

## Lost in translation: Europe's quest to speak AI

Scientists push to build a supercomputer to develop AI language models that aren't Chinese or American.



A woman views historical documents and photographs displayed in an art installation that uses artificial intelligence in Istanbul, Turkey | Chris McGrath/Getty Images

by **Louis Westendarp** • 21 HOURS AGO • 4 MINUTES READ

A group of European scientists, researchers and business interests wants to turn Europe into an artificial intelligence powerhouse by building a supercomputer to develop AI language models.

If they don't succeed, Europe will be stuck relying on foreign technology for AI applications, the group says — which would be yet another dependency dampening the Continent's economic power and scientific development.

So-called AI language models like the American [GPT-3](#) are systems that understand and generate text. The models have triggered a flurry of innovative tools, including multilingual search apps, robot-written [news articles](#), automatic translation and chatbots.

The U.S. and China are in a fierce race to dominate AI language models technology, with each side working on new scientific breakthroughs every year. Europe, on the other hand, is lagging.

"AI has taken a step forward that Europe has not taken until now — we are actually only in the spectator seat," said Hans Uszkoreit, scientific director of the German Research Center for AI. "If we're not even at the first step, then we're missing out on the next steps too."

Uszkoreit is one of a group of researchers pushing to develop Europe's own AI language models. To do so, the group launched a project called [Large European AI Models \(LEAM\)](#), aimed at building a new supercomputer — a large computer system capable of running and progressing the most complex AI — to be used exclusively for AI language models.

The project would look a bit like the nuclear research center CERN in Switzerland, researchers said. The supercomputer would cost €300 million and would be as powerful as the [Selene](#) computer by Nvidia, which [ranks](#) in the global top 10 supercomputers.

Right now, it's still a long way until the first LEAM language model.

## AI MODELS

Billions of parameters of large AI models since GPT-3.

Country	Model	Company	Date	Billions of parameters
China	Wu Dao 2.0	Beijing Academy of AI	Jun. 2021	1,750
U.S.	Switch Transformers	Google	Jan. 2021	1,600
U.S.	GLaM	Google	Dec. 2021	1,200
U.S.	PaLM	Google	Apr. 2022	540
U.S.	Megatron-Turing NLG	Microsoft and Nvidia	Nov. 2021	530
China	PanGu-Alpha	Huawei	Apr. 2021	207
Germany	Luminous	Aleph Alpha	Apr. 2022	200
EU	LEAM-1*	LEAM	2023	175-200
Israel	Jurassic-1 Jumbo	AI21 Labs	Aug. 2021	178
	BLOOM	BigScience	Jun. 2022	176
U.S.	GPT-3	OpenAI	Jun. 2020	175
U.S.	OPT	Meta	May 2022	175

**SOURCE:** German AI Association

By Giovanna Coi

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**POLITICO**

The promoters behind LEAM claim the project can advance [Europe's own policies on artificial intelligence](#), including building trustworthy and "human centric" AI systems and avoiding bias in AI-computed outcomes.

The European Union [in past years set out a strategy and pieces of legislation](#) to better control artificial intelligence systems, as it saw the technology boom. That includes a 2021 proposal for an [AI Act](#) that is currently being negotiated by EU lawmakers and national governments.

The models are trained for weeks and months on billions of data points, for instance by reading large chunks of the internet, and live on powerful hardware. But biases creep into models like China's [Wu Dao 2.0](#), which are almost impossible for European researchers to scrutinize.

It is pivotal that Europe can develop, examine and improve its own models, said Philipp Slusallek, professor at the University of Saarland and founder of the European AI organization Claire. A model that could link all European languages "would bring Europe closer together," he said.

It wouldn't matter which language in which a text was written — everyone would be able to read it. For countries like Germany and France, this wouldn't be the biggest concern "as they could afford a large computer," Slusallek said, "but when I think of Slovenia or Portugal, that simply won't be possible."

LEAM secured support from European industry giants like SAP, Bosch and Bayer, said Jörg Bienert, chairman of the project. The group is in talks with the German economy ministry to secure public funding for the supercomputer, too.

According to Slusallek, investment discussions have to "start on the German side because it takes far too long at the European level." But, he stressed, researchers from all over Europe should have access to that computing power.

In 2020, the Commission already dealt with funding AI research centers. But the EU executive decided to fund many smaller research centers instead of one big AI research hub under the Digital Europe Program, like LEAM advocates for today.

"The effect was completely lost," said Slusallek. "If I have a whole meadow full of lighthouses, nothing is a lighthouse anymore, then nothing sticks out."

