PYROGENESIS CANADA INC.

MANAGEMENT'S DISCUSSION AND ANALYSIS

This management's discussion and analysis ("MD&A") is intended to assist readers in understanding the business environment, strategies, performance and risk factors of PyroGenesis Canada Inc. ("PyroGenesis", or the "Company"). The MD&A provides the reader with a view and analysis, from the perspective of management, of the Company's financial results for the three and the nine month periods ended September 30, 2016. The MD&A has been prepared in accordance with National Instrument 51-102, Continuous Disclosure Requirements, and should be read in conjunction with the unaudited condensed interim financial statements as at and for the three and the nine months period ended September 30, 2016 and related thereto as well as the audited financial statements and related notes thereto of the Company for the year ended December 31, 2015.

The consolidated financial statements and MD&A have been reviewed by PyroGenesis' Audit Committee and were approved by its Board of Directors on November 22, 2016. The Board of Directors is responsible for ensuring that the Company fulfills its responsibilities for financial reporting and is ultimately responsible for reviewing and approving the MD&A. The Board of Directors carries out this responsibility principally through its Audit Committee. The Audit Committee is appointed by the Board of Directors and is comprised of independent and financially literate directors. The Audit Committee reports its findings to the Board of Directors for its consideration when it approves the MD&A and financial statements for issuance to shareholders.

The following information takes into account all material events that took place up until November 22, 2016, the date on which the Company's Board of Directors approved this MD&A. Unless otherwise indicated, all amounts are presented in Canadian dollars. The Company's functional and reporting currency is the Canadian dollar.

Additional information regarding PyroGenesis is available on SEDAR (www.sedar.com), OTC Markets (www.otcmarkets.com) and on the Company's website at www.pyrogenesis.com.

FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements. All statements other than statements of historical fact contained in this MD&A are forward-looking statements, including, without limitation, the Company's statements regarding its products and services; relations with suppliers and clients; future financial position; business strategies; potential acquisitions; potential business partnering; litigation; and plans and objectives. In certain cases, forward-looking statements can be identified by the use of words such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" and similar words or the negative thereof. Although management of the Company believes that the expectations represented in such forward-looking statements are reasonable, there can be no assurance that such expectations will prove to be correct.

In particular, this MD&A contains forward-looking statements that relate, but are not limited, to:

- the Company's business strategies, strategic objectives and growth strategy;
- the Company's current and future capital resources and the need for additional financing;
- the Company's ability to increase sales, including the results of the successful completion of the Company's current projects;

- management's expectation that the Company will achieve sustained annual growth and profitability, and that gross margins will increase resulting in a decrease in cost of sales as a percentage of revenue; and
- the Company's overall financial performance.

By their nature, forward-looking statements require assumptions and are subject to inherent risks and uncertainties including those discussed herein. In particular, forward-looking statements relating to future sales, growth and profitability are based on the assumption that current projects will be completed and the Company will be awarded certain anticipated contracts pursuant to recent negotiations with, and statements made by, third parties. There is significant risk that predictions and other forward-looking statements will not prove to be accurate. Readers are cautioned to not place undue reliance on forward-looking statements made herein because a number of factors could cause actual future results, conditions, actions or events to differ materially from the targets, expectations, estimates or intentions expressed in the forward-looking statements.

The future outcomes that relate to forward-looking statements may be influenced by many factors, including, but not limited to, the strength of the Canadian, US and Asian economies; operational, funding, and liquidity risks; unforeseen engineering and environmental problems; delays or inability to obtain required financing and/or anticipated contracts; risks associated with licenses, permits and regulatory approvals; supply interruptions or labour disputes; foreign exchange fluctuations and collection risk; competition from other suppliers, or alternative, less capital intensive, energy solutions; and risk factors described elsewhere in this document under the heading "Risk Factors". We caution that the foregoing list of factors is not exhaustive, and that, when relying on forward-looking statements to make decisions with respect to the Company, investors and others should carefully consider these factors, as well as other uncertainties and potential events, and the inherent uncertainty of forward-looking statements.

Although the Company has attempted to identify significant factors that could cause actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Forward-looking statements are provided as of the date of this MD&A, and the Company assumes no obligation to update or revise such forward-looking statements to reflect new events or circumstances except as required under applicable securities laws.

The forward-looking statements contained herein are expressly qualified in their entirety by this cautionary statement. The forward-looking statements included in this MD&A are made as of the date of this MD&A or such other date specified herein.

OVERVIEW

PyroGenesis Canada Inc. is the world leader in the design, development, manufacturing and commercialization of advanced plasma processes. The Company provides 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 from its Montreal office and its 3,800m^2 production facility, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. PyroGenesis' core competencies allows the Company to be a leader in providing innovative plasma torches, plasma waste processes, plasma atomisation processes, high-temperature metallurgical processes, and engineering services to the global marketplace.

PyroGenesis' operations are ISO 9001:2008 certified, and have been ISO certified since 1997. PyroGenesis is a publicly-traded Canadian company on the TSX Venture Exchange (Ticker symbol: PYR.V) and on the OTCQB in the United States (Ticker symbol: PYRNF).

SELECTED FINANCIAL INFORMATION

Adjusted EBITDA (loss) is not a performance measure defined under IFRS and it is not considered an alternative to Income (Loss) from operations or Comprehensive Earnings (Loss) in the context of measuring a Company's performance. Management believes that providing certain non-GAAP performance measures, in addition to IFRS measures, provides users of the Company's financial statements with an enhanced understanding of their results and related trends, and as such increases transparency and clarity. Adjusted EBITDA is an important measure of operating performance because it allows management, investors and others to evaluate and compare the Company's core operating results, including our return on capital and operating efficiencies, from period to period, by removing the impact of its capital structure (interest expense to service outstanding debt), asset base (depreciation and amortization), tax consequences, and other non-operating items not requiring cash outlays including share-based compensation. Securities regulations require that companies caution readers that earnings and other measures adjusted to a basis other than IFRS do not have standardized meanings and are unlikely to be comparable to similar measures used by other companies. Accordingly, they should not be considered in isolation.

Extract from Statement of Financial Position at :

	Sept 30, 2016	Dec 31, 2015	Dec 31, 2014
Current assets	**2,911,369**	3,343,186	3,439,490
Non-current assets	**3,333,519**	3,778,198	3,495,842
Total assets	**$ 6,244,888**	$ 7,121,384	$ 6,935,332
Current liabilities	**3,323,510**	3,177,091	1,997,288
Non-current liabilities	**3,533,642**	3,328,722	2,059,792
Total liabilities	**$ 6,857,152**	$ 6,505,813	$ 4,057,080
Shareholders' equity (deficiency)	**$ (612,264)**	$ 615,571	$ 2,878,252

RESULTS OF OPERATIONS

The third quarter has been positively impacted by the increase in business as over $11.5MM in contracts have been signed by the Company since June 30, 2016. Gross margins before and after amortization of intangible assets, for both the third quarter and nine months have shown significant improvement over comparable periods in 2015. Cash flow, as measured by EBITDA (adjusted), is positive for the quarter ending September 30, 2016. Operations for the periods under review reflect a significant improvement over the first half of the year which saw the Company transition from selling systems that make powders for Additive Manufacturing to actually making and selling these same powders. The first six months of 2016, and as such the nine months under review here, were negatively impacted by this decision as work stopped on a previously announced contract to deliver powder producing systems for approximately $10MM, and as such significant pressure was placed on revenues and margins during this period. The strategic decision to produce powders for Additive Manufacturing (3D printing) was made once it was demonstrated to the board that the revenues and profits from selling powders from one system alone, far exceeded, on an annual basis, the onetime profit from selling 10 systems, and as such the Company announced on October 26, 2015, the strategy to move into this potentially lucrative market of producing powders for the Additive Manufacturing industry (3D printing).

Revenues

PyroGenesis recorded revenue of $1,902,748 in the third quarter of 2016 ("Q3, 2016"), representing an increase of 40% compared with $1,363,077 recorded in the third quarter of 2015 ("Q3, 2015"). Revenues for the nine first months of fiscal 2016 were $3,738,590, a decrease of 7% over revenues of $4,013,221 reported during the same period in 2015.

Revenues recorded in Q3, 2016 and the nine months of fiscal 2016 were generated primarily from:

(i) the of intellectual property and 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,

(v) Drosrite^{TM} sales.

Cost of Sales and Services and Gross Margin

	Three months ended Sept 30, 2016	2015	% Change 2016vs2015	Nine months ended Sept 30, 2016	2015	% Change 2016vs2015
Employee compensation	$ 397,653	$ 458,437	-13%	$ 1,379,448	$ 1,386,330	0%
Subcontracting	(119)	45,844	-100%	128,277	265,139	-52%
Direct materials	171,237	329,640	-48%	361,081	1,118,762	-68%
Manufacturing overhead & other	125,046	207,728	-40%	423,863	446,431	-5%
Foreign exchange loss	4,642	(44,799)	-110%	9,007	(74,626)	-112%
Investment tax credits	(16,354)	(7,488)	118%	(151,390)	(129,773)	17%
Sub-total before amortization of intangible assets	682,105	989,362	-31%	2,150,287	3,012,263	-29%
Amortization of intangible assets	349,268	349,268	0%	1,047,805	1,047,805	0%
Total Cost of Sales and Services	$ 1,031,373	$ 1,338,630	-23%	$ 3,198,092	$ 4,060,068	-21%

	Three months ended Sept 30, 2016	2015	Nine months ended Sept 30, 2016	2015
Revenue	$ 1,902,748	$ 1,363,077	$ 3,738,590	$ 4,013,221
Cost of Sales and Services before amortization of intangible assets	682,105	989,362	2,150,287	3,012,263
Gross Margin before amortization of intangible assets	1,220,643	373,715	1,588,303	1,000,958
Gross Margin % before amortization of intangible assets	64.2%	27.4%	42.5%	24.9%
Amortization of intangible assets	349,268	349,268	1,047,805	1,047,805
Gross Margin after amortization of intangible assets	$ 871,375	$ 24,447	$ 540,498	$ (46,847)
Gross Margin % after amortization of intangible assets	45.8%	1.8%	14.5%	-1.2%

Gross margin before amortization of intangible assets is not a performance measure defined under IFRS and it is not considered an alternative to gross margin in the context of measuring the Company's performance. Management believes that providing certain non-GAAP performance measures, in addition to IFRS measures, provides users of the Company's financial statements with an enhanced understanding of its results and related trends, and increases transparency and clarity. Gross margin before amortization of intangible assets is an important measure of operating performance because it allows management, investors and others to evaluate and compare the Company's core operating results, including its return on capital and operating efficiencies, from period to period, by removing the impact of non-operating items not requiring cash outlays. Securities regulations require that companies caution readers that earnings and other measures adjusted to a basis other than IFRS do not have standardized meanings and are unlikely to be comparable to similar measures used by other companies. Accordingly, they should not be considered in isolation.

Cost of sales and services before amortization of intangible assets of $682,105 in Q3, 2016, represented a decrease of 31% as compared to $989,362 in Q3, 2015. On a year-to date basis, the cost of sales and services before amortization of intangible assets was $2,150,287 as compared to $3,012,263 for the same period in 2015, a decrease of 29% representing a decrease in all major line items for both the 3 month, and 9 month, periods ending September 30, 2016.

In the third quarter of Fiscal 2016 subcontracting costs and cost of direct materials decreased to $(119) and $171,237 respectively, (Q3, 2015: $45,844 and $329,640), manufacturing costs decreased to $125,046 (Q3, 2015: $207,728) and employee compensation decreased by 13% to $397,653 (Q3, 2015: $458,437).

On a year-to-date basis, subcontracting costs and cost of direct materials in 2016 decreased to $128,277 and $361,081 respectively, (2015: $265,139 and $1,118,762), manufacturing costs decreased to $423,863 (2015: $446,431) and employee compensation decreased marginally to $1,379,448 (2015: $1,386,330).

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 slightly to $ 16,354 in Q3, 2016, compared with $7,488 in Q3, 2015. This represents an increase of 17% year-over-year The Company continues to make investments in research and development projects involving strategic partners and government bodies.

The gross margins for both the 3 month, and 9 month, periods ending September 30, 2016 improved significantly as well. In Q3, 2016, the gross margin before amortization of intangible assets was $1,220,643, or 64.2% of revenue. This compares with a gross margin before amortization of intangible assets of $373,715 (27.4% of revenue) for Q3, 2015. On a year-to-date basis, the gross margin before amortization represents 42.5% of revenue versus 24.9% over the same period in 2015.

The amortization of intangible assets of $349,268 in Q3, 2016 and Q3, 2015 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 will be fully amortized by December 31, 2016.

Selling, General and Administrative Expenses

	Three months ended Sept 30, 2016	2015	% Change 2016vs2015	Nine months ended Sept 30, 2016	2015	% Change 2016vs2015
Employee compensation	$ **526,993**	$ 517,875	2%	$ **1,606,317**	$ 1,493,398	8%
Professional fees	**249,985**	260,234	-4%	**693,385**	918,952	-25%
Office and general	**97,633**	126,869	-23%	**308,439**	331,604	-7%
Travel	**16,552**	53,245	-69%	**99,828**	171,236	-42%
Depreciation on property and equipment	**31,311**	41,203	-24%	**95,822**	122,604	-22%
Government grants	**-**	(4,500)	-100%	**(28,457)**	(44,224)	-36%
Other expenses	**45,337**	53,950	-16%	**138,596**	171,762	-19%
Sub-total before Share-based payments	**967,811**	1,048,876	-8%	**2,913,930**	3,165,332	-8%
Share-based payments	**429,827**	73,056	488%	**532,123**	256,188	108%
Total selling, general and administrative	$ **1,397,638**	$ 1,121,932	25%	$ **3,446,053**	$ 3,421,520	1%

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 Q3, 2016 excluding the costs associated with share-based compensation (a non-cash item in which options vest over a four year period), were $967,811, representing a decrease of 8% compared with $1,048,489 reported for Q3, 2015.

The decrease in SG&A expenses in Q3, 2016 over the same period in 2015 is attributable to the net effect of:

- an increase of 2% in employee compensation, a decrease of 23% in office and general expenses and a decrease of 4% for professional fees,
- travel costs decreased by 69%,
- depreciation on property and equipment decreased by 24% due to a reduced level of investment in machinery and equipment since 2010, when major acquisitions were made,
- government grants decreased by 100% due to lower level of activities supported by such grants and
- other expenses decreased by 15%, primarily due to the reduced cost of freight and shipping.

Separately, share based payments increased significantly in Q3, 2016 over the same period in 2015 as a result of the vesting structure of the stock option plan and the re-evaluation of options as at September 30, 2016 including the stock options offered on September 25, 2016. On a year-to-date basis, share-based payments expense (a non-cash item) increased by 488%.

Research and Development ("R&D") Costs

	Three months ended Sept 30, 2016	2015	% Change 2016vs2015	Nine months ended Sept 30, 2016	2015	% Change 2016vs2015
Employee compensation	**$ 42,864**	$ 47,515	-10%	**$ 83,847**	$ 102,257	-18%
Subcontracting	**-**	(6,800)	-100%	**-**	2,200	-100%
Materials and equipment	**1,992**	15,332	-87%	**21,038**	19,934	6%
Other expenses	**427**	317	35%	**1,987**	1,916	4%
Sub-total before government grants	**45,283**	56,364	-20%	**106,872**	126,307	-15%
Government grants	**-**	(23,621)	-100%	**-**	(37,445)	-100%
Total net R&D costs	**$ 45,283**	$ 32,743	38%	**$ 106,872**	$ 88,862	20%

The Company incurred $45,283 of R&D costs, net of government grants, on internal projects in Q3, 2016, compared with $32,743 in Q3, 2015, representing an increase of 38% year-over-year, During the first nine months of 2016, net spending on internal R&D was $106,872 net of government grants, as compared to $88,862 for the same period in 2015, an increase of 20%.

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).

Finance Income and Finance Costs

	Three months ended Sept 30, 2016	2015	% Change 2016vs2015	Nine months ended Sept 30, 2016	2015	% Change 2016vs2015
Finance income	$ 14,414	$ -	100%	$ 174,414	$ -	100%
Finance expenses	$ 159,909	$ 137,907	16%	$ 472,691	$ 286,765	65%
Net finance expenses	$ 145,495	$ 137,907	6%	$ 298,277	$ 286,765	4%

Finance income in 2016 resulted from a gain realized on the disposal of an investment in an amount of $50,000 in Q1, 2016 and the adjustment to the fair market value of other investments in the amount of $14,414 and $124,414 respectively for 2016, Q3 and year to date.

Finance costs for Q3, 2016 totaled $159,909 as compared with $137,907 for Q3, 2015, representing an increase of 16% year-over-year. The increase in Finance costs in Q3 2016, is attributable to interest expenses on tax credit loans and an increase in accretion costs on convertible debentures, in Q3 2015 there were no tax credit loans.

Depreciation on Property and Equipment

	Three months ended Sept 30, 2016	2015	% Change 2016vs2015	Nine months ended Sept 30, 2016	2015	% Change 2016vs2015
Depreciation on property and equipment	$ 31,311	$ 41,203	-24%	$ 95,822	$ 122,604	-22%

The depreciation on property and equipment decreased to $31,311 in Q3, 2016, compared with $41,203 in Q3, 2015. The decrease reflects a reduced level of investments in machinery and equipment since 2010, when major acquisitions were made. The depreciation on property and equipment for the nine months of fiscal 2016 was $95,822 a decrease of 22% over depreciation on property and equipment of $122,604 reported during the same period in 2015.

Net loss and comprehensive loss

	Three months ended Sept 30, 2016	2015	% Change 2016vs2015	Nine months ended Sept 30, 2016	2015	% Change 2016vs2015
Loss from operations	$ (717,041)	$ (1,267,748)	-43%	$ (3,310,704)	$ (3,842,948)	-14%
Comprehensive loss	$ (717,041)	$ (1,267,748)	-43%	$ (3,310,704)	$ (3,842,948)	-14%

The net loss and comprehensive loss for Q3, 2016 was $717,041 compared to a loss of $1,267,748, in Q3, 2015, representing a decrease in loss of 43% year-over-year. Year-to-date, loss from operations was $3,310,704 as compared to comparable losses of $3,842,948 for the same period in 2015, a decrease of 14%. The net loss from operations includes finance income in the amount of $14,414 and $174,414 respectively for 2016, Q3 and year to date.

EBITDA and Adjusted EBITDA

	Three months ended Sept 30, 2016		2015	% Change 2016vs2015	Nine months ended Sept 30, 2016		2015	% Change 2016vs2015
Comprehensive loss	$	(717,041) $	(1,267,748)	-43%	$	(3,310,704) $	(3,842,948)	-14%
Depreciation on property and equipment		31,311	41,203			95,822	122,604	
Amortization of intangible assets		349,268	349,268			1,047,805	1,047,805	
Financing charges		159,909 $	137,907			472,691 $	286,765	
EBITDA (loss)	$	(176,553) $	(739,370)	-76%	$	(1,694,386) $	(2,385,774)	-29%
Other non-cash items:								
Share-based payments		429,827	73,056			532,123	256,188	
Adjusted EBITDA (loss)	$	253,274 $	(666,314)	-138%	$	(1,162,263) $	(2,129,586)	-45%

EBITDA is defined as Earnings (from operations) before Net Financing Charges, Taxes, Depreciation and Amortization and Adjusted EBITDA is defined as Earnings (from operations) before Net Financing Charges, Taxes, Depreciation, Amortization and other non-cash items including share-based payment costs.

EBITDA and Adjusted EBITDA are not performance measures defined under IFRS and they are not considered an alternative to income or loss from operations, or to comprehensive earnings or loss, in the context of measuring a company's performance. Management believes that providing certain non-GAAP performance measures, in addition to IFRS measures, provides users of the Company's financial statements with an enhanced understanding of its results and related trends and increases transparency and clarity. Management believes that EBITDA and Adjusted EBITDA are important measures of operating performance because it allows management, investors and others to evaluate and compare the Company's operating results, including its return on capital and operating efficiencies, from period-to-period by removing the impact of the Company's capital structure (interest expense to service outstanding debt), asset base (depreciation and amortization), tax consequences, and other non-operating items not requiring cash outlays including share-based compensation. Securities regulations require that companies caution readers that earnings and other measures adjusted to a basis other than IFRS do not have standardized meanings and are unlikely to be comparable to similar measures used by other companies. Accordingly, they should not be considered in isolation.

The EBITDA loss in Q3, 2016 was $176,553 compared with an EBITDA loss of $739,370 for the same period last year, representing a decrease of 76%. Year-to-date, EBITDA loss was $1,694,386 as compared to $2,385,774 for the same period in 2015, a decrease of 29%. The decrease of $562,817 in the EBITDA loss in Q3, 2016 compared with Q3, 2015 is primarily attributable to the decrease in net loss and comprehensive loss of $550,707, less increased finance costs of $22,002.

Adjusted EBITDA in Q3, 2016 was a positive $253,274 compared with an Adjusted EBITDA loss of $666,314 for the same period last year, representing a significant improvement of 138%. Year-to-date, Adjusted EBITDA loss was $1,162,263 as compared to $2,129,586 a decrease of 45% for the same period in 2015. The increase of $967,323 in the Adjusted EBITDA in 2016 is attributable to the decrease in EBITDA loss of $691,388 for the period, less increased cost of other non-cash items, specifically share-based payments of $275,935.

SUMMARY OF QUARTERLY RESULTS

	2016 Q3	2016 Q2	Q1	2015 Q4	Q3	Q2	Q1
Revenues	$ 1,902,748	$ 818,990	$ 1,016,853	$ 2,228,782	$ 1,363,077	$ 1,533,667	$ 1,116,477
Gross margin before amortization of intangible assets	1,220,643	74,063	293,597	689,975	373,715	325,089	302,154
gross margin %	64.2%	9.0%	28.9%	31.0%	27.4%	21.2%	27.1%
Loss from operations	(717,041)	(1,345,000)	(1,298,663)	(1,074,831)	(1,267,748)	(1,296,111)	(1,279,089)
Comprehensive loss	(717,041)	(1,345,000)	(1,248,663)	(1,074,831)	(1,267,748)	(1,296,111)	(1,279,089)
Net loss per share - basic and diluted	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)

The majority of PyroGenesis' revenue is recognised using the percentage of completion basis, and is dependent on the timing of project initiation and execution, including project engineering, manufacturing, and testing.

LIQUIDITY AND CAPITAL RESOURCES

The following table summarizes the contractual maturities of financial liabilities as at September 30, 2016.

	Total	6 months or less	6 to 12 months	1-2 years
	$	$	$	$
Accounts payable and accrued liabilities	1,826,454	1,825,454	-	-
Loans	1,005,807	364,500	**188,600**	**452,707**
Convertible debentures	4,450,000	150,000	**150,000**	**4,150,000**
	7,282,261	2,340,954	**338,600**	**4,602,707**

The Company has incurred, in the last several years, operating losses and negative cash flows from operations, resulting in an accumulated deficit of $33,384,890 as at September 30, 2016. Furthermore, as at September 30, 2016, the Company's current liabilities and expected level of expenses for the next twelve months exceed cash on hand of $206,153. 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.

Given the signing of over $11MM in contracts since June 30, 2016, and the pipeline of prospective new projects the Company's business plan is becoming less dependent on raising additional funds to finance operations within and beyond the next 12 months. While the Company has been successful in securing financing in the past, raising additional funds is dependent on a number of factors outside the Company's control, and as such there is no assurance that it will be able to do so, should it need to, in the future. If the Company is unable to obtain sufficient additional financing, when needed, it may have to curtail operations and development activities, any of which could harm the business, financial condition and results of operations. Until such financing is secured, there exists a material uncertainty that may cast significant doubt about the Company's ability to continue operating as a going concern and realize its assets and settle its liabilities and commitments in the normal course of business.

On July 26, 2016, the Company completed the following transactions*:*

- Share for debt transaction to settle outstanding debt whereby the Company issued 2,060,126 common shares of the Company from treasury at a deemed price of $0.20 per common share in the aggregate amount of $412,025.

- Private placement whereby the Company issued and sold an aggregate amount of 6,131,579 units of the Company at a price of $0.19 per unit, for a gross proceeds of $1,165,000.

As at September 30, 2016, the Company had cash on hand of $206,153 and negative working capital of $412,142 compared with a cash balance of $767,368 and positive working capital of $166,095 as at December 31, 2015.

Revenue generated from active projects does not yet produce sufficient positive cash flow to fund operations. However, based on current backlog of $8.6MM at November 22, 2016 (over 160% of 2015 revenues), together with the pipeline of prospective new projects, cash flow from operations are expected to become positive in the very near future.

OFF-BALANCE SHEET ARRANGEMENTS

The Company had no off-balance sheet arrangements as at September 30, 2016.

SUMMARY OF CASH FLOWS

	Three months ended Sept 30,		Nine months ended Sept 30,	
	2016	2015	**2016**	2015
Cash provided by (used in) operating activities	**$ (628,766)**	$ (767,954)	**$ (2,114,536)**	$ (2,189,160)
Cash provided by (used in) investing actiities	**(248,500)**	(51,596)	**(248,500)**	(82,935)
Cash provided by (used in) financing activities	**1,024,907**	(120,650)	**1,801,821**	2,178,616
Increase (decrease) in cash	**147,641**	(940,200)	**(561,215)**	(93,479)
Cash - end of period	**206,153**	268,704	**206,153**	268,704

For the three months ended September 30, 2016, cash flow from operating activities resulted in a net use of cash of $628,766 compared to a net use of $767,954 for the same period in the prior year.

The use of cash during Q3, 2016 consists of the comprehensive loss of $717,041(Q3, 2015: $1,267,748) plus adjustment for non-cash items totalling $905,901 (Q3, 2015: $601,435) less a negative net change in non-cash operating working capital items of $667,853 (Q3, 2015: negative net change in non-cash operating working capital items of $26,547) plus a negative net change in interest paid of $149,773 (Q3, 2015: negative net change in interest paid of $75,094).

The net change in non-cash operating working capital items was driven by:

a) an increase in accounts receivable of $150,141 in Q3, 2016, compared to a decrease of $44,664 in Q3, 2015;
b) a decrease in sales tax receivable of $22,371 in Q3, 2016, compared to an increase of $57,094 in Q3, 2015;
c) an increase in costs and profits in excess of billings on uncompleted contracts of $223,531 in Q3, 2016, compared to an increase of $39,693 in Q3, 2015;
d) no change in inventory $Nil in Q3, 2016, compared to an increase of $794,241 in Q3, 2015);
e) an increase in investment tax credits receivable of $16,354 in Q3, 2016, compared to a decrease of $181,035 in Q3, 2015;
f) an increase in prepaid expenses of $46,387 in Q3, 2016, compared to an increase of $179,652 in Q3, 2015;
g) a decrease in accounts payable and accrued liabilities of $11,002 in Q3, 2016, compared to a decrease of $122,775 in Q3, 2015;
h) a decrease in billings in excess of costs and profits on uncompleted contracts of $242,809 in Q3, 2016, compared with an increase of $941,209 in Q3, 2015.

Investing activities resulted in a use of cash of $248,500 in Q3, 2016, compared to a use of cash of $51,596 in Q3, 2015 resulting from the net variation of investments in 2016 and purchase of property and equipment in 2015.

Financing activities in Q3, 2016 resulted in a net source of funds of $1,024,907, compared with a net use of funds of $120,650 in Q3, 2015. In 2016, the Company completed loans and a private placement through which net cash proceeds of $663,100 and $1,138,721 respectively, were raised for general working capital purposes and issued common shares for debt transactions in the amount of $412,025.

For Q3, 2016, the net cash position of the Company increased by $147,641, compared to a net decrease of $940,200 for the same period in the prior year.

CAPITAL STOCK INFORMATION

The authorized share capital of the Company consists of an unlimited number of Class A common shares (the "Common Shares") without par value. As at September 30, 2016, PyroGenesis had 101,858,434 Class A Common Shares, 10,134,064 warrants, 11,731,000 outstanding options issued and 7,223,000 exercisable options issued. Subsequent to Q3 2016, the total number of options issued by the Company decreased by 2,000,000 as a director refused 2,000,000 options granted, and an additional 180,000 were granted, for a total 9,911,000.

GOING CONCERN

Cash generated from contracts and from providing engineering services to clients has historically been insufficient to meet the overall cash requirements of the Company to cover operating costs. For the Company to generate sufficient positive cash flows from operations and meet current cash requirements, the level of business must exceed that recorded to date. Management expects that the investments currently being made in accelerating projects under development for various clients, together with executing on the $8.6MM backlog at November 22, 2016, (over 160% of 2015 revenues) which is primarily related to the Company's successful diversification into niche markets of the additive manufacturing (including 3D printing), and metals & mining industries, will continue to improve the Company's cash position.

To date, the Company has raised financing primarily through successive issuances of equity and convertible debentures. There is no certainty that the Company will continue to be able to raise additional financing or expand its sales to fund its operations, although management is confident that it will be able to do so. These conditions indicate the existence of a material uncertainty that may cast significant doubt on the Company's ability to continue as a going concern.

The September 30, 2016 financial statements have been prepared using International Financial Reporting Standards ("IFRS") applicable to a going concern, which contemplates the realization of assets and settlement of liabilities in the normal course of business as they become due. If the going concern assumption were not appropriate for these financial statements then adjustments would be necessary to the carrying value of assets and liabilities, the reported expenses and the statements of financial position classifications used. The impact on the financial statements could be material.

RELATED PARTY TRANSACTIONS

During the three and the nine months ended September 30, 2016, rent was charged by a trust beneficially owned by a shareholder of the Company in the amount of $47,765 and $143,091 respectively (2015 - $47,149 and $134,832). A balance due of $269,042 (December 31, 2015 - $72,279) is included in accounts payable and accrued liabilities.

During the three and the nine months ended September 30, 2016, interest on balance of sale was charged by a company under common control in the amount of $Nil (2015 - $94 and $12,841). The balance of interest that has not been paid of $317,319 (December 31, 2015 - $317,319) is included in loans.

During the three and the nine months ended September 30, 2016, interest on the convertible debentures was charged by a shareholder of the Company in the amount of $14,156 and $42,469 (2015 - $14,156 and $28,312 for both period respectively).

During the three and the nine months ended September 30, 2016, fees of $23,000 and $76,000 respectively were charged for services rendered by the independent directors who are members of the Company's Board of Directors (2015 - $32,000 and $74,000). A balance of $56,000 (December 31, 2015 – $Nil) is included in accounts payable and accrued liabilities.

During the three and the nine months ended September 30, 2016, fees of $Nil and $47,000 respectively, were charged for professional services rendered by a company controlled by a director of the Company (2015 - $24,541 and $97,055 for both period respectively).

The key management personnel of the Company are the members of the Board of Directors and certain executive officers. They control 66% of the Company's voting shares. During Q3, and the year-to-date, the total compensation to key management totals $140,233 and 485,141 respectively (2015 - 192,894 and 480,905$).

SUBSEQUENT EVENTS

Subsequent to Q3 2016, the total number of options issued by the Company decreased by 2,000,000 as a director refused 2,000,000 options granted to him by the Company, with an additional 180,000 options granted to certain employees, for a total of 9,911,000 outstanding options issued.

CRITICAL ACCOUNTING ESTIMATES, NEW AND FUTURE ACCOUNTING POLICIES AND FINANCIAL INSTRUMENTS

For a discussion of critical accounting estimates, new and future accounting policies and financial instruments, please refer to notes 4, 5 and 21 of the 2015 Consolidated Financial Statements.

RISK FACTORS

PyroGenesis is subject to a number of risks and uncertainties that could significantly affect the Company's financial condition and performance. This list of risk factors may not be exhaustive as the Company operates in a rapidly changing business environment and new risk factors emerge from time to time. The Company cannot predict such risk factors, nor can the Company assess the impact, if any, of such risk factors or uncertainties on its business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those projected in any forward-looking statements. Accordingly, neither shareholders of the Company nor purchasers of securities of the Company should rely on forward-looking statements as a prediction of actual results. If any of these risks actually occur, the Company's business, results of operations, financial position and cash flows could be adversely affected. In any such case, the market price of the Company's common shares could decline and investors may lose all or part of their investment.

Revenue Risks

PyroGenesis may experience delays in achieving revenues, particularly with plasma gasification projects which have a long sales cycle. Revenues may be delayed or negatively impacted by issues encountered by the Company or its clients including:

(a) unforeseen engineering and/or environmental problems;
(b) delays or inability to obtain required financing, licenses, permits and/or regulatory approvals;
(c) supply interruptions and/or labour disputes;
(d) foreign exchange fluctuations and/or collection risk; and
(e) competition from other suppliers and/or alternative energy solutions that are less capital intensive.

There is no assurance that the business will perform as expected or that returns from the business will support the expenditures needed to develop it.

In addition, as previously explained, the Company has experienced and has been dealing with technical issues under an existing contract with a customer based in Asia since December 31, 2015. At the date of this MD&A, these differences have not yet been resolved and the timing of the resolution remains uncertain. Management believes that the Company has respected the terms of the contract and expect to recover the full amounts owing under the contract from the customer. As such, the timing of the delivery of the remaining nine units, which was initially expected in 2016 for an amount of $9.6 million, is also dependent on the resolution of the differences between the Company and the customer. There is no assurance that the Company will be able to resolve these differences with the customer in its favour either through settlement or litigation. If the Company is unable to resolve these differences with the customer, this will adversely affect the Company's financial position, financial performance and cash flows.

Technology Development and Manufacturing Capability Risks

PyroGenesis recently expanded into new areas of business and, as a result, many of the Company's products are at various stages of the development cycle. The Company may be unable to commercialise such products or it may be unable to manufacture such products in a commercially viable manner. Whilst management is confident in both its technology and in its team of experienced engineers, scientists and technicians, it cannot know with certainty, which of its products will be commercialised, when such products will be commercialised, or whether such products will be able to be manufactured and distributed profitably.

Lack of Product Revenues/History of Losses

PyroGenesis has incurred losses in the majority of years since its inception. The Company's operations have not generated sufficient earnings and cash flows to date to result in consistent profitability or positive cash flow. Consequently, the Company's continued existence is dependent upon its ability to generate profitable operations by establishing and expanding its client base and/or raising adequate long term financing. PyroGenesis has relied primarily on equity financing, debt financing, partner funding and government funding to carry on its business to date. The ability of the Company to achieve profitable sustainable operations in the future is uncertain. PyroGenesis has not yet demonstrated its ability to consistently achieve positive gross margins and its ongoing efforts to improve product gross margins may be insufficient to result in profitability.

Additional financing and dilution

PyroGenesis will require additional financing to support ongoing operations and to undertake capital expenditures. There can be no assurance that additional financing will be available to the Company when needed, or on terms acceptable to the Company. PyroGenesis' inability to raise financing to support ongoing operations or to fund capital expenditures could limit the Company's growth and may have a material adverse effect upon the Company.

The Company does not exclude raising additional funds by equity financing. In addition, at August 30, 2016, 6,406,000 stock options are currently issued and outstanding, together with 10,329,564 warrants and 4,000,000 convertible debentures. The exercise of stock options and/or warrants, together with the conversion of debentures, as well as any new equity financings, represents dilution factors for present and future shareholders.

Sales Cycle and Fixed Price Contracts

PyroGenesis sales cycle is long and the signing of new contracts is subject to delay, over which the Company has little control. The Company also enters into sales contracts with fixed pricing, which may be impacted by changes over the period of implementation. There is no assurance that delays or problems in fulfilling contracts with clients will not adversely affect the Company's activities, operating results or financial position.

Reliance on Technology

PyroGenesis will depend upon continuous improvements in technology to meet client demands in respect of performance and cost, and to explore additional business opportunities. There can be no assurance that the Company will be successful in its efforts in this regard or that it will have the resources available to meet this demand. Whilst management anticipates that the research and development will allow the Company to explore additional business opportunities, there is no guarantee that such business opportunities will be presented or realised. The commercial advantage of the Company will depend to a significant extent on the intellectual property and proprietary technology of PyroGenesis and the ability of the Company to prevent others from copying such proprietary technologies. PyroGenesis currently relies on intellectual property rights and other contractual or proprietary rights, including (without limitation) copyright, trade secrets, confidential procedures, contractual provisions, licenses and patents, to protect its proprietary technology. PyroGenesis may have to engage in litigation in order to protect its patents or other intellectual property rights, or to determine the validity or scope of the proprietary rights of others. This type of litigation can be expensive and time consuming, regardless of whether or not the Company is successful. PyroGenesis may seek patents or other similar protections in respect of particular technology; however, there can be no assurance that any future patent applications will actually result in issued patents, or that, even if patents are issued, they will be of sufficient scope or strength to provide meaningful protection or any commercial advantage to the Company. Moreover, the process of seeking patent protection can itself be long and expensive. In the meantime, competitors may develop technologies that are similar or superior to PyroGenesis' technology or design around the patents owned by the Company, thereby adversely affecting the Company's competitive advantage in one or more of its areas of business. Despite the efforts of the Company, its intellectual property rights may be invalidated, circumvented, challenged, infringed or required to be licensed to others. It cannot be assured that any steps the Company may take to protect its intellectual property rights and other rights to such proprietary technologies that are central to the Company's operations will prevent misappropriation or infringement of its technology.

Changes to Contracts

PyroGenesis is dependent upon its ability to establish and develop new relationships and to build on existing relationships with current clients. The Company cannot provide assurance that it will be successful in maintaining or advancing its relationships with current clients or procure additional clients. In addition, PyroGenesis cannot provide assurance that the U.S. Military and/or other military clients will continue to provide the Company with business. Sales to governments and governmental entities are subject to specific additional risks, such as delays in funding, termination of contracts or sub-contracts at the convenience of the government, termination, reduction or modification of contracts or sub-contracts in the event of changes in the government's policies or as a result of budgetary constraints, and increased or unexpected costs resulting in losses or reduced profits under fixed price contracts.

Foreign Exchange Exposure

PyroGenesis' products and services are increasingly being sold in markets outside of Canada, whilst most of its operating expenses and capital expenditures are denominated in Canadian dollars. As a result, the Company is exposed to fluctuations in the foreign exchange rates between Canadian dollar and the currency in which a particular sale is transacted, which may result in foreign exchange losses that could affect earnings.

Competition

The industry is competitive and PyroGenesis competes with a substantial number of companies which have greater technical and financial resources. There can be no assurance that such competitors will not substantially increase the resources devoted to the development and marketing of products and services that compete with those of the Company or that new or existing competitors will not enter the various markets in which PyroGenesis is active. There can be no assurance that competitors will not develop new and unknown technologies with which the Company may have difficulty competing. Furthermore, failure to remain cost competitive may result in PyroGenesis losing business to its competitors.

Management and Key Personnel

PyroGenesis depends on the skills and experience of its management team and other key employees. The Company relies heavily on its ability to attract and retain highly-skilled personnel in a competitive environment. PyroGenesis may be unable to recruit, retain, and motivate highly-skilled employees in order to assist the Company's business, especially activities that are essential to the success of the Company. Failure to recruit and retain highly-skilled employees may adversely affect PyroGenesis' business, financial condition and results of operations.

Implementation of a strategic plan

PyroGenesis' commercial strategy aims to leverage its products, consumables, and services whilst focusing on the resolution of problems within niche markets within the industries served by the Company. There can be no assurances as to the success of the Company's strategic plan, which should be considered under the risks perspective and difficulties frequently encountered by a developing business.

Adverse Decisions of Sovereign Governments

PyroGenesis conducts an increasing portion of its business internationally. There is no assurance that any sovereign government, including Canada's, will not establish laws or regulations that will not be detrimental to the Company's interests or that, as a foreign corporation, it will continue to have access to the regulatory agencies in other countries. Governments have, from time to time, established foreign exchange controls, which could have a material adverse effect on the Company's business, financial condition and results of operations.

Governmental Regulation

PyroGenesis is subject to a variety of federal, provincial, state, local and international laws and regulations relating namely to the environment, health and safety, export controls, currency exchange, labour and employment and taxation. These laws and regulations are complex, change frequently and have tended to become more stringent over time. Failure to comply with these laws and regulations may result in a variety of administrative, civil and criminal enforcement measures, including assessment of monetary penalties, imposition of remedial requirements and issuance of injunctions as to future compliance. The Company may be subject to compliance audits by regulatory authorities in the various countries in which it operates.

Environmental Liability

PyroGenesis is subject to various environmental laws and regulations enacted in the jurisdictions in which it operates, which govern the manufacturing, processing, importation, transportation, handling and disposal of certain materials used in the Company's operations. Management believes that it has adequate procedures in place to address compliance with current environmental laws and regulations. Furthermore, management monitors the Company's practices concerning the handling of environmentally hazardous materials. However, there can be no assurance that the Company's procedures will prevent environmental damage occurring from spills of materials handled by the Company or that such damage has not already occurred. On occasion, substantial liabilities to third parties may be incurred. The Company may have the benefit of insurance maintained by it or the operator, however, the Company may become liable for damages against which it cannot adequately insure or against which it may elect not to insure because of high costs or other reasons. The Company's clients are subject to similar environmental laws and regulations, as well as limits on emissions to the air and discharges into surface and sub-surface waters. While regulatory developments that may follow in subsequent years could have the effect of reducing industry activity, the Company cannot predict the nature of the restrictions that may be imposed. The Company may be required to increase operating expenses or capital expenditures in order to comply with any new restrictions or regulations.

Product Liability and Other Lawsuits

PyroGenesis is subject to a variety of potential product liabilities claims and other lawsuits related with its operations, including liabilities and expenses associated with product defects. The Company maintains product liability and other insurance coverage that management believes is generally in accordance with the market practice in its industry, but there can be no assurance that the Company will always be adequately insured against all such potential liabilities.

Market Liquidity

The market price for the common shares of the Company could be subject to wide fluctuations. Factors such as the announcement of significant contracts, technological innovations, new commercial products, patents, a change in regulations, quarterly financial results, future sales of common shares by the Company or current shareholders, and many other factors could have considerable repercussions on the price of the Company's common shares. In addition, the financial markets may experience significant price and value fluctuations that affect the market prices of equity securities of companies that sometimes are unrelated to the operating performance of these companies. Broad market fluctuations, as well as economic conditions generally may adversely affect the market price of the Company's common shares.

Information systems disruptions

The Company's business depends on the efficient and uninterrupted operation of its computer and communications software, hardware systems, and its other information technology. If such systems were to fail, or the Company was unable to successfully expand the capacity of these systems or integrate new technologies into its existing systems, its operations and financial results could be adversely affected.

OUTLOOK

The third quarter has been positively impacted by the increase in business as over $11.5MM in contracts have been signed by the Company since June 30, 2016. Gross margins before and after amortization of intangible assets, for both the third quarter and nine months, have shown significant improvement over comparable periods in 2015. Cash flow, as measured by EBITDA (adjusted), is positive for the quarter ending September 30, 2016.

2017 now looks like a breakout year for many of the Company's product lines, some of which is already taking place:

- The Company is on schedule to produce powders for Additive Manufacturing (3D printing) this Q1 2017. Until this decision was made, PyroGenesis had been a fabricator of plasma-based systems that produced unique titanium powders which are greatly sought after by the Additive Manufacturing industry. These powders are unique in that they are small, spherical, and uniform, allowing them to flow like water; a characteristic that is extremely important in industries such as 3D printing. According to Wohlers's report (2015) the demand created by by the Additive Manufacturing (3D printing) Industry for metal powders such as those produced by PyroGenesis, will be in excess of $3.4 Billion by 2020.

- The DROSRITE™ Furnace System was proven out at an American customer's Mexican facility during the first half of 2016. Soon thereafter, a successful demonstration of the DROSRITE™ System in the Middle East took place, following which an unsolicited request to exclusively market the process in the region was received and is currently being discussed. Management's belief that the supply and installation of the first commercial sale in North America would enable the Company to leverage this success to generate a continued flow of orders for additional DROSRITE™ systems is being borne out. This recent flurry of activity and interest for the DROSRITE™ system bodes well for 2017 where we now expect to have at least 3 orders placed and delivered. The market potential for PyroGenesis' DROSRITE™ system, from Aluminium dross alone, exceeds $400MM

- On August 2, 2016 Pyrogenesis announced that it had signed a contract for CDN$8,260,000 with HPQ Silicon Resources Inc., formally Uragold Bay Resources Inc. to provide a 200 metric tonne (MT) per year PUREVAP™ pilot system to produce silicon metal directly from quartz (the "Contract"). This system will for the most part be constructed in 2017. If successful, PyroGenesis benefits from a 10% royalty on all revenues derived from the use of this system.

- Last but not least is the testing of PyroGenesis' chemical warfare destruction unit by its customer for a cost to the customer of over $100MM (of note, PyroGenesis is not contracted for any of this $100MM). This will happen in 2017 and, upon successful testing, a procurement order would be expected. No indication has been given as to the size, if any, such procurement would entail.

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 solutions to industries that have yet had the opportunity to consider such solutions.

At the same time, management is actively targeting recurring revenue opportunities that will generate a growing, and profitable, regular cash flow to the Company.
Examples of recurring revenue streams being pursued by PyroGenesis include, but are not limited to:

a) the supply of consumables and spare parts necessary to support the operation of systems once delivered and operational at PyroGenesis' clients
b) royalties generated from the sale of metals refined from ore through utilisation of PyroGenesis' technologies,
c) royalties generated from the recovery of valuable metals from waste streams
d) the creation of joint ventures, and/or other forms of partnership, that would utilise PyroGenesis technology to generate substantial cost savings

The fact that PyroGenesis has one of the largest concentrations of plasma expertise in the world, with over 250 years of accumulated technical experience and 59 patents, combined with unique relationships with major Universities performing cutting edge plasma research and development, positions the company well to execute this strategy.
In conclusion, 2017 looks like it will be a break out year for more than one of the Company's product lines. The Company's focus will continue to be to generate an improved mix of short and longer term projects that will, in turn, facilitate operational and financial planning. Repeat orders for the same, or similar, products will further result in the standardisation of certain manufacturing processes that are expected to yield higher gross margins.

Additional information regarding the Company can be found on SEDAR at www.sedar.com OTC Markets (www.otcmarkets.com) and on the Company's website at www.pyrogenesis.com