

LeydenJar Sets New Density Benchmark at International Battery Seminar with Launch of 1350 Wh/L Silyte Technology

LeydenJar will exhibit at Booth 834 and present new data on scaling pure silicon anodes for AI-enabled wearables and next-gen devices on March 26 in Orlando

ORLANDO, FL, UNITED STATES, March 19, 2026 /EINPresswire.com/ -- [LeydenJar](#) arrived at the [International Battery Seminar & Exhibit](#) this week with a commercial announcement years in the making: Silyte™, the world's most energy-dense anode roll, made from 100% silicon, is now available for sampling. The Dutch battery materials company is exhibiting at Booth 834 March 24 – 26, where engineers and product teams can see Silyte firsthand and discuss integration with LeydenJar's technical and commercial teams.

The battery industry has spent decades squeezing incremental improvements out of graphite. Silyte is not an incremental improvement. Using a proprietary Plasma-Enhanced Chemical Vapor Deposition (PECVD) process adapted from the semiconductor industry, LeydenJar grows a porous nano-column silicon structure directly onto copper foil. That architecture internalizes silicon's expansion during lithiation eliminating the need for the heavy external pressure that has long plagued silicon-dominant cell designs.

The result is a step change in performance. Silyte delivers 1,350 Wh/L of volumetric energy density at stack level, 50% more capacity in the same form factor, reaches 80% charge in just 7 minutes, and achieves 500+ cycles at 80% capacity retention with no external pressure. Its dry, roll-to-roll manufacturing process cuts CO₂ emissions 85% compared to graphite production.

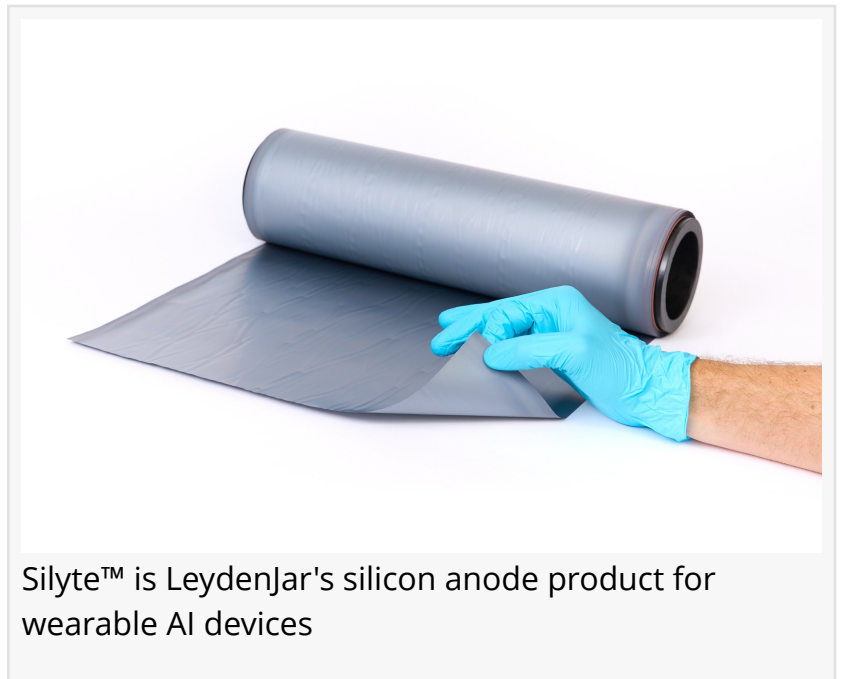


LeydenJar Logo



Silyte™ enables high energy density batteries for wearable AI

“Silyte has moved from laboratory wonder to commercial reality,” said Evan Sanders, Chief Commercial Officer at LeydenJar. “With our PlantOne mass production facility under development, we are uniquely positioned to power the next generation of high-performance electronics.”



Thursday Presentation: Scaling Silicon for the Next Generation of Devices
On Thursday, March 26 at 9:30 AM, Tim Aanhane, Business Development at LeydenJar, will present “The Pure

Silicon Anode Roll: Scaling 100% Silicon for the Next Generation of Devices.” The session takes a direct look at where consumer electronics are heading, toward AI-on-device processing and slimmer wearable form factors, and why graphite has run out of road to get there.

Aanhane will present data on how Silyte’s nano-column architecture manages silicon swelling at scale, and what that means in practice: device OEMs can shrink battery footprints by 40%, freeing space for additional sensors and AI processing hardware. For cell manufacturers, Silyte’s 10x thinner anode profile is designed to run on existing roll-to-roll production lines without retooling.

With PlantOne under development, LeydenJar is building the production infrastructure to supply Silyte at commercial scale. Sampling is available now for qualified cell manufacturers and device OEMs. LeydenJar’s team is available at Booth 834 throughout the show to discuss technical specifications, integration requirements, and sampling timelines.

About LeydenJar

LeydenJar is a Dutch deep-tech company developing the world’s first commercially viable 100% pure silicon anode for lithium-ion batteries. Its proprietary technology delivers significantly higher energy density, faster charging, and a dramatically lower carbon footprint. Founded in 2016 as a spin-off from ECN, LeydenJar is headquartered in Leiden with operations in Eindhoven. More information about LeydenJar can be found on www.leyden-jar.com.

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