AI on-demand platform for regional interoperable DIHs Network

Sergio Gusmeroli, Politecnico di Milano
DIH4AI Coordinator https://www.dih4ai.eu/

Open Call #2 Webinar
November 25th 2022
The DIH4AI Innovation Action

DURATION: 36 months (January 2021 – ongoing)
COORDINATOR: Politecnico di Milano
FUNDING: €4,999,863 (2M Open Calls)
CONSORTIUM: 12 Partners from 6 countries
OPEN CALLS: 10+10 new DIH-driven SME-oriented
DIHs: 5 AI DIHs selected from AI DIH Network
EXPERIMENTS: 20+ AI Best Services implementations

https://www.dih4ai.eu/
Regionalizing the AIoD: **DIH Catalogue AI (E)DIH (434, 126)**

1. Be part of a **regional**, national or European policy initiative to digitise the industry;
2. Be a **non-profit** organisation;
3. Have a **physical presence** in the region and present an **updated website** clearly explaining the DIHs’ services;
4. Have at least **3 examples** of how the DIH has helped a company with their digital transformation.

**Dissemination and Exploitation Channel for the AIoD**

Regional DIHs can involve several users SMEs and Public Agencies who can dramatically multiply the number of AIoD potential customers.

**Local / Regional AI solution providers feed the AIoD**

Unleashing the potential of several local AI solutions providers by extending the AIoD catalogue and creating a network of AIoD deployment nodes.
Servitise the AloD Platform: L BEST

Developed an L-BEST 3-levels taxonomy of Services

L Legal

B Business

E Ecosystem

S Skills

T Technology

Open Calls
Explore Open Calls to find funding and supports SMEs and more

Explore Open Calls

AI4EU Webcafes
The AI4EU Webcafes provide the users with possibilities to participate virtually in live sessions with experts on specific AI domains or areas of interests.

Experiments and Sandbox
Open space for AI developers that offers visual and intuitive design methods. Facilitates the creation of human-centered AI solutions, building modular structures and using hybrid AI technologies.

Discover our resources, develop your own solutions, collaborate and share your ideas and solutions with the Al community.

Access the service now!
CUSTOMER JOURNEY – TECHNOLOGY USER

OBSERVATION
- Passive behaviour
- Access to proposed contents
- Come across the concept of I4.0 by chance

AWARENESS
- Active behaviour
- Set targeted information
- Evaluate opportunities

EXPERIMENT
- Introduce new technologies
- Introduce new skills
- Access to technological and business opportunities

EXPERIENCE
- Prototype testing in the company’s environment
- KPIs analysis
- Organizational roadmapping

ADOPTION
- Choice of technological adoption at company level
- New organizational models and schemas
- New business models

Search Information
- Understand benefits and challenges
- Test the prototype inside company’s facility
- Decision of invest in the new technological facility
CUSTOMER JOURNEY – TECHNOLOGY PROVIDER

IDEATION
- Identify a need on the market
- Sketch the idea
- Understand the competition

DESIGN AND ENGINEERING
- Understand requirements from the market
- Define the idea
- Define the technical requirements

MVP
- Develop the prototype
- Customers’ discovery

VERIFICATION AND VALIDATION
- Validation of the technological solution
- Revision of the market requirements
- Revision of the technical requirements
- Find funds

GO TO MARKET
- Customers’ acquisition
- Marketing
- Find distribution channel
- Manage legal issues
PIPELINE - TECHNOLOGY USER, DIGIHALL

**OBSERVATION**
- L&E Task Force
- AI ethical assessment

**AWARENESS**
- Access to finance
- Project development (R&D - Innovation projects)

**EXPERIMENT**
- Ecosystem building
- AI adopters' ecosystem
- AI EU Consortia

**EXPERIENCE**
- Testing AI maturity assessments tools with SMEs
- Cartography of available AI training offer
- Education on AI

**ADOPTION**
- AI pipelines with DIH4AI platform
- Platforms for collaborative R&D
- Out-of-the-box solutions for development of CPS
- DIGIHALL Platform for Trustable-by-design AI-based system

- **BEST**
- **L**
- **B**
- **E**
- **S**
- **T**
Data Coaches

Pressure Cooker for collaborations

Supply chain collaboration (SCSN)

Data Opportunities Scan

Future ecosystem services

Expert support for individual organizations

Blueprint for AI & manufacturing

Application specific testbeds (AAS/supply chain)

Data Sharing Testbed (Gaia-X / IDS)

Federated Learning Testbed

AI-on-demand playground (AI4EU) via DIH4AI OC2

What we want to achieve

Where we are today

IDEATION

DESIGN AND ENGINEERING

MVP

VERIFICATION AND VALIDATION

GO TO MARKET

PIPELINE - TECHNOLOGY PROVIDER – South NL
The AIoD Portal and the AI DIH pages

A concrete operational proposal was discussed in July 2021 TGB. Key point: integrating DIHIWARE into AIoD platform (esp. AI Assets, Cases)

The AIoD Experimental Facility and DIH AI Pipelines

As part of their service pipelines, DIHs accompany their customers (AI users and/or providers) in the Design Studio and Assets Marketplace

The AIoD Platform and DIH-Europe Interoperability

Regional DIH platforms (DIHIWARE L1) as IDS Network nodes with AIoD Catalog / Marketplace / Experiments Platform (portal data cloud, semi-automatic).
Funding Support to Third Parties – Call for Proposals

Total FSTP : 2 Million €

2 Open Calls – 1 Million € for each OC1 and OC2
Up to €100k lump sum funding for each Experiment (Innovation Action rules)

WEBINAR: NOV 25th 15:00 CET

2nd OC Opening: 17/10/2022
2nd OC Closing: 16/12/2022

Aims (20 additional experiments)

• AI Innovative applications experimentation in any domain of AI and Cognitive Science
• Support by local regional DIHs through the provision of (L) BEST Services (Pipeline)
• Active participation of technology users (SMEs or Public Organisations)
• Feasibility analysis of integration with AI4EU Platform and Catalogue

Objectives

• Develop and Experiment highly innovative applications in any AI domain
• Test and Validate DIH (L) BEST Service Pipeline in the “AI Providers” [and “AI Users”] Customer Journeys
• Evaluate the feasibility of integration in the AI4EU Portal, Catalogue and Repositories
Open Call 1 funded Sub-Projects

Distribution by vertical

<table>
<thead>
<tr>
<th>Vertical</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agri-Food</td>
<td>2</td>
</tr>
<tr>
<td>Earth Observation</td>
<td>1</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>1</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>4</td>
</tr>
<tr>
<td>Public Administration</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>
Open Call 1 Funded sub-Projects

<table>
<thead>
<tr>
<th>Distribution by country</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>2</td>
</tr>
<tr>
<td>Spain</td>
<td>2</td>
</tr>
<tr>
<td>Austria</td>
<td>1</td>
</tr>
<tr>
<td>Greece</td>
<td>1</td>
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<td>Hungary</td>
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<td>Portugal</td>
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<tr>
<td>Romania</td>
<td>1</td>
</tr>
<tr>
<td>Serbia</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
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</tbody>
</table>
Funding Support to Third Parties – Call for Proposals

Technological topics

The technological topics in the scope are related to Artificial Intelligence use at large, examples are:

- Vision Intelligence
- Machine and Computer Vision
- Machine Learning and Deep Learning
- Neural network applications
- Advanced Planning and Forecasting
- Natural Language Processing
- Machine Translation
- Multi-Modal Human-AI Interaction
- Knowledge Representation and Reasoning
- Expert and Decision-Support Systems

Sectors

Application areas in scope are:

- Agrifood
- Earth Observation
- Finance and Insurance
- Manufacturing
- Public Administration
- Energy
Funding Support to Third Parties – Call for Proposals

TWO KINDS OF EXPERIMENTS

Type A: Intra-Regional Skills-Technology Experiment

Mini-consortia formed by 2-3 partners:

- an AI technology provider SME (who leads the Experiment)
- its regional DIH (operational in AI from the JRC Catalogue)
- optionally, an end user SME or a Policy Maker can complete the mini-consortium

Type B: cross-Regional Skills-Technology Experiment

Mini-consortia formed by 3 partners:

- an AI technology provider SME (who leads the Experiment),
- its regional DIH (operational in AI from the JRC Catalogue)
- and a second DIH (operational in the JRC Catalogue) as testing and experimental facility
THANKS

Follow the project updates

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DIH4AI Open Calls: OC2
dih4ai_opencall@innovalia.org

Miriam García, R&D Project Manager, Innovalia Association
| 01 | OBJECTIVES OF THE DIH4AI OPEN CALL 2 |
| 02 | APPLICABILITY AND REQUIREMENTS FOR OC2 |
| 03 | PARTICIPANTS AND MINI-CONSORTIA ADMITTED |
| 04 | TIMELINE FOR OC2 |
| 05 | USEFUL RESOURCES AVAILABLE |
GLOBAL FIGURES ABOUT THE DIH4AI OPEN CALLS

Total FTSP:

€ 2 Million

up to €100k funding for each 6-month long Experiment’s Innovation activities

2 Calls:

1st OC opened on 30/09/2021 and closed on 31/01/2022

2nd OC opened on 16/11/2022 → proposals admitted until 16/12/2022
OBJECTIVES OF THE DIH4AI OPEN CALLS

Foster innovative experiments
In any AI domain

Expand the Ecosystem of AI DIHs
beyond the European regions who constitute the DIH4AI Consortium

Complement the AI4EU Catalogue
of highly innovative applications in any AI domain

Validate the L-BEST Service Pipeline
The Service Portfolio and the Customer Journeys will be tested and validated in the Open Call Experiments
Funding Support to Third Parties

**Type A: Intra-Regional Skills Technology Experiment**

- Mini-consortia formed by 2-3 partners:
  - An AI technology provider SME leads
  - A regional AI DIH (from the JRC Catalogue)
  - Optionally, a user SME or a Policy Maker

**Type B Cross-Regional Skills Technology Experiment**

- Mini-consortia formed by 3 partners:
  - An AI technology provider SME leads
  - A regional AI DIH (from the JRC Catalogue)
  - A second DIH (from the JRC Catalogue) as testing and experimental facility
PUBLIC ADMINISTRATION

Earth observation

Manufacturing

Agri-food

Finance and insurance

Energy
TECHNOLOGICAL TOPICS ON THE AI DOMAIN

VISION INTELLIGENCE, MACHINE AND COMPUTER VISION

ADVANCED PLANNING AND FORECASTING

MULTI-MODAL HUMAN-A INTERACTION

MACHINE LEARNING

NATURAL LANGUAGE PROCESSING (NLP)

KNOWLEDGE REPRESENTATION

NEURAL NETWORK APPLICATIONS

MACHINE TRANSLATION

EXPERT AND DECISION SUPPORT SYSTEMS
OBJECTIVES OF THE DIH4AI OPEN CALL 2

APPLICABILITY AND REQUIREMENTS FOR OC2

PARTICIPANTS AND MINI-CONSORTIA ADMITTED

TIMELINE FOR OC2

USEFUL RESOURCES AVAILABLE
WHO CAN APPLY FOR OPEN CALL 2: Basics

✓ **Applicants must be legal entities** established in countries eligible for participation in **EC H2020 projects** (H2020 General Regulations apply, in terms of **countries of origin**).

✓ Applicants need to be registered and **have a Participant Identification Code** (PIC).

✓ DIH4AI beneficiaries or their subsidiary or parent companies cannot apply to this call.

✓ **The Experiments must be led by a Tecnology Provider SME or start-up** with knowledge and background on the AI domain.

✓ **The participation of, at least, one DIH is mandatory** in each mini-consortium who is allowed to apply for OC2, along with, maximum, 2 other participants

✓ **The participating DIH(s) must be enrolled in the EC DIH Catalogue**, or present a plan for successful enrolment by the end of the Experiment.

✓ **SMEs may only apply once (as participants in ONE proposal)**. DIHs may apply as part of more than one proposal, but, eventually, the DIH4AI Consortium will ensure that the geographical coverage criterion is effectively taken into account at the time of evaluating the proposals.

✓ **DIHs should, from the writing of the proposal, envisage the development and provision of services within the experiment, with a strong focus on supporting the SME or start-up in the fields of: Training and Skills Development and Technical Scouting and Mentoring (“S” and “T” categories, respectively, of the DIH4O L-BEST Service Portfolio)**
WHO CAN APPLY FOR OPEN CALL 2: Mini-Consortia

**Type A: Intra-Regional Skills-Technology Experiment**

- mini-consortia formed by:
  - An AI Technology Provider SME or start-up (Experiment Leader)
  - Its Regional DIH, who will support the SME through the delivery of L-BEST services, with special regard to those related to Skills development and Technical support and mentoring.
  - Optionally, an End-User SME or a Policy Maker can finalise the mini-consortium. This third tentative participant will be the one in charge of validating the developed solution.

**Type B: Cross-Regional Skills-Technology Experiment**

- mini-consortia formed by:
  - An AI Technology Provider SME or start-up (Experiment Leader)
  - Its Regional DIH, who will support the SME through the delivery of L-BEST services, with special regard to those related to Skills development and Technical support and mentoring
  - Another DIH, likely a Testing and Experimental Facility owner, who may also provide training and technical mentoring, and at the same time, will help with the testing and validation.
WHO CAN APPLY FOR OPEN CALL 2: “Regional DIH”

✓ The term “Regional DIH” is being extensively used along the Guide for Applicants and other relevant documentation for the OC2. However, as long as the collaboration among the AI SMEs and “Regional” AI DIHs responds to the challenges and terms of the Call (whether Type ‘A’ or ‘B’), their collaboration is not restricted to any particular geographical boundary.

✓ If a single entity, within a DIH already registered or planning-to-be in the JRC Catalogue, is entitled to represent the DIH, remarkably, by also possessing the infrastructure and knowledge in order to support the SME, it is eligible as part of the mini-consortium for the DIH4AI Open Call 2, in representation of that DIH.
WHO CAN APPLY FOR OPEN CALL 2: Role of DIH(s)

✓ The DIHs in each mini-consortium will be the ones helping the SMEs overcome the barriers they may encounter in the development of their AI solution.
✓ The DIHs must have proven capabilities (in terms of infrastructure, “know-how” and experience in AI) in order to answer to the needs of the AI SME in the Experiment.
✓ This support may be translated into the delivery of L-BEST services
✓ The collaboration among SMEs and DIHs should, in general, stress the provision of services regarding Skills Development and Technology Scouting and Mentoring.
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05
USEFUL RESOURCES AVAILABLE
TIMELINE

Call opening
17/10/2022

Call closing
16/12/2022

Evaluation of proposals
16/01/2023-28/02/2023

Results communication
01/03/2023-04/03/2023

Execution of experiments
01/05/2023-31/10/2023

Final check
01/11/2023-31/12/2023
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TIMELINE FOR OC2

05
USEFUL RESOURCES AVAILABLE &
USEFUL INFORMATION (EMS)
USEFUL RESOURCES AVAILABLE

In our Project website: [https://www.dih4ai.eu/open-call-2](https://www.dih4ai.eu/open-call-2)

The following documentation is available in order to help applicants:

- **Guide for Applicants** (inside you find the Template for proposals)
- **Frequently Asked Questions document**
- **EMS User Guide**
- **Helpdesk module of the EMS Platform**
- **Resources** (presentation + recorded webinar)

Additionally,

- **List of H2020 Associated Countries**
- **Ethics Guidelines for Trustworthy AI - European Commission (2019)**
PROPOSAL PREPARATION: *suggested template*

✓ The following parts are considered very important for the elaboration of a proposal:
   - Summary (=0,5 pages suggested)
   - Concept (=3 pages)
   - AI sector relevance, potential impact and exploitation plans (=3 pages)
   - Description of the workplan (=2 pages)
   - Background and qualification (=1 page)
   - Justification of costs and resources (=0,5 page)

✓ Proposals with a length of more than 10 pages will be truncated at the end of the tenth page → considering the six parts listed above; this is, this length excludes the front cover, the Administrative data requested on the second page, and Lists of Tables and Figures and References.

✓ Proposals must be written in English
PROPOSAL PREPARATION: SME-DIH contractual framework

✓ The type of partnership and collaboration agreements signed between the SME, the DIH and other possible agents are considered, by the DIH4AI Consortium, as external and belonging to the mini-consortia.

✓ So, at the time of the proposal, you will not need to share the details about the type and the character of this collaboration, other than demonstrating the joint capabilities to achieve success in your Experiment.
PROPOSAL PREPARATION: Financials

✓ Each proposal can request a maximum contribution of 100,000 € in this Open Call.
✓ Each participant shall represent, at least, 15% of the overall budget of a proposal.
✓ The participants shall ask for the following eligible costs in the proposal:
  - Personnel Costs
  - Equipment Costs
  - Travel expenses
  - Software licenses
  - Subcontracting
  - Indirect costs (25% of Direct costs)

✓ However, at the time of submitting the Cost Statements during the Experiment, a “lump sum” method will be followed.
PROPOSAL SUBMISSION PROCESS

The application will be done online, through the EMS platform by Innovalia:

https://dih4ai.ems-innovalia.org/

Find attached here all the information required for the application:

https://www.dih4ai.eu/copy-of-open-calls
PROPOSAL SUBMISSION PROCESS

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Find attached here all the information required for the application: https://www.dih4ai.eu/copy-of-open-calls
PROPOSAL EVALUATION PROCESS: Basics

✓ The evaluation will be mixed: both internal and external to the DIH4AI Consortium.

✓ The external evaluators may also apply for their participation in the evaluation process by submitting their CVs in the EMS platform. They should not have conflict of interest with the involved applicants.

✓ The internal role taken by the DIH4AI beneficiaries will basically consist of ensuring that the geographical coverage criterion of the DIHs in the Experiments is considered in the evaluation process, since one of the objectives of the Open Calls is to enlarge the AI DIH network with newly-incorporated DIHs.
PROPOSAL EVALUATION PROCESS: Criteria

✓ The criteria for financial support will include:

  o **Excellence and Innovation**: The relevance to DIH4AI’s objectives and scope, including complementarity to the project’s technical areas of specialisation (i.e., in terms of its Scientific and Technological Excellence) and domains of the DIH4AI Network.

  o **Impact**, including Industrial relevance and Business strategy: Its impact on the AI sector needs, the development of AI in Europe, DIH4AI ecosystem and DIH4AI’s goals and objectives. Alignment to the Conditions and Objectives of the 2nd Call, in terms of assessing the relevance of the Technological Topic(s) and

    • eventual economical Sector of Application will be considered as part of this Criterion.

  o **Implementation and Deployment of resources**: The ability of the third party to implement the experiments and/or integrate its new services, on the basis of the team and company profile, background infrastructures, experience, but also based on its proposed implementation plan.
## PROPOSAL EVALUATION PROCESS: Scoring

<table>
<thead>
<tr>
<th>Points scored</th>
<th>Evaluation</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-</td>
<td>The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information.</td>
</tr>
<tr>
<td>1</td>
<td>Poor</td>
<td>The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses.</td>
</tr>
<tr>
<td>2</td>
<td>Fair</td>
<td>While the proposal broadly addresses the criterion, there are significant weaknesses.</td>
</tr>
<tr>
<td>3</td>
<td>Good</td>
<td>The proposal addresses the criterion well, although improvements would be necessary.</td>
</tr>
<tr>
<td>4</td>
<td>Very Good</td>
<td>The proposal addresses the criterion very well, although certain improvements are still possible.</td>
</tr>
<tr>
<td>5</td>
<td>Excellent</td>
<td>The proposal successfully addresses all relevant aspects of the criterion in question.</td>
</tr>
</tbody>
</table>
PROPOSAL EVALUATION PROCESS: Thresholds

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Priority, in case of a tie</th>
<th>Threshold for funding eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellence and Innovation</td>
<td>2</td>
<td>3 out of 5</td>
</tr>
<tr>
<td>Impact, including Industrial relevance and Business strategy</td>
<td>1</td>
<td>4 out of 5</td>
</tr>
<tr>
<td>Implementation and Deployment of resources</td>
<td>3</td>
<td>3 out of 5</td>
</tr>
</tbody>
</table>
# TECHNICAL DEVELOPMENT AND REPORTING

<table>
<thead>
<tr>
<th>Status of experiment development</th>
<th>Timing</th>
<th>Experiment deliverables</th>
</tr>
</thead>
</table>
| **Experiment Milestone 1**       | M2 of the experiment execution | D1 - Technical specifications, Architecture and Data Pipeline definition  
- Detailed Plan for Experiment Implementation, Integration and Testing |
| **Experiment Milestone 2**       | M6 of the experiment execution | D2 - Experimentation description and measurement of the Technical and Business KPIs  
- Detailed Dissemination activities and Exploitation Plan |
| **Experiment Milestone 3**       | M8: Deployment and Exploitation | D3 - Final Dissemination, Communication and Exploitation material (The deliverables and progress are approved by the DIH4AI evaluation team) |

- The AI SMEs should seek the development of solutions until TRL 7-8 within the Experiments.
**IPR AND EXPLOITATION OF THE SOLUTIONS**

✓ The owners of the solution will be the participants of each mini-consortium, this is, the participants of each Open Call Experiment. The exploitation model shall be decided internally among them, as it is understood as something external to the DIH4AI beneficiaries.

✓ The solutions will be published in the DIH4AI Platform.

✓ Also, the willingness to publish the solution within the AI4EU Catalogue will be positively evaluated at the time of the evaluation. More information available [here](#).
THANKS

For all the information on the Open Call 2, please visit our Project website.

Alternatively, you may contact us via the EMS Helpdesk.
&
dih4ai_opencall@innovalia.org

Miriam García, R&D Project Manager, Innovalia Association