



HPQ Silica Polvere Fumed Silica Reactor: Commissioning Starts

Validation of the pilot plant's commercial potential is officially underway

Montreal, Canada, July 23rd, 2024 — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) ([TSX-V: HPQ](#), [OTCQB: HPQFF](#), [FRA: O08](#)), a technology company specializing in the green engineering of silica and silicon-based materials is pleased to announce that HPQ Silica Polvere Inc. (“HSPI”)^[1] has reached another major milestone in the commercialization of its Fumed Silica Reactor (“FSR”) process.

Technology supplier [PyroGenesis Canada Inc.](#) ([TSX: PYR](#), [OTCQX: PYRGE](#), [FRA: 8PY](#)) (“PyroGenesis”) has informed HSPI that the pre-commissioning of the fumed silica pilot plant is complete and the commissioning^[2] of the FSR pilot plant is underway. Everything is progressing as expected, and production of fumed silica material and subsequent first sample delivery are still on schedule for Q3.

This aligns with information previously disclosed in our [June 5, 2024, release](#).

“We are on the verge of demonstrating at pilot scale, the incredible potential of our FSR technology,” stated Bernard Tourillon, President & CEO of HPQ Silicon and HPQ Silica Polvere. *“We are very confident that this process and all phases, including each step in the program will be completed successfully. Needless to say, we are very proud to be leading this unique opportunity that will change fumed silica manufacturing for ever.”*

THE COMMERCIAL VALIDATION PROCESS TO PROCEED BY:

1. Demonstrating the ability of the FSR to produce commercial-grade fumed silica material at scale,
2. Confirming low-cost low carbon capability of the FRS process, and,
3. Obtaining all operational and financial data points required by HSPI to negotiate an offtake agreement for low-carbon fumed silica material. This will cover both the material produced by an inaugural 1,000 TPY commercial-scale plant and the material produced by the pilot system.

PILOT PLANT PROJECT TIMELINE

During Q3, the system will transition from the commissioning phase into an operating phase. At which point, the FSR will operate under a batch protocol to start producing fumed silica material.

The first project milestone is to demonstrate the process's ability to produce material with specific surface areas ranging from 150 to 200 m²/g, similar to what was achieved at the lab scale. Under the terms of the LOI with Evonik Corporation (“Evonik”) ([July 9, 2024, release](#)), samples of the fumed silica material produced (during this phase) will be both tested internally and material sent to Evonik for further testing.

During Q4 and beyond, the system will transition to a semi-continuous operation in order produce at least 200 kg of commercial-grade fumed silica samples for testing.



By the end of Q4 2024, start of Q1 2025 the next phase will focus on optimizing pilot plant operations to produce food/pharma-grade fumed silica material with specific surface areas of 300 m²/g. Throughout these phases, fumed silica material produced will be tested internally, and sample materials will be also sent to Evonik for testing.

The overall goal will be to have the pilot plant system running at full capacity, operating multiple production cycles throughout the day and producing commercial-quality material. Assuming 20 hours of operation per day, the system could produce approximately 161 kg/day, equivalent to about 50,000 kg/year (50 TPY).

“As I have often stated, PyroGenesis only commits to ideas that have both real and significant potential for successful commercialization,” said P. Peter Pascali, President and CEO of PyroGenesis. *“While we are approached regularly by companies seeking a technology partner, we will only commit our engineering and technical resources to those whose ideas have the most upside. Rarer still is the commercial opportunity where we are willing to take a 50% ownership stake in the initiative, as we have with the fumed silica reactor process. We are looking forward to getting this validation on the road and securing the results in short order.”*

REFERENCE SOURCES

- [1] A wholly owned subsidiary of HPQ Silicon Inc. when technology supplier PyroGenesis announced its intention to exercise its option to acquire a 50% stake in HSPI in May 2024.
- [2] Commissioning entail having operation-ready system validation followed by hot blank tests.

About HPQ

[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](#).



About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a leader in the design, development, manufacture and commercialization of advanced plasma processes and sustainable solutions which reduce greenhouse gases (GHG) and are economically attractive alternatives to conventional “dirty” processes. PyroGenesis has created proprietary, patented, and advanced plasma technologies that are being vetted and adopted by multiple multibillion dollar industry leaders in three massive markets: iron ore pelletization, aluminum, waste management, and additive manufacturing. With a team of experienced engineers, scientists and technicians working out of its Montreal office, and its 3,800 m² and 2,940 m² R&D and manufacturing facilities, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The operations are ISO 9001:2015 and AS9100D certified, having been ISO certified since 1997. For more information, please visit: www.pyrogenesis.com

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