

MULTIPLIER EVENT ON BIOMEDICAL INNOVATIONS THROUGH DIGITAL TRANSFORMATION - REPORT

Organized by Poznań University of Technology
in cooperation with the BIOMEDIX project consortium partners

On October 27, 2025, Poznań University of Technology (PUT) hosted a successful Multiplier Event as part of the BIOMEDIX project. The first Multiplier Event in the project, entitled "Biomedical Innovations Through Digital Transformation," brought together researchers, industry experts, healthcare professionals, and students to explore cutting-edge advancements in biomedical engineering, and serving as a summary of the Work Package 2 of the project. Held at the Lecturing Centre (room L053) on the PUT campus at Piotrowo 3, Poznań, Poland, the full-day gathering ran from 9:00 to 16:30 CEST, with 70 participants from outside the consortium on site, plus a number of listeners online. It was announced in the local radio station (Radio Afera), through a live interview with the main organizer, prof. Filip Górski, three days before the event.

Organized in collaboration with the BIOMEDIX consortium partners, the event aimed to disseminate project outcomes, foster knowledge exchange, and highlight practical applications of digital technologies in medicine. The day commenced with an opening and welcome ceremony at 9:00, led by key figures from the hosting institution and the project team. Prof. Bartosz Gapiński, Dean of the PUT Faculty of Mechanical Engineering, delivered a warm welcome, emphasizing the importance of interdisciplinary collaboration in advancing biomedical innovations. He was joined by Prof. Filip Górski, Vice-Dean for Science of the Faculty and BIOMEDIX PUT Coordinator, who outlined the event's objectives and its alignment with the project's goals. Prof. Yuri Dekhtyar, the overall BIOMEDIX Project Coordinator from Rigas Technical University, participated online, providing an international perspective and underscoring the consortium's commitment to digital transformation in healthcare.

Following the opening, Prof. Filip Górski and Prof. Razvan Pacurar from the Technical University of Cluj-Napoca (online) presented an overview of the BIOMEDIX project, especially focusing on the finalized WP2 activities. They detailed the project's progress, including key milestones achieved in developing curricula and tools for next-generation medicine. This session set the stage for deeper dives into specific topics, highlighting how digital technologies like 3D printing, virtual reality (VR), and augmented reality (AR) are revolutionizing biomedical practices.

The morning continued with a series of insightful BIOMEDIX presentations delivered online by consortium partners. Prof. Joaquin Roca Gonzales from the University Polytechnica of Cartagena discussed curriculum needs for emerging Technologies in next-generation medicine, exploring educational frameworks to equip future professionals with skills in AI-driven diagnostics and personalized treatments. Prof. Nikola Vitkovic from the University of Nis followed with a talk on application of innovative technologies in chronic wound treatment, showcasing how advanced materials and digital modeling can improve patient outcomes in wound care. Prof. Yuri Dekhtyar shared his vast experience on electrical charging of a 3D printed surface and its impact on interacting bioobjects, delving into the biophysical interactions between 3D-printed implants and biological tissues. To conclude the session, Prof. Sven Maricic and Eng. Mihael Holi from Juraj Dobrila University of Pula demonstrated accessible tools for designing medical devices.

In the next session, the event featured industry insights. Starting with Giulia Rosellini from MATERIALISE NV (Belgium) presenting selected case studies of customized surgical devices. She illustrated real-world applications of 3D printing in creating patient-specific implants and surgical guides. Johanna Bruckhuber from ViscoTec (Germany) followed, exploring medical grade 3D printing with fluids and pastes, focusing on bioprinting techniques for tissue engineering. The program then shifted to local, invited company presentations. Representatives from the B3D company, Natalia Thom and Kacper Filipek, demonstrated dynamical 3D scanning for diagnosis and rehabilitation, highlighting how dynamic scanning

aids in personalized rehabilitation plans, showcasing proprietary Ave 3D technology. Maciej Pawłowski from HoloVectors followed with holography for medicine as a new standard of medical visualization, showcasing holographic tools for enhanced surgical planning and education.

Academic and healthcare perspectives rounded out the pre-lunch sessions. Prof. Jakub Rybka, Director of the Nanobiomedical Center at Adam Mickiewicz University (Poznań, Poland), shared current advancements and experimental work in bioprinting and tissue engineering, discussing ongoing research in regenerative medicine. Dr. Łukasz Słowik from the University Clinical Hospital in Poznań presented on use of additively manufactured models and guides in the operating room for maxillofacial surgery, providing practical examples from clinical settings and point of care manufacturing (in cooperation with PUT's representatives).

The afternoon session started with hands-on practical workshop on Mixed Reality (MR) applications for medicine. Led by Prof. Filip Górski, VR specialists Jakub Gapsa and Paweł Buń, as well as Dr. Magdalena Żukowska, and members of the D3DAL Student Research Group, the session included live demonstrations of MR tools, allowing attendees to test interactive simulations for medical training and visualization. It was also possible for the participants to interact with 3D printed anatomical and orthopedic devices, showing the current state of technology available at PUT's BIOMEDIX laboratories. Finalizing the event, Dr Magdalena Żukowska introduced the BIOMEDIX e-Book and VR/AR applications, guiding participants on how to download and interact with these resources created during the WP2 of the project, for ongoing learning (these are available here: <https://bini.rtu.lv/biomedix/e-book/>). This was followed by a Q&A session at 16:15, moderated by Prof. Filip Górski and Magdalena Żukowska. The event concluded at 16:30 with closing remarks, summarizing the day's achievements and expressing gratitude to all contributors.

This Multiplier Event was a huge success, with the number of participants doubling the initial expectations. It not only disseminated BIOMEDIX's innovative outputs but also strengthened partnerships across Europe, paving the way for further advancements in biomedical digital transformation. Aftermath of the event was reported in Faculty's social media, as well as in the university's newspaper (Głos Politechniki).

Organizing Committee: Filip Górski, Magdalena Żukowska
Natalia Wierzbicka, Emilia Smolarek, Remigiusz Łabudzki, Justyna Rybarczyk, Jakub Gapsa, Paweł Buń and volunteers from the D3DAL Student Group

Photos from the event:





