



MedGPT

An ethical approach to large language models for healthcare

To address the concerns of large language models (LLMs) in healthcare, the ITEA project MedGPT (Revolutionising Healthcare with Ethical AI) will embed ethical artificial intelligence (AI) and European compliance frameworks into an open-source platform that provides access to European-based LLMs, healthcare-specific datasets and a variety of applications.

Addressing the challenge

By generating human-like responses for use in healthcare, LLM tools can help tackle rising inefficiencies and the current lack of timely and reliable guidance for patients and practitioners. However, the most prominent AI-powered LLMs are complex and non-transparent, having been developed by big tech in the USA and China. European users, on the other hand, must comply with ethical legislation such as the EU AI Act and the General Data Protection Regulation (GDPR). This makes it difficult to ensure responsibility, openness, accountability and inclusiveness when introducing LLM-based products to European healthcare.

Proposed solutions

By developing an open-source platform that integrates ethical AI and European regulations from the outset, MedGPT aims to create the standard for medical generative pre-trained transformer (GPT) applications worldwide. This will be achieved by synthesising thousands of open, European-based LLMs with different architectures and compliance frameworks, for which the project will conduct a comprehensive stakeholder analysis to understand the requirements of ethical LLMs in a medical context. To demonstrate applicability across healthcare, use-cases will cover staff planning, early detection and prediction of patient deterioration, virtual assistants for patient monitoring, improved administrative and medical decision-making processes in paediatric care, text summaries of pregnancy journeys,

and the structuring of clinical process navigation. As a result, MedGPT will be able to use the platform to create a variety of healthcare-driven applications that empower a more digitally sovereign, resilient and competitive European healthcare market.

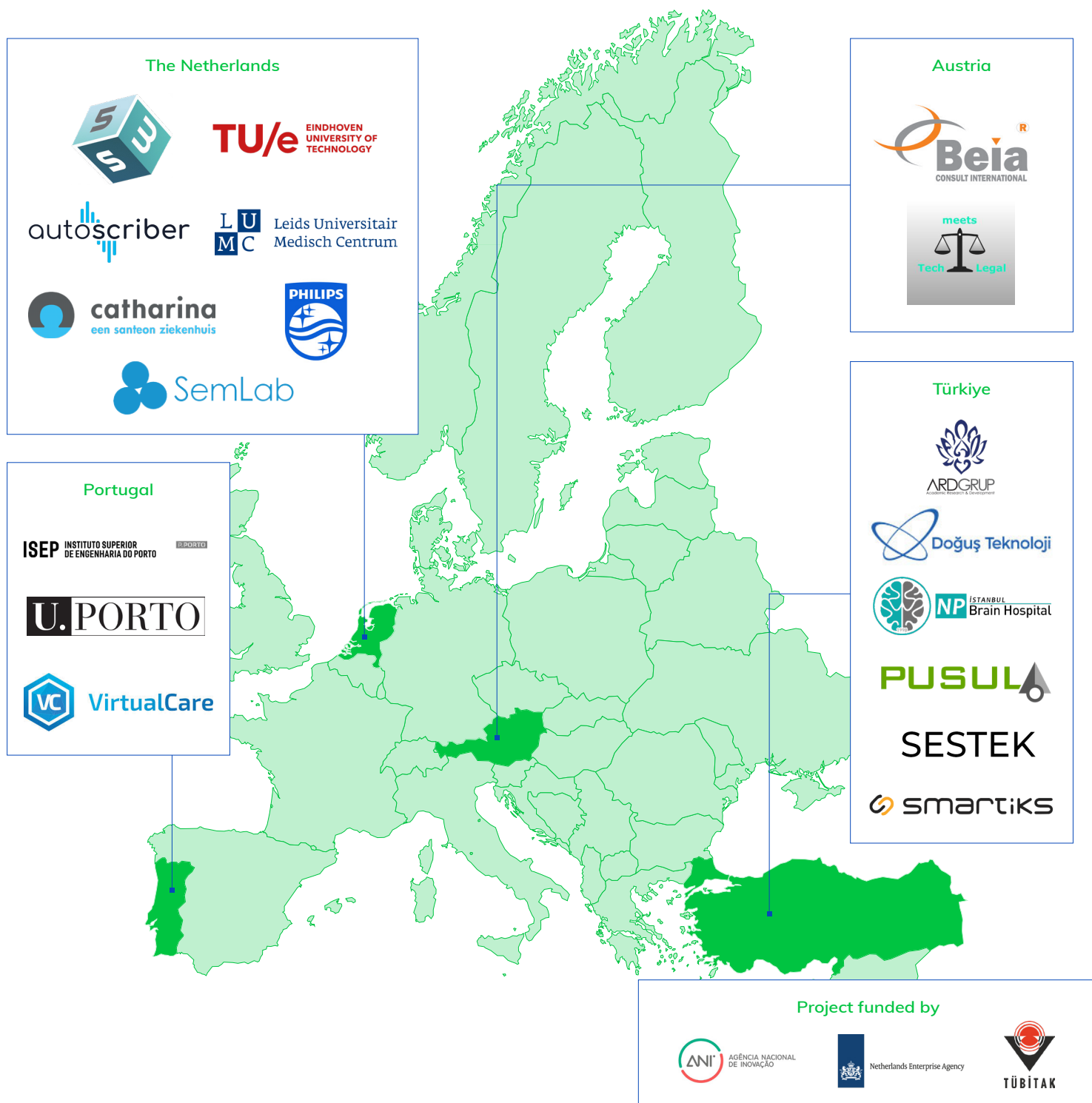
aims to achieve 65% better treatment selection, 45% fewer falls and 35% fewer readmissions – all of which help reduce the immense burden on staff. Regarding the wider healthcare system, MedGPT expects to reduce intensive care unit (ICU) futility by 10%, saving EUR 40,000 per ICU annually, and to reduce general hospital admission costs by 8%. From a commercial perspective, the business model will be based on a platform licence that provides access to open LLMs in a secure environment. As the European LLM market for healthcare is estimated



Projected results and impact

Through the innovative use of healthcare-specific datasets and pre-trained & fine-tuned generative transformers, MedGPT anticipates improvements in efficiency, accuracy and scalability beyond the current state of the art. This translates into benefits for both patients and hospitals. To boost patient quality of life, for instance, the project

to grow from EUR 3.75 billion in 2022 to around EUR 42.34 billion by 2032, this approach is expected to deliver EUR 350 million in overall annual revenue from three years after the project's conclusion. In the process, MedGPT aims for a paradigm shift towards smarter health applications, potentially disrupting current high-maintenance, rigid healthcare systems for the better.



Project start
January 2025

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Project website
<https://itea4.org/project/medgpt.html>
<https://medgpt.dev/>

Project end
December 2027

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