IBC ADVANCED ALLOYS CORP.

MANAGEMENT'S DISCUSSION AND ANALYSIS

SIX MONTHS ENDED DECEMBER 31, 2018

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The following is management's discussion and analysis ("MD&A") of IBC Advanced Alloys Corp., and its subsidiaries, prepared as of February 28, 2019. This MD&A should be read together with the audited consolidated financial statements and related notes for the year ended June 30, 2018. Financial amounts, other than amounts per share or per pound, are presented in thousands of United States dollars ("$") unless indicated otherwise. Canadian dollar amounts are denoted by "C$". The terms "IBC", "we", "us" and "our" refer to IBC Advanced Alloys Corp. and its subsidiaries, unless the context otherwise requires.

This MD&A contains "forward-looking information" or "forward-looking statements" within the meaning of applicable securities legislation, concerning future financial or operating performance of IBC and its business and operations. Forward-looking statements consist of statements that are not purely historical, including any statements regarding beliefs, plans, expectations or intentions regarding the future. Often, but not always, forward-looking statements can be identified by the use of words such as "plans", "expects", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes" or variations (including negative and grammatical variations) of such words and phrases or statements that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved. No assurance can be given that any of the events anticipated by the forward-looking statements will occur or, if they do occur, what benefits we will obtain from them. These forward-looking statements reflect management's current views and are based on certain assumptions and are effective only as of the date of this MD&A. These assumptions, which include management's current expectations, estimates and assumptions about certain projects and the markets we operate in, the global economic environment, interest rates, exchange rates and, our business strategy, plans, outlook and shareholder value, projections, targets and expectations and our ability to manage our assets and operating costs, may prove to be incorrect.

Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause our actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking statements, including: our estimates regarding capital requirements; future production, future cash and total costs of production for our manufacturing operations; our expectations with respect to transactions with third parties; changes in general economic conditions, the financial markets and the demand of our products; changes in, and the effects of, the laws, regulations and government policies affecting operations, particularly laws, regulations and policies; and uncertainties in the market price for minerals and metals, such as copper and beryllium, and exchange rates. Although we have attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in the forward-looking statements or information, there may be other factors that cause actual results, performances, achievements or events not to be anticipated, estimated or intended. Other factors that could cause actual results to differ materially include, but are not limited to, those set forth in our most recent Annual Information Form under "Risk Factors". Also, many of the factors are beyond our control. Accordingly, readers should not place undue reliance on forward-looking statements or information. We undertake no obligation to reissue or update forward-looking statements or information as a result of new information or events after the date hereof except as may be required by applicable securities laws. All forward-looking information and statements made in this MD&A are qualified by this cautionary statement.

Certain information in this MD&A may be considered a "financial outlook" within the meaning of applicable securities legislation. Any financial outlook set out in this MD&A is based on a number of significant assumptions. The purpose of this financial outlook is to provide readers with disclosure regarding the Company's reasonable expectations as to the anticipated results of its proposed business activities for the periods indicated. Readers are cautioned that the financial outlook may not be appropriate for other purposes.

The Company's financial statements for the period ended December 31, 2018 have been prepared in accordance with IAS 34 – Interim Financial Reporting using accounting policies consistent with

International Financial Reporting Standards ("IFRS"), as issued by the International Accounting Standards Board and interpretations of the International Financial Reporting Interpretations Committee. Additional information relating to us is available for view on SEDAR at www.sedar.com.

Executive Summary

Except as noted, all financial amounts are determined in accordance with IFRS and expressed in thousands of US dollars, except per-share amount.

- Shipments of the Company's Beralcast™ products to defense-sector customers rose in the quarter by more than 60%, as product shipments that were delayed in fiscal Q1 of 2019 resumed in fiscal Q2.

- The Company continues to focus on increasing production capacity, improving operational efficiencies, expanding its product offering, and growing gross margins through its capital improvement program, which was funded with proceeds from a June 2018 debenture and convertible debenture raise. The majority of planned capital improvements have now been completed or are in the final stages of implementation across both the Copper Alloy and Engineered Materials divisions.

  Here are some examples of capital improvements in the Copper Division's Franklin, IN facility:

  - A CNC vertical lathe, which allows IBC to produce a broader array of products needing higher tolerances. This device also is expected to increase margins on current products by reducing labor cost and run time.

  - A new bridge mill, which expands the Company's capability to perform precision milling and drilling on larger components, and is expected to improve margins on existing large plate products with increased programable cutting efficiency and capacity.

  - A new manipulator, which increases reliability and provides additional material handling capacity to production operations.

  Some examples of capital improvements in the Engineered Materials Division's Wilmington, MA facility include these:

  - A dewax furnace, which will enable the Company to bring in-house a key step in the beryllium-aluminum alloy manufacturing process that was previously done by outside contractors. The furnace is expected to help improve margins, increase throughput, and strengthen product quality assurance.

  - An upgraded wax injection system, which is designed to help the Company more efficiently produce molds for products and product assemblies.

  - An upgraded power backup system, which is expected to minimize downtime in manufacturing processes.

- In the quarter that ended on December 31, 2018, the Company posted lower year-over-year results, largely due to the following: a softening of demand for copper products not associated with seasonality; lower copper prices in the period, which impacts revenues, and; a seasonal dip in demand for investment cast beryllium-aluminum (Beralcast™) products for certain non-defense applications.

- The downturn of copper product demand impacted other U.S.-based copper alloys producers as well. However, the Company has seen demand for copper products begin to rebound in the current quarter.

- Reduced demand in the quarter for commercial (non-defense) Beralcast™ products is typical of seasonal buying patterns for these products. Sales are expected to strengthen in the second half of the current fiscal year. On a trailing 12-month basis, sales of commercial Beralcast™ products are up 16% over the prior 12-month period.

- Lower sales revenue in the first and second fiscal quarters of 2019, driven by the factors cited above, have led to changes in the Company's sales forecast for FY 2019. While demand for copper alloy and commercial Beralcast™ products is expected to improve in the second half of FY 2019, the Company believes that it will not achieve profitability for fiscal year 2019, as was previously forecast. The Company remains encouraged by increases in production capabilities, output capacity, efficiencies, and gross margins that are expected to result from its capital improvements program, and it believes that these capital improvements will play a key role in IBC achieving profitability.

Our Business

IBC is primarily engaged in developing and manufacturing advanced alloys, such as beryllium-aluminum alloys and specialty copper alloys, for a variety of customers in the defense and non-defense sectors, including those in aerospace, automotive, marine defense, electronics, industrial equipment, oil and gas, among others. With its headquarters in in Franklin, Indiana, the Company operates four plants in the United States ("U.S.") that manufacture, heat-treat, machine, or market copper-beryllium, beryllium-aluminum, copper-based master alloys, and similar specialty alloy products including beryllium-aluminum castings.

IBC's manufacturing operations currently employ 76 people and comprise two divisions: Copper Alloys and Engineered Materials.

- **Copper Alloys** manufactures and distributes a wide variety of copper alloys as castings and forgings: beryllium copper; chrome copper; oxygen-free high conductivity copper and aluminum bronze as plate, block, bar, rings; and specialty copper alloy forgings. The industries we serve with these products include the industrial welding, oil and gas, plastic mold, metal melting, marine defense, electronic and industrial equipment markets.

- **Engineered Materials** manufactures and supplies high-performance, precision-cast beryllium-aluminum components to the aerospace and high-tech manufacturing sectors.

At present, IBC is engaged in research and development of scandium-containing alloys and their potential applications, and the Company is monitoring developments related to the potential use of beryllium oxide ("BeO") in enhanced nuclear fuels, which has been the subject of previous research by the Company.

IBC was formed by an amalgamation under the laws of British Columbia on November 23, 2007 and common shares of the Company are listed on the TSX Venture Exchange (the "**TSX-V**") under the symbol "IB" and on the OTCQB market under "**IAALF**".

Recent Corporate Developments, Business Initiatives, and Subsequent Events

- On February 21, 2019, the Company renewed its lease on its Royersford, PA foundry, where the Company produces beryllium-copper and other copper alloy products.

- On February 27, 2019, BMO Harris renewed the Company's line of credit until September 30, 2019 on substantially the same terms as the previous extension.

- On February 7, 2019, the Superior Court of California (County of Los Angeles) granted a request by Freedom Alloys, a subsidiary of IBC Advanced Alloys, for Summary Judgment in the matter of *Godoy et al. v The Argen Corporation et al.* Plaintiffs have 60 days from receipt of the Court's mailing of the ruling to appeal the grant of Summary Judgment in favor of Freedom.

- In December 2018, the Company issued 666,165 common shares to debentures holders with an issue-date value of C$183 in satisfaction of the December 31, 2018 interest payment in lieu of cash.

- As of November 24, 2018, convertible note holders elected to convert notes totaling C$213,000 with the result that 687,091 shares were issued.

- On October 8, 2018, the Company jointly announced with NioCorp Developments Ltd. the successful production of aluminum-scandium master alloy. The master alloy was produced at the Ames Laboratory, a U.S. government-owned, contractor-operated national laboratory of the U.S. Department of Energy (DOE), located in Ames, Iowa.

- On September 5, 2018, the Company announced that it had been awarded a contract from a major global manufacturer of commercial satellite systems for a first article qualification of Beralcast® 363 beryllium-aluminum alloy cast components and subsequent serial production units for satellites. The Company will produce first article demonstration components related to satellite platforms. Assuming the initial components meet performance qualifications, the Company expects to produce additional components for integration into satellites for first launch. Multiple units manufactured by the Company may be used in a single satellite.

Board of Directors and Management Changes

- Major General David "Duncan" Heinz resigned as Chief Executive Officer, President and Director of the Company, effective January 25, 2019. A search for a successor is underway. In the interim, IBC is being led by an executive management committee consisting of Mark A. Smith, Geoffrey Hampson, Mike Jarvis, and Simon Anderson, all of whom serve on the IBC Board of Directors.

- Ben Rampulla was named President of the Engineered Materials division on February 4, 2019, replacing Mr. Huskamp. Mr. Rampulla is a 40-year veteran of the investment casting and high-performance alloy manufacturing industry. Prior to joining IBC, Mr. Rampulla was Director of Engineering at Nu-Cast, Inc., which produced aluminum and other metal investment castings for aerospace and other industries. Previously, he worked for 29 years at Precision Castparts

Corporation, including serving as Chief Engineer at that Company's aerospace materials foundry, a $40 million-a-year revenue generating facility, and General Manager of Wyman-Gordon Titanium Casting Corp. Earlier in his career, he held positions at Ingersoll-Rand and Hitchiner Manufacturing. Mr. Rampulla replaces Chris Huskamp who resigned as President of the Engineered Materials division, effective December 7, 2018, but is continuing to provide the Company with services on a consulting basis.

- Simon Anderson was appointed as Chairman of the Audit Committee, replacing Mike Jarvis, effective October 23, 2018. The remaining members of the Audit Committee are Mark Smith and Geoff Hampson.

Manufacturing Operations

IBC currently has four manufacturing operations in the U.S. that, in total, employ a total of 76 people. These facilities are located in Franklin, IN; Royersford, PA; New Madrid, MO; and Wilmington, MA. Most of the Company's management and administration are based at the Franklin, IN facility.

COPPER ALLOYS

The Company manufactures and distributes a wide variety of copper alloys as castings and forgings, including beryllium copper, chrome copper, oxygen-free high conductivity copper, and aluminum bronze as plate, block, bar, rings and specialty copper alloy forgings for various markets and applications. IBC sells directly to end users and serves various markets through a network of established dealers and distributors. The Copper Alloys' division's operations are based in Franklin, IN, where IBC maintains forging (hammer, press and ring rolling), heat-treating, and machining operations. IBC casts billets at plants in Royersford, Pennsylvania and New Madrid, Missouri. The Franklin plant sits on 4.8 hectares (12.0 acres) of land that has considerable room for expansion should economic conditions and business plans call for such expansion.

IBC sources copper alloys as cast billet, slab, or ingot from mills in North America, Europe, and Asia and converts these into usable industrial products serving the industrial welding, oil and gas, plastic mold, metal melting, marine defense, electronic, and industrial equipment markets. The Company also provides tooling components for the North American automotive industry, the European and North American consumer plastic tooling producers, the global oil and gas service industry, the prime North American submarine and aircraft carrier producers and repair facilities including the US Navy, electronics industries and general equipment manufacturers.

IBC produces material at two IBC-owned foundries and buys other billet and slab from independent third-party foundries and mills. The Company has expertise in melting and casting beryllium-copper and other beryllium-containing alloys. The Company's casting operations are a primary producer/supplier of beryllium copper casting and master alloy ingot products in North America and markets around the world. IBC offers customers a full range of manufacturing and support services, including casting and master alloy products, cast and forged billet products, semi-continuous cast input billets, and wrought products. The Company also manufactures beryllium alloys utilizing certified beryllium-copper master alloy.

The Royersford, PA facility has three furnaces that have been adapted to meet the specialized requirements of copper alloy manufacturing. IBC has strong technical and manufacturing engineering resources in the highly specialized copper alloy industry including beryllium copper. This gives IBC the capability to manufacture large 21-inch diameter copper alloy billets weighing up to two tons.

The New Madrid, MO plant is located on a 2.4-hectare (6.0 acres) site that is 265 kilometers (165 miles) south of St. Louis, MO. It has two furnaces and is capable of producing billets in a range of sizes and compositions. Because this facility is currently underutilized, there is room for significant expansion of plant operations at this location should economic conditions and business plans call for such expansion.

ENGINEERED MATERIALS

The Engineered Materials division supplies high-performance beryllium-aluminum components to defense, aerospace, high-tech manufacturing, and other sectors. It currently manufactures the Beralcast® family of metal matrices that are used in commercial and defense applications that require complex, lightweight, and/or high-stiffness parts. The division has additional, higher-performance products in development. Using IBC's proprietary manufacturing techniques, the EMC division's objective is to make precision-cast beryllium-aluminum components more accessible and cost-effective for a wide range of industries and applications.

In general, Beralcast® alloys serve as a higher-performance or lower-cost replacement materials for cast aluminum, magnesium, titanium, metal matrix composites, non-metallic composites, and pure beryllium or powder metallurgy beryllium-aluminum. Some of their varied applications include automotive braking and structural components and aerospace and satellite system components.

The principal Beralcast® metal matrix is more than three times stiffer than aluminum, with 22% less weight, and it can be precision cast to both simple and complex configurations. This material is very lightweight, can be precision cast for three-dimensional stability, and delivers a high modulus of elasticity. Such as, Beralcast® is ideally suited for certain demanding semiconductor manufacturing equipment, computer components, and other commercial and aerospace applications. IBC's ability to cast Beralcast® products in a near-net shape allows for manufacturing cost efficiencies.

Binary beryllium-aluminum composites were developed by a U.S. corporation, which was originally a metallurgical laboratory affiliated with the Massachusetts Institute of Technology (MIT), in cooperation with Lockheed Martin. IBC owns the intellectual property relating to the more advanced development of this technology, which is a proprietary castable metal matrix composite beryllium-aluminum alloy now manufactured as Beralcast®. The Company believes that a competitor has sought to develop an alternative cast beryllium-aluminum product, which, if commercially viable, would be a direct competitor to Beralcast®.

Results of Operations for Fiscal Q2 2019

The Company incurred a loss (net of tax) of $1,088 for the three months ended December 31, 2018, compared to a loss (net of tax) of $402 in the comparative 2017 period. A summary of results of operations to loss before other items ("operating income (loss)") follows:

	Three Months Ended December 31, 2018				Three Months Ended December 31, 2017			
	Copper Alloys $	Eng. Mat. $	Corp. $	Consol-idated $	Copper Alloys $	Eng. Mat. $	Corp. $	Consol-idated $
Sales	2,727	1,177	-	3,904	3,393	1,335	-	4,728
Cost of sales								
Materials	1,498	40	-	1,538	1,723	331	-	2,054
Labor	576	434	-	1,010	557	304	-	861
Subcontract	47	78	-	125	24	47	-	71
Overhead	503	402	-	905	533	440	-	973
Depreciation	98	86	-	184	101	99	-	200
Change in finished goods	(45)	(38)	-	(83)	5	56	-	61
	2,677	1,002	-	3,679	2,943	1,277	-	4,220
Gross profit (loss)	50	175	-	225	450	58	-	508
SG&A expenses	524	326	290	1,140	440	211	158	809
Operating income (loss)	(474)	(151)	(290)	(915)	10	(153)	(158)	(301)
Gross margin	2%	15%	-	6%	13%	4%	-	11%

Factors affecting financial performance in the quarter and year-to-date include the following:

- Shipments of the Company's Beralcast™ products to defense-sector customers rose in the quarter by more than 60%, as product shipments that were delayed in fiscal Q1 of 2019 resumed in Q2. This was offset by reduced demand for commercial (non-defense) Beralcast™ products, which is typical of seasonal buying patterns for these products. Sales of commercial Beralcast™ products are expected to strengthen in the second half of the current fiscal year. On a trailing 12-month basis, sales of commercial Beralcast™ products are up 16% over the prior 12-month period.

- Reduced year-over-year consolidated results in the quarter also were impacted by lower copper prices, which impacts revenues, and by a softening of demand not associated with seasonality for copper alloy products. This demand softening impacted other U.S.-based copper alloys producers as well. However, the Company has seen demand for copper products begin to rebound in the current quarter.

- Of the Company's $1,088 in loss (before tax) in the quarter, $271 was due to an increase in interest expenses.
- Corporate SG&A expenses in the quarter increased to $290 from $158 in the prior-year period as a result of increases in legal fees, consulting fees, and share based compensation.

Commodity Pricing for Copper

IBC aims to pass the cost of copper through to its customers, and does not hold large inventories of copper. Accordingly, profitability should not be affected by the price of copper in the long term, except to the extent that high copper prices discourage consumption or that competitors lower their margins to obtain business. In the short term, price fluctuations can have a bearing on the Company's profitability as it realizes gains or losses on inventories. Since copper is a significant component of products that the Company sells, the price of copper does materially affect revenues.

Recent indicative copper prices per pound are shown below:

	2018	**2017**
June 30	$2.99	$2.72
September 30	$2.80	$2.95
December 31	$2.67	$3.35

The Company incurred a loss (net of tax) of $1,854 for the six months ended December 31, 2018, compared to a loss (net of tax) of $1,004 in the comparative 2017 period. A summary of results of operations to operating income (loss) follows:

	Six Months Ended December 31, 2018				Six Months Ended December 31, 2017			
	Copper Alloys $	Eng. Mat. $	Corp. $	Consol-idated $	Copper Alloys $	Eng. Mat. $	Corp. $	Consol-idated $
Sales	6,187	2,410	-	8,597	6,242	2,784	-	9,026
Cost of sales								
Materials	3,486	113	-	3,599	3,085	592	-	3,677
Labor	1,110	801	-	1,911	1,100	605	-	1,705
Subcontract	121	156	-	277	67	86	-	153
Overhead	921	818	-	1,739	1,121	828	-	1,949
Depreciation	194	186	-	380	186	199	-	385
Change in finished goods	(195)	194	-	(1)	12	241	-	253
	5,637	2,268	-	7,905	5,571	2,551	-	8,122
Gross profit (loss)	550	142	-	692	671	233	-	904
SG&A expenses	964	588	545	2,097	930	454	356	1,740
Operating income (loss)	(414)	(446)	(545)	(1,405)	(259)	(221)	(356)	(836)
Gross margin	9%	6%	-	8%	11%	8%	-	10%

Changes in Financial Condition

Changes in the Company's financial condition since June 30, 2018 are related to operations in the normal course of business. The Company raised cash from a convertible note offering in June 2018 and subsequently applied cash of about $1.5 million to working capital balances, increasing inventory and prepaid expenses and settling trade accounts payable. The Company also continued to make equipment purchases as part of capital improvements to support more efficient and effective operations.

Capital Improvements Program

The Company has funded 14 capital improvement projects with the proceeds from the June 2018 Debenture and Convertible Debenture raise. Six are Tier 1 capital projects that are designed to increase current production capacity or expand the Company's product offering. Of these, three were completed in Fiscal Q2 on schedule; one was completed in Q2 ahead of schedule; and one was delayed from an expected Q2 completion to a Q3 completion because of delays related to installation and permitting issues.

Collectively, these Tier 1 projects are expected to reduce costs in both of the Company's operating divisions and should allow the Company to achieve increased gross margins.

Eight capital improvement projects are Tier 2 projects. Six of these have been completed in fiscal Q2, on schedule, and one was completed in Q3 on schedule. One remains to be completed in Q3, on schedule, and the final project has been delayed from an expected Q1 completion to an expected Q3 completion because of the late delivery by the manufacturer of necessary software. These projects are designed to improve efficiency, address manufacturing constraints, and alleviate single points of failures that could impact future production operations.

Examples of some of these capital improvements in the Copper Division's Franklin, IN facility include the following:

- A CNC vertical lathe, which allows IBC to produce a broader array of products needing higher tolerances. This device also is expected to increase margins on current products by reducing labor cost and run time.

- A new bridge mill, which expands the Company's capability to perform precision milling and drilling on larger components and is expected to improve margins on existing large plate products with increased programable cutting efficiency and capacity.

- A new manipulator, which increases reliability and provides additional material handling capacity to production operations.

Examples of some of these capital improvements in the Engineered Materials Division's Wilmington, MA facility include the following:

- A dewax furnace, which will enable the Company to bring in-house a key step in the beryllium-aluminum alloy manufacturing process that was previously done by outside contractors. The furnace is expected to help improve margins, increase throughput, and strengthen product quality assurance.

- An upgraded wax injection system, which is designed to help the Company more efficiently produce molds for products and product assemblies.

- An upgraded power backup system, which is expected to minimize downtime in manufacturing processes.

Consolidated Financial Results and Outlook

Except as noted, all financial amounts are determined in accordance with IFRS and expressed in thousands of US dollars, except per-share amount.

SELECTED QUARTERLY INFORMATION

During the most recent eight quarters, the Company has not incurred any loss from discontinued operations.

Quarter Ended	Revenue $000	Income (loss) for the period (net of tax) $000	Basic and diluted loss per share [1] $
March 31, 2017	4,695	(707)	(0.02)
June 30, 2017	4,186	(2,210)	(0.07)
September 30, 2017	4,298	(602)	(0.02)
December 31, 2017	4,728	(402)	(0.01)
March 31, 2018	5,149	62	0.00
June 30, 2018	5,224	240	0.01
September 30, 2018	4,693	(766)	(0.02)
December 31, 2018	3,904	(1,088)	(0.03)

[1] The sum of quarterly loss per share may not add to year-to-date totals due to rounding

GENERAL TRENDS AND FACTORS AFFECTING REVENUE AND LOSSES

- In the Copper Alloys division, sales were down due to a softening of demand that impacted IBC and a number of companies in the copper sector. Further, copper prices were lower in the period, which also impacts revenues.

- In the Engineered Materials division, sales of commercial castings (those not sold for defense applications) typically are lower during the second and third fiscal quarters, and this was evidenced in fiscal 2019. Product shipped was down approximately 10% from the year ago period and 28% from the previous quarter. On a trailing 12-month basis, commercial casting products are up 16%.

- On a consolidated basis, the Company posted weaker year-over-year results in the first six months of FY2019, but failed to reach profitability in the period, principally due to reduced sales in both the Engineered Materials and Copper Alloys divisions.

- Lower sales revenue in the first and second fiscal quarters of 2019 have led to changes in the Company's sales forecast for FY 2019. While demand for copper alloy and commercial Beralcast™ products is expected to improve in the second half of FY 2019, the Company believes that it will not achieve profitability for fiscal year 2019, as was previously forecast. The Company remains encouraged by increases in production capabilities, output capacity, efficiencies, and gross margins that are expected to result from the Company's capital improvements program, and it believes that these capital improvements will play a key role in IBC achieving profitability.

BUSINESS RISKS

Some of the risks that IBC faces, which are specific to Company operations, include the following:

Dependence on Ulba Metallurgical Plant and sole-source suppliers

IBC's proprietary Beralcast® castings and many of its copper alloys use beryllium, which is a specialty metal that is not readily sourced. While IBC is able to purchase beryllium from a U.S. producer, and from the U.S. National Defense Stockpile, it currently sources its vacuum-cast beryllium and beryllium copper master alloy from the Ulba Metallurgical Plant ("Ulba"). Ulba operates a beryllium processing and manufacturing facility and is owned by Kazatomprom of Kazakhstan. We have entered into long-term beryllium and beryllium copper master alloy supply agreements with Ulba lasting through 2021. Ulba's ability to honor its supply obligations will depend on its ability to source raw materials. IBC understands that production uses long-term stockpiles; however any disruptions in Ulba's ability to manufacture beryllium or CTMA (Carbothermic Master Alloy) to IBC's specifications would have a materially adverse effect on IBC's business. IBC's ability to purchase those supplies also is contingent upon a continuation of current U.S. laws and regulation governing such purchases.

The Company is dependent upon several suppliers of its base materials and alloying agents as sole-source suppliers. Approximately 80% of materials purchased, including Ulba Metallurgical Plant as described above, are primarily from these sole-source suppliers. Any disruptions in these suppliers' ability to manufacture base materials and alloying agents needed by IBC could have a materially adverse effect on short-term revenue, while The Company seeks to engage alternative sources.

Disruptions of our Manufacturing Operations

From time to time, The Company's operations are adversely affected by disruptions caused by such things as water line failures, power outages, labor turnover, equipment failures, and adverse weather. These issues normally only cause short-term interruptions but can affect The Company's ability to meet quarterly revenue and profitability objectives.

Need to Meet Product Specifications

Most of the products IBC manufactures are required to conform to a specification. Some of these specifications are very exacting. Small variations in process can cause IBC's products to fall short of the required standard. In addition, customer requirements can change from time to time. If IBC is unable to address these specification issues in a timely manner, the Company is are at risk of losing short-term revenue and even long-term production contracts.

LEGAL MATTERS

In the normal course of business operations, the Company and its subsidiaries are parties, from time to time, to various civil and administrative proceedings. These may include product liability claims, health and safety claims, environmental claims and employee-related matters.

On August 7, 2012, The Company received a demand from Gerald Hoolahan alleging damages related to a Stock Purchase Agreement in connection with the Company's acquisition of Beralcast Corp., now IBC Engineered Materials Corp. On September 8, 2017, an Award was issued in favor of Claimant Gerald Hoolahan against IBC Advanced Alloys Corp. The Award, in the amount of $1,240 plus attorney's fees, costs, and expenses in the amount of $155, was granted by the American Arbitration Association's International Centre for Dispute Resolution. The Award is premised on the Arbitrator's general finding of

IBC's certain breaches of contract related to the Stock Purchase Agreement previously mentioned. Gerald Hoolahan was a Vendor in that transaction and received shares of the Company as partial consideration for the transaction. These shares were subject to trading restrictions. The Arbitrator's Award is fashioned based upon a calculation of prospective sales of Gerald Hoolahan's shares before the restrictions were removed. The Arbitrator determined the restrictions to be improper. The Company vigorously disputes the allegations and is appealing the Arbitrator's Award. On January 12, 2018, counsel for Mr. Hoolahan filed opposition to IBC's petition and application to Vacate Arbitration Award, calling into question the applicability of the *manifest disregard of the law* exception filed in IBC's petition. IBC believes that Hoolahan's filing misstates the current state of the law with regard to the *manifest disregard of the law* standard and maintains that it remains applicable law in the First Circuit. On January 19, 2018, IBC filed its Reply to the Hoolahan January 12th filing and asserted why the Federal District Court of Massachusetts should apply the *manifest disregard of the law* standard to the instant case. The matter is now fully briefed and the parties await a decision from the Court. IBC will re-evaluate its position as to further appeals or actions after it receives the Court's ruling.

On January 21, 2014, a subsidiary in the Copper Alloys division, Nonferrous Products, Inc. ("Nonferrous Products") received a "Special Notice Letter of Potential Liability" from the U.S. Environmental Protection Agency ("EPA"). The letter references the EPA's determination that a release of hazardous materials had occurred at the Chemetco Superfund Site located in Hartford, Illinois. Chemetco, Inc. operated a secondary smelting operation for recycling and after-market processing of copper-bearing scrap and manufacturing by-products. The EPA has identified Nonferrous Products as a potentially responsible party ("PRP") under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). Nonferrous Products was identified as a PRP due to the EPA's review of Chemetco's records indicating that Nonferrous Products shipped more than 150,000 pounds of material to the Superfund Site. Nonferrous Products has joined a defense group of other PRPs. The presumed amount of shipped material from Nonferrous Products classifies it as a Tier 3 Group member of four tiers, with Tier 1 consisting of PRP's that shipped the highest volume of material to Chemetco. By joining the PRP Group, Nonferrous Products entered into an Amended Cost Sharing Agreement which requires certain assessments based on an interim allocation according to Tier Group. To date, Nonferrous Products has paid immaterial amounts related to these assessments and member fees. These assessments will be used to fund further site investigation to determine the amount of materials sent to Chemetco by each party and the best clean-up method. On September 27, 2017, it was brought to the attention of IBC Counsel that the EPA Special Notice Letter was delivered to the Company's subsidiary Specialloy Copper, LLC identifying "Specialloy Metals Company" as a Potentially Responsible Party to the Chemetco Superfund Site. The entity noticed (Specialloy Metals Company) sold assets to Company's subsidiary and was subsequently dissolved. Company's subsidiary is covered under Nonferrous' insurance policies, and other than the asset purchase transaction has no connection to the entity that was noticed. The Company is evaluating its options regarding notifying its insurers of potentially increased liability should the EPA and/or Chemetco PRP Group contribution lawsuit attempt to name Company's subsidiary as a Defendant. Specialloy Metals Company was allocated with over 4 million pounds of material shipped to the Chemetco site, or more than ten times the amount allocated to Nonferrous. Should the EPA and/or PRP Group contribution lawsuit pursue alter ego theories and allege the Company's subsidiary Company, then IBC potentially faces significantly more liability requiring further defensive action.

On April 7, 2015, a subsidiary in the Copper Alloys division, Freedom Alloys, Inc. ("Freedom Alloys") was named as a defendant in a suit filed in the Superior Court of the State of California, Los Angeles County entitled *Godoy et al. v The Argen Corporation et al.* BC578085. This Complaint for Survival and Wrongful Death from Toxic Injuries alleges Freedom Alloys, along with five other defendants, supplied beryllium-containing materials causing fatal chronic beryllium disease to the plaintiffs' deceased father. The complaint alleges the decedent was exposed to beryllium alloys through his employment as a foundry worker at H. Kramer & Co. and also as a dental lab technician at various dental labs in the Los Angeles area. The claim was dismissed in September 2015, but was reinstated on the plaintiffs' appeal in June 2016. A trial date was set in the matter for April 2019; however, prior to the trial date all parties filed Motions for Summary Judgment, which were heard by the Court on February 6, 2019. The Court entered its ruling on Summary Judgment on February 7, 2019, and Freedom Alloys lnc.'s motion for summary judgment was granted. Plaintiffs have 60 days from receipt of the Court's mailing of the ruling to appeal the grant of Summary Judgment in favor of Freedom.

On March 7, 2016, Maxum Indemnity Company filed a Complaint for Declaratory Judgment against Freedom Alloys in the U.S. District Court for the Eastern District of Pennsylvania, seeking a judgment that it owes Freedom Alloys no duty to defend or indemnify Freedom Alloys for the underlying *Godoy et al. v The Argen Corporation et al.* lawsuit described above. The matter is pending as *Maxum Indemnity Company v Freedom Alloys Inc.*, case number 2:16-CV-01077-AB. The matter was stayed by agreement based on the status of *Godoy et al. v The Argen Corporation et al.* However, because *Godoy et al. v The Argen Corporation et al.* has resumed proceedings in the trial court in California, Maxum's counsel has threatened to lift the Stay of Proceedings if Freedom Alloys does not commit to giving up its claim for indemnity if it does not prevail in its defense of the matter. The Court issued a ruling granting Defendants' Summary Judgment Motion on the survival claims. At this point, the remaining claims are the wrongful death claims of decedent's heirs for which defense counsel has asked Plaintiff counsel to voluntarily dismiss Freedom Alloys from the case, emphasizing that Plaintiffs have not produced any evidence that Freedom supplied any beryllium that came into contact with the decedent. Murchison and Cummings, LLP remains Company's defense counsel in this matter, having been engaged by Erie Insurance, who has assumed Company's defense under a reservation of rights.

Liquidity and Capital Resources

At December 31, 2018, IBC had working capital of $819 including cash of $1,388, as compared to working capital deficiency of $2,192 including cash of $4,527 at June 30, 2018. Factors affecting liquidity include:

- IBC has not yet achieved sustained profitable operations.
- The slowdown in business in the second fiscal quarter is having an adverse effect on the Company's liquidity since manufacturing efforts have been directed to building up inventory which will not be sold until well into the third fiscal quarter or later. The Company was successful in renewing its credit facility with BMO Harris, but may have to seek further financing in the interim.
- Current liabilities include an accrual of $1,395 related to the Arbitration Award discussed in *Legal Matters* above. IBC is appealing the award.
- The Company raised $375, of which $75 has been repaid, through the issuance of promissory notes that were due in the third quarter of fiscal 2018. The Company has agreed to extend these notes by one additional year.
- Our banks have imposed restrictions that currently prevent us from transferring funds from Copper Alloys to our other segments and certain early payments triggers. During the year ended June 30, 2017, quarters ended September 30, 2017 and December 31, 2017, the Company breached certain covenants associated with the line of credit and term loan. On January 31, 2018, BMO Harris Bank waived the covenant breaches and granted the Company a six month extension to its line of credit. During the quarters ended March 31, 2018 and June 30, 2018, the Company

breached certain covenants associated with the line of credit and term loan. On July 31, 2018, BMO Harris Bank renewed the line of credit to February 28, 2019 on substantially the same terms as the previous extension. On February 27, 2019, BMO Harris renewed the Company's line of credit until September 30, 2019 on substantially the same terms as the previous extension.

- Resource prices, particularly for copper, have a bearing on The Company's manufacturing costs and selling prices, as copper is a large component of most of its products.

- IBC may be obliged to incur material expenditures on purchases of and repairs to property, plant and equipment to maintain productive capacity or to service customers.

- The Company manages liquidity risk associated with trade receivables by trading with recognized creditworthy third parties and insuring trade receivables. All sales are conducted in U.S. dollar. In addition, receivable balances are monitored on an on-going basis with the result that the Company's exposure to impaired receivables is not significant.

- The Company also manages its liquidity risk by investing its cash only in obligations of Canada or the U.S. or their respective agencies, obligations of enterprises sponsored by any of the above governments; bankers' acceptances purchased in the secondary market and having received the highest credit rating from a recognized rating agency in Canada or the U.S., with a term of less than 180 days; and bank term deposits and bearer deposit notes, with a term of less than 180 days.

- The Company is contractually committed to purchase, at December 31, 2018 prices, an aggregate of $1,887 in raw materials prior to June 30, 2019.

- The Company has entered into commercial property leases. These leases have an average remaining life of 2.2 years, with no renewal options. The future minimum rental payments under non-cancellable operating leases are $278 for the remainder of fiscal 2019 and $981 for subsequent fiscal years.

IBC believes that it may need to raise additional funds in the short-term to finance working capital and additional growth initiatives. The Company may be able to generate additional cash through short-term debt or by issuing shares, but there can be no assurance that it will be successful in obtaining such funds.

Commitments

At December 31, 2018, The Company had commitments to lease premises over the next three years with an aggregate payment obligation of $1,259. We are also committed to raw materials purchases over the next year aggregating $1,887.

Related Party Transactions

Except as described below, IBC does not have any contractual relationships with directors or officers other than employment contracts in the ordinary course of business. The employment contracts are not financially material to its business.

Non-executive directors are paid $36 per year but the directors have agreed to receive the bulk of this amount in common shares. In the first quarter of fiscal 2019, the Company issued 556,797 common shares for services to the non-executive directors and paid $56 in cash. As of the end of the second quarter of fiscal 2019, non-executive directors' compensation of $90 was not paid but has been accrued or recorded in payables.

Financial Instruments and Other Instruments

The Company's activities expose it to a variety of financial risks, including foreign exchange risk, interest rate risk, commodity price risk and credit risk. IBC does not have a practice of trading derivatives, and it attempts to employ a natural hedge for foreign currency by holding funds in the currency in which it expects to spend the monies.

Foreign Exchange Risk

While the majority of the Company's administrative and manufacturing activities occur in the U.S., it incurs some corporate administration costs in Canada and raises equity proceeds in Canadian dollars. It manages exchange risk on equity capital by converting expected U.S. expenditures to U.S. dollars at the time the money is raised.

Interest Rate Risk

IBC's interest rate risk mainly arises from interest expense on the BMO Harris Bank line of credit. The term loan has a fixed interest rate and is not exposed to short-term interest rate risk.

Commodity Price Risk

The Company's profitability and long-term viability depend, in some measure, on the market prices of copper, aluminum, and beryllium. The market prices for metals can be volatile and are affected by factors beyond its control, including the following: global or regional consumption patterns; the supply of, and demand for, these metals; speculative activities; the availability and costs of metal substitutes; expectations for inflation; and political and economic conditions, including interest rates and currency values. IBC cannot predict the effect of these factors on metal prices. The Company does not engage in hedging but, where possible, structures selling arrangements in a way that passes commodity price risk through to the customer.

Credit Risk

IBC manages credit risk by trading with recognized creditworthy third parties and by insuring international trade receivables. In addition, the Company monitors receivable balances with the result that the Company's exposure to impaired receivables is generally not significant.

Adoption of New Accounting Pronouncements and Recent Developments

Certain pronouncements, issued by the IASB or the IFRS Interpretations Committee, were adopted during the year, or were mandatory for the Company's fiscal years beginning on or after July 1, 2015 or are required to be adopted in future periods. The following pronouncements are relevant to the condensed consolidated interim financial statements, although none of these are expected to have a material effect on financial statement presentation:

New standards, effective in the current fiscal year:

- IFRS 9 - Financial Instruments

  IFRS 9 Financial Instruments is part of the IASB's wider project to replace *IAS 39 - Financial Instruments: Recognition and Measurement*. IFRS 9 retains but simplifies the mixed measurement model and establishes two primary measurement categories for financial assets: amortized cost and fair value. The basis of classification depends on the entity's business model and the contractual cash flow characteristics of the financial asset. On July 24, 2014, the IASB affirmed its proposal to defer the effective date of IFRS 9 to periods beginning after January 1, 2018. Earlier application of IFRS 9 was permitted. The Company did not early adopt this standard. Due to the nature of the company's operations, the adoption of IFRS 9 and the recognition of expected credit losses will impact the Company's provision for impairment related to its receivables from customers.

- IFRS 15 - Revenue from Contracts with Customers

  In May 2014, the International Accounting Standards Board issued IFRS 15, Revenue from Contracts with Customers, which provides a single, principles-based five-step model for revenue recognition to be applied to all customer contracts, and requires enhanced disclosures. This standard is effective January 1, 2017 and allows early adoption. On July 22, 2015, the IASB unanimously affirmed its proposal to defer the effective date of IFRS 15 to periods beginning after January 1, 2018. Earlier application of IFRS 15 was permitted. The Company did not early adopt this standard. This standard is not expected to materially affect the Company's consolidated statements of loss and other comprehensive loss, but is expected to require additional disclosures.

New standards, interpretations and amendments not yet effective:

- IFRS 16 - Leases

  IFRS 16 - Leases specifies how to recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring that lessees recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has an insignificant value. IFRS 16 was issued in January 2016 and will be applicable to the Company's fiscal year beginning July 1, 2019, although early adoption is permitted. The Company does not intend to early adopt this standard and is currently evaluating the impact of adopting this standard on the consolidated financial statements.

There are no other pending IFRSs or IFRIC interpretations that are expected to be relevant to the Company's financial statements.

Non-IFRS Measures

To supplement its consolidated financial statements, which are prepared and presented in accordance with IFRS, IBC uses "operating income (loss)", which is a non-IFRS financial measure. IBC believes that operating income helps identify underlying trends in its business that could otherwise be distorted by the effect of certain income or expenses that IBC includes in loss for the period. IBC further believes that operating income (loss) provides useful information about core operating results, enhances the overall understanding of its past performance and future prospects and allows for greater visibility with respect to key metrics used by management in its financial and operational decision-making. Operating income (loss) should not be considered in isolation or construed as an alternative to loss for the period or any other measure of performance or as an indicator of IBC's operating performance. Operating income (loss) presented here may not be comparable to similarly titled measures presented by other companies. Other companies may calculate similarly titled measures differently, limiting their usefulness as comparative measures to our data.

Operating income (loss) represents loss for the period, excluding foreign exchange loss, interest expense, interest income, other income (expense) and income taxes that IBC does not believe are reflective of the core operating performance during the periods presented.

Operating income (loss)

A reconciliation of the loss for the three and six months ended December 31, 2018 and 2017 to operating income follows:

Quarter ended December 31	2018 $	2017 $
Loss for the period	(1,088)	(402)
Foreign exchange (gain) loss	(33)	36
Interest expense	214	57
Interest income	(3)	-
Other income	(5)	(1)
Income taxes	-	9
Operating loss	(915)	(301)

Six months ended December 31	2018 $	2017 $
Loss for the period	(1,854)	(1,004)
Foreign exchange (gain) loss	(37)	46
Interest expense	497	114
Interest income	(7)	(1)
Other income	(7)	(3)
Income taxes	3	12
Operating loss	(1,405)	(836)

Research Initiatives

From time to time, IBC sponsors and assists in research and development ("R&D") initiatives to create new market opportunities. The Company's current R&D focus is on developing scandium-doped aluminum alloys.

In previous years, the Company actively engaged in R&D regarding the potential use of beryllium oxide ("BeO") in enhanced nuclear fuels. Since 2008, it has sponsored collaborative research agreements with Purdue University and Texas A&M to develop a new type of BeO nuclear fuel. Work to date has confirmed that UO_2 – BeO fuel is longer-lasting and more efficient and provides a larger safety margin than current nuclear fuels. Under the terms of the collaborative research agreements, IBC has an option to enter into an exclusive royalty-bearing license for commercial application to the intellectual property relating to the development of an advanced BeO nuclear fuel with both Purdue and Texas A&M. Purdue has filed provisional patents covering the IBC-funded nuclear fuel research. The next step in this research initiative will be to have an industrial assembly of the BeO-enhanced fuel approved for irradiation in a test reactor. IBC has not allocated funds to this initiative but continues to seek a partner to jointly fund the next development step.

Environmental and Occupational Safety Issues

IBC melts and machines materials that have the potential, if not controlled and handled appropriately, to have a negative effect on an individual's health and the environment. In addition, the Company's operations use materials such as cutting and hydraulic fluids, which have the capacity to cause environmental contamination if left uncontained.

To mitigate these potential risks, the Company:

- employs a full-time health and safety manager to administer and monitor our safety programs;
- employs manufacturing practices to minimize and eliminate dispersal of fumes and dust;
- uses trap basins and fluid reservoirs to capture and retrieve possible overages;
- uses active exhaust vents/hoods located in equipment areas to capture and filter air;
- regularly schedules assessments and maintenance of in-house ventilation systems;
- requires our employees to use appropriate personal protective equipment (such as respirators, outer garments, gloves, etc.) selected to limit and protect them from any potential exposures;
- conducts beryllium lymphocyte proliferation tests (BeLPT) to determine employees' potential for sensitivity to beryllium prior to possible exposure;
- undertakes ongoing air quality monitoring and performs periodic employee health exams as per occupational health guidelines; and
- limits access to areas that may have a potential exposure to beryllium dust particles.

Despite these procedures, the Company remains subject to risk in this regard.

As with all industry, the Company is are subject to periodic inspection by state and local safety, health and environmental authorities. If during an inspection a failing was noted in the Company's systems, the potential for the temporary or permanent closure of the facilities could exist. If during the periodic employee health screening, an employee displays elevated exposure to metals, it could require IBC to place the employee on sick leave, which would have the potential to impact both direct and indirect costs and cause a disruption of production. There is also the potential that an inherent safety or environmental exposure, if uncontrolled, could initialize legal action by employees, neighbors or those who visit Company facilities.

To minimize the risks arising from pre-acquisition activities, IBC commissioned phase one environmental reviews prior to acquiring our copper alloys businesses. It is possible that environmental problems remain at our facilities that these phase-one assessments did not uncover.

Shareholders' Equity

Short-Form Prospectus Offering

In June 2018, the Company closed an offering of debenture units and convertible debenture units. The offering raised gross proceeds of C$4.1 million. Pursuant to the offering, the Company issued 182 debenture units and 3,987 convertible debenture units at a price of C$1,000. We issued 9,381,700 financing warrants exercisable at C$0.37 until June 6, 2023.

Each debenture unit consists of one 9.5% unsecured debenture of the Company in the principal amount of $1,000 with interest payable semi-annually in arrears on June 30 and December 31 of each year and maturing on June 6, 2023, and 2,300 common share purchase warrants expiring on June 6, 2023.

Each convertible debenture unit consists of one 8.25% unsecured convertible debenture of the Company in the principal amount of $1,000, convertible into common shares at a conversion price of $0.31 per common share at the option of the holder, with interest payable semi-annually in arrears on June 30 and December 31 of each year and maturing on June 6, 2023, and 2,300 warrants expiring on June 6, 2023.

Each warrant issued with the debenture units and convertible debenture units entitles the holder to purchase one common share of the Company at an exercise price of $0.37 at any time up to June 6, 2023.

The agents for the offering were paid a cash commission equal to 6.75% of the gross proceeds of the offering; and issued 1,086,253 broker warrants exercisable at $0.37 until June 6, 2023.

The offered units were issued pursuant to a final short-form prospectus dated May 28, 2018 filed with the securities regulatory authorities in British Columbia, Alberta and Ontario. The Company received final approval to list the convertible debentures, debenture shares, warrant shares and common shares underlying the convertible debentures and broker warrants on the TSX Venture Exchange.

Share Issuance

In August 2018, the Company issued 556,797 common shares for services to directors of the Company, 40,529 common shares for services to a consultant, 43,710 to a non-executive employee and 188,173 common shares for options exercised by a director of the Company.

In December 2018, the Company issued 666,165 common shares to debentures holders with an issue-date value of C$183 in satisfaction of the December 31, 2018 interest payment in lieu of cash.

OUTSTANDING SHARE DATA

As at the date of this MD&A, IBC has issued:

- A total of 36,356,550 common shares.
- Warrants to purchase 31,422,629 common shares.
- Share options to purchase 1,807,515 common shares.

The maximum number of shares potentially issuable together with the issued shares, is therefore 69,586,694.