



Cerapedics is committed to scientific and clinical research, aspiring to transform the standard of care for bone repair. We are generating clinical data to support faster bone healing, at higher rates, without compromising safety, so that patients can live their healthiest lives. Some of the research initiatives supported by Cerapedics are described below.

PRosPERoS-II Interreg Vlaanderen-Nederland

PRosPERoS develops personalized bio-active bone implants for functional recovery.



Gefinancierd door
de Europese Unie



prosperos-II

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PROsPERoS-II, a continuation of the PROsPERoS-I project, is a large research project led by Maastricht UMC+ in the field of 'smart' 3D-printed implants for orthopedic applications. The research focuses on the development of biologically active implants that can be customized to the needs of each individual patient. If successful, this may lead to faster rehabilitation and a reduction in the need for additional surgeries. As a result, PROsPERoS-II is designed to make a significant societal contribution to healthy aging.

Degenerative joint conditions pose an inevitable problem in an aging population, especially issues with the hips, knees, or spine. While placing a prosthesis or implant can be a solution for patients, the current generation of implants unfortunately have a limited lifespan; often requiring revision surgery at least once. This replacement process is seldom easy and can result in significant bone defects. The standard treatment for bone repair surgeries involves using the patient's own bone or synthetic fillers in combination with medical implants. These are often lengthy operations with a high risk of infection shortly after or in the long term. Treating such infections is a challenging process associated with prolonged hospitalization and high healthcare costs. There is a clear need for a new generation of medical smart implants. Ideally, these implants should be specifically tailored to the patient's anatomical shape, accelerate the healing process, and prevent infections.

From multidisciplinary research to application in the hospital

The PROsPERoS project closely aligns with the agreement between the provinces of Flemish Brabant and Dutch Limburg to strengthen developments in regenerative medicine in the region.

Researchers aim to present the first application of the implants in the clinic within four years. Additionally, this project stimulates economic development in the region and beyond through innovation and knowledge-sharing, creating direct and indirect employment opportunities at the involved companies and research institutions. International collaboration in this field further enhances the vitality of the region.

The PROsPERoS project is financed by the following partners: **The European investment fund Interreg Netherlands-Flanders** invests almost 2.3 million euros in the project, half of the total investment. Additionally, the **Ministry of Economic Affairs (NL)**, the **Flemish Agency for Innovation & Entrepreneurship (B)**, and the **Provinces of North Brabant (NL)** and **Flemish Brabant (B)** jointly invest an additional 1 million euros into the project.

Other partners in the project include:

- MUMC/AZM
- Admatec
- Antleron
- Brainport Eindhoven
- Fited
- KU Leuven
- Medanex Clinic
- Replasia
- Smart Biomaterials Consortium
- TU Delft
- TU Eindhoven
- UMC Utrecht

The PROSPERoS-II project is led by Maastricht UMC+ and has the following cooperative partners:



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