



PyroGenesis Announces Passing Annual Quality Audit of its 3D Printing Metal Powder Business Line

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Provides Corporate Update, Business Unit Expanding.

MONTREAL, Nov. 02, 2022 (GLOBE NEWSWIRE) -- PyroGenesis Canada Inc. (<http://pyrogenesis.com>) (TSX: PYR) (NASDAQ: PYR) (FRA: 8PY), a high-tech company (hereinafter referred to as the "Company" or "PyroGenesis"), that designs, develops, manufactures and commercializes advanced plasma processes, high quality plasma atomized metal powder for 3D printing and additive manufacturing, and sustainable solutions which are geared to reduce greenhouse gases (GHG), is pleased to announce today that it has passed its annual quality audit for two key international standards: ISO 9001:2015, and AS9100D. The audits encompassed all of PyroGenesis' facilities for the purpose of meeting compliance with the existing quality management designations.

The Company also takes this opportunity to provide a brief update on its 3D printing metal powders business line.

Quality Management Audits

The Company recently underwent the yearly audit process for two key international standards: ISO 9001:2015, and AS 9100, the latter being a quality management designation specific to the aerospace industry. The audits encompassed all PyroGenesis facilities for the purpose of meeting compliance with the existing quality management designations.

The Company is pleased to report 0 Non-Conformances Reports (NCR). Additionally, as a result of this audit, the Company's newest facility located at 9371 Wanklyn St. in LaSalle, Quebec, was officially added to the ISO 9001:2015 certification.

"I would like to thank all those who participated in this audit, not only for their support, effort, and teamwork, but also for their continued adherence to maintaining the Company's high standards as process owners of the quality system," said Mr. P. Peter Pascali, CEO and Chair of PyroGenesis. "Along with a superior product, a robust and efficient value-added Quality Management System is essential to meeting our objective of becoming a globally competitive company in the additive manufacturing and 3D printing sector. This is even more important given the backdrop of recent developments where potential clients complete their own audit process with the goal of qualifying PyroGenesis as a powder supplier."

Separately, PyroGenesis continues on its path to becoming ISO 13485:2016 certified, a Quality Management System designation required by most manufacturers within the medical devices and related services industry. Once obtained, the Company's metal powder offerings will be available to medical device makers as well.

Global Aerospace Company Qualification Process

Further to its [press release dated September 21, 2022](#), where the Company had announced that an in-house audit of its NexGen™ metal powder production facility by a global aerospace company (the "Client") was completed:

As mentioned, this on-site facility and production audit was a significant step for the Company as it signified the completion of a major part of the final phase of the Client's qualification process. This process has spanned over 18 months of investigative rigor towards becoming an approved supplier of metal powders to the Client and its suppliers.

At that time, it was noted that the Client had suggested modifications and adjustments in order to proceed with delivery of final samples of titanium powder for chemical and mechanical testing. We are proud to announce that in less than a month, the Company has completed, as of this writing, over 90% of those suggestions, and is working on completing the remaining 10% before the end of the year. Once completed, the Company will proceed with delivery of final samples of titanium powder for chemical and mechanical testing by the Client.

"Validating our process, our system, and ultimately our product, to the most stringent and challenging standards has been critical to our strategy to produce the highest quality titanium metal powders," said Mr. Massimo Dattilo, VP, PyroGenesis Additive. "We continue to be on track for a Q4 2022 / Q1 2023 target for final submission and approval."

PyroGenesis' Additive division's goal is to become a leading supplier of plasma atomized metal powders to end-users of additive manufacturing (AM) and 3D printing, specifically targeting, but not limited to, the aerospace, biomedical, and automotive industries. The Company believes that its NexGen™ metal powder production system, a single-step process that is unique in that it uses wire as a direct feedstock in such a way as to enable it to produce significant gains in production speed, particle size control, and cost.

European Manufacturing Facility

Further to its [press release dated July 18, 2022](#), wherein the Company announced that, in anticipation of expected growth of the European market as well as nearby markets, it is pursuing a strategy to build and operate a metal powder manufacturing facility in Europe:

The Company is happy to announce that it has entered early-stage discussions with at least one potential partner for this endeavor. This process is not expected to result in any significant action before 2023.

Repurpose of R&D Reactor for Commercial Specialty Applications

The Company is upgrading and repurposing one of its existing plasma-atomization reactors, previously used for various metal powder R&D activities. By doing so, this reactor will be able to produce commercial metal powders for specialty applications.

This process is currently underway.

Business Development Expansion

With continued growth in the sector worldwide, and to support various initiatives already commenced, the Company is expanding its complement of business development personnel devoted specifically to the Additive division which is being overseen by Mr. Massimo Dattilo, VP, PyroGenesis Additive.

Key Sector Developments

The additive manufacturing sector continues to expand. In a Grandview Research [report from October 18, 2022](#),¹ the market size is now estimated to reach US\$76.16 billion by 2030, growing at a CAGR of 20.8% over the forecast period.

The report states that "The growth of the market can be attributed to the growing adoption of Additive Manufacturing (AM) in industrial applications for enhancing production and shortening the time to market. The growing adoption of three-dimensional printers by the incumbents of automotive, healthcare, and aerospace & defense, among other industries and industry verticals, is also expected to drive the growth of the market over the forecast period."

This expected growth, and the need for adequate industrial preparation, has even stimulated discussions at the political level; in the U.S., the Biden administration has indicated they view 3D printing as key to enabling U.S. manufacturers to grow and to create more jobs, and are actively encouraging large companies to adopt additive manufacturing through that administration's [official backing of a program called Additive Manufacturing Forward](#)¹, where companies sign a public commitment to increase use of the technology.

The "lead-by-example" type program has already attracted some of the world's most prominent companies in the sector, including Boeing, Northrup Grumman, GE Aviation, Siemens, Raytheon, and Lockheed Martin.²

The additive manufacturing/3D printing sector has also attracted interest from the financial markets, with investments funds set up specific to the sector. One of the earliest and most prominent of these funds, the [3D Printing ETF](#) managed by ARK Invest (under the ticker symbol "PRNT"), was designed to track the stock price movements of companies involved in the 3D printing industry and their related businesses.

[PyroGenesis has been included in this fund](#) since January 2021 which, notably, was prior to the Company's up-listing to the NASDAQ, and while the Company was still listed OTC in the U.S. PyroGenesis has continuously been one of the few Canadian companies included across the various ARK suite of funds. Of note, PyroGenesis' weight in the fund's underlying index has increased for 6 consecutive quarterly fund rebalances,³ with its most recent rebalance the week of October 21 increasing ARK PRNT's share holdings of PyroGenesis in the fund by more than 60%.⁴

"While we are pleased with the recognition alongside some of the most significant companies and innovators in the 3D printing industry, I would caution anyone to extrapolate ARK PRNT's investment in PyroGenesis as a validation of its stock price or the worth of the Company; funds these days can have numerous ups and downs in the market, based on trends, sector popularity, and general market conditions," said Mr. Pascali. "However, we do note that our overall strategy with respect to this business line seems to have gained the approval of this particular fund."

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 four 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 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.

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 securities regulatory authorities, which filings can be found at www.sedar.com, or at www.sec.gov. 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. Neither the Toronto Stock Exchange, its Regulation Services Provider (as that term is defined in the policies of the Toronto Stock Exchange) nor the NASDAQ Stock Market, LLC accepts responsibility for the adequacy or accuracy of this press release.

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¹ Biden Announces AM Forward Program to Foster Adoption of Additive Manufacturing, by Willy Shih, Forbes. May 6, 2022. <https://www.forbes.com/sites/willyshih/2022/05/06/biden-announces-am-forward-program-to-foster-adoption-of-additive-manufacturing/?sh=460cba424509>

² Boeing and Northrup Grumman Become Latest to Join Biden's AM Forward 3D Printing Program, by Paul Hahaphy, 3D Printing Industry. August 24, 2022. <https://3dprintingindustry.com/news/boeing-and-northrop-grumman-become-latest-to-join-bidens-am-forward-3d-printing-program-214011/>

³ Total 3D-Printing Index, Solactive <https://www.solactive.com/Indices/?index=DE000SLA1A36>

⁴ PRNT Holdings of PyroGenesis Canada (PYR) – Updated Daily. Cathie's Ark. <https://cathiesark.com/prnt-holdings-of-pyr>