

May 22, 2018

### Investment Analysis for Intelligent Investors

## Giga Metals Corporation (TSXV: GIGA / Frankfurt: BRR2) - Initiating Coverage - One of the Largest Nickel-Cobalt Sulphide Deposits in the World

### **Sector/Industry: Junior Resource**

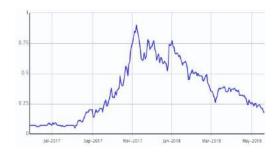
### www.gigametals.com

Market Data (as of May 22, 2018)

<b>Current Price</b>	C\$0.16
Fair Value	C\$1.25
Rating*	BUY
Risk*	5 (Highly Spec)
52 Week Range	C\$0.05 - C\$0.92
Shares O/S	42,024,015
Market Cap	\$6.72 mm
Current Yield	N/A
P/E (forward)	N/A
P/B	1.3x
YoY Return	257.1%
YoY TSXV	-1.7%

<sup>\*</sup>see back of report for rating and risk definitions

<sup>\*</sup> All figures in US\$ unless otherwise specified.



### **Investment Highlights**

- > Giga Metals Corporation ("company", "Giga") is advancing its 100% owned Turnagain project in B.C., Canada to a pre-feasibility study ("PFS").
- Turnagain is one of the largest undeveloped nickel-cobalt sulphide deposits in the world. Measured and indicated resources total 4 Blbs of nickel and 250 Mlbs of cobalt at 0.21% nickel and 0.013% cobalt, and inferred resource total 4.3 Blbs of nickel and 280 Mlbs of cobalt at 0.20% nickel and 0.013% cobalt.
- > Extensive metallurgical test work has indicated that the project can reliably produce clean concentrates grading 18% nickel and 1% cobalt, that can be upgraded to very high purity for use in lithium ion batteries.
- > A Preliminary Economic Assessment ("PEA") completed in 2011 showed an after-tax NPV at 10% of \$724 million, based on a nickel price of \$8.50/lb, and cobalt price of \$14/lb. Cobalt is currently trading at \$40/lb. Nickel prices are up 25% since December 2017, to \$6.3/lb.
- > The PEA estimated an initial CAPEX of \$1.36 billion, and a C1 cash cost (direct cash cost) of \$4.26/lb of nickel.
- The company is embarking on an aggressive drill campaign. Management's goal is to complete a pre-feasibility study by mid-2019, and a feasibility study by 2021.
- Management, board members, and key investors combined, hold approximately 14.4 million shares, or 34% of the total outstanding – aligning their interest with investors.
- We are initiating coverage with a BUY rating and a fair value estimate of C\$1.25 per share. We consider Giga to be an attractive speculative play on the nickel sector, backed by a high-quality asset.

### Risks

- > Larger projects tend to have high CAPEX.
- As the deposit is of relatively low-grade, the project is highly sensitive to commodity prices. We believe nickel prices have to be over \$7-\$8/lb to make the project highly attractive.
- > Project financing may take longer than expected.
- Development, EIA, and permitting risks.

Key Financial Data (FYE - Dec 31)		
(C\$)	2016	2017
Cash	\$85,758	\$4,066,588
Working Capital	\$89,698	\$4,313,682
Total Assets	\$302,889	\$4,656,028
Net Income (Loss)	-\$224,112	-\$683,299
EPS	-\$0.01	-\$0.03



Background

Giga Metals, incorporated in 1983, is based out of Vancouver, Canada. Its name was Bren-Mar Resources Ltd. In the 1990s, which was changed to Canadian Metals Exploration Ltd. (CME) in 2000, then to Hard Creek Nickel Corporation in 2004, and finally to Giga Metals Corporation in August 2017. The company is headed by CEO / President / Director, Mark Jarvis, who joined the company in 2004. Mr. Jarvis has over 30 years' experience in exploration and development of mineral resources, including oil and gas and metals.

Turnagain Project

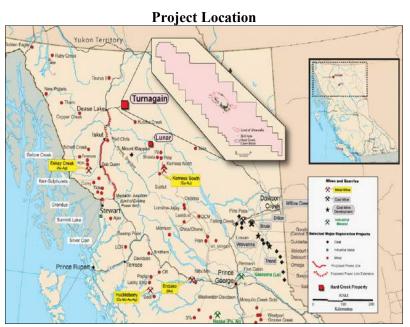
### **Ownership**

Giga's predecessor company, Bren-Mar, entered into an option to acquire a 100% interest in the project in 1996. Subsequently, the company earned a 100% interest by issuing 0.20 million shares, and spending \$1 million. One claim on the project, covering part of the nickel deposit, is subject to a 4% Net Smelter Royalty (NSR), which can be acquired for C\$4 million by the company at any time, up to 4 years after the start of commercial production.

### Location

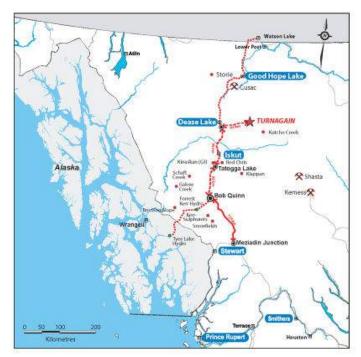
The property is located immediately north of the Turnagain River in northern B.C. It is approximately 1,350 km northwest of Vancouver, and 70 km east of the township of Dease Lake (population 650). Dease Lake is 400 km north of the Port of Stewart. Access to the property is currently via a 20-minute flight from Dease Lake. A gravel road connecting Dease Lake to the property exists, but needs to be upgraded (estimated cost of \$20 million) if the project is advanced to production. The closest railhead is located at Kitwanga, approximately 485 km south of Dease Lake. The project is considered to have good terrain for open pit mining.

The following map shows the project location.



Source: Company





Source: Company

### **Historic Exploration and Development**

Nickel and copper sulphides were discovered on the property in 1956. Subsequently, from 1966 to 1973, Falconbridge conducted various geophysical / geochemical programs, and drilling. The property was subject to limited work from 1973 until 1996, when Bren-Mar optioned the property. An initial resource estimate was calculated in 2003, followed by three PEAs, including two by AMEC Americas Ltd in 2006 and 2008, and the third, and the most recent, by Wardrop Engineering Inc in 2010. A total of 79,351m / 320 holes have been drilled on the property to date.

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Hist	toric	I)rı	llıng

Year	Operator	No. of Holes	Metres
1967	Falconbridge	13	1,305
1970	Falconbridge	15	1,458
1996	Bren-Mar	5	795
1997	Bren-Mar	9	1,855
1998	Bren-Mar	5	1,264
2002	CME	7	1,687
2003	CME	22	8,672
2004	HNC	49	7,633
2005	HNC	37	7,143
2006	HNC	68	19,122
2007	HNC	74	23,927
2008	HNC	16	4,105
2010	HNC	2	384
Total		320	79,351

Source: Company



The property was relatively inactive from 2012 up until 2017, due to the weakness in nickel prices. However, an emerging outlook on electric vehicles and related metals, a significant increase in cobalt prices, and a \$4.9 million investment in the company by two well-known investors, and their network, in the past 12 months, prompted the company to recommence activities. The company is currently planning an aggressive drill campaign, additional metallurgical studies and engineering work, with the goal of completing a pre-feasibility study next year.

### **Geology and Mineralization**

The Turnagain project is considered to be one of the largest undeveloped nickel sulphide deposits in the world. It is an unusual deposit as it is only 185 million years old, as compared to other large, low grade nickel/cobalt sulphide deposits in the world, which are typically 1 billion years of age or older. Therefore, there are less alteration products in the deposit, which allows for better recoveries, and a simpler metallurgical flow sheet, than other deposits of this type.

Four key zones of sulphide mineralization have been identified to date on the property – namely the Horsetrail, Northwest, Hatzl and Duffy. Other secondary zones include the DB-DJ (platinum-palladium mineralization), Highland and Discovery areas (nickel-cobalt mineralization), and the Cliff area (nickel-platinum-palladium mineralization).

The Horsetrail zone has been the focus of most of the historic drilling. The Horsetrail and Northwest zones form a zone which is approximately 2,000 m long and 550 m wide. These two zones are being modelled as the starter pits for the deposit because they have better than average grades.

## Northwest Zone Horestrail Zone Horestrail Zone



### **2011 Resource Estimate**

Using a cut-off grade of 0.1% Ni, a resource estimate calculated in 2011 (based on 204 drill holes), showed measured and indicated resources of 4 Blbs of nickel and 250 Mlbs of cobalt at 0.21% nickel and 0.013% cobalt, and an inferred resource of 4.3 Blbs of nickel and 280 Mlbs of cobalt at 0.20% nickel and 0.013% cobalt.

**2011 Resource Estimate** 

Category	Tonnes (M)	Ni (%)	Co (%)	Ni (Mlbs)	Co (Mlbs)
Measured	227.38	0.22%	0.01%	1,103	70
Indicated	638.10	0.21%	0.01%	2,954	183
M&I	865.48	0.21%	0.01%	4,007	248
Inferred	976.30	0.20%	0.01%	4,305	280

Source: Company

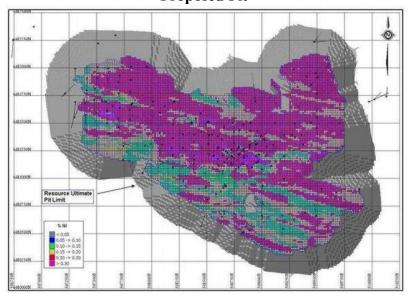
The following table shows the resource at various cut-off grades.

**2011 Resource Estimate** 

Cut-off Ni (%)	M&I (Mt)	Ni (%)	Co (%)	Inf (Mt)	Ni (%)	Co (%)
0.20%	501.78	0.240%	0.014%	543.62	0.240%	0.014%
0.18%	611.86	0.240%	0.014%	690.69	0.240%	0.014%
0.16%	698.79	0.230%	0.013%	806.95	0.230%	0.013%
0.14%	769.40	0.220%	0.013%	889.17	0.220%	0.013%
0.12%	825.15	0.210%	0.013%	944.55	0.210%	0.013%
0.10%	865.48	0.210%	0.013%	976.30	0.210%	0.013%

Source: Company

### **Proposed Pit**



Source: Company



### **2011 PEA**

The PEA was based on a 28-year open pit operation from the Horsetrail pit, which will include the Horsetrail and Northwest mineralized zones. The throughput rate used was 43,400 t/d during the first five years, increasing to 84,600 t/d thereafter. Initial years of mining will be focused on the highest-grade mineralization, with the lowest strip ratio.

Mined ore will be subject to conventional crushing, grinding (SAG ball mill), and floatation. Metallurgical test work has indicated that flotation can reliably create a clean concentrate grading 18% nickel and 1% cobalt. We consider this as one of the project's key attributes, as Turnagain's products can be upgraded to very high purity for use in lithium ion batteries.

Diesel generators are currently used to provide power supply to the project. However, the PEA assumed that the project would require a 287 kV line from Tatogga Lake (95 km south of Dease Lake) once the project is advanced to production. The proposed CAPEX for this option is \$132 million (150 km transmission line). However, note that annual power costs in B.C. are significantly lower than other jurisdictions. The company is also evaluating the potential of Liquified Natural Gas (LNG), which we believe is likely to be a lower CAPEX / higher OPEX scenario.

# Proposed Tranmission Line Turnagain Project Overview Tur

Source: Company

The PEA estimated an initial CAPEX of \$1.36 billion (including \$0.99 billion for processing facilities), with an expansion CAPEX of \$0.49 billion (including \$0.41 billion for processing facilities) in year 5.



The operating cost is estimated at \$7.3/t milled, or a C1 cash cost of \$4.26/lb of nickel.

The following table summarizes the key asssumptions and results:

**2011 PEA** 

2011 1	EA		
	Years 1 - 5	Years 6 - 21	LOM
Throughput	15.8	31.3	28.1
Strip Ratio	0.74	0.83	0.82
Grade			
Ni (%)	0.26%	0.25%	0.23%
Co (%)	0.014%	0.013%	0.013%
Recovery			
Ni (%)	58.0%	57.7%	56.4%
Co (%)	58.0%	57.7%	56.4%
Operating Cost (\$/t milled)	\$8.37	\$7.78	\$7.30
C1 Cash Cost (\$/lb nickel)	\$4.23	\$4.20	\$4.26
Annual Production			
Ni (Mlbs)	52.72	97.87	
Co (Mlbs)	2.82	5.36	
Total Production			
Ni (Mlbs)	2,181.56		
Co (Mlbs)	123.18		
Operating Life (years)	27.2		
Initial CAPEX (\$,M)	\$1,357		
Expansion CAPEX (year 5) - \$, M	\$492		
Ni Price (\$/1b)	\$8.50		
Co Price (\$/lb)	\$14.00		
Annual Operating Cash Flow (\$, M)	\$208	\$387	\$316
AT NPV @ 8% (\$, M)	\$724		
AT IRR	13.50%		
AT Payback Period (years)	7.3		

The base-case scenario showed an after-tax NPV at 8% of \$724 million, based on a nickel price of \$8.50/lb and cobalt price of \$14/lb. The after-tax IRR was estimated to be 13.5%.

The following table shows the sensitivity of the before-tax NPV and IRR estimates, as presented in the PEA. As with all large projects, Turnagain's NPV and IRR estimates are highly sensitive to commodity prices. Notice the significant increase in before-tax NPV to \$3.05 billion, at \$11.05/lb nickel. The break-even price of Ni, according to the PEA, is



### approximately \$6/lb.

Sensitivity								
Ni Price (\$/1b)	\$5.95	\$6.80	\$7.65	\$8.50	\$9.35	\$10.20	\$11.05	
BT NPV @ 8% (\$,M)	-\$461	\$124	\$710	\$1,295	\$1,881	\$2,467	\$3,052	
BT IRR	4.4%	8.9%	12.6%	15.9%	19.0%	21.9%	24.6%	
Ni Recovery	41.0%	46.0%	51.0%	56.4%	62.0%	68.0%	75.0%	
BT NPV @ 8% (\$,M)	\$573	\$813	\$1,054	\$1,295	\$1,537	\$1,779	\$2,021	
IRR	11.8%	13.2%	14.6%	15.9%	17.2%	18.5%	19.7%	
Discount Rate	5.6%	6.4%	7.2%	8.0%	8.8%	9.6%	10.4%	
BT NPV (\$,M)	\$2,127	\$1,812	\$1,537	\$1,295	\$1,084	\$897	\$732	

Source: Company

### **Environmental Assessments ("EA") and Permitting**

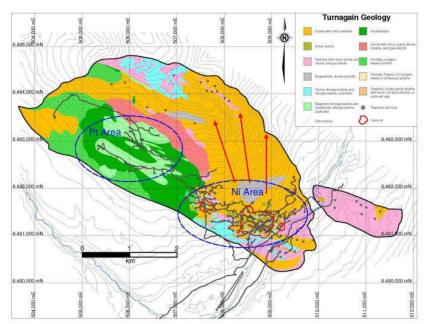
EIA and permitting for mining projects can be lengthy, especially in B.C., and will involve public and First Nations consultations. Baseline environmental studies on the Turnagain project were initiated in 2004, and are currently ongoing. Additional studies required include air quality, background noise levels, and potential impact on aquatic habitat. The PEA was based on limited mining activity on either side of the Turnagain river, for the least disturbance. Although a small percentage of the waste will be sulphides, the vast majority of tailings will be basic rocks which will neutralize any acid generating potential.

Considering the rising significance of battery-grade metals in North America, we believe the project is likely to receive more support from the government compared to conventional mining projects focused on gold, copper, zinc, etc. The company also indicated to us that they have built a strong relationship with the First Nations groups in the region. In January 2018, Giga announced a Communications Agreement with the Tahltan Central Government (TCG), with an objective of establishing a working arrangement between the two entities.

### 2018 Program

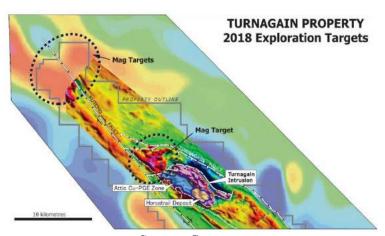
The company is preparing an infill and step-out drill program on the project. Management believes that they are yet to identify the roots of the ultramafic magmatic intrusive complex that hosts the Horsetrail deposit. Management also estimates that less than 25% of the nickel prospective geology has been drilled to date.





Source: Company

The following image shows the key targets for 2018:



Source: Company

Engineering and metallurgical studies are underway. Considering the advancement in crushing / grinding technologies since the PEA, the company is also investigating the potential to use high-pressure grinding rolls, and other comminution alternatives, to improve recoveries and lower energy consumption and cost.

Management's goal is to complete a pre-feasibility study by mid-2019, and a feasibility study by 2021.

Comparable

We believe the closest undeveloped comparable to Turnagain is the **Dumont deposit** in Quebec, held by Royal Nickel Corporation (TSX: RNX) and private equity firm, Waterton Global Resource Management. The project has 6.9 Blbs at 0.27% Ni in the proven



and probable reserve categories, 9.75 Blbs at 0.28% measured and indicated, and 2.9 Blbs at 0.26% inferred resources. A feasibility study, completed in 2013, showed a 33 year mine life with annual production of 90 Mlbs Ni, 4 Mlbs Co, and 19 Koz PGE. At a Ni price of \$9/lb, and cobalt price of \$14/lb, the study returned an after tax NPV at 8% of \$1.14 billion, and an after-tax IRR of 15.2%. We believe one of the key differences between Turnagain and Dumont is that Dumont has a significantly lower recovery rate of just 43% versus Turnagain's 56.4%. In February 2018, Cobalt 27 Capital Corp. (TSXV: KBLT) announced an agreement to acquire a 1.75% NSR royalty. We consider this a highly encouraging sign for Giga.

### Management Team

CEO, Mark Jarvis, owns 3.30 million shares, or 7.9% of the total outstanding shares. Management, board members, and key investors combined hold 14.40 million shares, or 34% of the total outstanding – aligning their interest with investors.

Share Ownership		
Management and Board	Shares	% of Total
Mark Jarvis, CEO / President / Director	3,300,000	7.9%
Lyle Davis, Chairman (Independent)	1,000	0.0%
Dr. Jon Hykawy, Independent Director		
Phillip Robinson, Independent Director		
Total	3,301,000	7.9%
Institutions / Others		
Pala Investments	2,700,000	6.4%
Palisade	1,900,000	4.5%
Mike Beck (Investor)	1,600,000	3.8%
Anthony Milewski (CEO of Cobalt27 Capital)	1,600,000	3.8%
Brian Usher-Jones	3,300,000	7.9%
Total	11,100,000	26.4%
Total - Management/ Directors / Institutions	14,401,000	34.3%

Source: Management Information Circular / Company

Brief biographies of the management team, as provided by the company, follow:

### Mark Jarvis - President, CEO and Director

Mr. Jarvis has more than 30 years' experience in exploration and development of mineral resources, both in oil and gas and metals. After a career in financing exploration projects as a stockbroker, Mr. Jarvis moved to the corporate side of the business in 1996. He joined the Board of Ultra Petroleum, which at the time was a small oil and gas exploration and



development company with a large, unconventional gas deposit. As Director responsible for Corporate Finance, he raised the equity capital necessary to prove the concept and to establish enough production to finance further growth with debt. Ultra Petroleum has grown from an exploration play to 3 TCF of proved gas reserves. Mr. Jarvis became CEO and President of Giga Metals Corporation's predecessor company in January 2004.

### Matt Anderson, CPA, CA - Chief Financial Officer

Mr. Anderson completed his bachelors of commerce degree at McGill University in Montreal. He earned his CPA, CA accreditation in 2008 after which he began providing accounting and CFO services to junior public companies primarily involved in the natural resource sector. He has extensive experience in financial and accounting related functions based on his experience working with companies such as Claren Energy Corp., I-Minerals Inc. and Callinex Mines Inc., among others.

### **David Tupper - Manager of Exploration**

David has over 32 years of mineral exploration experience, which includes managing the identification, acquisition and execution of numerous high quality, early stage to large-scale drill exploration projects. He has experience exploring for uranium, gold, base metals and coal in a wide variety of geological settings in North, Central and South America, as well as Asia. He also has experience in surficial geological mapping associated with slope stability and contaminated sites environmental work.

### Tony Hitchins, B.A.SC., M.SC. - Geologist

Mr. Hitchins completed his bachelors and masters degrees in engineering geology and economic geology at the University of Toronto. Subsequently Mr. Hitchins spent the next twenty years involved in various aspects of mineral exploration from field geologist to project manager. Exploration targets included volcanogenic massive sulphides, carbonate and sandstone hosted Pb-Zn-Ag, vein gold, intrusive hosted gold, base metal skarn, and tungsten-molybdenum porphyry deposits for the Amax group of companies. Between 1994-1998, he was district exploration manager for Cyprus Gold in Western Australia. Since returning to Canada Mr. Hitchins has worked with Vancouver based junior exploration companies.

### **Greg Ross, Project Manager**

Mr. Ross has over 12 years of experience in the mineral exploration and resource development industries. He has served in Project and Senior Geologist roles for junior mining companies operating in Western Canada, including almost 10 years in the Ni-Cu-Co-PGE space. Mr. Ross is a Professional Geoscientist with Engineers and Geoscientists British Columbia (formerly APEGBC) and is a Qualified Person under National Instrument 43-101.

Board of Directors

### Lyle Davis, P.ENG. (ALBERTA) MBA – Non-Executive Chairman

Mr. Davis is an independent director of the Company, and chairman of the board of directors. Mr. Davis has extensive experience in the corporate finance, advisory, and management services of public companies. He is President and director of Condor Resources Inc., and an independent director of Earl Resources Limited. He has a Bachelors Degree in Civil Engineering from Queen's University, an MBA from the University of British Columbia, and



is a member of the Association of Professional Engineers and Geoscientists of Alberta.

### Dr. Jon Hykawy - Director

Dr. Hykawy has made battery materials a key part of his research focus since 2009, when he helped found Byron Capital Markets, a boutique brokerage operation. His current business, Stormcrow Capital Limited, consults with various clients who are involved in critical materials. He is widely quoted on battery materials such as cobalt, and is an invited speaker at many conferences around the world.

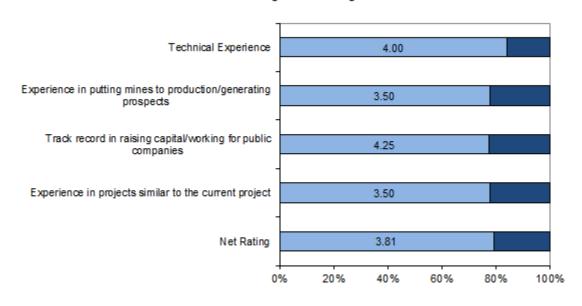
### Phillip Robinson - Director

Mr. Robinson is a member of the Investment Team at Pala Investments, a Swiss based mining focused multi-strategy investment firm, and is focused on New Energy Metals investing. He was integral to the development of Pala's battery metal raw materials strategy and has in-depth knowledge of the electric vehicle and energy storage markets. He also worked on the recent IPO of Cobalt 27 Capital Corp. on the TSX-V.

Management and Board Rating

Our net rating on Giga's management team is 3.8 out of 5.0 (see below).

### Management Rating



Source: FRC

The company's board has four members, of which, three are independent. We believe that the Board of Directors of a company should include independent or unrelated directors who are free of any relationships or business that could materially interfere with the director's ability to act in the best interest of the company. An unrelated/independent director can be a shareholder. The following table shows our analysis on the strength of Giga's board.



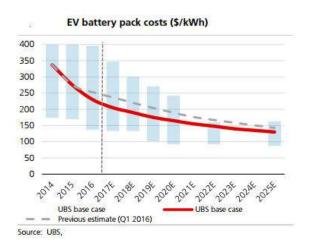
	Poor	Average	Good
Three out of four directors are independent			X
One directors holds significant shares of the company		X	
The Audit committee is composed of three board members, all are independent			x
The Compensation committee is composed of three board members, all are independent			x

Source: FRC

### Commodities Outlook

We expect the demand for cobalt and nickel in rechargeable batteries will be the key driver going forward. In a Lithium-ion Battery (LIB), lithium is used as the electrolyte, graphite as the anode (negative electrode) and cobalt / nickel typically as the cathode (positive electrode). LIBs are used in a wide range of electronic equipment, such as mobile phones, laptops, and digital cameras to name a few. However, the biggest growth driver is the use of LIBs in electric cars.

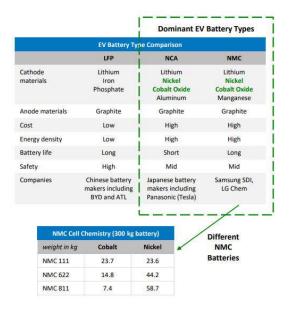
Declining technology costs (see chart below) are expected to drive demand for LIBs.



LIBs come in five primary types, namely, Lithium Cobalt Oxide ("LCO"), Nickel-Manganese Cobalt ("NMC"), Nickel Cobalt Aluminum ("NCA"), Lithium Manganese Oxide ("LMO") and Lithium Iron Phosphate ("LFP"). LCO, NMC, and NCA use cobalt/nickel and these three segments combined accounted for 73% of the LIB market (Source: Avicenne / CRU). LCO's contain about 60% cobalt by weight and are used primarily in portable electronic devices. NMCs and NCAs are the dominant batteries used in electric cars and

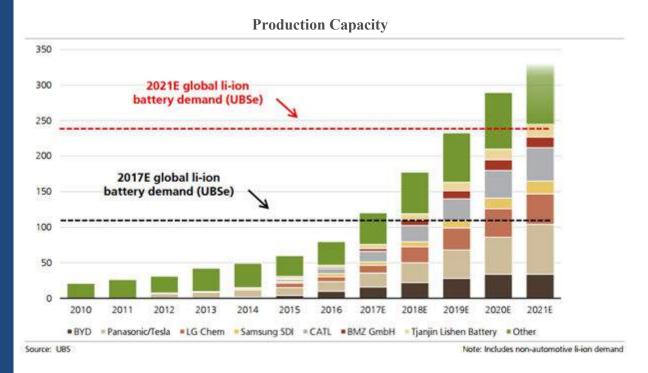


stationary storage cells, which contain 10% - 20% cobalt, and 40% - 50% of Ni by weight.



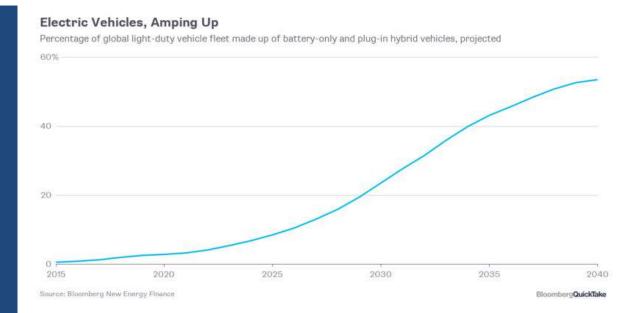
Source: Company

The current production capacity of lithium-ion batteries is approximately 75 GWh globally. However, the total capacity is estimated to reach 285 GWh by 2020.

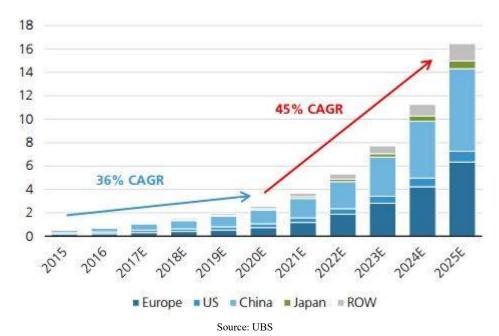


The following chart shows that EV car sales are estimated to be approximately 54% of light-duty vehicle sales by 2040 globally.





The Commodities Research Unit ("CRU") Group estimates electric car, and plug-in hybrid vehicle sales, could reach approximately 16 million by 2025 (up from 0.77 million last year), reflecting a CAGR of 40% per annum ("p.a.") from 2016 to 2025.



The above factors support a highly positive outlook on LIBs, and we believe, the strong demand will benefit companies targeting battery-grade cobalt and nickel.

Nickel: Supply Vs Demand

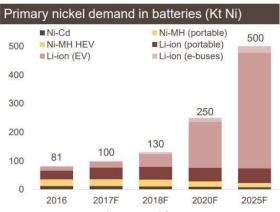
Global nickel demand is approximately 2.1 Mtpa. Approximately 85% of the global demand for nickel comes from stainless steel and alloys, 7% from plating, 3% from batteries and the remaining 5% from others.





Source: Glencore

Based on the CRU's estimate of 16 million electric car and plug-in hybrid vehicle sales by 2025, we estimate this would equate to approximately 336 Kt of nickel demand just from EVs (16 million vehicles x 30 kg of nickel per vehicle x assuming 75% batteries use nickel) by 2025. This compares to the current demand of just 81 Kt from batteries. Other sources states that the demand from batteries is expected to increase to 500 Kt by 2025, or 25% of the current global demand.

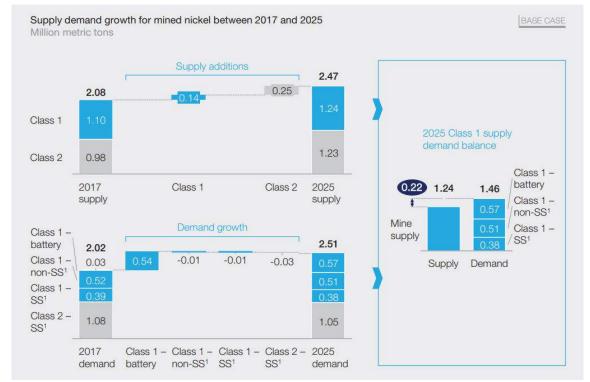


Source: Glencore

Nickel supply can be basically categorized as Class 1 and 2. Class 1 (sulphide ore) is suitable for batteries, while Class 2 (ferronickel and nickel pig iron) is only suitable for stainless steel due to iron content and impurities. Class 1 nickel supply accounts for approximately half of the global supply.

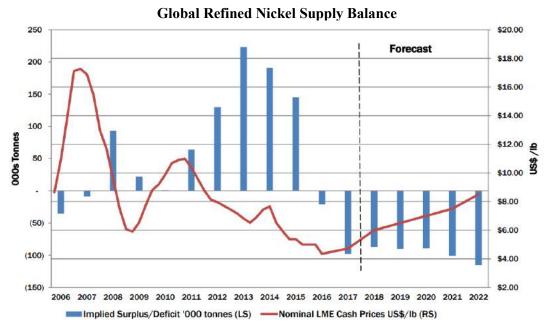
The following chart shows the expected demand versus supply.





Source: McKinsey

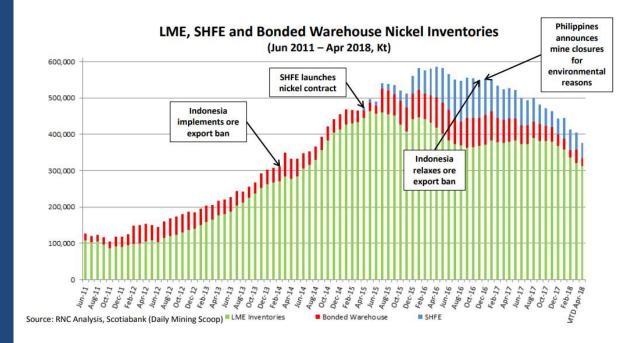
As shown above, nickel demand is expected to outpace supply. More specifically, there is likely to be a 220 Kt supply deficit of Class 1 supply. Other sources also project a similar scenario, as shown in the chart below.



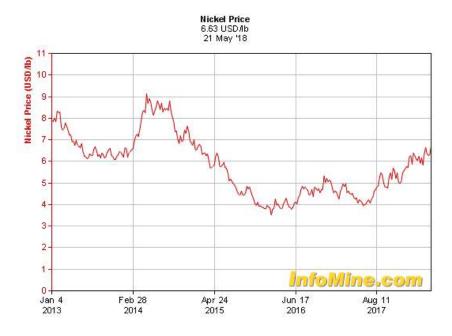
Source: Scotia Bank / FPX Nickel



Another factor that we believe bodes well for nickel prices is declining inventory levels, as shown in the chart below.



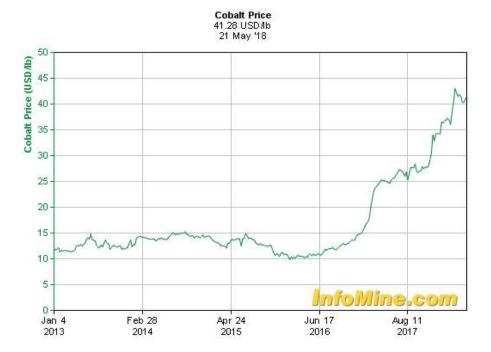
The following chart shows nickel prices. After remaining soft for over 7 years, prices were recently up 33% to \$6.63/lb, from a low of \$5/lb in December 2017. We believe a long-term price of \$8 - \$9/lb is a reasonably conservative estimate for nickel.



Cobalt: Supply Vs Demand

Cobalt prices have had a strong run in the past 2 years, as shown in the chart below and currently trades at approximately US\$41.28/lb.





As shown in the below table, approximately 53% of global refined cobalt production in 2016 was used in batteries, followed by super-alloys (21%). The following table shows the demand growth by application. The demand for batteries, which had only accounted for 27% of the total demand in 2010, increased at a CAGR of 20%, to 49,794 tonnes in 2016. The total demand for cobalt was 93,950 tonnes in 2016, up 7.5% p.a. from 2010.

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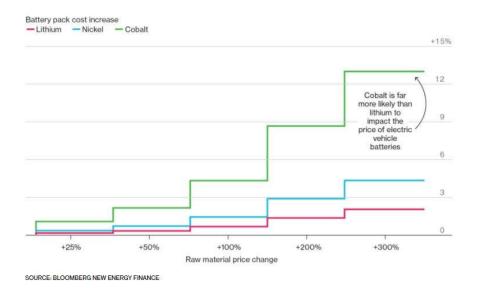
Unit (metric tons)	2010	2011	2013	2014	2015	2016	2020 Forecast	CAGR (2010- 2016)
Suprealloy	11,590	14,250	11,360	10,530	13,920	19,730	19,200	9.27%
Hard Materials	7,930	9,750	7,100	8,100	8,700	5,637	7,200	-5.53%
Colours	6,100	6,750	4,260	4,860	4,350	5,637	7,200	-1.31%
Batteries	16,470	22,500	29,110	33,210	36,540	49,794	74,400	20.25%
Others	18,910	21,750	19,170	24,300	23,490	13,153	12,000	-5.87%
Total	61,000	75,000	71,000	81,000	87,000	93,950	120,000	7.46%

Source: CDI and Benchmark Minerals

To put things in perspective, a smartphone uses approximately 5-10 grams of cobalt, a laptop uses approximately 30 grams, while an electric car uses 5 – 15 kg of cobalt. Cobalt's superior energy density, and ability to retain a charge for a longer period, make cobalt-bearing batteries preferred for use in EVs.



Based on the CRU's estimate of 16 million electric car and plug-in hybrid vehicle sales by 2025, we estimate this would equate to approximately 112,000 tonnes of cobalt demand just from EVs (16 million vehicles x 10kg of cobalt per vehicle x assuming 75% batteries use cobalt) by 2025. In response to the significant price increase of cobalt, Elon Musk recently indicated that Tesla (Nasdaq: TSLA) expects to lower the cobalt content of its NCA cathode chemistry. Sources predict that the use of cobalt in an average vehicle may drop from 11 kg to 4.5 kg. At 4.5 kg, our estimate for demand, just from EVs, is 50 Kt, reflecting a 100% increase in demand from current levels. The following chart shows that a 300% increase in cobalt prices will result in a 12% increase in battery costs, and a 300% increase in nickel price will result in a 4% increase in battery cost.



With regard to supply, in 2016, the DRC accounted for 66,000 tonnes, or 54% of mine production and dominates the space. One of the biggest concerns with cobalt supply is that the DRC has had an unstable political history including several civil wars. Also, Amnesty International (a non-governmental organization focused on human rights) stated in a recent study, that approximately 20% of the cobalt mining in the DRC is by artisanal miners, and that there are approximately 40,000 child miners in the southern DRC. Amnesty International suggested that most of the leading technology and automotive companies are likely to be using cobalt in their products that has been mined by child labour. The study strongly encourages these large players to further investigate their cobalt supply chain and prove that they are addressing human rights abuses. Lastly, various sources suggest that a significant amount of the DRC's readily available, near-surface oxide copper-cobalt ores have been depleted – the primary material shipped to China for refining. Additional mining will transition into deeper sulphide ores, and this will increase processing costs.

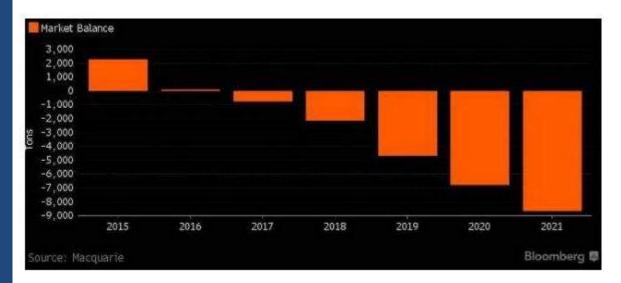
The U.S. has identified cobalt as a critical mineral. Although cobalt is currently not on the 'conflict-minerals' list of the U.S., it is likely that independent studies such as the ones conducted by Amnesty and the Washington Post, may prompt the U.S. to include cobalt on the list. The conflict-minerals list was created based on a 2010 U.S. law which requires U.S. based companies to verify that any tungsten, tin, tantalum and gold they obtain is from mines



free of militia control in the DRC region.

We believe these growing concerns will play a critical role in manufacturers' decision on where to source their cobalt supplies from, especially those manufacturers that promote and market 'green' and 'ethical' products. This gives projects such as Turnagain a very strong advantage based on its location in a stable and safe jurisdiction.

The following chart shows the expected deficit in the cobalt market. The consensus is that the market may be in a 7,000 tonne deficit by 2020.



Based on the strong demand growth forecast, and the high potential of users who seek supply outside of the DRC, we maintain a positive outlook on cobalt prices. We use a long-term price of \$25/lb in our valuation models.

**Financials** 

At the end of 2017, the company had cash and working capital of C\$4.07 million and C\$4.31 million, respectively. We estimate the company had a burn rate (cash spent on operating and investing activities) of just C\$27k per month in 2017, as it was largely inactive. Management estimates this year's G&A expense to be approximately C\$115k per month. The following table summarizes the company's liquidity position:

(in C\$)	2016	2017
Cash	\$85,758	\$4,066,588
Working Capital	\$89,698	\$4,313,682
Current Ratio	6.99	30.75
LT Debt	\$0	\$0
LT Debt / Assets	0.0%	0.0%
Monthly Burn Rate (incl. investing activities)	\$14,859	\$26,829
Cash from Financing Activities	\$245,384	\$4,545,933

Data Source: Financial Statements

In January 2018, the company completed a C\$0.58 million financing by issuing 0.96 million



**Stock Options** and Warrants

Valuation

units at C\$0.60 per unit. Each unit consisted of a common share and half warrant (exercise price of C\$0.70 per share for 3 years).

The company currently has 3.79 million options (weighted average exercise price of C\$0.40 per share) and 25.57 million warrants (weighted average exercise price of C\$0.19 per share) outstanding. Currently, 1.51 million options and 19.68 million warrants are in the money. The company can raise up to C\$2.04 million if all these options and warrants are exercised.

The following table shows our DCF valuation on Turnagain:

DCF Valuation	
Throughput	43,500 tpd (Years 1 to 5) / 84,600 tpd (Year 6+)
Total Tonnage	789
Mine Life (years)	28
Recovery (Ni and Co)	56.4%
Avg Annual Ni Production (Mlbs)	82
Avg Annual Co Production (Mibs)	4.6
C1 Cash Cost (\$/lb Ni)	4.07
Initial Capital Cost (\$, M)	\$1,357
Expansion CAPEX (Year 5 - \$,M)	\$492
Average Price of Co (US\$/lb)	\$25.00
Average Price of Ni (US\$/Ib)	\$7.00
Average exchange rate (C\$:US\$)	1.10
Tax	27%
Weighted Average Cost of Capital (WACC)	10.0%
After-Tax Net Asset Value (C\$) of Turnagain	\$116,970,460
Discounted NAV	\$58,485,230.15
Working Capital - Debt	\$4,372,182
Fair Value of Giga	\$62,857,412
No. of Shares (treasury stock method)	50,478,390
Fair Value per Share (C\$)	\$1.25
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Source: FRC

Our current fair value estimate on Giga is C\$1.25 per share, based on a nickel price of \$7/lb and cobalt price of \$25/lb. Note that we have applied a 50% discount to our original net asset value estimate of C\$117 million (see table above) to account for the high sensitivity of our model to nickel price estimates.

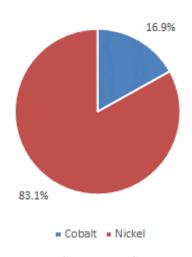


C\$:US\$ - 1.1		Nickel Price (US\$ / lb)					
		\$6.0	\$7.0	\$9.0	\$11.0	\$13.0	
Cobalt Price (US\$ / lb)	\$15.00	-\$4.09	-\$0.66	\$6.21	\$13.07	\$19.94	
	\$20.00	-\$3.14	\$0.29	\$7.16	\$14.02	\$20.89	
	\$25.00	-\$2.19	\$1.25	\$8.11	\$14.97	\$21.84	
	\$30.00	-\$1.24	\$2.20	\$9.06	\$15.93	\$22.79	
	\$35.00	-\$0.28	\$3.15	\$10.01	\$16.88	\$23.74	

Source: FRC

The following chart shows our estimate of revenues by commodity.

### Distributon By Revenues



Source: FRC

Rating

Giga's current share price indicates that the market assigns a value of just C\$3.7 million on the Turnagain project. We believe the nickel market is highly overlooked by the investor community, and Giga's share price has significant potential upside once focus turns back into the sector. Based on our review of the company's portfolio, management quality, and our positive outlook on nickel and cobalt, we are initiating coverage on Giga with a BUY rating and a fair value estimate of C\$1.25 per share.

Risks

We believe the company is exposed to the following key risks (not exhaustive):

- Larger projects tend to have high CAPEX.
- > As the deposit is of relatively low-grade, the project is highly sensitive to commodity prices. We believe nickel prices have to be over \$7-\$8/lb to make the project highly attractive.
- > Project financing may take longer than expected.
- > Development, EIA, and permitting risks.



As with most junior exploration / development companies, we rate Giga's shares a risk of 5 (Highly Speculative).



### Fundamental Research Corp. Equity Rating Scale:

**Buy** – Annual expected rate of return exceeds 12% or the expected return is commensurate with risk

Hold – Annual expected rate of return is between 5% and 12%

Sell – Annual expected rate of return is below 5% or the expected return is not commensurate with risk

Suspended or Rating N/A—Coverage and ratings suspended until more information can be obtained from the company regarding recent events.

### Fundamental Research Corp. Risk Rating Scale:

- 1 (Low Risk) The company operates in an industry where it has a strong position (for example a monopoly, high market share etc.) or operates in a regulated industry. The future outlook is stable or positive for the industry. The company generates positive free cash flow and has a history of profitability. The capital structure is conservative with little or no debt.
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- 3 (Average Risk) The company operates in an industry that has average sensitivity to systematic risk. The industry may be cyclical. Profits and cash flow are sensitive to economic factors although the company has demonstrated its ability to generate positive earnings and cash flow. Debt use is in line with industry averages, and coverage ratios are sufficient.
- 4 (Speculative) The company has little or no history of generating earnings or cash flow. Debt use is higher. These companies may be in start-up mode or in a turnaround situation. These companies should be considered speculative.
- 5 (Highly Speculative) The company has no history of generating earnings or cash flow. They may operate in a new industry with new, and unproven products. Products may be at the development stage, testing, or seeking regulatory approval. These companies may run into liquidity issues, and may rely on external funding. These stocks are considered highly speculative.

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