Digital Innovation Hubs Network

Create a network.
Operate synergistically.
Rethink the possible.

Objectives of the project

Develop a structured cooperation approach to create a **European Network of Digital Innovation Hubs** with focus on AI

Help the DIHs to unlock their collaboration and networking potential via **mentoring, coaching and co-creating activities**, mainly dedicated to collaboration
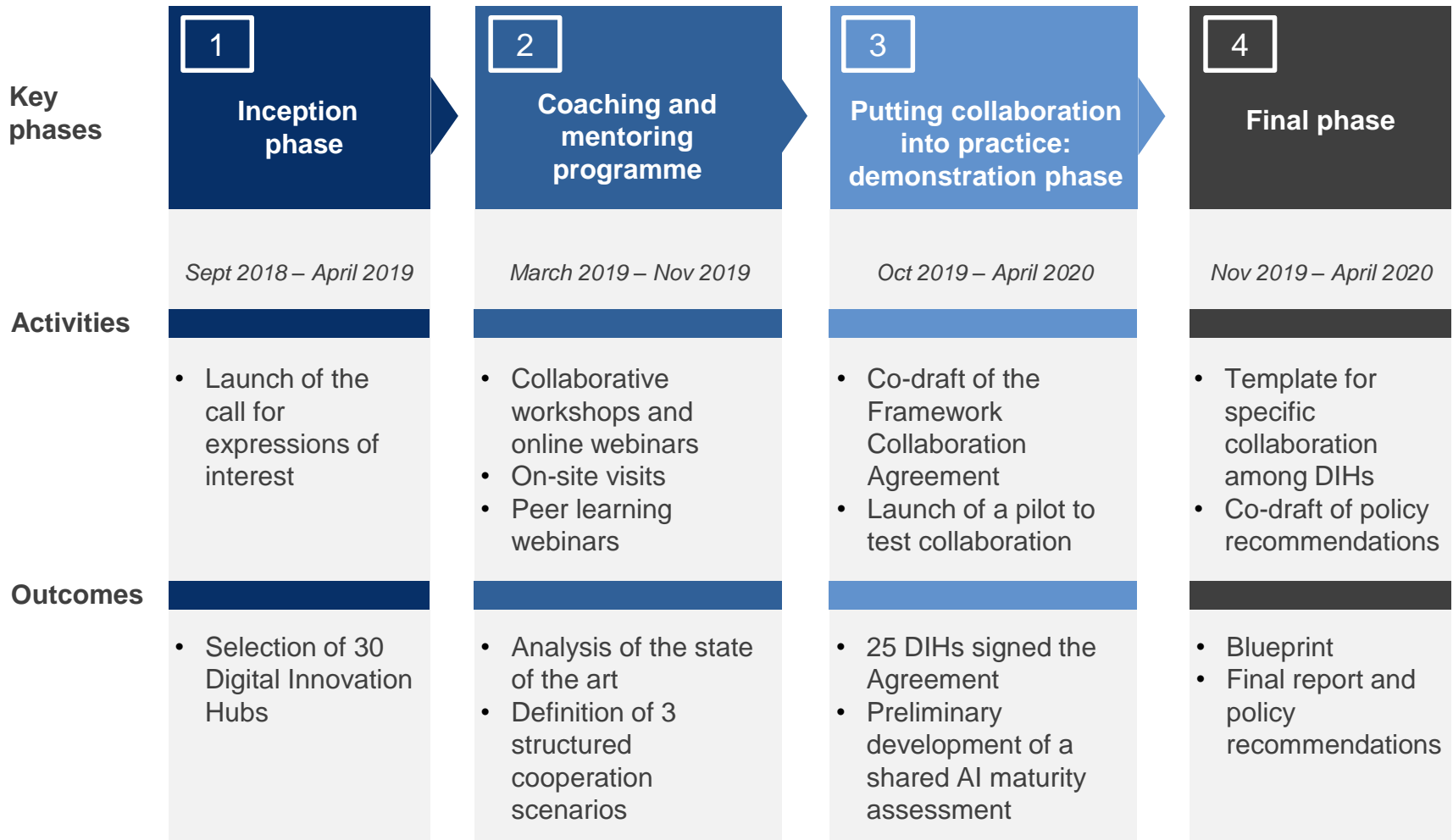
Promote the signature of a co-drafted **multi-lateral framework cooperation agreement** between at least 10 Digital Innovation Hubs

Develop, based on evidence resulting from the demonstration activities, a **blueprint for cross-border collaboration** as well as **supporting measures and policy recommendations** for enhancing collaboration and networking potential
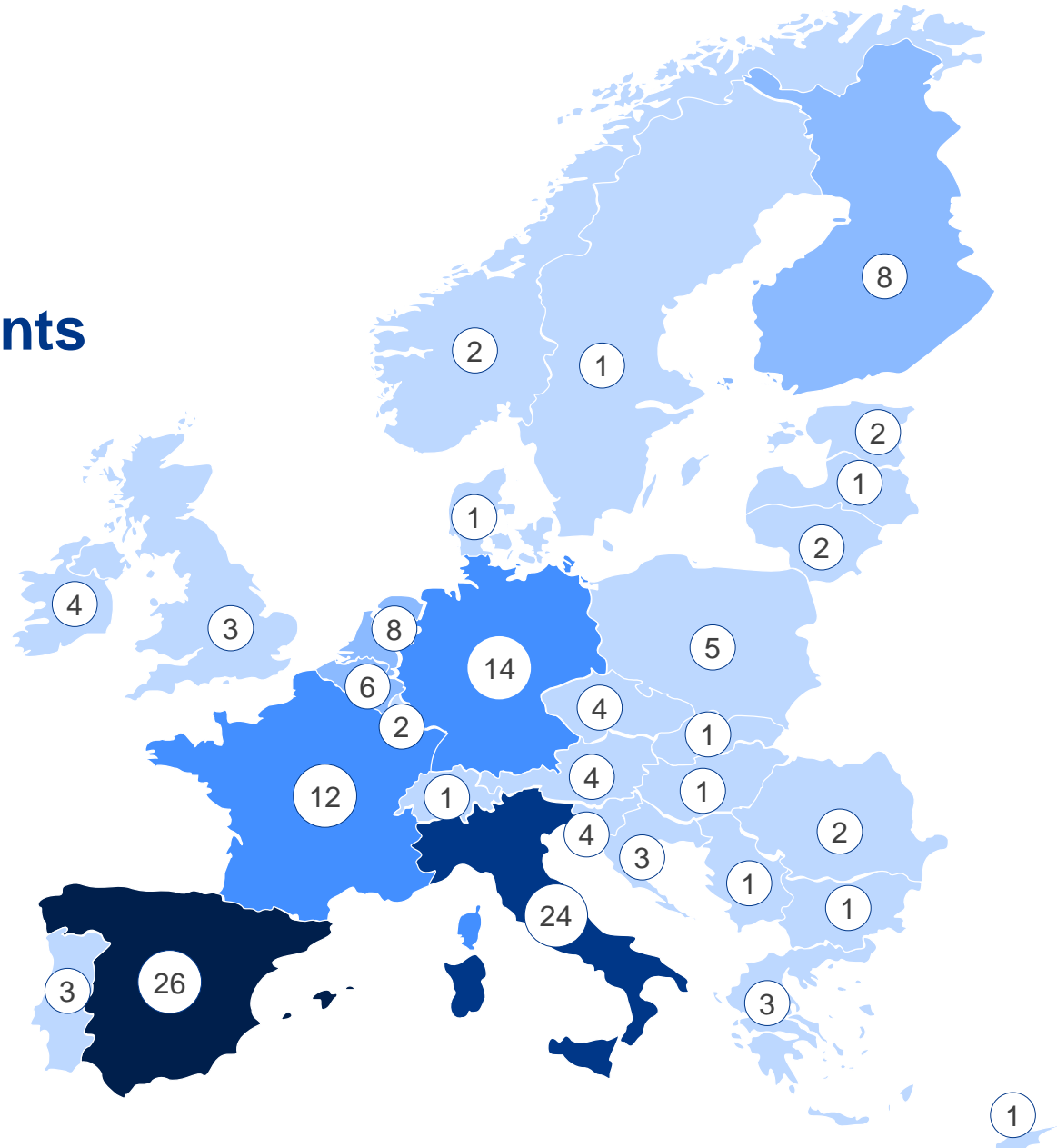
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Building blocks of the project

Key phases	**1** — **Inception phase**	**2** — **Coaching and mentoring programme**	**3** — **Putting collaboration into practice: demonstration phase**	**4** — **Final phase**
	Sept 2018 – April 2019	*March 2019 – Nov 2019*	*Oct 2019 – April 2020*	*Nov 2019 – April 2020*
Activities	• Launch of the call for expressions of interest	• Collaborative workshops and online webinars • On-site visits • Peer learning webinars	• Co-draft of the Framework Collaboration Agreement • Launch of a pilot to test collaboration	• Template for specific collaboration among DIHs • Co-draft of policy recommendations
Outcomes	• Selection of 30 Digital Innovation Hubs	• Analysis of the state of the art • Definition of 3 structured cooperation scenarios	• 25 DIHs signed the Agreement • Preliminary development of a shared AI maturity assessment	• Blueprint • Final report and policy recommendations

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The applicants

150 applicants

27 EU
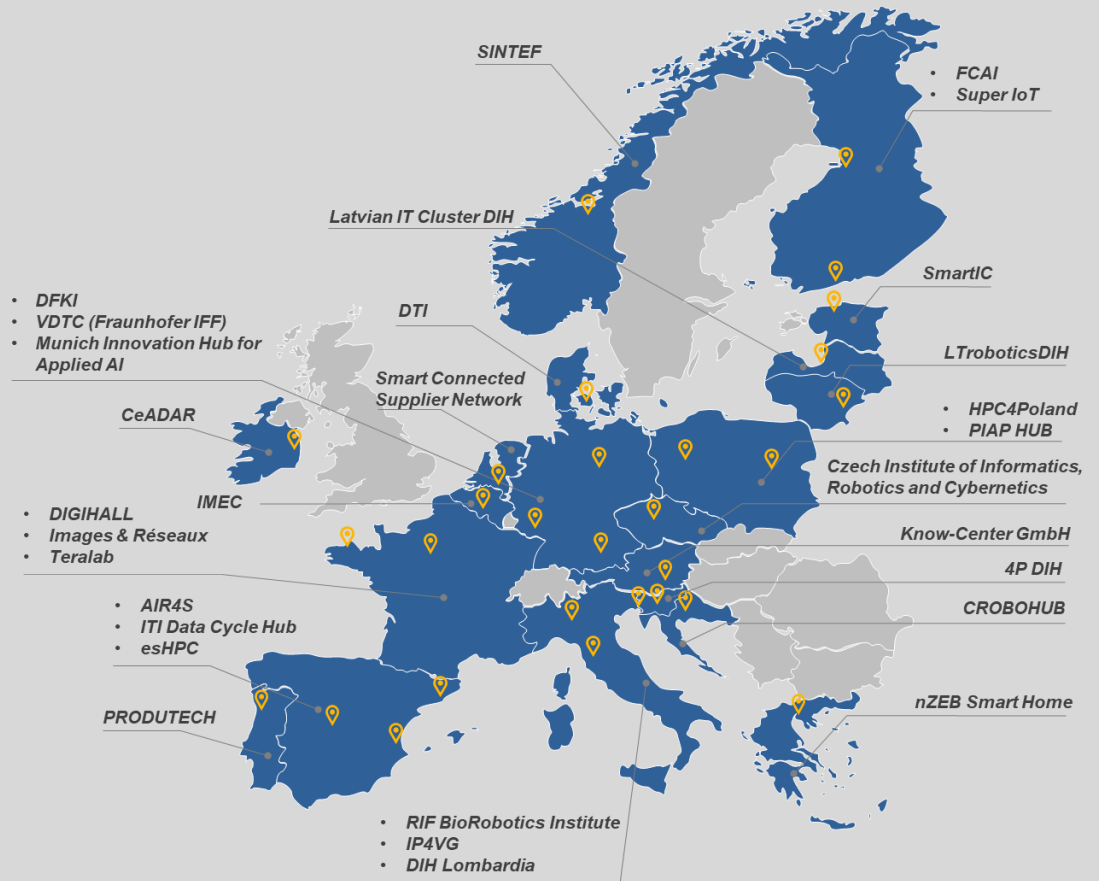Member states

+

3 H2020
associated countries

Selected DIHs

The **30 DIHs** involved in the AI DIH Network are **very diversified** in terms of size, organisational structure, services offered, experience in the field of AI and technological focus.
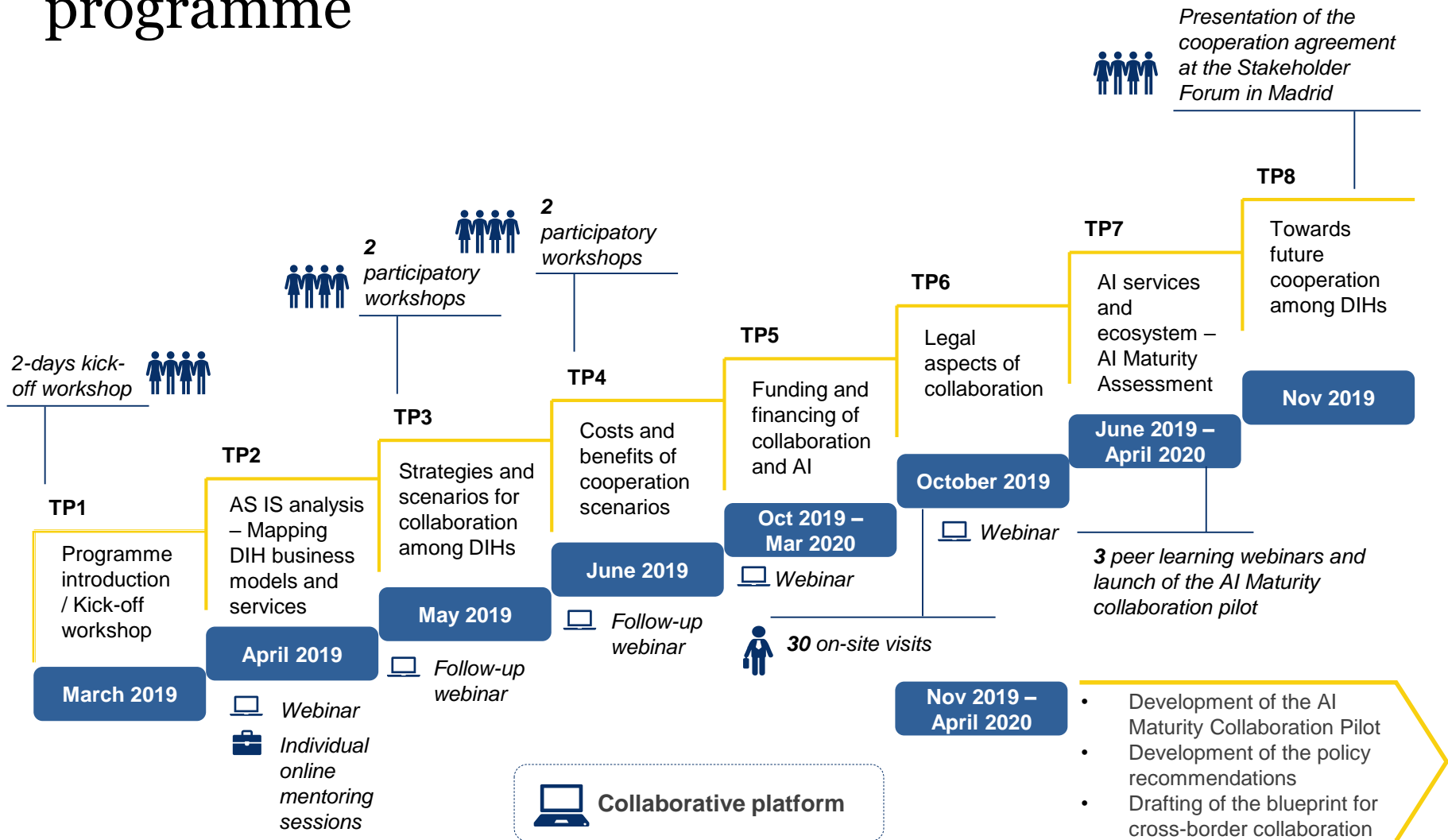
For instance, the programme involved organisations with more than 500 employees and others with less than 20; newly-established DIHs and organisations that have been operating for more than 20 years, etc.

Most DIHs involved in the action are **part of a public organisation**, with few exceptions of hybrid and private entities.

In terms of financing models, the vast majority of DIHs employ a **mixed-funding structure**, relying on both public and private resources.

SINTEF
- FCAI
- Super IoT
Latvian IT Cluster DIH
SmartIC
- DFKI
- VDTC (Fraunhofer IFF)
- Munich Innovation Hub for Applied AI
DTI
LTroboticsDIH
Smart Connected Supplier Network
- HPC4Poland
- PIAP HUB
CeADAR
Czech Institute of Informatics, Robotics and Cybernetics
IMEC
Know-Center GmbH
- DIGIHALL
- Images & Réseaux
- Teralab
4P DIH
- AIR4S
- ITI Data Cycle Hub
- esHPC
CROBOHUB
PRODUTECH
nZEB Smart Home
- RIF BioRobotics Institute
- IP4VG
- DIH Lombardia

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Overview of the coaching and mentoring programme

Presentation of the cooperation agreement at the Stakeholder Forum in Madrid

TP8
Towards future cooperation among DIHs
Nov 2019

TP7
AI services and ecosystem – AI Maturity Assessment
June 2019 – April 2020

3 peer learning webinars and launch of the AI Maturity collaboration pilot

TP6
Legal aspects of collaboration
October 2019
⌨ *Webinar*

2 participatory workshops

TP5
Funding and financing of collaboration and AI
Oct 2019 – Mar 2020
⌨ *Webinar*

🧑 *30 on-site visits*

2 participatory workshops

TP4
Costs and benefits of cooperation scenarios
June 2019
⌨ *Follow-up webinar*

TP3
Strategies and scenarios for collaboration among DIHs
May 2019
⌨ *Follow-up webinar*

2-days kick-off workshop

TP2
AS IS analysis – Mapping DIH business models and services
April 2019
⌨ *Webinar*
💼 *Individual online mentoring sessions*

TP1
Programme introduction / Kick-off workshop
March 2019

💻 **Collaborative platform**

Nov 2019 – April 2020
- Development of the AI Maturity Collaboration Pilot
- Development of the policy recommendations
- Drafting of the blueprint for cross-border collaboration

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Main outcomes of the project (1/3)

The profile of a DIH working in the field of Artificial Intelligence

Definition of the characteristics that should distinguish an AI DIH, in terms of:

- **Service offering**, with additional support-services in the filed of AI (e.g. AI ethical certification services, data platform services, performing dissemination activities to raise awareness on AI, etc.);
- **Competences**, classified into:
  - *transversal competences* - managerial and soft skills needed for all the activities included in the service offerings;
  - *technical skills related to AI* - skills and knowledge which underlie the possibility to perform AI-related services, such as knowledge of AI principle, computer science, software design, etc.;
  - *skills deemed relevant for a specific service* - e.g. compliance to national and European professional code of ethics and knowledge of audit techniques to perform ethic AI certification;
- **Operating model**, that includes specific elements e.g. introduction of an AI ethical component in the governance model of the DIH.
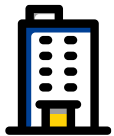
Creation of a EU Network of DIHs focusing on Artificial Intelligence

Creation of a European Network of 30 Digital Innovation Hubs with focus on Artificial Intelligence, which entailed:

- **Launch of a Call for Expressions of Interest**, that led to the assessment of the 150 applicants received and to the final selection of the 30 hubs to be involved in the project
- Carrying out of the **coaching and mentoring programme**, which included the organisation of several events and webinars (e.g. two-day kick-off meeting, webinars, collaborative workshops and peer learning programme) with an overall participation rate of 90%
- Establishment of an online **collaborative platform**, supporting the implementation of the coaching and mentoring programme and allowing for co-creation of documents, communication among DIHs and live interactions

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Main outcomes of the project (2/3)

The scenarios for cross-border collaboration

Following a bottom-up approach, based on the discussion and exchange of ideas with DIH representative during co-creation workshops, three scenarios for cross-border collaboration among DIHs have been defined. The feasibility of these scenarios has been further evaluated through individual assessment (on-site visit/webinar) with all DIHs involved in the project.

- **Partnership to provide services jointly -** to enable DIHs to respond to a client's request leveraging on the capabilities and infrastructure available in the network;
- **Development of a new service** - to widen the DIH offering to the ecosystem by cooperating with other DIHs in Europe that face similar challenges and needs;
- **Matchmaking** - to enable DIHs to provide new opportunities to the ecosystem, creating connections with players operating in other regions.

The implementation of the scenarios should be facilitated by horizontal tools to:

- facilitate the process of connecting for DIHs. This includes both digital tools and face-to-face meetings;
- ease networking and matchmaking, such as AI-empowered digital platform that facilitates the identification of potential partners;
- enhance knowledge sharing, such platforms or repository to share information on AI resources (data sources and recommended providers), use cases, good practices and lessons learnt.

A blueprint to support cross-border collaboration among DIH

Building on the outcomes of the coaching and mentoring programme and of the demonstration phase, a blueprint for cross-border collaboration has been developed.

The blueprint includes:

- **guidance for DIHs** on how to **assess the potential of cooperation for their activities**, how to evaluate their **cooperation readiness** and how to **start building the network**;
- a brief description of the **collaboration scenarios**, of the **costs and benefits** connected to their implementation and on how most **relevant risks can be overcome**;
- **recommendations for EU institutions** on how to support DIH collaboration and reinforce their role in the next programming period.

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Main outcomes of the project (3/3)

Signature of a framework collaboration agreement among 25 DIHs focussed on AI

A **framework collaboration agreement** aiming to foster collaboration among DIHs has been **co-created by DIHs** involved in the coaching and mentoring programme.

A preliminary version of the agreement was made available for one month on a dedicated section of the collaborative platform. Participants in the project had the opportunity to comment on it, discuss the changes proposed by other participants, cast their votes and/or reply with further amendments. This iterative process led to the collection of **over 150 comments**. All these comments have been consolidated into a final version of the agreement signed by 25 of them in November 2019.

DIHs committed to cooperate to foster cross-border collaboration by implementing co-designed cooperation schemes while boosting the development of technological innovation in the EU.

The agreement includes a **template for specific collaboration** among DIHs which can be used by DIHs that intend to collaborate to deliver a service together.

AI Maturity Assessment Collaboration Pilot

A restricted group of DIHs part of the AI DIH Network is working on a collaboration project aiming to develop a **common tool for assessing companies' AI Maturity**. The development of the model includes:

- the definition of a shared legal framework, with particular reference to agreements on how to settle IPRs and data protection;
- the validation of the technical survey for the assessment;
- the identification of solutions for the deployment of the tool and for data hosting;
- the definition of a common model for benchmarking.

The activities are under development. The legal and technical framework have been defined and validated while participants are working on the definition of the **data sharing model for benchmarking**.

Policy recommendations to strengthen collaboration (1/3)

To support DIH collaboration in the Digital Europe Programme (1/2)

- **Experiment and demonstrate the effectiveness and benefits of the cooperation scenarios within EU programmes and projects.** Adopting the collaboration scenarios developed in the context of the AI DIH Network within the DEP would contribute to make DIHs familiar with structured collaboration schemes.

- **Define additional cooperation mechanisms for European DIHs and other DIHs.** Within the DEP, EDIHs will receive funding for strengthening their capacity and for establishing collaborations, while the other DIHs will continue to operate in parallel. Defining mechanisms for structured collaboration among EDIHs and DIHs would reinforce their impact on the EU ecosystem.

- **Incentivise collaboration until it becomes a well-established mechanism.** Collaborating implies additional costs in terms of time and resources that DIHs may not be able to cover, as their users and regions are not available to pay more for a service if it is performed by collaborating with other DIHs. The effort required may be reduced once processes happen regularly, but financial incentives are needed to foster collaborations in the initial phase.

- **Ensure support to settle legal aspects of collaboration.** Legal solutions are needed to settle many aspects of collaboration, but not all DIHs can count on internal legal departments to develop them. Making available standard legal templates and setting up a helpdesk on this topic may reduce administrative time and costs of collaboration.

- **Reinforce thematic communities within the Digital Transformation Accelerator**. Cooperating in a small community with a common technological focus is less complicated than doing it in a wider group, as building trust requires less effort and shared interest is more likely to be identified. A similar approach is recommended for the creation of communities within the Digital Transformation Accelerator, with the establishment of a large DIH community and smaller thematic groups based on DIH competences and focus, which carry out coordinated initiative in specific fields, as AI.

- **Define the competency framework of European Digital Innovation Hubs**. The delivery of a wide set of services requires leveraging a variety of soft and technical skills. The definition of a minimum set of competences for EDIHs would help DIHs in understanding how to improve their internal structure. It would also be beneficial to support the selection process of EDIHs, by setting criteria in terms of access to skills and competences that DIHs should comply with.

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Policy recommendations to strengthen collaboration (2/3)

To support DIH collaboration in the Digital Europe Programme (2/2)

- **Reinforce the assessment of DIHs services and infrastructure in the selection of European Digital Innovation Hubs to ensure consistency and to create a cohesive community.** One of the barriers to cooperation is connected with the risk that the partners do not provide a service with a sufficient level of quality. Trust can be enhanced by the introduction of independent assessments of DIHs, encompassing both the evaluation of their projects and onsite inspections of DIH infrastructure and organisational structure. In addition, the assessment of services provided by the DIHs could be reinforced, using ad-hoc indicators focussing both on the quantity and quality of the services provided to measure the effectiveness of DIH activity.

On horizontal actions to support networking and cooperation

- **Develop and promote a standard classification for DIH services and skills.** The state of the art in terms of mapping of DIHs and their services is characterised by the presence of different sources of information and different classifications in use. Developing standard ontology, with the distinctions and peculiarities needed for each domain, would help DIHs and stakeholders in understanding clearly what the capabilities of each DIH are.

- **Organise European workshops and demo-days for the participation of DIHs with competences in concrete technological disciplines.** Cooperation is more likely to happen if DIHs are aware of proven experience of their potential partners in a specific field. Events for demonstrating experience and capabilities could provide opportunities to promote DIHs reciprocal knowledge and stimulate the identification of possible technological fields for cooperation.

- **Develop a unique, proactive platform for supporting DIHs collaboration.** The current landscape is characterized by many digital platforms designed to support DIH interaction, each one connected to a specific project or initiative and being closed with it. To avoid duplication of information and effort, a single, independent platform for all DIHs should be established.

- **Establish a sustainable independent back office function to animate and coordinate long-term DIH Network collaboration and growth.** Extending collaboration outside of EU-funded projects requires a cultural change within many DIHs and collectively across all DIH partners, a back-office function is needed to support DIHs in making this shift.

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Policy recommendations to strengthen collaboration (3/3)

To support the future development of DIHs

- **Ensure consistency and coordination among the different initiatives connected to AI and DIHs.** A number of initiatives are already in place or will be launched in the future for promoting uptake of AI and digital solutions by SMEs and public administrations, involving DIHs, competence and research centres, and other stakeholders (e.g. AI4EU, CLAIRE, AI DIH Network, etc). Clear coordination mechanisms should be established to ensure synergies among players and exploitation of initiatives.

- **Leverage DIHs to pursue EU priorities.** DIHs can count on geographical proximity to reach their stakeholders, which contributes to increase the effectiveness of dissemination and communication activities. Such capacity should be leveraged to pursue the implementation of AI and other EU priorities across Europe, e.g. DIHs could be involved in the definition of European common methodologies for the assessment of compliance with the Ethics Guidelines for Trustworthy AI developed by the AI HLEG and could then assess whether projects and solutions developed in their ecosystem are coherent with ethical guidelines or not.

- **Prepare DIHs to work with the Public Sector.** In the context of the DEP, EDIHs will be required to support public administrations in the adoption of interoperability solutions, European Digital Service Infrastructures and building blocks, besides supporting them with specific services (e.g. providing them testing facilities or services), yet only a limited number of DIHs have experience in working in the public sector. DIHs should be assisted in developing the skills needed to operate with public administrations and in understanding how their role could be combined with that of organisations already operating in the sector, avoiding duplication of efforts and activities. Services dedicated to Public Sector organisations should be investigated and defined following a customer-centric approach, which identifies their needs in the field of AI and other digital technologies.