



PyroGenesis Signs \$3M Contract with HPQ Subsidiary; Includes IP Sale of \$2.4MM

MONTREAL, QUEBEC (GlobeNewswire – August 18, 2020) - PyroGenesis Canada Inc. (<http://pyrogenesis.com>) (TSX-V: PYR) (OTCQB: PYRNF) (FRA: 8PY), a high-tech company, (the "Company", the "Corporation" or "PyroGenesis") that designs, develops, manufactures and commercializes plasma atomized metal powder, plasma waste-to-energy systems and plasma torch systems, is pleased to announce today that it has signed a contract for approx. \$3MM (the "Contract") with HPQ Nano Silicon Powders Inc ("HPQ NANO" or the "Client"), a wholly owned subsidiary of HPQ Silicon Resources Inc ("HPQ").

This Contract has been developed to exploit the benefits of the novel PUREVAP™ Nano Silicon Reactor (NSiR) to make nano Silicon powder with the battery market as a principle target. Specifically, this program has been divided into two phases; i) to modify the existing GEN2 PUREVAP™ QRR in order to produce silicon nano powders and nanowires needed for the next generation of Lithium-ion (Li-ion) Si batteries, and ii) to design and manufacture a semi-continuous process system with a commercial production capacity of at least 300 kg/month (or about 3.5 MT/year) of nano silicon powders.

Research¹ indicates that replacing graphite with nano silicon powders could allow the manufacturing of high-performance Li-ion batteries with the capability of delivering an almost tenfold (10x) increase in anode capacity, inducing a 20-40% gain in the energy density of the next generation of Li-Ion batteries. The Li-ion battery market size is estimated to grow from USD 44.2 billion in 2020 to USD 94.4 billion by 2025, equivalent to a CAGR of 16.4%.² Manufacturing of Si nano powders is not yet commercially feasible with selling prices of US\$ 30,000/kg.³ (*Please refer to HPQ press release dated August 18th, 2020 for further details*).

This Agreement includes \$2.4MM for the sale of the intellectual property (IP) rights to the PUREVAP™ NSiR process, together with a 10 % royalty on the Client's future sales ("Royalty") (with set minimums). The IP sold relates exclusively to the manufacturing of nano silicon powders and wires by HPQ NANO. PyroGenesis will retain a royalty-free, exclusive, irrevocable, worldwide license to use the System for all other purposes. This Royalty stream can at any time be converted by PyroGenesis into a 50% ownership of the Client.

¹ <https://cen.acs.org/materials/energy-storage/battery-materials-world-anodes-time/97/i14>

² <https://www.marketsandmarkets.com/Market-Reports/lithium-ion-battery-market-49714593.html#:~:text=Lithium%2DIon%20Battery%20Market%20size,at%20a%20CAGR%20of%2016.4%25.>

³ HPQ Corporate presentation 2020-06-30 https://hpqsilicon.com/wp-content/uploads/2020/06/HPQ-NEW-FULL-SIZE-VER_JUNE_30_2020.pdf

“This Agreement represents another significant milestone in our relationship with HPQ. Battery storage is the future and it is indeed exciting for us to now be using our plasma expertise in addressing the challenges facing the lithium battery market,” said M. P. Peter Pascali, President and CEO of PyroGenesis. “This milestone is also a testament to what can be achieved when two companies, and their Boards, work together with a common purpose and a clear understanding of the many unforeseen challenges in bringing such product lines to fruition.”

About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is the world leader in the design, development, manufacture and commercialization of advanced plasma processes and products. We provide engineering and manufacturing expertise, cutting-edge contract research, as well as turnkey process equipment packages to the defense, metallurgical, mining, advanced materials (including 3D printing), oil & gas, and environmental industries. With a team of experienced engineers, scientists and technicians working out of our Montreal office and our 3,800 m² manufacturing facility, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. Our core competencies allow PyroGenesis to lead the way in providing innovative plasma torches, plasma waste processes, high-temperature metallurgical processes, and engineering services to the global marketplace. Our operations are ISO 9001:2015 and AS9100D certified, and have been since 1997. PyroGenesis is a publicly-traded Canadian Corporation on the TSX Venture Exchange (Ticker Symbol: PYR) and on the OTCQB Marketplace. For more information, please visit www.pyrogenesis.com.

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 Corporation'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 Corporation with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Corporation's ongoing filings with the securities regulatory authorities, which filings can be found at www.sedar.com, or at www.otcmarkets.com. Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Corporation 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.

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

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