



Press release Smoltek Nanotech Holding AB (publ)

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

Smoltek founder Shafiq Kabir returns to the company to scale up production processes

Smoltek Nanotech Holding AB (publ) announces that the group company Smoltek Hydrogen has appointed Shafiq Kabir as Head of Volume Processes. Shafiq is the founder of Smoltek and he methodically created the company's technology platform and patent portfolio until January 2021, when he took a break from the nanotechnology industry for pursuing an Executive MBA-program.

Shafiq Kabir founded Smoltek in December 2005, out of scientific curiosity and with the ambition to develop technical solutions based on nanostructures that can be useful in many fields. Since the company was founded, he methodically created the company's technology platform based on catalytic growth of conductive nanostructures, and where much of the application development has been focused on carbon nanofibers.

“I started Smoltek because of my ambition to drive my research results in nanotechnology towards industrial use”, says Shafiq Kabir. “By switching to development on a commercial basis, we wanted to make the possibilities of nanotechnology available on a much larger scale”, he adds.

Smoltek's big breakthrough came around 2017, when the semiconductor industry showed a significant interest in the company's capacitor technology (CNF-MIM) – a technology based on creating energy-efficient components with smaller form factors and with maintained electrical performance. The company's capacitor technology has now developed into its own business area, where the group company Smoltek Semi is today in the process of developing and commercializing ultra-thin capacitors together with YAGEO, one of the world's largest manufacturers of passive electronic components.

In 2020, Smoltek began to evaluate other areas for the company's nanotechnology platform, and the following year this effort started to focus on using the technology for the huge growth of the fossil-free hydrogen market. Today, the hydrogen business is run by the group company Smoltek Hydrogen, which plans for a large scale-up of the company's technology solutions to electrolyzers – a market segment within the green hydrogen economy that is estimated to increase from today's SEK 30 billion to SEK 650 billion in 2030*, of which around 10%** is addressable to Smoltek's cell material.

Shafiq is back in Smoltek – with a focus on scaling up volume processes

As the founder of Smoltek, Shafiq Kabir has been the driving force behind the development of Smoltek's technology and he served as Chief Innovation Officer of the company until January 2021, when he took a break from the nanotechnology industry to complete an Executive MBA program.

“I am passionate about green technology. And now that Smoltek is investing in fossil-free hydrogen, it's the perfect match for me, says Shafiq”. “It is about how to create the right innovation culture and partnerships to develop technology for fossil-free raw materials and energy types in order to reach the goal of carbon dioxide-neutral emissions, or towards "net-zero", he concludes.

In his new role, Shafiq will be Head of Volume Processes in the group company Smoltek Hydrogen, where he will develop and evaluate concepts for volume manufacturing of Smoltek's cell material to electrolyzers (ECM) which is now being developed. The focus will be on the actual processes used to produce nanostructures and coatings in order to successfully scale them up to industrial manufacturing. The overall goal is to deliver the desired product characteristics even in mass production. Working closely with the entire Smoltek Hydrogen team, Shafiq will be involved in all ongoing projects around manufacturing processes, corrosion protection, iridium deposition and whole cell evaluations for the cell material that are done in day-to-day operations.

“The market for green hydrogen production is growing rapidly, and Smoltek Hydrogen's materials technology for iridium coating (ECM) to electrolyzers allows the company to lower the cost of new electrolyzers as the industry scales up and iridium prices soar. The material technology also offers great opportunities to reduce the size of new hydrogen plants”, says Ellinor Ehrnberg, President of Smoltek Hydrogen.

* Source, *Global Market Insights*: <https://www.gminsights.com/pressrelease/electrolyzer-market>

** Source, *Fraunhofer*:

<https://www.ise.fraunhofer.de/content/dam/ise/de/documents/publications/studies/cost-forecast-for-low-temperature-electrolysis.pdf>

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Smoltek develops process technology and concepts to solve advanced materials engineering problems in several industrial sectors. The company protects its unique carbon nanotechnology through an extensive patent portfolio, consisting of around 100 applied for patents, of which 77 have been granted. Smoltek's share is listed on Spotlight Stock Market under the short name 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.