



Identity Management in PUbLic SErVICES

D6.1 Community Building around DIHs

Lead Author: Bertille Auvray (TES)

With contributions from: Pedro Lopez (GIJON), Andoni Osoro (ERTZ), Georgi Simeonov (MOP), Lasse Nielsen (ARH), Domenico Racanelli (IC), Diana Silvestru (AEI), Alicia Jimenez (GRAD), Benjamin Cheret (TES)

Reviewer: Georgi Simeonov (MOP) and Federico Pierucci (CEL)

Deliverable nature:	<Report (R)>
Dissemination level: (Confidentiality)	<Public (PU)>
Delivery date:	29-04-2022
Version:	0.4
Total number of pages:	66
Keywords:	Local Community ; Digital Innovation Hub ; Network ; Collaboration : Partnership



Executive summary

IMPULSE's WP6 aims at delivering the project's activities and results to a wider audience, through the creation of local communities and the follow-up of the project 6 case studies. This will help foster the implementation of the IMPULSE solution and complementary ones in other countries and regions not covered by the project.

Deliverable D6.1 is the result of its initial task. Its purpose is threefold, yet complementary:

- 1/ The constitution of the Digital Innovation Board – a pool of experts - whose role is to contribute to making the IMPULSE solution as relevant as possible for European public services.
- 2/ The building of local communities, particularly around DIHs specifically identified to work closely with the case studies, to foster innovative projects on the topic of eID in public services.
- 3/ The expansion of the IMPULSE Open Community by identifying and contacting other DIHs and key stakeholders who would be interested in adopting, adapting and developing the IMPULSE solution more widely.

This deliverable has been worked in close collaboration with the activities of the other work packages, as the sharing of their results combined with the contribution of local communities and the expertise of external stakeholders will ensure the smooth running of the project.

As a result, the actions of Task 6.1 have already led to

- The setting up of the Digital Innovation Board composed of four DIHs from four different countries, bringing their expertise notably in cybersecurity, blockchain, public service networks and artificial intelligence to name but a few
- The creation of two local communities, consisting of a pilot case and a DIH, in Spain and Bulgaria. With the four others in the process of being implemented.
- The formation of the IMPULSE Open Community with no less than fifteen key actors willing to participate in the various activities of the project, and the prospect of having twenty more joining.

The actions launched in the framework of this task 6.1 will be pursued in the framework of WP6, in particular via task 6.2 for the implementation of the workshops in which the actors of the Community will participate. But also in the framework of WP7 and task 7.4 for the management and expansion of the community.

Document information

Grant agreement No.	101004459	Acronym	IMPULSE
Full title	Identity Management in PubLic Services		
Call	DT-TRANSFORMATIONS-02-2020		
Project URL	https://www.impulse-h2020.eu/		
EU project officer	Giorgio CONSTANTINO		

Deliverable	Number	D6.1	Title	Community Building around DIHs
Work package	Number	WP6	Title	Roadmapping for adoption, escalation and sustainability
Task	Number	T6.1	Title	Building stakeholder communities to foster adoption and development of the IMPULSE solution and spur related innovation

Date of delivery	Contractual	M15	Actual	M15
Status	version 0.4		<input type="checkbox"/> Final version	
Nature	<input checked="" type="checkbox"/> Report	<input type="checkbox"/> Demonstrator	<input type="checkbox"/> Other	<input type="checkbox"/> ORDP (Open Research Data Pilot)
Dissemination level	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Confidential		

Authors (partners)	TES			
Responsible author	Name	Bertille Auvray		
	Partner	TES	E-mail	bertille.auvray@pole-tes.com

Summary (for dissemination)	<p>WP6 aims at building stakeholder communities and drafting roadmaps for the adoption, adaptation and development of the IMPULSE solution, drawing on the partners' networks of contacts, the DIHs participating in the Digital Innovation Board (DIB) and any other relevant actors.</p> <p>In WP6, the aim is to identify, within the large network of DIHs and with the help of the DIB, key actors and institutions with whom the partners can create local communities in order to further validate the results of the pilots and to foster the adaptation, adoption and development of the IMPULSE solution for and in new contexts, as well as to foster the innovation of new products, services and technological solutions that could be built upon the IMPULSE solution. These key actors and institutions should, as far as possible, include actors and institutions not already involved in IMPULSE in order to foster cross-learning and to gather recommendations adaptable to a wider geographical area.</p> <p>The activities carried out within this task 6.1 are thus of two kinds. Firstly, it is a question of laying the foundations for the establishment of local communities composed of a case study and at least one DIH (including its network), for the six case studies that make up this project. And secondly, concomitantly, it is a question of carrying out actions to enlarge the IMPULSE open community, in order to favour the expansion of the project, in particular during the workshop phase (T6.2) to feed the content of the roadmaps (T6.3) and the final analytical report (T6.4).</p>
Keywords	Local Community ; Digital Innovation Hub ; Network ; Collaboration ; Partnership

Version Log			
Issue Date	Rev. No.	Author	Change
20.04.2022	0.1	Bertille Auvray (TES)	First draft version
22.04.2022	0.2	Benjamin Cheret (TES)	TES Internal review
26.04.2022	0.3	Alicia Jimenez (GRAD)	Project leader review
26.04.2022	0.3	Federico Pierucci (CEL) Georgi Simeonov (MOP)	IMPULSE review
28.04.2022	0.4	Bertille Auvray (TES)	Final draft version

Table of contents

1	Introduction	11
1.1	Reminder of the task	11
1.2	Aim of the deliverable.....	11
1.3	Research questions.....	11
1.4	Relation to the whole project	12
1.5	Timeline	12
1.6	Document architecture	13
2	Collaboration with DIHs	14
2.1	Expectations and opportunities for collaboration with Digital Innovation Hubs.....	14
2.2	Bilateral benefits to work with DIHs	15
2.3	From the initial strategy to its actual implementation.....	17
2.3.1	Collaboration with DIHs depending on their location - DIHs located in a case study country .	18
2.3.2	Collaboration with DIHs depending on their location - DIHs located in other countries.....	19
2.3.3	Common ground for collaboration with DIHs	19
2.4	Conclusion	20
3	Digital Innovation Board.....	21
3.1	Role	21
3.2	Implementation	22
3.2.1	Process	22
3.2.2	Meeting outcomes.....	23
3.3	Formalisation of the Digital Innovation Board	25
3.3.1	Official members	25
3.3.2	Joint meetings	27
3.4	Conclusion	27
4	Local communities	28
4.1	Overview of actions undertaken by case study owners locally map their communities	28
4.1.1	ARH: Municipality of Aarhus (Denmark).....	28
4.1.2	ERTZ: Basque Government – Security Department – Ertzaintza (Sapin).....	30
4.1.3	GIJON: City of Gijon (Spain).....	30
4.1.4	MOP: Municipality of Peshtera (Bulgaria).....	31
4.1.5	RVK: City of Reykjavik (Iceland).....	32
4.1.6	UC/IC: Union of Italian Chambers of Commerce / InfoCamere (Italy)	34
4.2	Linking case studies with DIHs	36
4.2.1	Basque DIH (BDIH) with Ertzaintza (ERTZ)	36
4.2.2	Sofia Tech Park (STP) with the municipality of Peshtera (MOP).....	37
4.2.3	Conclusion	37
4.3	Contact with other DIHs and stakeholders.....	38
4.3.1	Overview of actions undertaken by the IMPULSE partners and DIHs	38
4.3.2	Overview of prospective actions on behalf of IMPULSE	40
5	Outcomes.....	43
5.1	KPIs.....	43
5.2	Next steps.....	44
6	Conclusions	45
	References	46
Annex A	Contact procedure	47

A.1	Initial contact scheme Roadmap on how to involve the DIB, DIHs and Stakeholders.....	47
	The Digital Innovation Board (DIB)	47
	Joint work with DIB members	47
	Joint call between the intermediaries and TES	47
	After participation acceptance from the representatives	47
	Course of the first meeting	47
	Digital Innovation Hubs (DIHs)	48
	Search for DIH and contact	48
	Steps after contacting	48
	DIH that contact us directly	50
	Summary table of activities to be carried out by the DIB, DIHs and Stakeholders	50
A.2	Contact email for DIHs	51
Annex B	IMPULSE Presentation used for DIHs Contact procedure.....	53
Annex C	Legal documents – Consent form and data processing agreement	58
Annex D	List of stakeholders	64
D.1	List of DIH.....	64
D.2	DIH & Stakeholders/Entities within the network and/or to be engaged	65

List of figures

Figure 1. Brainstorming final board on benefits for DIHs to join IMPULSE project	15
Figure 2. Diagram of task 6.1	17
Figure 3. Initial members of the Digital Innovation Board	22
Figure 4. Workshop with citizens in Peshtera municipality, 6.04.2022	32
Figure 5 Foreseen stakeholders in UC/IC case study	35
Figure 6. Communication scheme with external DIHs	40

List of tables

Table 1. Extract from brainstorming results on benefits for DIHs to join IMPULSE project.....	16
Table 2. Timeline of re-contact with planned DIB members	23
Table 3 Alignment of the task with the associated KPIs	43

Abbreviations and acronyms

AEI : Agency for European Integration and Economic Development

AI: Artificial intelligence

ARH: City of Aarhus, Denmark

BDIH: Basque Digital Innovation Hub

CEL: CyberEthics Lab. Srls

dApps: Decentralized Applications

DEP: Digital Europe Programme

DIB: Digital Innovation Board

DIH: Digital Innovation Hub

DIN: Deutsches Institut für Normung e. V.

DoA: Description of action (IMPULSE project)

Dx.x: Deliverable

EDIH: European Digital Innovation Hub

e-ID: Electronic identification

ERTZ: Basque Government – Security Department – Ertzaintza

Fh ISI: Fraunhofer Institute for Systems and Innovation Research

GIJON: City of Gijón, Spain

GRAD: Fundación Centro Tecnológico de Telecomunicaciones de Galicia

ICERT: Infocert S.p.A.

ICT: Information and Communication Technologies

LUT: Lappeenranta-Lahden Teknillinen Yliopisto

MOP: Municipality of Peshtera, Bulgaria

NGO: Non-Governmental Organization

RTOs: Research and Technology Organisations

RVK: City of Reykjavik, Iceland

STP: Sofia Tech Park

TES: Association du Pole de Competitivite Transactions Electroniques Securisees – DIH

TREE: Tree Technology SA

Tx.x: Task

UC/IC: Union of Italian Chambers of Commerce / InfoCamere

WP: Work package (IMPULSE DoA)

Definitions

European Digital Innovation Hub (EDIH): A European Digital Innovation Hub (EDIH) is a single entity or a coordinated group of entities with complementary expertise and a not-for-profit objective to support on a large scale the digital transformation of companies (especially SMEs and small mid-caps) and/or public sector organisations.

Digital Innovation Hub (DIH): A DIH is a one-stop-shops that help companies to become more competitive with regard to their business/production processes, products or services using digital technologies. It is based upon technology infrastructure (Competence Centre - CC) and provide access to the latest knowledge, expertise and technology to support its customers with piloting, testing and experimenting with digital innovations

Decentralized applications (dApps or dapps): dApps are digital applications that run on a blockchain network of computers instead of relying on a single computer.

1 Introduction

1.1 Reminder of the task

IMPULSE is carrying out a user-centric and multidisciplinary impact analysis on the integration of blockchain and AI for eID in public services. The project is evaluating the benefits but also the risks, costs, and limitations of the integration of such technologies in this context. At European level, this means that cross-border access, security, and adaptability will have to be guaranteed to ensure the solution's marketability.

Within the structure of the project, WP6 focuses its work on the wider opening of the project to a more general theme: the use of new eID technologies in public services. Thus, this WP aims both at creating several local communities in different European countries around this topic and to manage them; but also to build on the experience of the IMPULSE project, and more particularly of the 6 case studies, to try and encourage the implementation of these innovative technologies in the widest possible way, through the IMPULSE solution and related ones.

Specifically, Task 6.1 focuses on building those abovementioned stakeholder communities interested in further adopting, adapting and developing the IMPULSE solution, relying on the partners' contact networks (especially TES as DIH) and with the help of the DIHs participating in the Digital Innovation Board (DIB).

1.2 Aim of the deliverable

Task 6.1 consists in the identification of key actors and institutions with which the IMPULSE partners can build local communities. These communities will help further validate the outputs of the pilot experimentations and foster the adaptation, adoption, and further development of the IMPULSE solution, or complementary ones, for and in new contexts. This activity will be carried out in tight concertation with the technology and impacts analysis of WP2 to WP5, as they will be the ones identifying the needs and working on potential technological solutions to answer them.

Beyond the creation and animation of these stakeholder communities, this task will also help identify DIHs which would be interested in supporting local innovative projects building upon the IMPULSE project results (6.2).

1.3 Research questions

The following research questions were covered in activity 6.1:

- How to identify the main entry-point for each local community of stakeholders?
- How to reach them?
- What do we want to do with them?
- What would be the benefits for them in taking part in this initiative?
- How to keep them interested over a long period of time?
- What will be their level of involvement?
- What expertise will they provide us with? Sourcing key actors? Identifying needs? Feedback on the IMPULSE solution? Etc.

1.4 Relation to the whole project

D6.1 aligns with the following goals and specific objectives defined in the IMPULSE DoA:

Goal1: Specify the requirements, acceptance and impact on the use of eID technology from regulatory, technical, operational and societal standpoints through the engagement of stakeholders in a co-creative demand-driven research process, including pilots in 5 different countries.

- S01.4 – Test and validate the IMPULSE approach in 5 different countries (Spain, Bulgaria, Denmark, Iceland and Italy) with the support of DIHs and their innovation ecosystems for cross-region/field comparisons from diverse social, economic and cultural perspectives and further engagement of innovative IT suppliers.

Goal 5: Define clear, tangible and specific roadmaps for the introduction, adoption, escalation and long-term sustainability of the holistic eID framework, supporting public services at different levels.

- S05.4 – Build a community to encourage the scale-up and adoption of the IMPULSE solution through the engagement of DIHs which will be trained to support the implementation of the IMPULSE initiative locally, as well as new public administrations and service providers in general and other stakeholders relevant for the business ecosystem.

Goal 6: Foster the dissemination of results, knowledge and experiences as well as a close and effective communication with stakeholders, ensuring the sustainable exploitation of the outcomes with the involvement of relevant actors in the field of ICT and public services.

- S06.3 – Organise specific actions for a closer and more effective communication with target group of stakeholders for standardisation, certification, policy-making, adoption and scalability, etc. purposes.

In summary, D6.1 contribution to IMPULSE is:

- The identification of the main entry point, DIHs, for each of the 6 local communities (5 directly linked to the 5 case studies locations and 1 in another country)
- The establishment of contacts with these DIHs and the IMPULSE partners in order to determine how they can best work together
- Managing the newly established collaborations
- Creating the Digital Innovation Board

1.5 Timeline

D6.1 corresponds to the first stage of taking IMPULSE beyond its initial scope, i.e. enabling the creation of an ecosystem that can feed the project and above all enable its deployment on a larger scale. The task began in April 2021 (M3) with an initial end in January 2022 (M12), however following an amendment of the end date, approved in September 2021, it ended in April 2022.

The request for a change, with regard to the case of WP6 and the postponement of the end of task 6.1, was justified by the fact that this would ensure sufficient time to contact and establish relations with the DIB and the DIHs. Indeed, part of the contact period fell during summer months. As during these months most of the

DIHs' operational teams (and their networks) are out of office, getting in touch would have been made more difficult. The same was true for the initially planned end of the task in M12, since it was close to the end-of-year festivities, common to all European countries, and therefore did not favour matchmaking possibilities. This was verified during the course of Task 6.1.

In addition, as it was also planned to change the start of task 6.2, the extension of task 6.1 avoided creating a gap between two interdependent tasks within the same work package.

Finally, as task 6.1 is strongly linked to WP2 and in particular to task 2.5, the completion of task 6.1 shortly before the start of the pilot experiments will allow a smoother transition and thus favour the involvement of DIB and DIHs.

1.6 Document architecture

This deliverable is divided into 4 parts:

- Part 1 is dedicated to collaboration with DIHs and the strategy put in place to support it.
- Part 2 is focusing on the constitution of the Digital Innovation Board, representatives of DIHs which will help make the IMPULSE solution as relevant as possible.
- Part 3 highlights the actions undertaken to build local communities and how it was implemented through collaborations with local DIHs.
- Part 4 shows the progress made in expanding the open DIHs community in preparation for the WP6 planned workshops

2 Collaboration with DIHs

2.1 Expectations and opportunities for collaboration with Digital Innovation Hubs

A Digital Innovation Hub (DIH) is a multi-partner regional cooperation, including organisations such as Research and Technology Organisations (RTOs), universities, industry associations, chambers of commerce, incubators/accelerators, or regional development agencies. Therefore, it can be considered that DIHs act as one-stop-shops to help companies and administrations become more effective in their business/production processes, products or service provision through digital technologies. To do this, they provide access to the latest knowledge, expertise and technologies to help their members test, pilot and experiment with digital innovations.

In that sense, when developing the IMPULSE idea, the involvement of DIHs made sense from the start. Not only they are at the centre of a rich ecosystem of local digital stakeholders, but are also the ideal “bridge” for the consortium because of their knowledge of local needs and understanding of digital innovation. Indeed, the role of a DIH is to support SMEs and mid-caps in developing innovative digital solutions or in experimenting new digital processes, and local administrations in digitising its services, the last point being of particular interest to the project.

What has also been highlighted, when defining the partnership with DIHs during the implementation phase of the task, was their capacity to act as enablers and facilitators.

- Firstly, they can connect different actors, provide them with guidance in project development and/or look for suitable innovation partners by playing a brokering role not only on a more local level, but also on a European one. This notion is notably found in the Digital Europe Programme¹ in the part dedicated to innovation ecosystem and network.
- Secondly, they organize events, such as conferences, panel discussions, workshops, etc., and through their extensive network, can take advantage of this to increase awareness, transfer knowledge and foster collaboration in regard to innovation.
- Finally, they have the necessary infrastructure or are able to mobilize it to provide testing grounds. Thus, when a new product or process is deemed experimental, they can act to validate or refute its use through testing/experimentation and validate/improve/refute it by drawing on their expertise. This can be related to the notion of “Test before invest”, which is again found in the Digital Europe Programme under the EDIH heading². The latter will be useful for the expansion of the project through the development of ancillary products or services and innovative projects as envisaged by IMPULSE.

In such way, when we look at the missions and capacities of DIHs, significant similarities can be found with those that IMPULSE wishes to perform, making the partnership more than relevant for the project.

¹ The Digital Europe Programme (DIGITAL) is a new EU funding programme focused on bringing digital technology to businesses, citizens and public administrations.

² European Commission – Directorate-General for Communications Networks, Content and Technology, EC (2021). *European Digital Innovation Hubs in Digital Europe Programme Draft working document*. Available at: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=70324

2.2 Bilateral benefits to work with DIHs

At the outset of Task 6.1, the question was raised as to what the project could gain by working with DIHs, but more importantly how this collaboration could benefit them. This point was rightly raised in the perspective of constituting a win-win relationship and, more pragmatically, to overcome the fact that no financial incentives could be provided for any participation. The difficulty of keeping stakeholders involved in a long process and avoiding drop-outs was also a big concern for project partners.

Thus, following the meta-planning method to encourage the sharing of ideas, partners were invited to comment on a collaborative table to define the benefits DIHs could have by joining the project. The result of this collaborative work is as follows:



Figure 1. Brainstorming final board on benefits for DIHs to join IMPULSE project

This table was left open for a fortnight and valuable information was collected. These ideas helped fuel the « sales pitch » when discussing with DIH prospects. The collected information was then broken down into

several categories, to reflect the similarities and connections between the benefits to be offered to DIHs and those collected by the project.

What can be seen is that these benefits for the DIHs also have a counterpart for the IMPULSE project, in favour of the win-win ambition of this collaboration. It is thus possible to say that the benefits that have been defined also meet the various KPIs of the IMPULSE project, particularly in terms of :

- Scientific publications
- Experimental workshops with DIHs:
- Briefings and demonstrations
- Collaboration with international networks

The details of the relationship of the task to the KPIs are explained in the Section 5.1 of this document.

The concatenation of ideas was done as follows:

Benefits for DIHs to join IMPULSE	Benefits for IMPULSE to collaborate with DIHs
Opportunity to work in collaboration with the project's case studies for the benefit of public organizations that are in the DIH network	Inquiring about specialized topics of expertise
	Consulting services
	Intermediation services
	Knowledge / Technology transfer
	Opportunities to join(t) workshops and conferences organised by the DIHs (which enable the exchange of knowledge and best practice)
Best practice exchange	
Enlargement of partners' DIH network	Enlargement of the stakeholder network
	Directly connect with the business environment
	Create a solid basis of potential business partners and different stakeholder interested in the IMPULSE solution
Enable DIHs to be identified as service providers on the eID management topic	Get more visibility & publicity in digital and media environments through the collaboration with third parties
	Opportunities for supporting new test environments for the IMPULSE solution
Opportunity to directly cooperate with partners with specific expertise (AI, blockchain, etc.)	Opportunity to directly cooperate with partners from business and science
	Access to centers of excellence
Perspectives for new R&D projects	Gain feedback on the solution
	External evaluation and critical analysis
Early access to project findings and reports	Co-authoring academic publications
Acknowledgement in project outputs	
Joint publication initiatives	

Table 1. Extract from brainstorming results on benefits for DIHs to join IMPULSE project

2.3 From the initial strategy to its actual implementation

When setting up Task 6.1, it was agreed to follow the strategy as planned in the project set-up phase. That is, as follows:

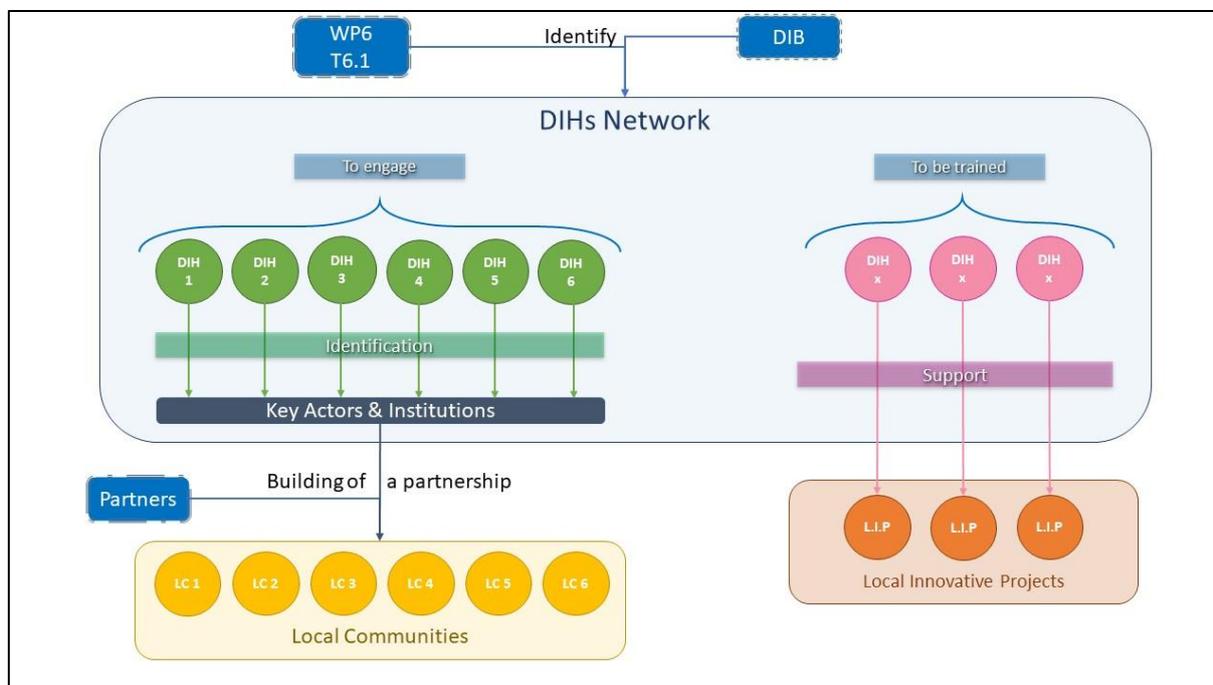


Figure 2. Diagram of task 6.1

In the framework of task 6.1, the aim was to identify, with the help of the Digital Innovation Board, and within the larger community of the DIH network, including TES as a DIH and future EDIH itself, key actors and institutions with which the partners can build local communities in 6 different countries to be connected and extended to European level. The implementation of these six local communities was intended to lead to the validation of the results of the pilot experimentations, to foster the adaptation, adoption and development of the IMPULSE solution in new contexts, as well as the innovation of new products, services and technological solutions based on the IMPULSE solution.

However, as the task was being implemented, and in particular during consultations with all the consortium partners, a partial reinterpretation of the task appeared necessary for the continuation not only of the task but also due to its connections with others. Indeed, issues were identified regarding the timing of the actions, the coincidence of the implementation of the experiments and the location of the case studies and the DIHs envisaged. This led to IMPULSE partners identifying potential problems for the establishment of local communities when built with a project partner (i.e., case study leader) and a DIH. These considerations, although distinct, are intertwined, are explained below.

Regarding the timing of actions, from the outset, a gap was noted between the establishment of the community as planned in the DoA and the start of the activities for which the built communities would be necessary. This point was first noted by TES and Fh ISI, who worked together to reduce this gap by participating in the amendment request for WP6 (see Section 1.5 on the timeline). Secondly, the case study owners pointed out that time is undoubtedly needed to set up their experiments, implying that it is not easy to identify which key actors would be relevant to build these local communities right at the start of the project. Furthermore, case study leaders unanimously validated the fact that confidence in the case study was necessary before

partnerships with external actors could be created. Finally, other partners highlighted the fact that the gap between the creation of a community and the start of the planned activities could lead to potential participants, identified by DIHs as well as DIHs themselves, dropping out because they were contacted too early and left waiting, despite continued communication.

Precisely on the question of communication, but even more so for the setting up of a partnership, this takes time as trust must be built on both sides (as developed later in the sections dedicated to the Digital Innovation Board and the DIHs). Although many brokerage events were organised online, the networking opportunities proved more complex during the period of the pandemic. This affected the ability to promote the project's initiatives in terms of collaboration with stakeholders and led to the need to rely on existing but smaller networks, resulting in longer contact times and therefore delaying the launch of possible partnerships.

Finally, and in line with the other two arguments mentioned above, it appeared equally difficult to form partnerships with entities located in other countries. In addition to the issue of the language barrier, the issue of the national context was also raised in relation to the construction of a local community. It should be noted that this point has been duly taken into account by the consortium and is already being analysed in other work packages of this project. Thus, preference was given to establishing a community with key actors, if not located in the vicinity of the case study site, at least of the same nationality.

Therefore, in order to take into account all the remarks while ensuring the continuity of the task, a distinction was made concerning the collaboration with the DIHs, based on their location.

2.3.1 Collaboration with DIHs depending on their location - DIHs located in a case study country

When working with a DIH, the consortium chose to consider primarily DIHs located in the same country as the case study as support for pilots, albeit not exclusively. This is because they have, thanks to their location, the capacity to avoid classic issues such as the language barrier and geographical distance. This is why these are the main targets to be linked to the case studies, as stated in the requirements of task 6.1, also for the benefit of WP2 (Co-creative design and piloting).

Specifically in this case, support includes:

- The identification of key actors and institutions with which the partners can build local communities – to be connected and extended at European level – to further validate the outputs of the pilot experimentations and foster the adaptation of the solution
- The participation in experimental workshops to foster uptake, transfer and upscale of the experimentation as well as provide end-users from their network and/or encourage their participation in the experimentation by inviting them to provide feedback (in connection with T2.5 for end-user pilots).
- The mapping of relevant technologies, start-ups and SMEs working on them, as well as the public administrations' needs within their region and their willingness to test new solutions.

In the first instance, these DIHs are those who already have a foot in the door of the project, namely the members of the Digital Innovation Board (developed in Part 3). Indeed, these members have been able to follow the project and its progress from the outset, but above all they are affiliated to a case study. This allowed for matchmaking meetings with two of its members for the Bulgarian and Spanish cases (this part is explained in Section 4.2).

Secondly, other DIHs, still located in a case study country, having joined or going to join the project during its lifetime, were considered as logical actors for this joint work to implement the IMPULSE initiative locally and to test and validate the solution. However, from a timing point of view, no matchmaking meetings could take place before the end of the Task 6.1 period, although they are planned to be held before the start of the first iteration of the case studies. It is worth noting, for this case, that a connection is envisaged for the Danish case with a cluster contacted during the prospection action, further developed in the Sub-section 4.3.2.

Finally, for the other case studies not mentioned, connections are not forgotten and will be made on a case-by-case basis according to the affinities created with DIHs or other entities located in the same country or outside.

2.3.2 Collaboration with DIHs depending on their location - DIHs located in other countries

When working with DIHs from countries other than the ones hosting the case studies, it appeared more difficult to involve them since a direct connection cannot be made. Particular attention was paid to the increased difficulty of engaging them and justifying the relevance of collaboration with a case study.

Hence, the strategy developed was to consider it as a vehicle to scale up the project. Indeed, they can be both providers of expertise and disseminators.

On the expertise side, they can be involved in the project in the framework of the different workshops or events organised by the consortium. Especially for task 6.2, i.e., for the ideation of new fields of deployment and innovation, as well as within other WPs when external stakeholders with specific expertise in terms of digital innovation are invited (e.g., WP3 on the multidisciplinary analysis of standards, legal and ethical implications or WP4 on the socio-economic/political impact analysis; WP7 for innovation management).

During these workshops, what is most expected from the participation of DIHs, but also from their network, is their ability to provide innovative solutions for modernisation and revitalisation, enabling them to exploit new trends and to implement future-oriented and efficient services in a sustainable way.

These workshops will also be the occasion for DIHs to become familiar (information and training) with the current actions performed by IMPULSE in terms of disruptive eID technologies. In that sense, the expected role of DIHs would be to act as *dynamisers* and accelerators of innovation ecosystems to foster the adoption of new technologies. By being aware of the work performed, they can become disseminators and thus favour the expansion of the project by transferring it from a local level to a national, or even European level.

2.3.3 Common ground for collaboration with DIHs

Finally, a strategy common to all DIHs was also developed, resulting in particular from the identification of the benefits that they would get when collaborating with the project. Indeed, for promotional reasons, the idea of developing an Open Community of DIHs under the umbrella of IMPULSE was further developed.

What is implied by the creation of this pool is the constitution of a network, beyond the project itself, driven by the same will to work together on the digital transformation of the public sector and on the scope of disruptive technologies, which IMPULSE addresses.

In addition to the activities already carried out by the DIHs/DIB, other means of collaboration could be the implementation of:

- Open roundtables – with thematic topics proposed by the participants themselves, related to our project issues, in order to generate new ideas for new/enhanced services and technologies
- Specific sessions where DIHs (and/or member of their network) can present their projects to the other member of the community (to generate ideas, exchange good practice, etc.)

The aim would be to have an IMPULSE network, who could, on a voluntary basis, participate in interesting sessions and workshops upon invitation as well as get support and expertise from the partners, all under the umbrella of IMPULSE. The main idea behind this other way of collaboration is the possibility to provide basis for the creation of synergies, not only between DIHs but also with our partners in the IMPULSE project who are actively participating in EU projects.

2.4 Conclusion

In conclusion, it should be noted that the distinction made according to location as mentioned above is not in itself divisive since the project operates in an agile manner. It is understood that each DIH wishing to be involved in the project will be offered the same opportunity to collaborate, regardless of its geographical location. This strategy has been developed mainly to facilitate the research and contact work for IMPULSE and to differentiate the approach and communication made at first by categorising the activities.

In the end, the implementation of this strategy in its entirety serves the IMPULSE project and although it has been adapted, it is still in line with the aim of IMPULSE which is to extend the Community of Stakeholders and spaces for experimentation, get support/advice for the development/improvement of accessible secure eID in public services.

3 Digital Innovation Board

3.1 Role

The Digital Innovation Board consists of representatives from supporting DIHs with specific technical expertise - and other DIHs, clusters, and networks that may join them over the course of the implementation.

The main objective of the DIB is to be involved in the design, development and validation process and participate in the roadmap definition and exploitation plans to:

- Support experimentation and testing of advanced technologies in the domain of eID in real environment settings and their own living labs.
- Attract innovative technology suppliers (mainly SMEs and entrepreneurs) to address technological challenges that respond to real needs in actual and future public services to ensure secure eID.
- Build bridges among public administrations and technological companies for a fruitful collaboration that should strengthen the Digital Single Market.
- Assess and develop new policies at local/regional level to help build more dynamic ecosystems.
- Foster the cooperation between DIHs and cluster networks to underpin private-public partnerships for the uptake and transfer of the IMPULSE solution.

Being composed of DIHs, any activities planned to be performed by them are also valid for the members of the DIB (see Section 2.3). However, the status of the members may differ as they act as expert ambassadors of the project and therefore fall under the status of privileged partners.

As such, there are specific benefits only available for DIB members. Thus DIB members located in case study countries are assigned to the said case study/-ies, with whom they can establish a special relationship throughout the project.

Also, DIB members can become testbeds, with the support of the consortium, and thus experiment the IMPULSE solution with local public services willing to do so. On this subject, the testing part will be done with the *dummy* version of IMPULSE, which will be used for demonstrations to help potential users understand the Impulse eID solution in order to raise awareness of the use of disruptive technologies for and by public services and possibly to help them evolve their own services in the future.

DIB members also have first access to the project results, to give feedback and recommendations, but can also participate in the written publications.

As experts, they can also participate in the IMPULSE Steering and Advisory Boards, in which their opinion will be sought and considered in order to ensure the continuity of the project.

Finally, beyond the project, DIB members will have access to our partners' initiatives. This means the possibility to participate in other events to present their organisation, the projects they are working on or to meet other partners always with a view to being representatives of IMPULSE and keeping the network of project stakeholders alive.

3.2 Implementation

3.2.1 Process

To prepare for the contact, a procedure was set up, including the contact with DIB members, DIHs and potential stakeholders (see Annex B). Thus, in order to finalise the participation of the DIB members, it was necessary to contact them again. Indeed, the first contact was made before the project was submitted. A contact email was written by TES, as well as a project information sheet and a data management document (see Annex C). The issue of contact data management was at the heart of the discussion to ensure compliance with the GDPR regarding data of DIH representatives and its proper use by the project partners.

DIH	Country	Case Study
The Alexandra Institute – ICT-based Innovation DIH	Denmark	Case Study 1
Basque Digital Innovation Hub	Spain	Case Study 2 Case Study 3
Sofia Tech Park DIH	Bulgaria	Case Study 4
Startup Social (Snjallræði) DIH	Iceland	Case Study 5
Politecnico di Milano DIH	Italy	Case Study 6
Digital Innovation Hub Slovenia	Slovenia	All
FZI Research Centre for Information Technology DIH	Germany	All
St. Pölen University of Applied Sciences – DIHOST	Austria	All

Figure 3. Initial members of the Digital Innovation Board

The first contact with all the DIHs' representatives mentioned in the final version of the project document, was initiated in the summer of 2021.

However, one of these entities was not contacted again, Startup Social in Iceland, following discussions with the Icelandic partner, who indicated that this organisation is not a DIH and does not provide services similar to one after all (it should be noted that there are no DIHs on Icelandic soil at the time of writing this report), although this organisation could be contacted at a later date once the project is more advanced.

Of the remaining seven, two led only to email exchanges, as well as direct contact from partners already connected to them, but not to a first meeting, namely The Alexandra Institute - ICT- based Innovation Hub in Denmark and Politecnico di Milano in Italy.

Finally, a first meeting of the remaining five took place to get to know each other, to present the IMPULSE project and the expected joint work with the DIHs.

Contact	DIH	Invitation email	1 st Answer from DIH	Reminder sent by TES	1 st Meeting DIH-TES	2 nd Meeting DIH-TES	1 st DIB Meeting	Comment
x	The Alexandra Institute – ICT-based Innovation Hub (Denmark)	15.07.21	14.09.21	15.09.21 23.09.21 12.10.21	x	x	x	A meeting was scheduled for 12.10.2021, but no response was received after several reminders.
Iratxe Martin	Basque Digital Innovation Hub (Spain)	08.07.21	13.07.21	x	04.08.21	18.10.21	18.11.21	
Mihail Iliev	Sofia Tech Park DIH (Bulgaria)	15.07.21	15.07.21	x	27.07.21	29.09.21	18.11.21	
x	Politecnico di Milano (Italy)	08.07.21	x	03.08.21 07.09.21 23.09.21 12.10.21	x	x	x	No response after a first email exchange.
Ales Hancic	DIH Industry (Slovenia)	08.07.21	14.07.21	x	12.08.21	22.09.21	18.11.21	
x	FZI Research Center for Information Technology DIH	08.07.21	22.10.21	21.07.21 19.10.21	25.10.	x	x	After an initial meeting and reminders sent, no action was taken.
Prof. Dr. Thomas Moser	DIH Ost (Austria)	08.07.21	09.07.21	x	26.07.21	06.10.21	18.11.21	
x	Startup Social (Iceland)	x	x	x	x	x	x	Following discussions with the Icelandic partners, it was decided to leave this organisation aside for the time being, as it is not a DIH.

Table 2. Timeline of re-contact with planned DIB members

3.2.2 Meeting outcomes

Each first meeting followed a common procedure, i.e., a date was found by exchanging emails, then an invitation was sent via the Teams platform, following its validation. During this meeting, the IMPULSE project was first presented using a presentation created by TES and validated by the partners, then the DIH representative did the same, followed by a discussion period.

Following the first meeting, a follow-up email was sent containing the regulatory documents to be filled in, i.e., the Data Privacy Agreement and the Information and Consent form – to be signed for the continuation of the collaboration (see Annex C) as well as a list of questions to guide the discussion in view of a possible second meeting, namely:

- What are their allocated and/or to be allocated resources, in terms of people and time?
- Are they already thinking of SMEs, public administrations or stakeholders who would be willing to participate in the project?
- What do they expect from IMPULSE and TES? What would they like the project to bring them?
- How often would they like to be in contact with IMPULSE and in what way?
- How do they foresee the collaboration with the other DIHs composing the Digital Innovation Board?

DIH Ost (DIHOST)

What emerged from this meeting was a real interest in the IMPULSE project as well as ideas for synergies, notably for the Danish case study (in Austria, an attempt to launch a government-run document safe with also an attempt to introduce blockchain certification, with currently only a little use but tending to develop) and the Icelandic one, especially on the Blockchain question. Discussions were also held regarding the application to the Digital Programme call for EDIH, as DIH Ost is part of a consortium applying to this call.

After the first meeting, ideas emerged from the actors who could take part in the project, especially during the workshops. However, the issue of language was raised, as none of the case studies are in German-speaking territory and this could be a barrier to the participation of smaller entities and/or end-users. The DIH itself has shown an interest in being able to engage with a case study in order to follow the work more closely. It will then be a matter of finding the perfect fit. Finally, on the subject of collaboration, the expectations mentioned were for knowledge sharing but also for the possibility of setting up joint (European) projects.

Sofia Tech Park (STP)

The first meeting was relatively short due to lack of time on the DIH representative's side, yet positive. It was mainly an opportunity to present the IMPULSE project and to propose the holding of a second meeting. Discussions were also held regarding the application to the Digital Programme call for EDIH, as Sofia Tech Park is part of a consortium applying to this call.

During the second meeting, Sofia Tech Park mentioned a capacity to federate local actors on AI, blockchain and cybersecurity issues in connection with IMPULSE. In addition, the DIHs offered to be testbed, especially in connection with the city of Sofia if relevant for the latter as well as the project. Finally, on the collaboration itself, the expectations are to collaborate with the other DIHs of the DIB, but also potentially with IMPULSE's partners in other projects, and finally to use the project's communication channels to relay information about Sofia Tech park.

Basque Digital Innovation Hub (BDIH)

The first meeting was dedicated to the introduction of IMPULSE and the presentation of the Basque DIH. Within it, the representative who is our contact coordinates the cyber security node, an area of interest for the

development of the project. Discussions were also held regarding the application to the Digital Programme call for EDIH, as BDIH is part of a consortium applying to this call.

During the second meeting, it was proposed that a large network (consisting of companies, research centres, but also universities and clusters) could be made available in the field of cybersecurity if needed, as BDIH is involved in an initiative in this respect. In addition, the desired collaboration with the other DIHs members of the DIB was mentioned, with a view to exchanging good practices and transferring knowledge.

DIH Industry (TECOS)

During this meeting, activities that could be undertaken jointly were discussed. For example, DIH Industry expressed interest in implementing Top-Down and Bottom-Up approaches in partnership with the project partners and expressed its willingness to be as involved as possible in the workshops, events, experiments, etc. carried out by IMPULSE. Discussions were also held regarding the application to the Digital Programme call for EDIH, as DIH Industry is part of a consortium applying to this call.

At the second meeting, DIH Industry mentioned its ability to involve different actors from its territory, especially SMEs or other public administrations, despite the fact that there is no case study on Slovenian soil. On the question of collaboration with the project, the expectations are to establish a close partnership with the DIB members, consortium partners and other actors involved in the project in order to work together in the framework of the project or other projects that may emerge from these collaborations.

FZI Research Center for Information Technology DIH

The first meeting was devoted, to a presentation of the IMPULSE project and the joint activities that could be carried out. What emerged from the project was an interest in blockchain, digital identity and cybersecurity issues, all of which are within the competence of the DIH. A first connection was made between the ambitions of the city of Karlsruhe in terms of digital identity and the case study of Gijon.

Despite an interest in the project and reminders sent no follow-up was given.

3.3 Formalisation of the Digital Innovation Board

After obtaining the final consent of each of the DIHs contacted and the signing of the consent form, the Digital Innovation Board with its first members was formalised. This constitution was made official during a first meeting of all its members. The latter being DIH Ost (Austria), Sofia Tech Park (Bulgaria), the Basque Digital Innovation Hub (Spain) and DIH Industry/TECOS (Slovenia).

3.3.1 Official members

DIH Ost (DIHOST)

DIHOST, funded by the Austrian Research Promotion Agency FFG and the provinces of Lower Austria and Burgenland, offers a comprehensive service programme to promote and increase the transformation capability and speed of small and medium-sized enterprises in Eastern Austria towards digital innovations.

Notably DIHOST offers services on awareness raising, qualification, project implementation in the following area:

- IoT, Sensors and Connectivity
- Blockchain and It-security
- 3D printing
- Cross-cutting themes (BIM, data visualisation, data analysis, mixed reality)

Sofia Tech Park (STP)

The main goal of Sofia Tech Park (STP) is to support the development of the research, innovation and technology capacity of Bulgaria. STP supports the development of the innovation environment, to implement educational programs, while providing support services for the commercialization of new technologies, products and services. The park consists of several separate units, which are interconnected by synergy:

- The incubator is a place to support start-ups, to develop innovative goods and services.
- The laboratory complex consists of 11 high-tech laboratories, created with the support of leading experts from the main academic institutions in Sofia and Bulgaria. The laboratories within the complex carry out independent and joint research activities and can offer the opportunity to develop projects of private companies.
- The Innovation Forum is a multifunctional venue for events, conferences, seminars and other events aimed at enhancing dialogue between the scientific and business communities.

Basque Digital Innovation Hub (BDIH)

The Basque Digital Innovation Hub (BDIH) is an initiative that responds to the Basque Smart Specialization Strategy RIS3, to support the business fabric in the experimentation of digital and sustainable innovations. The objective of this initiative is to provide industrial companies, especially SMEs, with the technological capabilities necessary to face the challenges of Smart Industry, Energy and Health. Basque Digital Innovation Hub has the capacity to offer knowledge and services to companies in multiple areas, including cybersecurity through its cybersecurity node, which is coordinated by the Basque CyberSecurity Centre (BCSC).

DIH Industry (TECOS)

TECOS, Slovenian tool and die development centre was established in 1994 as a non-profit organisation to represent the collective interests of the Tool, Die & Mould-making and Processing Industries in support of the various manufacturing sectors that serve as key drivers for Slovenian economic development and was founded by the Government of Slovenia – Ministry for Economy, Chamber of Commerce – CCI and Municipality of Celje.

TECOS operates on three dimensions: as International Business Cluster, R&D Centre and VET Institution, providing top level services not only for industry but also to all other manufacturing companies in Slovenia. TECOS's R&D focus areas are advanced manufacturing, robotics, nanotechnologies, packaging technologies and advancements for medical, home appliance, automotive and transportation industries. We operate as a competent institutional support of Slovenian Manufacturing Industries in the transfer of this knowledge & technical support service. TECOS also provides services as DIH Industry, prototyping and development of solutions to Industrial stakeholders.

3.3.2 Joint meetings

1st DIB Meeting

The first joint meeting of the Digital Innovation Board took place on 18 November 2021 and brought together all the partners who had agreed to continue the collaboration, as well as Alicia Jimenez from Gradiant (GRAD) as project leader. The meeting was divided into three parts, as follows: 1) each of the partners was invited to introduce themselves and the DIHs they represent, 2) the role of the Digital Innovation Board and the activities and benefits of participating in it were recalled, and finally 3) a time of exchange was planned so that the four participants could discuss together.

First of all, the presentation time allowed all the partners to learn more about the other members of the DIB and connections could already be made between them. All of the DIHs' presentations were shared after the meeting and can be found in the appendix for information purposes. Then, during the part dedicated to the joint work and benefits, what was mainly presented were the additional means of collaboration that have been developed by the WP6 team. These means are made available through the creation of an IMPULSE Open Community of DIHs (as further developed in the sub-section 2.3.3).

2nd DIB Meeting

In order to continue the collaboration, a second DIB meeting was organised at the beginning of February 2022. This meeting was an opportunity to discuss ongoing activities within the different DIHs and how consortium members could assist if necessary, as well as detailing one of the expected joint activities between the DIB and IMPULSE, namely : “Each DIH within the DIB will map locally relevant disruptive technologies and the start-ups and SMEs working on them. At the same time, they will also identify the needs of public administrations in their region and their willingness to test new solutions.”.

What was mainly mentioned was the fact that for the time being the DIH activities, including the one with IMPULSE, were somewhat put on hold due to the close deadline for submitting the EDIH application to the Digital Europe Programme call. Thus, it was agreed to wait after the submission on 22 February 2022 to actually start the joint project activities, including mapping and matchmaking meetings with the relevant case studies.

3.4 Conclusion

In conclusion, despite a rather complicated start in terms of re-establishing contact with some of the DIHs, those who responded positively showed a strong interest in the project from the outset.

Firstly, as individual DIHs, the meetings were fruitful, particularly with the demonstration of the will to involve their networks in the project. The same was true for the matchmaking meetings held with Sofia Tech Park for Bulgaria and the Basque DIH for Spain, where synergies have already been identified. The outcomes of those meeting are developed in more detail in the Section 4.2. Secondly, all together as a Digital Innovation Board, the prospects for collaboration quickly emerged. It is already possible to mention the beginnings of joint work with the holding of a new meeting in May 2022 during which CEL will organise a workshop to address questions related to the ethical and legal perceived impact/risks of the Impulse solution and thus gather the first opinions of the board members.

4 Local communities

During the construction phase of the IMPULSE project, it was planned to set up local communities with which the case study owners could work in partnership for the benefit of the case study. These communities, planned to be six in number, were to be formed with the help of the DIHs, so that the latter could source the most relevant key actors in their networks to meet the particular needs and uniqueness of each study.

As indicated in Part 2, the strategy was somewhat reoriented at the request of the case study owners and it was decided to first focus on working with a particular DIH located in the same country before involving other partners.

Therefore, the work was carried out in two stages for the creation of these local communities. Firstly, at the level of the case study owners, who had done some mapping of relevant local actors, and secondly, at the level of collaboration, with the linking of some of the case studies with DIHs.

4.1 Overview of actions undertaken by case study owners locally map their communities

At local level, each of the case study leaders was asked to map out the relevant actors who could be involved in the planned activities (e.g., workshops to support the implementation of the IMPULSE initiative locally, to test and validate the IMPULSE approach in 5 European countries, etc.) in order to 1) have an overview of the actors that can be mobilised, and 2) prepare the matchmaking meetings with the DIHs concerned.

Work began with an invitation from TES to hold a first meeting, in order to initiate the mapping work. It also allowed TES to understand partners' local contexts in order to better orientate the discussions with the DIHs afterwards.

4.1.1 ARH: Municipality of Aarhus (Denmark)

Being a case owner in the IMPULSE Consortium, ARH is conducting a case study on electronic access for personal information and services for vulnerable citizens. In the period 2012-2015, Danish Parliament, *Folketinget*, passed four laws making it mandatory for Danish citizens to use digital public self-services³⁴⁵⁶. Few societal groups can be excepted from the use of digital self-services, among others, vulnerable citizens. The aim of the ARH case study is to provide an easier and more suitable access for storage of personal data and use of digital services for vulnerable citizens using the eID solutions provided by IMPULSE. Concretely, this case study will test how a physical document box with biometrical identification can ease the access for vulnerable citizens to digital services. Thus, one of the primary scopes of the case study is digital social inclusion of vulnerable citizens.

³ L558, 18-06-2012: <https://www.retsinformation.dk/eli/ta/2012/558>

⁴ L622, 12-06-2013: <https://www.retsinformation.dk/eli/ta/2013/622>

⁵ L552, 02-06-2014: <https://www.retsinformation.dk/eli/ta/2014/552>

⁶ L742, 01-06-2015: <https://www.retsinformation.dk/eli/ta/2015/742>

Focusing on the user group, the ARH project group has conducted several internal workshops to identify possible local stakeholders and partners. The objective has been to involve partners that either have direct contact with the user group or bear valuable knowledge about the user group. Besides, ARH is facilitating multiple open network groups with different stakeholders from the city. In the network groups for respectively vulnerable citizens and digitalization, ARH project group has presented the case study and IMPULSE for the network's participants and exchanged information about key aspects on enhancing the possibility of success for the case study. The two networks have consistently been informed about the progress of the case study and IMPULSE.

The main local partner for the ARH case study is "Værestedet", a drop-in center driven by the municipality of Aarhus to foster a safe community for deeply vulnerable citizens, e.g. homeless citizens or citizens with severe psychical and social problems. The pilots of the case study will be conducted on the location of "Værestedet". Therefore, the ARH project group has continuously remained in close contact with the partner since the beginning of the IMPULSE project.

As for connecting with partners on a national level, ARH has reached out to public authorities in the field of digitalization. Connection has been made to the Agency for Digital Government (*Digitaliseringsstyrelsen*) to draw on national experiences with the recent transition to a new national eID solution (MitID). In addition, ARH has partnered up with the Danish Business Authority (*Erhvervsstyrelsen*) to initiate the process of setting up a Danish blockchain node in order to connect with the EBSI network. The partnership has also revolved around considerations for possible partners in the financial sector. Furthermore, the ARH project group has carried out a market analysis of possible suppliers for the document box needed in the case study. As a result, a partnership with the firm Biometric Solutions has emerged.

As for now, the focus in the national arena has been to connect with partners that can provide technical assistance and expertise ahead of the initiation of the pilot. All partners have regularly been updated and consulted via email or virtual meetings.

Stakeholder/Partner	Description	Role in case study
Local stakeholders		
Værestedet	Drop-in center	Adviser on user group and case study host
Blue Cross	Drop-in center	Adviser on user group
Muhabet	Multicultural drop-in center	Adviser on user group
Senior Center under the Municipal Department of Health and Care	Senior Center	Adviser on user group
Municipal Housing Service	Municipal unit for supporting disabled and vulnerable citizens	Adviser on user group
Local networks on digitalization and vulnerable citizens	Network groups	Adviser on user group
National stakeholders		
Agency for Digital Government	National Agency	Knowledge sharing
Danish Business Authority	National Agency	Technical partner
Biometric Solutions A/S	Company	Supplier of document box
Alexandra Institute	R&D Institute	Technical adviser

Table 3. Overview of stakeholders and partners within ARH case study

4.1.2 ERTZ: Basque Government – Security Department – Ertzaintza (Sapin)

Within the use case developed by the Ertzaintza in relation to the filing of online complaints, all the actors involved in the process are interpreted as stakeholders. It is also very important to note the peculiarity of the case in terms of the (deliberately) very restricted network.

Firstly, the citizens, who will see how the process of filing reports is speeded up and will avoid having to go to a police station to complete the process of signing in person. They will be the main beneficiaries of the project and will participate as evaluators of the tool.

Secondly, the Ertzaintza's investigation units, from units specialising in a specific type of crime to the police station's own complaint-taking offices. They will be involved in the pilot case as they will provide their experience and check that the IMPULSE tool complies with the corresponding regulations and criminal prosecution processes.

Thirdly, the department responsible for the management of the Ertzaintza's internal network and internet services (DGTSI) will be in charge of implementing the IMPULSE tool in their internal network in order to subsequently evaluate it. They will also be responsible for checking the viability and degree of confidence that the tool represents within our system. Their role in the project is essential because they will be in charge of recreating our internal network in an isolated station where the tool can be securely installed.

In parallel, another internal project is underway in the Intelligence territorial office in Ertzaintza, called DATORRENA. The latter is a reference framework within the Ertzaintza, launched by the Basque Department of Security, with the aim to develop and improve the systems and tools available to the Ertzaintza's investigation units. One of the objectives established within DATORRENA is related to the IMPULSE project, as it aims to improve the process of making online complaints. The territorial investigation units have carried out an investigation and catalogued the type of complaints that citizens usually present to the police, reaching the conclusion that a high percentage of them are less serious crimes. Therefore, a connection was made with IMPULSE, stating that a system that allows citizens to file complaints only online, without having to go to the police station, would not only reduce the volume of complaints taken at the police station, but also improve the service to the citizen. Thus, it has already been foreseen the possibility of carrying out joint actions with the units participating in both projects, to share good practices and to exchange knowledge. It may be relevant to mention that the new director of Ertzaintza highlighted the importance of improving these services in prime time in her first interview on Basque public television.

Finally, the implication of the Basque Innovation Hub (DIH), especially regarding the questions of cybersecurity is expected. In particular, the collaboration will make it possible to consider how the case study can serve as an example for other police departments in Spain but also in Europe. This part of the collaboration is further developed in the Sub-section 4.2.1 of this document.

4.1.3 GIJON: City of Gijon (Spain)

Through the Citizen Card and the Gijón App, the city and its citizens can access a multitude of services in a modern, efficient and secure way. The launch of the new App coincided with the start of the IMPULSE project, which is committed to improving digital identities (eID) through the introduction of Blockchain and Artificial Intelligence.

Currently, the only mechanism to register and log in to the Gijón App -and be able to request any of the services it offers- is through a Citizen Card number and a personal identification number (PIN).

One of the objectives within the IMPULSE project is to integrate eID mechanisms with interoperable systems within the framework of the European Union. To do this, we will work at IMPULSE with a group of people to test the IMPULSE eID solution based on Blockchain and Artificial Intelligence in a controlled environment.

To carry out the testing actions of the solution, tests are carried out on the following groups (both local stakeholders and stakeholders external to the project):

- Citizens: A small group of people will be selected -among the more than 43,000 people who have already accessed some of the services offered by the Gijón App- to participate in a workshop where they will be invited to try to give their opinion on the eID proposed in terms of accessibility, usability, trust, privacy, etc.
- Service personnel involved in the project.
- Managers of the different Gijón City Council Services offered by the App (middle managers).
- Policy makers.
- Municipal Companies and organizations dependent on City Councils.
- Other stakeholders: youth, equality, citizen participation...
- Agents of the autonomous administration of the Principado de Asturias.

Furthermore, the city already has contacts with the actors that are located within the “Mile of Knowledge” a geographic area within the district of East Gijón, where technology and science coexist with art and culture, as well as with the CTIC the Centro Tecnológico de la Información y la Comunicación, which is a private foundation yet not-for-profit. It acts as a think-tank on technologies, notably about blockchain and AI.

Concerning the possibility of exploring certain topics with other external actors participating in the project (DIHs, SMEs, public administrations, etc.), especially during workshops or focus groups, two topics seem interesting for Gijon:

- The idea would be to include the possibility to use the City Card to vote to ensure citizen participation in the management of their city. The votes would be, for example, to accept or refuse that a street becomes completely pedestrianised, or to choose which feature for the renewal of one of the city's beaches between several choices. On this basis, work will be carried out on the issues of securing voting data, ensuring that only one vote is cast per person, and establishing a security protocol, in particular through the use of blockchain.
- Currently, the City Card is more than 20 years old and is still in plastic format. Even though it allows contactless use, it still requires a "touch" of a few fractions of a second. The idea would therefore be to be able to develop the use of AI and biometric data (face, finger, eyes) to really have a fast contactless tool.

4.1.4 MOP: Municipality of Peshtera (Bulgaria)

The municipality launched a digital services platform recently, and offers about 70 public services to its citizens, but yet the number of users is quite low. Citizens prefer “over-the-counter” physical visit, instead of online digital services. At the moment, the only way to take advantage of online public services of MOP is by having the so called “digital signature”, which is paid and has an annual subscription fee. Although, the subscription fee is not high (about 20 euros per year), yet a very low number of citizens have such digital

signature. This makes the deployment of digital services use sluggish. MOP expects from IMPULSE an alternative solution for digital identification of citizens, which will facilitate the procedure on eID, and will significantly facilitate the use of the Digital Services Platform of the municipality. Eventually, this will lead to an increase in the number of citizens who use the Platform.

MOP already contacted some local organizations by e-mail and organized bilateral meetings with their representatives in order to explain the project and to discuss how these organizations can help with recruiting volunteers and support the experimentation phase of IMPULSE. The contacted organizations were representatives of civil organizations and NGO, like Association “Centre for sustainability and Economic Growth” and energy agency REAP, as well as other NGOs. MOP contacted these organizations because they are constantly working with citizens from the region and they can be the liaison between the municipality and its citizens.

MOP also recently organized a workshop within WP2 activities, where 15 citizens took part in a brainstorming session to discuss advantages, expectations and difficulties which can be met during the use of IMPULSE.



Figure 4. Workshop with citizens in Peshtera municipality, 6.04.2022

In the region of Peshtera there are not any large and popular representatives of the IT and research sectors. For this reason, MOP will also greatly benefit from the collaboration with Sofia Tech Park (STP). Recently a common meeting was organized with them and together with WP6 Leader, TES. This part of the collaboration is further developed in the Sub-section 4.2.2 of this document.

4.1.5 RVK: City of Reykjavik (Iceland)

The Icelandic case (City of Reykjavík) is faced with existing rich and growing ecosystem of online public services, both at state and municipal levels, in addition to an established use of eIDAS- and GDPR-compliant eIDs, the most popular type of which is smartphone based. The solution activates verifiable credentials on a SIM and the eID is used to access not only public services but also the electronic transactions that require proof of identity (e.g., banking) as well as services where one could make the argument that a proof of identity should be voluntary, e.g., filing complaints and/or engaging in online exchange about some public issue or other -- preferring to do so anonymously.

Another issue facing the case is two-way agnosticism:

1. Services designs in the public sector are primarily based in “human tech”, so to say, i.e., knowing your customers, defining needs, studied effectiveness. Usability and usefulness in delivery (making lives easier), simplifying backend procedures / practices and ensuring interconnectivity with transactional features where needed (e.g., contracts for signing, bank transactions and more). The implication is that once you know exactly what you want to deliver and why and how it needs to be interfaced, the technological components needed to realise the solutions can be aggregated to do just that. In other words, to be technologically agnostic means that – at the outset – no particular tech is favour over and above some other.

2. Certified and accredited trust services (e.g., eID providers) have developed completely independently of any service provision that such an authentication could provide access to. This will continue, considering IMPULSE as a potential alternative mode of authenticating persons (i.e., using facial recognition, considering SSI and/or blockchain). The authentication mechanism would have to follow the track of certification and achieving acceptability just as other trust services have had to do. This is heavily regulated industry with strict demands for compliance (to standards, laws and other established protocols). These developments are service agnostic which corresponds with statements made by technical developers within IMPULSE who have been designing and building the Enterprise server for e-authentication.

The RVK case can be divided into two very distinct objectives, at least considering the 2022 experiment:¹

- To trial an alternative experimental eID option, using facial recognition and associated software on an instance of the IMPULSE enterprise server connected with 2;
- To play a “democracy game” with participants in the eID experiment using an instance of “Better Reykjavík”, an online public portal for such exercises, i.e., to explore discursively issues of accessibility, electronic authentication and online public services in general. This could be seen as an online public consultation, using multi-modal discourse to exchange ideas, comments, complaints, questions and to fill in a questionnaire (WP4).

As regards networking activities, it should be noted that we have identified most of the relevant individuals/agencies, but have made much less progress in contacting them for interviews and discussions, e.g. on the possibilities of further participation, e.g. in workshops/round tables:

- Locally within the City’s administration

We have collected a list of persons working directly (and overseeing) the development of online public services. They are engaged on two fronts in this development:

- In the Division of Services and Innovation – Within this category are technical staff who specialise in virtual servers and a couple of techies will be setting up (and monitoring) the IMPULSE Enterprise server on an instance (Microsoft Azure), owned and controlled by RVK. There are also staff leading a vision for the digital transformation programme, and some directly involved in design thinking and implementation of services to residents that are already online (some might be available and interested in further participation).
- In the Division of Welfare – Within this category are staff leading a vision of inclusivity, welfare supports and social justice, with bearing on design decisions and follow-ups to ensure genuinely useful, lawful and ethical designs (some might be available and interested in further participation).
- Administrative supports – Within the third category are lawyers and RVK’s Data Protection Officer, whose task is to assess and validate the lawfulness of the public services coming online. The DPO might be available for a workshop or roundtable discussion.

- Country/European level

We have collected a list of individuals/agencies working within Icelandic state institutions, academics, NGOs and private enterprise. Their expertise and experiences cover numerous areas of practice, including:

- Ministries with particular duties concerning electronic authentications, electronic transactions, data protection, cyber security, the Digital Island Programme, Registers Iceland and more.
- Professional Associations, including The Icelandic Computer Society (expert group on Electronic Public Services), the Federation of Icelandic Industries, Icelandic Standards (IST) and the Standards Council in Information Technology (FUT);
- Enterprises/Services/Innovation Accelerators, including Centre of Calculations, Syndis (security services & innovation), Aranja (web technology innovator), the Icelandic Blockchain Foundation (IBF), Icelandic Startups, Better Reykjavik (the inventor), Advania (e-commerce, electronic signatures & security solutions), Icelandic disability alliance and the National Union of Disabled People.
- Academic departments covering research into AI and Blockchain

Members of the disability alliance/union of disabled and the inventor of Better Reykjavík will be called on to participate in the 2022 trial and co-design with us the consultation portal.

Other members of these groups may or may not be available and/or interested in participating in workshops and/or roundtable discussions. We would prefer very clear objectives first, which specific topics a workshop or other form of exchange will be addressing, and choose from those lists accordingly for invitations.

Finally, we have contacted a couple of members of the European Blockchain Programme, Sweden, Estonia and Denmark, however, at present we do not see obvious reasons to involve them in any of the IMPULSE networking activities.

Overall, we like to emphasize the potential of finding relevant stakeholders across the agencies that are mentioned here, given that the RVK case can develop unique selling points from one or more aspects of IMPULSE, and that includes the possibility of bringing on board something that resembles an incubator /innovation hub /accelerator with a focus on some of the Digital Innovation *elements* of IMPULSE. That means however, addressing independently the authentication solution as such, then the vested interests (or not) in applications of blockchain and AI, then the politics of official identities (including SSI), and then setting all those issues and their progressions apart from the politics and policies of legally required services provided by municipalities to their residents, how these services are transforming, how they are conceptualised, technically configured, outsourced, and so on.

4.1.6 UC/IC: Union of Italian Chambers of Commerce / InfoCamere (Italy)

The Italian use case aims at improving the accessibility of the “Digital Drawer” to the Entrepreneurs. The “Digital Drawer” is a digital service enabling entrepreneurs to check information about their business, from their smartphone or tablet. The available information are the following: company profile, financial statements, status about requests to the public administration, digital invoices and many others. Entrepreneurs currently access the service using their Italian digital identity (SPID). Thanks to Impulse it will be enabled a better user experience accessing the service and leveraging European standards and infrastructures.

The main stakeholders of the use case can be grouped as follows:

- Business Register (IC/UC): Trust Service Provider in charge for certifying company representatives and for providing them with credentials
- Digital Identity provider: Trust Service Provider in charge for recognizing physical persons and for providing digital identities
- Entrepreneur: Owner or representative of the company. He is the one who operates the impulse wallet
- Company: Companies whose information are accessed within the Digital Drawer

Stakeholder Category	Stakeholder	Pilot relevance
Data Users	<i>Entrepreneurs</i>	
Data Users	<i>Other Public Administrations</i>	
Data Users	<i>Companies</i>	
Digital Identity Management	<i>Digital Identities providers</i>	
National Digital Policy maker	<i>AGID (Agenzia per l'Italia Digitale)</i>	
Informed players	<i>European Business Registry Association</i>	
Informed players	<i>Digital Innovation Hubs</i>	
Market players	<i>Business Data Providers</i>	
Registry Management	<i>InfoCamere</i>	
Registry owner	<i>Chambers of Commerce (and related associations)</i>	

Figure 5 Foreseen stakeholders in UC/IC case study

Since the first two stakeholders are already part of the Impulse Project, the main goal is to involve entrepreneurs and, indirectly, also companies: they are the foundation of the local communities and the ones that will mostly benefit from the introduction of the solution. They have been engaged for the following activities:

- Interviews
- Co-design workshops
- Testing
- ID Card contribution (samples)

InfoCamere and UnionCamere exploit each contact to remind them of the scope of the Impulse project, the objectives of the initiatives and the planned activities in order to engage entrepreneurs and to invite them to events and workshops that could benefit from their participation. As Impulse project members cannot leverage economic resources to attract entrepreneurs, InfoCamere and UnionCamere promote the relevance of the network as an intangible asset and a strategic outcome of their involvement in the project.

4.2 Linking case studies with DIHs

In the context of the constitution of local communities between case studies in relation to DIHs and their network located in the same country, two meetings have already been held. These meetings aimed to 1) bring together a case study owner with the representative of the DIH affiliated to the case study, 2) find ways of collaboration and possible synergies, and 3) invite each DIH to participate (and propose potential participants) in future workshops organised in the framework of the experimentation phase (WP2) and those for the ideation of new services and technologies based on IMPULSE results (WP6).

4.2.1 Basque DIH (BDIH) with Ertzaintza (ERTZ)

The meeting was held on April 13th 2022. Its aim was, first of all, to bring together the Basque DIH (BDIH) and the Spanish case studies (the Security Department of Ertzaintza and the Municipality of Gijon) to discuss how they can best work together. However, due to a scheduling error, the representative of the Gijon case study could not attend, a new meeting will be organised in May 2022 between BDIH and Gijon.

After brief presentations by each of the participants, the focus of the discussion was on the level of progress in the implementation of the Ertzaintza case study and the next steps to be taken, where BDIH could be involved.

Naturally, as the representative of the Basque DIH coordinates the Basque Cybersecurity Centre, which is in charge of the cybersecurity node within the DIH, emphasis was placed on this issue. In particular, the possibility to make use of the DIH services was mentioned, especially on the issues of identifying threats and risks through the use of the cybersecurity functional test environment. This opportunity has been duly taken into account and will be refined as the experiment is set up and as needs emerge in this respect.

A first suggestion was also made by the Basque DIH representative: including Izenpe as, if not a stakeholder, at least an advisor for the ERTZ case study. Izenpe is a trust service provider, i.e. an organisation that provides electronic signature services. Since its objectives are to promote the use and encourage the development of e-government on telecommunications networks with the necessary guarantees of security, confidentiality, authenticity and irrevocability of transactions, as well as to provide security, technical and administrative services to the institutions that make up the Basque public sector, they appear to be a good asset for the project. Contact was made by ERTZ in the days following the meeting.

Finally, on the issue of the workshop planned under WP6, it had already been mentioned that it would be held in Gijon. However, the BDIH was invited to participate in an upstream meeting to discuss organisation and technical issues, as it could participate or involve its member in this workshop planned for the end of 2022. This activity falls under Task 6.2 for the ideation of new services and technologies, led by Fraunhofer ISI and will be further developed in D6.2.

The next steps will be to hold one or more follow-up meetings between the DIH and ERTZ in order to encourage further collaboration. It should also be kept in mind that a physical meeting will help to seal and ensure the continuation of this partnership.

4.2.2 Sofia Tech Park (STP) with the municipality of Peshtera (MOP)

The meeting was held on April 6th 2022. Its aim was, first of all, to bring together Sofia Tech Park and the Bulgarian case study represented by the Municipality of Peshtera. After brief presentations by each of the participants, the focus of the discussion was on what Peshtera could offer to Sofia Tech Park.

The first one was on the potential participation of Sofia Tech Park (STP) in the testing phase of the solution. As rightly demonstrated by the case study partner, once the solution deployed on Peshtera's servers and launched, not only citizens of Peshtera could test it, but also other interested citizens could be involved in the testing. Indeed, the testing of the Impulse solution will be limited to the identification of a citizen and the management of his/her personal data in front of Peshtera, and volunteers will not be directly using the public service itself, since it will be an artificial and controlled environment replicating the service. Thus, STP could promote and/or involve volunteers coming from other municipalities in the experimentation. In response to this proposal, the representative of Sofia Tech Park gave a positive answer and undertook the dissemination of any information and/or invitation to involve other volunteers in the experiment.

The second one was on the possibility for MOP and STP to co-organize the workshop planned within WP6-T6.2 for the ideation of new fields of deployment and innovation of the IMPULSE solution. First of all, the main idea proposed by the MOP representative was whether STP could involve stakeholders from their network in the process, like research and IT companies, scientific organizations, as well as other interested stakeholders from Bulgaria such as public administrations (not only municipalities), interested NGOs, etc. STP again responded positively, mentioning in particular the possibility of bringing in experts in blockchain and cybersecurity. The second question was whether Sofia Tech Park could host the workshop on its premises. On this point the answer was positive too. Sofia Tech Park will be able to provide a room where the workshop(s) could be held. It was also proposed that a larger event could be organized, for example a day dedicated to the issue of eID management and the role of AI and Blockchain, so that the work of IMPULSE could be part of a more global event with other stakeholders who could discover the project at that time. This will be followed by a discussion of organizational and logistical issues with the relevant parties.

The logical next steps will be to involve the Sofia Tech Park in the organisational activities of the workshop planned under WP6, as well as to hold one or more follow-up meetings with MOP in order to encourage the collaboration good continuity.

4.2.3 Conclusion

To conclude, these two meetings were followed by the writing of reports which were made available to the partner in charge of WP2 in order to inform them of the positive opportunities to be expected and to plan joint activities, as well as to the partner in charge of WP6-T6.2 activities in order to invite DIH representatives to the preparatory meetings in view of the workshops.

Finally, although the outcomes were different, both meetings were considered a positive start to collaboration by the participating partners. In conclusion, the collaborations have been duly initiated and further follow-up meetings are expected in the coming weeks.

4.3 Contact with other DIHs and stakeholders

In line with the strategy set up for DIHs, prospecting actions have been launched. These actions aim at growing the open community by looking for actors who could be not only interested in discovering the project but also be mobilised to participate in the different activities of WP6.

Concurrently, the IMPULSE consortium members sourced these actors within their own networks, and in order to cover a wider area and ensure a plurality of stakeholders, a canvass was launched on behalf of the entire consortium.

4.3.1 Overview of actions undertaken by the IMPULSE partners and DIHs

Although initially only the case study owners were expected to take part in the network and by extension the local communities, other IMPULSE project partners have lent a hand and have identified key actors and institutions with which the partners can build local communities. The list of all these contacts and their information can be found in Annex D.

AEI

The contacts arose from cooperation, projects and network activities of the AEI and were revived in the light of WP3 activities – e.g. IMPULSE policy round table on April 28th, 2022. These are policymakers and experts who have broad know-how in the areas of IMPULSE, that is e-ID, ICT, open governance, e-governance, implementation of new technologies in the framework of public authorities and services as well as human rights and societal challenges. Experts affiliated to the technology companies AIT, IAIK, A-SIT and EGIZ represent valuable contacts who could also provide important inputs in the activities of WP6. The involvement of these stakeholders still must be specifically requested, also with regard to a possible excessive demand or excessive strain on their availability in IMPULSE.

DIN

DIN, the standardization partner within IMPULSE, has reached out to some relevant standardization committees and further standardization contacts. In this regard, several national standardization committees of Germany and Spain were approached with the result that a liaison has been established with the Spanish Committee CTN 71/SC 307 “Blockchain and distributed ledger technologies”, the committee that overlaps most with IMPULSE activities. Thus, the IMPULSE partners are continuously exchanging with standardization experts of this committee about the project and for IMPULSE relevant committee activities, via for example participation in the committee meetings. Furthermore, an exchange with BKA - the Federal Criminal Police Office of Germany has been taking place to verify possible interactions with them in the IMPULSE project. Due to BKA’s focus they are mostly interested in the IMPULSE activities of the case study with the Basque Country Police Ertzaintza. Further exchanges with these committees, standardization experts and further contacts are planned during the course of the project.

GRAD

As part of the partnership research, GRAD introduced DIH Datalife to the project. This contact comes from the participation of GRAD as member, being one of the founders of the hub. The hub is active in AI and security technologies, quite related to IMPULSE main disruptive technologies, and also have good expertise

in co-creation activities. Furthermore, they have a close relation with public entities in Galician region, but they also have interest in eID solutions for the continuous interaction that other local entities (i.e., in the agro-farming sector) have with those public administrations, and how solutions as IMPULSE can contribute to reduce the required paperwork. Furthermore, and through the DataLife, GRAD contacted DiHGICAL, another Galician DIH, also interested in the AI and Blockchain technologies but focused on other sectors, like digital manufacturing. A first meeting is scheduled for the 6th of May with both DIHs.

TES

Several contacts have been made in the framework of the prospecting activities carried out by TES, at the local level, but also more widely at the European level. First of all, at the local level, TES, wishing to arouse the interest of Normandy municipalities within its network on the topic of digitisation, organised several awareness and information events. From these events, there was a clear interest from three Norman cities, wishing to take part in the workshops that were subsequently organised in order to share their own experiences but also have access to the results of the project so that they could in turn potentially experiment on their territory. These three municipalities are the city of Le Havre, Evreux Porte de Normandie and Seine-Eure Agglomeration.

Through a partnership already initiated by TES, a first connection was made outside the territory covered by IMPULSE, with RDI Hub, which is a world-class centre for design-led and digital innovation located in Ireland's South West. As it focuses on digitisation, ideation and commercialisation of innovation and research in the Digital, AI, Data and related technologies' sectors, it is undoubtedly an asset for the project. Thanks to its extensive knowledge and participation in the territorial network of Kerry, it will be able to solicit and involve local municipalities that have an interest in the digitisation of their services. Finally, it has already made a connection with the county council representative in charge of digital transition in order to involve the latter in IMPULSE's activities.

At European level again, collaboration has emerged with DIH-World, a Horizon 2020 project co-funded, which aim is to harmonise and widen the landscape of European DIHs across all of Europe to address the "digital innovation hubs divide". This collaboration started with TES and then expanded to IMPULSE. In particular, the project was presented at a meeting of the DIH Board on 14 September 2021, in front of at least thirty participating DIHs. In addition, it was agreed that DIH-World could disseminate information about IMPULSE within its network, especially regarding invitations to WP6 workshops. As DIH-World is a network of no less than 55 DIHs located in 26 different countries, it is proving to be a significant asset for the collaborative and exchange approach set up by IMPULSE. Finally, it is worth mentioning that TES, as representative of the IMPULSE project, has been invited to join the DIH-World Steering Committee alongside with three other members. This collaboration with other fellow projects, that has been formalized on December 2021⁷, will allow IMPULSE to identify and exploit synergies and avoid duplication of activities with the view of enhancing the impact of its actions.

DIH Industry (TECOS)

Even though TECOS' skills, which are more technical (3D printing, moulding, etc.), do not totally fall within the scope of IMPULSE research, their expertise remains useful for the project, especially their knowledge of

⁷ Get to know DIH-World Steering Committee members: <https://dihworld.eu/get-to-know-dih-world-steering-committee-members/>

the Slovenian territory and its actors. The first contacts with the University of Ljubljana and the Ljubljana Digitisation Office are currently being made by TECOS for the benefit of IMPULSE.

Sofia Tech Park

As far as the project activities are concerned, Sofia Tech Park has already provided a first contact with the company Quanterall, part of its ecosystem, which has great experience and operates in the field of blockchain. Quanterell would be an asset for the project as it builds highly scalable blockchain infrastructures and decentralized applications for enterprises, i.e., web and mobile dApps as well as smart contract development, to mention just a few.

4.3.2 Overview of prospective actions on behalf of IMPULSE

In order to further expand the IMPULSE open community, it was decided to contact other DIHs that were not already part of the project or the consortium partners' network.

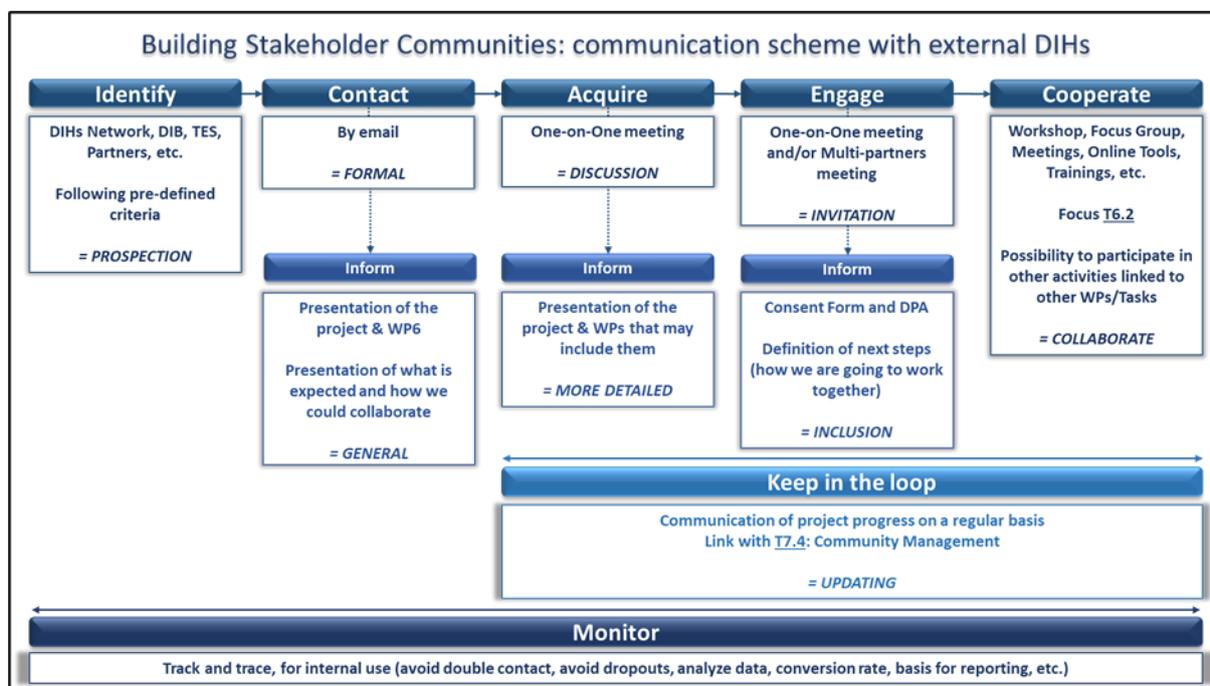


Figure 6. Communication scheme with external DIHs

This prospection followed a scheme defined upstream by WP6 partners, as follows:

As a first step, the identification of DIHs whose participation would be expected followed the criteria found on the Smart Specialisation Platform within the DIH search Tool⁸. These criteria were selected to match the scope of the IMPULSE project. It should however be noted that these criteria have been defined for the active search for DIHs, they should not exclude the participation of a DIH which willingly contacted the project and demonstrates sufficient capacity for action in the identified IMPULSE area of operation.

⁸ DIH Search Tool : <https://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool>

Thus, the criteria considered were those of the scope of the DIH's technological expertise, i.e., logically artificial intelligence, distributed registry technology and cyber security, as well as the sector(s) in which the DIH is providing support, with a focus on support to public administration. This resulted in the listing of 22 DIHs.

Subsequently, each of these entities was contacted taking into consideration their country of location, in order to be able to mention a connection with a specific partner of the IMPULSE project, which could play in the favour of the contactor. In particular, GRAD and TREE for Spain, DIN and Fh ISI for Germany, LUT for Finland and ICERT, UC and CEL for Italy were presented in detail. The example of the email sent is available in the Annex A.2 to this document.

The contacts were made between 7 and 25 March 2022 for the first wave, and 15 April 2022 for the second wave. Out of the 22 contacts, five led to a first meeting, one other, despite a lack of time available of the person contacted, still led to the sharing of a contact list of blockchain and crypto experts who could be contacted, while the rest of the contacts remained unanswered at the time of writing this deliverable. The five who responded positively are namely:

DIH Science City (Slovakia)

The first meeting took place on 21 March 2022. DIH Science City having a more industrial focus, means of collaboration were however found, namely for IMPULSE to bring its expertise in terms of AI, since this DIH wishes to develop this activity. In return, the DIH has undertaken to disseminate the information that IMPULSE wishes to share, in particular on its workshops and events, and to source within its network the relevant actors and experts who can participate in the latter.

AIRE DIH (Estonia)

The first meeting took place on 23 March 2022. Artificial Intelligence & Robotic Estonia Hubs (AIRE DIH) is the gathering of several Estonian entities to form a single DIH to apply for the EDIH call under the Digital Europe Programme. AIRE works for industrial development and innovation in the whole of Estonia, however it has an interest in working more generally in the area of AI. During the discussion on collaboration, AIRE expressed an interest in IMPULSE's ability to foster synergy with other organisations, notably partner DIHs but also consortium members. In exchange, it will be possible for this future EDIH to disseminate information from the project within its network and to get involved or have members of its network involved in the activities organised within the framework of WP6 in particular.

DIH Faubourg Numérique (France)

The first meeting took place on 22 March 2022. DIH Faubourg Numérique aims to stimulate and support companies (SMEs, startups) and local authorities in their innovation and digital transition processes. It has expertise in the fields of the Internet of Things, digital twins, artificial intelligence and the data economy. The prospect of collaboration appeared positive from the very first meeting, since IMPULSE's actions are in synergy with the contributions that this DIH has already made on its territory. The collaboration would thus make it possible to deepen this work.

Digital Lead (Denmark)

The first meeting took place on 22 April 2022. Digital Lead is a cluster in digital innovation, with partners from public administration, business and education, located in Denmark. The meeting was mainly dedicated to explain the role that Digital Lead could have in the project, i.e. to participate in the 1st Workshop organised

by WP6 in the second half of 2022 and thus to bring his experience in the field of digital personal data management, and to say if the direction taken by IMPULSE seems to be judicious or not, for the development of the solution with more users (beyond the case studies) However, the issue of voluntary participation was raised and the risk that little time could be allocated to this participation. However, Digital Lead is keen to meet with the leaders of the Aarhus case study in order to better understand the ins and outs of the experimentation.

Dinapsis DIH (Spain)

The first meeting took place on 22 April 2022. DINAPSIS, particularly in its department dedicated to cities, develops solutions for adapting to climate change and improving urban resilience, applying the principles of the circular economy. In addition, specific solutions are offered for tourist areas, such as continuous monitoring of the quality of bathing water, control of discharges into the sea, monitoring the occupation of spaces, etc. Dinapsis has shown great interest in the solution that IMPULSE wishes to develop, and has already expressed several ideas for synergies with its own needs, particularly with regard to water management. Within this DIH, the use of the eID is currently being considered for a mobile app for house owners who rent them to tourists, in order to know in real time the water consumption. A meeting with GRAD will be organized in the upcoming months to see how the collaboration could be done between Dinapsis and IMPULSE.

Currently the Consent Form and Data Processing Agreement signatures are being reviewed by each of the DIHs' legal departments. They will be saved on a private and secure server managed by TES, as the latter is the Data Controller for the DIHs joining the project through it.

As mentioned in the Section 2.3 on the strategy implementation and as indicated in the communication diagram, the task following this initial contact will be to keep these DIHs involved in the project process. This task will be followed up closely in order to avoid that these initial contacts do not succeed. However, the current organisation of WP6 workshops will allow to provide on a fairly regular basis the first useful information favourable to the conservation of the first interests expressed. The same applies to the holding of the first iteration of pilot cases, which will lead to the sharing of the first results of the solution in real conditions, undeniably not negligible to create even more attraction for the IMPULSE project. This community management task falls under the umbrella of task 7.4 for Community Management, also led by TES, thus facilitating the follow-up.

5 Outcomes

5.1 KPIs

Action	KPI	Status
Building stakeholder communities to foster adoption and development of the IMPULSE solution and spur related innovation to further validate the outputs of the pilot experimentations and foster the adaptation, adoption and further development of the IMPULSE solution for and in new contexts, as well as foster the innovation of new products, services and technology solutions that could be built on top of the IMPULSE solution.	Communities around 6 DIHs in 6 different countries.	Currently 3 communities have been initiated ; 1 is expected to be engaged before June 2022 ; and 2 are planned to be initiated before the first round of pilot in summer 2022.
Build a community to encourage the scale-up and adoption of the IMPULSE solution through the engagement of DIHs, which will be trained to support the implementation of the IMPULSE initiative locally, as well as new public administrations and service providers in general and other stakeholders relevant for the business ecosystem.	No. of interested public administrations (>20) and innovative IT suppliers (>25) and trained DIHs (>10)	Currently 4 public authorities have expressed their interest, 5 IT providers could be involved (excluding those in the list provided by one of the DIHs contacted) and 11 DIHs may be eligible to be trained.
Collaboration with international networks: Synergy with and participation in international networks will contribute to the achievement of the goals. The involvement of partners as members of associations and expert groups relevant for the project will be encouraged.	Participation in discussions, working groups, events, etc. with more than 10 international networks.	Through the activities performed under T6.1 of WP6, 1 collaboration has been formalized with one European network, i.e., DIH-World.
Experimental workshops with DIHs: Workshops for DIHs to become familiar (information and training) with disruptive eID technologies, get involved in the experimentation and piloting, and foster adoption and scalability.	Participation of representatives of at least 14 DIHs in at least 10 EU countries.	Although the workshops have not yet taken place, as they are scheduled to take place between November 2022 and February 2023, the 11 DIHs with which collaboration is already underway (4 DIB members and 7 external DIHs from 8 different countries) and possibly participants from the DIH-World network can be expected to attend. Further connections are in progress.
Test and validate the IMPULSE approach in 5 European countries (Spain, Bulgaria, Denmark, Iceland and Italy) with the support of DIHs and their innovation ecosystems for cross-region/field comparisons from diverse social, economic and cultural perspectives and further engagement of innovative IT suppliers.	No. of trained users (>25), involved DIHs (>7); solution readiness by pilot (1 or 2) stage (>50% and >90).	Although the test phase has not yet taken place, the participation of some of the 11 DIHs with which collaboration is already underway can be expected, with a certainty on the 4 DIHs making up the Digital Innovation Board.

Table 4 Alignment of the task with the associated KPIs

5.2 Next steps

Although Task 6.1 is coming to an end, some tasks still remain to be done, in particular, those that have already been initiated. By this is meant the continuity of the Digital Innovation Board, including as already mentioned the holding of a meeting planned at the end of May with CEL to discuss ethical issues. As well as the holding of first and/or second meetings with DIHs who were approached in the first wave of contact. For example, meetings are already planned with two Spanish DIHs, DIH DataLife and DiHGICAL, for a first meeting, but also Digital Lead for a second matchmaking meeting with the Aarhus case leaders. Of course, this also applies to any other DIHs who respond positively to our contact.

In addition, the opportunity to continue T6.1 progress is offered in WP7. It is worth mentioning the creation of a specific section in the IMPULSE website, in collaboration with T7.2, dedicated to DIB and DIHs. This section will contain the presentation of the members of the Digital Innovation Board, in the same way as the IMPULSE partners, and one of the members of the Open Community. In addition, space will be provided on the website and social media for the dissemination of information from the latter (e.g. partners' events, call launches, etc.).

The same applies the Task 7.4 for "Community management, briefings and demonstrations for end-users, DIHs and stakeholders" which runs until the end of the project. Indeed, as this task is also managed by TES, it will allow the latter to continue its search for partnerships and collaborations already initiated.

As such, the idea of organising a call for expressions of interest to join the IMPULSE Open Community has emerged, in order to achieve the objective of involving external stakeholders. The specifications for this call have already been drafted and it is worth mentioning that all DIB members as well as DIH-World have already agreed to disseminate this call for the benefit of IMPULSE. Thus, if the consortium decides, in view of whether or not there are enough of stakeholders who have joined the project via the first wave of contacts, to launch this call, only the final details of the timing will have to be settled.

6 Conclusions

From the beginning, what was realised by the partners was that the implementation would take longer than expected. First of all, as can be seen from the various tables summarising the contacts made, these were long and laborious. Sometimes months passed between the first e-mail and its reply and the first meeting organised, resulting in a longer time span before the effective start of joint actions.

This was also the case with the establishment of the Digital Innovation Board. The contact phase suffered from the change of some of the contact persons within the member DIHs, which did not facilitate the launch of collaboration. Moreover, the concomitant launch of the Digital Europe Programme's EDIH call with the launch of the DIB's activities also delayed the connection with the case studies.

However, IMPULSE's partners were able to react and rearrange the task in order to achieve, if not the actual setting up of local communities, at least their framing. As a result, this preparation will allow for a facilitated implementation of local communities from the outset. Furthermore, particular emphasis was placed on collaborating with members of the Digital Innovation Board and on linking DIHs in the same countries as the case studies, enabling better exchanges. Similarly, during the prospecting phase for new DIHs, the focus was on creating a smaller community, allowing for better follow-up and more guaranteed commitment.

Thus, in the end, two local communities, in Bulgaria and Spain, were initiated with a very positive result from the collaborators, a third one with the other Spanish partner is planned in the next few weeks and the steps to set up the remaining ones are already underway, notably with the Danish partners. In addition, the open stakeholder community already has more than 20 members so far and is expected to grow rapidly through the partnership opportunities offered by its current members

Finally, new favourable perspectives for the continuity of this task are opening up for the project. These include the possibility of actually having tangible activities and results to promote in order to generate interest and buy-in from other actors. This will facilitate the "sales speech" and avoid sticking to a concept only. In addition, the holding of events, particularly networking events, will allow for direct contact, which would lead to greater participation. In addition, the launch of the IMPULSE call for expressions of interest, relayed by the consortium and all the external stakeholders of the project (e.g., DIB, DIH-World, etc.) will help the open community to grow.

In conclusion, despite the relatively slow implementation of the task, the reorientation of its actions has allowed not only the project partners, but also the external actors, to gain confidence in launching collaborations. It is therefore clear that the actions undertaken during these first months have already borne fruit and will continue to do so in the months to come. If we add to this the very positive outlook for the second half of the project period, we can expect that the collaborations will continue to develop into concrete partnerships.

References

- [1] Auvray, A. B. (2022, 31 janvier). Expectations and opportunities for collaboration with (European) Digital Innovation Hubs in the IMPULSE project. IMPULSE - Identity Management in PUbLic Services. Available at: <https://www.impulse-h2020.eu/2022/01/31/expectations-and-opportunities-for-collaboration-with-european-digital-innovation-hubs-in-the-impulse-project/>
- [2] Digital Innovation Hubs Tools. (2022). Smart Specialisation Platform. <https://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool>
- [3] European Commission – Directorate-General for Communications Networks, Content and Technology, EC (2021). European Digital Innovation Hubs in Digital Europe Programme Draft working document. Available at: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=70324
- [4] LOV nr 552 af 02/06/2014, Finansministeriet. (2014). Retsinformation. <https://www.retsinformation.dk/eli/ta/2014/552>
- [5] LOV nr 558 af 18/06/2012, Finansministeriet. (2012). Retsinformation. <https://www.retsinformation.dk/eli/ta/2012/558>
- [6] LOV nr 622 af 12/06/2013, Finansministeriet. (2013). Retsinformation. <https://www.retsinformation.dk/eli/ta/2013/622>
- [7] LOV nr 742 af 01/06/2015, Finansministeriet. (2015). Retsinformation. <https://www.retsinformation.dk/eli/ta/2015/742>
- [8] The Digital Europe Programme (DIGITAL) is a new EU funding programme focused on bringing digital technology to businesses, citizens and public administrations.

Annex A Contact procedure

A.1 Initial contact scheme Roadmap on how to involve the DIB, DIHs and Stakeholders

The Digital Innovation Board (DIB)

Joint work with DIB members

Joint call between the intermediaries and TES

In order to prepare for the first meeting, a preliminary meeting between the pilot and TES would be preferable, it can be brief and up to an hour.

It will allow both parties to get to know each other a little better, especially for TES to understand the cultural context of the country in the case of a DIB member present in the same country as the pilot.

Finally, it will be an opportunity to discuss how the meeting will be conducted, the information to be transmitted and, above all, to answer the questions of both parties.

After participation acceptance from the representatives

Once a DIH participating in the DIB has been accepted, it would be necessary to share with them (contact person) what is expected of them.

To do this, as a first step, if it has not yet been done, or to refresh their memory, an email presenting the project should be sent to the DIH representatives. It would be beneficial to attach to this email a **proposition to participate in an online meeting** between the **DIH**, the **intermediary contact** and **TES**, in order to get to know each other, share information about the project and above all discuss the next steps together.

Once the proposal to participate is accepted, and after agreement on the dates and times between the intermediary and TES, an official invitation is sent containing the essential information (day, time, place, useful link) but also an agenda which will be the same for all the first meetings:

1. Introduction of participants
2. Brief presentation of IMPULSE
3. Detailed presentation of the tasks and activities expected of the Digital Innovation Board, and of the DIH in particular
4. Exchange session (Q/A and discussion on possible joint work)

△ Since we are now dealing with one or more individuals, it is necessary to have a **consent form** and a **data processing agreement** signed by each individual with whom contact is made. Those two documents can be sent alongside with the invitation.

Course of the first meeting

Ideally, the course of the first meeting should be as follows:

1. Presentation of the three participating entities : TES & the intermediate contact for IMPULSE and the representatives for DIH
2. Presentation of the activities to be performed by the DIB as a whole and the DIH in particular, i.e. with the case study to which it is attached (*see the summary table*)

3. Discussion of possible work to be done together (*The idea is to see, at first sight, what the collaboration could achieve, it would be to let the DIH explore by itself the possibilities of joint work*)
4. Q/A (*The idea is to give the representatives time to ask all their questions and why not propose to send a summary/complementary document afterwards*)
5. Invitation for a second meeting after 15 days and not more than one month for confirmation of the joint work and possibly first results

Digital Innovation Hubs (DIHs)

DIH brought in through a DIB / consortium member

Search for DIH and contact

Partners, DIB and DIH can look for other DIH (and/or other stakeholders), based on the project's interest criteria (i.e. DIH in the fields of AI and Blockchain, or by extension on cybersecurity, data security, digital technologies, etc.).

△ If they wish to contact them, partners can contact the relevant individual from the DIH by making reference to the professional emails available online. Professional information is often available on the dedicated European platform: [DIHs Tool](#). This professional information falls under [Article 6 \(f\) of the GDPR](#) and is considered as demonstrating a "legitimate interest".

In order for TES to be able to track searches and/or contacts, partners must fill in the information in the [table](#) available in the repository. However, **before contacting the person**: partners should only list the references to the relevant individual's organization.

As a first step, an email presenting the project should be sent to the DIH representatives (general information, what we do with the DIH, how we would like to involve them, etc.). As well as possibilities to get to know each other, i.e. an invitation to:

- (1) participate in a multilateral meeting between the DIH and its representative(s), the intermediary partner and TES ;
- (2) attend an event in which the project is participating or organising, if it takes place in a relatively short time and appears to be relevant or
- (3) receive information on the project (newsletter, invitation) for later involvement or only knowledge.

For reasons of time availability and to reach a larger number of DIHs at the same time, events should be preferred. However, in order to ensure the commitment of DIHs and their participation in particular activities that will take place in the middle of the project (e.g. workshops), more individualised meetings would be preferable.

Steps after contacting

Positive answer for one-on-one meeting

Once the proposal to participate is accepted, and after agreement on the dates and times between the intermediary and TES, an official invitation is sent containing the essential information (day, time, place, useful link) but also an agenda which will be the same for all the first meetings:

1. Introduction of participants
2. Brief presentation of IMPULSE
3. Detailed presentation of the tasks and activities expected of the Digital Innovation Board, and of the DIH in particular
4. Exchange session (Q/A and discussion on possible joint work)

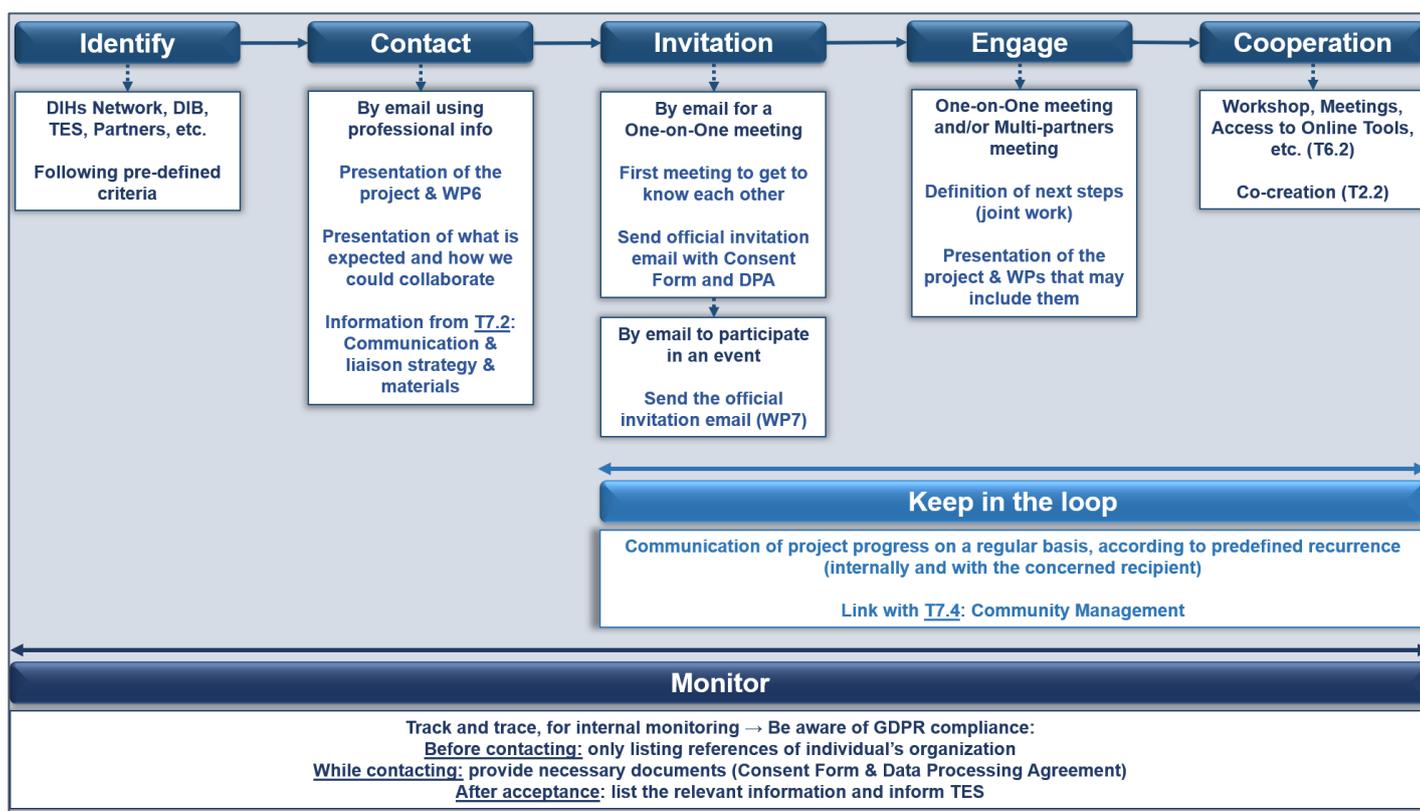
△ Since we are now dealing with one or more individuals, it is necessary to have a **consent form** and a **data processing agreement** signed by each individual with whom contact is made. Those two documents can be sent alongside with the invitation. Once these last two documents have been submitted and signed, the partner can fill in the table in the directory with the rest of the necessary information of the individual.

Positive answer for an event

If the DIH wishes to participate in an event in which IMPULSE is involved or which it is organising, it will be necessary to send it the invitation created for the occasion.

Positive answer for information

Links to the project newsletter, the IMPULSE website and invitations to relevant events.



Scheme 1 : Communication path with the DIHs that are contacted – in case of positive answer

Negative answer

It would then be appropriate to send a standard email thanking them for the response and saying that we remain open to future collaboration should they wish to reach us again.

No answer

If there is no response, it is sufficient to indicate in the table in the directory that the case is closed. However, if the DIH seems to be of great interest to the project, a follow-up email should be sent within 3 to 4 weeks.

DIH that contact us directly

For DIHs which contact the project directly, the process is pretty much the same as the one previously developed. However, the first meeting will serve to understand the interest of the DIH and to determine how it could participate and bring added value to IMPULSE.

This meeting will then be followed by a discussion between the partners before effectively integrating the DIH into the project (i.e. inviting it to participate in workshops, support the pilots, etc.). The final choice should be made within 14 calendar days of the meeting. The proposition could thus be: inclusion in the project and/or participation in events and/or information.

This review is not an attempt to rank the DIHs, but rather a desire to rule out collaborations that are of little or no relevance to IMPULSE or to the DIH in question, and to ensure a long-term collaboration.

Summary table of activities to be carried out by the DIB, DIHs and Stakeholders

DIB	DIHs	Stakeholders
<p><i>Support the pilot, attract and inform stakeholders and foster the adoption of the eID technologies</i></p>	<p><i>Act as a bridge between entrepreneurs, SMEs & Public Administrations (by ext. Citizen) and the project</i></p>	<p><i>A set of key actors who can benefit from and also contribute to the work of partners</i></p>
<ul style="list-style-type: none"> • (1) Map the needs of local/regional public administrations & their will to test new solutions, (2) locally identify technologies & key actors (tech providers), (3) and build bridges between them to engage in experimentations • Participate in experimental workshop to get involved in experimentation and piloting to foster uptake, transfer and upscale of the IMPULSE solution 	<ul style="list-style-type: none"> • (1) Map the needs of local/regional public administrations & their will to test new solutions, (2) locally identify technologies & key actors (tech providers), (3) and build bridges between them to engage in experimentations • Participate in experimental workshop to get involved in experimentation and piloting to foster uptake, transfer and upscale of the IMPULSE solution 	<ul style="list-style-type: none"> • (1) Gather the specific experiences taken from the first pilot, (2) generalise them, (3a) work to identify other fields in public & private sector, where the IMPULSE solution could be deployed, and (3b) identify ancillary products, services and technology solutions built around the IMPULSE solution
<ul style="list-style-type: none"> • Help to identify interested/-ing DIHs • Guide DIHs by helping them to overcome obstacles during experiment (exchange of best practices) and foster cooperation between DIHs and cluster networks • Support innovative projects based on products, services and technological solutions 	<ul style="list-style-type: none"> • Ideation of new ideas for novel/enhanced services and technological solutions in public and private sector • Support projects building upon the IMPULSE solution in connection with their network on the ground 	<ul style="list-style-type: none"> • (1) Gather the specific experiences taken from the first pilot, (2) generalise them, (3a) work to identify other fields in public & private sector, where the IMPULSE solution could be deployed, and (3b) identify ancillary products, services and technology solutions built around the IMPULSE solution • Participate in strategic sessions (workshops, focus groups, etc.)

A.2 Contact email for DIHs

Object: Collaboration opportunity with Horizon 2020 project

Dear xxx,

I hope my email finds you well.

My name is Bertille and I am a European project manager at [Pôle TES](#), a competitiveness cluster specialising in digital and new technologies and a member of the IMPULSE Consortium, on whose behalf I am contacting you today.

IMPULSE (Identity Management in PUBlic Services) is a 36-month Research and Innovation Actions (RIA) project, funded by the Horizon 2020 Framework Programme within the topic [DT-TRANSFORMATIONS-02-2018-2019-2020](#). Under the umbrella of the Digital Single Market (DSM), IMPULSE studies the impact on electronic identities (eID) of disruptive technologies, in particular on Artificial Intelligence and Blockchain. IMPULSE will analyse from a user-centric and multidisciplinary perspective, evaluating benefits and risks, costs, and inherent limitations of these technologies. It will also produce actionable roadmaps that detail good practices and pathways for the adoption, scaling-up, and sustainability of such advanced eID technologies for public services within the EU ecosystem.

To achieve this, the project of 16 European partners has implemented a demand-driven and co-creative approach in six pilots in Denmark, Italy, Bulgaria, Iceland and two in Spain. The diverse environments of the pilots will provide a variety of socio-economic, cultural, operational and legal contexts in which to validate the solution.

Germany	The project also includes the Fraunhofer Institute for Systems and Innovation Research of Karlsruhe as well as the Deutsches Institut für Normung as partners. Fraunhofer ISI is one of the leading innovation research institutes in Europe. It conducts applied research on behalf of customers from industry, academia and politics. Its assessments of the potentials and limitations of technical, organizational or institutional innovations help decision-makers in making strategic decisions and assists them in creating a favourable environment for innovations. In IMPULSE Fraunhofer ISI leads Work Package 4, which focuses on the socio-political and socio-economic effects of the IMPULSE solution while DIN organizes the standardization activities leading to the development of new standards or the contribution to existing ones. Together they also act as guarantors of our cooperation with various actors located in Germany.
Spain	The project is led by Gradiant (Centro Tecnológico de Telecomunicaciones de Galicia), which is a private non-profit Research and Technology Organisation based in Vigo, Spain. Its focus is on applied research and technology transfer of ICT to industry and society. In IMPULSE project we are participating as coordinator and also with the security & privacy research department, in charge of leading the eID architecture and the blockchain and user wallets developments. The project also includes TREE TECHNOLOGY (TREE) which is an SME established in Spain that provides innovative IT solutions in different sectors, including Public Administration. Our R&D department is specialised in Big Data technologies and Artificial Intelligence and has extensive experience in collaborative EU projects. In IMPULSE we are in charge of the identity verification to avoid fraud within the onboarding process. Together they also act as guarantors of our cooperation with various actors located in Spain.

Finland	The project also includes the Lappeenranta-Lahti University of Technology (LUT), which is a pioneering science university in Finland, bringing together the fields of Science and Business since 1969. Our international community comprises approximately 6,500 students and experts engaged in scientific research and academic education. In the IMPULSE project, LUT leads Work Package 2, which focuses on the co-creative design and piloting of the IMPULSE solution together with end users and also acts as a guarantor for our cooperation with various actors in Finland.
Italy	The project also includes three partners from Italy: InfoCamere that is running a blockchain-based eID-solution pilot, called “Person of business”, designing and implementing the infrastructure required to provide Business Register attributes in collaboration with the Unione italiana delle Camere di commercio, industria, artigianato e agricoltura that is committed to perform an active role in the pilot area, proving that the IMPULSE approach is adaptable to public services, as a compliant and user-friendly blockchain-based eID-solution which secures data according to GDPR and grants access to trust services according to eIDAS; InfoCert S.p.A which oversees innovation and exploitation management, dissemination and communication, taking the role of Innovation Manager for the IMPULSE Project ; and CyberEthics Lab whose role consists in providing ethical and legal support to the entire consortium. In the IMPULSE project, together with all the partners, they are the guarantors of our cooperation with different actors in Italy.

For more information, I am kindly inviting you to have a look at our project [website](#) or to the attached presentation.

In the framework of IMPULSE, we are seeking to establish a supportive and motivated network of DIHs. Members of this network would be invited to participate in various activities led by our consortium, such as workshops based on our case studies for the further development of the IMPULSE solution, or workshops to generate ideas and projects for a wider deployment of eID in EU countries. These activities are expected to start around September 2022. In return, IMPULSE will promote these innovative DIHs in terms of eID for public services, notably at major European and national events or by linking them with large-scale initiatives.

As a DIH and in the light of your service offering and expertise, I thought you would be an ideal candidate to join this network. Thus, I would like to take this opportunity to invite you to a bilateral online meeting. This meeting would be an opportunity to present the project in more detail and discuss the potential synergies between IMPULSE and **DIH NAME**.

Thank you very much in advance for your concern and I remain at your disposal for any further information.

I look forward to hearing from you.

Best regards,

Bertille

Annex B IMPULSE Presentation used for DIHs Contact procedure



Identity Management in PUBlic SERVICES

Project presentation



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004459 



The project



- 2021**
2024
- 16**
partners
- +3M€**



2



Mission

IMPULSE aims to develop a **method for evaluating eID management** when accessing **online public services**, using **AI** and **Blockchain**.

Evaluation

Benefits
Risks
Costs
Limitations

Impacts

Socio-economic
Legal
Ethical
Operational

Policy & Regulation

GDPR
eIDAS Regulations
Existing national e-identity systems and standards



3



Motivation and challenges

OPPORTUNITY TO USE DISRUPTIVE TECHNOLOGIES

Artificial Intelligence

Biometrics authentication
Document verification
Digital onboarding



Blockchain

Distributed ledger
Data ownership from government to citizens
Smart contracts





4

Case studies and pilots

Impulse

City of Reykjavik
Reykjavik, Iceland
 Better Reykjavik participatory democracy portal

Gijón
Gijón, Spain
 Public services app

Ertaintza
Ertaintza, Spain
 Issuing complaints entirely online

Aarhus, Denmark
 Electronic access to personal information and services

Unioncamere & InfoCamere, Italy
 Enterprise digital drawer

Peshtera, Bulgaria
 Civil registration & certification

POLE TES
 e-secure & digital innovation

5

Expected results

Impulse

A framework for a holistic integration of AI and blockchain technology
 to support secure and privacy-preserving eID management by public services, having been deployed and valued in different public services (and countries) to complement existing EU identity schemas.

Actionable roadmaps for the adoption, escalation and sustainability of advanced eID technology
 by public services in the European ecosystem, in different countries and at different levels (local, regional, national, and cross-border) and supported by Digital Innovation Hubs (DIHs) all around Europe.

POLE TES
 e-secure & digital innovation

6


TES' role

Define clear, tangible and specific roadmaps

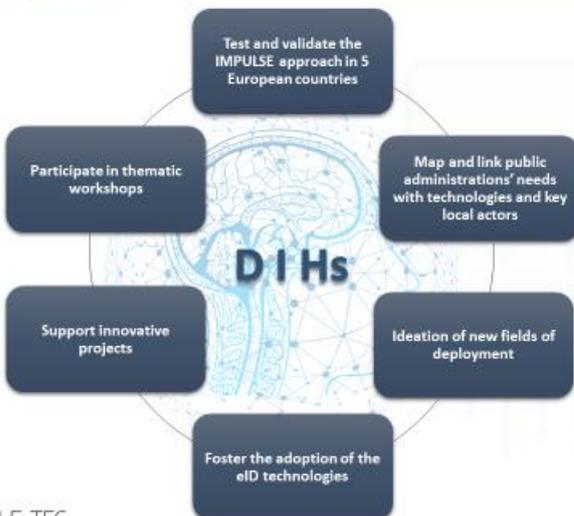
for the introduction, adoption, deployment and long-term sustainability of the project, supporting public services at different levels.

Create and maintain stakeholder communities

to support the dissemination of results, knowledge and experience.


7


Joint work with DIHs



Within IMPULSE, DIHs act as a bridge between entrepreneurs, SMEs & Public Administrations, as well as Citizens and the project.

Article on [Expectations and opportunities for collaboration with \(European\) Digital Innovation Hubs in the IMPULSE project](#) on IMPULSE website.


8



Impulse

Stakeholders' participation

Validate the results of the pilot tests and to promote the adoption, adaptation and development of the IMPULSE solution




9



Impulse

Identity Management in PubLic Services

[Site web](#)

[LinkedIn](#)

[Twitter](#)

AUVRAY Bertille
 European project manager
 IMPULSE Community Manager

Bertille.Auvray@pole-tes.com
 +33 (0) 7 49 85 59 20



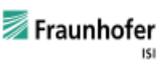













This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004459



Annex C Legal documents – Consent form and data processing agreement

Information Sheet and Consent Form

The Consortium

IMPULSE (Identity Management in Public Services) is a Research and Innovation Actions (RIA) project, funded by the Horizon 2020 Framework Programme within the DT-TRANSFORMATIONS-02-2020 call. It will be conducted by a strong public-private partnership has been established among 16 partners from 9 EU countries, including: 6 Public Administrations (ARH, ERTZ, GIJON, MOP, RVK, UC), 1 DIH (TES), 2 RTOs (GRAD, ISI), 1 University (LUT), 4 SMEs (TREE, AEI, CEL, ALiCE), 1 large company (ICERT) and 1 standardisation body (DIN) (hereinafter the “**Consortium**”).

The Project

IMPULSE aims to transform the mainstream discourse on digital identity by drawing up a user-centric multi-stage method of multidisciplinary evaluation of eID management that combines the bottom-up approach of co-creation with the need for a universal vision of digital identity ethics in providing public services. The focus of the research is on evaluating the benefits, but also risks, costs and limitations, considering socio-economic, legal, ethical and operational impacts, together with framework conditions (EU General Data Protection Regulation 2016/679 (“**GDPR**”) and eIDAS regulations, and existing legacy eID national systems and standards). To this end, IMPULSE brings together a set of representative and innovative processes as case studies in 5 countries providing a variety of contexts (cultural, operational, legal, procedural, social...) and addressing the whole cycle: input, business workflow, output and archiving.

Our collaboration

In the framework of IMPULSE, we are seeking to establish a supportive and motivated network of DIHs. Members of this network would be invited to participate in various activities led by our consortium, such as workshops based on our case studies for the further development of the IMPULSE solution, or workshops to generate ideas and projects for a wider deployment of eID in EU countries. These activities are expected to start around September 2022 and last until the end of the project.

Within the project, DIHs are expected to act as a bridge between entrepreneurs, SMEs, Public Administrations as well as by extension with citizen and the project. Non-exhaustively and on a voluntary and interest basis, the activities envisaged are to:

- (1) Map the needs of local/regional public administrations & their will to test new solutions, (2) locally identify technologies & key actors (tech providers), (3) and build bridges between them to engage in experimentations
- Participate in experimental workshop to get involved in experimentation and piloting to foster uptake, transfer and upscale of the IMPULSE solution
- Participate in strategic sessions (workshops, focus groups, etc.) for the ideation of new ideas for novel/enhanced services and technological solutions in public and private sector, i.e., (1) gather the

specific experiences taken from the first pilot, (2) generalise them, (3a) work to identify other fields in public & private sector, where the IMPULSE solution could be deployed, and (3b) identify ancillary products, services and technology solutions built around the IMPULSE solution

- Disseminate the information and results of the project within its network and in particular to those who have or may have an interest in the project

In return, IMPULSE as a whole consortium, but also the partners within it, will:

- Promote the activities of the said DIH, notably via its social networks, the project website but also within its own network, as well as during major European and national events in which the project is involved or which it organises
- Act as a matchmaker, whether within the consortium, the partners' network or the Open Community of Stakeholders, to support the DIH
- Provide an open stage at project events for the DIH to present itself, its actions, results or anything else it needs

The Terms of Reference

The following entities of the Consortium will be responsible for the coordination of the activities organised with the DIHs:

- **Pôle TES** (Leader of WP6) – in the person of Bertille Auvray – Open Community Manager

The Participation

Your participation is entirely voluntary and free of charge, as well as your consent to participate in the IMPULSE Project as described above. It is your choice to participate or not. You might change your mind later and stop participating even if you agreed earlier at any time without any negative consequences.

Benefits

Your participation is a highly appreciated! It's aiming to optimize products and services and is an opportunity for you to learn skills and get useful experiences. By participating in this activity, you will support the development of new technologies and increase public security as whole.

Reimbursement

You will not receive any incentives to take part in the research.

Privacy Notice

Personal Data Protection

We would like to highlight that in the performance of the activities related and connected to the functioning of the latter, as well as in the management of your relationship with the Consortium, it is possible that some of your personal data will be processed.

In light of the above ASSOCIATION DU POLE DE COMPETITIVITE TRANSACTIONS ELECTRONIQUES SECURISEES (“TES”) in its capacity as leader of Work Package 6 (Roadmapping for adoption, escalation and sustainability), shall be the data Controller of your personal data. TES is committed to take its responsibility regarding the security and privacy of Personal Data very seriously (as well as the Consortium as whole) and is going to be transparent about the type of data it collects and how it is being handled.

Pursuant to article 5 of the General Data Protection Regulation (EU) 2016/679 (“GDPR”), the Processing of the Personal Data carried out for the performance of the research activities, the Project will be based on the principles of lawfulness, fairness, transparency, purpose limitation, data minimization, accuracy, storage limitation, integrity and accountability.

To this extent, please read the following Privacy Notice (hereinafter the “**Privacy Notice**”) that explains how your personal data will be processed and protected by the Controller.

Any term indicated in capital letter shall have the meaning attributed to it within the GDPR, or otherwise provided hereto. However, if you have any doubt, please feel free to ask for any kind of clarifications from the person who is delivering to you the present Privacy Notice.

Contact Details

If you would like to exercise your rights under GDPR, or if you have comments, questions or concerns, or if you would like to submit a complaint regarding the collection and use of your Personal Data, please feel free to contact our Data Protection Officer at the following email address: valerie.beaudet@pole-tes.com.

Data Controller

The Data Controller of your Personal Data will be ASSOCIATION PÔLE TES (TES), established in 8 RUE LEOPOLD SEDAR SENGHOR – CAMPUS EFFISCIENCE, 14460 COLOMBELLES, FRANCE, Siret 487 429 896 00029 – Code APE 94 99 Z.

Personal Data processing and lawful basis

The Controller will only process personal data that you have voluntarily and directly agreed to provide and/or disclose, and similarly undertakes to only share data that you have voluntarily and directly agreed to provide and/or disclose to IMPULSE consortium partners in connection and/or related to the Invitation Email, concerning certain activities that you agreed to perform for the implementation and execution of the Project.

The Controller will collect and process Personal Data such as, for example, your name, surname, email address, professional details information, job title and experiences.

Please note that if you do not give your consent for the processing of your personal data, the Data Controller will not be able to invite you to take part within the Impulse project as a member of the Digital Innovation Board (DIB).

The lawful basis pursuant to which the Controller will process your Personal Data shall be your freely and informed consent to the data processing itself given by you by signing the Information Sheet. Please note that you are free to give your consent as well as to deny it (article 6, paragraph 1 letter a) of GDPR). Furthermore, the Controller may use your Personal Data to comply with its tax and other legal obligations, including in terms of invoicing, accounting and archiving (article 6, paragraph 1 letter c of GDPR).

Purpose of the data processing

The Processing of your Personal Data will be limited to the extent necessary to perform each and all of the activities connected and related to the performance of the activities provided within the Invitation Letter. This might include also the publication of your Personal Data on the IMPULSE website and project public deliverables (provided that you agree to it).

Any other further processing of your Personal Data will be excluded without your previous consent.

Recipients of Personal Data

As a general rule, the Controller is committed to not share your Personal Data with any other entities or person unless is strictly necessary. In light of this consideration, please consider that your Personal Data may be accessed, for the purposes referred above by:

- Subjects, bodies or authorities to which the Controller is obliged to communicate your Personal Data pursuant to any applicable law;
- The Controller may also share your information with the European Commission or with competent legal a/or fiscal authorities for legitimate reasons.

Please note that our server is directly managed by us, ASSOCIATION PÔLE TES (TES), and is established in 8 RUE LEOPOLD SEDAR SENGHOR – CAMPUS EFFISCIENCE, 14460 COLOMBELLES, FRANCE.

Finally, for the purposes of publishing the works of the Project, it might be possible that your Personal Data (like name, surname, and photos) will be published on the Project's website and/or Project's social media channel LinkedIn and Twitter as well as project deliverables required by the Commission and public deliverables.

Personal Data transfer to third countries

As a general rule, any transfer of your personal data outside the European Economic Space (EEA) will be carried out in full compliance of Chapter V of GDPR (*Transfers of personal data to third countries or international organisations*), moreover if any processing activities involving the transfer outside the EEA of your personal data should occur (i) you will be notified before the transfer and (ii) you will have the right to object to such transfer at any time.

Without prejudice to the above, as a general rule, your personal data will be store and processed within the EEA.

Data Retention and Data Security

Those Personal Data processed for the purposes set out in section “Purposes of the data processing” will be limited for the time being strictly to what is necessary to achieve the purposes stated therein. The Controller will store your information for five (5) years after the end of the IMPULSE project execution or the retention period required by law, whichever is longest, and for the applicable statute of limitations period thereafter.

In any case, to ensure the best level of protection of your Personal Data we will apply all the best physical and logical security measures internally, and our servers are subscribed from the most established cloud providers and protected through state of the art security measures.

Data subject rights

Pursuant to the GDPR, you have a number of rights concerning the Personal Data we hold about you. If you wish to exercise any of these rights, please contact our Data Protection Officer using the contact details set out above.

- **The right to be informed.** You have the right to be provided with clear, transparent and easily understandable information about how we use your information and your rights. This is why we are providing you with the information in this Privacy Policy.
- **The right of access.** You have the right to obtain access to your Personal Data subject matter of the data Processing. This will enable you, for example, to check that we are using your Personal Data in accordance with the relevant data protection law. If you wish to access the information we hold about you in this way, please get in touch (please see section Contact Details above).
- **The right to rectification.** You are entitled to have your Personal Data corrected if it is inaccurate or incomplete. You can request that we rectify any errors in information that we hold by contacting us (please see section Contact Details above).
- **The right to erasure.** This is also known as ‘the right to be forgotten’ and, in simple terms, enables you to request the deletion or removal of certain of the Personal Data that we hold about you by contacting us (please see section Contact Details above). Please remember that it is possible that pursuant any applicable law you may not have all your personal data erased.
- **The right to restrict processing.** You have rights to 'block' or 'suppress' certain further use of your Personal Data. When processing is restricted, we can still store your Personal Data, but will not use it further.
- **The right to data portability.** You have the right to obtain your personal information in an accessible and transferrable format so that you can re-use it for your own purposes across different service providers. This is not a general right however and there are exceptions. To learn more please get in touch (please see section Contact Details above).
- **The right to lodge a complaint.** You have the right to lodge a complaint about the way we handle or process your Personal Data with the relevant national Data Protection Authority.
- **The right to withdraw consent.** If you have given your consent to anything we do with your Personal Data (i.e. we rely on consent as a legal basis for processing your information), you have the right to withdraw that consent at any time. You can do this by contacting us (please see section Contact Details above). Withdrawing consent will not however make unlawful our use of your information while consent had been apparent.
- **The right to object to processing.** You have the right to object to certain types of processing. You can for example object to the publication of pictures taken of you within the context of a conference held concerning the Project.

Changes

Where appropriate, we will notify you of any changes to this Privacy Policy, by email.

This Privacy Notice was last updated on March 2022.

Consent

- ❖ Provided that you read and understood all the above-mentioned information, and provided that you had the possibility to raise doubts or questions and that you received all the relevant clarifications and answers to your questions, you now,

- accept
- refuse

to give your consent to collaborate with the IMPULSE project and thus participate in the activities mentioned in the part “Our collaboration” of this document.

- ❖ Provided that you read and understood all the above-mentioned information, and provided that you had the possibility to raise doubts or questions and that you received all the relevant clarifications and answers to your questions, you now,

- accept
- refuse

to give your consent that the Controller will process your Personal Data in connection to your participation in the project pursuant to the abovementioned terms and conditions.

- ❖ Provided that you are totally free to decide that your personal data such as name, surname, and photos, whether or not be published on the Project’s website and/or Project’s social media channel LinkedIn and Twitter, as well as public project deliverables, you now,

- accept
- refuse

to give your consent to the publication of your personal data on the Project’s website and/or Project’s social media channel LinkedIn and Twitter, as public project deliverables. Refusal to consent to the publication of your personal data on the Project’s website and/or Project’s social media channel LinkedIn and Twitter, as well as public project deliverables, however, does not affect your consent to participate in the Impulse project Digital Innovation Board.

Representative of the IMPULSE Consortium

Representative of the DIH

<i>Name of the organisation</i>	<i>Name of the organisation</i>
<i>Title, Surname, Name</i>	<i>Title, Surname, Name</i>
<i>Location and Date</i>	<i>Location and Date</i>
<i>"Read and approved" and Signature</i>	<i>"Read and approved" and Signature</i>

Annex D List of stakeholders

D.1 List of DIH

N°	DIH	Country	Feedback
1	DIH Science City	Slovakia	First meeting on 21/03
2	Smart Infrastructure Hub Leipzig	Germany	x
3	Frankfurt School Blockchain Center	Germany	Has shared a list of experts (to be recontacted for event end of Winter)
4	Munich Innovation Hub for Applied AI	Germany	No follow-up
5	AIRE DIH	Estonia	First meeting on 23/03
6	inNOVA4TECH Hub - inNOVation Hub for TECHNOlogy Transfer	Portugal	x
7	Intelligent Urban Lab, Alcobendas	Spain	x
8	Catalonia AI DIH	Spain	x
9	Cybersecurity Innovation Hub	Spain	x
10	Dinapsis DIH	Spain	Meeting on 22/04
11	Living Lab for Smart Society (LL4SS) aka Living Lab Stratumseind 2.0	Netherlands	x
12	Innovation Center for Artificial Intelligence	Netherlands	x
13	Cybersec Hub	Poland	x
14	RO Tech Nation DIH	Romania	x
15	DigiCenter North Savo	Finland	x
16	FIWARE Innova iHub	Italy	x
17	t2i - DIH Triveneto	Italy	x
18	EDI.it - Ecosistema Digitale per l'Innovazione	Italy	x
19	DIH Faubourg Numérique	France	First meeting on 22/03
20	DigitalLead	Denmark	Meeting on 22/04
21	Cybersecurity innovation hub (DIH – CZ)	Czech Republic	x
22	Applied AI DIH North	Sweden	x
23	RDI Hub	Ireland	Meeting on 01/04

D.2 DIH & Stakeholders/Entities within the network and/or to be engaged

N°	Name	Qualifier	Country	Scope of action	Associated DIH	Level of implication	Contact
1	Ville du Havre	Public Authority	France	Local	None	To be engaged	TES
2	Agglomération Seine-Eure	Public Authority	France	Local	TES DIH	To be engaged	TES
3	Evreux Portes de Normandie	Public Authority	France	Local	TES DIH	To be engaged	TES
4	DIH Science City	DIH	Slovakia	Regional	Itself	To be engaged	TES
5	DIH Faubourg Numérique	DIH	France	Regional	Itself	To be engaged	TES
6	AIRE EDIH	DIH	Estonia	National	Itself	To be engaged	TES
7	Digital Lead	DIH	Denmark	Regional	Itself	To be informed	TES
8	DataLife	DIH	Spain	Regional	Itself	To be informed	GRAD
9	DiHGIGAL	DIH	Spain	Regional	Itself	To be informed	GRAD
10	RDI Hub	DIH	Ireland	Local	Itself	To be engaged	TES
11	A-SIT Secure Information Technology Center Austria - Co-initiator of ID Austria	Technology company	Austria	National	IAIK, EGIZ	Involved in activities	AEI
12	E-Government Innovation Center (EGIZ) - Co-initiator of ID Austria	Technology company	Austria	National	A-SIT, IAIK	To be informed	AEI
13	AIT Austrian Institute of Technology GmbH	Technology company	Austria	National	None	To be informed	AEI
14	Open Government Partnership (OGP)	Public Authority	EU	European	None	Involved in activities	AEI
15	IAIK Institute of Applied Information Processing and Communications	University/Research	Austria	European	A-SIT, EGIZ	To be informed	AEI
16	Kufgem GmbH	Technology company	Austria	Regional	A-SIT	To be informed	AEI

N°	Name	Qualifier	Country	Scope of action	Associated DIH	Level of implication	Contact
17	Basque Digital Innovation Hub	DIH	Basque Country	Regional	itself	Involved in activities	ERTZ
18	DIH World	Other	Europe	European	None	In the Community	TES
19	DIH Industry	DIH	Slovenia	Regional	Itself	Involved in activities	Fh ISI
20	DIH Ost	DIH	Austria	Local	Itself	Involved in activities	AEI
21	Izenpe	Technology company	Spain	Regional	None	To be informed	ERTZ
22	Sofia Tech Park	DIH	Bulgaria	Regional	Itself	Involved in activities	MOP
23	Frankfurt School Blockchain Center	DIH	Germany	Local	Itself	To be engaged	TES
24	Dinapsis	DIH	Spain	National	Itself	To be engaged	TES
25	AVICA	Group of public bodies	France	National	DIH Faubourg Numérique	To be informed	TES
26	DECLIC	Federation of Public Digital Service Operators	France	National	DIH Faubourg Numérique	To be informed	TES
27	FNCCR	Association of local and regional authorities	France	Regional	DIH Faubourg Numérique	To be informed	TES
28	Interconnectés	Innovative Territories Network	France	Regional	DIH Faubourg Numérique	To be informed	TES
29	CASQ	Local authority	France	Regional	DIH Faubourg Numérique	To be informed	TES
30	CABBALR	Local authority	France	Local	DIH Faubourg Numérique	To be informed	TES
31	Quanterall	Technology company	Bulgaria	National	Sofia Tech Park	To be informed	TES
32	Alicante	Local authority	Spain	Local	Dinapsis	To be informed	TES
33	Benidorm	Local authority	Spain	Local	Dinapsis	To be informed	TES