AI4EU: An AI on-demand Platform and ecosystem
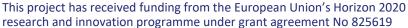
Manolis Koubarakis

National and Kapodistrian University of Athens

www.ai4eu.eu

Summary

AI4EU is a collaborative H2020 Project that aims to

- **Mobilize the entire European AI community** to make AI promises real for the European Society and Economy
- Create a leading **collaborative AI European Platform** to nurture economic growth.

Key figures

- **79 members** (60 leading research institutes)
- **21 partnering countries**
- **€3m Cascade Funding**

Fed by 8 pilots experiments

- Citizen, Robotics, Industry, Healthcare, Media, Agriculture, IoT, Cybersecurity

3 open calls for Start-up, SMEs and AI talent and an ambitious technology transfer program
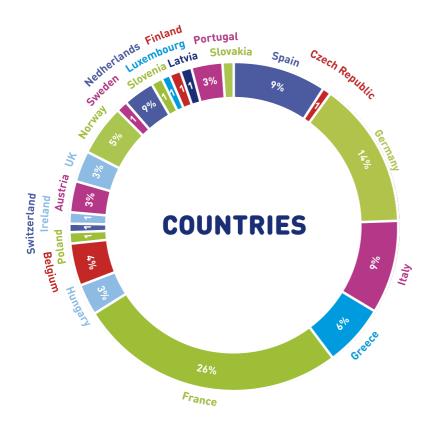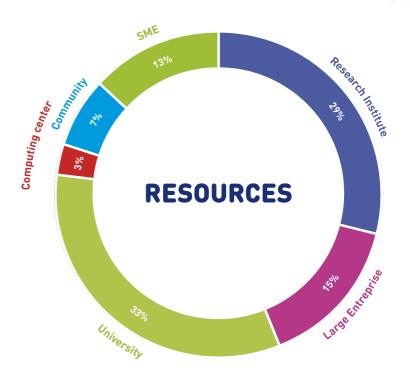
Based on 5 Research Areas

Explainable

Physical

Verifiable

HUMAN-CENTERED AI

Integrative

Collaborative

Ethical Observatory

Strategic Research and Innovation agenda

AI4EU: 79 members – 21 countries
A balanced consortium of research and industry

WPs: just a quick glance

RESEARCH & INNOVATION

WP1
Global project management, governance and coordination

WP6
Pilot experiments with the platform

WP7
Filling AI technology gap

WP8
Technology transfer activities

WP9
Strategic research and Innovation agenda for AI

WP5
Promoting European ethical, legal, cultural and socio-economic values

WP2
Platform design and implementation

WP3
Management & enrichment of the European AI on demand platform

WP4
Ecosystem creation and development

PLATFORM & ECOSYSTEM

AI4EU

A European Ambition

Mobilize the entire European AI community to make AI promises real for the European Society and Economy.

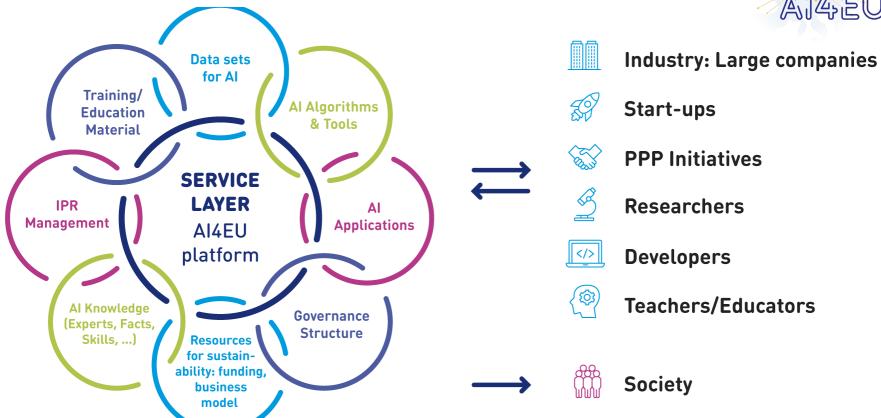Create a leading **collaborative AI European platform** to nurture economic growth.

HOW ?

- **Build a sustainable Open AI On-Demand-Platform** to make available expertise, knowledge, algorithms and tools to all users from all sectors.

- **Bring all stakeholders together** by organising six local community events, by setting up the Open AI On-Demand-Platform and by founding the AI4EU Association

- **Position the European AI stage as a leader** thanks to an AI fully embedded in **human values and ethics.** To that end**,** AI4EU will create the **AI4EU Ethical Observatory** so that AI is used in fair, transparent and responsible ways.

- **Fill important technology gaps** through dedicated research, innovation and scale up start ups efforts.

- **Boost AI Research**. Reinforce European excellence and leading position worldwide in major AI research and application domains.

- **Draw a strong and comprehensive Strategic Agenda for European AI** research based on engagement with the community

A Platform providing services for many actors

AI4EU Platform: easy to use & ready for implementation and testing

SERVICES LAYER

- Get info
- Get asset
- Publish assets
- Try apps & results
- Showcase
- Showcase
- Match making for talents
- Match making for apps/assets
- Scale up & results
- External provided services
- AI4EU at scale
- External services

Trial Spaces

FUNCTIONS LAYER

- Web access and CRM
- Search & Discovery
- Assets publishing process
- Components studio design
- On boarding
- Market Brokerage
- Human readable assets repository
- Studio deployment
- User directory + context
- Machine readable assets repository
- Playground resources
- Blogging / Social Nets
- Sample data repository

Interoperability &orchestration

- Large AI4EU scale processing
- Private Cloud based processing resources
- Existing data connect portal

Platform day to day management

Six AI4EU Events

- **Bring all stakeholders together** around specific **themes** (Healthcare &AI, Industry 4.0&AI, Environment&AI, IoT&AI…) by organising local community events in different countries.

- **Events in 2019** :
  - ✓ Paris: April 18th (Palais de Tokyo)

- In **2020-2021:** a call for applications to consortium members will be set up to select the cities that will host AI4EU events.

Linking AI4EU and European national initiatives

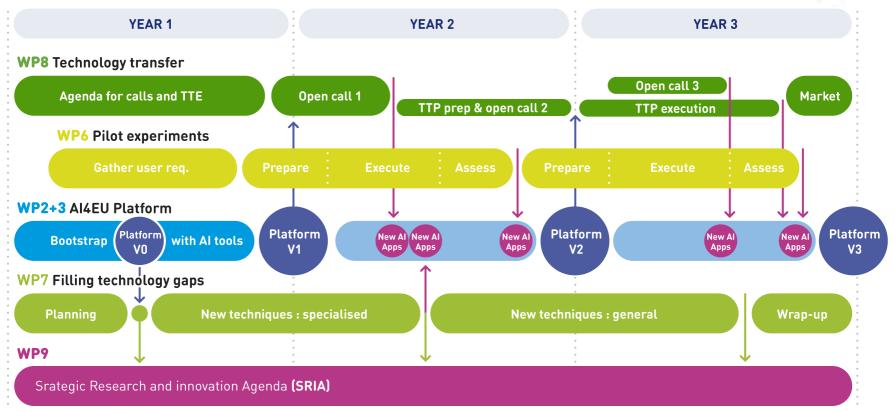AI4EU will create a **network across European member states.**

AI4EU will create **national nodes** for the AI4EU community based around academic and industry contact points that will act as a conduit for information about national initiatives to the European-wide network.

Country	NCP Representative	Partner Acronym
Austria	Dr Roman KERN	KNO
Belgium	Dr Tom LENAERTS	VUB
Czech Republic	Dr Marek HAVRDA	AGI
Finland	Dr Roope RITVOS	FVI
France	Dr Jerome KODJABACHIAN	THA
Germany	Dr Joachim KOEHLER	FHG
Greece	Dr Costas D. SPYROPOYLOS	DEM
Hungary	Dr Németh GEZA	BME
Ireland	Dr Barry O'SULLIVAN	UCC
Italy	Dr Amedeo CESTA	CNR
Latvia*	Dr Aivars BERZINS	TIL
Netherlands	Dr Milan PETKOVIC	PHI
Norway	Dr Ieva MARTINKENAITE	TEL
Poland	Dr Xavier CHAO	FBA
Portugal	Dr Joao Paulo COSTEIRA	ISTR
Slovakia	Dr Marek BUDZEL	TUK
Slovenia	Dr Spela STRES	JSI
Spain	Dr Javier VAZQUEZ	UPC
Sweden	Dr Alessandro SAFFIOTTI	ORU
Switzerland	Dr Hervé BOURLARD	IDI
United Kingdom	Dr Antony COHN	LDS

* acting initially for, Latvia, Estonia and Lithuania

An ambitions timeline

YEAR 1 | YEAR 2 | YEAR 3

WP8 Technology transfer
- Agenda for calls and TTE
- Open call 1
- TTP prep & open call 2
- Open call 3
- TTP execution
- Market

WP6 Pilot experiments
- Gather user req.
- Prepare | Execute | Assess
- Prepare | Execute | Assess

WP2+3 AI4EU Platform
- Bootstrap | Platform V0 | with AI tools
- Platform V1
- New AI Apps | New AI Apps | New AI Apps
- Platform V2
- New AI Apps | New AI Apps
- Platform V3

WP7 Filling technology gaps
- Planning
- New techniques : specialised
- New techniques : general
- Wrap-up

WP9
- Srategic Research and innovation Agenda **(SRIA)**

Innovation and research activities nurturing pilots

Five research areas ⟶ Eight pilots experiments

HUMAN-CENTERED AI

- Explainable
- Verifiable
- Collaborative
- Integrative
- Physical

Pilot experiments	Description	Research areas
P1 AI4 Citizens	An AI-powered advisor for EU Citizen (focus on higher education)	Collab. AI, Explain AI
P2 AI4 Robotics	Intelligent performance Analytics for industrial robots	Verif. AI, Explain. AI
P3 AI4 Industry	AI-Driven digital Companion for production facility	Hybrid AI, Verif. AI
P4 AI4 Healthcare	Fostering confidence by estimating model uncertainty	Explain. AI, Physical AI
P5 AI4 Media	AI-based 3D-generation of animated video	Collab. AI
P6 AI4 Agriculture	Crop quality assessment throught computer vision	Hybrid AI, Explain AI
P7 AI4 IoT	Advanced analytics on air quality monitoring	Physical AI
P8 AI4 Cybersecurity	AI-driven attacks learner	Hybrid AI, Explain. AI, Collab. AI, Verif. AI

**Coupled with an ambitious Technology Transfer Program
(3 open call foreseen, major Ecosystem Development)**

Filling technology gaps to create leadership

The AI4EU Ethical Observatory to tackle ELSEC* issues

- **To stimulate reflection,** discussion and due consideration of ELSEC-AI issues within the EU AI community (researchers, educators and practitioners) and with the European Parliament, member states, and AI industry.
- **To provide resources** to educate the general EU public more accurately about state of the art in AI.
- **To survey legal issues** for the deployment of AI systems in the EU and identify sources of expertise for industries applying AI.
- **To identify/elicit and monitor values and societal acceptance** of decisions and policies.
- **To develop methodological guidelines** for the integration of ELSEC considerations in the design and development of AI systems.
- **To avoid negative bias,** such as on gender or other forms of discrimination, which implicitly play a role in AI decision systems.

*Ethical, Legal, Socio-Economical & Cultural

Interconnection with many leading platforms in a seamless way

The AI4EU Platform will seamlessly interconnect with a large number of other Platforms:

- Human Brain Simulation Platform
- Copernicus Data Platform
- Beat (Idiap) Platform
- Bonseye
- Fiona Platform
- DIH's Platforms

...and many more to come.

Summary

Questions

Thank you !

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Thanks to Patrick Gatellier, the co-ordinator of AI4EU, for the presentation.