This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 872088.

Digital Innovation Hubs Federation
For Large Scale adoption of
digital technologies by European SMEs

DigiFed Innovation Pathways
Information package
for Digifed reproducibility

V4.0
Information Package

**Single/Twin Application Experiment (SAE/TAE)**

**Definition**
The SAE/TAE facilitates the collaboration of a European company with another European company of complementary expertise and a technical partner – here member of the DigiFed (DIH) consortium. This Pathway has been especially designed to foster the digitalisation of low digital companies through SME-SME collaboration by providing them with additional technology expertise beside the Financial Support to Third Party.

**Implementation within DigiFed**
In the DigiFed framework, individual SAEs involved a DigiFed-technical partner and an SME (the applicant), which is awarded up to 55K EUR. TAEs considered two European SMEs with complementary expertise, which are awarded a maximum grant up to €55k for each SME. TAEs that include one non-digitally savvy company may also request technical support from a DigiFed-technical partner. The AEs were implemented via the launch of 3 dedicated open call for implementing the project over a 12-month period.

**Minimum requirements to reproduce it according to the DigiFed-experience**

- Human resources:
  - Community, marketing, and open call management.
  - Legal management for contracts, NDAs, and IP/knowledge management.
  - Training programme to skill-up of the existing workforce in cooperation with SMEs.
  - Strong and permanent cooperation between the companies and the involved RTOs.

- Financial resources:
  - Awareness on public & private funding opportunities, sustainable cascade funding. A minimum of 100K EUR to be allocated for larger projects with pilot testing.
  - Funding to explore innovation in areas of high risk-high reward.

- Infrastructures resources:
  - Collaborative hardware & B2B platforms.
  - E-catalogue of services & technical expertise available.
  - Ecosystem building resources:
    - Network of E-DIHs, clusters for matchmaking facilitation.
    - Legal framework for the go-to-market strategy.
    - A follow-up process to improve the implementation of the solutions developed and thus the sustainability and interest of such AE.

- Technical resources:
  - Access to an RTO to facilitate SAE/TAE for low tech companies.

**Possible revenue stream**

- Funding by local authorities/programmes
- Include registration/participation fees

**DigiFed partners to partner with**

- **Minalogic** / **Minasmart** interested in the instrument as a whole.
- **CEA** potentially interested in a TWIN model also including RTO technology.
- **BLUMORPHO** interested in (i) Partnership building; (ii) Business mentoring; (iii) Go-to-market strategy.
- **IKERLAN** interested in (i) Providing technical expertise for CPS/embedded, sensing, SHM, cybersecurity, AI and communication systems for industrial and harsh environments.
- **BME** interested in implementing adapted versions of the instrument.
- **AVL** interested in providing technical expertise for (i) SAE: CPS/ embedded, sensing, human centric; (ii) TAE: Automotive or general human sensing.
- **Digital Catapult** interested in providing technical expertise for AI Compute, Machine Learning and AI Ethics, experimentation with new network technologies, performance evaluation and benchmarking.

**Digital Challenge (DC)**

**Definition**
The DC-Innovation Pathway consists of a partnership between an industry leader (Digital Challenge Owner - DCO) and technology start-ups or mid-caps to accelerate the adoption of advanced technologies within the CPS and Embedded Systems sector while addressing some of the key challenges and opportunities across the industry. The DC-Innovation Pathway aims to consolidate collaboration between large corporate organisations, with unique challenges and looking for tailored solutions, and European Technology Innovators (SMEs/midcaps), with the right experience and expertise to solve /develop such technical digital challenges. The model includes the DigiFed methodology and guidelines which gives the DIHs the necessary tools to implement.
In the DigiFed framework, the DCO with a specific need co-financed the selected innovative company, together with DigiFed, with up to 110K EUR (55K EUR each party) to allow them to develop the solution in 9 to 12 months.

- Finding of an industrial partner with a specific need and willing to invest in an open innovation process to identify or develop new solutions and POCs.
- Skills and resources to lead the process with/for them, such us: challenge definition, communication material, open calls process and methodology, contracting and project management and controlling (of the product/solution/PoC)

- 100% costs covered by the DCO (for the open innovation services and associated with the development of the bespoke solution)
- Possible co-funding with some regional/national authority depending on the expected impact of the DC results on the local ecosystem.

- Digital Catapult, Minalogic/Minasmart, CEA, and Ikerlan interested in the DC as a whole
- BLUMORPHO interested in (i) Ideation process; (ii) Open call & development management; (iii) Solutions scouting; (iv) Technology and business assessment

**Generic Experiment Communities (GEC)**

**Definition**
Generic Experiments (GE) are designed to test new collaborations between research institutes and a group of SMEs as well as evaluate new co-financing mechanisms between European and regional funding to foster European industry digitalization.

The goal of each GE is to build and animate a community of SMEs (between 6 and 20) around a specific technical topic (GE Topic) proposed by one DigiFed research centre, the GE owner. The GE co-creation mechanism connects the GE owner, being either the local DIH or the technology research center, and a community of European SME-participants that help to identify market needs, co-create technological solutions, and validate the prototypes. The GE community gather SMEs either from market or a technical sector.

GE Topic and market segment can be designed to attract low or not digitized SMEs. Activities include workshops, demonstrations, interviews, surveys, etc., through which the GE-owner gathers inputs for the technological development roadmap and prototype development.

**Implementation within DigiFed**
In the DigiFed framework a GE is financially supported through a combination of EU funds with regional funding instruments. Four GEs have been launched, involving 51 SMEs coming from 13 EU countries. A total of 230k€ of cascade funding has been distributed to the selected SMEs and 270k€ of co-financing have been leverage from regional authorities. Each GE member receives a 5K€ voucher for compensation for involvement in this community activity in a defined timeframe (6-12 months).

**Minimum requirements to reproduce it**
- **Human resources:** Community management, collaborative project management, marketing, technical expertise, legal skills to manage contracts, NDAs & IP. At least 3PM for a 12-months GE.
- **Financial resources:** depending on the business model and the technical objectives but a minimum of 200k (or 12-18PM) for the technical development seems reasonable.
- **Infrastructures resources:** places for collaborative working sessions, workshops, and technical test & demonstration.
- **Ecosystem building resources:**
  - Create specialized networks related to the specific topic of each GE.
  - Access to a community of potential members through EDIHs to gather at least 10 members in each experiment.
- **Technical resources:**
  - a well-designed tech offers
  - interested tech providers
  - minimum TRL5
  - agile infrastructure for fast technical development
  - portfolio of technical solutions to enable innovation and support SMEs to overcome their digital gap.

**Possible revenue stream**
Co-funding, membership fees, programme-access/registration fee, priority access to technology to participants, regional/local co-funding

**Digifed Partners to partner with**
- CEA, UL, IKERLAN and BME are interested in the GE as a whole
- BLUMORPHO interested in (i) Ideation process; (ii) Open call & development; (iii) management; (iv) Solutions scouting; (v) Technology and business assessment
## Value Proposition Mapping

<table>
<thead>
<tr>
<th>TWIN Application Experiments (TAE)</th>
<th>Digital Challenge (DC)</th>
<th>Generic Experiment Community (GEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product/service offered by DigiFed through the Instrument</strong></td>
<td>A DigiFed-Model for the implementation of an instrument to foster digitalization of SMEs through cross-border innovation-based collaboration. The model considers a methodology and guidelines for the implementation of the instrument</td>
<td>A DigiFed-Model for the implementation of an instrument to consolidate collaboration between large corporate companies and SMEs to develop tailored solutions for specific technical challenges. The model considers a methodology and guidelines for the implementation of the instrument</td>
</tr>
</tbody>
</table>
| **Proposed DIH-issues addressed/solved by the Instrument** | • Remove access barriers to new markets for DIH-customers, i.e. SMEs  
• Reducing risks and removing obstacles for DIH-customers for the development and implementation of new innovative solutions  
• Bridge the gap between businesses and technology, as well as between different technologies  
• Enhance the engagement between key stakeholders of the ecosystem, in particular between large organisations and the innovators community  
• New services in the form of simpler procurement for large organisations  
• New services in the form of reduced costs for large organisations (the PM/Procurement done by the DIH)  
• New services in the form of targeted outreach to identify suitable solution providers  
• Business growth within its (local) ecosystem  
• Encouraging the competitiveness of technology innovators  
• Improve market awareness around the industry needs  
• Reduced uncertainty of larger corporate companies when outsourcing the development of solutions  
• Mitigate red tape restrictions in large organisations through operating in a more dynamic setting  
• Access to DIH ecosystems and its expertise | • Improve and facilitate the usage and development of test-before-investing services  
• Eliminate barriers and fears of SMEs to access and implement digital/technical solutions  
• Limit and reduce errors SMEs may undertake when adopting new digital technologies  
• Flatten the learning curve of SMEs when being introduced to new digital technologies  
• Active involvement of local SMEs to build market awareness regarding digital/technical needs in local and more accessible markets  
• Active involvement of European SMEs to identify global market trends and provides opportunities for cross-border networking and market expansion for all parties |
| **Identified DIH-gains, outcomes, and benefits** | • Improve the opportunities to consolidate collaboration between companies in different  
• Unveil niche opportunities by consolidating collaboration with large corporate companies, | • Improve and increase the usage of the infrastructure of technical partners of DIHs |
| through the instrument | countries, i.e. achieve concrete collaboration while promoting digitalization of companies across Europe.  
- Create programmes to foster digitalization of non-digital SMEs  
- Improve cooperation between compatible businesses that would otherwise be unlikely to collaborate  
- Increasing the offering of services to customers  
- Unveil or create new revenue streams for affiliates and customers of DIHs, and potentially attract new customers | including opportunities to finance new DIH-services  
- Facilitate access to business opportunities for SMEs  
- Extend DIH-ecosystems and activities  
- Increase the services’ offering to customers  
- Unveil or create new revenue streams for affiliates and customers of DIHs, and potentially attract new customers |  
- Facilitate the development of programmes for testing, refining, promoting, and implementing advanced digital/technical development  
- Trust creation within the local ecosystem and for engagement with DIHs  
- Facilitate access to a typically untapped set of customers, i.e. non-digitally savvy SMEs  
- Increase the offer of services to customers  
- Unveil or create new revenue streams for affiliates and customers of DIHs, and potentially attract new customers  
- Access to combined EU and regional funding opportunities dedicated to improving access to non-digitally savvy SMEs |