

18650 TYPE BATTERIES MADE WITH ADVANCED SILICON BASED MATERIAL CONTINUES TO DELIVER STRONG PERFORMANCE AT 50 CYCLES

- Testing continues to indicate remarkable performance improvement, after 50 cycles, surpassing the capabilities of traditional graphite benchmark batteries by approximately 14% [1].
- Minimal and consistent performance degradation of only about 1%, compared to benchmark graphite batteries range of 1% to 2%.
- Outperforming similar commercial batteries, showing degradation rates of near 1% for Novacium batteries compared to near 5% for Samsung INR18650-35E Battery [2].

Montreal, Canada, March 14th, 2024 — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) (TSX-V: [HPQ](#)) (OTCQB: [HPQFF](#)) (FRA: [O08](#)), a technology company specializing in green engineering of silica and silicon-based materials is pleased to announce a major milestone achieved by its France-based affiliate, NOVACIUM SAS (“Novacium”). This announcement underscores the promising results witnessed during the continuous charge-discharge cycle testing of 18650 industrial batteries, reaching a significant milestone at the 50-cycle mark. 18650 industrial batteries are considered the ‘industry standard’.

“These ongoing results continue to surpass our expectations [1],” stated Dr. Jed Kraiem Ph.D., COO of Novacium. “The fact that battery consistently exceeds our internal theoretical estimate of a 10% improvement in battery performance, even after 50 cycles is a powerful validation of our approach.”

MAINTAINING 14% BATTERY CAPACITY IMPROVEMENT WITH MINIMAL DEGRADATION FOR 50 CYCLES

The graph displayed below (Figure 1, Left) show the battery capacity outcomes and (Figure 1, Right) the changes in capacity during the 50-cycle testing of the 18650 batteries. The blue lines depicting the results of the 18650 batteries comprised of 90% wt graphite and 10% wt Novacium's custom-engineered silicon material blend, a material for which HPQ holds exclusive global licenses, while the red lines depict the results for the batteries made entirely of graphite.

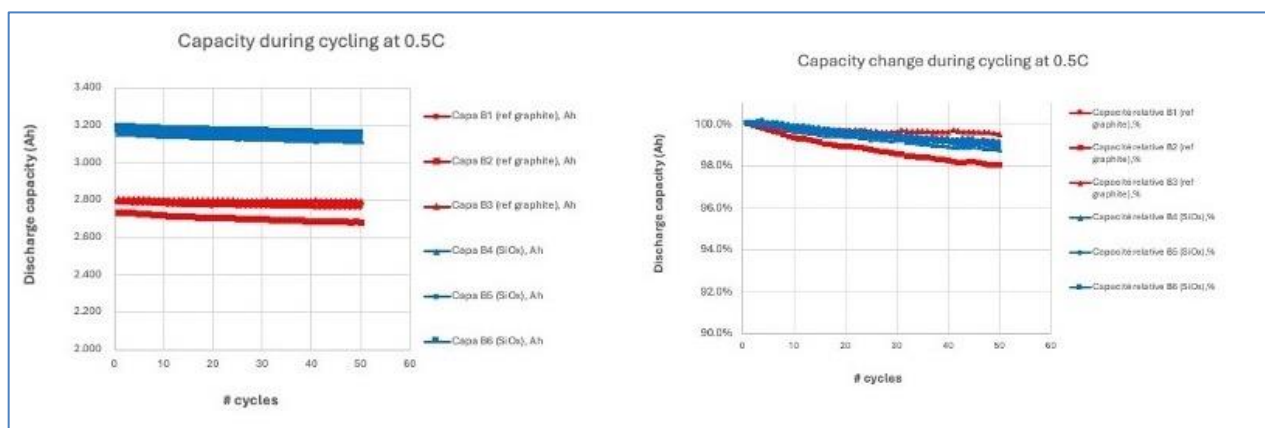


Figure 1) Capacity (left) and Capacity change (right) during 50 cycles tests of HPQ and Novacium Gen 1 18650 industrial battery [1].

Analysis of the data in Figure 1, Left reveals that the three industrial-type batteries, which utilize Novacium's custom-engineered silicon base material blend (blue lines), continue to demonstrate impressive performance at the 50-cycle mark. These batteries exhibit a high discharge capacity of approximately 3.18 Ampere-hours (Ah), surpassing the benchmark set by three comparison batteries (red lines) with a capacity of 2.70 Ah. These results mark another significant milestone after 50 cycles of

testing. These results, confirm and extend the 14% enhancement in full-battery capacity compared to 100% graphite benchmark batteries, that was observed in the previous 5 and 25 cycles testing.

Furthermore, the data in Figure 1, Right reveals that, at the 50 cycles test mark, the measurable cycle degradation between the batteries made entirely of graphite (the red lines) ranges from 1% to 2% and those incorporating Novacium's custom-engineered silicon base material blend (the blue lines) is consistently around 1%.

“These are encouraging indicators of the material's commercial viability in the battery manufacturing sector,” added Dr. Kraiem. *“These results underscore our ability to produce an advanced blend of graphite and engineered silicon material that significantly enhances battery performance.”*

COMPARING CAPACITY DEGRADATION BETWEEN 18650 BATTERY TYPES

One of the best to ways to visualize the potencies of our degradation results to date is to compare side by side industry 18650 type graphite batteries capacity degradation with the Novacium 18650 batteries at the 50 cycles benchmark.

The graph displayed below (Figure 2, Left) showcases change in capacity results for a Samsung INR18650-35E Battery, and (Figure 2. Right) the changes in capacity during the 50-cycle testing of the 18650 batteries made using Novacium's custom-engineered silicon material blend.

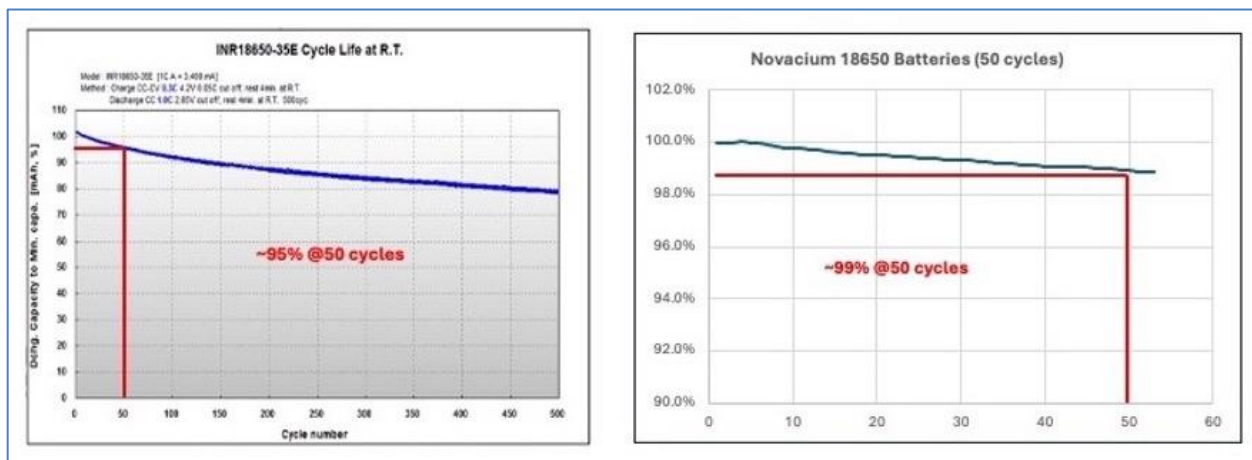


Figure 2) On the right we have the capacity change data for a Samsung INR18650-35E Battery [2] and on the right the change in capacity of HPQ and Novacium Gen 1 18650 industrial battery [1].

The data clearly demonstrates the potential of our material. At the 50 cycles test mark, the Samsung INR18650-35E Battery capacity loss was around 5%, while the HPQ and Novacium Gen 1 18650 industrial battery loss was near 1%.

“I am profoundly encouraged by these promising results,” expressed Mr. Bernard Tourillon, President and CEO of HPQ Silicon Inc. and NOVACIUM SAS. *“Our vision extends far beyond mere innovation as we continue to see new third-party interest in our material and capability to meet and exceed the rigorous demands being created across various industries.”*

REFERENCE SOURCES

- [1] Novacium technical team analysis of the data from the ongoing charging and discharging cycle tests conducted at a world-leading university, the name of which is kept confidential for competitive reasons.
- [2] Link to the source of the [Samsung INR18650-35E Battery capacity graph](#).

About NOVACIUM SAS

Novacium is an HPQ - affiliated company started in Q3 2022. This green technology startup is based in Lyon, France and is a partnership with HPQ and three of France's leading research engineers, Dr. Jed KRAIEM PhD, Novacium's Chief Operating Officer ("COO"), Dr. Oleksiy NICHIPORUK PhD, Novacium's Chief Technical Officer ("CTO"), and Dr. Julien DEGOULANGE PhD, Novacium's Chief Innovation Officer ("CIO"). Novacium is a new Research and Development company which allows the researchers to develop their own technology in high added value fields connected to renewable energy, and allows HPQ Silicon Inc, a Canadian company, to expand the depth and reach of its technical team to help develop its silicon and new renewable energy projects.

About HPQ Silicon

[HPQ Silicon Inc. \(TSX-V: HPQ\)](#) is a Quebec-based TSX Venture Exchange Tier 1 Industrial Issuer.

HPQ is developing, with the support of world-class technology partners [PyroGenesis Canada Inc.](#) and [NOVACIUM SAS](#), new green processes crucial to make the critical materials needed to reach net zero emissions.

HPQ activities are centred around the following four (4) pillars:

- 1) Becoming a green low-cost (Capex and Opex) manufacturer of Fumed Silica using the **FUMED SILICA REACTOR**, a proprietary technology owned by HPQ being developed for HPQ by PyroGenesis.
- 2) Becoming a producer of silicon-based anode materials for battery applications with the assistance of NOVACIUM SAS.
- 3) HPQ SILICON affiliate NOVACIUM SAS is developing a low carbon, chemical base on demand and high-pressure autonomous hydrogen production system.
- 4) Becoming a zero CO₂ low-cost (Capex and Opex) producer of High Purity Silicon (2N+ to 4N) using our **PUREVAP™ "Quartz Reduction Reactors" (QRR)**, a proprietary technology owned by HPQ being developed for HPQ by PyroGenesis.

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

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Source: HPQ Silicon Inc.

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