' innovation bodies (incubators and accelerators). (Ongoing action)
  - Promotion: via BDVA and BDVe channels (social media, website, and others). (Planned action)
- **Engagement – proactive participation and contribution to the BDV PPP**
  - Support: SMEs get support in their participation in the BDV PPP (including projects) and BDVA. (Ongoing action)
  - Inclusion: BDVe will establish relationships with SMEs participating in the BDV PPP i-Spaces and Lighthouses, as well as create links among national (local and regional) and sectorial Big Data initiatives engaging SMEs. In 2016, already 25% of BDVA members were SMEs, which was above the usual SME participation in such activities, for example, in the Seventh Framework Programme. The Key Progress Indicator set up in the BDVA SRIA is 20% of participant organisations are SMEs participating in the BDV PPP projects. (Ongoing action)
  - Events: SMEs participating in Big Data European projects are being communicated in view of BDV PPP and BDVA related information, e.g. events.<sup>63</sup> In addition, SMEs are encouraged to participate in sessions on innovation and “small” players in Big Data usually organised during the BDVA Summit, the European Big Data Value Forum in 2017. Previously the SME and innovation sessions were organised during the BDVA Summits in Madrid (2015) and Hague (2016). In addition, SMEs will be encouraged to participate in the events organised by BDVe. Events in focus: general events on entrepreneurship and SMEs, e.g. organised by the DG Growth – SME week, Startup Europe, and

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<sup>62</sup> See at <http://www.bdva.eu>.

<sup>63</sup> See at <https://ec.europa.eu/digital-single-market/en/programme-and-projects/project-factsheets-data>.

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

others, as well as focused events with data users and providers to reach the critical mass – Industrially oriented meetings/conferences, sectorial community building workshops, data-driven entrepreneurship meetings, industrial fairs, Member States data fora, and others. Members of the BDVA can participate in events with reduced fees. (Ongoing action)

- Membership: full members of the BDVA can lead Task Forces and Subgroups, can participate in organisational and strategic decisions, and can serve at the Board of Directors and the Partnership Board (via election procedures), thus take an active role in and contribute to the implementation of the BDV PPP and influence further paths to its advancement. (Ongoing action)

## 4 Value proposition and engagement plan for investors

### 4.1 Work with investors in other PPPs

8 PPPs (listed in the introduction section) were contacted. 6 of them answered and expressed their interest to learn from the work with investors to be launched by the BDV PPP.

The main findings gained thanks to the contacts made with PPPs about how other PPPs engage with investors (venture capital, business angels, and other private investors, named “investors” hereinafter), are as follows:

- 4 of them are active in their work with investors with the following actions:
  - Discussing different forms of financing including VC investments in euRobotics,
  - Supporting contacts with VC investors related to HPC,
  - Identifying VC investors interested in technology transfer and supporting the route towards going on the market and upscaling in EFFRA,
  - Considering VC investment opportunities as one of the topics of interest within the SME Working Group in 5G.
- 2 of them are not active in their work with investors and 2 have not answered.

We also contacted investors (e.g., Inveready in Spain, High-Tech Grunderfonds in Germany, and others) to evaluate their preliminary interest in collaboration, validate the initial collaboration model drafted by BDVe, and further fine-tune the collaboration strategy and the creation of the BDV investors group (BDV IG).

Thanks to the contacts made with investors we learned that the two main interests that private investors might have in collaborating with the BDV PPP are:

- Access to cross-border private investments for companies in their portfolios.
- Foster international business cross-fertilisation among VC investors and startups (facilitated by joint investments or other kind of agreements).
- Although still relevant, lower level of interest was shown to the possibility of gaining access to new deal flow of investment opportunities.

BDV PPP investors group will be set up trying to maximise the activities that apparently were more attractive to private investors.

## 4.2 Value proposition and engagement plan for investors

Based on findings previously presented, we defined the following value proposition for investors:

- Cross-border investment and cross-fertilisation:
  - VC investors can put forward data-related startups in which they have already invested to look for additional international investors when these companies reach the growth stage. They keep their lead investor role or find an exit.
  - VC investors can access to investment opportunities put forward by other VC investors.
  - Cross-fertilisation: Cross-border investors will not only bring additional equity funding but also local support and mentorship to establish the startups in the local markets in which the new investor is based.
- Access to new deal flow: BDVe will analyse most promising data-related startups that are looking for private investors and share the information with the BDV IG.
- International visibility: Support them and their portfolio companies in being introduced into the BDV PPP ecosystem.
- Influence: join the BDV Advisory Board, participate in BDVA events, become a member (e.g., Associate) in the BDVA.

These value propositions will be implemented by the following actions:

- Periodic investment forums where VC investors will be invited. Physical event once per year within the BDVA Summit and maybe other virtual events to be organised during the year. The BDVA will offer this forum to startups or entrepreneurs coming from our contacts with accelerators, incubators, BDV PPP funded projects, or in general “our community”. Our selection should imply a certain level of evaluation and filtering the kind of companies that are presented in the investment forum to VC investors (“mini due diligence”). In 2017, the session “Big Data Entrepreneurship” is organised within the European Big Data Value Forum.<sup>64</sup>
- Dissemination of startup portfolio to VC investors: the BDVA disseminates through our communication channels to our community updates on the most promising European startups to support (as far as possible) their involvement in BDVA activities and project proposals (no formal commitment).

### 4.2.1 Big Data Value investors group

The Big Data Value investors group (BDV IG) is planned to be a group of investors (venture capital investors, business angels, and other private investors, named

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<sup>64</sup> See at <http://www.bdva.eu/?q=node/742>.

“investor” hereinafter), who are interested in investment opportunities in Big Data, linked-data, or data-intensive startups.

#### 4.2.1.1 What is the purpose of the BDV IG?

The purpose of the group is to foster cross-border co-investment in data-related startups, as well as to enhance the engagement of the European Union startups in the BDV PPP ecosystem.

#### 4.2.1.2 Who can become a member of the BDV IG?

The group is open to any kind of investor, whose investment strategy includes big data or data-related startups. To keep the group very focused on its main goal, only private investors and relevant intermediaries will be invited to be members of the group. Other entities might participate in the group’s activities as service providers and/or facilitators are the following:

- Representatives from the European Commission,
- Representatives from BDVA,
- Representatives from BDV PPP projects,
- Representatives from other PPPs.

#### 4.2.1.3 How are investors, startups and SMEs selected and structured?

BDVe will search for data-related startups and SMEs within different sources to identify opportunities for investments to be fed into the group. The most relevant sources are the following:

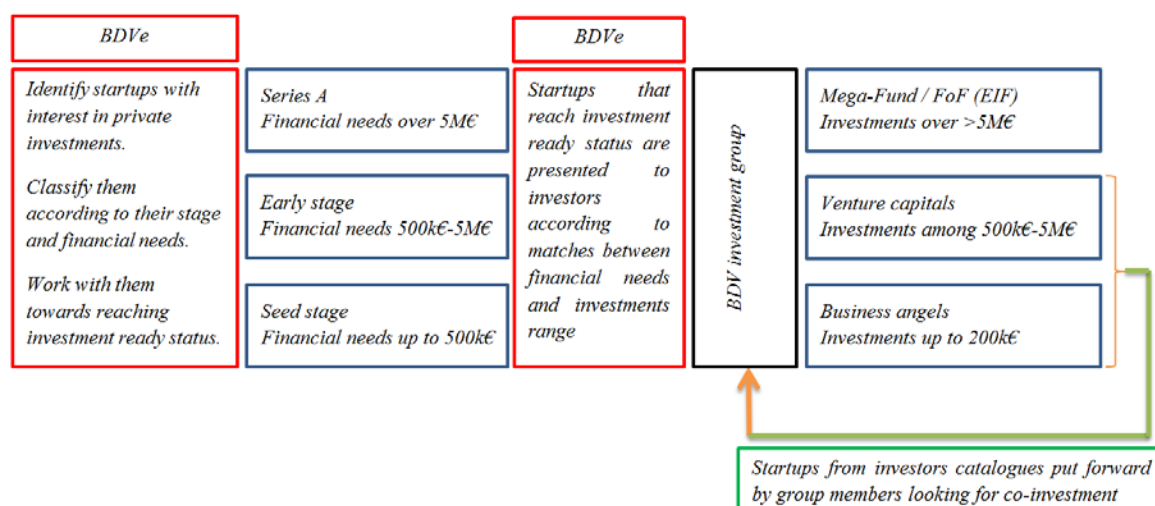
- Startups funded within Data Pitch (most likely in the seed stage).
- Startups proposed by other BDV PPP projects (most likely in early or series A stages).
- SMEs funded within SME instrument phase 2 (most likely in early or series A stages).
- Startups from investors’ portfolios (different stages).

These startups will be analysed to confirm their relation to the BDVA reference model (to validate and map them according to the BDVA big data technology map<sup>65</sup>) and supported (mentorship) to reach the investment ready status. Once this status is reached by any of these startups or SMEs, it will be updated in the group deal flow. On the other hand, investors joining the BDV IG will be classified according to their investment ranges to adjust investment opportunities submitted to them to their investment strategies. Figure 6 represents this process in a schematic way.

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<sup>65</sup> This mapping exercise is relevant for the BDVA to understand in which areas of the technology map (reference model) the European startups are more active and can perform further ex-post analyses to evaluate the results of this group and the investments fostered by it.

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs



**Figure 6. Selection and structure of investors, startups and SMEs**

#### 4.2.1.4 What are the services provided by the BDV PPP to the BDV IG?

The BDV IG will be assisted by BDVe and other “facilitators”, whose mission will be to feed the group with services of interest to investors<sup>66</sup>. The original list of services (can be updated during the group life) is as follows:

- Identify, evaluate, and share an **investment opportunity** (“deal flow” hereinafter) with the members of the group. All the investment proposals coming through BDVe will be passed through a technology/innovation assessment. A financial assessment to complete the due diligence will be performed by the lead investor in case one or more investors confirm the investment interest. The “group deal flow” offered will be based on several sources, among which we can highlight the following:
  - Startups put forward by private investors coming from their portfolios (“venture capitals deal flow” hereinafter). These startups will be companies, which the investor has already invested in and is looking for an additional cross-border investment.
  - Startups put forward by BDVe coming from different sources, such as:
    - BDV PPP ecosystem (BDVA members and BDV PPP projects), among them Data Pitch is the most relevant;
    - SME instrument phase 2 winners;
    - Intermediaries (incubators and accelerators).
- Foster and facilitate **cross-fertilisation cooperation** to support business expansion of startups, which belong to the “group deal flow”.

<sup>66</sup> We expect that some PPP projects such as DataPitch or others that might be funded in the future can get involved in the activities of this group as facilitators.



### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

- BDVe will publicise the startups belonging to the group “deal flow” within the BDV context (BDVA and cPPP projects) fostering their involvement in future data-related project proposals.
- BDVe will keep the group periodically informed on the **main activities and opportunities within the BDV** context.
- The group will also discuss on **strategies to better engage private investors** in future work programmes (H2020 and FP9), so that investors and startups in their portfolios can benefit from public funding.

#### 4.2.1.5 *Is there any restriction on number of members?*

Restrictions in this regard have not been defined, although the objective is to make the group as functional and efficient as possible and, therefore, participation will be limited to two representatives per organisation (main contact and proxy).

#### 4.2.1.6 *How long is the period of membership and can it be extended?*

The group will be active as long as the BDVe project remains active, i.e., at least until December 31, 2020. The membership for individual organisations will be extended as long as the organisation remains interested in the group’s activities. Once accepted as a member of the group, the membership will be automatically renewed annually unless the member explicitly asks for its withdrawal from the group.

#### 4.2.1.7 *What are working methods?*

Working methods will be as light and simple as possible to make the participation in the group very efficient and interesting. A specific methodology will be defined by initial members of the group, who will become funding members, essentially, we foresee:

- Quarterly updates on new investment opportunities (deal flow update). These periodic updates will be shared with the group through an online secure platform.
- Quarterly updates on main activities and opportunities within the BDV PPP context for investors and their portfolio startups.
- One physical meeting per year in conjunction with the BDVA Summit or other major international event relevant to the group’s activities. This meeting will include an internal working session among the group members and bi-lateral ad-hoc meetings with startups or entrepreneurs pre-selected for investments.

#### 4.2.1.8 *What will the working method imply for members in practical terms for investors representatives (time and effort to be devoted)?*

For investors’ representatives, we expect:

- Every 3 months (if interested): Put forward companies from their investment portfolio if looking for additional investments (particularly, if looking for cross-border investment supporting internationalisation process and business expansion). Send a short investor deck in English per startup put forward.
- Every 3 months: Analyse the “group deal flow” and indicate potential interest in investing in any of the companies included in it.

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

- Once per year: Attend the physical meeting.<sup>67</sup>

#### 4.2.1.9 *What will the working method imply for service providers and/or facilitators in practical terms (time and effort to be devoted)?*

For providers and/or facilitators, we expect very variable workloads as per their role in the group, some examples could be as follows:

- BDVe representatives:
  - Group chairing and secretariat: ANSWARE
  - Link with incubators and accelerators: EIT (to be confirmed)
  - Link with PPP projects: UDE (to be confirmed)
  - Mentoring startups to reach investment-ready status and have access to the BDVe deal flow: through incubators and accelerators programmes.
- BDV PPP project representatives depending on the service provided:
  - Data Pitch: Every quarter put forward startups selected in their calls.
  - Other projects will be added during the BDVe project implementation.
- Other PPPs' representatives:
  - Once per quarter put forward startups from their communities that can be considered data-related.
- EC representatives:
  - Observers.
- The European Investment Bank (EIB) and the European Investment Fund (EIF) representatives:
  - Link with the FoF PPP and mega-fund initiative.

It is expected that once per year these players will also attend the physical meeting.

#### 4.2.1.10 *How many meetings will be held each year and where will they be held?*

Once per year in conjunction with a major event related to Big Data, data science, or data economy.

#### 4.2.1.11 *Who will organise and chair the meetings?*

One BDVe representative will organise and chair the meeting.

#### 4.2.1.12 *How will topics for the agenda be generated?*

A call for topics will be launched to gather inputs from the group members. The group chairperson will select the final topics and produce the agenda.

#### 4.2.1.13 *Who will provide secretariat for the group?*

One member of BDVe will act as the secretariat.

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<sup>67</sup> Travel costs of group members are not covered or supported by BDVe.

### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

#### 4.2.1.14 *Sharing of information and resources (including confidential materials): How will group members share information and resources?*

All the information will be shared through an online portal (JAM) facilitated by SAP.

#### 4.2.1.15 *How will confidential materials be identified and dealt with?*

If any material is considered confidential by the disclosing party, it should be clearly identified as such together with the restrictions to be applied. It will be highly recommended to share information in such a format that can be shared among the group members without any confidential restriction. Documents circulated among the group members will not be made publicly available unless it is indicated otherwise. The NDA (non-disclosure agreement) will be considered.

## 5 Conclusions

The present document has defined value proposition and set engagement plan for **intermediaries** ([Section 2](#)), **SMEs** ([Section 3](#)), and **investors** ([Section 4](#)) – the three target groups of stakeholders defined. For each of the group, the state-of-art analysis was carried out (how other eight Leadership in Enabling and Industrial Technologies PPPs engage with the defined target groups, we analysed the following PPPs), value proposition was defined – the incentives for them to be part of the BDV PPP ecosystem, channels for engagement and next steps were described to address the target groups inside and outside the BDV PPP, locally and regionally, in collaboration with sectorial communities.

### 5.1 Contact details for interested parties

Should one be interested in BDVe activities with intermediaries, please contact us through the following contact: Susanne Kuehrer [susanne.kuehrer\(at\)eitdigital.eu](mailto:susanne.kuehrer@eitdigital.eu), Bas Kotterink [bas.kotterink\(at\)tno.nl](mailto:bas.kotterink@tno.nl).

Should one be interested in BDVe activities with SMEs, please contact us through the following contact: Tatjana Gornostaja, [tatjana.gornostaja\(at\)tilde.com](mailto:tatjana.gornostaja@tilde.com).

Should one be interested in BDVe activities with investors and/or joining BDV IG as an investor representative or as a service provider and/or facilitator, please contact us through the following contact: Antonio Alfaro [aalfaro\(at\)answare-tech.com](mailto:aalfaro@answare-tech.com), Tonny Velin [tvelin\(at\)answare-tech.com](mailto:tvelin@answare-tech.com), Victoria Moreno, [vmoreno\(at\)answare-tech.com](mailto:vmoreno@answare-tech.com).

## 6 Annex: The Startup Ecosystem

### 6.1 What is a startup?

In 2010, Steve Blank proposed to define startups as **organisations in search of a replicable and scalable business model**.<sup>68</sup> This definition puts the emphasis squarely on *growth*, through conquering new markets or by disrupting existing ones. Although there will remain debate on the precise boundaries of what constitutes a Startup, there is consensus on the drive for rapid and sustained growth<sup>69</sup>. It is what distinguishes a Startup from a traditional SME.

The platform effects of the Internet have paved the way for a new class of *scalable business models* attracting a new crop of agile Startups. Using Web technologies, APIs, and cloud platforms, Startups in the Internet era can develop as well as distribute and sell their products in a very short timeframe. With the Web as their home, they operate independently of physical locations, both in terms of building their businesses and finding and serving clients. Internet startups are cheaper to set up and the entry barriers are low, making them an attractive vehicle to start an entrepreneurial career. The availability of open source tools, cloud computing and the rise of virtual office infrastructure has driven the cost of launching an Internet venture down from €4.4 million in 1997 to €530,000 in 2002, and to €34,000 in 2008.<sup>70</sup>

The new Internet based startups learned to cope with high risk of failure, a global and borderless playing field and often unproven existing technologies, platforms, and distribution mechanisms. Internet startups tend to grow and fail faster than other businesses, which translate into higher rewards, but also higher risks. Fueled by the opportunities offered by the Web, the number of Startups shows a marked increase since 2009 (Figure 7<sup>71</sup>).

Information Era businesses have become a dominant source of economic growth, significantly automating and altering much of the industrial and service businesses of the previous economic era.<sup>72</sup>

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<sup>68</sup> In fact, he put it slightly different, see <http://steveblank.com/2010/01/25/whats-a-startup-first-principles>.

<sup>69</sup> See <http://www.forbes.com/sites/natalierobehmed/2013/12/16/what-is-a-startup>

<sup>70</sup> Lisbon Council, Wired for Growth and Innovation, Issue 12/2012.

<sup>71</sup> Search volume for the term 'Startups' (source Google Analytics, 2015).

<sup>72</sup> This shift has been described well by Marc Andreessen's in its seminal Wall Street Journal essay, "Why Software is Eating the World".

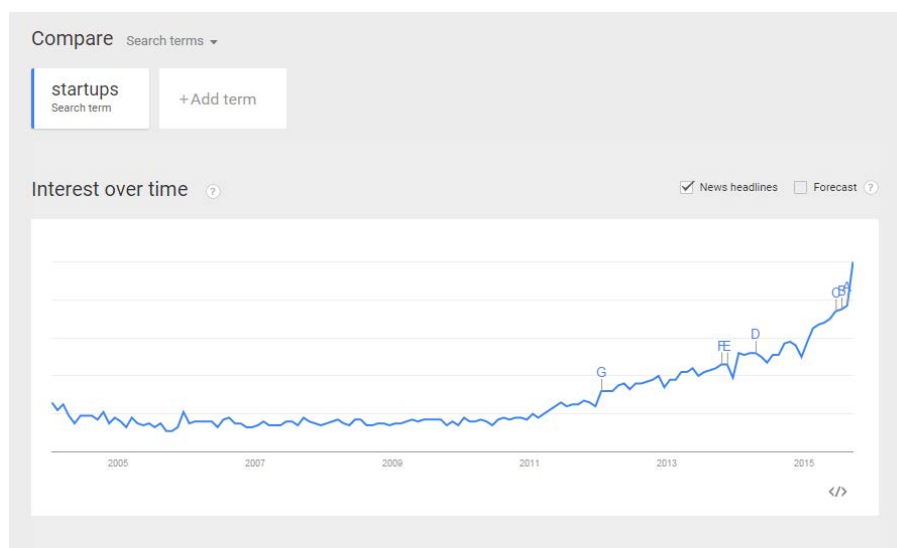


Figure 7. Startup market increase since 2009

## 6.2 The European Ecosystem

Twenty years ago, almost all tech startups were created in Startup ecosystems like Silicon Valley. Today, technology entrepreneurship is a global phenomenon, with startup ecosystems like Silicon Valley rapidly emerging all around the world. European Startup Ecosystems are growing fast with leading hubs like London, Berlin, and Amsterdam competing with the best in the world. Available VC investments for Startups show a healthy growth in the leading hubs.

In Amsterdam, Startups attracted tripled the amount of VC funding compared to only a few years ago<sup>73</sup>, much of it from foreign investors that are starting to look towards Europe. London and Berlin are equally strong. Italy, Portugal, Spain, and Greece – all have one thing in common: a struggling economy and the need to find new sources of growth. Technology seems to be the focus of various initiatives in these countries. Due to increased funding, Southern hubs are now catching up quickly after the financial crisis<sup>74</sup>. Overall, there is more VC funding available in Europe than ever before *and* there are more exits than ever before.

The increasing popularity of startup related activities in Europe is also becoming visible when looking at the numerous American organisation that are setting foot on the continent. In 2015, the American startup collective Cambridge Innovation Center (CIC) announced that it would open a location in Rotterdam, with the goal of hosting more than 500 startups within five years' time.

<sup>73</sup> Source StartupDelta.org (2015).

<sup>74</sup> See at <http://startupxplore.com/blog/5-facts-better-understand-european-startup-ecosystem>.

## 6.3 Accelerators

Startup accelerator programmes experienced massive growth in the past decade. In 2005, Y Combinator was the first Accelerator program opening its doors followed closely in 2006 by Techstars.<sup>75</sup> Today, only 10 years later, we can count at least 3000 programmes worldwide of which over 800 in Europe, a similar number in the US and the remainder in Asia and Latin America. F6S, the largest global Startup Community recently passed the mark of 1 million (!) registered company founders. This number covers over 50L startups and 300K active profiles of founders, expert evaluators, VC investors, and corporates in Europe. The number of accelerator programmes continues to grow very rapidly (Figure 8).



**Figure 8. Accelerator growth in F6S**

Ideally suited to the needs of Web entrepreneurs, accelerators have become highly popular. Successful programmes, such as Startupbootcamp, Rockstart, Seedcamp, and Techstars, may attract up to 1K applications from startup companies all over the world for a handful of places in their coveted programmes. The competitive selection process allows the programmes to pick only the best. Pairing excellent teams with intensive mentoring by experts in Technology, Marketing, and Finance is the key to their success and popularity. Top accelerators achieve very high survival

<sup>75</sup> YCombinator, [www.ycombinator.com](http://www.ycombinator.com). For more information on Seed Accelerators see [http://en.wikipedia.org/wiki/Seed\\_accelerator](http://en.wikipedia.org/wiki/Seed_accelerator).

rates considering the relative volatility of Internet markets and the high attrition rates among Internet Startup companies.

There are now programmes right across Europe, from prominent Bulgarian based ELEVEN to high powered Lisbon Accelerator BETA-I, from the massive Le Camping in France to the London based chapters of Techstars and Seedcamp. Pre-seed accelerator Startupweekend holds events in 200 European cities.<sup>76</sup> The success of accelerators is prompting traditional business Incubators to adjust their programmes. Increasingly they also offer short-term programmes and intensive mentoring. Traditional incubators are starting to move over to platforms like F6S where they mingle with the Digital Entrepreneurs. As the reach of the accelerator programmes expands, we can expect a gradual blurring of boundaries between these programmes in particular in the field of high tech and the Internet of Things.<sup>77</sup> A clear sign of this trend is the increasing number of big corporation-backed accelerators such as Wayra (Telefónica), hub:raum (Deutsche Telekom), Orange FAB (Orange), the ProSiebenSat.1 Accelerator, the Axel Springer Plug & Play Accelerator, Bonnier's Accelerator, BBC Worldwide Labs, Mediafax's M.incubator, Pearson's Catalyst for Education, and Yandex's Tolstoy Summer Camp.

## 6.4 Expansion into new Markets

Only a few years ago, many (typical) startups could be categorised as 'Web entrepreneurs', active in the domain of Internet related services such as websites, communication tools, mobile apps, and other purely online services. However, with the IoT software and hardware becoming affordable and accessible, the startup domain is quickly expanding into numerous other markets and domains (the so-called verticals). Wired, Forbes, and TechCrunch suggest that "hardware is the new software". Advances in 3D-printing, programmable sensors, and the availability of open source libraries of electronic modules enable more rapid prototype development of new products. Crowdfunding platforms like Kickstarter ease the process from design to actual production. Furthermore, the new layer of intelligence on these hardware products makes them upgradable over time, enabling iterations that were previously only possible for software products. In sectors that are entrenched in the physical domain, these 'interfaces' for data collection and the presentation of output are important strategic assets that can act as platforms for additional services as the IoT matures.

This 'verticalisation' and shift to hardware prompted startup accelerators and VC investors to expand into sectors, such as Energy, Health, Security, Logistics, and manufacturing industries. The rapid transformation of traditional industries and domain to 'advanced manufacturing' businesses and industries that are becoming

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<sup>76</sup> StartupWeekend.org is a global grassroots movement of active and empowered entrepreneurs learning the basics of founding startups and launching successful ventures. It holds events in over 100 countries and 580 cities around the world including some 200 in Europe.

<sup>77</sup> See at <http://tech.eu/features/779/corporate-run-startup-accelerators-good-bad-plain-ugly>.



### D3.7 Value proposition and engagement plan for entrepreneurs and SMEs

increasingly 'smart'<sup>78</sup>, has led to a massive growth in accelerators and startups that focus on such domains.<sup>79</sup> Premier accelerator Startupbootcamp with programmes in 10 European cities, launched dedicated programmes on high tech (Eindhoven), smart materials (Limburg), smart cities and living (Amsterdam), and transportation and energy (Berlin). Leading Dutch accelerator Rockstart expanded their calls to domains, such as Smart Health, Smart Energy, and even Personalised Food – with all areas having a close link with IoT technologies and applications. Various IoT centric programmes are popping up in Barcelona (Startupbootcamp), Berlin (Harware.co), Helsinki (Helsinki Ventures), Esbjerg, Denmark (Next Step Challenge), Sofia (11), and Munich (TechFounders). Programmes in the field of 3D printing and advanced manufacturing are also emerging, such as FABulous and GIGTANK. Vertical accelerators are bringing industry experts, networks, and funds together to help startups to grow.<sup>80</sup>

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<sup>78</sup> For country-specific developments, see, e.g., <http://www.smartindustry.nl/eng> (NL), <http://manufacturing.gov> (US) and <http://www.plattform-i40.de> (DE).

<sup>79</sup> Fundacity, 2014.

<sup>80</sup> See at <http://hunterwalk.com/2013/12/10/why-vertical-incubators-are-more-interesting-to-investors>.