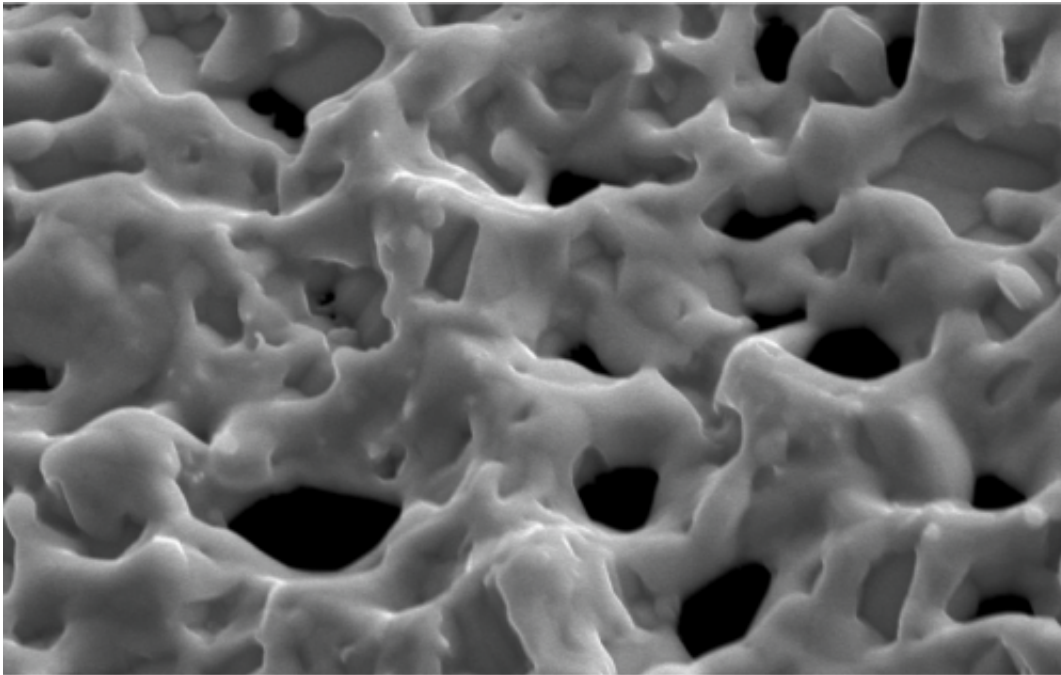


New filter technology uses inert gas to bore holes in high-quality steel

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A 10,000x magnification of a steel filter membrane. Credit: Helmholtz-Zentrum Dresden-Rossendorf

Two early-stage venture capital investors are joining the i3 Membrane GmbH startup in August 2014. High-Tech Gründerfonds (HTGF) of Bonn and Innovationsstarter Fonds of Hamburg are investing in development and marketing of a novel filter technology. The new high-tech membrane is made of high-quality steel and is more stable and more flexible than conventional filters, also more environmentally-compatible

because only inert gas and electrical power are needed for its manufacture. The process was developed jointly with the Helmholtz-Zentrum Dresden-Rossendorf (HZDR) and its development is being sponsored by the Deutsche Bundesstiftung Umwelt (Federal German Environment Foundation).

"Our [manufacturing process](#) starts by accelerating large numbers of electrically-charged atoms of an [inert gas](#) and implanting them in high-quality steel foil. The tiny bubbles resulting from accumulation of these atoms in the foil lead to formation of larger pores", explains Stephan Brinke-Seiferth, CEO of i3 Membrane GmbH, the company that, together with Prof. Andreas Kolitsch of the research center HZDR, had the idea of manufacturing this type of [membrane](#) back in 2012.

The newly-developed steel membrane is both durable and flexible. The project is supported by a grant of EUR 250,000 from the Deutsche Bundesstiftung Umwelt (Federal German Environment Foundation), because it eliminates the need for toxic chemicals. Initial product launch, currently planned for June 2015, will focus on preparation of samples for analysis of trace substances. This field of application will later be widened to include other uses in biotechnology and also in the field of water purification.

The global market for filter membranes, currently worth around 15 billion US dollars, is growing at a rate of around 10 percent per annum. Something like half of these sales go to the medical and pharmaceutical sectors, where plastic membranes developed back in the 1960s still dominate the market. i3 Membrane GmbH plans to target its products as an attractive alternative to plastic membranes, especially in highly sensitive applications.

"The new production process is intelligent and, at the same time, simple; we are convinced of its high promise and are looking forward to giving

the company's experienced team our support in building up a strong market position," enthuses HTGF's Investment Manager Ron Winkler.

Equally enthusiastic is Dörte Bunge of Innovationsstarter Fonds Hamburg: "We regard i3's new process as extremely innovative and are confident that our investment presents an opportunity to create a new generation of membranes based on this technology."

"i3 Membrane GmbH was founded in April 2013 with support from the Helmholtz Association. Its mission is to bring this newly-developed platform technology to market as quickly as possible. "Another contributory factor to this result has been the excellent technology transfer provided by the Helmholtz Center in Dresden," adds Stephan Brinke-Seiferth.

Provided by Helmholtz Association of German Research Centres

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