

Now is the time to create a CERN for AI

Open Letter by the Confederation of Laboratories for Artificial Intelligence Research in Europe (CAIRNE, formerly known as CLAIRE)

The United States has recently taken bold steps to strengthen its leadership in artificial intelligence (AI), driven by a clear understanding of its economic and strategic importance. These steps include export restrictions on advanced AI hardware, a decisive move away from attempts at AI regulation, and massive investment into AI infrastructure (Stargate).

Europe must now act swiftly and decisively to safeguard its technological sovereignty and competitiveness.

Since 2018, CAIRNE has emphasised the need for greater and smarter investment in AI talent, research, and infrastructure. To achieve this, Europe should establish a world-class AI research and innovation hub—a ‘CERN for AI’—dedicated to developing pioneering, trustworthy AI systems made in Europe. The need and realistic opportunity for the success of “AI made in Europe” has become even clearer following recent progress in generative AI methods from China (DeepSeek).

Europe Faces a Triple Threat

1. **Loss of strategic sovereignty:** Europe’s growing dependence on US-made AI technologies, such as ChatGPT and NVIDIA processors, makes it vulnerable to geopolitical pressures and export restrictions. The latest US policy moves highlight how access to AI technology can be restricted based on national interests. Europe cannot afford to be complacent.
2. **Loss of cultural sovereignty:** AI models are not just technical tools; they embody the values and priorities of the creators. Current AI systems do not align with Europe’s commitment to trustworthy, safe and sustainable AI. Without dedicated research, formal standards and regulatory enforcement, Europe will continue to rely on foreign AI that does not reflect its values.
3. **Loss of economic competitiveness:** AI is transforming industries and shaping the future of economic growth. Falling behind in AI today means falling behind in all other sectors tomorrow. If Europe does not take decisive action, its industries, workforce and social welfare systems will struggle to compete in a rapidly evolving global economy.

A Vision for a European AI Powerhouse

Recognising these risks, CAIRNE and thousands of AI researchers across Europe laid out a vision for the future (see <https://cairne.eu/vision/>) already in 2018. The European Commission has implemented some elements of this vision through its networks of excellence (NoEs) and AI factories. While these initiatives lack the necessary scale, longevity and cohesion, they provide a good foundation. What is missing is a central institution that unites these efforts, attracts top AI talent and fosters groundbreaking research.

Steps to Build a CERN for AI

1. **Establish an independent AI organisation:** This organisation should operate at the scale of CERN or the European Space Agency, driving ambitious research and development of trustworthy AI. It must be equipped with substantial resources, including a dedicated top-tier AI computing infrastructure and support staff to facilitate cutting-edge AI research and innovation.
2. **Adopt the CERN model:** Like CERN, this AI hub should bring together researchers from across Europe and beyond for a limited time. This means that researchers return to their universities, research institutes and businesses when their research term at CERN for AI is over. Thus, CERN for AI is an effective disseminator that lifts research in all participating countries. It should integrate with local AI ecosystems, ensuring that expertise and benefits are distributed rather than centralised.
3. **Aim for broad and foundational AI research:** The focus should go beyond adapting existing AI technologies developed elsewhere. Instead, Europe must invest in foundational AI research to build safe, reliable, and sustainable AI systems. This will require an investment of at least €100 billion over the next decade.
4. **Strengthen AI ecosystems across Europe:** The CERN for AI should work closely with existing AI factories, decentralised research networks, industries and public institutions. This will ensure that advancements in AI are widely accessible, foster regional innovation and strengthen Europe's economic and technological base.
5. **Engage industry and public institutions:** Unlike CERN, which focuses on fundamental research, the AI hub should also support applied research and industry collaboration. Providing access to computing infrastructure and expertise will accelerate AI-driven innovation in products and services across all sectors, including healthcare, manufacturing, education and public administration.
6. **Align with AI regulation and industrial policy:** Establishing CERN for AI should complement Europe's regulatory efforts to ensure the safe and beneficial deployment of AI systems. A well-coordinated industrial policy at the EU and member-state levels is essential for long-term success.

Why This Matters Now

Europe must take control of its AI-powered future. Without a unified, large-scale investment, it risks becoming technologically and economically dependent on others. Establishing a CERN for AI would not only strengthen Europe's position in AI but also ensure that AI development aligns with European values, focusing on trustworthiness, sustainability and societal good.

The window of opportunity is closing. If Europe wants to shape the future of AI rather than react to it, now is the time for bold, coordinated action. A CERN for AI is not just an option—it is a necessity.

About CAIRNE (formerly CLAIRE)

The **Confederation of Laboratories for Artificial Intelligence Research in Europe (CAIRNE, formerly known as CLAIRE)**, was established by the European AI community to strengthen European excellence in AI research and innovation, with a focus on human-centered AI. Launched as CLAIRE on June 18, 2018, with a vision supported by over 600 AI researchers, it was officially incorporated as an international non-profit association (AISBL) in 2020. CAIRNE's mission is to promote European AI, foster cross-border collaboration, and position Europe as a global leader in AI innovation. The [CAIRNE Network](#) now includes over 500 research groups and companies, covering 27,000 employees across 39 countries. CAIRNE also maintains offices across Europe in The Hague, Saarbrücken, Prague, Rome, Brussels, Paris and Zürich.

CAIRNE and its members are involved in key EU initiatives in AI, including the networks of centres of excellence in AI, which until recently were coordinated by the CAIRNE-led VISION project. The [CONVOLVE](#) project, which is focused on developing more efficient, AI-driven chat architectures, and the [NoLeFa](#) project, which will facilitate the adoption of safe and trustworthy AI in the EU, also contribute to this.

For additional information, including the CAIRNE vision, recommendations to the EC and the proposal for a Moonshot in Artificial Intelligence, developed with euRobotics and supported by the European AI Association and the Centre for European Policy Studies (CEPS), please visit <https://cairne.eu/documentation>.