

Sustainable Chemistry Changemakers: The Road Ahead

INNOVERDA: From ISC3 Start-up of the Month to Innovation Driver in the French Pharmaceutical Industry

In November 2019, INNOVERDA was recognized by the [International Sustainable Chemistry Collaborative Centre \(ISC3\)](#) for its contribution to Sustainable Chemistry, becoming the third Start-up of the Month out of more than 60 featured start-ups to date. Founded in 2017, the French Start-up has developed potential pathways for electrochemical production as an alternative to conventional industrial processes: Instead of using traditional chemical reagents to initiate reactions, INNOVERDA employs electrosynthesis, reducing energy consumption, harmful substances, and fossil raw materials while improving cost efficiency.

Thanks to this innovation, the start-up has quickly established itself as a recognized innovation provider with impactful projects in the chemical and pharmaceutical industries as well as the bioeconomy. Following its acquisition by DIVERCHIM CDMO, a leading French company specializing in the development and small-scale production of active ingredients, INNOVERDA's expertise has become a key asset in advancing more environmentally friendly pharmaceutical manufacturing in France.

Driving Forces Behind INNOVERDA's Innovation

Founder Dr. Irene Erdelmeier highlights several ISC3 Key Characteristics of Sustainable Chemistry - such as systems thinking, proactive integration of the principles of Green Chemistry and strong focus on the circular economy - as the core drivers of INNOVERDA's innovation. More than five years after being featured as [ISC3 Start-up of the Month](#), we spoke with its founder, Dr. Irene Erdelmeier, about the importance of Sustainable Chemistry, the challenges and highlights of INNOVERDA's journey and the role of ISC3 Global Start-up Service in supporting its growth.

What does Sustainable Chemistry mean to you?

Sustainable Chemistry, combined with improved cost efficiency, is the main driver for implementing new technologies that promote sustainable and economically viable production processes of essential products such as active pharmaceutical ingredients (APIs). Additionally, we have observed

Implemented by:

Supported by:

Supported by:

a growing interest from students and next generation of chemists in developing responsible and sustainable chemical solutions. Their enthusiasm and engagement in our technologies demonstrate the increasing importance of sustainability in the field.

Where are you now compared to when you were chosen as Start-up of the Month?

Over the past five years, INNOVERDA has grown into a recognized innovation provider for French contract research organizations (CROs) and contract development and manufacturing organizations (CDMOs) serving the pharmaceutical and chemical manufacturing industries. Our specialization in electrosynthesis and electro dialysis as novel, cost-effective processes is now gaining industry-wide recognition. While our team has the same in size, our revenue has nearly doubled every year since overcoming the challenges of the COVID-19 pandemic.

How has ISC3's support benefited INNOVERDA?

INNOVERDA has benefitted in multiple ways, and we are deeply grateful for ISC3's continued support. The ISC3 workshops and the work of Prof. Klaus Kümmeler (presentations, publications etc.) have provided valuable guidance in setting priorities and have been a major source of inspiration for our daily operations. We gained visibility by participating in the ISC3 Pitch Slam at theACHEMA trade fair and at conferences on Sustainable and Green Chemistry, among other things. We have also improved our key skills required for start-ups, such as identifying key points for business development, investor search and integration of sustainability aspects into process development. Last but not least, the regular dialogue at global ISC3 workshops with start-ups from Asia, Africa, South and North America and Europe has been particularly inspiring and motivating.

What have been the highlights of the projects?

We have successfully executed a wide range of projects across the chemical industry, pharmaceutical sector, and bioeconomy. One of our key achievements is the development of a robust industrial process for recycling a critical chemical reagent using electro dialysis, a sustainable technology for water and chemical treatment. Another milestone is the introduction of electroreduction in pharmaceutical ingredient production. We are also a partner in a European network dedicated to advancing flow electrosynthesis for industrial applications—a pioneering technology for sustainable manufacturing. Additionally, we have registered two internationally significant process patents.

What does this mean for INNOVERDA's future?

Our journey has culminated in INNOVERDA's acquisition by DIVERCHIM CDMO. This integration will enable us to expand our scale-up capabilities for Good Manufacturing Practice (GMP) production. Together, we will enhance DIVERCHIM's offer of services by incorporating electrosynthesis, electro dialysis, and flow chemistry as key technologies to support more environmentally friendly pharmaceutical development.



Media Contact

Christian Ruth-Strauß

Director Communications ISC3

christian.ruth-strauss@isc3.org

René Sutthoff

Konsequent PR

sutthoff@konsequent-pr.de

About ISC3

The International Sustainable Chemistry Collaborative Centre promotes Sustainable Chemistry for a sustainable world. ISC3 supports the chemical industry and chemical-related sectors in their transformation process through sustainable, innovative approaches from Sustainable Chemistry. The goal is a circular economy that implements the multiple aspects of sustainability over the entire life cycle of products and a rethinking of the behaviour of all stakeholders. To advance the dialogue between different sectors and actors worldwide, including Europe and other regions as well as emerging and developing countries, ISC3 follows a multi-stakeholder approach with the networking of policymakers, public and private sectors, education, science and society. It contributes to international chemicals policy, develops professional and academic training programs, advises companies, and promotes start-ups and research. Founded in 2017 by the Federal Environment Agency and the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, the centre is supported by the German Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ; English: Society for International Cooperation) and by the Society for Chemical Engineering and Biotechnology (DECHEMA e.V.) as ISC3 Innovation Hub. www.isc3.org