

BIOMEDIX Staff Training on Bioprinting and Additive Manufacturing Technologies at ViscoTec (Germany) – 21-23 April 2026

ViscoTec Pumpen- u. Dosiertechnik GmbH organized, on April 21–23, 2026, a specialized international staff training on bioprinting and additive manufacturing technologies, held in Töging am Inn, Germany, within the framework of the ERASMUS+ KA220 BIOMEDIX project – Biomedical Innovations through Digital Transformation of Additive Technologies and Knowledge Exchange.

The aim of the training was to strengthen the competencies of academic staff and project partners in the field of additive manufacturing of liquid and paste-like materials, with a particular focus on bioprinting technologies, as well as to support the development of interdisciplinary research directions and educational content within the BIOMEDIX project.

The event brought together representatives from BIOMEDIX partner institutions, including Riga Technical University (RTU), Poznan University of Technology (PUT), Technical University of Cluj-Napoca (TUCN), University of Niš (NIS), and the industrial partner ViscoTec Pumpen- u. Dosiertechnik GmbH. Additional partners, including Universidad Politécnica de Cartagena (UPCT) and Juraj Dobrila University of Pula (UNIPU), contributed remotely during the project discussions and strategy workshop sessions. The training fostered close collaboration between academia and industry, providing a platform for knowledge exchange and joint development of innovative biomedical applications.

On April 21, the program focused on the fundamentals of progressive cavity pump technology, which enables precise dosing of materials in additive manufacturing processes. Participants were introduced to key principles of additive manufacturing and bioprinting, followed by a live laboratory demonstration. During this session, a case study on the fabrication of silicone breast implants was presented, illustrating the full workflow from material preparation and dosing to the final printed structure. The demonstration provided valuable insights into the practical implementation of liquid-based 3D printing technologies for medical applications.

On April 22, a strategy workshop was organized to align ongoing activities within the BIOMEDIX project and to further develop the BIOMEDIX e-toolkit. During this session, project partners presented the current status of several collaborative case studies, including:

- elastic resin scaffolds for heart tissue regeneration,
- FDM-based PEEK skull implants,
- SLS/SLM metal mandible implants,
- 3D printing of silicone breast implants,
- silicone tongue implant development.

The workshop also addressed the development of educational materials, including filming strategies and content formats for the e-toolkit, with division of roles and responsibilities. Project publications and Bachelor's, Master's, and PhD research projects were also discussed addressing the needs for BIOMEDIX project.

On April 23, participants attended the ViscoTec Additive Manufacturing Experience Day 2026, which provided a comprehensive overview of industrial and research applications of fluid-based additive manufacturing technologies. The event included expert lectures, live

demonstrations, and guided tours of ViscoTec's production and innovation facilities. Special attention was given to the application of eccentric screw technology, enabling precise 3D printing of materials such as silicones, polyurethanes, conductive pastes, ceramics, and biological substances.

The Experience Day showcased a wide range of practical applications across sectors, including medical technology, aerospace, automotive, and research and development. Demonstrated use cases included patient-specific medical devices, organ models for surgical planning, prototyping solutions, and functional materials with advanced mechanical and electromagnetic properties. The event also provided opportunities for networking with experts from academia and industry, fostering future collaboration and knowledge exchange.

Through this training, BIOMEDIX project partners gained valuable theoretical knowledge and practical experience in state-of-the-art bioprinting and additive manufacturing technologies, which will be directly integrated into the project's research activities and educational outputs. The acquired expertise will contribute to the development of innovative biomedical solutions and support the implementation of future BIOMEDIX activities.



