PROMETHEUS
Agentic AI for
Precision Prostate Cancer Care

PROMETHEUS: New EU-funded Research Project Advances AI for Precision Prostate Cancer Care

Integrating multimodal data and agentic AI to improve individualised treatment decisions.



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***Thursday, 15.10.2026, Heidelberg**: The EU-funded PROMETHEUS project unites cancer experts, clinicians and data scientists to develop AI-powered tools for more precise prostate cancer diagnosis and treatment.*

A prostate cancer diagnosis alone does not predict how the disease will develop. For some patients, the disease is slow-growing and can be safely monitored, while for others

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it may progress and require treatment. Understanding each patient's individual risk and deciding on the most appropriate care remains a major challenge.

Modern prostate cancer care generates a wealth of information, including clinical and laboratory data, medical imaging, pathology findings and long-term outcomes from previously treated patients. However, these different sources of information are often assessed separately and are not yet used to their full potential. Integrating them in a clinically meaningful way could provide a more comprehensive view of each patient's disease and support more precise risk assessment and treatment decisions.

This is the challenge that **PROMETHEUS (PROstate cancer Multimodal Explainable Transferable Holistic Expert for Universal Stratification)** aims to address. The consortium will develop and evaluate an agentic artificial intelligence (AI) framework that integrates information from multiple sources to identify aggressive prostate cancer, predict how the disease may evolve and support personalised treatment decisions.

PROMETHEUS officially started on **1 October 2026** and will run for four years. The consortium partners will meet online for the project's kick-off meeting on **15 October 2026**. Coordinated by the **German Cancer Research Center (DKFZ)**, the project involves seven organisations from Germany, the Netherlands and Sweden and receives **approximately €4 million in EU funding**.

From complex data to explainable clinical decision support

PROMETHEUS will develop an intelligent multi-agent system in which several specialised AI agents analyse different types of patient information, while the AI system combines their findings to provide a more comprehensive assessment of each patient's disease. The decision-support system will help clinicians address key questions across the prostate cancer pathway: How **aggressive is a tumour**? Is an intervention necessary? And which treatment strategy may be most appropriate for the individual patient? The aim is to support physicians in making complex decisions based on the full range of available evidence.

Strong performance in a research setting is only the first step towards clinical implementation. To be useful in healthcare, clinicians need to understand how an AI

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system reaches its conclusions and how reliable its predictions are. PROMETHEUS will therefore place particular emphasis on explainability and trustworthiness. The tools will be developed in collaboration with clinicians and evaluating it across several European centres. PROMETHEUS will also explore the use of synthetic medical data to facilitate privacy-preserving AI development across European centres without requiring the direct exchange of sensitive patient-level data.

"With PROMETHEUS, we are taking precision oncology to the next level: moving away from isolated findings toward intelligent, multimodal, and explainable clinical decision support," says PD Dr. med. Magdalena Görtz, PROMETHEUS Project Coordinator at DKFZ. *"If this allows us to reduce unnecessary interventions while simultaneously detecting aggressive prostate tumors at an early stage, it can in the long term improve patients' quality of life, strengthen medical care in Europe, and relieve the burden on the healthcare system."*

From risk assessment to treatment

PROMETHEUS will draw on data from **more than 20,000 patients** across the participating institutions. This will allow researchers to address two important clinical questions: how can we better identify patients at risk of aggressive disease, and how can we use what we know about an individual patient to support treatment choices and predict long-term outcomes?

Rather than presenting another isolated risk score, the explainable clinical decision-support system will integrate patient information, AI predictions, clinical guidelines and research evidence. Clinicians will be able to explore the evidence behind its recommendations and assess its reliability.

The aim is to support clinical judgement rather than replace it. Instead, PROMETHEUS wants to give them a clearer way of navigating the large amount of information already available about their patients. In the longer term, PROMETHEUS could help clinicians identify aggressive disease more accurately, avoid unnecessary procedures and support treatments choices that better reflect the individual patient.

Through the EIC Pathfinder programme, the European Commission funds visionary and ambitious projects with the potential to develop breakthrough technologies. The

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PROMETHEUS consortium comprises seven organisations from three European countries: the DKFZ German Cancer Research Center Heidelberg, Heidelberg University Hospital and PNO Innovation GmbH (Germany), Erasmus University Medical Center Rotterdam and Radboud University Medical Center (the Netherlands); and Umeå University and Karolinska University Hospital (Sweden).

For more information:

- Follow the project's journey right from its start on social media: PROMETHEUS Cancer EU Project | LinkedIn
- PROMETHEUS Press Contact: Chiara Lonoce, PROMETHEUS Project Office, **coordination@prometheus-cancer.eu**.

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