PyroGenesis Announces Q2, 2018 Results: Revenues of $1.4MM; Gross Margin of 35%; Current Backlog $4.1MM

MONTREAL, Quebec (GlobeNewswire – August 29, 2018) - PyroGenesis Canada Inc. (http://pyrogenesis.com) (TSX-V: PYR), a TSX Venture 50® high-tech company, (the "Company", the "Corporation" or "PyroGenesis") a Company that designs, develops and manufactures plasma waste-to-energy systems and plasma torch systems, is pleased to announce today its financial and operational results for the second quarter ended June 30, 2018.

2018, to date, has seen the Company enter into significant commercial discussions in all of its business lines. It is fully expected that these conversations will translate into commercial contracts towards the end of Q3, 2018. In the first six months of 2018, the Company started putting in place the required infrastructure and personnel in order to fulfill this growth.

Q2, 2018 results reflected the following highlights:

- Revenues of $1.4MM in Q2, 2018, a decrease of 35% from $2.2MM posted in Q2, 2017;
- Gross margin of 34.9% a decrease of 13.1% over the same period in Q2, 2017;
- Powder inventory increased to $611K in Q2, 2018, compared to Nil in Q2, 2017;
- An amount of $230K has been spent and capitalized for the plasma atomization system and related development;
- A Modified EBITDA loss of $1,0MM compared to a Modified EBITDA gain of $12K over the same period in Q2, 2017;
- Backlog of signed contracts as of the date of this writing is $4.1MM;
- Cash on hand on June 30, 2018 was $84K (December 31, 2017: $623K).

The following is a summary of PyroGenesis' main activities.

Synopsis:

- Powder Production:
  - nominated "Materials Company of the Year" at the 3D Printing Industry Awards 2018;
  - recently Contracted for an order of 10 tons (minimum) of titanium powders;
  - recommended by leading 3D Printer OEM to their customers as titanium powder supplier;
  - strategic commercial discussions with 3D printer manufacturers, distributors, and end-users continue.

- DROSRITE™:
    - construction of second demonstration unit in progress; Completion expected over the next two (2) months;
    - enters the Zinc Market;
    - second DROSRITE™ Furnace System Completed;
    - embraces Tolling Strategy; Joint Venture discussions in progress.

- HPQ:
    - HPQ secures financing for the balance of the project;
    - Pilot Plant in progress after significant improvements.

- US Military:
    - interest for two (2) US Aircraft Carrier systems received (US$10-12MM); Order expected Q1, 2019;
    - seeking to establish a presence in the USA to, amongst other things, better serve the US Military's needs.

- Torch/Equipment Sales:
    - PyroGenesis continues to address interest for plasma torch/equipment;
    - order expected before year end.

A) Powder Production:

2017 became the year in which the Company went from relative obscurity within the additive manufacturing industry, to being nominated "Materials Company of the Year" at the 3D Printing Industry Awards 2018.

During this period, not only did the Company successfully assemble and commission its first metal powder production system, but also (i) successfully delivered orders for Titanium and Inconel powders, all while still in the ramp up phase, (ii) generated new, game changing, IP which provides for more control over particle size distribution, with little to no waste, while increasing powder production even further, and (iii) entered into several NDA's with significant players in the industry (end users, printer manufacturers, and distributors) all with a view of providing sample orders, repeat orders, long term orders, contract R&D, and/or strategic partnerships for long term powder supply contracts, some with a view to a possible acquisition. Given the level of activity, and the prospect of significant orders in the near term, management decided to order the long lead items for two powder production systems, both of which were scheduled to be fully operational during the summer 2018; due to summer delays this is now targeted for end of September 2018-beginning of October 2018. These new powder production units will incorporate some of the cutting-edge IP that has recently been developed and/or is in development. We expect these units will cost significantly less to

manufacture, generate higher production rates, and provide greater control over particle size distributions.

Of note, although the Company's strategic plan has always been based on its existing IP, know-how, and system (the economics of which remain true to this day), management has decided to leverage off of its significant advantage in plasma technology and dedicate certain limited assets to increasing its IP base with the goal of further significantly reducing capital and operating costs of the powder production system while at the same time improving production rates even further. PyroGenesis is confident that these goals once achieved will significantly impact the build out strategy for the better.

The Company's press release dated May 17, 2018 (which announced a commercial agreement for a minimum order of 10,000 kg of Titanium powder over two (2) years from Asia), together with those issued on August 14 and 20 (which announced results of powder testing by a top OEM as well as their recommendation to their clients to use such powder), has underscored the need for PyroGenesis to be even more focused than ever before on addressing market demand for its powder.

The Company decided to have, at the ready, an optimum industrialization plan for multiple powder production units (in multiples of 1, 3, and 5 units), to be executed on the back of a significant take-or-pay contract. This has now been completed and the Company is continuing to look at ways to accelerate the technological advances mentioned above.

B) DROSRITE™:

As the Company positioned itself, during 2017, to become a significant powder producer to the Additive Manufacturing Industry, it also successfully positioned its DROSRITE™ Furnace System to become a fully commercial product line in and of its own right.

2017 saw the commercial acceptance of PyroGenesis' patented DROSRITE™ System with, not only an acceptance of its first commercial sale, but a subsequent re-order by the same client at a higher price.

During this time, successful demonstrations of the DROSRITE™ System in the Middle East and India has resulted in significant interest from those regions. Of note, the Company's demonstration unit is fully booked in India, to the beginning of October 2018, with paid-for-demonstrations. This flurry of activity and interest for the DROSRITE™ System resulted in the Company hiring a full-time business development manager to market the DROSRITE™ System, and who's role is exclusively to secure DROSRITE™ System sales.

The total worldwide production of Aluminum dross was 3,000,000 TPY (2017)[1]. PyroGenesis has designed systems to process either 500, 3,000 or 5,000 TPY representing a market potential of over

[1] AlCircle, *Aluminium Dross Processing: A Global Review*, 2017

$1 billion from Aluminum dross alone.

PyroGenesis is currently aggressively targeting both primary aluminum smelters in Asia and the Middle East where the market is estimated to be in excess of 1 million tons of dross[2], as well as tertiary casting producers worldwide. The Company has recently added zinc recovery from dross as a target market.

Due to this high demand for on-site paid-for-demonstrations, the Company is in the process of constructing a second DROSRITE™ demonstration system which is expected to be available in Q3, 2018. There is a high probability that PyroGenesis will be profitable in 2018 from DROSRITE™ System sales when combined with existing backlog.

The Company is also investigating the prospect of providing on-site dross tolling services under long term take-or-pay contracts. The Company has found that there is a large interest for this service from smelter operators who do not want to engage in a different business line but would be open to having on-site tolling under a benefit-sharing arrangement. PyroGenesis is also in discussions with potential partners who would provide local management and support while at the same time accelerate this opportunity.

C) US Military:

Originally it was thought that just one new US Aircraft Carrier would be ordered in 2018, with an estimated value of approximately US$6MM, but now it seems that the interest is for two, for an estimated value of between US$10-12 MM. This contract is now expected Q1, 2019.

The chemical warfare destruction unit, that PyroGenesis developed for a consortium involving various groups within the US military, and was in the process of being tested, continues to have its schedule delayed accommodating other unrelated testing needs by the group. This testing timeline is out of the Company's control.

Revenues from military contracts in 2017 were over $4,300,000, mainly related to providing technical support, training services and sale of spare parts. Over the past three years, revenues from military contracts have typically represented more than $2,000,000 per year of PyroGenesis' revenues. As the PAWDS technology becomes fully operational on US Navy ships, management expects the level of recurring revenues from the sale of parts and services to increase over the next 2 to 5 years.

The Company is looking at ways to establish a presence in the USA to, amongst other things, better serve the US Military's needs arising from having multiple systems in operation.

[2] http://www.world-aluminium.org/statistics/primary-aluminium-production/

D) HPQ:

On August 2, 2016, PyroGenesis announced that it had signed contracts totaling $8,260,000 with HPQ Silicon Resources Inc., formally Uragold Bay Resources Inc. ("HPQ") for the sale of IP and to provide a pilot system to produce high purity silicon metal directly from quartz. Of particular note, if successful, PyroGenesis benefits from a 10% royalty on all revenues derived from the use of this system by HPQ, subject to annual minimums.

E) Torch/Equipment Sales:

Consistent with the Company's overall strategy to (i) remain focused on reducing PyroGenesis' dependency on long-cycle projects by developing a strategic portfolio of volume driven, high margin/low risk products that resolve specific problems within niche markets and doing so by introducing these plasma-based technologies to industries that have yet to consider such solutions, and (ii) to actively target recurring revenue opportunities that will generate a growing, and profitable, regular cash flow to the Company, the Company continues to market its torch/equipment capabilities and expects this to start becoming a revenue contributor, with its recurring revenue stream, in the very near future.

PyroGenesis has one of the largest concentrations of plasma expertise in the world, with over 250 years of accumulated technical experience and supporting patents, combined with unique relationships with major Universities performing cutting edge plasma research and development, positions the Company well to execute its strategies.

Management's focus will continue to be to generate an improved mix of short and long-term projects that will, in turn, facilitate operational and financial planning. Repeat orders for the same, or similar, products will further result in the standardization of manufacturing processes which will lead to improved gross margins.

All indications are that 2018 should be a profitable year for the Company given that business lines, other than non-additive manufacturing, continue to contribute significantly to PyroGenesis' revenues. Management expects that the Corporation's non-additive manufacturing business lines will generate enough revenues, on their own in 2018, to make PyroGenesis profitable overall going forward.

Financial Summary

Revenue

PyroGenesis recorded revenue of $1,421,352 in the second quarter of 2018 ("Q2, 2018"), representing a decrease of 35% compared with $2,173,397 recorded in the second quarter of 2017 ("Q2, 2017").

Revenues recorded in Q2, 2018 were generated primarily from:

(i) the development of a process to convert Silica into high purity Silicon metal;
(ii) the manufacture and sale of a DROSRITE™ System;
(iii) support services related to PAWDS-Marine Systems supplied to the US Navy.

Cost of Sales and Services and Gross Margins

Cost of sales and services was $924,954 in Q2, 2018, representing a decrease of 18% compared with $1,130,295 in Q2, 2017.

In Q2, 2018 cost of direct materials, manufacturing overhead and subcontracting decreased to $460,542 (Q2, 2017: $490,996), $141,779 (Q2, 2017: $221,573) and $30,851 (Q2, 2017 - $43,241) respectively.

The type of contracts being executed and the nature of the project activity during any given quarter has a significant impact on both the overall level of cost of sales and services reported in a period, as well as the composition of the cost of sales and services, as the mix between labor, materials and subcontracts may be significantly different.

The gross margin for Q2, 2018, was $496,398, or 34.9% of revenue. This compares with a gross margin of $1,043,102 (48% of revenue) for Q2, 2017.

Selling, General and Administrative Expenses

Included within Selling, General and Administrative expenses ("SG&A") are costs associated with corporate administration, business development, project proposals, operations administration, investor relations and employee training.

SG&A expenses for Q2, 2018 excluding the costs associated with share-based payments (a non-cash item in which options vest over a four-year period), were $1,177,552, representing an increase of 18% compared with $998,012 reported for Q2, 2017.

The increase in SG&A expenses in Q2, 2018 over the same period in 2017 is mainly attributable to the net effect of:

- an increase of 21% in employee compensation;

- an increase of 25% for professional fees, primarily due to an increase in patent expenses;
- a decrease of 24% in office and general expenses, due to a decrease in courses, seminar, computers and internet expenses;
- travel costs decreased by 4%, due to less travels abroad;
- depreciation on property and equipment increased by 39%, primarily due to an increase in plant and equipment assets. The asset under development in Q2, 2018 will begin to be depreciated when the asset is available or ready for use;
- government grants increased by 100% due to higher level of activities supported by such grants and;
- other expenses increased by 107%, primarily due to higher cost of freight and shipping.

Separately, share based payments increased by 118% in Q2, 2018 over the same period in 2017 as a result of the vesting structure of the stock option plan including the stock options offered on April 3, 2018 and May 10, 2018.

Research and Development ("R&D") Costs

The Company incurred $404,017 of R&D costs in Q2, 2018, compared with $62,143 in Q2, 2017, representing an increase of 550%.

In addition to internally funded R&D projects, the Company also incurred R&D expenditures during the execution of client funded projects. These expenses are eligible for Scientific Research and Experimental Development ("SR&ED") tax credits. SR&ED tax credits on client funded projects are applied against cost of sales and services (see "Cost of Sales" above). Investment tax credits recorded against cost of sales are primarily related to client funded projects that qualify for tax credits from the provincial government of Quebec. Qualifying tax credits decreased to $39,064 in Q2, 2018, compared with $136,994 in Q2, 2017. This represents a decrease of 71%. The Company continues to make investments in research and development projects involving strategic partners and government bodies.

Inventory

As a result of the Company's strategy to increase powder inventory to meet increased market demand, powder inventory increased to $611,359 in Q2, 2018, compared with Nil in the same period in 2017.

Net Comprehensive Loss

The loss from operations and comprehensive loss for Q2, 2018 was $1,534,890 compared to $608,584 in Q2, 2017 representing an increase in loss of 152% primarily attributable to a decrease in revenue of $752,045 and by the factors described above, which have been summarized as follows:

(i) a decrease in cost of sales and services totaling $205,341 in Q2, 2018;

(ii) an increase of SG&A expenses of $339,637 arising in Q2, 2018 as explained abov;
(iii) an increase in R&D expenses of $341,874 primarily due to research and development in Q2, 2018 on plasma atomization;
(iv) a decrease in net finance costs of $301,909 in Q2, 2018 due to the increase in the fair value of investments of $362,078.

EBITDA

The EBITDA loss in Q2, 2018 was $1,274,183 compared with an EBITDA loss of $419,325 for Q2, 2017, representing an increase of 204%. The increase in the EBITDA loss in Q2, 2018 compared with Q2, 2017 is primarily attributable to lower revenues and an increase in comprehensive loss.

Adjusted EBITDA loss in Q2, 2018 was $978,642 compared with an Adjusted EBITDA of $283,881 for Q2, 2017. The increase of $694,761 in the Adjusted EBITDA loss in Q2, 2018 is mainly attributable to the increased comprehensive loss of $926,306, an increase in depreciation on property and equipment of $11,279, an increase in finance charges of $60,169 and an increase of $160,097 in share-based payments.

Modified EBITDA loss in Q2, 2018 was $1,044,642 compared with a Modified EBITDA gain of $12,197 for Q2, 2017. The increase of $1,056,839 in the Modified EBITDA loss in Q2, 2018 is mainly attributable to the increase in the Adjusted EBITDA loss of $694,761 and a decrease in the change in fair value of investments of $362,078.

Liquidity

The Company has incurred, in the last several years, operating losses and negative cash flows from operations, resulting in an accumulated deficit of $45,764,393 and a negative working capital of $3,817,392 as at June 30, 2018 (December 31, 2017 - $46,416,352 and $9,403,371 respectively). Furthermore, as at June 30, 2018, the Company's current liabilities and expected level of expenses for the next twelve months exceed cash on hand of $84,124 (December 31, 2017 - $622,846). The Company has relied upon external financings to fund its operations in the past, primarily through the issuance of equity, debt, and convertible debentures, as well as from investment tax credits.

As at June 30, 2018 an amount of $1,885,644 in accounts payable and accrued liabilities and $111,928 of long term debt will be settled by means of a share for debt conversion transaction. In addition, $1,152,726 in accounts payable and accrued liabilities are accrued material expenses related to percent complete revenue recognition.

As at June 30, 2018, the Company had cash on hand of $84,124 and negative working capital of $3,817,392 compared with a cash balance of $622,846 and negative working capital of $9,403,370 as at December 31, 2017.

Revenue generated from active projects does not yet produce sufficient positive cash flow to fund operations. However, based on current backlog of $4.14MM at August 21, 2018, together with the pipeline of prospective new projects, cash flow from operations are expected to become positive in

the very near future.

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. 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^2 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 9001:2008 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

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