ISC3 brings Start-ups for Sustainable Chemistry together

Reverion and UP Catalyst: two good ideas meet

Two start-ups, two good ideas for Sustainable Chemistry: High-temperature fuel cells for reversible operation on the one hand (Reverion) and the production of sustainable carbon nanomaterials and graphite on the other (UP Catalyst). At the Start-up Slam of the International Sustainable Chemistry Collaborative Centre (ISC3) at ACHEMA 2022, Reverion and UP Catalyst presented their solutions for a more sustainable future to the professional audience. The two young companies from Germany and Estonia not only convinced the experts but also recognized the opportunity to use synergies and further develop their ideas together.

With their work, Reverion and UP Catalyst are contributing to counteract climate change by reducing CO2 emissions. To achieve their goals, they plan to work closely together in the future as part of a strategic partnership. “When supplementing sustainable electricity with our fuel cell system, we produce pure CO2, which UP Catalyst can use to produce very valuable carbon nanomaterials,” says Stephan Herrmann of Reverion.

When good ideas come together, opportunities for further development arise

Founded in 2022, the German start-up Reverion is pursuing a mission to counteract climate change. The company has developed a technology that aims to achieve 80 percent efficiency in generating electricity from biogas. To achieve this, the start-up relies on fuel cells in a novel system design that also allows them to be used reversibly. With this idea, Reverion has already convinced the ISC3 Global Start-up Service as Start-up of the Month for May 2022.

UP Catalyst from Estonia aims to develop sustainable electric batteries for electric vehicles. Since 2019, the company has been producing different types of sustainable carbon nanomaterials and graphite with a patented method using secondary raw materials. This young company was thus named ISC3 Global Start-up Services’ Start-up of the Month for March 2022. UP Catalyst’s innovation can prevent the release of CO2 emissions. Graphite is an important component, especially for electric vehicle batteries, and is, therefore, essential for the automotive market. And this is where the connection to Reverion exists.

Both companies are supported by the ISC3 Innovation Hub´s Global Start-up Service. The ISC3 was founded on the initiative of the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection (BMUV, formerly BMU) and the Federal Environment Agency (UBA). It is implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and supported by DECHEMA (ISC3 Innovation Hub) and Leuphana University (ISC3 Research & Education Hub).

The ISC3 Global Start-up Service is the world´s first program to offer comprehensive support to innovators in Sustainable Chemistry. The mentoring program supports start-ups and provides direct access to talent, experts and stakeholders, bringing relevant stakeholders together to find the right solutions.

The list of young companies that have been supported since 2018 shows founders' enormous creativity and innovative power worldwide. A total of twelve of them impressively demonstrated this most recently at the "ISC3 and Friends Pitch Slam", which the ISC3 held with the three partner organizations Forum Startup Chemie, 5-HT (Germany) and Brightlands (Netherlands), at the Innovation Stage of ACHEMA.

"To overcome the global challenges and achieve the goals of the United Nations' 2030 Agenda, a rethink is needed in the chemical industry and all its related sectors. Sustainability is a process, and we must not stop striving and getting better," says ISC3 Managing Director, Dr. Thomas Wanner, for whom not least the planned collaboration between Reverion and UP Catalyst shows that the ISC3 is promoting the right ideas and making an important contribution to a sustainable future. "Together with the Research and Education Hub, our Innovation Hub's Global Start-up Service is a cornerstone of the ISC3's activities and a unique source of knowledge and innovation that can make a substantial contribution to a more sustainable future," states Dr. Alexis Bazzanella, Director of the ISC3 Innovation Hub.

In addition to Reverion and UP Catalyst, the following start-ups presented their ideas at the Start-up Slam at ACHEMA 2022:

Biosolvit (Brazil) is a biotechnology company applied to sustainability, currently structured into three main areas: research and development of new materials, and industrialization of products for the preservation of flora and water. www.biosolvit.com

Block solutions (Finland) has developed environmentally friendly Block-modules made from recycled materials. Modules are used for building sustainable and safe homes for people all around the world. www.block-solutions.com

Packengeers (Germany) is the only consulting company for industrial packaging. Its own product portfolio with a sustainable packaging concept for solid product enables ecological and economical optimization. www.packengeers.com

NASKA robotics / RockFarm (Germany) is a scalable carbon removal service for business. Replicator devices absorb CO2 and generate replicator material. More replicators are available for leasing every year and in your region. www.rockfarm.io

Innoverda (France) is developing new, innovative processes for the pharma and cosmetics industry that substitute toxic and corrosive chemicals. The aim of the French Start-up is to achieve cost and waste reductions. www.innoverda.com

Natupla (Columbia) developed compostable and biodegradable solutions for single-use plastic from cassava starch. Solving the low recyclability problem of PE and LDPE while having a positive social. www.natupla.com

LeafyLife (Kenya) has developed a novel and sustainable chemical process to recycle waste diapers in an energy-efficient way. The technique enables the diversion of diapers from landfills and produces secondary raw materials, fostering the circular economy. www.leafy-life.com

Carbonauten (Germany) is developing a system for industry, companies, and municipalities that reduces carbon emissions and costs. One of its aims is to reduce greenhouse gases by gigatons starting in 2022. www.carbonauten.com

Sypox (Germany) offers new technologies to electrify chemical processes. The technologies rely on a simplified design viable for both small modular applications and big industrial plants. www.sypox.eu

ReSolved Technologies (Netherlands) is developing solvent-based technologies for recycling technical plastics and (flexible) PVC. Founded at the end of 2020, the Start-up is based at the Brightlands Chemelot Campus in Geleen. www.resolved-tech.com

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