



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 Semi reaches key milestone that brings CNF-MIM capacitors closer to commercialization

Smoltek Nanotech Holding AB (publ) (“Smoltek” or “the Company”) announces that its subsidiary Smoltek Semi AB has reached an important technical milestone in the development of the company’s carbon fiber-based CNF-MIM technology. The capacitors have successfully passed a 1,000-hour high-temperature durability test, confirming the robustness of the technology for advanced applications. The successful test proves the long-term reliability and brings the technology one step closer to commercial production.

The successful 1,000-hour durability test result demonstrates that the CNF-MIM capacitors meet industry requirements for stability over time, and that Smoltek Semi has a solution that can help ensure the stable and efficient operation of future high-performance chips (semiconductors). At the same time, the results strengthen the company's ongoing industrialization work with Yageo and other potential partners, further bringing the technology closer to commercial production.

“The results are extremely promising – they demonstrate that our CNF-MIM concept is not only high-performance, but also fundamentally reliable over time under realistic operating conditions. We have already shared the outcome with Yageo, and thanks to this progress, the next durability test will be carried out directly at their facilities,” says Farzan Ghavanini, CTO at Smoltek.

Test results in brief

The test was conducted on 20 CNF-MIM capacitors that were continuously operated for 1,000 hours at 85°C while being biased at 2 V – standard conditions for capacitor industry durability tests. After the test, none of the capacitors showed any noticeable change in capacitance. More importantly, 19 out of 20 units maintained an insulation resistance above the target level of 1 GΩ, which is consistent with well-established industry criteria.

The single early outlier that did not meet the target had already been identified as the component with the highest leakage in the batch before the test started. Such early outliers (“infant failures”) are normally sorted out in a burn-in step before reliability testing. Smoltek is now implementing this burn-in process, and with this step in place, the company expects all units in the future to pass corresponding test conditions.

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.