



From fragmented to connected: a shared hub for Europe's AI

Europe's AI researchers are joining forces through an EU-funded digital platform that allows them to share tools, data and computing power to drive collaboration and innovation.

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Across Europe, researchers are using AI to tackle everything from underwater noise pollution to media fact-checking and smarter farming. Until recently, there was no widely used common gateway where they could easily share tools, data and computing power, but that is all changing.

Europe's AI research and innovation is now being brought together on a shared digital platform called AI-on-Demand (AIoD) – an EU-funded online hub designed to help researchers, startups, companies and public authorities collaborate and experiment more easily.

A single hub for European AI

Tanvir Singh Badwal from University College Cork in Ireland has been helping guide the development of AIoD since 2022.

"In a nutshell, AIoD is a place where researchers and industry can access resources, use services and even develop new ones," he said.

The platform did not appear overnight. It began in 2019 under the EU-funded AI4EU project, coordinated by Thales in France, which first laid the foundations for a shared European AI hub. It was then significantly expanded by AI4EUROPE, a consortium of 24 institutions from 15 countries led by Badwal and University College Cork between 2022 and 2025.

Today, the next phase is being driven by the DeployAI collaboration, funded by the Digital Europe Programme, which is working to bring the platform to market, expanding its use to industry and the public sector.

The need for such a hub is clear. While the US and China dominate AI development with large tech giants and powerful platforms, Europe's AI landscape is more fragmented. It consists of smaller players operating under different national rules, funding schemes and data standards. AIoD was created to help connect these dots.

Rather than replacing existing initiatives such as Gaia-X or the European Open Science Cloud, the platform complements them by acting as a practical entry point for AI tools and collaboration.

By making it easier to discover datasets, algorithms, computing resources and partners, the platform aims to speed up innovation and help European AI solutions move more quickly from research labs into real-world use.

This all fits into the EU's wider AI strategy to strengthen Europe's research and industry, while keeping AI aligned with democratic values, fundamental rights and the rule of law.

From platform to practice

What does that look like in real life? Imagine a small agritech startup developing a tool to help farmers optimise irrigation and fertiliser use. The team could use AIoD to search for satellite and soil datasets and build a prototype predictive model using the platform's AI Builder.

This online tool allows users to create AI workflows through a visual interface without any need for heavy coding.

They could then move to the Research and Innovation AI Lab (RAIL) – an online environment where experiments can be run directly on the platform. Through RAIL, users can access integrated high-performance computing resources to test and refine their models at scale.

Once the tool is ready, the startup can use the platform's community features to connect with mentors, find collaborators in other countries and share its solution across Europe. As a result, farmers could then receive forecasts days in advance and reduce water and fertiliser use.

One-stop shop for AI resources

AIoD combines several functions in one place: part search engine, part marketplace and part online laboratory.

Users can browse datasets, scientific publications, educational materials, software components and pre-trained models. They can also access advanced computing power via links to European supercomputing centres such as the Barcelona Supercomputing Center and the LUMI system in Finland.

Importantly, the platform does not host all these resources itself. Instead, it aggregates material from other established AI and open-source platforms, including Hugging Face, Bonseyes and OpenML.

"Whatever has been uploaded onto these other platforms is fetched into ours," Badwal explained. "The idea is that researchers can search in one place and access a much broader range of resources."

This matters because high-quality data and powerful computing resources are often concentrated in well-funded corporations or elite institutions. By lowering access barriers, AIoD aims to level the playing field for smaller labs and startups.

Keeping tools alive beyond projects

Another goal is to ensure that tools developed in EU research projects do not disappear once funding ends.

One example is the Responsible Robotics Compass, or RoboCompass, developed within an earlier EU-funded project and now available through AIoD. This self-assessment tool looks at non-technical aspects of responsible robotics. It is designed to help researchers assess how well their robots align with public expectations and concerns.

“You evaluate your robot according to various socio-economic, environmental, ethical and legal considerations,” said Joana Martinheira, a consultant at Portuguese communication agency LOBA, who was involved in the technical development of the online platform.

“It’s like a quiz. At the end, you receive a score and recommendations on how to improve.”

By hosting such tools, AIoD gives research outputs a longer life and wider audience.

Building an AI ecosystem

For those looking to build networks, the platform also includes mentoring sections, discussion forums and directories of AI projects and facilities across Europe.

“AIoD simplifies collaborations and synergies between all the players in the ecosystem,” Martinheira said.

By turning scattered tools and isolated projects into a shared, searchable and usable resource, AIoD aims to strengthen collaboration and sharpen Europe’s edge in AI.

With DeployAI now focused on scaling the platform and linking it more closely to industry and public services, the ambition is clear: to give Europe not just strong AI research, but a functioning AI ecosystem capable of turning ideas into practical solutions for businesses, governments and everyday life.

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