



## PyroGenesis Signs Pre-Tolling Agreement with Major Aluminum Smelter in the Middle East

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MONTREAL, Feb. 19, 2019 (GLOBE NEWSWIRE) -- PyroGenesis Canada Inc. (<http://pyrogenesis.com>) (TSX-V: PYR) (OTCQB: PYRNF) (FRA: 8PY), a TSX Venture 50® 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 products, announced today that the Company has entered into a pre-tolling agreement (the "Agreement") with a major aluminum smelter (the "Client") in the Middle East, the name of which remains confidential for competitive reasons.

PyroGenesis' DROSRITE™ system is a proven, salt-free, cost-effective, sustainable process for maximizing metal recovery from dross, a waste generated in the metallurgical industry. PyroGenesis' patented process avoids costly loss of metal, while reducing a smelter's carbon footprint and energy consumption, thus providing a high return on investment. The system has been designed to process and recover valuable metals such as aluminum, zinc and copper from dross. Of note, a tolling service arrangement is one in which a smelter provides dross to a third party to be processed for a fee either on or off site.

The Agreement outlines the next steps to enter into a final tolling arrangement, which includes a formal demonstration of the Company's proprietary DROSRITE™ System at the Client's facility. This will demonstrate to local authorities that DROSRITE™ can process the Client's dross in an environmentally friendly and cost-effective manner. The trials are expected to further demonstrate that DROSRITE™ can be used to recover aluminum from the Client's dross without the addition or use of fluxing salts, resulting in a non-hazardous residue which can then be utilized by other industries, thereby closing the loop in dross processing.

Prior to entering into this Agreement, the Client conducted its own independent analysis and concluded that the DROSRITE™ technology should have a significantly higher recovery rate than their current practices, and embraced the fact that the DROSRITE™ System does not use salt and, therefore, unlike other processes, does not produce hazardous salt-cakes as a by-product.

Once demonstrated, the Agreement anticipates that the Client will engage PyroGenesis to build, install, and operate a DROSRITE™ plant, with the potential for additional Systems, to process their hot dross on-site, recover and return the metallic aluminum to the Client, and manage the resulting non-hazardous residue. The terms and conditions of any eventual tolling agreement will be based on demonstration economics, which is expected to be completed in Q2, 2019.

PyroGenesis' DROSRITE™ tolling service has two forms of revenues: (i) a traditional tolling fee per metric tonne of dross processed, which ranges widely depending upon the region, and is typically up to US \$450 per ton, and (ii) a bonus, which is based upon the increase in aluminum recovery uniquely generated by PyroGenesis' DROSRITE™ technology, and which is typically between 10-20%.

### **PyroGenesis leverages DROSRITE™'s non-hazardous salt-free process to address increased environmental regulations.**

"Not only is PyroGenesis' DROSRITE™ technology game-changing in its own right, as it operates on-site with increased aluminum recovery, but at the same time it addresses the environmental issues associated with dross, which are becoming critical for aluminum smelters around the world, and particularly in the Middle East," commented Mr. David D'Aoust, Sales Manager – DROSRITE™ of PyroGenesis. "In nearly all the Gulf Cooperation Council nations, the environmental authorities have tightened their restrictions on dross management with the goal of eliminating landfills with hazardous dross or residue by-products, such as salt-cakes, which are produced by traditional dross processing technologies. It is now imperative that dross be managed in an environmentally friendly fashion, which speaks to the urgent need for PyroGenesis' DROSRITE™ technology to service the rapidly growing aluminum industry. We are highly confident this will be a successful demonstration, based on the outstanding results we have generated to date."

### **The Client allows PyroGenesis to showcase DROSRITE™ to other potential customers in the region.**

The Client also agreed to allow PyroGenesis to showcase the DROSRITE™ System to other local aluminum smelters who are also prospective clients for the DROSRITE™ System, and who are similarly looking for salt-free, environmentally friendly, solutions for the processing of their dross.

"We are happy to have the opportunity to showcase the DROSRITE™ technology with the support and backing of this Client," said Mr. P. Peter Pascali, President and CEO of PyroGenesis. "I believe this underscores the impact DROSRITE™ is having in the industry and, additionally, the unique environmental benefits it provides."

### **DROSRITE™ demonstrates significant advantages over current practices, and is becoming the high-tech alternative with additional unique environmental benefits.**

"PyroGenesis' on-site DROSRITE™ tolling services address all of the environmental concerns in dross management at its head," said Mr. Pierre Carabin, Chief Technology Officer and Chief Strategist of PyroGenesis. "Existing technologies continue to propose salt-based processing technologies, and address the resulting hazardous salt-slag wastes by developing complex post processing, salt-slag washing technologies. This results in an unwieldy three-step offering: (i) the smelter must cool the dross and transport it off-site, losing valuable metal in the process, (ii) the dross is then processed with a salt-based technology producing hazardous and toxic salt-slag residues, and (iii) the now highly contaminated salt-slag residues must be transported to a third facility, which is specifically designed to wash the salt-slag and process the material back into a non-hazardous material. By contrast, PyroGenesis' patented DROSRITE™ technology is a simple and cost-effective one-step-solution with high return on capital for the client. Specifically, hot-dross is processed on-site, at the smelter, with zero hazardous salt-slag waste byproducts."

### **PyroGenesis, together with its Japanese partner, advance on multiple tolling opportunities.**

Mr. P. Peter Pascali added, "In addition to this latest Agreement, we are actively pursuing other tolling arrangements through our new, multi-billion-

dollar global partner headquartered in Japan, which we announced in November, 2018. Our business development team, together with our Japanese partner's upper management, recently returned from our first series of on-site customer visits, all of whom requested moving forward to the next step. This contract, along with other discussions we are having with various players worldwide, should enable us, together with our Japanese partner, to provide a cookie-cutter offering, and rapidly roll out our on-site tolling business worldwide."

#### **About PyroGenesis Canada Inc.**

PyroGenesis Canada Inc., a TSX Venture 50® 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 m<sup>2</sup> 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 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](http://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](http://www.sedar.com), or at [www.otcmarkets.com](http://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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