



## TEAM Project

### Technologically Enabled Advancements in Dental Medicine

#### WP4 – Project Management and Dissemination

#### D4.2 Report on National and European Project Applications

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This report presents the international and European project applications developed within the TEAM Project – Technologically Enabled Advancements in Dental Medicine. The activities aimed to strengthen international collaboration, increase institutional participation in European research programmes, and expand interdisciplinary research directions in digital dentistry, artificial intelligence, virtual surgical planning, and cranio-maxillofacial applications.

The project applications developed within the reporting period contributed to the consolidation of international research partnerships and supported the integration of the host institution into European research and innovation networks.

## I. Swiss–Romanian Cooperation Programme

### **RESPIROS – Innovative Treatment in Pierre Robin Sequence and Cleft Palate: Integrating Basic and Applied Research with Clinical Applications**

An international research proposal entitled *Innovative Treatment in Pierre Robin Sequence and Cleft Palate: Integrating Basic and Applied Research with Clinical Applications* (RESPIROS) was submitted within the Swiss–Romanian Cooperation Programme, with the registration code: F-RO-CH-2024-0310

The proposal focused on the development of personalized therapeutic approaches for Pierre Robin Sequence (PRS) and cleft palate using digital technologies, 3D reconstruction, additive manufacturing, and bioengineering methods. The project additionally proposed the development of cloud-based digital platforms and clinically validated therapeutic devices for improving airway management and feeding in newborn patients.

The consortium included: the University of Basel, Switzerland, Medical University of Plovdiv, Bulgaria and Iuliu Hațieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania. The proposal was not selected for funding.

## II. National Research Project Application

### **OSTEOREGEN - New bioactive antimicrobial drug delivery nanocomposite membrane for osteonecrosis treatment**

An additional national research proposal entitled *“New bioactive antimicrobial drug delivery nanocomposite membrane for osteonecrosis treatment”* (OSTEOREGEN) was submitted within the PED competition, in partnership with MegaGen Dental Implant SRL (registration code: PN-IV-P7-7.1-PED-2024-0999).

The project focused on the development of innovative bioactive nanocomposite membranes with antimicrobial and drug delivery properties for the treatment of osteonecrosis. The proposal included interdisciplinary research activities combining biomaterials, regenerative medicine, and clinical applications in maxillofacial pathology. The project was accepted for funding.

## III. Horizon Europe Twinning Proposal

### **TWIN-MAX - A Virtual Human Twin Framework for Personalized Maxillofacial Surgical Planning**

A Horizon Europe proposal entitled *TWIN-MAX* was submitted in April 2026 within the call HORIZON-WIDERA-2026-02 (proposal ID: 101338805).



The proposal aims to strengthen research excellence and innovation capacity at the “Iuliu Hațieganu” University of Medicine and Pharmacy through a Twinning partnership with two leading European institutions (KU Leuven, Belgium and Université Paris Cité, France).

The scientific component focuses on the development of digital twin methodologies for cranio-maxillofacial surgery through the integration of artificial intelligence, multimodal imaging, virtual patient generation, and mixed-reality simulation workflows. The proposal additionally includes training activities, staff exchanges, workshops, and collaborative research activities designed to strengthen institutional research capacity and support early-career researchers.

The evaluation process is currently ongoing, with the final evaluation results expected in July 2026.