Confederation of Laboratories for Artificial Intelligence Research in Europe (CLAIRE), European Artificial Intelligence Association (EurAI), HumanE AI, and AI4EU, The Hague, October 29, 2019

For immediate release

Scientists and Innovators Publish 10 Recommendations for a European Public-Private Partnership on Artificial Intelligence

Europe leads the world in high-quality research on AI. However, Europe's ability to capitalize on this is weak. AI expertise in Europe remains fragmented. While strong research networks are being created, so far, these lack sufficient public funding, integration and a central hub to serve as a focal point, a beacon for European ambition in AI, and a global attractor of talent and expertise.

Consumer-oriented technology companies like Amazon, Google, Facebook, and Apple, are taking leading roles in AI innovation. Here, the USA and China hold an absolute dominance, as of the 30 largest by market value, Europe accounts for a mere 0,2%.

While this makes it difficult to field a strong response to the massive investment in AI in other regions, it also makes it easier to understand what a European AI strategy should and shouldn't do. Europe needs to strengthen its basic and applied research on AI, among other things by establishing a strongly linked network of centers of AI excellence and a central hub of AI research.

However, Europe also needs to substantially mobilize AI-driven innovation in its commercial sector. For this reason, the European Commission is considering establishing a public-private partnership with substantial public funding.

CLAIRE, EurAI, HumaneAI, and AI4EU, Europe's main networks of AI scientists, welcome this initiative and are involved in the Commission's ongoing work of developing a strong European response. As a start, these organizations published today ten recommendations for a public-private partnership in AI

"Europe needs to improve deep collaboration between universities and the commercial sector. For that reason it is important to have strong participation from the European research sector in a public-private partnership," says Barry O'Sullivan, president of the European Association for Artificial Intelligence (EurAI) and professor at University College Cork.

“A public-private partnership can become an important component in a strategy to turn research on AI into value for society”, says Morten Irgens, co-founder of the Confederation of Laboratories for Artificial Intelligence Research in Europe (CLAIRE).

“However, that requires that the public-private partnership is strongly focussed on AI. We caution against broadening the mandate of the partnership. That would reduce the effect of the partnership and weaken its prospects of building market strength. While we understand the relationship between AI and areas like big data, robotics, law, and ethics, these are also full-fledged areas in themselves, and should not fully be brought in under the mandate of the partnership.”

“The natural private partners in public-private partnerships are incumbents,” says Holger Hoos, co-founder of CLAIRE and professor of machine learning at Leiden University (The Netherlands). “However, Europe has few incumbents with globally recognized strength in AI innovation. We caution against making the partnership solely a funding instrument for the adoption of AI technologies in existing companies; it should really support our ability to design and build AI technologies, in addition to making use of them.”

“This is where we have to also turn to AI-driven disruptive startups and scaleups, largely supported by venture capital,” adds Morten Irgens. “They are substantially important in the development of an AI industry in Europe. While there is a variety of targeted support for this activity, we recommend to bring that sector in on the governance structure of the public-private partnership. We believe this would be for the benefit of the private partners in the partnership.”

The 10 recommendations:

1. *The AI partnership should embrace an ambitious global mandate.* Technology shapes the world we live in. The AI cPP should, in coordination with other instruments to boost innovation and research, help bring Europe to the forefront on AI-driven innovation.

2. *The AI partnership should build on Europe’s existing strengths and develop new ones, focused on trustworthy, human-centred AI.* Europe’s industrial strength and strong position in high-quality AI research make a powerful platform for an AI-based industry. So does also Europe’s well-developed and legally founded citizen’s rights, strong competence in human-centric, trustworthy and transparent systems, and strengths in the B2B, Government to-citizen, and embodied AI.

3. *The AI partnership should reflect the complexity of modern, AI-driven innovation.* In particular, the AI partnership should not merely regard academia as a producer of

scientific progress, nor the other actors in the innovation ecosystem as merely consumers of these results.

4. *The AI partnership should be about AI.* The AI partnership should not be about a subset of AI. It should be focussed on AI at the core, with clearly defined mechanisms for interfacing with closely related areas of relevance to AI, such as big data, robotics, ethics, and law.

5. *The AI partnership should take an "all of Europe" approach.* There are excellent research and innovation possibilities across all of Europe, but the opportunities are not evenly distributed. We encourage the AI partnership to devise programs specifically focused on mobilizing resources and talents across Europe.

6. *Europe's startup and SME sectors should be partners in the AI partnership.* European incumbent industries, large companies and SMEs, particular care should be taken to give a clear representation to the innovation driven entrepreneurial sector.

7. *Academia and research organizations should be equal partners.* Co-programmed partnerships are traditionally collaboration between industry and academia where the government funds the academic participation. True partnership is necessary for this to work.

8. *The AI partnership must leverage existing organizations and structures.* We recommend that the Commission partner with relevant well-known partnerships, stakeholder groups, and networks, that are important for AI and for which AI is important.

9. *The AI partnership should be established through a transparent participatory process.* We ask that the Commission when designing the AI partnership engage in a structured dialogue with relevant existing well-functioning organizations, networks, and partnerships from academia, industry, Europe's startup sector, and civil society.

10. *The AI partnership should be only one of several instruments aimed at European excellence and leadership in AI.* The cPP instrument is designed for addressing particular objectives in the complex AI innovation ecosystem. However, Europe needs different instruments to address different parts of its AI innovation ecosystems; in particular, instruments are needed to mobilize Europe's academic researchers in curiosity-driven and mission-focussed academic research.

About CLAIRE

CLAIRE (Confederation of Laboratories for Artificial Intelligence Research in Europe, claire-ai.org) 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. CLAIRE aims to establish a world-wide brand recognition for "AI made in Europe" (on the level of CERN), and to position Europe in control of its own future.

The initiative was launched in June 2018 and now has the support of more than 3,000 people, most of them scientists, technologists, and researchers in Artificial Intelligence. The supporters represent the vast majority of Europe's AI community, spanning academia and industry, research and innovation. Among the supporters are more than 140 fellows from various key scientific associations. CLAIRE has opened administrative offices in The Hague, Saarbrücken, Prague, and Rome, with additional offices to be opened this year in Oslo, Paris, and Zürich. Furthermore, nine advisory groups with 48 members from 18 countries have been established, covering all areas of AI, along with the topics of ethical, legal and social implications of AI.

CLAIRE also consists of a membership network of over 320 research groups and research institutions, covering jointly over 19,000 employees in 34 countries. In addition, CLAIRE is working on setting up an industry network in order to follow up its commitment to foster close links between non-profit research and impactful industrial applications. The initiative has received official letters of support from the governments of seven European countries, from 28 scientific associations across all of Europe, from the European Association for Artificial Intelligence (EurAI, which is the key European association for AI researchers), from the Association for the Advancement of Artificial Intelligence (AAAI, the key international association for AI), and from the European Space Agency ESA.

CLAIRE is also actively liaising, on an ongoing basis, with other important organizations, including ELLIS, the HumanE AI consortium, the Big Data Value Association, euRobotics and AI4EU, as well as ESA. CLAIRE strongly endorses the general direction mapped out by the European Commission in its communication of 25 April 2018. CLAIRE's bottom-up, community-driven approach complements the top-down process put into place by the European Commission.

Contact: Morten Irgens (CLAIRE leadership), Oslo Metropolitan University, Norway: mortei@oslomet.no

About EurAI

The European Association for Artificial Intelligence EurAI (formerly ECCAI) was established in July 1982 as a representative body for the European Artificial Intelligence community. Legally established in Belgium, the association is governed by a board elected by its membership; there are no special board positions and the membership of the board rotates according to a long-standing constitution. The primary aim of EurAI is to promote the study, research and application of Artificial Intelligence in Europe. Its members are the national AI associations of

Europe and their individual members. Every even-numbered year, EurAI, jointly with one of the member associations of EurAI, organizes a European Conference on AI. This conference, abbreviated ECAI, has become the leading conference for this field in Europe: ECAI 2020 will be the 24th conference in the series. Usually on odd-numbered years, but not always, EurAI sponsors a specialized course in Artificial Intelligence, called Advanced Course on AI (ACAI). The EurAI Fellows program was established in 1999 to recognize individuals who have made significant, sustained contributions to the field of artificial intelligence (AI) in Europe. Fellows' accomplishments range from pioneering advances in the theory of AI, to unusual accomplishments in AI technology and applications. Usually only individuals who have made contributions to AI for a decade or more after receiving their Ph.D. (or are at an equivalent career stage) will be selected. Leadership in EurAI or EurAI member societies, support of forums for the exchange of ideas, and extended service for the international AI community also play a role in the selection process. Evidence of technical contribution will often be in the form of publications, but other evidence will also be considered, such as patent awards or statements of longstanding contribution to an industrial group effort. The EurAI Fellows Program honors only a very small percentage of the total membership of all EurAI member societies (up to a maximum of 3%). Since 1998, EurAI has awarded the annual Artificial Intelligence Dissertation Award for the best AI PhD defended in Europe. Since 2012, and every two years since, EurAI has awarded a Distinguished Service Award to a European AI leader who has provided exemplary service to the European AI community.

Contact: Barry O'Sullivan (President), University College Cork, Ireland: b.osullivan@cs.ucc.ie

About HumanE AI

The European commission released its AI strategy in April 2018, which puts human-centric and responsible AI based on fundamental human rights and values at its center. Furthermore, the Commission has selected six so-called preparatory actions (out of 33 original applicants following an EU-wide competition) that have each received a one-year grant of € 1 million to develop ambitious research agendas with the potential to have a transformational impact on science and technology and deliver competitive advantages to European industry and substantial benefits to society. One of these six initiatives – HumanE AI – is specifically focused on AI.

Accordingly, the Humane AI project (https://www.humane-ai.eu/) will develop the scientific foundations and technological breakthroughs needed to shape the ongoing AI revolution. The goal is to design and deploy AI systems that enhance human capabilities and empower both individuals and society as a whole to develop AI that extends rather than replaces human intelligence. The core challenge is the development of AI systems capable of what could be described as "understanding" humans, adapting to complex real-world environments and

appropriately interacting in complex social settings. The focus is on human-centered AI, with a strong emphasis on ethics, values by design, and appropriate consideration of related legal and social issues. The HumanE AI project will mobilize a research landscape far beyond the direct project funding and create a unique innovation ecosystem that offers substantial return on investment. It will result in significant disruption across its socio-economic impact areas, including Industry 4.0, health & well-being, mobility, education, policy and finance. It will spearhead the efforts required to help Europe achieve a step-change in AI uptake across the economy.

To realise this bold vision, the project consortium, with 35 partners from 17 countries, including four large industrial members, will define the details of all aspects necessary to implement a full scale Europan action and project, and mobilize major scientific, industrial, political and public support for the vision. Members of the consortium will also help to produce a research roadmap based in part on the recommendations from different existing EU policy and research papers, but with a distinctive focus towards a new and original scientific approach to AI based on enhancing European expertise.

Contact: Paul Lukowicz (Project coordinator), German Research Center for Artificial Intelligence (DFKI), Germany: paul.lukowicz@dfki.de

About AI4EU

AI4EU is the community set up around the European Union's landmark Artificial Intelligence project AI4EU and the European AI On-demand platform aiming at developing a European AI ecosystem. To that end, it brings together stakeholders through exchange of information, virtual events, knowledge, algorithms, tools services and resources and works to make it a compelling solution for users. With this project and by collaborating with existing and future Networks of Excellence, European regions, DIHs and multiple communities, AI4EU is building the basis of a European wide federated infrastructure and set of AI services to support and facilitate the use of AI by all kinds of stakeholders in Europe.