



Press release Smoltek Nanotech Holding AB (publ)

2025-10-29

This press release is an English version of the previously published Swedish version, which has interpretive precedence.

Smoltek highlights global iridium shortage at hydrogen event in Hamburg

Smoltek Nanotech Holding AB (publ) (“Smoltek” or “the Company”) announces that its subsidiary Smoltek Hydrogen AB recently participated in the Hydrogen Technology World Expo 2025 in Hamburg, Germany – the world’s largest industry event for innovation in hydrogen and electrolysis technology. Ellinor Ehrnberg, President of Smoltek Hydrogen, was invited to a panel discussion on the topic “Overcoming the Key Obstacles in Electrolyzer Expansion”, where she highlighted one of the most crucial challenges for the hydrogen industry today – the global shortage of iridium – and at the same time presented Smoltek’s nanotechnology-based solution for large-scale and fossil-free hydrogen production that enables smaller and more cost-effective electrolyzers.

During the panel discussion, Ellinor Ehrnberg emphasized how the growing demand for green hydrogen is constrained by the very limited supply of iridium, a rare and extremely expensive metal that is crucial for Proton Exchange Membrane (PEM) electrolyzers, the leading technology for the production of completely fossil-free hydrogen.

“At the very heart of a PEM electrolyzer lies iridium – and there is currently no substitute. Only 7-9 tons are mined globally each year, and production cannot be increased. Unless we drastically reduce the amount used in hydrogen production, the iridium shortage will stop the scale-up of green hydrogen before it even starts,” said Ellinor Ehrnberg, President of Smoltek Hydrogen.

Ellinor’s message was received very positively by both industry colleagues and potential partners, further strengthening Smoltek Hydrogen’s position as a key innovator addressing one of the hydrogen industry’s biggest challenges – the iridium problem.

Smoltek’s breakthrough: 95% less Iridium, same performance

Smoltek Hydrogen’s proprietary Porous Transport Electrode (PTE) technology provides an innovative and scalable solution to the iridium problem. By using nanostructured carbon fibers that increase the active surface area by up to 30 times, iridium can be applied with extreme precision at the atomic level.

This innovation allows Smoltek to reduce the amount of iridium to just 0.1 mg per cm² – a 95% reduction compared to the current industry standard – while maintaining durability and performance. The technology also enables a more compact electrolyzer design, reducing both stack size and system cost. As a result, Smoltek's PTE technology can save thousands of euros per square meter of stack area and pave the way for smaller, more cost-effective electrolyzers. This represents a crucial step towards making green hydrogen truly scalable.

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But groundbreaking technology from a small, innovative company cannot drive the transition to affordable fossil-free energy without collaboration with industry leaders. Smoltek Hydrogen's approach is aligned with the hydrogen industry's goal of combining technical efficiency with material circulation. In addition to minimizing iridium consumption, Smoltek also advocates recycling and reuse to ensure long-term iridium supply and cost stability for electrolyzers.

Smoltek Hydrogen currently collaborates with several key industry partners, including Heareus Precious Metals, AGC, Sparknano and Impact Coatings, as well as a number of undisclosed global technology leaders. These collaborations help take the company's electrode technology for hydrogen applications from prototype development to industrial manufacturing.

On Smoltek's website there is a longer summary of Ellinor Ehrnberg's speech:

[*"Making every atom count in the race for scalable green hydrogen"*](#).

About Smoltek Hydrogen

Smoltek Hydrogen, a subsidiary of Smoltek Nanotech Holding AB, develops advanced nanomaterial-based cell components for Proton Exchange Membrane (PEM) electrolyzers. Its Porous Transport Electrode (PTE) enables a drastic reduction in iridium usage, making large-scale, fossil-free hydrogen production economically viable. The company's technology supports the rapid scale-up of green hydrogen as a cornerstone of the global energy transition — helping industries reduce carbon emissions while securing access to sustainable, high-efficiency electrolysis solutions.

For further information

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Smoltek Nanotech Holding is a deeptech company that provides a technology that enables the production of conductive nanostructures on various materials. The company's nanostructure manufacturing technology can be used in several industrial sectors. Customers are found in the global process industry and semiconductors. The products that the company develops are used in equipment

to produce fossil-free hydrogen and in semiconductors to further miniaturize microchips. The company protects its unique carbon nanotechnology through an extensive patent portfolio consisting of more than 120 patents, of which 97 are currently granted. Smoltek's share is listed on the Spotlight Stock Market under the ticker SMOL. Smoltek is a development company and forward-looking statements regarding time to market, production volume and price levels should be interpreted as forecasts and not commitments.