

#### Mission Critical Alloys

TSX-V: IB | OTCQB: IAALF



Statements and information herein that are not historical facts are "forward-looking information". Words such as "plans", "intends", "outlook", "expects", "anticipates", "estimates", "believes", "likely", "should", "could", "continue", "will", "may" and similar expressions often identify forward-looking information and statements. Forward-looking statements and information may include, without limitation, statements regarding the operations, business, financial condition, liquidity, expected financial results, performance, obligations, market conditions, prospects, opportunities, priorities, targets, goals, ongoing objectives, strategies, market share growth, gross profit, outlook of IBC Advanced Alloys Corp. ("**IBC**") and its business units selling, and general, selling and administrative expenses.

Forward-looking information and statements contained herein are based on, among other things, IBC management's current assumptions, expectations, estimates, objectives, plans and intentions regarding projected revenues and expenses, the economic, industry and regulatory environments in which IBC operates or which could affect its activities, IBC's ability to attract and retain customers as well as IBC's operating costs and raw materials supply. By their nature, forward-looking information and statements, and the factors upon which they are based, are subject to risks and uncertainties which may be beyond IBC's ability to control or predict. Actual results or events could differ materially from those expressed or implied by forward-looking information and statements. Factors that could cause actual results or events to differ from current expectations include, among others: business cycle risk, including general economic and/or political conditions in the countries in which IBC operates; risk of commodity price changes including precious and base metals; risk of changes in foreign exchange rates, including the C\$/US\$ exchange rate; risk of the termination of distribution or original equipment manufacturer agreements; risk of equipment product acceptance and availability of supply; risk of increased competition; credit risk related to financial instruments; risk of additional costs associated with warranties and maintenance contracts; interest rate risk on financing arrangements; risk of availability of financing; risk of environmental regulation. Additional information on these factors and other risks and uncertainties that could cause actual results or events to differ from current expectations can be found in the IBC's annual MD&A for 2015, as updated in IBC's MD&A for the nine months ended March 31, 2016. Other factors, risks and uncertainties not presently known to IBC or that IBC currently believes are not material could also cause actual results or events to differ materially from those expressed or implie

Forward-looking information and statements contained herein about prospective results of operations, financial position or cash flows are presented for the purpose of assisting IBC's shareholders in understanding managements' current view regarding those future outcomes and may not be appropriate for other purposes. Readers are cautioned not to place undue reliance on the forward-looking information and statements contained herein, which are given as of the date of this document, and not to use such information and statements for anything other than their intended purpose. IBC disclaims any obligation or intention to update or revise any forward-looking information or statement, whether the result of new information, future events or otherwise, except as required by applicable law.





#### **Main Sections**

- <u>Key Points</u>
- <u>Recent Financial Performance</u>
- IBC at a Glance
- <u>The High-Performance Alloys We Make</u>
- Primary Markets
- <u>Select Customers</u>
- <u>The Engineered Materials Division</u>
- <u>The Copper Alloys Division</u>
- What We Make for the F-35 Joint Strike Fighter
- <u>Scandium Alloys</u>
- Our Competitive Advantages
- About The Company and its Leadership

**CEO Video Comments** (videos will open in a separate Internet browser)

- Meeting the mission-critical needs of our customers. (:54)
- IBC's technology innovation with its beryllium-aluminum alloy products. (:54)
- Why IBC is turning the corner on its revolutionary Beralcast<sup>®</sup> material. (:34)
- <u>The outlook for the Copper Alloys Division</u>. (1:04)
- What we make for the F-35 Joint Strike Fighter. (1:07)
- <u>The potential of Scandium alloys</u>. (1:23)
- Why investors should consider IBC. (:32)

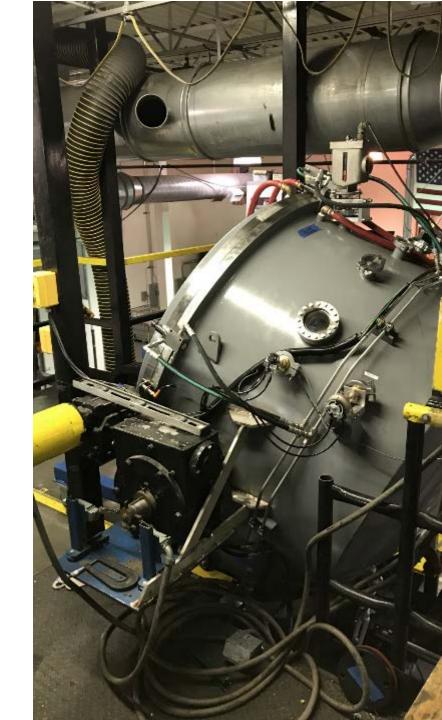




## Major Equipment Upgrades Now Installed

New production furnaces in both the beryllium and copper alloys divisions are now installed and ramping up production to meet order backlog and new orders.

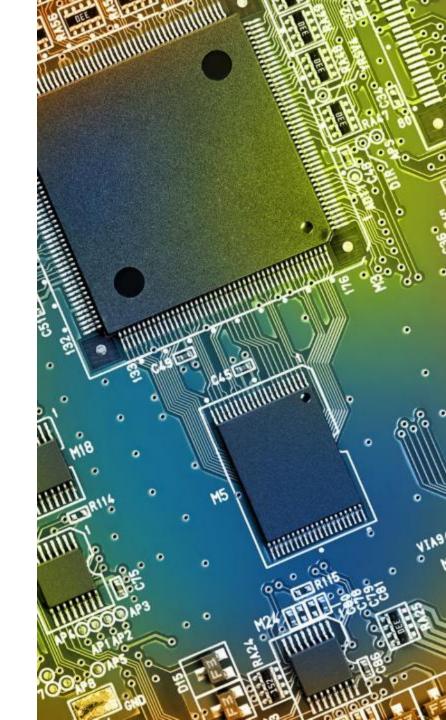




## **Sales Are Increasing.**

Sales are up across both of our operating divisions, order rate is intensifying from existing customers, and we are securing new orders from new customers.





## **F-35 Business Set to Accelerate.**

Sales to Lockheed Martin for the F-35 Joint Strike Fighter -- an important revenue component for us – are likely to accelerate as production of this fighter jet evolves from its current low-rate of initial quantities to full-rate production.





# Swing to Profitability expected in 2017.

Our financial performance has improved markedly over the past year. IBC currently expects to swing to profitable operations in 2017 for the first time in its modern history.





# Exploring new horizons: Scandium alloy products.

IBC is now positioned to harness in-house expertise to develop breakthrough scandium and other new alloys for use in a wide range of new markets.





**Back to Index** 



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# RECENT FINANCIAL PERFORMANCE



According to the Company's most recently filed financial reports for the quarter ended March 31, 2017:

- Revenues Are Up. For the fiscal third quarter of 2017, revenue rose 31% over the quarter ended on December 31, 2016 the highest quarterly revenue we have booked in a year.
- Losses Continue to Narrow. While the Company lost money in fiscal Q3 2017 – (\$0.02) per basic and diluted share – but this loss was down from (\$0.03) per basic and diluted share losses in both the quarter ended Dec. 31, 2016 and in the prior-year period.





According to the Company's most recently filed financial reports for the quarter ended March 31, 2017:

• Positive Monthly Operating Income Achieved in March 2017. Both of IBC's operating divisions, Copper Alloys and Engineered Materials, enjoyed a stronger quarter with increased product demand. The loss for the quarter masked a swing to positive monthly operating income in March 2017 after several months of losses, although we expect to see continuing fluctuations in the coming months as given the operational downtime that was required in the fourth fiscal quarter of 2017 to install our new furnaces in both operating divisions.





According to the Company's most recently filed financial reports for the quarter ended March 31, 2017:

- Copper Alloy Sales Higher Both Sequentially and Year-on-Year. Division sales increased 33% in the quarter to \$3.48 million, compared to sales of \$2.6 million in the quarter ended December 31, 2016.
- Engineered Materials Sales Sequentially Higher. Division sales rose 28% in the quarter to \$1.2 million, compared to sales of \$948,000 in the quarter ended December 31, 2016. Increases in sales volume of commercial products contributed to the increase.





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## **IBC: AT A GLANCE**



14

#### **IBC:** AT A GLANCE

Who We Are	We are a leading supplier of high-performance beryllium-aluminum cast components, specialty copper, and other alloys for global markets.	
Inception	2007	
Markets We Serve	<ul> <li>Defense</li> <li>Aerospace</li> <li>Semiconductor Device Manufacture</li> <li>Automotive</li> <li>Oil &amp; Gas</li> </ul>	<ul> <li>Electronics</li> <li>Resistance Welding</li> <li>Metal Casting</li> <li>Manufacturing</li> <li>Specialized Materials</li> <li>Plastic Injection Molding</li> </ul>
Employees	70	
Headquarters	• Franklin, Indiana, USA	
Locations	<ul><li>Franklin, IN</li><li>Royersford, PA</li></ul>	<ul><li>New Madrid, MO</li><li>Wilmington, MA</li></ul>







- Manufactures beryllium-aluminum (Be/AI) investment castings in near-net shapes
- Primary products including Beralcast<sup>®</sup> (castable Be/AI) and ABX<sup>™</sup> (castable AI/Be alloy for commercial applications and export)
- Customer base includes commercial and well-known aerospace companies
- 1 investment casting plant
- 22 employees
- Acquired 2010





- Forges plates, rings, rods, and discs
- Cast billets and master alloys
- Alloys: beryllium copper, aluminum bronze, copper nickel, chrome copper, oxygen-free / high-conductivity copper
- Customer base covers most industrial sectors
- 2 semi-continuous casting foundries
- 1 open-die forging, ring-rolling, heat treatment, and machining plant
- 40 employees
- Established 1946



## **Beryllium Products**

- Beralcast<sup>®</sup>
- Beryllium Copper Alloys
  - Hot worked semi-finished products
  - o Machined-to-print parts
  - o Casting alloys
- Beryllium Nickel Casting Alloys







Click on the image above to play the video in a separate browser. An active internet connection is required.

### **Copper Products**

- Thermal-Mould™
- Oxygen-Free Copper (C10100)
- Oxygen-Free Copper with Silver (various)
- Oxygen-Free Copper with Phosphorus (C10800)
- Beryllium Copper (various)
- Copper Chrome (various)
- Copper Nickel Silicon Chrome (C18000)

- Chrome Copper Zirconium (C18150)
- Chromium Copper (C18200)
- Naval Brass, Uninhibited (C46400)
- Copper-Aluminum Bronze (various)
- Copper Nickel Bronze (C63200)
- Copper Nickel 10% (C70600)
- Copper Nickel 30% (C71500)





## **Copper Products (Shape)**

- Plates
- Rounds
- Discs
- Bars

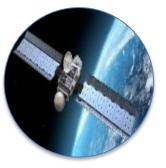
- Rods
- Tubes
- Rings
- Custom Forgings





#### PRIMARY MARKETS FOR OUR PRODUCTS

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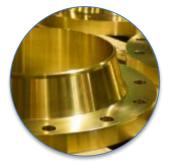
Aerospace Cast components and substructural parts



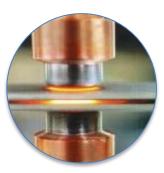
**Defense** Weapons, infrared systems, optical targeting



Automotive Injection Mold Inserts, Die Casting Equipment



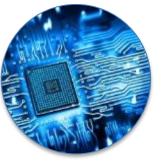
**Oil & Gas** Directional Drilling Components, Rings, Bushings, Flanges, Sub-Sea Applications



**Resistance Welding** 

Welding Wheels, Gun Arms, Resistance Welding Parts





Electronics Semiconductor Manufacturing

Equipment, Backing Plates



Manufacturing Wear Plates, Bushings



Industrial Equipment Amorphous Metal Casting

Wheels



Injection Molding High Conductivity Core and Cavity Inserts



Foundry

Casting Alloys, Die Blocks, Plunger Tips, Amorphous Metal Casting Wheels



**BAE Systems** 

European Space Agency

General Dynamics Electric Boat

Honeywell Electronic Materials

Kaman

Kingsbury, Inc.

Lockheed Martin

Magna

Newport News Shipbuilding

Raytheon

Schlumberger

Thyssen Krupp

UTC Aerospace Systems





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# ENGINEERED MATERIALS DIVISION





### The Power of Beryllium

# Rare metal with unique characteristics

- Excellent thermal conductivity
- > Weight by weight, stiffer than steel
- Second lightest metal (after lithium)
- High melting point with excellent thermal conductivity





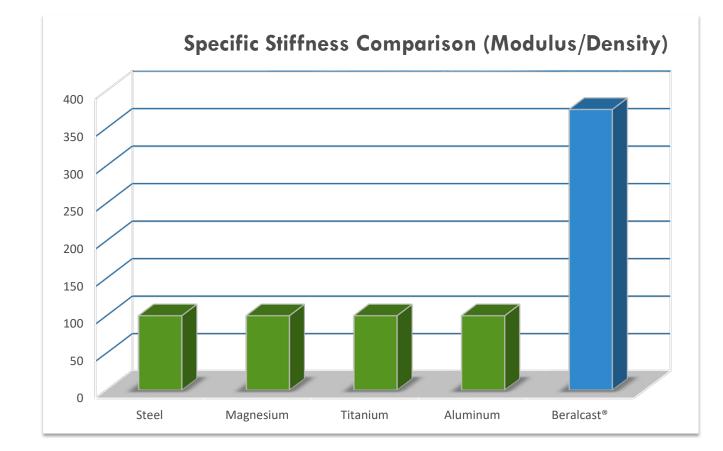
#### The Power of Beryllium

Used as pure metal or an alloy with copper or aluminum to:

- Increase hardness
- Dramatically reduce weight
- Improve thermal conductivity







Beralcast® is an excellent material when light weight and high modulus applications are required.





It's up to 50 - 80% cheaper than machined competitive material.





It provides significantly improved lead times over berylliumaluminum machined parts.



# It's 300% stiffer and 22% lighter than aluminum.







It's faster to produce than the competition's machined parts -weeks as opposed to months.





It allows for high-volume production of complex geometric parts and reduces machining.



It's low Coefficient of Thermal Expansion is optimal for applications with wide operating temperature ranges.







**ibc**<sup>\*</sup> IBC Advanced Alloys Click on the image above to play the video in a separate browser. An active internet connection is required.

#### **RECENT CAPITAL IMPROVEMENTS: ENGINEERED MATERIALS**

- Vacuum Induction Furnace: enables advanced automation and real-time process monitoring, which is expected to help us achieve a significant step-change in our capability.
- **Digital Radiography Quality Control System:** Improves inspection times and reduces costs over the previously used film-based system.
- Semi-automated Tumble Blast Finishing Equipment: improves processing time and allows us to get to final product faster with less human interaction.
- **Coordinate Measuring Machine:** Verifies final dimensions of products to assure in-spec products; should help increase throughput and reduce costs.







Electro Optical Targeting System (EOTS)

#### Beralcast<sup>®</sup> EOTS Azimuth Gimbal Housing

- Most complex geometry of all special alloy parts in the F-35
- Beralcast<sup>®</sup> beryllium-aluminum alloy is much lighter & stronger than traditional materials
- Compared to other material choices, Beralcast<sup>®</sup> has exceptional vibration damping, which improves accuracy and range

# What We Currently Make For The F-35

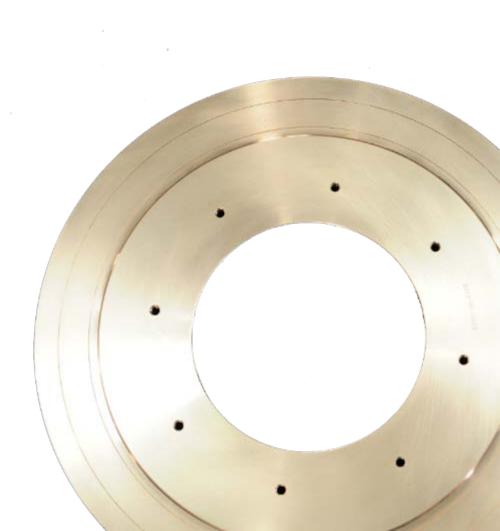


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### COPPER ALLOYS DIVISION





### **RECENT CAPITAL IMPROVEMENTS: COPPER ALLOYS**

• Solution Annealing Furnace and Quench Tank: Should dramatically improve repeatability during the annealing process by automating many aspects of annealing that previously were done manually. This allows us to remove operator variability in the production process, which should improve product consistency and allow us to deliver to our customers more consistent heat-treated properties from batch to batch across our copper alloy product line.





Back to Index

IBC Advanced Alloy



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# THE POTENTIAL OF SCANDIUM ALLOYS



IBC is working with NioCorp Developments Ltd. through a joint development agreement to investigate and develop applications for scandium-containing alloys for multiple downstream markets.





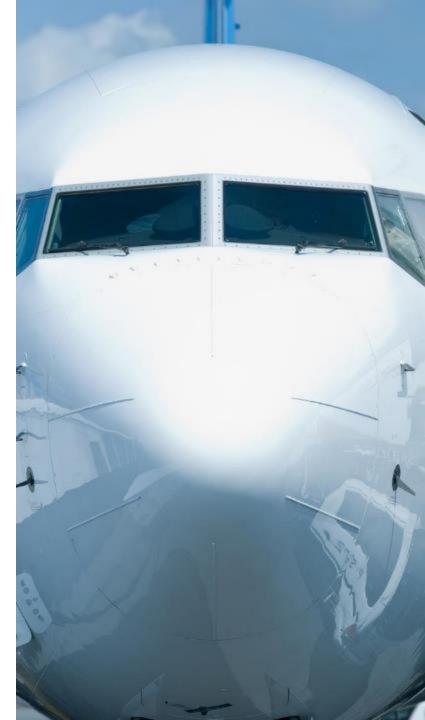


NioCorp expects to come online as one of the world's leading producers of scandium from its Elk Creek, Nebraska Superalloy Materials Project, potentially producing as much as 103 tonnes/year of Scandium Trioxide.





IBC's President of the EMC Division, Chris Huskamp, is a former Boeing Associate Technical Fellow in advanced metallic processes who is credited as a named coinventor of two pending patents regarding scandium-bearing aluminum alloys.





Scandium-doped aluminum alloys promise major advancements in multiple cleantech and transportation markets, such as Solid Oxide Fuel Cells (SOFCs).



Scandium-contained aluminum alloys can reduce weight in commercial airliners by 20%.

\$1-1.5 million of scandium oxide in a single airliner offers \$10-15 million of net present value fuel savings.<sup>1</sup>

> <sup>1</sup> Based on a B737NG flying 3000-4000 hours per year, and a longterm jet fuel price of \$2-3/gallon. Savings potential is greater.





Scandium supply has been the limiting factor. Current global scandium consumption is only 10-15 tonnes per year.

However, latent demand in the aerospace and solid oxide fuel cells sectors is estimated to be  $\sim 400$  tonnes per year.







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### OUR COMPETITIVE ADVANTAGES



49

### Our precision cast Beryllium-Aluminum alloy is now qualified for use in systems like the F-35.

We have successfully completed the qualification process for our precision cast Beryllium-Aluminum products with a major defense contractor (Lockheed Martin), and others are investigating our material now.

50





## We maintain multiple upstream raw material suppliers.

Diversification in our upstream sourcing helps to de-risk our supply chains and those of our customers.





### We have a world-class workforce.

Our highly skilled people excel in high-performance alloy production, manufacture, and distribution.





### We own unique intellectual property and possess proprietary know-how.

We own the intellectual property and we have the know-how for precision casting of Beryllium-Aluminum alloy, allowing us to produce complex, high-performance parts faster and less expensively than traditional methods.





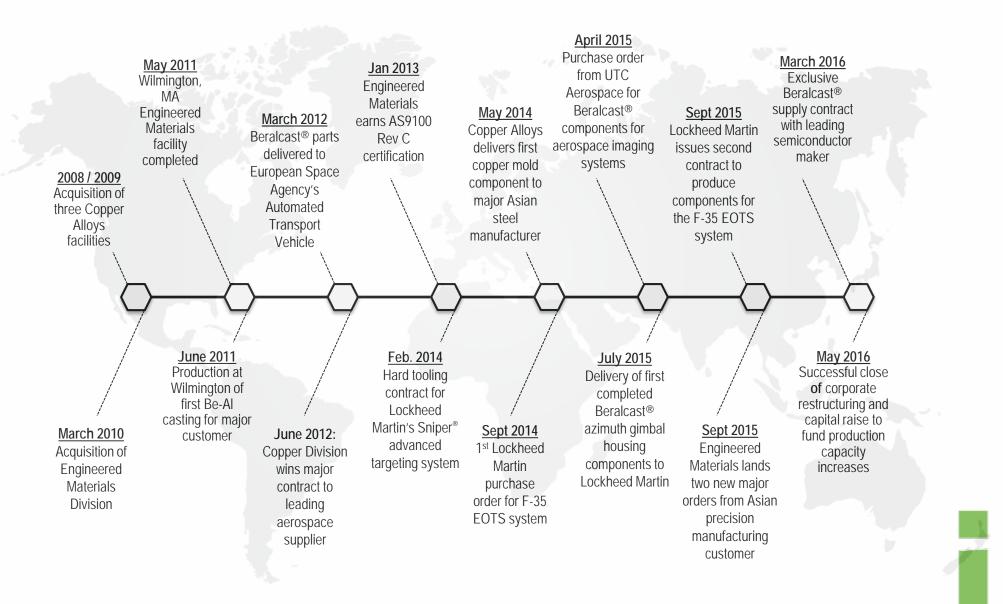
53

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### ABOUT IBC ADVANCED ALLOYS CORP.



### **IBC:** COMPANY HISTORY



### Major General Duncan Heinz (USMC, ret.)

Major General Heinz joined the IBC Board in 2011, and served as the Company's COO from January 2016 until becoming President and CEO in May 2016. He is the former VP and General Manager of Maritime Systems for iRobot, an autonomous underwater robots manufacturer, and in 2012 he formed Semper Fi Investment Advisors, LLC. A former Navy fighter pilot with over 3,000 flight hours, General Heinz directed the Pentagon's F-35 Lightning II Program. A U.S. Naval Academy graduate with a B.S. in Systems Engineering, he has an M.Sc. in Computer Science, with a subspecialty in Artificial Intelligence, from the Florida Institute of Technology, and an M.A. in National Security and Strategic Studies from the Naval Warfare College. His decorations include the Defense Superior Service Medal, Legion of Merit, Meritorious Service Medal with Gold Star, Air Medal with bronze numeral 4, Navy Commendation Medal with three gold stars and the Navy Achievement Medal.





### Mark Smith, P.E., Esq.

Mr. Smith has 36 years of experience in operating, developing, and financing mining and strategic materials projects in the Americas and abroad. He currently is Executive Chairman and CEO of NioCorp Developments Ltd., (TSX: NB; OTCQX: NIOBF; FSE: BR3). Mr. Smith is well recognized in the mining community, having served as President, CEO, and Director of Molycorp, Inc., where he was instrumentally involved in taking the company public. Prior to that, Mr. Smith was the President and CEO of Chevron Mining Inc. from 2005 through 2008. He was also VP for Unocal Corporation where he managed the real estate, remediation, mining, and carbon divisions for over 22 years. From 2000 to 2007, Mr. Smith also served as a Director and Shareholder Representative of CBMM, a private company that currently produces approximately 85% of the world supply of Niobium. Mr. Smith has a B.S. in Engineering from Colorado State University and a Juris Doctor cum laude from Western State University, College of Law.





### **Geoffrey Hampson**

Mr. Hampson has founded and financed numerous successful private and public companies since 1978. He has extensive experience in special materials, technology, and mining. In 1982, Mr. Hampson started Novocon International. Inc., which later became Synthetic Industries, a producer of specialty alloy, plastic, and carbon fibers. In 1995, he invested in and joined the Board of Directors of Cymat, Inc., a materials technology company with the worldwide rights to manufacture and sell proprietary stabilized aluminum foam products. In 1995, Hampson started and currently serves as CEO and Board Chair of Fibrox Technology Ltd. He serves in the following capacities: CEO of Para Resources, Inc. (TSX-V: PBR); Chairman of Infracon Energy Services, Inc.; CEO of Hampson Equities Ltd.; Chairman of the Board of LV Senior Housing LLC; Director and CFO of Environmental Resource Materials, LLC (a West Coast marine-based supplier of construction aggregates); among several others.





### **Mike Jarvis**

Mr. Jarvis has extensive financial and management expertise, including considerable operational experience with manufacturing companies. In 1983, he founded Franklin Power Products, a profitable automotive manufacturer with 2,700 employees and 16 locations in the US and Canada, serving domestic and international customers by remanufacturing gas and diesel engines, transmissions, electrical systems and other components for automotive, large truck, construction and locomotive applications. After Franklin was sold to Delco Remy in 1999, Mr. Jarvis served as president and manager of Delco Remy's Powertrain Division until 2004. Mr. Jarvis currently oversees Jarvis Enterprises, holds and manages various businesses in sectors including real estate, farming, telecommunications, health and automotive technology.



### **Simon Anderson**

Simon Anderson came to the IBC Board after serving since 2007 as Chief Financial Officer for IBC and its predecessor company. A CPA, CA with 30 years' experience, he has worked as an officer or director of public companies on the TSX Venture Exchange, TSX Exchange, and NASDAQ for almost 20 years, including for Wex Pharmaceuticals, Minco Mining, and Minco Silver. He has extensive experience in financing, mergers and acquisitions, corporate governance, and securities regulation practices, and he worked for nine years in business valuation with BDO Canada LLP. Currently a director of Sinovac Biotech Ltd. (NASDAQ: SVA), Simon received his Bachelor of Commerce in Accounting and Management Information Systems from the University





### Major General Duncan Heinz (USMC, ret.) President, CEO, and Director

Major General Heinz joined the IBC Board in 2011, and served as the Company's COO from January 2016 until becoming President and CEO in May 2016. He is the former VP and General Manager of Maritime Systems for iRobot, an autonomous underwater robots manufacturer, and in 2012 he formed Semper Fi Investment Advisors, LLC. A former Navy fighter pilot with over 3,000 flight hours, General Heinz directed the Pentagon's F-35 Lightning II Program. A U.S. Naval Academy graduate with a B.S. in Systems Engineering, he has an M.Sc. in Computer Science, with a subspecialty in Artificial Intelligence, from the Florida Institute of Technology, and an M.A. in National Security and Strategic Studies from the Naval Warfare College. His decorations include the Defense Superior Service Medal, Legion of Merit, Meritorious Service Medal with Gold Star, Air Medal with bronze numeral 4, Navy Commendation Medal with three gold stars and the Navy Achievement Medal.





President, Engineered Materials Division

Mr. Huskamp has extensive experience in advanced materials development and implementation. He is a former Associate Technical Fellow at The Boeing Company, and is the Principal of Huskamp Motorsports Engineering, which provides materials consulting services to Formula One®, IndyCar® and NASCAR® teams. He is a former Engineering and Technology Manager for G&S Foundry. Chris has his BS in Metallurgical Engineering from the University of Missouri – Rolla.

### **Chris Huskamp**





### Mark Wolma

President, Copper Alloys Division

Mr. Wolma has more than 30 years of experience in manufacturing, sales, and service of electrical, mechanical and hydraulic apparatus. Previously, he served as Vice President of Operations for Scherer Industrial Group, Inc. He also was Director of the Copper and Brass Service Association. Formerly, Mark was active in the Electrical Apparatus Service Association. He attended Indiana University-Purdue University in Indianapolis.





### **David Anderson** Chief Financial Officer

Mr. Anderson is a Certified Management Accountant with over 20 years of progressive experience with public and private manufacturing companies, including in mergers and acquisition experience. He has worked for IBC, and its predecessor company, since 2007 in various accounting, human resources, and information technology roles. David has his BA in Accounting from University of Indianapolis.





Rajeev Jain VP of Sales

Mr. Jain formerly worked at Hussey Cooper in various senior positions for 10 years before joining Nonferrous Products, which IBC acquired in October 2008, as VP of sales. Rajeev received a Bachelor of Engineering in Metallurgy in 1991 from Rourkela, India, and received his MBA from the Kelley School of Business at Indiana University in 2008.





### **Heather Hostetter**

EVP of Administration and Sales, EMC







### **Jim Sims** Director of Investor and Public Relations

Jim has 25+ years of experience in marketing, media relations, public affairs, and investor relations. He currently is the CEO of Policy Communications, Inc. and serves as VP of External Affairs for NioCorp Developments Ltd. Formerly, he was a White House aide, a U.S. Senate Chief of Staff, the CEO of the Western Business Roundtable, and Chairman of the Rare Earth Technology Alliance. He received his B.A., with honors, from Georgetown University.







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### THANK YOU.

For More Information:

Jim Sims, IBC Investor Relations C: 303-503-6203 jim.sims@ibcadvancedalloys.com



