



EUROPEAN UNION

European Regional
Development Fund

Senate Department
for Economics, Energy
and Public Enterprises



LIVING WITH ALL YOUR HEART

IF YOUR HEART DOES NOT WANT TO BEAT AS IT SHOULD, it is not necessarily to do with age. Congenital heart defects, myocardial diseases, circulatory disorders or postoperative complications are just a few causes of heart failure. Berlin Heart steps in if medication or surgery are no longer helpful. The company develops, produces and markets innovative cardiac support systems. These so-called VADs (ventricular assist devices) are frequently used to bridge the waiting time prior to a heart transplant. Sometimes, they are so effective that the heart recovers thanks to the support, and can function properly on its own again. Whether cardiac assistance is needed on the left, the right, or both sides, the EXCOR® Adult and EXCOR® Pediatric products from Berlin Heart meet the highest demands for precision and reliability. Especially when it comes to its two-sided cardiac support systems, the company is almost unrivalled. And what's more: Berlin Heart is the only provider worldwide that offers cardiac support systems which are also suitable for infants, children and teenagers, thanks to the various blood pump and cannula sizes. The company sees particularly great potential for growth in this area.

“OUR PRODUCTS ALLOW PATIENTS WITH SEVERE HEART FAILURE TO LEAD A NORMAL LIFE TO THE GREATEST POSSIBLE EXTENT. ABOVE ALL, WE GIVE CHILDREN AND TEENAGERS A FUTURE, THANKS TO OUR LIFE-SUPPORTING SYSTEMS. THAT IS THE FOCUS OF OUR RESEARCH.”

Sven-René Friedel,
Managing Director, Berlin Heart GmbH

TO INVESTIGATE THE POSSIBILITY OF A FULLY IMPLANTABLE VAD SYSTEM FOR CHILDREN, which would pave the way for a therapy that is specially adapted for young people, Berlin Heart is working with the Biofluid Mechanics Laboratory of Charité – Universitätsmedizin Berlin on a project called “Erforschung eines pädiatrischen VAD-Systems” (Researching Paediatric VAD Systems). This project is supported by the *European Regional Development Fund (ERDF)*, through the **Programm zur Förderung von Forschung, Innovationen und Technologien – ProFIT (Programme to Fund Research, Innovation and Technologies)**, which funds industrial research and experimental development in Berlin-based companies.

THE EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) IN BERLIN MAKES IT POSSIBLE to understand and further develop this field, with its enormous technical and clinical challenges, and to help children with severe heart conditions.



An employee of Berlin Heart GmbH carrying out a particle check

IMPLANTABLE CARDIAC SUPPORT SYSTEMS FOR CHILDREN

With its EXCOR® systems, Berlin Heart is already able to treat patients of all ages. However, equipment which is already available for adults – namely cardiac support systems for heart failure therapy, in which both the cannula and pump are implanted – cannot be fully transferred to children. For example, cardiac support for children is paracorporeal, meaning that the blood pump remains outside the body.

Berlin Heart has taken on the task of changing this. The company is working on adapting the physiological criteria (e.g. the dimensions or the pressure and flow range) specifically for children. Since only around 1,000 young patients a year rely on this form of cardiac support, this part of the market is of no commercial interest to the large VAD providers. But the clinical need is there.

Building on the scientific foundations to be developed, the first fully implantable cardiac support system for children is to be developed and clinically tested. This will have a positive impact on the profitability and the long-term market position of Berlin Heart as a niche provider. Thanks to its close proximity to its Berlin-based partner, Charité, the company can optimally pool local resources with them. The later product development should be carried out directly in Berlin. The project is unique and has a high scientific and ethical appeal, which stretches far beyond the city limits of Berlin.

THE ERDF PROMOTES INNOVATION

Since 2009, the European Regional Development Fund (ERDF) has supported Berlin Heart GmbH with grants and loans from the ProFIT funding programme in developing its products and successfully introducing them to the market. Thus, the ERDF is supporting the company on its path to becoming the leading provider of cardiac support systems for both adults and children.

THE ERDF IN ACTION IN BERLIN

With ERDF funding, the State of Berlin is able to finance programmes for the targeted promotion of innovation and technologies in local companies and research institutions in cooperation with companies. The ProFIT programme facilitates research, development and market launch projects by awarding grants and loans. This will further establish Berlin as a location for highly innovative research and development.

Specifically, the ERDF ensures that:

- scientific bases for specific product innovations can be developed
- local research associations can be strengthened
- scientific expertise and reputation are formed in Berlin that are visible worldwide
- high-quality jobs are created and maintained in the important and complex field of medical technology
- innovations and new technologies in Berlin-based companies are financed



The EXCOR® cardiac support pump from Berlin Heart



The EXCOR® Pediatric cardiac support system from Berlin Heart



EXCOR® Pediatric, for children

FUNDING GUIDELINES: CONTACT:

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FUNDING INSTRUMENT

Programm zur Förderung von Forschung, Innovationen und Technologien – ProFIT (Programme to Fund Research, Innovation and Technologies)

FUNDING AMOUNT

€ 2,210,000, 50% from ERDF

PROJECT TERM

19.12.2019 – 31.12.2022

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