



BellaSeno and Charité – Universitätsmedizin Berlin Collaborate Under BMBF-Funded SyMBoD Consortium

- *Development of absorbable implants for the personalized treatment of bone defects in patients with diabetes*
- *BellaSeno responsible for high resolution, medical-grade scaffold manufacturing under ISO 13485*

Leipzig, Germany, March 24, 2020 - BellaSeno GmbH, a company developing absorbable scaffolds using additive manufacturing technologies, today announced a collaboration with Charité – Universitätsmedizin Berlin under the recently established SyMBoD consortium. Under the agreement, BellaSeno will design and manufacture personalized, 3D-printed, absorbable implants suitable for the treatment of diabetes patients with bone defects. The goal is to restore blood supply and facilitate the regeneration of persistent bone defects that do not heal otherwise. The consortium is an interdisciplinary project covering innovative digital technology based on systems medicine and precise, reproducible additive manufacturing. Within the consortium, BellaSeno is fully responsible for ISO 13485-compliant, medical-grade scaffold manufacturing.

“Current research suggests that 3D-printed scaffolds, which have been optimized mechanically and biologically, can improve bone regeneration,” said Dr. Navid Khani, Head of R&D of BellaSeno. “Our custom-made, high-speed additive manufacturing platform is very precise, generates highly reproducible structures and has been certified according to ISO 13485 standard. We are therefore very well positioned to produce state-of-the-art, medical-grade scaffolds for a variety of applications. This is the first project underlining our manufacturing capabilities for external industry and academic partners.”

“We have selected BellaSeno because of the team’s unique expertise in additive manufacturing of porous structures with extremely small features as required for our intended application,” said Dr. Su Ping Patrino Poh of Charité’s Julius Wolff Institute (JWI). “This strategic inclusion of BellaSeno is also driven by the fact that, to our knowledge, they are the only company within Germany with the capability to perform the entire additive design and manufacturing process chain with ISO13485 certified processes, which is highly aligned with our intention of clinical translation in the future.”

BellaSeno is producing 3D-printed absorbable implants in very high-resolution lattice-based structures using melt-extrusion technology. While numerous companies can manufacture porous structures using 3D-printing technologies, it is extremely challenging to reproducibly generate structures if the required unit-cell size is less than 3



mm. Using its custom-built Yasham additive manufacturing platform, BellaSeno can reproducibly and routinely manufacture scaffolds with unit cell sizes down to about 1 mm.

The SyMBoD consortium consists of 4 universities and 1 industry partner and is dedicated to developing novel, personalized treatments for endogenous bone regeneration in patients with diabetes. Funded by Germany's Ministry for Education and Research (BMBF) and led by Charité Universitätsmedizin Berlin, the project includes partner institutions such as University of Freiburg, Fraunhofer IZI, Technical University of Munich, and Genvention GmbH. SyMBoD is part of BMBF's e:Med initiative, which is supporting various system medicine consortia with a total budget of EUR 200 million over the course of eight years.

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About BellaSeno

BellaSeno GmbH was founded in 2015 and is located on the BioCity campus in Leipzig, Germany. The Company is developing novel absorbable implants made by additive manufacturing (3D-printing) as well as providing contract manufacturing services under ISO 13485. The Company has received substantial financial support from private investors as well as from the Saxony Development Bank (SAB) and the European Fund for Regional Development (EFRE). The Company is thereby co-funded from tax resources based on the budget adopted by the members of Saxon State Parliament.



Europäische Union



Diese Maßnahme wird mitfinanziert durch Steuermittel auf Grundlage des von den Abgeordneten des Sächsischen Landtags beschlossenen Haushaltes.

About Charité – Universitätsmedizin Berlin

Charité – Universitätsmedizin Berlin is one of the largest university hospitals in Europe, boasting approximately 100 departments and institutes spread across 4 separate campuses. The hospital offers a total of 3,001 beds and, in 2018, treated 152,693 in- and day case patients, in addition to 692,920 outpatients. At Charité, the areas of research, teaching and medical care are closely interlinked. With approximately 18,000 members of staff employed across its group of companies, Charité is one of the largest employers in Berlin. More than 4,500 of its employees work in the field of nursing, and around 4,300 in research and medical care. In 2018, Charité recorded a turnover of more than €1.8 billion, and set a new record by securing more than €170.9 million in external funding. Charité's Medical Faculty is one of the largest in Germany, educating and training more than 7,500 medical and dentistry students. Charité also offers 619 training positions across 9 different health care professions. <http://www.charite.de>



About e:Med

e:Med, the new Federal Ministry of Education and Research (BMBF) nationwide research program, promotes system-oriented research into diseases, in order to facilitate improved prevention, more comprehensive diagnostics and individually adjusted therapy schemes in individualized medicine. “e:Med” stands for the electronic processing and integration of medically relevant data from diverse levels of knowledge in systems medicine. Establishing systems medicine in Germany is the objective of researchers who have joined forces in e:Med. The Federal Ministry of Education and Research is funding e:Med with up to 200 million euro, initially for eight years.

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