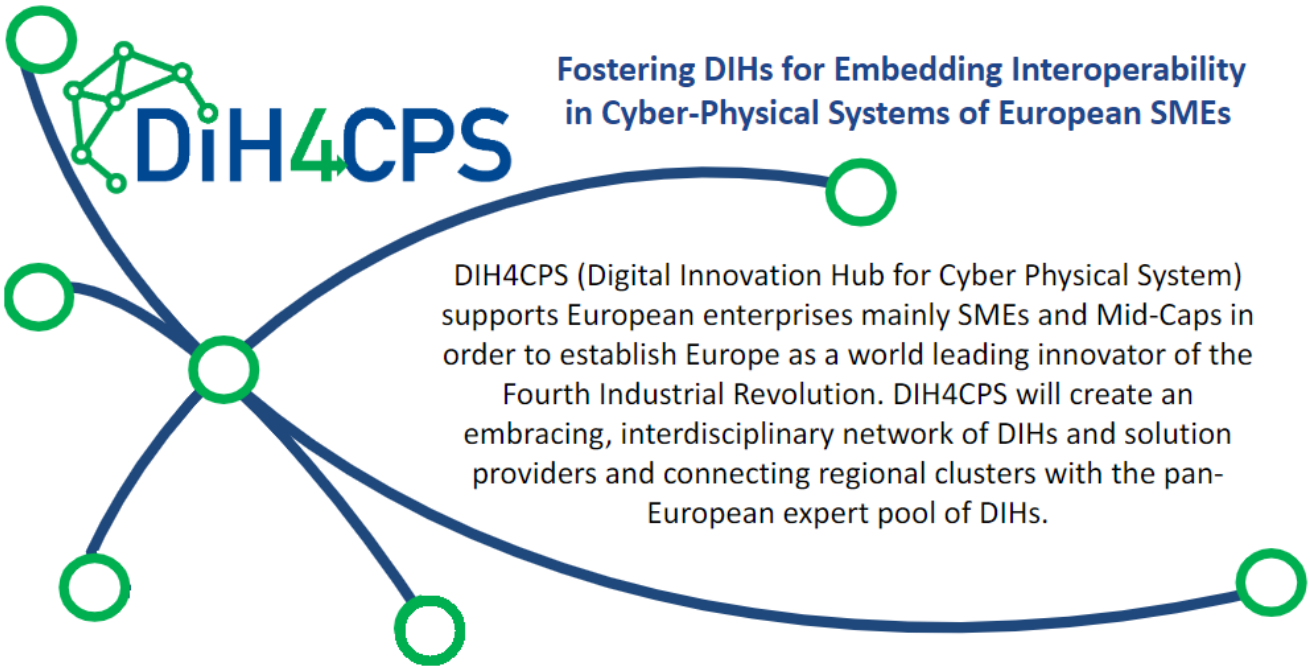# Welcome

Fostering DIHs for Embedding Interoperability in Cyber-Physical Systems of European SMEs

"The objective of this survey is to gather the set of services among DIH4CPS network. This will allow us to define our services Catalog and identify the different competences and skills that we have in our network. To do so, we will apply the Ecosystem-Technology-Business-Skills-Data (ETBSD) Model that defines macro-classes of services. In the next pages, we will propose you the set of classes of services identified by the ETBSD. Please, check those you would need for your business and would like to have available in the DIH4CPS ecosystem. If needed, feel free to add other services. We count on you!"

Contact Details

1 **Contact details**

Name *

Email Address *

Phone Number

2 **Partner Information**

Company *

Address

Address 2

City / Town

Country *

Website

3 **Partner Short description**

4   Partner mission

- [ ] Digital Innovation Hub
- [ ] Academic Partner
- [ ] Small Medium Enterprise

- [ ] Competence Center
- [ ] Technology Provider
- [ ] Research Technology Organization

Other (Please Specify)

[   ]

5*   Partner role in the project

- [ ] Digital Innovation Hub
- [ ] Academic Partner
- [ ] Small Medium Enterprise

- [ ] Competence Center
- [ ] Technology Provider
- [ ] Research Technology Organization

- [ ] Other (Please Specify)

[   ]

6   If you are involved in an IAE, please choose which one is it.

- [ ] IAE 1
- [ ] IAE 4
- [ ] IAE 7
- [ ] IAE 10

- [ ] IAE 2
- [ ] IAE 5
- [ ] IAE 8
- [ ] IAE 11

- [ ] IAE 3
- [ ] IAE 6
- [ ] IAE 9
- [ ] We are not involved in any IAE

Ecosystem Class

Ecosystem Services aim at creating, nurturing, expanding and connecting the local SME constituency, involving in the SME digital transformation process different stakeholders as technology providers, technology users, competence centers, education and training hubs, business and market development experts, regional development agencies and associations.

7 **What is the core business of your company?**

What is your referring market/industry? Do yo provide products, services or a bundle of them (Product-Service Systems)?

8 **What are the product and services provided by your organization?**

If you have catalog please give the link here

If you do not have a catalog and you have identified a set of product/services please copy/paste them here

Other, please specify.

9 **How would you like to be supported in developing innovation for your business?**

☐ Providing up to date information on the trends in the market

☐ Assessing market potential

☐ Sharing best practices experiences

☐ Supporting customers in shaping their vision and strategies as well as remaining competitive in the marketplace

☐ Using trend intelligence platforms

☐ Providing trend reports

☐ Inviting experts in business and entrepreneurship to give talks and interact with (potential) customers and partners

☐ We do not need innovation development support

Other (Please Specify)

[   ]

10 **How would you like to be supported in managing technology scouting?**

☐ Scouting of technologies and their proposal to companies

☐ Using of technology scouting platforms

☐ Identifying emerging technologies

☐ Communicating technology related information to organizations

☐ I do not need support

Other (Please Specify)

[   ]

11 **How would you like to have support in fostering collaborative innovation and problem solving?**

☐ Organizing challenges

☐ Providing awards

☐ Offering innovation spaces to encourage innovators and other ecosystem members to interact and share ideas

☐ I do not need support, I have the needed capabilities

☐ I do not support such challenges

Other (Please Specify)

[   ]

12   Which kind of events do you organize to connect the members of your ecosystem?

☐ DIH annual event

☐ Industrial events

☐ Academic conferences and workshops

☐ Sectorial fairs

☐ Online events

If other, please specify the kind of event

Please, put the list of events that you have organized in the past.

13   Which kind of events do you attend to connect the members of your ecosystem?

☐ DIH annual event

☐ Industrial events

☐ Academic conferences and workshops

☐ Sectorial fairs

☐ Online events

If other, please specify the kind of event you attended

Please, put the list of events that you have attended in the past.

14 **As part of an ecosystem, how are you managing your relationships?**

☐ Defining Intellectual Property (IP) rules

☐ Defining rules on how to manage internal collaborations

☐ Defining rules on how to engage external users

☐ I need support from DIH4CPS in managing my relationships

Other (Please Specify)

Technology Class

The services related to this class aim at following the whole lifecycle of digital technologies from conception and idea generation, through design and proof of concept, up to minimum viable product prototyping to commercialisation. They can be interpreted from the technology providers viewpoint and from the technology users viewpoint, through the steps of access-experiment-experience spiral model.

15 **How would you like to have support in ideas management at the conceptual phase?**

- [ ] Generating and assessing new ideas
- [ ] Using concept generation method
- [ ] Using concept evaluation method
- [ ] Conducting feasibility studies
- [ ] Conducting technology Readiness assessments on products/solutions developed by start-ups and SMEs
- [ ] I do not need support

Other (Please Specify)

[   ]

16 **How would you like to have support in research and technology at the development phase ?**

- [ ] Demonstrating the feasibility of an idea or project through its temporary or provisional realisation
- [ ] Developing proof of concepts
- [ ] Supporting the translation of innovative ideas into demonstrable concepts
- [ ] Applying technological innovation to develop new products/services or improving existing ones
- [ ] Planning and defining new business services solutions
- [ ] Do not need support in research at development phase

Other (Please Specify)

[   ]

17 **How would you like to have technical support on scale up?**

☐ Developing minimum viable products that can be validated with real customers and/or in industrially relevant setting

☐ Designing prototypes to explore ideas and emerging technologies before going into production

☐ Supporting the exploration of ideas and emerging technologies

☐ I do not need support

Other (Please Specify)

[   ]

18 **Do you need support for accessing infrastructure and technological platforms?**

☐ Yes we need support in having access to platform technology infrastructure

☐ Need support for renting equipment

☐ Need support for access to Lab facilities

☐ Need support for infrastructure and low rate production

☐ Do not need support

Other (Please specify)

[   ]

19 **How would you like to have support for products verification?**

☐ Support in certifying that the product has passed functional tests

☐ Support in certifying that the product has passed performance tests

☐ Support in certifying that the product has passed quality assurance tests

☐ I do not need support

Other (Please Specify)

[   ]

20 **How would you like to have support for product demonstration?**

☐ Support in promoting showrooms and demo-cases in which a product is demonstrated in front of clients

☐ Support in Organizing and promoting events where a product is demonstrated in front of clients

☐ Support for online product demonstration

☐ Do not need support for product demonstration

Other (Please Specify)

[   ]

Business Class

Business Services intervene in more advanced scenarios (with higher TRL solutions), identifying, modelling and sustaining viable business models, including also fund raising services (e.g. private matchmaking or access to public funding opportunities).

21 **Which ones of the following incubation acceleration services do you need support for?**

- ☐ Having access to physical infrastructure (offices, café, meeting rooms, laboratories, co-working areas, libraries, etc.)
- ☐ Having access to telecommunication infrastructure, video conferencing
- ☐ Having access to dedicated coaching and mentoring programmes (innovation funnel, scenarios communication and business assessment..)
- ☐ Having access to high powered computing
- ☐ Having fiscal, legal advices
- ☐ Having regulatory assistance
- ☐ Having access to data ecosystem
- ☐ Having access to back office services (adminitrative, secretary services, etc.)
- ☐ Do not need support

Other (Please Specify)

[   ]

22 **How would you like to be supported in the access to finance?**

- ☐ Having support in addressing financial issues
- ☐ Having advice on innovative financial products
- ☐ Facilitating access to different funding sources (EU, national, regional, and private)
- ☐ Facilitating access to an effective mix of funds (conversation, lobbying, projects)
- ☐ Do not need support

Other (Please Specify)

[   ]

23 **How would you like to have support in business training and education?**

☐ Having training and development in business skills and entrepreneurship (e.g. formal courses, workshops, seminars)

☐ Facilitating the exchange of personnel (e.g. researchers) and core competences among organisations, including IPR

☐ Having access to the needed training organization

☐ Do not need support

Other (Please Specify)

[   ]

24 **How would you like to have support in project development?**

☐ Identifying new market/business opportunities through strategic analysis of the ecosystem and trend watching

☐ Facilitating cooperation and collaboration among organisations for exploiting common opportunities (e.g. business, research, funding, match-making, open innovation)

☐ Having technical assistance in the proposal development process in order to comply with specific proposal requirements (e.g. for project funding)

☐ Do not need support

Other (Please Specify)

[   ]

25 In which pilot areas do you need support in the definition of KPIs to improve your company business?

[   ]

Skills Class

Skill services have a twofold aim. The first is to assess the *status quo* of the companies that want to approach digitization, in terms of both process/organization and skills maturity, and to set an adequate roadmap to empower it. The second is to support the skill empowerment through not only educational programmes, up-skilling and re-skilling training but also sharing channels, structure contacts and collaborations for scouting and brokerage aimed at knowledge-transfer

26 **How would you like to have support for process and organizational maturity?**

☐ Assessing the maturity companies, e.g: assessment of company readiness for Industry 4.0

☐ Defining a roadmap based on the maturity model assessment

☐ Do not need support

Other (Please Specify)

27 **How would you like to have support for human capabilities maturity?**

☐ Assessing human skills maturity (e.g. regarding skills in Industry 4.0)

☐ Analysing the gap between the AS-IS and the desired level of Industry 4.0 skills

☐ Defining action plan and support in implementing the desired level of Industry 4.0 skills

☐ Do not need support

Other (Please Specify)

[   ]

28 **How would you like to have support for skills improvement?**

☐ Organizing dedicated human up-skilling, re-skilling trainings, courses and workshops

☐ Defining educational Programs allowing to attract and form next generation talents (forming Industry 4.0 employees and workers)

☐ Supporting knowledge-transfer through internal channels, structure contacts and collaborations

☐ Do not need support

Other (Please Specify)

[   ]

Data Class

Data services are pivotal for adequately exploit digital technologies potentialities. An organization can provide services dealing with different phases of the data lifecycle: from data acquisition and sensing, through data processing & analysis, up to decision-making and data sharing, not neglecting aspects as physical-human action & interaction

D Data
- DATA ACQUISITION AND SENSING
- DATA PROCESSING & ANALYSIS
- DECISION-MAKING
- PHYSICAL-HUMAN ACTION & INTERACTION
- DATA SHARING

29   Would you need support for data acquisition and sensing?

☐ Support in data acquisition through data in Motion Models and Services for Industrial Internet of Things

☐ Support in data anonymization, confidentiality, encryption and privacy preservation services

☐ Do not need support

Other (Please Specify)

[   ]

30   Would you need support for data processing and analysis?

☐ Need support for data Spaces, Data Lake, Linked Data, Distributed Storage, Knowledge representation services

☐ Need support for data analytics services: semantic analysis, Data discovery, Advanced Data Analytics (Edge Analytics, Cloud Analytics) services

☐ Do not need support

Other (Please Specify)

[   ]

31   **Would you need data driven decision-making support?**

☐   Need support in Configuring and deploying architectures for Big Data

☐   Need decision support services: cognition, prediction and prescription, simulation, machine learning, reinforcement, DNNs, formal logics

☐   Do not need support

Other (Please Specify)

[   ]

32   **Would you need support for physical-human action and interaction?**

☐   Need support/consultancy services for human-Machine Interface, Human-Robot Interaction, Human-Data Interaction, Multi-lingual AI

☐   Need support/consultancy services for user experience and navigation

☐   Need support/consultancy services for feedbacks loop (control/Actuation, Cognitive Mechatronics, Question Answering

☐   Do not need support

Other (Please Specify)

[   ]

33   **How would you like to have support for data sharing?**

☐   Having support/consultancy services in GDPR and Data Sovereignity compliance

☐   Having support in modeling data and ontologies for Trusted and Secure Data Exchange

☐   Having and providing hardware and Software architectures and components, Connectors services

☐   Do not need support

Other (Please Specify)

[   ]

Networking & Interoperability

DIH4CPS will create an embracing, interdisciplinary network of DIHs and solution providers and connecting regional clusters with the pan-European expert pool of DIHs. The following questions will help us in identifying service offers and needs and depicting potential collaborations within the network through matchmaking mechanisms.

34 **What are the products/services/bundle of them (Product-Service Systems) you would like to offer to the DIH4CPS network?**

35 **What are the core services you would like to have from the DIH4CPS network?**

36 **What do you want to get from the DIH4CPS navigation interface?**
In detail, DIH4CPS will provide an intelligent navigation interface for its enrolled members and potential customers. SME's and DIH's can use this interface to search for different things that are available in the network. Companies that are looking for collaboration partners, need assistance on a specific task or want to make use of a complex technology can use it to find the partners with matching experiences, competencies, technologies and services. The underlying data model will enable to make very specific searches that, e.g. are focussed on certain domains, sectors or geographical limitations. The DIH4CPS Network Navigation Interface will therefore help to exploit and manage the resources available within the DIH4CPS network and make them accessible and visible for all partners and potential customers.

37 **If you have comments, please feel free to write them here.**