

# Lithium and Battery Metals Conference

**RESOURCES DRIVING SUPPLY TO THE BATTERY REVOLUTION** 

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# ALTURA INVESTMENT HIGHLIGHTS



- Flagship asset 100%-owned, world-class, long-life, producing Lithium Mine
- Commercial production recently declared, only two years after breaking ground
- Producing a high-quality, low-impurity, premium spodumene concentrate that is sought-after by battery producers
- Regular shipments being delivered to North Asian customers
- **Stage 1** offtake fully committed, with 50% of proposed Stage 2 expansion under option
- **Stage 2** expansion provides a low-risk, low-cost opportunity to double production to 440,000tpa SC6.0 concentrate \*
- Experienced board and management team with a track-record of delivering long-term shareholder value

<sup>\*</sup> Refer to ASX Announcement 30 April 2018

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# COMPANY OVERVIEW

Capital Structure	
Shares on Issue (as at 20 March 2019)	2.005 Bn
Share Price (as at 20 March 2019)	A\$0.135
Market Capitalisation	A\$271M

Major Shareholders (20 March 2019)	In Company (%)
Shaanxi J&R (HSBC Custody Nominees)	14.32%
Allan Buckler (Shazo Holdings Pty Ltd)	9.72%
Terry Smith	9.21%
Directors <sup>(1)</sup>	14.63%
Тор 20	55.4%

(1) Excludes J&R shareholding





# ALTURA LITHIUM MINE -AN ESTABLISHED OPERATION

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#### A WORLD-CLASS LITHIUM MINE

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Global resource of 50.5 million tonnes, capable of supporting a 25+ year mine life (see Appendix)



Annual capacity of 220,000t of high-quality 6% spodumene concentrate (SC6.0)



Globally-competitive cost base ~\$430/t (Stage 1 DFS estimate<sup>1</sup>)



Regular shipments underway with concentrate in line or exceeding quality expectations of offtake partners



4 shipments delivered in the December quarter totalling 24,000 dry metric tonnes, regular shipments to continue (up to 3 per month)



Significant exploration upside



Tier-1 mining jurisdiction with established infrastructure



Well located with access to key Asian markets

(1) Refer to ASX Announcement 26 September 2016

#### COMMERCIALLY PRODUCING







Simple open cut, truck and shovel operation, contracted to NRW Holdings





Established processing route of crushing, grinding, dense medium separation and flotation methods



PRODUCT



Producing both course and fines products, favourable for downstream processing, maximising recovery TRUCKING



Fleet of roadtrains operating on established road network between mine site and warehouse



#### WAREHOUSE

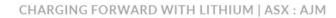


Custom-built facility at Port Hedland. Qube contracted for trucking, storage and ship loading logistics





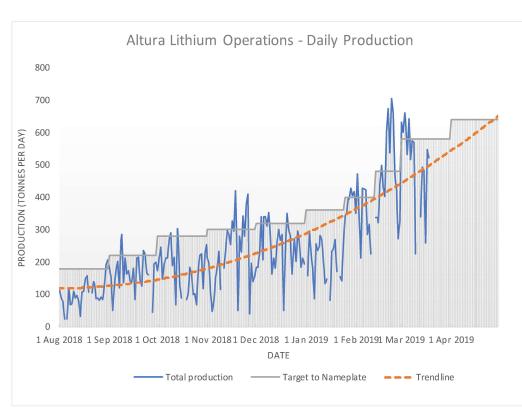
Product loaded in Port Hedland through multiuser facility on CFR/CIF basis



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# FULLY DEVELOPED IN TWO YEARS

- Commercial production declared March 2019, two years after ground-breaking
- ✓ Stage 1 nameplate capacity of 220,000tpa of 6% spodumene concentrate
- ✓ Ramp up on track with recently reported outcomes <sup>1</sup>:
  - ✓ Production in recent weeks has delivered an average of 541tpd which represents 84% of nameplate, with a maximum of 705 tonnes produced within a 24-hour period.
  - ✓ Overall plant recoveries have improved significantly with up to 78% achieved, only slightly below target of 80%. Reported March 2019 average recovery is 67% of lithium metal or 83% of nameplate.
- ✓ Anticipating approximately 2 -3 shipments monthly





(1) Refer to ASX Announcement 13 March 2019

# TRACK RECORD OF STRATEGY DELIVERY





# Identified the opportunity

- Battery revolution
- Requirement to move quickly 2
- Aggressive development timetable set

CHARGING FORWARD WITH LITHIUM | ASX : AJM

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#### **Stage 1 Development**

- Ground-breaking March 2017
- First production July 2018
- First shipment October
  2018

#### Stage 2 expansion, Ongoing exploration

#### **Commercial Production**

- Production ramp-up
- Meeting quality expectations
- Declaration of commerciality

# A PREMIUM PRODUCT

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# DELIVERING A HIGH-QUALITY CONCENTRATE

- ✓ Altura spodumene is a highly sought-after premium product
- Product continues to gain credibility with customers and among wider lithium market
- ✓ Ideally located for delivery to key markets in China and rest of Asia
- ✓ Stage 1 production fully-committed, plus 50% of proposed Stage 2, ongoing potential offtake enquiries
- ✓ Key offtake terms include floor of US\$550 dmt (FOB equivalent) based on Li20 content per dmt on 6% Li20 and cap of US\$950 dmt (FOB equivalent) until end of 2020



- ✓ Shipments have exceeded customer expectations with grades as high as 6.3% Li2O and averaging 6.1% Li2O, 1.04% Fe2O3 and 0.63% Mica
- ✓ Low levels of impurities (iron and mica) is attractive to customers
- ✓ Good sizing proportion, including fines and course products, is favourable for downstream processing
- Low/favourable moisture content (typically 6-8%), beneficial for material handling and downstream processing purposes





# STAGE 2 EXPANSION OPTION



# **EXPANSION UPSIDE**

- Stage 2 expansion provides a low-risk, low-cost opportunity to double
   Stage 1 production of 440,000tpa \*
- ✓ Robust Definitive Feasibility Study completed April 2018 \*
  - ✓ NPV of A\$835m (@10% discount rate)
  - ✓ Material project upside potential through exploration targets extending asset life on the underexplored 16,000 hectare tenement package (only 600 hectares explored to date)
  - Stage 2 risk to be minimised by Stage 1 learnings, including:
    - ✓ Utilise existing infrastructure to accelerate development and ensure capital cost efficiencies
    - $\checkmark$  Leverage a thorough understanding of the Stage 1 commissioning process
    - ✓ Utilise operating systems in place from Stage 1 to minimise Stage2 costs
    - ✓ Capable operating team in place
- ✓ Stage 2 offtake option up to 50% held by Ganfeng Lithium, a leading global battery materials producer
- ✓ Lithium market fundamentals to support Stage 2 expansion



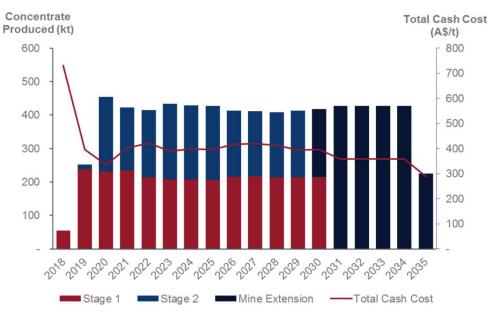
<sup>\*</sup> Refer to ASX Announcement 30 April 2018

## STAGE 2 DELIVERS SIGNIFICANT VALUE



Description	Units	Stage 1	Stage 1&2 <sup>(1)</sup>
Run Rate Production	SC6 kt p.a.	220	440
Mine Life (on Reserves)	Years	23	13
Development Capex	A\$m	151	119 <sup>(2)</sup>
LOM Sustaining Capex (Real)	A\$m	31	31
LOM C1 Cost (Real)	A\$/t	356	324
LOM Total Cash Cost (Real)	A\$/t	428	400
Ore Mined (Reserves)	Mt	34.2	34.2
LOM Grade	% Li <sub>2</sub> O	1.04%	1.04%
Waste	Mt	106.2	106.2

#### **PRODUCTION PROFILE**



(1) Refer to ASX Announcement 30 April 2018

(2) Excludes Stage 1 Capex

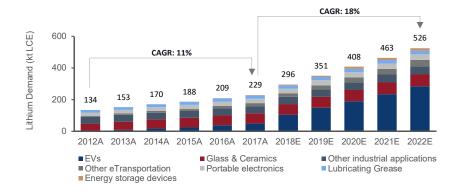
## DEMAND OUTLOOK



#### Worldwide lithium compounds and metals consumption is expected to achieve an 18% CAGR between 2017 and 2022

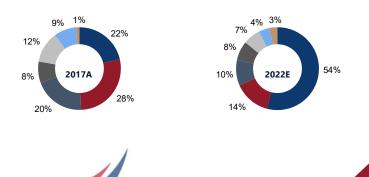
- Between 2012 and 2017, global lithium demand increased from 134kt LCE to 229kt LCE, at a CAGR of 11%. CRU forecasts that the rate of growth will accelerate to 18% during 2017-2022, with global lithium demand more than doubling to 526kt LCE
- 93% of the total demand growth will be from battery applications and electric vehicles (EVs) alone will account for 80% of the total demand growth. By 2022, lithium consumption in EVs will reach 54% of total lithium consumption compared to just 3% in 2012
- Lithium demand from industrial applications and portable electronics is expected to increase at a relatively slow, but steady, CAGR of 2.8% and 4.8% respectively between 2017 and 2022

Source: CRU estimates from Ganfeng IPO Documentation



#### Global Lithium Compounds and Metals Demand, 2012-2022 (kt LCE)

#### **Global Lithium Compounds and Metals Demand by End Use**



# LITHIUM SUPPLY



#### The lithium market is predominantly served by 3 main countries – Australia, Chile and Argentina

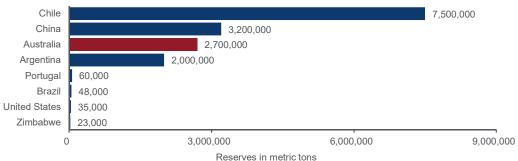
The lithium market is predominantly served by 3 main countries being Australia, Chile and Argentina. Australia is characterised by mined lithium and the Chile and Argentina by brines. China has both brines and mined lithium

Two-thirds of the world's lithium reserves are found in Chile (the world's largest lithium producer), Bolivia and Argentina, in what is known as the 'Lithium Triangle'. Bolivia has a number of large lithium salar deposits that have high Mg:Li ratios, making processing and lithium extraction uneconomic. Australia currently has a dominant spodumene presence globally

About half of current lithium production stems from Western Australian open pit mines extracting spodumene, and then concentrating the ore via beneficiation (dense media separation, flotation, etc.). The end spodumene concentrate is then sold to converters (essentially in China) to further upgrade the raw concentrate to carbonate and hydroxide end lithium applications (7.5-8 tonnes of acceptable spodumene concentrate is typically required for one tonne of lithium carbonate or hydroxide)

Source: Company Reports, Industry Reports, Deutsche Bank

#### **Resources by Country, 2017**



#### Global Lithium Supply by Country (kt LCE)

Country	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Chile	94	107	119	131	137	137	137	137
Australia	159	252	315	336	346	345	345	342
Argentina	37	38	59	83	106	136	153	173
China	37	42	45	47	48	50	50	55
US & Mexico	6	6	6	6	16	21	29	36
Others	13	17	26	31	46	51	66	71
Total (kt LCE)	346	461	570	633	698	739	779	814
% Growth	35%	22%	17%	11%	11%	7%	5%	4%

# A CLEAR FOCUS ON VALUE & RETURN



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#### COMMUNITY DEVELOPMENT & SUPPORT



**Employment** – Since breaking ground at the Altura Lithium project, ~1,000 personnel have been employed



**Infrastructure** – Public road and infrastructure upgrades in Port Hedland region



**Indigenous Engagement** - Altura has and continues to place a high-level of importance increasing traditional owner employment and partnering with indigenous businesses



**Sponsorship & Support** - Working with local communities to support and give back to the community with sponsorship focussed on education, sport and health



**Future Expansion via Stage 2** – Exciting prospects for mine expansion based on Stage 2 DFS results, which will provide increased opportunities and benefits to the Pilbara community

## CHARGING AHEAD

- Strong management and Board with a track-record of delivering long-term shareholder value
  - ✓ Stage 1 operation developed in less than 2 years from groundbreaking to commercial production
  - ✓ Strategically positioned Altura among first-movers of new-wave lithium miners
  - ✓ Board and management aligned with shareholders with significant company equity
  - ✓ Management and operations team with strong experience in production and cost management
- Producing a low-impurity, premium spodumene concentrate that is highly sought-after by customers
- A clear strategy for growth and value generation
  - ✓ Low-risk, low-cost Stage 2 expansion
  - $\checkmark$  Significant exploration upside





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## PROJECT RESERVES AND RESOURCES



#### Material and well-defined reserve position. 81% resource to reserve conversion achieved.

#### Altura Pilgangoora Ore Reserve Estimate (May 2018)

JORC Category	Cut-off Li2O%	Tonnes (Mt)	Li20%	Fe2O3	Li2O Tonnes
Proved	0.43%	8.3	1.14%	2.13	94,000
Probable	0.43%	32.8	1.03%	1.90	338,000
Total	0.43%	41.1	1.05%	1.95	432,000

#### Altura Pilgangoora Mineral Resource Estimate (May 2018)

JORC Category	Cut-off Li2O%	Tonnes (Mt)	Li2O%	Fe2O3	Li2O Tonnes
Measured	0.40%	8.7	1.12%	2.14	97,000
Indicated	0.40%	38.0	1.00%	1.93	380,000
Measured & Indicated	0.40%	46.7	<b>1.02</b> %	1.97	477,000
Inferred	0.40%	3.8	0.92%	1.96	35,000
Total	0.40%	50.5	1.01%	1.96	512,000

Refer to ASX Announcement 28 May 2018

# **COMPETENT PERSONS STATEMENT**



The information in this report that relates to Exploration Results and the Mineral Resource for the Pilgangoora lithium deposit is based on information compiled by Mr Stephen Barber. Mr Barber is a Member of the Australasian Institute of Mining and Metallurgy. Mr Barber is the Exploration Manager at Altura Mining Limited and has sufficient experience that is relevant to the style of mineralisation under consideration and to the activity of mineral resource estimation to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Barber consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to the Ore Reserve for the Pilgangoora lithium deposit is based on information compiled by Mr Quinton de Klerk. Mr de Klerk is a Fellow of the Australasian Institute for Mining and Metallurgy. Mr de Klerk is a Director and Principal Consultant of Cube Consulting Propriety Limited and has sufficient experience that is relevant to the activity of ore reserve estimation to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr de Klerk consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the ASX announcements on 26 September 2016, 30 April 2018 and 28 May 2018.

# CHARGING AHEAD WITH ALTURA LITHIUM

