

FEops simulation technology supports TRiCares from initial design concepts to a successful first-in-human

GENT, Belgium, August 12th, 2021— [FEops](#), a leader in predictive planning for structural heart interventions, is proud to announce that its simulation technology supported [TriCares](#) from initial design concept to a successful first-in-human of the Topaz Tricuspid Valve Replacement (TTVR) system, developed by TRiCares SAS. This is a major step forward towards predictive simulation-based TTVR procedure planning.

The digital twin simulation technology for TTVR was developed by FEops and already utilized by TRiCares from the early R&D phase onwards of the Topaz TTVR device. FEops created a complete virtual environment in its FEops HEARTguide research version allowing to implant a faithful device replica (validated through experimental tests) into the patients' digital twin extracted from the medical images over the full cardiac cycle. The cyclic motion of the heart applied to the device model gives unique insights into possible migration of the implant and the identification of critical spots in the design of the device. “This is a unique approach to assess fatigue safety of artificial heart valves in vivo”, says Francesco Iannaccone, Key Account Manager at FEops.

“FEops simulation technology has been a valuable addition to our R&D group at every step of our device development, providing crucial anatomical insights, preventing fatigue issues in the early design of our device, assisting with the development of appropriate fatigue bench tests, and finally giving additional confidence for a successful Topaz TTVR first-in-human through their simulated preoperative implantations”, Coralie Marchand, Senior Engineer R&D at TRiCares commented.

“This milestone will foster the future expansion of our portfolio of structural heart planning tools in the right heart and reinforces the unique value FEops brings in assisting valve manufacturers with its innovative simulation technology”, says Gianluca De Santis, FEA Services Director at FEops.

Press Contacts

Matthieu De Beule, PhD

CEO

Tel: +32 9 292 80 30

Email: matthieu.debeule@feops.com

About FEops

Privately held FEops, headquartered in Gent, Belgium, is a digital health player offering cloud-based procedure planning solutions in the structural heart space. It's FEops vision that combining digital twins with AI-enabled anatomical analyses generates data-driven insights aspiring to enhance and improve procedure planning and periprocedural guidance. In September 2017, FEops announced that it closed a 6 million euros financing, led by Valiance, and joined by existing investors Capricorn Partners and PMV. In December 2019, FEops has been awarded a grant of Euro 3.2 million from the European Innovation Council (EIC) accelerator programme.

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