

## **CLAIRE in a Nutshell**

CLAIRE (Confederation of Laboratories for Artificial Intelligence Research in Europe) is an initiative by the European AI community that seeks to strengthen European excellence in AI research and innovation, with a strong focus on human-centred AI, and to establish world-wide brand recognition for "AI made in Europe".

### **What CLAIRE seeks to establish:**

- The CLAIRE Network: A collaborative network of research labs (existing and new) and organisations across Europe. They will jointly identify fundamental questions for basic and applied research, discuss the most promising approaches, and participate in collaborative approaches to address them.
- CLAIRE Centres of Excellence: A selection of research labs in the CLAIRE Network, located strategically throughout the Europe. These will play strong roles as hubs for the members of the CLAIRE network in their region.
- The CLAIRE Hub: A facility that serves as a highly visible and vibrant focal point for the CLAIRE collaborative network. Here, excellent scientists at all levels and from all partners will work together for periods of time and find outstanding infrastructure and support for research and innovation, particularly suited to the needs of AI.

### **To realise the CLAIRE vision, funding will be required for:**

- Research infrastructure and support, including (1) the CLAIRE Hub, (2) the CLAIRE Network laboratories, including the CLAIRE Centres of Excellence;
- Research and innovation, including (1) fellowships for excellent researchers and talent at all career stages (from Master student to senior researcher), (2) moonshot projects, developed collaboratively across the network and scaled up/integrated at the Hub, (3) fundamental research projects, from small to large; substantial funding for researchers should be allocated based on track record rather than the need for extensive research proposals, and substantial funding opportunities should be provided for talented junior researchers without a long-standing track record;
- Innovation in AI through collaboration with industry;
- Collaboration across the network;
- Developing potential in AI, aimed at bringing close-to-world-class researchers and groups to the next level, regardless of career stage;
- Training and education in AI, including (1) summer and winter schools, (2) specialised training courses and seminars, (3) curriculum development and support for AI teaching across the network;
- Outreach and public engagement activities, including pre-university AI education;
- Highly visible awards for outstanding research (at all levels, from Master Student to senior researcher) and outreach.

### **The CLAIRE Hub**

- The CLAIRE Hub will provide a visible, vibrant center for AI research in Europe.
- The Hub will provide outstanding infrastructure and support for research and innovation, particularly suited to the needs of AI, including a large ("Google-scale"), state-of-the-art data

and computer centre, cutting edge robotics laboratories, test facilities for key application areas, such as autonomous transportation, advanced agriculture and automated scientific experimentation, usability labs, and others. It will also have outstanding support staff, including programmers and usability, interface and hardware experts. The centre will also maintain a repository of datasets open for researchers across Europe.

- CLAIRE will be responsibly for a number of large, mission-oriented AI projects of particular importance for Europe. They will be executed by the laboratories in the CLAIRE Network, and the Hub will play a key role for coordination, integration and scale-up.
- The Hub will host excellent scientists for periods of time, both from the laboratories in the CLAIRE Network and special invited guests. The scientists may be at different levels of seniority. The Hub will not have permanent scientific staff, and will therefore not drain talent from the labs in the CLAIRE Network. It will rather act as a place where knowledge is mixed by the visiting researchers and then spread out again to the labs in the Network when the researchers go back, thereby contributing to strengthening the development of excellent AI research across all of Europe. CLAIRE will provide considerable support for exchange and interaction of researchers at all levels of seniority, across all areas of AI.
- The CLAIRE Hub will run summer schools, seminars, public outreach activities and workshops at the highest scientific level and from all areas of AI. A special focus should be on identifying and supporting as early as possible the best emerging AI talent across Europe.

#### **The CLAIRE Network**

- There should be considerable incentives to establish joint research projects among researchers in the network, under the lead of top researchers in the field. CLAIRE should provide support for developing and running high-quality study programmes focussed on AI.
- The CLAIRE network should be supported by strong infrastructure in terms of computing, big data storage (including long-term storage and secure storage for sensitive data), and networking as well as infrastructure for maintaining joint AI platforms and services. Much of this will be supported by the CLAIRE Hub.
- The CLAIRE network will benefit from (1) outstanding research infrastructure that encourages collaboration across many areas of AI, (2) state-of-the-art collaboration infrastructure, such as conference and working environments, (3) innovation infrastructure that facilitate industry collaboration and entrepreneurship, including pre-incubators, innovation advisors, and well-developed relationships with governmental innovation support and investor organisations.
- The distributed Centres of Excellence in AI have important roles as highly visible and vibrant regional environments. Excellent scientific personnel and students receive secondary appointments and spend part of their time at the central hub or in other centres of the network.

#### **Additional details for proposed funding through CLAIRE:**

- Considering the importance of this initiative, the total funding envelope is anticipated to be about one order of magnitude above a FET Flagship Project (in the same ballpark as CERN), and should have a duration of at least 10 years.
- We assume funding for CLAIRE needs to include contributions from the EU, national governments and industry.