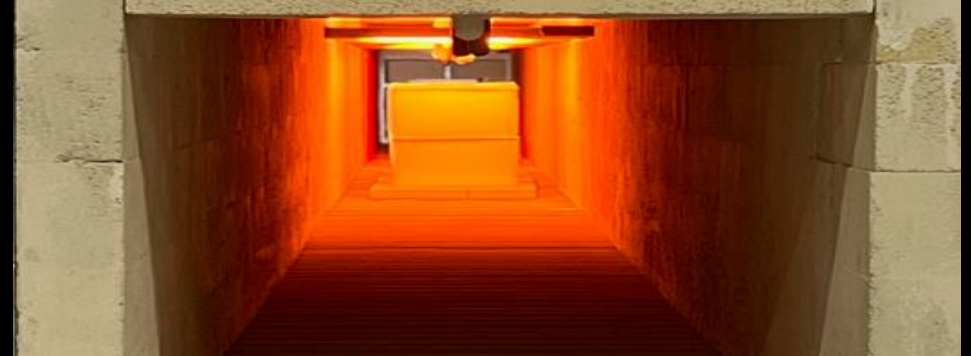
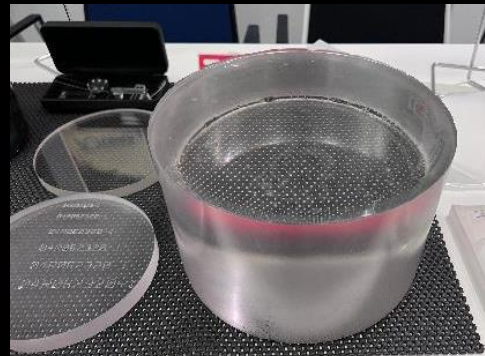


Alpha HPA



**ULTRA PURE – LOW CARBON ALUMINIUM MATERIALS**

ASX: **A4N**

## CAUTIONARY STATEMENT

The Definitive Feasibility Study (DFS) referred to in this presentation has been undertaken to assess the technical and financial viability of the HPA First project. The DFS is based on the material assumptions about the availability of funding and the pricing received for HPA. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the outcomes indicated by this DFS will be achieved. To achieve the range of outcomes indicated in the DFS, additional funding will be required. Investors should note that there is no certainty that the Company will be able to raise the amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the HPA First project. If it does, this could materially reduce the Company's proportionate ownership of the HPA First project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the DFS.

## FORWARD LOOKING STATEMENTS

This presentation contains certain forward-looking statements with respect to the financial condition, results of operations, and business of the Company and certain plans and objectives of the management of the Company. These forward-looking statements involve known and unknown risks, uncertainties and other factors which are subject to change without notice and may involve significant elements of subjective judgement and assumptions as to future events which may or may not occur. Forward-looking statements are provided as a general guide only and there can be no assurance that actual outcomes will not differ materially from these statements. Neither the Company, nor any other person, give any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. In particular, those forward-looking statements are subject to significant uncertainties and contingencies, many of which are outside the control of the Company. A number of important factors could cause actual results or performance to differ materially from the forward looking statements. Investors should consider the forward looking statements contained in this DFS in light of those disclosures.

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# ALPHA HPA: INTRODUCTION

We are a technology/industrial chemical company

We make ultra-high purity aluminium products with a  
worlds first process which are:

**CRITICAL RAW MATERIALS FOR DE-CARBONISATION**

Our proprietary process delivers us the competitive edge

**HIGH PURITY - HIGH MARGIN - LOW CARBON**

we are commercialising in 2 Stages as the

**HPA FIRST PROJECT**

**STAGE 1 – IN PRODUCTION**

EXPANDING WITH A\$15.5M CMDP GRANT

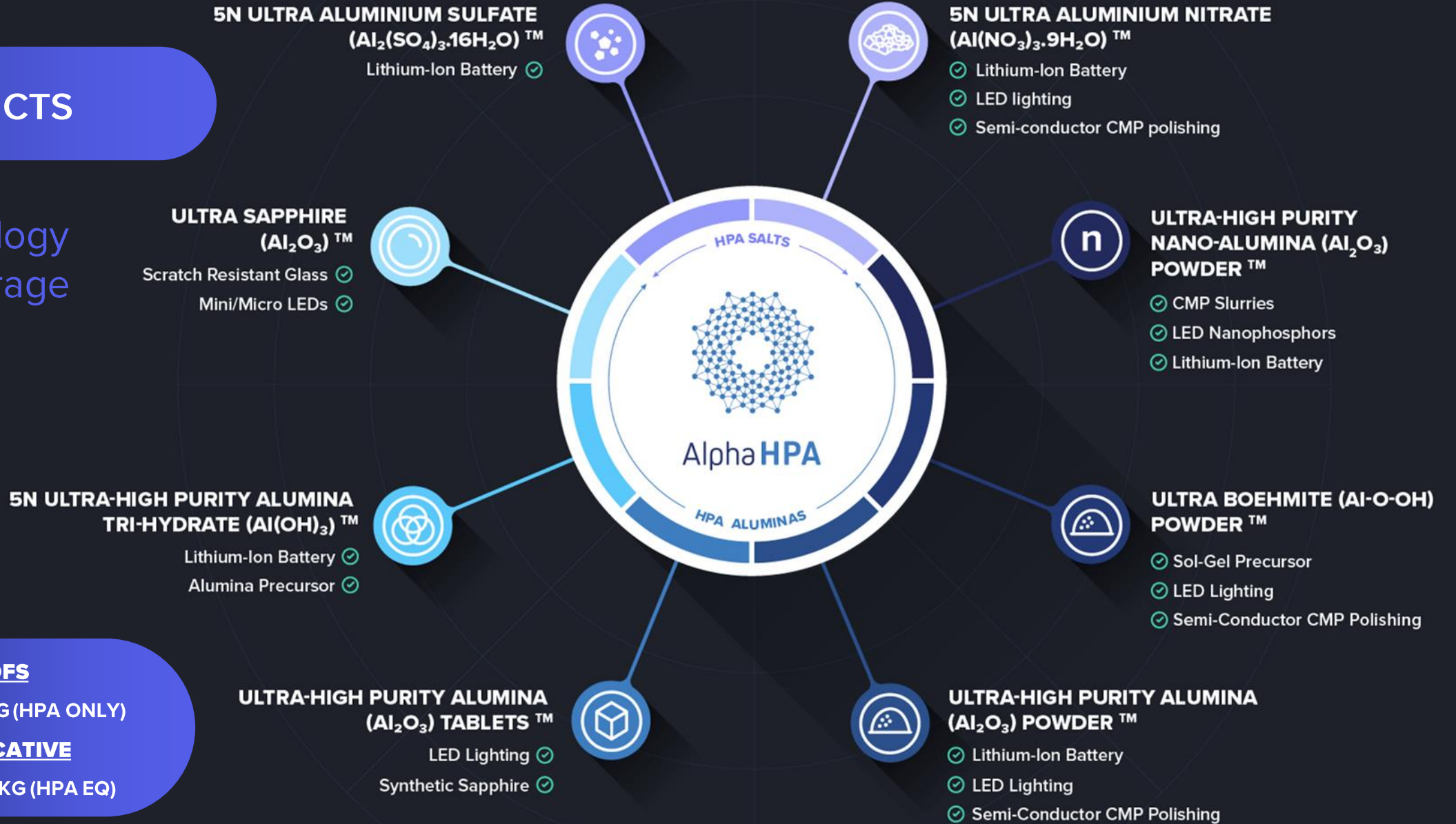
**STAGE 2 – MOVING TO F.I.D**



Alpha HPA

# OUR PRODUCTS

high technology  
sector coverage



## 2020 DFS

US\$15 – US\$25/KG (HPA ONLY)

## 2023 INDICATIVE

US\$20 – US\$30/KG (HPA EQ)

# PRODUCTS FOR DE-CARBONISING TECHNOLOGIES

Product demand linked to sector growth + decarbonisation + supply chain de-risking

## E-MOBILITY



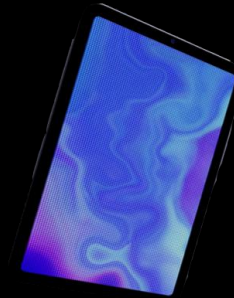
- ✓ HPA for Li-B separators
- ✓ HPA for Li-B cathode
- ✓ HP precursors for Li-B anodes

## SEMICONDUCTORS



- ✓ Boehmites for CMP slurry
- ✓ Al-Nitrates for CMP slurry
- ✓ Nano HPA for CMP slurry (for SiC chips)

## LED



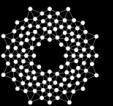
- ✓ HPA for LED sapphire substrates
- ✓ HPA for LED phosphors
- ✓ Synthetic sapphire glass

- **STAGE 1: IN PRODUCTION**
- **STAGE 2: FINALISING FID**



**HPA First Project Site  
Gladstone State Development Area  
100% RENEWABLE ENERGY**

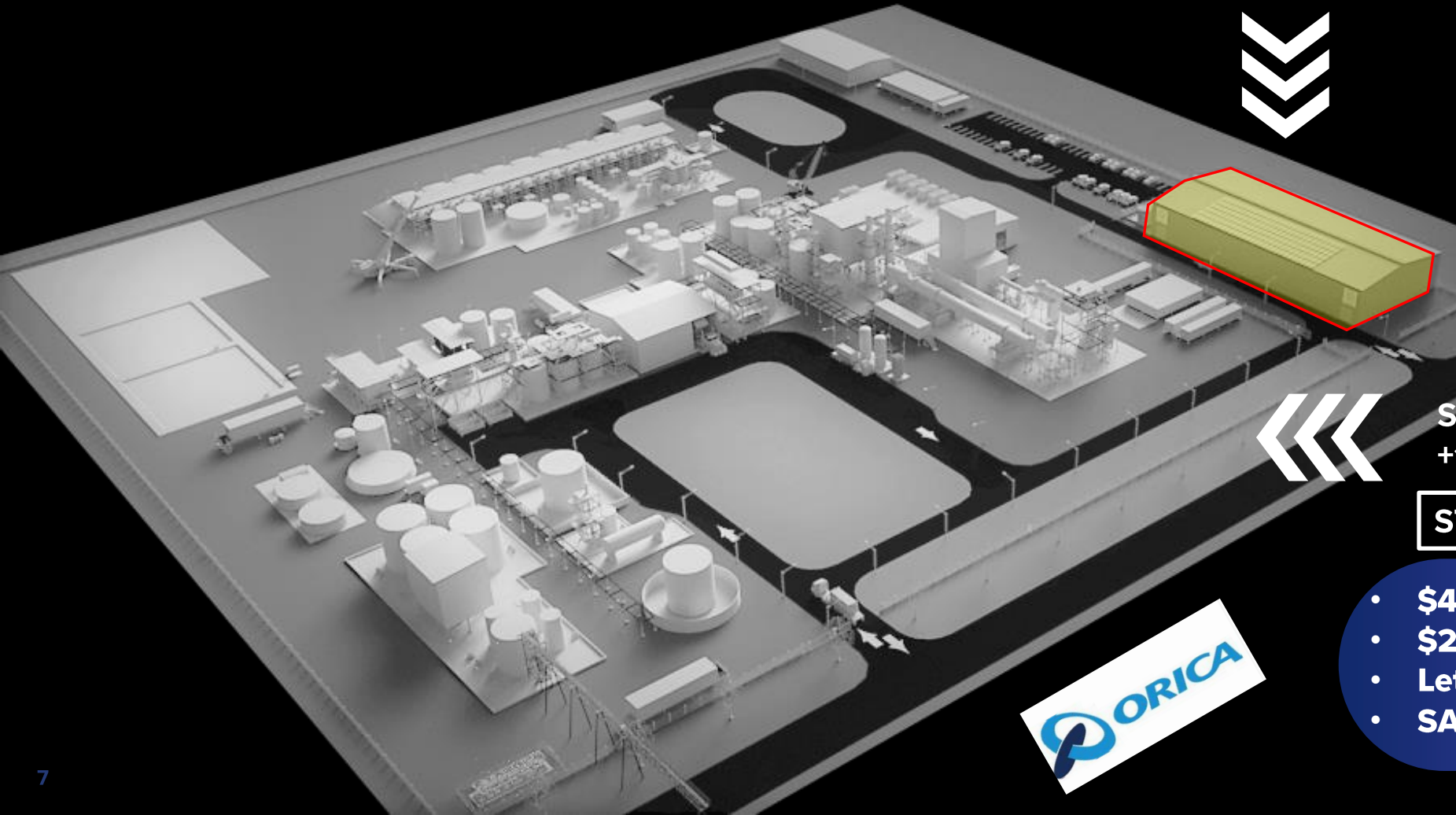
# 6 **HPA FIRST PROJECT: GLADSTONE QLD**



# PROJECT LAYOUT:

**STAGE 1: IN PRODUCTION**  
**+350tpa – ALL PRODUCTS**

**A\$15.5M Critical Minerals Grant**  
**Under Deployment**



**STAGE 2: FULL-SCALE FACILITY**  
**+10,000tpa – ALL PRODUCTS**

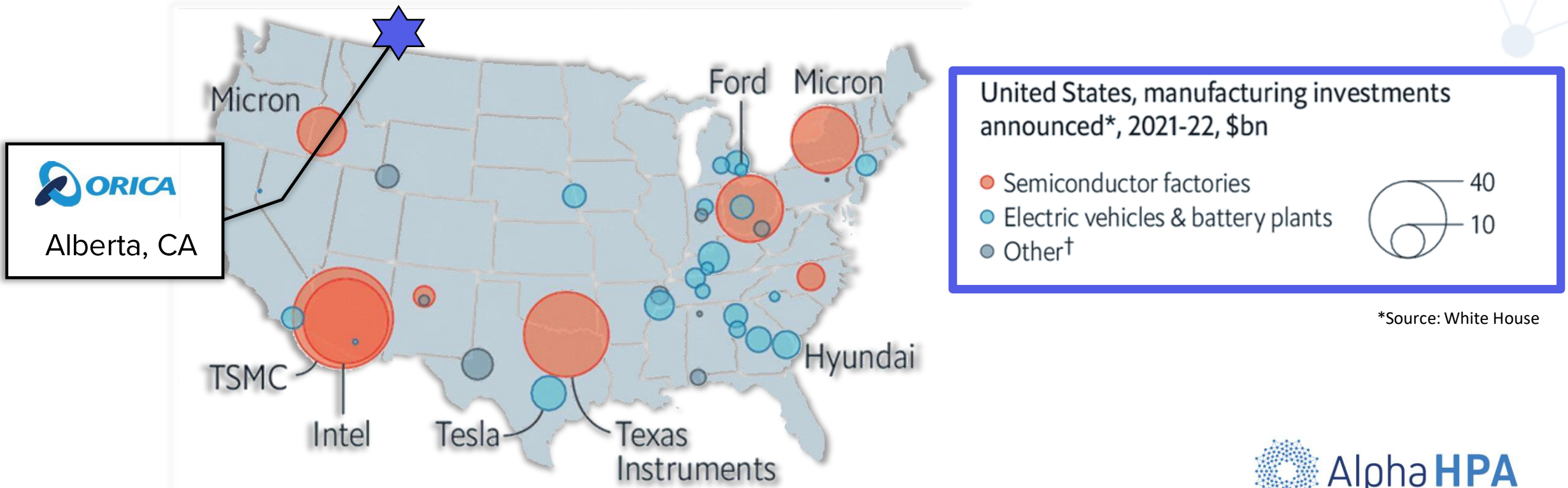
**STRONG GOVT SUPPORT**

- \$45M MMI-C Grant (Aust Govt)
- \$21.7M IPP Grant (QLD Govt)
- Letter of Support from EFA
- SAP approval from NAIF



# ORICA STRATEGIC INVESTMENT:

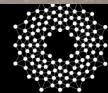
- ASX 100 Company Orica Ltd (ASX: ORI) acquired a 5% strategic interest in Alpha HPA (Nov 2022)
- Orica and Alpha have worked together on the HPA First Project since 2019
- The investment builds upon binding arrangements to supply chemical reagents and offtake by-products at the HPA First Project, Gladstone
- Significant external endorsement of the capability, safety and operability of the process
- MoU signed to assess high purity aluminium products plant in North America (Alberta)







# STAGE 1: IN PRODUCTION





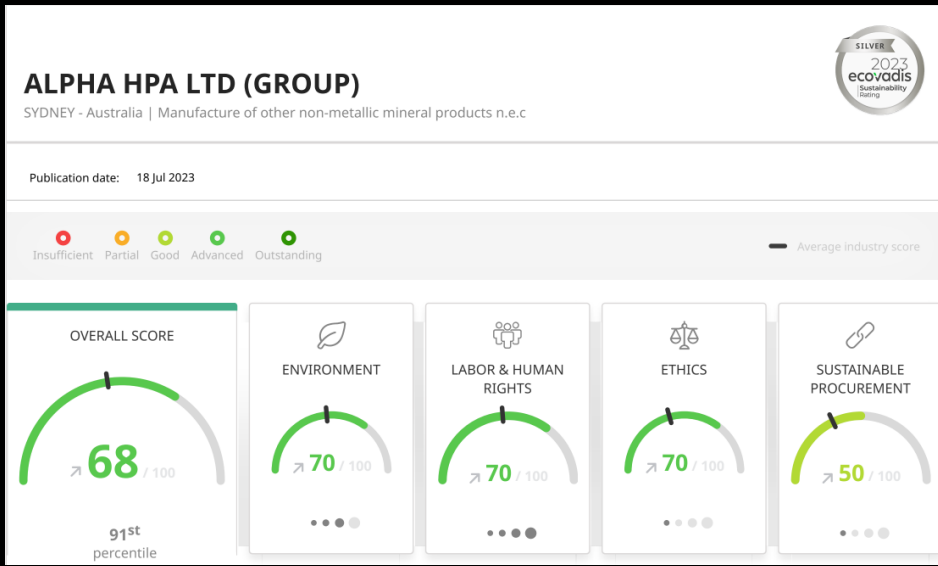
**STAGE 1 : HPA EXPANSION NOW COMMISSIONING**



Alpha HPA

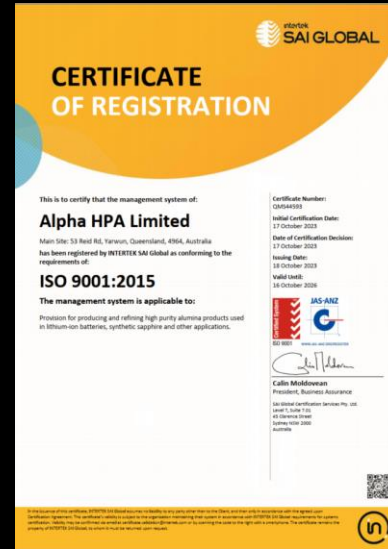
# ESG: INDEPENDENT CERTIFICATION

## SUSTAINABILITY RATING



## SUSTAINABILITY

## ISO CERTIFICATION



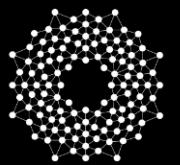
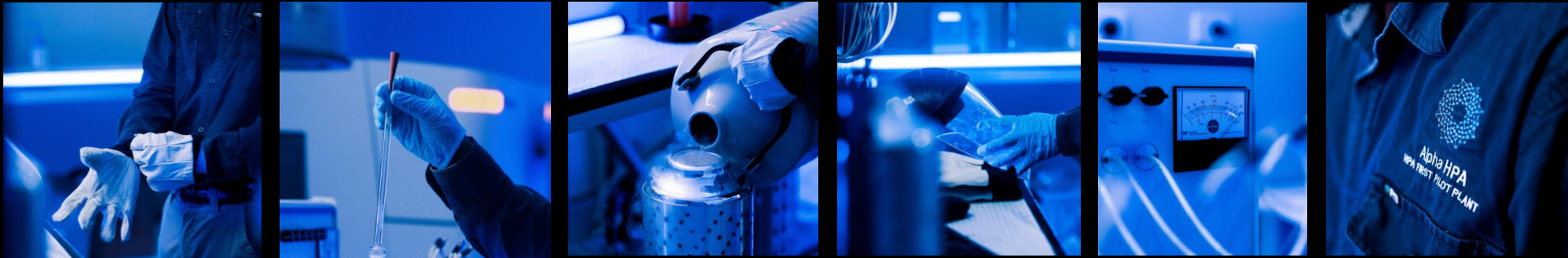
## QUALITY



## ENVIRONMENTAL MGMT



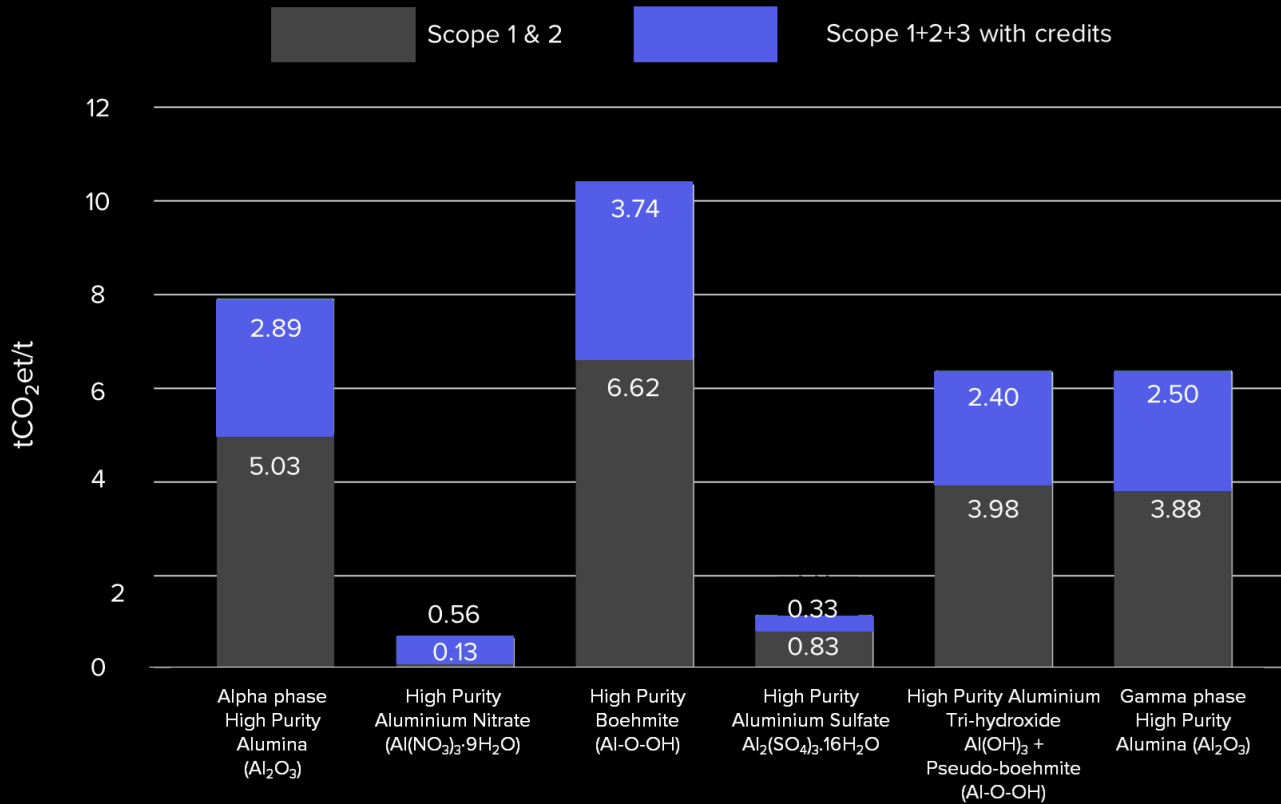
## WORK, HEALTH & SAFETY



Alpha HPA

# WORLD LEADING EMISSIONS

50-70% lower CO<sub>2</sub> emissions over incumbent (alkoxide) process

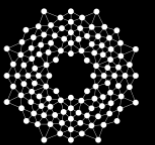


~71% lower total emissions in feedstock and production process combined compared to the incumbent process

## EMISSIONS REDUCTIONS

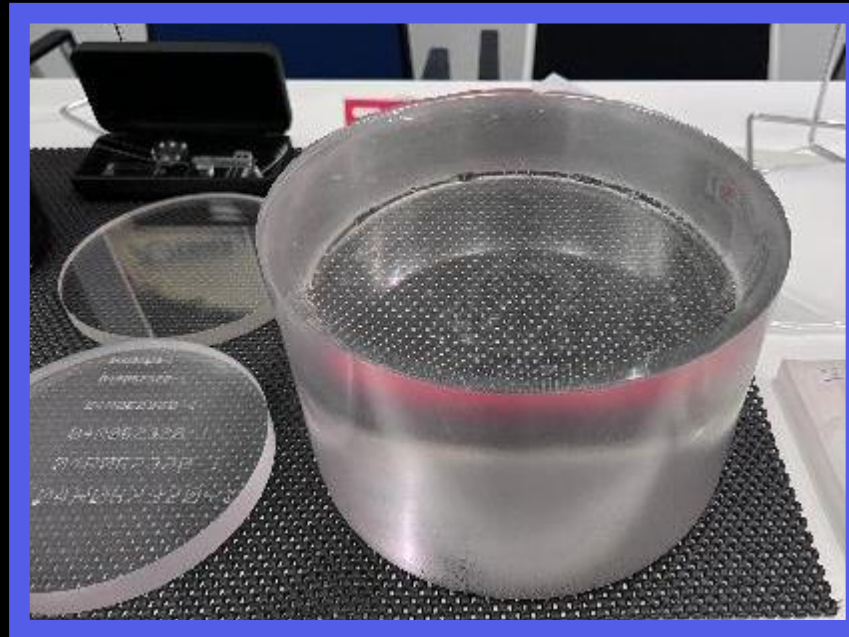
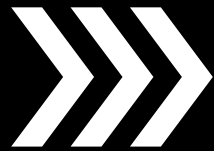
1. We do not use Al metal as feedstock
2. We recycle our reagents
3. We use 100% renewable energy

Independent emissions analysis by



Alpha HPA

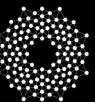
# ALPHA SAPPHIRE: ADDING DOWNSTREAM VALUE TO HPA



- **March 2023:** Agreements with Ebner-Fametec for entry into sapphire glass production
- **June 2023:** Expanded agreements for up to 1,000 growth units
- Unique supply/demand dynamics, favourable to new market entry
- Estimated **10x net revenue uplift** per alumina unit
- **September 2023:** \$30M QIC funding to secure sapphire business for QLD
- **November 2023:** \$40M equity financing to match QIC – First 50 units fully funded

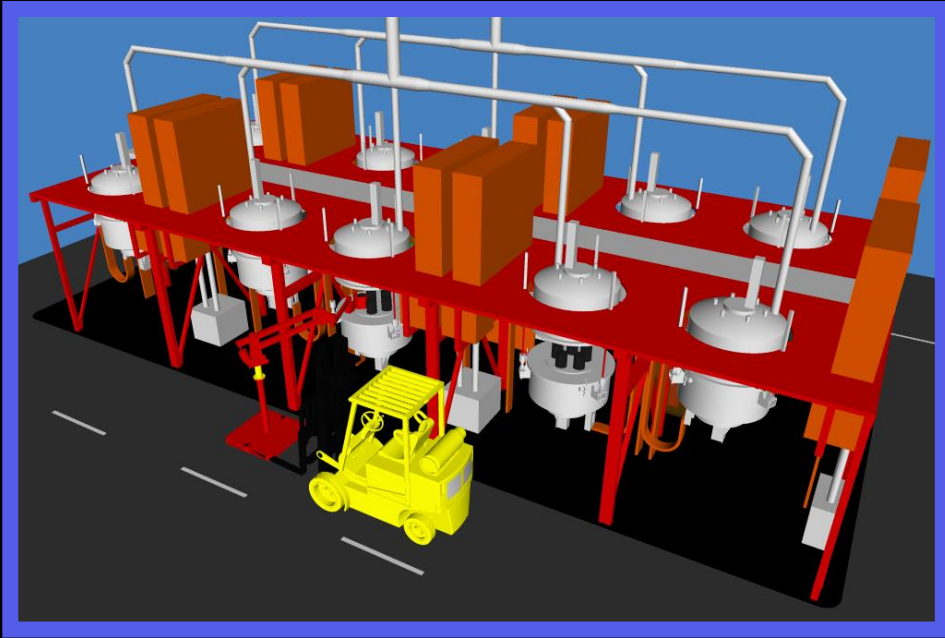


Alpha **SAPPHIRE**



Alpha **HPA**

# ALPHA SAPPHIRE: UNIQUE SECTOR OPPORTUNITY



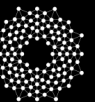
Annual EBITDA (USD) - post QIC Royalty

	Per single growth unit	Per 50 growth units	Per 100 growth units
Base case	\$516,000	\$25,800,000	\$51,600,000
High case	\$693,000	\$34,600,000	\$69,300,000

- **Technology Disruption:** Access to new Ebner-Fametec Technology
- **Supply Crunch:** End-user desire to de-link from Russia-China production
- **Demand Pull:** Major new demand from micro-LED adoption



Alpha **SAPPHIRE**



Alpha **HPA**

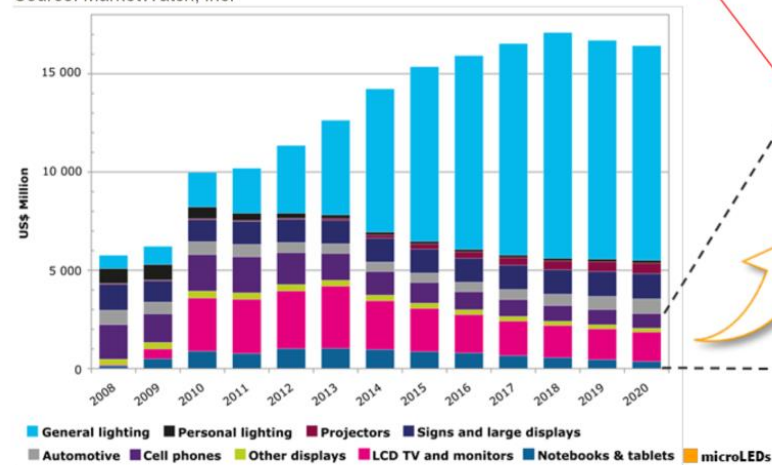
# Micro LEDs: THE LED MARKET MULTIPLIER

- Market analysts have forecast the adoption of micro-LEDs since 2015
- The recent confirmation that Apple is now making the move is considered highly significant, with the potential to double existing LED market
- <https://appleinsider.com/articles/23/01/15/apple-plans-microled-displays-in-everything-after-2024-apple-watch-ultra-update>
- <https://www.bloomberg.com/news/articles/2023-01-11/apple-to-begin-making-in-house-screens-in-2024-in-shift-away-from-samsung?sref=mNNF3hqD>
- <https://www.electrooptics.com/analysis-opinion/microleds-prepare-take-flight>

## MicroLED Market

*MicroLEDs set to double the size of the entire LED market: +17 Billion USD by 2025\**

Source: MarketWatch, Inc.



- Apple LuxVue (Acquired)
- Facebook mLED, InfiniLED, plessey (Acquired)
- Intel Aledia Capital (Equity Invest.)
- Google glō (Equity Invest.)

# OUR CUSTOMERS AND PARTNERS:

- Existing customers, marketing agents and key business partnerships





# CORPORATE SNAPSHOT

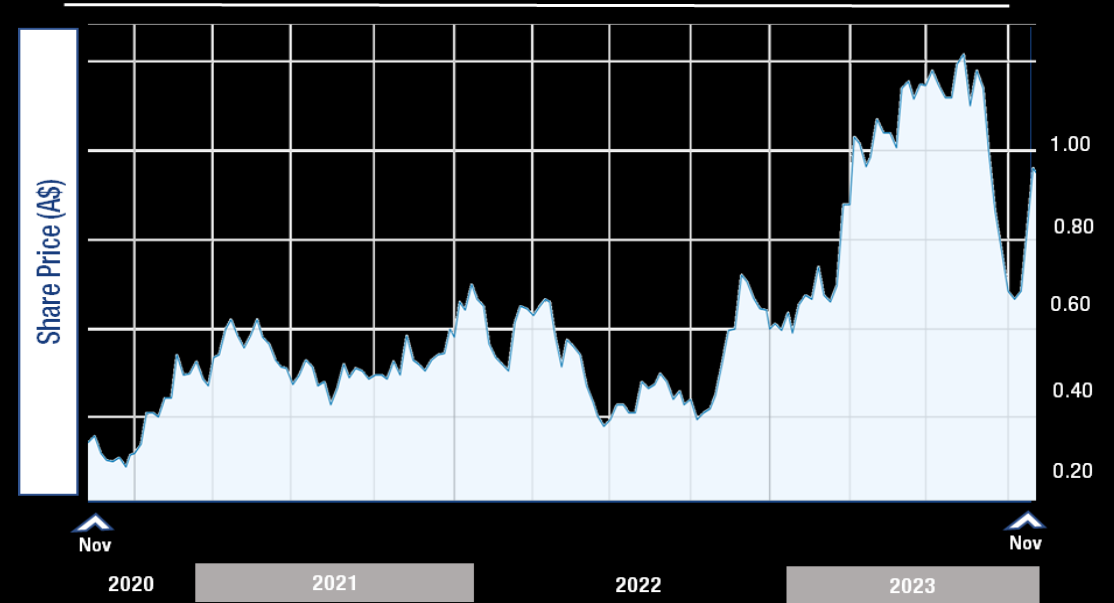
## TRADING INFORMATION

ASX CODE	A4N
Share Price (20/11/2023)	~\$0.865c
52-week trading range	\$0.56 – \$1.22
Issued Shares	933.8M

## CAPITAL STRUCTURE

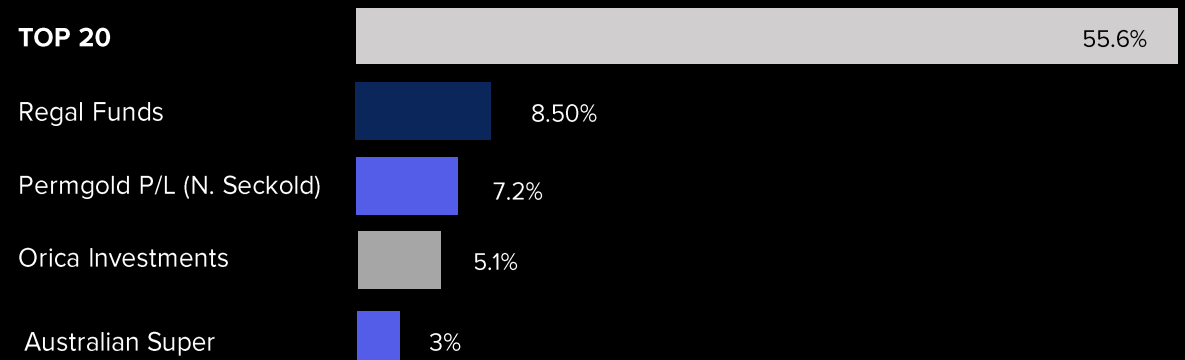
Issued Shares	933.8M
Unlisted options (@90c)	9.12M (expire 30 April 2025)
Unlisted options (@90c)	3M (expire 31 Aug 2025)
Market Cap	~\$807M
Est Cash (08/11/2023)	~\$45M – No Debt
Enterprise Value	\$762M

## SHARE PRICE PERFORMANCE – 3 YEARS



## SHAREHOLDERS

### TOP 20



# Thank You

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