Altech Advanced Materials AG

Successful commissioning of the complete pilot plant for the innovative battery material Silumina Anodes

Corporate | 6 Mai 2025 10:41

Altech Advanced Materials AG / Key word(s): Miscellaneous
Successful commissioning of the complete pilot plant for the innovative battery material Silumina Anodes

06.05.2025 / 10:41 CET/CEST
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- Silumina anodes pilot plant in Schwarze Pumpe has started production across all manufacturing stages
- First batch of 30 kg of anode material produced to increase performance by up to 55% of conventional lithium-ion batteries
- Following successful quality checks by the Fraunhofer Institute: first samples to be sent to potential customers planned for the first half of 2025

Heidelberg (06.05.2025) - Altech Advanced Materials AG ("AAM" or the "Company") (FRA: AMA) announces that the Silumina Anode Pilot Plant has commenced production of test material for all manufacturing stages. Coated silicon products are now being successfully produced at the Company's pilot plant at Dock 3 in Schwarze Pumpe, Saxony. In the first step, 30 kg of anode material was produced from high-purity coated silicon. The plan is to gradually ramp up production to maximum capacity in batch operation over the next few weeks. The Fraunhofer Institute IKTS will then test the performance of the material obtained. With Silumina Anodes, Altech has developed a battery material which, when added to conventional graphite at a rate of 10%, leads to a performance increase of up to 55% in lithium-ion batteries under laboratory conditions. Following successful certification by the IKTS, the corresponding batches will be made available to interested battery and vehicle manufacturers for further testing and installation in their own test batteries. Corresponding agreements have been reached with several manufacturers.
Uwe Ahrens, Member of the Executive Board of Altech Advanced Materials AG: "We are delighted to have achieved this important breakthrough on the way to the industrial

production of silumina anodes. Decisive technological hurdles have been overcome. Over the next few weeks, we will be able to gather important experience in test operations so that we can supply the battery industry with the first samples of our high-performance anode material in sufficient quantities in the foreseeable future."

About Silumina Anodes

The Altech Group has developed a wet-technology method for coating the anode material of a battery with high-purity aluminium oxide in the nanometre range on an industrial scale, cost-effectively and with high quality. By coating silicon with high-purity aluminium oxide and adding it to the usual graphite anode material, the performance of conventional lithium-ion batteries can be significantly increased. With an admixture of 10 %, laboratory tests have confirmed an increase in performance of up to 55 %, as silicon ten times the energy storage capacity of graphite. Until now, however, silicon could not be used in commercial lithium-ion batteries, as silicon particles swell by up to 300% during the battery charging process, leading to partial battery failure. At the same time, lithium ions attach to the anode as a separating layer and are therefore deactivated, meaning they are no longer available for the energy flow. Although this also happens with pure graphite anodes, this negative effect is much stronger with silicon-containing anodes and leads to an initial charge loss of up to 50 % of the theoretical battery capacity. These side effects have so far cancelled out the potential benefits of adding silicon. The Altech Group has succeeded in coating silicon in the nanometre range and thus largely overcoming the problems described.

About Altech Advanced Materials AG

Altech Advanced Materials AG (ISIN: DE000A31C3Y4), based in Frankfurt am Main, is a holding company listed on the regulated market of the Frankfurt Stock Exchange. The company's aim is to participate in the solid-state battery market for stationary battery applications with CERENERGY.
Another focus is on lithium-ion batteries. An innovative anode material based on high-purity aluminium oxide (HPA) - Silumina Anodes - is intended to significantly increase the performance of this battery for electromobility.
Further information at: www.altechadvancedmaterials.com

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ISIN:	DE000A31C3Y4
WKN:	A31C3Y
Listed:	Regulated Market in Frankfurt (General Standard); Regulated Unofficial Market in Berlin, Dusseldorf, Munich, Tradegate Exchange
EQS News ID:	2130986
End of News	EQS News Service

2130986 06.05.2025 CET/CEST