

**PATENT APPLICATION FILED FOR AN AUTONOMOUS, LOW-CARBON FOOTPRINT,
ON-DEMAND PRESSURIZED HYDROGEN PRODUCTION SYSTEM.
NO ELECTRICITY REQUIRED.**

MONTREAL, Canada, September 7th, 2023 — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) ([TSX-V: HPQ](#)) ([OTCQB: HPQFF](#)) ([FRA: O08](#)), a technology company specializing in green engineering processes for silica and silicon material production is pleased to inform shareholders that its Lyon based, affiliated company, NOVACIUM SAS (“Novacium”) has filed a patent application for a low carbon footprint, chemical based, on-demand and high-pressure autonomous hydrogen production system.

The new hydrogen production system uses a chemical process to liberate hydrogen from specific low-cost, low-carbon footprint, and non-hazardous alloys. Furthermore, the hydrogen produced by the chemical process directly reaches industry-standard pressure levels, typically ranging from 200 to 1,000 bars.

HARNESSING HYDROGEN POTENTIAL WHILE ELIMINATING LIMITING FACTORS

Unlike traditional electrolysis-based hydrogen production systems, Novacium's process operates without the need for electricity, extensive storage, and complex transportation infrastructure, offering a truly autonomous solution.

“This innovative approach aims to unlock the hydrogen stored in water using eco-friendly and low-cost alloys, providing an alternative, safe, and efficient means of hydrogen production,” said Mr. Oleksiy NICHIPORUK PhD, Novacium's Chief Technical Officer (“CTO”). *“We believe this system has the power to transform hydrogen's role as a clean energy source across various industries.”*

The dual-application process, designed for military and civilian uses, addresses a potential client's need for a low-carbon footprint, on-demand, high-pressure autonomous hydrogen production system deployable anywhere globally, even under off-grid conditions, with safety as a top priority.

PLANS TO DEVELOP A PROTOTYPE SYSTEM

Novacium is currently engaged in discussions aiming to secure grant financing, from two potential clients, to cover 35% to 75% of the costs to deliver the first working prototype of the system by the end of 2024.

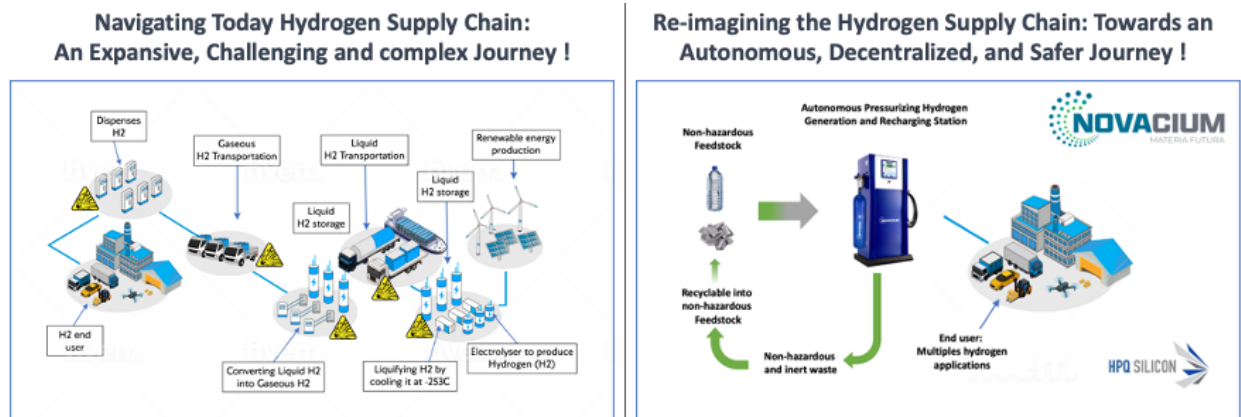


Image #1 – Traditional hydrogen supply chain VS Novacium autonomous hydrogen supply chain

“The uniqueness of Novacium's hydrogen production system comes from the fact that its re-imagines how to produce hydrogen simply and safely, reducing transportation needs, and therefore holds the potential to have significant implications for hydrogen's role as safe and clean energy on-site source in various industrial applications,” said Mr. Bernard Tourillon, President and CEO of NOVACIUM SAS and HPQ Silicon Inc.

HYDROGEN: MARKET AND LIMITING FACTOR

There is no doubt that hydrogen can play a significant role in decarbonizing the economy due to its zero-emission characteristics and high energy-to-weight ratio. However, as of 2021, less than 1 million tonnes (Mt) of hydrogen demand out of a total of 94 Mt came from low-emission sources, with the rest produced from unabated fossil fuels [1].

According to a Deloitte study, achieving net-zero greenhouse gas emissions by 2050 will require the development of a clean hydrogen market equivalent to 170 million tonnes (Mt_{H₂eq}) by 2030, with projections reaching nearly 600 Mt_{H₂eq} by 2050 [2].

Despite the rapid growth in the pipeline of low-emission hydrogen production projects, few of them are advancing to the Financial Investment Decision (FID) stage. Most of these projects rely on electrolysis or fossil fuel with Carbon Capture, Utilization, and Storage (CCUS) for hydrogen production, which doesn't fully address the multiple challenges hindering hydrogen adoption [3].

"We are excited to announce the filing of this patent application combined with the quick and high market interest in our solution," said Mr. Jed KRAIEM PhD, Novacium Chief Operating Officer ("COO"). *"It marks a crucial step in our commitment to advancing sustainable and autonomous energy solutions."*

REFERENCE SOURCES

- [1] INTERNATIONAL ENERGY AGENCY, Global Hydrogen Review 2022, Executive Summary, Page 5.
- [2] Deloitte's 2023 global green hydrogen outlook, page 13
- [3] INTERNATIONAL ENERGY AGENCY, Global Hydrogen Review 2022, Executive Summary, Page 5.

About NOVACIUM SAS

Novacium is green technology startup based in Lyon, France started in Q3 2022. It is the result of a partnership between three of France's leading research engineers, Mr. Jed KRAIEM PhD, Novacium's Chief Operating Officer ("COO"), Mr. Oleksiy NICHIPORUK PhD, Novacium's Chief Technical Officer ("CTO"), and Mr. Julien DEGOULANGE PhD, Novacium's Chief Innovation Officer ("CIO"), who wanted to start a new Research and Development company to develop their own technology in high added value fields connected to renewable energy, and HPQ Silicon Inc, a Canadian company, looking to expand the depth and reach of technical team in order to 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 five (5) pillars:

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

- 5) Working to become the first producer of nano silicon materials from High Purity Silicon chunks using our proprietary **PUREVAP™ Nano Silicon Reactor (NSiR)** being developed by PyroGenesis.

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

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This press release contains certain forward-looking statements, including, without limitation, statements containing the words "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "in the process" and other similar expressions which constitute "forward-looking information" within the meaning of applicable securities laws. Forward-looking statements reflect the Company's current expectation and assumptions and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated. These forward-looking statements involve risks and uncertainties including, but not limited to, our expectations regarding the acceptance of our products by the market, our strategy to develop new products and enhance the capabilities of existing products, our strategy with respect to research and development, the impact of competitive products and pricing, new product development, and uncertainties related to the regulatory approval process. Such statements reflect the current views of the Company with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Company's ongoing filings with the security's regulatory authorities, which filings can be found at www.sedar.com. Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements either as a result of new information, future events or otherwise, except as required by applicable securities laws.

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Source: HPQ Silicon Inc.

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