Sustainable Chemistry Changemakers: The Road Ahead

INDRESMAT: From ISC3 Start-up of the Month to a Pioneer in Bio-Based Insulation Materials and Construction Solutions

In January 2020, INDRESMAT was recognized as the Start-up of the Month by the International Sustainable Chemistry Collaborative Centre (ISC3) for its contribution to Sustainable Chemistry. Since its founding in 2017, this ambitious company has been developing innovative construction and insulation materials based on bio-based polyurethane (PU) plastics, helping to make the building sector more sustainable. As a polymer specialist with two master's degrees, founder Pablo R. Outón identified a gap in the market for bio-based PU in the construction industry – a gap INDRESMAT now fills. With its self-developed sRIM-PUR technology, the company creates energy-efficient products that use renewable resources, avoid harmful additives, and promote circularity. Since receiving the ISC3 Start-up of the Month recognition, INDRESMAT has grown from a start-up into an expanding company with sustainable solutions for the construction sector, operating in both Spain and the Netherlands.

Driving Forces Behind INDRESMAT's Innovation

For founder Pablo R. Outón, the key drivers and foundation of the company's innovation strategy are the benefits of Sustainable Chemistry, as outlined in the ISC3 Key Characteristics of Sustainable Chemistry. The use of renewable resources, the "Safe-by-Design" principle, and the creation of closed-loop material cycles shape the development of all INDRESMAT products. These sustainable innovations contribute to making buildings more energy-efficient and reducing their environmental footprint. More than five years after being named Start-up of the Month, we spoke with INDRESMAT about their progress, milestones, and the impact of support from the ISC3 Start-up Service.

What does Sustainable Chemistry mean to you?

To us, Sustainable Chemistry is not just an opportunity – it's a responsibility. It lies at the heart of our strategy to decarbonize the construction sector. That means improving energy efficiency, reducing the environmental footprint across the entire life cycle, and designing materials from the outset to be recyclable, repairable, and reusable. We see ourselves as a driving force for fundamentally improving the thermal performance of buildings and making it more sustainable.

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

A lot has happened since 2020: we've gone from a start-up with no employees to a scale-up with entities in Spain and the Netherlands. Today, our team includes nine employees. We've secured more than €4.4 million in public funding – mainly through the Horizon 2020 (H2020) and Horizon Europe programs – and established industrial production capacities. Key milestones include achieving Passivhaus and RC2 certification for our KLIMA-PUR® windows and launching the product in Spain and German-speaking markets.

How did you benefit from your collaboration with ISC3 and the support of the ISC3 Global Start-up Service?

Being named Start-up of the Month and receiving support from the Global Start-up Service gave us visibility at a crucial time. Access to an international network, presentations at the New Plastics Economy Investor Forum and the Green & Sustainable Chemistry Conference, and connections with experts helped us align our technological development more closely with sustainability goals and win strategic partners. ISC3's insights also helped us articulate our ideas and goals more clearly—internally and in communication with partners, investors, and customers. Some of the contacts we made through ISC3 later became part of our European project consortia.

What have been the highlights of the projects?

The most important highlights have been the successful market launch of our KLIMA-PUR® windows – including CE marking and PassivHaus certifications – and our expansion into new markets. The development of our proprietary sRIM-PUR technology for industrial applications marks another key milestone: it enables energy-efficient, low-emission production of our bio-based BioPUR insulation foams and is central to our growth as a sustainable technology provider for the construction sector.

What does this mean for your company?

We launched in Barcelona during the COVID-19 pandemic, initially funded through small regional and national grants. Less than five years later, we're part of eleven EU cooperative projects and rank among the European start-ups with the most public funding for collaborative innovation with stakeholders from diverse sectors. But most importantly, our ideas and products have made it to market. That is something we're truly proud of.

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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 integerates multiple aspects of sustainability throughout the entire product life cycle and encourages a shift in stakeholder behaviour. 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 Ministry for the Environment, Climate Protection, Nature Conservation und Nuclear Safety (BMUKN) and the Federal Environment Agency (UBA), the centre is implemented by the German Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ; Englisch: Society for International Cooperation) and supported by the Society for Chemical Engineering and Biotechnology (DECHEMA e.V.) as ISC3 Innovation Hub. **www.isc3.org**