



The future of "AI made in Europe" & the role of language technology

Holger H. Hoos

claire-ai.org



CLAIRE

CONFEDERATION OF LABORATORIES
FOR AI RESEARCH IN EUROPE

All of AI. Across all of Europe.
With a human-centred focus

claire-ai.org

Futures of AI made in Europe - Scenario C: Distant 3rd

- European AI = distant 3rd to American, Chinese AI
- Large gap in tech & research capability;
strong dependency on tech designed + run elsewhere
- Top talent mostly displaced or working remotely
for global tech leaders anchored in the US
- European subsidiaries mostly focus on compliance
with EU rules & regulations

Futures of AI made in Europe - Scenario B: Niches & Specialties

- Like Scenario C ("Distant 3rd"),
except for “islands of European excellence”
- Islands tend to be small & highly specialised
- Economic benefits will be very uneven,
outweighed by broad dependence on technology
made elsewhere

Futures of AI made in Europe - Scenario A: Global Leadership

- **A** global leader in AI, **the** global leader in human-centred, trustworthy AI
- AI research + tech capability comparable to US, China; clear leadership in human-centred, trustworthy AI
- Clear leadership in global coalition strongly committed to AI for Good, AI for All
- Europe equally attractive to top talent as US, China

Key question:

**How do we realise Scenario A,
global leadership in human-centred AI?**

Needed: bold vision + concerted implementation

CLAIRE Vision: AI for Good, AI for All



About CLAIRE

- non-profit organisation (AISBL)
- goal: positioning Europe as global lead in human-centred Artificial Intelligence (AI)
- CLAIRE Research Network: 400+ AI research groups & institutes, representing over 23 000 employees
- CLAIRE Innovation Network: leverages this for benefit of Europe's businesses

About CLAIRE (2)

- Key role in setting up European Commission's PPP (Adra)
- Coordination mandate / major stake in EU-wide ICT-48 networks of centres of excellence
- Collaboration with & strong endorsement from European Space Agency (ESA)
- CLAIRE vision officially supported by 9 EU member state governments:



CLAIRE & NLP / Language Technology

- 193 of CLAIRE's 430 (= 44.9%) member groups have (some) expertise in NLP
- Informal Advisory Group NLP
- Involvement in 18-month EU project "European Language Equality (ELE)"
collect & document ideas, obstacles, needs, factors that drive development

14 Recommendations on EC's AI strategy



<https://claire-ai.org/claire-ec-ai-regulation-feedback>

Recommendation #1:

Any definition of AI used by the EU should be accepted by a broad majority of the international AI community.

What is AI?

What distinguishes **AI approaches** from other kinds of computation is that they **exhibit key aspects of behaviour considered as intelligent in humans, and thus enable fundamentally new levels of automation and delegation.**

AI encompasses algorithms and systems that can replicate, support or surpass human perceptual, **linguistic** and reasoning processes; learn, draw conclusions and make predictions based on large or small quantities of data; replicate or enhance human perception; support humans in diagnosis, planning, scheduling, resource allocation and decision making; and **cooperate** physically and **intellectually with humans** and other AI systems.

(Source: CLAIRE's Response to the European Commission White Paper on Artificial Intelligence, <https://claire-ai.org/ec-wp-response>)

What is Human-centred AI?

AI that aims to augment, rather than replace,
human intelligence

- compensate for human weaknesses, bias, limitations

Note: language is key to human interaction

Recommendation #7:

To achieve global impact, the investment into the European AI research & innovation ecosystem needs to be much more substantial, has to be made in a way that leverages broader parts of the European AI research ecosystem, and cannot be solely targeted to a set of weakly coordinated research networks.

NLP needs special attention!

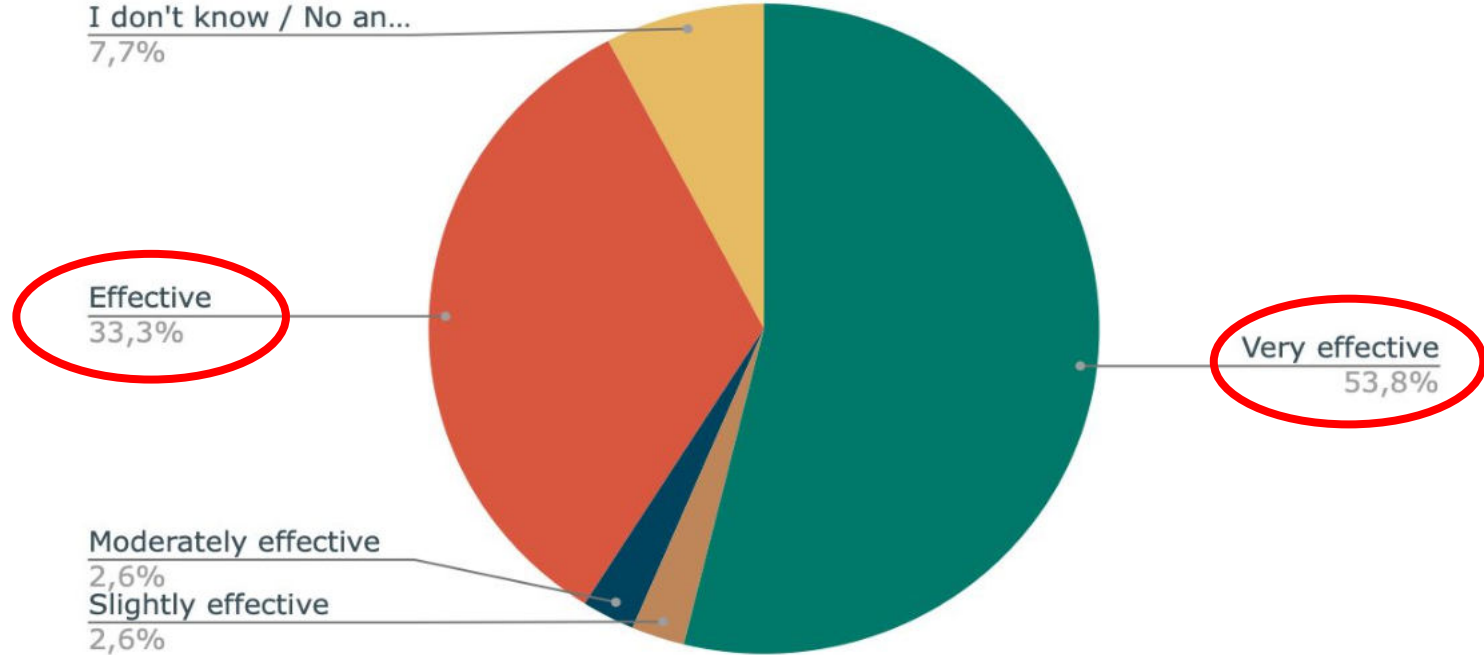
[...] dedicated, large-scale funding for **natural language processing**
- in light of **European language diversity**, another area of crucial
importance, also for public administration and industry -
appears to be missing from the coordinated plan, which threatens
to erode the existing European leadership in this area.

(CLAIRE response to the European Commission's Proposal for AI Regulation and 2021 Coordinated Action Plan on AI, p.22)

Recommendation #9:

Implement key parts of the coordinated plan through longer-term, mission-oriented investments, including 7- and 10-year funding for research networks.

"How effective can initiating a large-scale, long-term funding programme for European LT development be in speeding up the development and deployment of LT in Europe equally for all languages?"



[from CLAIRE's 2021 ELE survey]

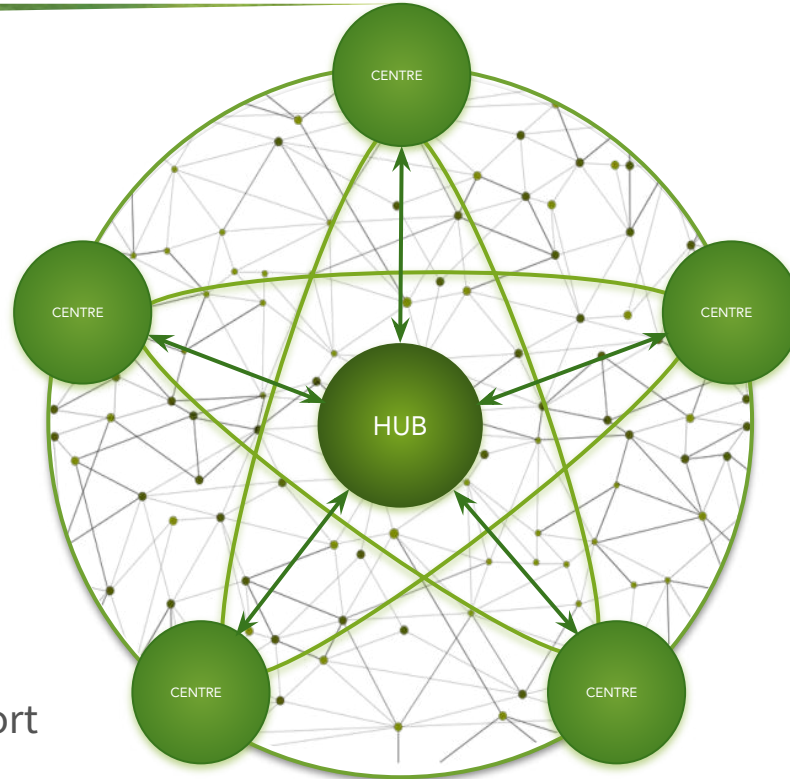
Recommendation #13:

Establish a central, physical European lighthouse centre for AI, in order to bring together the AI ecosystem and to create global momentum that can help Europe reach the ambitions stated in the coordinated plan.

CLAIRE Vision: Lighthouse Centre ("CERN for AI")

**Global attractor
for AI talent**

Focal point for
exchange & interaction



World-leading
infrastructure & support

**Symbol for European
excellence & ambition in AI**

CLAIRE Vision: Lighthouse Centre ("CERN for AI")

Goal (one of many):

Enable leadership in cutting-edge, open large language models free to use for non-profit and commercial uses

Take-home message:

**How do we realise Scenario A,
global leadership in human-centred AI, AI for Good, AI for All?**

Needed:

- bold vision + concerted implementation
- your help: Join CLAIRE as a member or supporter! (claire-ai.org)

Note: NLP and Language Technology play a key role!