**Memo on Artificial Intelligence (AI) in Europe: Funding and Positioning**
**(prepared by the CLAIRE Initiative for European Excellence in AI)**

On 20 September, The Economist prominently published two articles covering artificial intelligence (AI) in Europe (an editorial, titled “Can the EU become another AI superpower?”, and “How Europe can improve the development of AI”). The purpose of this memo is to respond to and put into context some of the statements made in these articles.

**The Economist states that “To become a powerhouse in AI, Europe will have to overcome its divisions, digital and otherwise”, and that it would beneficial to “encourage grass-roots initiatives such as CLAIRE and ELLIS, which seek to create Europe-wide networks of research labs”.** In light of this view, we urge the European governments and the European Commission to work closely with the AI community (spanning academia and industry), as organised within CLAIRE, to boldly pursue an ambitious, world-leading course towards excellence in AI research and innovation.

The Economist makes four main claims, with which we strongly agree.

1. **To be successful in the global push for AI, Europe needs to stand united; weakly coordinated national AI initiatives are insufficient to compete globally.**
   To play any sort of leadership role in AI, a fully coordinated European initiative, supported by the national governments is needed. While it might be tempting to focus on the strongest economies and easier to find alignment of a small group of committed nations, strong support for AI research and innovation is needed across all of Europe, to leverage to the greatest possible extent the broad and diverse pool of talent found across the continent. This is why CLAIRE from its very inception has pursued an approach encompassing “all of Europe”.

2. **Machine learning is important, but other areas of AI are also crucial for many of the most promising applications, such as self-driving cars. Europe has strength across many areas of AI, notably in automated reasoning - another key ingredient for many next-generation AI applications.**
   AI initiatives elsewhere - for example, in Canada - have been mostly focussed on machine learning, and there is a common misperception that all of modern AI can be reduced to machine learning. Within the AI community, this view is widely considered misleading; some of the world’s most prominent experts on machine learning have publicly distanced themselves from it. As correctly stated in The Economist, machine learning plays a key role in artificial intelligence, but so do other areas, such as automated reasoning. Many experts believe that much of next-generation artificial intelligence will be enabled by techniques from multiple areas within AI. The Economist states that “Hardly anyone in the Bay Area [of the USA] can imagine Europe becoming a force in machine learning, the AI technique that.“ This view misses the reality that Europe (still) has many world-leading experts in machine learning. Together with world-class expertise in other key areas of AI, such as automated reasoning, multi-agent systems, planning and robotics, this capability in machine learning can be leveraged to establish Europe as a driving force in AI world-wide, but swift and decisive action is required to make this happen. In light of this, from the very beginning, CLAIRE has emphasised the need to support “all of AI”.

3. **Merely investing in networks of existing groups and research institutes is insufficient.** The Economist expects “the commission at some point to announce the

launch of a loose AI research network rather than anything with a central hub". They correctly claim that such an approach will likely be ineffective. **Europe needs a hub for AI research and innovation, a place that serves as focal point for European excellence and ambition in AI**, a place where cutting-edge AI methods and application can be scaled up to compete with the very best efforts by academia, government and industry anywhere in the world. This is why the vision set forth by CLAIRE from the very beginning has contained such a central facility - a hub that serves as the centre piece of the distributed network of AI excellence and expertise that is also needed. To avoid drawing talent away from the local context where it is needed, e.g., for training the next generation of AI researchers or for collaborative work with local industry, researchers should only spend part of their time at the hub.

4. **China and the USA are pushing two extreme and flawed models of pursuing AI, creating an excellent chance for Europe to define a middle way, balancing the interests of individuals, society and industry.** The Economist rightly stresses the role of law makers and regulators in this context. However, to fully realise the benefits of a "middle way", researchers and innovators play a key role, because creating the right kind of AI technology falls to them. This is why the European Commission has demonstrated excellent leadership in calling for a focus on human-centred AI - a focus that the CLAIRE initiative has embraced as the centre-piece of its vision.

Within 3 months of its inception, CLAIRE has garnered the support of over 2200 stakeholders across Europe, which jointly represent the vast majority of Europe's AI community, spanning academia and industry, research and innovation (see claire-ai.org/#supporters). CLAIRE strongly endorses the general direction mapped out by the European Commission in its communication of 25 April 2018. CLAIRE represents a bottom-up, community-driven approach designed to complement the top-down process put into place by the European Commission. **CLAIRE is committed to working closely with the Commission and national governments towards defining and realising a bold, ambitious vision for artificial intelligence in Europe - one that will achieve the impact and recognition of CERN, by creating a central hub for AI in Europe that will serve as a beacon world-wide for European excellence in AI, and for European leadership in human-centred AI.**

More information on CLAIRE can be found at claire-ai.org and in the attached documents.