

# **FREYR targets higher energy density and longer life-expectancy with prelithiation in its battery cell production**

**FREYR and Nanoscale Components Inc. today announced a Memorandum of Understanding to deploy and scale Nanoscale's prelithiation technology within FREYR's planned battery production in Norway.**

US-based Nanoscale Components has developed safe, scalable, low-cost, roll-to-roll electrochemical prelithiation technology to enable high energy density, reduce costs and increase the life-expectancy of lithium-ion battery cells. This technology is developed so that it can be implemented as a complementary solution to existing battery cell production systems.

"FREYR's ambition is to produce the world's best and most cost-efficient battery cells. This collaboration supports that ambition. We are observing a relative ease of implementing Nanoscale's method to enhance today's base battery cell technology and are encouraged by its scalability which could enable us to rapidly realise benefits in our production systems," says Tom Einar Jensen, the CEO of FREYR.

"Nanoscale's unique electrochemical prelithiation reduces cell cost/kWh, reduces manufacturing capital costs, and enables FREYR to deploy the most advanced anode materials in novel cell designs," said Ron Wohl, CEO of Nanoscale. "In addition, the technology offers positive environmental benefits, especially when deployed in FREYR's low-cost, renewable energy facility."

FREYR is planning the development of 2+32 GWh lithium-ion battery facilities complemented by a 600 MW onshore wind-park in Rana and Nesna municipality in Norway. The products target the rapidly expanding EV markets in Europe and additional marine, stationary storage, short-haul aviation and offshore segments. FREYR is teaming up with leading Norwegian and global institutions and companies to combine the best available solutions and Norway's deep comparative advantages for energy intensive and process-industrial activities.

## **Improved battery capacity and cost**

Nanoscale Components has developed a cost-efficient and safe method of prelithiation of the electrode in a lithium ion battery. The process is scalable to support GWh of lithium-ion battery production. A key factor to the process is using stable lithium salts through an electrochemical process instead of adding lithium metal.

"Conventional lithium ion battery cells lose part of the capacity immediately after the first charge. Applying Nanoscale Components' technology can in a meaningful way reduce and/or postpone this capacity loss. The technology can be applied to both graphite and silicon anodes," says FREYR's CTO, Ryuta Kawaguchi.

“Additionally, the technology can reduce cell cost per energy unit (KWh) with an additional process for anode electrode production” Kawaguchi adds.

### **Running purely on renewable Norwegian low-cost energy**

Norway has significant hydro-power generation capacity and very favourable conditions for wind power plants on- and offshore which offers strong access to clean, ultralow-cost energy. Norway’s skilled and loyal workforce is also world-leading on energy, energy-intensive and process industrial skills. Additional benefits such locally sourced raw-materials from Norway and the Nordic countries, low regulatory risk (Norway is AAA-rated) and short distance to main markets, make Norway a premium location for developing green energy intensive industries.

### **About FREYR**

FREYR is a Norwegian Incorporated Company planning the development of 32+2 GWh lithium ion battery facilities in Mo I Rana and a 600 MW onshore wind-park at Sjonfjellet in Rana and Nesna municipalities in Norway. The company’s products will target the rapidly expanding EV market in Europe and develop additional markets in the marine, stationary storage, short-haul aviation and offshore segments through cluster-based R&D initiatives with leading Norwegian and European institutions and companies.

**Learn about Nanoscale Components Inc.:** [www.nanoscalecomp.com](http://www.nanoscalecomp.com)

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