Press release

Evonik intensifies research into regenerative medicine

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- New Tissue Engineering Project House established in Singapore
- Market for tissue engineering materials growing by 30 percent a year
- Evonik focuses on specialty materials for health and medical applications

Essen (Germany)/Singapore. Evonik is starting its Tissue Engineering Project House in April 2018. Up to 20 scientists from various disciplines will work to make reliable solutions possible for tissue regeneration following accidents or disease. The aim is to develop materials for biological implants in medical applications. Located in Singapore, the Project House will work closely with Evonik experts in the US and Germany.

Ulrich Küsthardt, Evonik's Chief Innovation Officer, says: "We aim to create additional growth with innovations. For this reason, we are pursuing research in fields such as healthcare solutions, where we expect innovation to drive additional new business for us. In conjunction with that Innovation growth field, we intend to tackle tissue engineering at our new project house with an eye to cutting-edge applications in the field of regenerative medicine." After having successfully concluded the Medical Devices Project House in Birmingham, Alabama (US), Evonik is now taking the next step in the direction of regenerative medicine. At the Medical Devices Project House, Evonik conducted research on polymer-based materials such as those used for resorbable implants.

According to expert estimates, the market for the materials needed in the field of tissue engineering is growing by roughly 30 percent per year and will reach the US $ 3 billion mark by 2021. Tissue engineering refers to the growth of living cells on a scaffold material, for which they require special nutrients and growth factors. The ultimate goal is to grow tissue outside of the organism and then implant it as a way of creating or regenerating bones, cartilage, tendons, or even arteries. Alexander König, the head of the new project house, put it this way: "We aim to conduct

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research into reliable, scalable, effective tissue engineering solutions for regenerative medicine."

Evonik has extensive experience with materials such as biodegradable polymers suitable for use as scaffold materials for tissue replacement. König says, "As we continue developing these materials, we will also be establishing new areas of expertise and be working with the Medical Devices Competence Center in Birmingham." Using 3D-printed scaffold materials to produce desired tissue structures to repair injuries, for instance, is an area he considers one of the topics of the future.

Another focus is on optimizing the conditions under which tissue cells grow on the scaffold materials. Evonik has exceptional expertise in the field of biotechnology. The company also has the knowledge of the culture media needed and of its ingredients (amino acids, etc.). As König points out, "In Singapore we can draw on an excellent environment for innovation. Here you have cutting-edge research on 3D printing and top universities in the field of medical research."

Project houses offer the freedom to pursue strategic innovation

As Evonik's strategic innovation unit, Creavis establishes project houses offering an open space in which scientists from a variety of units within Evonik can work together on a specific topic area. The experts generally come together for a period of three years. The products and technologies developed at project houses are typically marketed by one of Evonik's operational segments. Evonik has established eleven project houses since the year 2000. Tissue Engineering is Evonik's 12th project house.

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