

## Evonik invests in Singapore organ-on-a-chip start-up with alternative technology to animal testing

- Start-up Revivo BioSystems has developed technology that uses a model of human skin for testing
- Organ-on-a-Chip technology makes testing quicker, more reliable and cost efficient
- Testing on 4D skin models is a more sustainable and ethical alternative to using animals
- Co-investor with Singapore's SGIInnovate

**Singapore.** German specialty chemicals company Evonik has invested in local start-up Revivo BioSystems to support the development and commercialization of a technology that uses a realistic 4D model of human skin for the testing of chemical, cosmetic and pharmaceutical compounds. The start-up's technology provides an alternative to animal testing that is also quicker, more reliable and cost efficient.

"Evonik's goal is to support emerging technologies that look beyond the way research is done today and accelerate more sustainable and ethical practices," said Bernhard Mohr, head of Evonik Venture Capital.

Revivo's organ-on-a-chip system simulates the interaction of human skin with the substance being tested. Skin tissues, which have been grown in a laboratory or a human skin sample, are placed on biochips which are supplied with nutrients and reagents. In this way the technology creates a micro-environment for the tissue models, which reproduce the architecture and functions of skin. For example, in contrast to other model systems, it mimics the function of blood flow allowing for analysis of both the localized and the systemic impact of compounds on the skin tissue. The platform thus creates a more realistic measurement of the interaction of, for example care products, and the skin.

In addition to testing under realistic conditions, the company's system automates testing and sampling procedures. This provides a cost-effective way of carrying out screenings that are required in the regulatory approval procedures for new substances.

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“Our investment in Revivo puts consumer safety first without compromising on animal welfare,” said Yann d’Hervé, head of Evonik’s Care Solutions business line. “With this alternative to animal testing we are proud to strengthen our position as a trusted partner for sustainable specialties.”

Many consumers prefer substances that have not been tested on animals and regulations have followed suit. In total more than 40 countries have passed laws to limit or ban cosmetics animal testing, including Australia, India, Israel, Turkey and the U.K. In the European Union the testing of cosmetics on animals has been banned since 2004 and since 2016 the use of data from animal testing that is done in other countries is not allowed to be used for approval processes. Alternatives to animal testing are also being sought for chemicals and pharmaceuticals.

Evonik is already involved in researching animal-free biomaterials and cell-culture components at its Competence Center in Singapore. The project emerged from the Tissue Engineering project house, which was successfully completed in March 2021. Among other things, the project house worked on the artificial production of tissue in the field of regenerative medicine. The partnership with Revivo fits Evonik’s strategy to build on its innovation activities at the competence center.

Revivo is a spin-off of A\*Star (Agency for Science, Technology and Research), a public sector research and development agency in Singapore. A co-investor is SGINnovate, a Deep Tech ecosystem builder and investor, backed by the Singapore Government.

“We are looking forward to taking another step in the development of our company together with Evonik,” said Revivo founder and chief executive officer Massimo Alberti, who is also a co-inventor and developer of Revivo’s technology. “This new financing will go towards growing our services business and commercializing our platform and products.”

Revivo BioSystems is Evonik’s first direct investment in Singapore. The German company established a venture capital office in Shanghai in 2018, which is helping the company tap into the fast-expanding and innovative start-up ecosystem in Asia. Evonik

Venture Capital helps Evonik secure access to disruptive technologies and innovative business models as well as supporting digital transformation.

#### **Company information**

Evonik is one of the world leaders in specialty chemicals. The company is active in more than 100 countries around the world and generated sales of €12.2 billion and an operating profit (adjusted EBITDA) of €1.91 billion in 2020. Evonik goes far beyond chemistry to create innovative, profitable and sustainable solutions for customers. More than 33,000 employees work together for a common purpose: We want to improve life today and tomorrow.

#### **About Evonik Venture Capital**

With a fund size of €250 million, Evonik Venture Capital (EVC) has made about 40 investments since 2012, both direct and fund investments. EVC has offices in Germany, the U.S.A. and China and invests in innovative technologies and disruptive business models in the fields of Nutrition & Care, Specialty Additives and Smart Materials, as well as enabling digital technologies. The EVC team of experienced investment managers provide portfolio companies comprehensive support. The investment scope ranges from early stage to growth stage with investment volume per portfolio company of up to €15 million.

<http://venturing.evonik.com>

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