

Press Release

Aachen-based Startup Company Protembis Successfully Closes \$ 10 Million Series A Financing

Protembis Develops a Novel Catheter-Based Filter System to Protect Patients Undergoing Interventional Heart Procedures from Stroke and Other Neurological Injuries

Aachen, October 26, 2018 – The Managing Directors and founders of [Protembis GmbH](#), Karl von Mangoldt and Conrad Rasmus, have successfully closed a Series A financing round in a structured process.

A syndicate consisting of the US listed medical technology company [Abiomed Inc.](#), the [Seed Fonds III for the region of Aachen and Mönchengladbach GmbH & Co. KG](#), [coparion GmbH & Co. KG](#), as well as renowned family offices and internationally experienced angel investors, has invested in the Aachen-based medical technology startup Protembis GmbH. The company is developing a novel and innovative cerebral protection system that is designed to minimize the risk of stroke and other neurological injury, particularly during catheter-based heart valve implantations. Protembis has raised a total of \$ 10 million in an oversubscribed Series A financing round and expects to bring its product to market maturity with this round.

ProtEmbo Minimizes the Risk of Particle Migration to the Brain During Interventional Heart Procedures

Protembis has developed the "ProtEmbo Cerebral Protection System" – also called the "ProtEmbo" – to minimize the risk of stroke and other neurological injury in heart valve interventions. Nowadays, the calcified native aortic valve can be replaced by an artificial heart valve, which is advanced via a catheter into the left ventricle, i.e. to the site of the calcified native valve. This procedure is called transcatheter aortic valve implantation (also called "TAVI" or "TAVR"). The heart valve prosthesis is opened, presses the old and defective native valve against the vessel wall and thus takes over its function. TAVI is a quicker and less invasive procedure and is conducted while the heart is beating; it is associated with less pain and a shorter hospital stay than the alternative open-heart surgery.

In both methods, however, there is a risk that calcific debris from the native heart valve or aorta is detached and then migrates to the brain via the bloodstream, where it can cause stroke or other neurological complications. The drugs used before, during and

shortly after the heart valve procedure do not provide complete protection against this risk.

"Literally every TAVI intervention leads to particle migration to the brain" says Karl von Mangoldt, co-managing director and co-founder of ProteMBis. "Recent clinical studies have shown that up to 9 percent of TAVI patients suffer a stroke" adds Conrad Rasmus, also co-managing director and co-founder of ProteMBis. The ProteMBis team wants to minimize this risk with its novel device. The ProtEmbo is a catheter-based filter device which is advanced intuitively, safely and quickly via the radial artery of the left arm before the start of a TAVI procedure and removed again at the end of the procedure in order to prevent the migration of particles to the brain. The permeable material of the filter covers all arteries leading to the brain while allowing free passage of blood cells and blocking even the smallest embolic particles. The filter is coated with heparin to prevent it from clotting during the procedure, as well as prevent thrombus formation on the filter surface. "Patient safety should always be our top priority." says Dr. Thorsten Siess, Chief Technology Officer at Abiomed. "We see great potential in ProteMBis' technology to make TAVI neurologically safer and thus enable TAVI to be used in an even larger patient population".

High Market Potential

"We see enormous potential for ProteMBis in this rapidly growing market segment, due to the demographic development and the associated increase in the number of minimally invasive heart valve interventions – and concomitant cerebral protection procedures" says Markus Krückemeier, Managing Director of the management company of Seed Fonds III Aachen und Mönchengladbach. "The evidence for the clinical need and potential benefit of cerebral protection during TAVI has grown significantly in recent years – ProteMBis therefore addresses a strong clinical need" adds Dr. Sebastian Pünzeler, Investment Manager at coparion.

ProtEmbo Has Already Been Successfully Used in Human Studies

ProteMBis has already successfully demonstrated the initial safety and feasibility of the ProtEmbo in a first-in-human clinical study – the effectiveness of the technology was also shown. "We plan to conduct further clinical studies in renowned heart centers in Europe and the U.S.A. and want to bring the ProtEmbo to market as quickly as possible" says Oliver Schumacher, Chief Technology Officer at ProteMBis.

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Pictures:

Picture 1: Karl von Mangoldt,
Co-CEO and co-founder of
Protembis GmbH
Source: Protembis GmbH



Picture 2: Conrad Rasmus,
Co-CEO and co-founder of
Protembis GmbH
Source: Protembis GmbH



Picture 3: Oliver Schumacher,
Chief Technology Officer of
Protembis GmbH
Source: Protembis GmbH