



F.O.M.
Research Association Precision Mechanics,
Optics and Medical Technology

3DCool-Implant

Highly wear-resistant, additively manufactured implants and components due to an innovative diffusion treatment and residual stress reduction

The service life of materials currently used for implants is limited, which means that there is a calculable probability of failure for every implant. The objective of this project is the realization of an advanced titanium alloy material for long-term implants with high wear resistance and improved biocompatibility using additive manufacturing technology for individualized and quickly producible implants or their components. This is to be achieved by developing a process chain comprising an adapted technology combination of cryo-treatment, plasma diffusion treatment with nitrogen and dry electropolishing, among other things.

13/02/2024

Research institutes

- Fraunhofer IWU Chemnitz
- Fraunhofer IST Braunschweig
- Technical University of Ostrava VSB

Funding

- Planned project start: 01/2025
- Project duration: 24 months
- Funding: will be applied for through the IGF programme, CORNET funding line (BMWK, MPO)
- Funding requested: 625,000 €

Industrial advisory committee

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Contact

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