



HPQ Silicon's Industrial Lithium-ion GEN4 21700 Cells Surpass 7,000 mAh — Based on Extended Test Conditions

- GEN4 21700 cells break the 7,000 mAh barrier, achieving a record capacity of 7,030 mAh, which may represent one of the highest capacities reported to date in an industrial 21700 format, based on publicly available data ^[1]
- Deep-discharge cycling protocol (0.55V lower cutoff) indicates the potential to extend the operating voltage range of GEN4 lithium-ion cells beyond conventional limits
- 70 cycles achieved with less than 2% capacity degradation indicate stability under extended deep-discharge conditions that would typically result in significant degradation in conventional cells

MONTREAL, Canada, April 15 2026 — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) (TSX-V: [HPQ](#), OTCQB: [HPQFF](#), FRA: [008](#)), today announced that 21700 cylindrical cells manufactured using Novacium SAS’s GEN4 silicon-based anode material have surpassed 7,000 mAh of discharge capacity, based on internal testing conducted under extended operating conditions ^[1]. This result was achieved under a modified deep-discharge cycling protocol, with a lower voltage cutoff of 0.55V, compared to the industry-standard 2.5V.

Commercially available 21700 graphite cells typically deliver between 4,800 and 5,000 mAh. The previous Novacium GEN4 record stood at 6,696 mAh under standard conditions (0.1C, 4.2V–2.5V, 25°C) ^[2]. Crossing the 7,000 mAh threshold required departing from conventional testing protocols and accessing a voltage window previously considered incompatible with long-term cycling stability in conventional lithium-ion chemistries ^[3].

What makes this result scientifically significant is not merely the capacity figure, but the demonstrated cycle stability achieved alongside it. A discharge to 0.55V would typically result in significant and irreversible degradation ^[3] in conventional graphite or silicon-based cells. Novacium’s GEN4 material completed 70 full cycles under this protocol with less than 2% capacity degradation, indicating that its silicon-based material may tolerate extended operating conditions beyond those typically used in conventional lithium-ion cells.

These results suggest the potential for expanded operating windows in lithium-ion cell design, subject to further validation, optimization, and system-level integration. Potential applications may include high-energy-density use cases, where capacity per unit volume is a critical constraint; however, commercial applicability will depend on further development and validation.

This result continues a consistent generational progression: from a 2,778 mAh graphite reference in 18650 formats, through GEN1 (~3,153 mAh), GEN2 (~3,808 mAh), GEN3 (~4,030 mAh in 18650 / ~6,050 mAh in 21700), GEN4’s 6,696 mAh record under standard conditions, and now a 7,000+ mAh result in extended-range conditions. GEN5 is being developed with a target of achieving approximately 7,000 mAh under standard protocols by 2027 ^[4].

HPQ holds exclusive North American rights to commercialize Novacium’s GEN3 and GEN4 silicon-based battery materials under the [HPQ ENDURA+ brand](#).



“Breaking the 7,000 mAh barrier in a 21700 cell is a milestone that, to the Company’s knowledge, has not been widely reported in publicly available data for an industrial-format cell under comparable conditions. What is equally important is that we achieved this while maintaining initial cycle stability over the test period, thereby indicating that our material can operate under extended conditions that, according to published literature, typically result in severe degradation or loss of functionality in conventional graphite-based lithium-ion cells ^[3],” said Bernard Tourillon, President and CEO of HPQ Silicon. *“This supports the electrochemical performance characteristics of GEN4 and enables further exploration of expanded operating parameters for potential future battery applications, subject to further validation.”*

“These results confirm something we have believed since GEN3: Novacium’s silicon-based anode technology may enable performance improvements beyond conventional operating constraints. The ability to cycle reliably at 0.55V lower cutoff with less than 2% degradation over 70 cycles suggests the possibility of alternative operating modes, subject to further validation and engineering development,” added Dr. Jed Kraiem, COO of Novacium.

Stakeholders seeking more detailed technical information on the results presented are invited to consult the following [technical blog](#), which provides additional context supporting this release.

REFERENCE SOURCES

- [1] Internal capacity test results for a 21700-cell manufactured with GEN4 material by an industrial partner, under extended deep-discharge cycling conditions (0.1C, 4.2V–0.55V, 25°C, 50 cycles), compared to publicly available data. These results have not been independently verified and may not be representative of commercial performance.
- [2] <https://www.molicel.com/inr-21700-m65a/>, <https://diy500amp.com/products/feb-21700-battery-cell-6500mah-13a-ultra-high-capacity-energy-cell>, <https://www.nitecore.fr/batterie-rechargeable-21700-haute-performance-capacite-6000mah-36v-c2x40494744>, <https://ir.amprius.com/news-events/press-releases/detail/124/amprius-ships-new-high-performance-6-3ah-silicon-anode-cylindrical-cell-to-fortune-500-company>, <https://imrbatteries.com/products/eve-58e-21700-5800mah-18a-battery>
- [3] <https://www.nature.com/articles/s41598-021-85575-x>
- [4] This statement constitutes forward-looking information and is subject to development risks and uncertainties

About HPQ Silicon

[HPQ Silicon Inc.](#) is a Quebec-based TSX Venture Exchange industrial issuer ([TSX-V: HPQ](#)) focused on innovation in advanced materials and critical process development. In partnership with its research and development partner **Novacium**—of which HPQ is a shareholder—the Company is advancing next-generation **silicon-based anode materials** (Gen3) for batteries, commercializing its **ENDURA+ lithium-ion cells**, and developing breakthrough **clean-hydrogen** and **waste-to-energy** technologies, for which HPQ holds exclusive North American rights.



HPQ is also pursuing proprietary technologies to become a low-cost, zero-CO₂ producer of **fumed silica** with technical support from PyroGenesis Inc. Together, these initiatives position HPQ to capture growth opportunities in the energy storage, clean hydrogen, and advanced materials markets essential to achieving global net-zero goals.

For more information, please visit [HPQ Silicon web site](#).

About NOVACIUM SAS

Novacium is an innovative technology start-up created in 2022, in France. It is an engineering and R&D company dedicated to materials for energy, with a specialization in silicon and hydrogen. Novacium is developing 2 technologies. The first concerns a new silicon-based anode material that significantly increases the capacity of Li-ion batteries. Novacium's second activity is the generation of hydrogen. Novacium is developing an autonomous hydrogen generation system for civil and military applications fueled by a patented alloy based on silicon and aluminum.

Cautionary Note Regarding Forward-Looking Information

This press release contains forward-looking statements. These statements rely on assumptions about technology performance, market demand, permits, financing, supply chains, and economic conditions but remain subject to significant risks, including delays, regulatory challenges, competition, pricing, financing availability, and macroeconomic uncertainties. Actual outcomes may differ materially from expectations. Detailed risk factors are outlined in HPQ's Annual Information Form available on SEDAR+. Forward-looking information is provided solely to outline management's future expectations and objectives.

A more detailed cautionary note regarding forward-looking information related to the HPQ Endura+ batteries project is available for download [[here](#)].

Further information regarding the Company is available in the SEDAR+ database (www.sedarplus.ca), and on the Company's website at: <http://www.hpqsilicon.com/>

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This News Release is available on the company's [CEO Verified Discussion Forum](#), a moderated social media platform that enables civilized discussion and Q&A between Management and Shareholders.

Source: HPQ Silicon Inc.

For further information contact:

Bernard J. Tourillon, Chairman, President, and CEO
Tel +1 (514) 846-3271 / Email: Info@hpqsilicon.com