# PyroGenesis Announces 2017 Results:

# Revenues Increase 38%; Gross Margins Increase to 44%; Gross Profit Increases 258%; EBITDA (Mod.) Improves 22% Year Over Year;

# Current Backlog $7.2MM; Pipeline exceeds $20MM

**MONTREAL, QUEBEC--(GlobeNewswire - April 30, 2018) - PyroGenesis Canada Inc.** (http://pyrogenesis.com) (TSX-V: PYR) (OTCQB: PYRNF), a high-tech company (the "Company" or "PyroGenesis") that designs, develops, manufactures and commercializes plasma waste-to-energy systems and plasma torch products, is pleased to announce today its financial and operational results for the fourth quarter and the fiscal year ended December 31, 2017.

"2017 was a year in which all key indicators of operational performance posted significant gains, year over year, and once again the Company is well positioned for the coming year," said P. Peter Pascali, President and CEO of PyroGenesis. "2016 was a pivotal year for PyroGenesis as the Company decided to re-enter the market for metal powder production (this time for additive manufacturing), and leverage off of both its extensive Plasma expertise and the fact that it invented Plasma Atomization for this space. 2017 became the year in which the Company went from relative obscurity within the additive manufacturing industry to being nominated for "Materials Company of the Year" at the 3D Printing Industry Awards 2018. 2017 also saw the commercial acceptance of its patented DROSRITE™ System with the acceptance of its first commercial sale and a subsequent re-order by the same client. As reviewed in a press release dated February 1st, 2018, we now have visibility on an additional 6-10 DROSRITE™ systems to be delivered in 2018 and there is a high probability that the Company will be profitable in 2018 from the addition of DROSRITE™ system sales to our backlog. All this to say that 2017 seems to have set the stage for a profitable 2018."

## Highlights

2017 was a year in which PyroGenesis posted:

- An increase of 38% in Revenues to $7,192,861 year over year;
- A 258% increase in Gross Profit to $3,126,967 compared to a loss of ($1,980,336) in 2016;

- An increase in Gross margins (Before amortization of intangible assets and write-offs of inventories and costs and profits in excess of billings on uncompleted contracts) to 43.5% (2016: 41.6%);
- An increase in Gross margins (After amortization of intangible assets and write-offs of inventories and costs and profits in excess of billings on uncompleted contracts) to 43.5% (2016: 14.8%);
- 22% decrease in Modified EBITDA loss to ($1,445,784) for fiscal 2017;
- A backlog of $7.2MM at December 31, 2017;
- Pipeline exceeds $20MM (Pipeline is considered to be negotiations with either existing clients who wish to re-order, or new clients that have paid for demonstrations after receiving a quote).

## Outlook

2017 was a year in which all key indicators of operational performance posted significant gains and positioned the Company for profitability in the future. Building upon the successes of 2016, which saw the establishment of healthy gross margins, in excess of 40% continue and improve throughout 2017, as the Company put in place the infrastructure and personnel to ensure that these margins, not only continue into the foreseeable future, but improve once powder production is in full commercialization.

The following is a non-exhaustive review of PyroGenesis' main commercial activities:

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.

Not only, during this period, 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 should be fully operational by the end of July 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 our build out strategy for the better.

The Company expects that one of the next significant milestones is to be formally placed on a powder user's approved supplier list. This requires significant time and money on the part of the user and would be the first formal step to a powder production contract. Although we cannot predict the time frame in which this might happen, we can confirm that we have not been rejected during any powder qualification process leading to this ultimate goal.

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, a successful demonstration of the DROSRITE™ System in the Middle East has resulted in significant interest from that region while the Company's demonstration unit is already fully booked in India, to September, 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. PyroGenesis is aggressively targeting both primary aluminum smelters in Asia and the Middle East where the market is estimated to be in excess of 1 million tonnes of dross[1], as well as tertiary casting producers worldwide. These two markets alone represent a potential market for DROSRITE™ systems numbering in the hundreds of units.

As of this writing, PyroGenesis

1. is currently discussing the purchase of an additional two (2) systems with an existing client;
2. has demonstrated the system in the Middle East and are expected to close on the equivalent of three (3) systems over the next few months;
3. has a demonstration system in India on contract for paid-for-demonstrations, which if successful could result in 1-4 additional orders;

   Plus,

4. as noted, this demonstration system is fully booked until September 2018.

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 for demonstrations in Q3 2018. There is a high probability that PyroGenesis will be profitable in 2018 from DROSRITE™ system sales when combined with existing backlog.

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 \$6MM, but now it seems that the interest is for two, for an estimated value of between \$10-12MM.

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 to accommodate 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.

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

D) HPQ:

On August 2, 2016, PyroGenesis announced that it had signed contracts totalling $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 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.

Management remains 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.

Management is also actively targeting recurring revenue opportunities that will generate a growing, and profitable, regular cash flow to the Company.

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.

## Financial Summary

### *Revenue*

PyroGenesis recorded revenue of $7,192,861 in the year of 2017, representing an increase of 38% compared with $5,222,133 recorded in the year of 2016.

Revenues recorded in fiscal 2017 were generated primarily from:

(i) the development of a vacuum arc reducing process to convert Silica into high purity Silicon metal,

(ii) the manufacture and further field testing of Tactical PACWADS, the first mobile plasma system for destruction of chemical warfare agents under contract with an international military consortium,

(iii) the demonstration of the viability of PyroGenesis' existing plasma chemical warfare agent destruction platform with locally available materials, for the complete eradication of chemical warfare agents without creating hazardous by-products,

(iv) support services related to PAWDS-Marine systems supplied to the US Navy.

***Cost of Sales and Services and Gross Margin***

Cost of sales and services before amortization of intangible assets was $4,065,894 in 2017, representing an increase of 33% compared with $3,051,356 in 2016.

In 2017 employee compensation, subcontracting costs, direct materials and manufacturing overhead increased to $4,436,508 (2016 - $3,277,813) as a result of increased volumes during the year. The cost of sales and services for 2017 and 2016 are in line with management's expectations. The type of contracts being executed, and the nature of the project activity 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 labour, materials and subcontracts may be significantly different. The cost of sales and services for 2017 and 2016 are in line with management's expectations

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 increased to $367,342 in 2017, compared with $249,550 in 2016. This represents an increase of 47% year-over-year. The increase is primarily due to a higher amount of these costs being eligible for tax credits.

The gross margin before amortization of intangible assets for 2017 was $3,126,967 or 43.5% of revenue compare to a gross margin of $2,170,777 or 41.6% of revenue for 2016 before amortization of intangible assets and write-offs of inventories and costs and profits in excess of billings on uncompleted contracts. The inventory write-off in 2016 was comprised of the Transportable Waste to Energy system ($147,774) and the CFC destruction system ($846,241). The write-off of costs and profits in excess of billings on uncompleted contracts ($1,760,423) was related to the Company no longer expecting to recover the full amounts owed from a customer for a contract.

The amortization of intangible assets of $Nil in 2017 and $1,396,675 for 2016 relates to the licenses and know-how purchased in 2011 from a company under common control. Of note, this expense is a non-cash item and the underlying asset was fully amortized by December 31, 2016.

***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 2017 excluding the costs associated with share-based compensation (a non-cash item in which options vest principally over a two-year period), were $4,394,837, representing an increase of 10% compared with $3,990,837 reported for 2016.

The increase in SG&A expenses in 2017 over the same period in 2016 is mainly attributable to the net effect of:

- an increase of 11% in employee compensation due primarily to additional headcount,
- a decrease of 11% for professional fees, primarily due to a decrease in investor relations expense and patent expenses,
- an increase of 27% in office and general expenses, due to an increase in computers and internet expenses,
- travel costs increased by 29%, due to an increase in travel abroad,
- depreciation on property and equipment decreased by 12% due to a lower amount of property and equipment being depreciated. In 2017, the Company had $1,879,455 of assets under development, which will begin to be depreciated when these assets are available or ready for use (expected in 2018),
- government grants decreased by 11% due to a decreased level of activities supported by such grants and,
- other expenses increased by 61%, primarily due to an increase in promotion and advertising expenses, an increase in marketing expenses, and an increase in insurance expense.

Separately, share based payments increased by 107% in 2017 over the same period in 2016 as a result of the vesting structure of the stock option plan including the stock options granted on November 3, 2017.

### *Net Comprehensive Loss*

The net comprehensive loss for 2017 of $6,174,303 compared to a loss of $6,952,219, in 2016, represents a decrease of 11% year-over-year.

The decrease of $777,916 in the comprehensive loss in 2017 is primarily attributable to the factors described above, which have been summarized as follows:

(i) an increase in product and service related revenue of $1,970,728 arising in 2017,

(ii) an increase in cost of sales and services totaling $1,014,538, primarily due to the concentration of engineering on material purchases, and due to the increase in product and service revenue,

(iii) a decrease in amortization of intangible assets of $1,396,675,

(iv) a decrease in impairment loss in 2017 of $2,754,438 recorded in 2016 for a write-off of inventories and costs and profits in excess of billings on uncompleted contracts,

(v) an increase in SG&A expenses of $796,988 arising in 2017 primarily due to an increase in employee compensation and office and general expenses,

(vi) an increase in R&D expenses of $197,672 primarily due to the increase in development expenditures relating to the asset under construction in 2017,

(vii) an increase in the settlement of the IP debt balance of $3,215,643,

(viii) an increase in net finance costs of $119,084 in 2017 primarily due to an increase in the adjustment in fair value of investments.

### *EBITDA, Adjusted and Modified*

The EBITDA loss in 2017 was $5,558,640 compared with an EBITDA loss of $4,935,997 for 2016, representing an increase of 13% year-over-year. The decrease in the EBITDA loss in 2017 compared with 2016 includes amounts written-off of $2,754,438 in 2016.

Adjusted EBITDA loss in 2017 was $1,583,984 compared with an Adjusted EBITDA loss of $1,815,534 for 2016. The decrease of $231,550 in the Adjusted EBITDA loss in 2017 is attributable to the decreased comprehensive loss of $777,916, a decrease of $15,468 in depreciation on property and equipment, a decrease of $1,396,675 in amortization of intangible assets, an increase in finance charges of $11,584, an increase in cost of other non-cash items, specifically share-based payments of $392,988, an increase in a settlement of a claim related to the long-term debt of $3,215,643 a decrease in write-off of inventories of $994,015 and a decrease in write-off of costs and profits in excess of billings on uncompleted contracts of $1,760,423.

The Modified EBITDA loss in 2017 was $1,445,784 compared with a Modified EBITDA loss of $1,846,234 for 2016, representing a decrease of 22%. The decrease in the Modified EBITDA loss in 2017 is attributable to the decrease as mentioned above in the Adjusted EBITDA and a decrease in change of fair value of investments of $168,900.

***Liquidity and Capital Resources***

The Company has incurred, in the last several years, operating losses and negative cash flows from operations, resulting in an accumulated deficit of $43,200,708 and a negative working capital of $9,403,370 as at December 31, 2017 (December 31, 2016 - $37,026,405 and $2,079,353 respectively). Furthermore, as at December 31, 2017, the Company's current liabilities and expected level of expenses for the next twelve months exceed cash on hand of $622,846 (December 31, 2016 - $385,257). 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.

**About PyroGenesis Canada Inc.**

PyroGenesis Canada Inc. 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

*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*.



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