Towards the European AI on demand platform

Barry O’Sullivan and Gabriel González Castañé
Event EC – presentation of ADR-e and AI4Europe
17th October 2022
The AI4EU project in a nutshell
AI4EU high-level vision

Core objectives of AI4EU
- Avoid fragmentation in Europe
- Create a supportive platform on AI for European stakeholders
- Construct a EU shared repository of AI knowledge – tools / assets
- Facilitate the use and uptake of AI by SMEs and industry
Completing the AI4EU picture and services

Research

AI technology transfer

Research support / monetize research

Innovation

Populate / use

Services

Use/create exploit

AI4EU Experiments

AI4EU services and Exploitation channels

Networks of Excellence and lighthouse

Meet the ICT49 sibling projects!
Time line to bootstrap the AI on Demand

17 October 2022
AI4Europe

Vision and plans
Approach

Separating the project from the platform

• Our project is just one of many that is tasked with advancing the AI-on-demand platform.
• Ongoing ICT49 projects, ICT48s, forthcoming DIGITAL Preparatory project, forthcoming DIGITAL project (€27m) and 40+ other Horizon Europe that have been funded under calls that make explicit reference to need to engage with the platform.
• The AI4Europe project has a plan to technically advance the platform and to build a community of supporters to enrich it – but the project and the platform are two separate entities.
• The platform will outlive AI4Europe and the project will need to share responsibilities with existing and forthcoming projects.

Motivate engagement with the platform

• To motivate the AI research and innovation community to engage with the platform there is the necessity to demonstrate that the platform is a community asset and not controlled by any project, organization or group of organizations.
• The platform needs to be designed to enhance and integrate with existing communities/initiatives, not replace them or undermine their identity or communities.
• The measure of success of the project will be the extent to which organizations/communities not connected with consortium partner embrace and use the platform.

Please direct queries to: coordination.aiod-csa@insight-centre.org
The Project Objective & Context

Objective:
• Support and facilitate a sustainable digital platform and experimentation environment through the creation of open research channels and mechanisms that foster the European AI research ecosystem, academic and industrial, and that maximizes the academic, social, and industrial impact while it seamlessly integrates other projects, platforms, and solutions.

Context:
• The EU is advancing efforts to establish an **AI ecosystem of excellence**.
• A pillar of this strategy is the creation of an **AI on-demand repository of experts, tools, and services supported by a set of distributed platforms**.
• **These platforms must be seamlessly used as a resource for the research community** to support the European AI model based on the principles **Trustworthy AI**.

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What will the platform do?

- The **platform will showcase the state-of-the-art science** being developed by leading AI research centres and laboratories, tackling topics including Human Centered AI, Explainable AI, AI for Good etc.

- The **trustworthiness of resources and the ethical design of AI tools** will be embedded within the Platform’s publication process, providing an **ecosystem of trust** within which public bodies and companies can uptake the assets produced by researchers.

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### Dimensions of the objectives

<table>
<thead>
<tr>
<th>Sustainability</th>
<th>Technical Development</th>
<th>Collaboration</th>
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<td>S-1. Ensure platform support from the research community fostering a cooperative and transparent Governance model open to contribution from all stakeholders to address their real needs.</td>
<td>R-1. Advance the Platform as an open distributed tool that can be extended by the community with new services/tools and ensure interoperability with (and customizable to support) other EU platforms focused on AI research.</td>
<td>C-1. Foster the AI uptake in European research community, industry, and society at large by mobilizing and enriching efforts in AI education, upskilling and reskilling in Europe.</td>
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<td>S-2. Design and execute a business sustainability plan that supports and ensures the long-term viability of technical, financial, and legal features of the AI on-demand platform.</td>
<td>R-2. Enhance the accessibility and usability of the excellence science of Europe’s AI research community, and to ensure standard, secure, and executable reusable research assets.</td>
<td>C-2. Enhance access, sharing, training and mobility for all European nations, ecosystems, and communities, with special attention on AI Juniors scholars, facilitating cooperation and matchmaking.</td>
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<td>S-3. Integrate hardware resource provisioning into the platform to provide underlying computation resources, establishing it as a place to do AI research.</td>
<td>R-3. Embed tools and mechanisms to facilitate the development and use of Trustworthy AI aligned with policy and regulatory developments in Europe.</td>
<td>C-3. Ensure cooperation with the AI, Data and Robotics PPP and Digital Europe related topics, to support them and ensure impact of the AI on-demand platform.</td>
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"Such platform should support the research community in providing modules, codes, tools, knowledge base to share and continuously strengthen the S&T excellence." HORIZON-CL4-2021-HUMAN-01-02
Mechanisms for engagement with the AI on demand

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Why cooperate with AloD?

• **Rely on communities** and established entity. Reaching the target audience effectively.

• **Cooperation** with research institutions and industry to facilitate the progress and development

• **Flexible to adapt** to the needs of the stakeholders

• **Build on the European principles of Excellence and Trustworthy**

• **Sustainability.** AloD does not have an end date.

Communicate your project activities to a wider audience. Make use of a ready-made community of users to disseminate results. Rely on a sustainability mechanism to ensure that outputs are available to stakeholders beyond the life of your project.
Potential contributions

- **Communities and communication.** Branding and micro-sites
- **Content:** Contributing to the AI assets – research bundles, containers, tools, tutorials..
- **Development** of the platform / connectors / backend / APIs
- **New technical services**
Communication Cooperation

Communicate your project activities to a wider audience. Make use of a ready-made community of users to disseminate results. Rely on a sustainability mechanism to ensure that outputs are available to stakeholders beyond the life of your project.

- **Social Media**: Mechanism for posting on AIoD (Buffer), AIoD mention for a chance to share; paid targeted campaigns
- **Newsletters**: Shared newsletter; Mechanism to create your own newsletters
- **Press releases**: Announce new projects, tools and results
- **Events**: Hold your AIoD web cafes; Joint Events; Support to your event in terms of identifying speakers
- **Monthly meetings**: To discuss strategies and action plans

**Communication & Dissemination support**: AI4Europe has a communication team that will be at the service of the projects to support them with the integration of the various guidelines, making sure that its implementation is done smoothly. A chat mechanism will be implemented to send feedback and make questions directly to AI4Europe.
Branding & websites (Microsites)

- **Website:** Create and nest your website under the AIoD domain; use AIoD website to share open calls, experiments, news, events, project results, etc.; media corner for all press announcements

- **Common Branding:** Possibility of using AIoD “stamp” (AI4Europe will send guidelines)
The European AI-on-demand (AiD) platform seeks to bring together the AI community while promoting European values. The platform is a facilitator of knowledge transfer from research to multiple business domains.

The platform serves as a catalyst to aid AI-based innovation, resulting in new products, services, and solutions to benefit European industry, commerce, and society. By bringing people together, the community resource seeks to address the fragmentation of the European AI landscape and facilitate technology transfer from research to business.

The AiD aims to create value, growth, and jobs in Europe through an ecosystem and a collaborative platform that unites the AI community, promotes European values, and supports research on human-centered and trustworthy AI.

Initiated in 2019 with the support of the European Commission, the platform will continue to develop over the coming years through further investment that will see the platform add additional services and tools. Learn more about the AiD platform history.
Research Bundles

"Research Bundles" give you a space in the AI on-demand platform where you can collect and publish the outputs of a small research project in a compact way. A research bundle collects all the assets (code, data, tutorials, examples, ...) produced by your project and published on the AI on-demand platform. Of course, you can also put links to assets published elsewhere, like Github or Zenodo.

INDEG TEC - Instituto de Engenharia de Sistemas e Computação, Tecnologia e Cibércultura

A Graph-Based Drift-Aware Data Cloning Process

This project investigated a data generation methodology that, given a data sample, can approximate the stochastic process that generated it. The methodology can be useful in many contexts where we need to share data while preserving user privacy. read more

INSA-CCI


A study of consensus building under two different hypotheses: truthful annotators (as a model for most voluntary citizen science projects) and self-interested annotators (as a model for paid crowdsourcing projects). read more

Biele University of Technology

Adaptation of ASR for Impaired Speech with minimum resources (AdAIS)

This micro project studied the adaptation of automatic speech recognition (ASR) systems for impaired speech. read more

Tangible outcomes

- Improved speech recognition accuracy for impaired speakers.
- Enhanced accessibility for people with speech impairments.
- Development of algorithms to adapt ASR systems to specific speech conditions.
Service for Newsletters

- Registration of projects and participants
- Upload of items (news, events, documents)
- Control panel to circulate the newsletters
Development of the platform & New services

User Interface (web)

<table>
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<th>News</th>
<th>Datasets</th>
<th>Models</th>
<th>Services</th>
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**Services**

- Experiment
- Matchmaking
- ICT 49 services
- HPC Access
- BDVA
- Bonseyes

**Get/Push Connectors**

- EOSC
- Zenodo
- OpenML
- ELG
- Github
- Cloud
- HPC
- Hugging face
- Git LFS
- S3
- Kubernetes

**Backend**

- Repo for code and datasets
- Large files
- Notebooks
- Container Services

**Own Infrastructure**

**Get/Push**

- Push
- Get
- Push
- Get
- Push
- Get
- Push
- Get
- Push
- Get

**Search / Gallery**
User groups

User Interface (web)

Users

Developers

Other initiatives

Services

News
Datasets
Models
Services

Search / gallery

Access from scripts, notebooks

UI

UI

Experiment

Get

Push

Matchmaking

Get

Push

ICT 49 services

Get

Push

HPC Access

Get

Push

Other initiatives

BDVA

Bonseyes

Get

Push

Get

Push

Get

Get

Get

Get

Backend

get/push
connectors

EOSC

Zenodo

OpenML

ELG

Github

Cloud

HPC

Hugging face

Own infrastructure

Repo for code and datasets

Large files

Notebooks

Container Services

DB

S3

Kubernetes

Git LFS

AI4EUROPE 17 October 2022
Upcoming services

- Matchmaking
- Earth Observation
- Energy service
- Planning – logistics, smart transport
- Cyber physical systems – IoT
- DIHs
- Reproducibility
- Benchmarking
- Upskilling and AIDA
How to proceed - Contacts

- Please direct queries to: coordination.aiod-csa@insight-centre.org
- If you wish to join the general AIOD Forum for periodic updates on the platform and interaction with other interest parties, please contact: tanvir.badwal@insight-centre.org
Thank you!