

The Manager Companies - ASX Limited
20 Bridge Street
Sydney NSW 2000

ASX Announcement
28 September 2023
(4 pages)

UP TO \$30M ALPHA SAPPHIRE FUNDING FROM QUEENSLAND CRITICAL MINERALS AND BATTERY TECHNOLOGY FUND



Alpha SAPPHIRE

- Up to \$30 million project funding from QCMBTF
- Investment accelerates the roll-out of the first 50 sapphire growth units
- Investment secures Alpha Sapphire production for Queensland
- Establishes a high value customer for the HPA First Project

The Board of Alpha HPA Limited (**Alpha** or **the Company**) is very pleased to announce it has agreed key terms with the trustee of the QIC Critical Minerals and Battery Technology Fund (**QCMBTF**) for up to \$30 million of project funding for the Company's 100% owned subsidiary, Alpha Sapphire Pty Ltd (**Alpha Sapphire**).

The proceeds of the project funding will be applied to accelerate the roll-out of the initial 50 sapphire growth units (Phases A and B) contemplated in the LOI announced with Austrian technology partner Ebner Industrieofenbau GmbH (**Ebner**) and Ebner subsidiary Fametec GmbH (**Fametec**) (refer ASX: 23 March 2023 and 5 June 2023).

Summary of Key Terms:

- \$30M facility, subject to full documentation
 - \$3M drawable to reimburse investment in initial 2 sapphire growth units (**Phase A**)
 - \$27M drawable from FID and until December 2024, for Alpha Sapphire to roll-out a further 48 sapphire growth units (**Phase B**), subject to Alpha matching the QCMBTF's investment
- Drawdowns subject to satisfaction of customary conditions precedent including final due diligence and internal investor approvals
- Repayments based on 4.35% x (gross sapphire sales less power costs)
- Repayments capped at 2,500 tonnes of sapphire production
- Sapphire growth units to be located in Queensland

Alpha Managing Director, Rimas Kairaitis said, "Alpha is delighted to have reached agreement with QIC on funding for Alpha Sapphire and for the broader support from QIC and the Queensland Government to support private sector investment to add value via downstream processing of Queensland's materials."

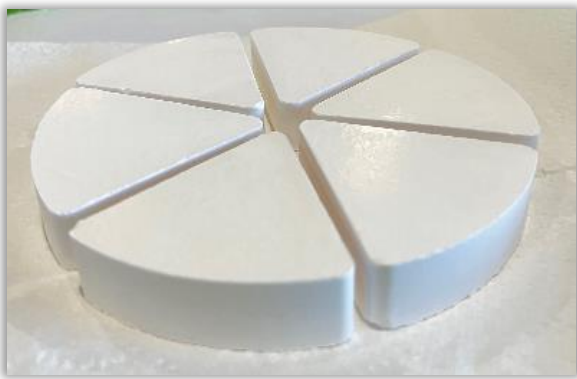
BACKGROUND

In March 2023, Alpha entered agreements with Ebner-Fametec, to provide for the staged entry by Alpha into the production and sale of synthetic sapphire glass utilising Ebner-Fametec sapphire growth technology and utilising Alpha's custom high purity alumina (**HPA**) tablets as feedstock.

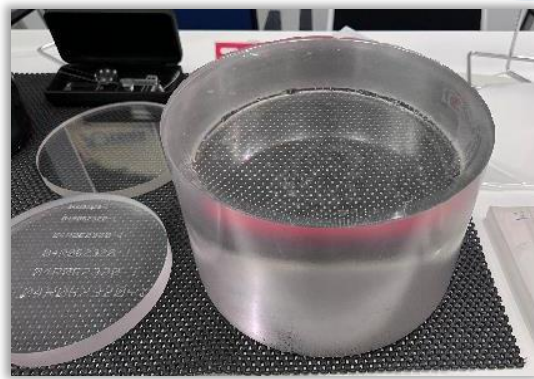
Alpha has agreed with Ebner to purchase and roll-out sapphire growth units in the following phases:

- Phase A: Purchase and installation of an initial 2 synthetic sapphire growth units: *Now Underway*
- Phase B: Purchase and installation of a further 48 synthetic sapphire growth units: *Total 50*
- Phase C: Purchase and installation of a further 50 synthetic sapphire growth units: *Total 100*

In June 2023, the agreement between Alpha and Ebner-Fametec was expanded to include a Letter of Intent to work co-operatively on an additional, large-scale expansion of the Australia based sapphire growth installation, to be referred to as the '**Nova Phase**'. The Nova Phase will contemplate the purchase, construction, installation and operation of up to an additional 1,000 synthetic sapphire growth units.



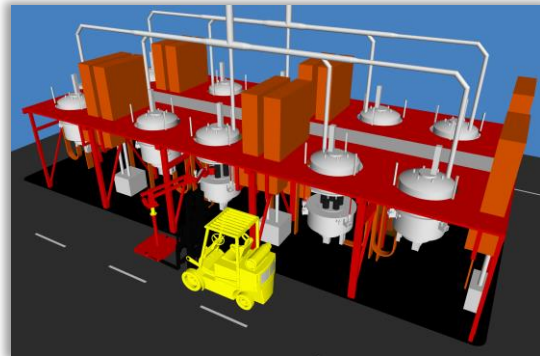
Sintered HPA feed material from the HPA First Project



Sapphire blanks and boule



Twin set of sapphire growth units (Fametec Austria)



Commercial module (10 growth units)

It is anticipated that Alpha Sapphire will become a significant customer of the HPA First Project in Gladstone. Should Alpha Sapphire scale to reach Nova Phase (1,000 units), the business will consume between 3,000 and 4,000 tonnes of HPA per annum.

RATIONALE

Alpha's view is that our ability to supply premium HPA feedstock intersects with three favourable market dynamics within the synthetic sapphire market to provide a unique opportunity for Alpha to enter the downstream synthetic sapphire market.

1. SECULAR GROWTH FROM NEW APPLICATIONS

Synthetic sapphire wafers are the dominant substrate in LED lighting. The increasing adoption of mini LEDs and micro LEDs, in smartwatch, smartphone, television, and other electronic displays is predicted to grow to US\$17 billion by 2026, with wafer demand for micro LEDs forecast to grow at a CAGR >500% between 2023-2027 (source MarketWatch Inc). The adoption is driven by significant reduction in power draw and an improved user experience.

2. TECHNOLOGICAL DISRUPTION: THE FAMETEC MCSAP TECHNOLOGY

Fametec's sapphire crystal growth process, known as the McSAP (Multi c-Axis Sapphire) achieves +60% utilisation of the crystal boule (compared to ~35-40% for current industry standard) with ~50% power saving (per kilogram of grown crystal) realised through greater utilisation per crystal boule and growth of multiple boules per production run, realising a significantly lower energy production.

This combination results in a materially lower carbon footprint than other crystal growth processes. The McSAP process is accordingly considered a well-suited complement to Alpha's low carbon HPA feedstock in achieving LED substrate with the lowest-carbon footprint.

3. SUPPLY CONCERNS

Globally, high technology sectors are experiencing an intensifying global trend towards de-risking/re-shoring and friend-shoring supply chains.

Traditionally, Russian and Chinese companies have dominated synthetics sapphire growth, accounting for >80% market share. However, there is now a growing thematic amongst end-users to diversify supply to be sourced from preferred jurisdictions.

In addition, the end-user sectors are placing stronger emphasis to decarbonise supply chains to meet emission targets. With sapphire growth being an energy intensive process, the Ebner-Fametec lower energy technology, combined with Alpha's ability to access renewable energy provides an attractive alternative to the higher carbon intensity of the current global sapphire glass producers.

ALPHA SAPPHIRE BUSINESS STATUS

The joint engineering team of Alpha and Ebner-Fametec are co-ordinating the construction and installation layout for the first two sapphire growth units purchased as per Phase A of the Ebner-Fametec agreement. The construction of the units remains on schedule, with first equipment deliveries due late 2023, for installation and commissioning in early 2024 with Alpha HPA supplied sintered pucks from the newly commissioned Stage 1 HPA production. Phase A of Alpha Sapphire is estimated to produce approx. 7 metric tonnes of synthetic sapphire per year and enable large scale qualification samples and small scale sales.

Alpha Sapphire has advanced discussions with respect to securing both a competitive source of renewable energy linked with a suitable site for the Phase B and C roll-out of the Alpha Sapphire business units (100 sapphire growth units).

Interlinked with the renewable energy supply discussions, Alpha has narrowed the evaluation of site locations to three suitable sites in Queensland, which each provide for a rapid deployment of Phase B and Phase C.

The QCMETF project funding will secure the Phase B & C production units for Queensland, allowing Alpha to finalise commercial terms on site location and energy provision within the next few weeks.

PROJECT FUNDING

Following a 6 week due diligence period, including a review of the Alpha Sapphire business case and the sapphire market opportunity, Alpha Sapphire, Alpha and the QCMBTF have agreed the following financing terms, which will become binding on full documentation (targeting late October 2023).

Financier	Trustee of the QIC Critical Minerals and Battery Technology Fund (QCMBTF).
Commitment	\$30 million.
1st Financial Close	\$3 million.
2nd Financial Close	\$27 million.
Availability	Up to 31 December 2024.
Key Conditions Precedent to 1st Financial Close	Definitive documentation and other customary conditions, including final due diligence and internal investor approvals.
Key Conditions Precedent to 2nd Financial Close	Final Investment Decision (FID) by Alpha Sapphire on Phase B (48 growth units) and matched funding from Alpha. Other customary conditions, including final due diligence and internal investor approvals.
Repayment Amount	4.35% of gross revenue (less power costs) generated from Alpha Sapphire from sapphire product sales, on the first 2,500 tonnes of sapphire product sales. Greater of full repayment amount and the full commitment becomes repayable in prescribed circumstances (including events of default).
Security	First ranking security over shares in Alpha Sapphire and its assets, subject to agreed exceptions.
Special Conditions relating to Facility	Phase B and Phase C (100 growth units) sapphire growth facility to be located within the state of Queensland.

Alpha Sapphire is being advised by McGrathNicol and Ashurst. QIC's advisers on this facility are BurnVoir Corporate Finance and Allens.

About the HPA First Project

The Company's HPA First Project represents the commercialisation of the production of high purity aluminium materials using the Company's proprietary licenced solvent extraction and HPA refining technology. The disruptive, low-carbon process technology provides for the extraction and purification of aluminium from an industrial feedstock to produce 4N (>99.99% purity) and 5N (>99.999% purity) aluminium materials for sale into high technology markets including the semiconductor, lithium-ion battery and LED lighting sectors.

Alpha completed a Definitive Feasibility Study in March 2020 following a successful pilot plant campaign in 2019.

Alpha is now in production at its Stage 1, Precursor Production Facility. The Stage 1 facility is also now being expanded to produce the full range of Alpha's high-purity aluminium materials with \$15.5M grant funding from the Australian Government.

The Company is now in the mature phases of market outreach and project financing with respect to the full scale Stage 2 HPA First Project, with the expectation of positioning Stage 2 to Final Investment Decision.

For further information, please contact:

Rimas Kairaitis
Managing Director
rkairaitis@alphaHPA.com.au
+61 (0) 408 414 474

Robert Lord
Investor Relations
rlord@alphaHPA.com.au
+61(0) 400 008 553

Cameron Peacock
Business Development
cpeacock@alphaHPA.com.au
+61 (0) 439 908 732

pjn11871