

## HPQ, Novacium, and Pragma Industries Sign Agreement for Commercial and Industrial Green Hydrogen Production Using METAGENE™ Technology

*This initial strategic partnership aims to accelerate the large-scale commercialization of METAGENE™ green hydrogen production systems in response to rapidly growing market demand*

**Montreal, Canada, and Lyon France, June 10<sup>th</sup>, 2025** — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) (TSX-V: [HPQ](#), OTCQB: [HPQFF](#), FRA: [O08](#)), a technology company driving innovation in advanced materials and critical process development, and its French technology partner, **NOVACIUM SAS** (“Novacium”), are pleased to announce the signing of an commercial and industrial cooperation agreement with [Pragma Industries](#) (“Pragma”), a leading designer of fuel cells and soft mobility solutions based in Biarritz, France.

This agreement marks a key milestone in the deployment of METAGENE™ technology — An innovative approach developed by Novacium for the autonomous, high-pressure production of green hydrogen. It underscores the strategic interest of Pragma Industries — a long-standing hydrogen pioneer with over 20 years of experience — in integrating METAGENE™ stations into its sustainable mobility solutions, particularly to support last-mile transportation needs.

METAGENE™ technology, based on the use of a non-explosive, safe aluminum-silicon alloy, enables the generation of 1.25 m<sup>3</sup> of hydrogen per kilogram of fuel, without requiring electricity, costly storage, or heavy infrastructure. Its range and energy efficiency make it an ideal solution for light mobility applications, including hydrogen-powered bicycles and other low-emission vehicles developed by Pragma.



Image 1) Diagram of the METAGENE™ reactor and its green hydrogen production process

*"We are pleased to enter into this agreement with HPQ and Novacium, which lays the foundation for a promising collaboration," said Pierre Forté, CEO of Pragma Industries. "METAGENE™ technology represents a major breakthrough in the decentralized production of high-pressure hydrogen — a perfect fit for last-mile challenges. This solution will enable us to supply our soft mobility offerings in a sustainable and cost-effective way, without relying on traditional energy infrastructures that deliver hydrogen at high cost. It strengthens our commitment to a pragmatic, efficient, and accessible energy transition."*

In addition, Pragma Industries is also involved in the MANGABHY project, which aims to develop a specialized fuel cell for drones. The METAGENE™ technology, thanks to its compactness, its operating autonomy and its ability to produce hydrogen on demand, has major advantages to meet the high requirements of this type of application.

*"METAGENE™ technology, which enables off-grid hydrogen production, is an innovation that addresses long-standing challenges which have hindered the development of this type of application,"* added Pierre Forté, CEO of Pragma Industries. *"The ability to generate hydrogen anywhere — without dedicated infrastructure — opens up unprecedented opportunities for the development of hydrogen-powered drones and could significantly accelerate growth in this market."*

*"This agreement with Pragma Industries highlights the transformative potential of METAGENE™ technology in the green mobility and drone sectors,"* said Bernard Tourillon, President and CEO of HPQ Silicon Inc. and NOVACIUM SAS. *"By combining Pragma's expertise in soft mobility with our innovative technology, we are laying the foundation for meaningful change in the way energy solutions are developed and implemented — one that can meet the needs of both civil and industrial markets."*

As part of this agreement, HPQ, Novacium, and Pragma Industries will collaborate to evaluate the integration of METAGENE™ production stations into the mobility ecosystems developed by Pragma. A pilot phase is planned between late 2025 and early 2026, with operational testing aimed at validating a production capacity of 10 kg of hydrogen per day — intended to power fleets of hydrogen vehicles and drones.



Image 2: Diagram of a METAGENE™ reactor network enabled by the system's flexible and modular design

*"What makes METAGENE™ compelling is not only its ability to generate hydrogen on demand, but the complete removal of traditional constraints — no external electricity, no compression infrastructure, and no high-cost logistics,"* said Dr. Jed Kraiem, COO of Novacium. *"From a systems engineering perspective, this opens the door to new deployment models for hydrogen — whether in mobility, remote operations, or industrial use — where autonomy and scalability have always been limiting factors."*



The agreement signed at the end of April 2025 does not yet contain any material terms.

### About Pragma Industries

Pragma Industries is a leading developer of hydrogen-powered soft mobility solutions, including fuel cell bicycles and light vehicles. Based in Biarritz, France, the company is dedicated to delivering sustainable alternatives for urban transportation and last-mile logistics, with a strong focus on innovation and reducing carbon emissions.

### About NOVACIUM SAS

**Novacium** is a green technology start-up based in Lyon, France. It was founded through a partnership between HPQ Silicon Inc.—a Canadian company specializing in critical materials—and three high-level French research engineers: **Dr. Jed Kraiem**, Chief Operating Officer (COO); **Dr. Oleksiy Nichiporuk**, Chief Technology Officer (CTO); and **Dr. Julien Degoulange**, Chief Innovation Officer (CIO).

Together, they founded Novacium with the goal of developing proprietary technologies in high value-added sectors linked to renewable energy. The partnership with HPQ was designed to combine their scientific expertise with HPQ's industrial vision to advance silicon-related initiatives and explore new opportunities in clean technologies.

### About HPQ Silicon

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

HPQ is a technology company focused on innovation in advanced materials and critical process development. In partnership with world-class technology leaders [PyroGenesis Inc.](#) and [NOVACIUM SAS](#)—of which HPQ is a shareholder—the company is developing the materials and process technologies essential to achieving net-zero goals.

HPQ activities are centred around the following 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 Silica Polvere Inc., being developed for HSPI by PyroGenesis.
- 2) Working with R&D partner NOVACIUM SAS, to become a producer of silicon-based anode materials for battery applications.
- 3) Developing Innovative processes to generate and use Hydrogen:
  - a. **METAGENE™**, a low-carbon, chemical-based, on-demand, high-pressure autonomous hydrogen production system, is being developed by NOVACIUM SAS of which HPQ holds the exclusive North American (Canada, USA, and Mexico) license.
  - b. **WASTE TO ENERGY (W2E)**, a new process to transform black aluminum dross into a valuable resource, is being developed by NOVACIUM SAS, of which HPQ holds the exclusive North American (Canada, USA, and Mexico) license. HPQ is also a shareholder in NOVACIUM SAS.
- 4) Becoming a zero-CO<sub>2</sub> 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](#).

### Cautionary Note Regarding Forward-Looking Information

This press release contains “forward-looking information” and “forward-looking statements” within the meaning of

applicable securities legislation (collectively, “forward-looking statements”), including, but not limited to, statements relating to future financial or operating events or future performance of the Company, and reflecting management’s expectations and assumptions regarding the Company’s growth, results, performance, and business prospects and opportunities. Such forward-looking statements reflect management’s current beliefs and are based on information currently available to it. In some cases, forward-looking statements can be identified by words such as “aim”, “anticipate”, “aspire”, “attempt”, “believe”, “budget”, “could”, “estimate”, “expect”, “forecast”, “intend”, “may”, “mission”, “plan”, “potential”, “predict”, “progress”, “outlook”, “schedule”, “should”, “study”, “target”, “will”, “would” or the negative of these terms or other similar expressions concerning matters that are not historical facts.

In particular, forward-looking statements include, but are not limited to, the Company’s and Novacium ability to develop the METAGENE™ technology, a process that harnesses hydrogen released from low-cost and low-carbon footprint metallic alloys via hydrolysis, establishing an autonomous, on-demand pressurized energy process, and build a first commercial prototype within the timeline, to provide high-performing and reliable METAGENE™ systems while promoting sustainability and supply chain traceability, and to position its METAGENE™ operation in the capital markets, the expected results of the initiatives described in this press release, and those statements which are discussed under the “About HPQ Silicon” and “About Novacium” paragraph and elsewhere in the press release which essentially describe the Company’s outlook and objectives.

Additionally, the forward-looking statements include, but are not limited to, the Company’s future results, the intended fabrication of the first METAGENE™ prototype pilot plant, its testing and timeline to commercial scale up, the economic performance and product development efforts, as well as the Company’s expected achievement of milestones, including the ability to conclude an sell agreement and obtain sufficient financing for the future development on favorable terms for the Company.

Further, these forward-looking statements include the Company’s ability to achieve its METAGENE™ technology strategy and its intended results, market trends, the consumer demand for systems, the Company’s competitive advantages, macroeconomic conditions, the impact of applicable laws and regulations, and any information as to future plans and outlook for the Company are or involve forward-looking statements.

Forward-looking statements are based on estimates and assumptions that, while considered reasonable by the Company at the time of such statements, are inherently subject to significant business, economic, and competitive uncertainties and contingencies. These estimates and assumptions are not guarantees of future performance and may prove incorrect. These statements rely on various factors, including current technological trends, safe and effective operations, timely delivery and installation of future production equipment at estimated prices, assumed METAGENE™ technology sale prices, future exchange and interest rates, political and regulatory stability, commodity prices and production costs, the receipt of necessary approvals, licenses, and permits on favorable terms, sustained labor stability, financial and capital market conditions, availability of critical supplies and equipment, tax assumptions, CAPEX and OPEX estimates, economic and operational projections, local infrastructure, and overall business prospects. Forward-looking statements are also subject to risks, uncertainties, and other factors that may cause actual results to differ materially, including the outcome of development, engineering, and planning activities, market conditions, competition, pricing pressures, risks inherent to mining exploration and development, the commercial viability of the Company’s technology, project timelines, business continuity challenges, geopolitical instability, and other industry risks. Additionally, there can be no assurance that the conditions precedent of offtake agreements, product qualification requirements, and commercial operations will be met, nor that the Company will fulfill the expectations of financing partners and certifying bodies.

Forward-looking statements are subject to known or unknown risks and uncertainties that may cause actual results to differ materially from those anticipated or implied in the forward-looking statements. Risk factors that could cause actual results or events to differ materially from current expectations include, among others, delays in the scheduled delivery times of the equipment, the ability of the Company to successfully implement its strategic initiatives and whether such strategic initiatives will yield the expected benefits, the availability of financing or financing on favorable terms for the Company, the dependence on commodity prices, the impact of inflation on costs, the risks of obtaining the necessary permits, the operating performance of the Company’s assets and businesses, competitive factors in the graphite mining and production industry, changes in laws and regulations affecting the Company’s businesses, political and social acceptability risk, environmental regulation risk, currency and exchange rate risk,



technological developments, the impacts of the global COVID-19 pandemic and the governments' responses thereto, and general economic conditions, as well as earnings, capital expenditure, cash flow and capital structure risks and general business risks. A further description of risks and uncertainties can be found in HPQ's Annual Information Form dated March 21, 2025, including in the section thereof captioned "Risk Factors", which is available on SEDAR+ at [www.sedarplus.ca](http://www.sedarplus.ca). Unpredictable or unknown factors not discussed in this Cautionary Note could also have material adverse effects on forward-looking statements.

Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that may cause results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Forward-looking statements are provided for the purpose of providing information about management's expectations and plans relating to the future. The Company disclaims any intention or obligation to update or revise any forward-looking statements or to explain any material difference between subsequent actual events and such forward-looking statements, except to the extent required by applicable law.

Market and industry data presented throughout this press release was obtained from third-party sources and industry reports, publications, websites and other publicly available information, as well as industry and other data prepared by the Company or on the behalf of the Company based on the Company's knowledge of the markets in which the Company operates, including information provided by suppliers, partners, customers and other industry participants.

The Company believes that the market and economic data presented throughout this press release is accurate as of the date of publication and, with respect to data prepared by the Company or on behalf of the Company, that estimates and assumptions are currently appropriate and reasonable, but there can be no assurance as to the accuracy or completeness thereof. The accuracy and completeness of the market and economic data presented throughout this press release are not guaranteed and the Company does not make any representation as to the accuracy of such data.

Actual outcomes may vary materially from those forecast in such reports or publications, and the prospect for material variation can be expected to increase as the length of the forecast period increases. Although the Company believes it to be reliable as of the date of publication, the Company has not independently verified any of the data from third-party sources referred to in this press release, analyzed or verified the underlying studies or surveys relied upon or referred to by such sources, or ascertained the underlying market, economic and other assumptions relied upon by such sources. Market and economic data are subject to variations and cannot be verified due to limits on the availability and reliability of data inputs, the voluntary nature of the data gathering process and other limitations and uncertainties inherent in any statistical survey.

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

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

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**Source:** HPQ Silicon Inc.

**For further information contact:**

Bernard J. Tourillon, Chairman, President, and CEO Tel +1 (514) 846-3271

Email: [Info@hpqsilicon.com](mailto:Info@hpqsilicon.com)