

3M Invests in Nanoscale Components Inc.

Collaboration Enables Greater Energy and Cycle Life of Next Generation Silicon Alloy Lithium Battery Anodes

3M announced Thursday its investment in [Nanoscale Components Inc.](#) The New Hampshire-based company is known for its economical process designed to increase lithium content in lithium-ion battery anodes. The investment will expand the adoption of 3M's unique silicon alloy anode into lithium-ion batteries.

"The combination of 3M's expertise in battery materials science with Nanoscale's unique, patented process will help move the battery industry forward," said Erik Aunan, vice president of 3M Electronics Materials Solutions Division. "We are always looking for collaboration opportunities that will help enable our customers' next generation technology. Together, we're looking forward to uncovering solutions that will meet the growing demands of the battery marketplace."

Nanoscale's patented process to put extra lithium into the anodes of lithium-ion batteries overcomes many of the obstacles of previous pre-lithiation technologies and has demonstrated scalability for battery manufacturers. This enables cell manufacturers to make batteries that hold more energy in less space and weight by using high capacity anode materials like silicon.

3M silicon anode materials have more than three times the capacity of conventional anode materials and can increase battery energy by up to 40 percent when matched with high-energy cathodes. The combination of 3M's silicon alloy and Nanoscale's pre-lithiation process has proven effective to extend battery life and increase cell energy even further. The companies have demonstrated high performance cells with anodes that hold more than 1200 mAh/g, three times the capacity of state-of-the-art graphite anodes used today.

"We are honored that 3M is joining our team of investors," said Nanoscale CEO Ron Wohl. "We see 3M as an important strategic relationship to commercialize high energy anodes for longer life cells for everyone's favorite mobile devices, as well as longer range for electric cars."

3M battery materials include anode powder, current collector and electrolyte technologies, as well as cathode IP technology for license. 3M also makes tapes and adhesives for assembly of battery packs and consumer electronics devices. Using its broad portfolio of battery materials, 3M has the unique capability to integrate these materials to solve customers' battery problems. For more information about 3M battery materials, visit www.3m.com/batterymaterials.

About 3M

3M is a science-based company with a culture of creative collaboration that inspires powerful technologies, making life better. With \$32 billion in sales, 3M employs 90,000 people worldwide and has operations in more than 70 countries. For more information, visit www.3M.com or follow [@3MNewsroom](https://twitter.com/3MNewsroom) on Twitter.

About Nanoscale Components

Nanoscale develops pre-lithiation processes for improved lithium ion batteries. The company is based in New Hampshire, with offices in Silicon Valley. For more information, visit nanoscalecomp.com

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