

Amaero International Ltd

Fairmont Consulting report underlines project viability

Amaero International Ltd (ASX:3DA) is a global specialist in advanced materials manufacturing for the defence, aerospace, and other industrial sectors, developing a critical metals alloy powder manufacturing facility in Tennessee, USA. The company has released an executive summary outlining the key findings from the market study prepared by Fairmont Consulting Group LLC into the niobium C103 alloy and other high-value specialty alloys used in mission-critical defence and space applications. The executive summary together with key assumptions and financial drivers released by Amaero have formed the basis of our revised earnings estimates for Amaero's operation. Key assumption changes include the addition of a fourth gas atomiser, positioning for an estimated 40% of the C103 niobium powder market longer term, higher C103 prices than previously modelled, but a 50% yield on powder bed fusion powder production. We have also incorporated the company's guidance that it expects to report an EBITDA loss of \$14m in CY2024 and to break-even in CY2025. The earnings revisions deliver a base-case valuation of \$1.128b or \$1.40/share fully diluted (\$2.35/share on the current share count).

Business model

Amaero is developing a critical metals powder manufacturing facility in Tennessee, USA, targeting the production of high-value alloy powders for mission-critical defence and space applications. The company has announced plans to install four electrode induction melting gas atomisers (EIGAs) at its facility over the next three years with the first EIGA on track to be commissioned and installed by June 2024. Amaero has indicated that, based on a 50% yield, it will produce up to 399 tonnes a year of high-end alloy powders for use in powder bed fusion (PBF) 3D printing of hypersonic, space, satellite, and strategic missile parts. It has highlighted that 10% of PBF production in C103 niobium powder could contribute ~58% of revenue.

More definitive plans, moving closer to commercialisation

Following receipt of the Fairmont Consulting report which provided a more definitive market analysis of the demand and opportunity for niobium C103 powder, Amaero has provided more detail to the market on the production profile it expects to follow as it installs four EIGAs at its Tennessee facility over the next four financial years. Its estimated PBF powder production schedule together with Fairmont's survey of current C103 powder prices and input costs have laid the groundwork for adjustments to the assumptions we have used in our financial model. As we highlighted in our [4 October 2023 report](#), one of the key risks to our forecasts would be if Amaero chose a different production profile to our modelling. Based on the Fairmont study, Amaero plans to prioritise C103 and refractory alloys, followed by other high-value specialty alloys and then allocate excess production capacity to titanium alloys. We anticipate that long-term, this will result in approximately 12% of production focused on C103, 12% on specialty alloys and the remainder on Ti64. Our previous forecasts had envisaged a 30/30/40 split. Note that we have also taken into account that Amaero expects to report a \$14m operating loss in CY2024 and to break-even in CY2025, with additional capital requirements for the production profile it has presented to be \$76m, with half of this likely to be from a strategic equity raising. The company has recently engaged US investment bank Guggenheim to explore its funding alternatives for the completion of the Tennessee facility's fit-out and capital equipment requirements. Our model anticipates a 50/50 mix of debt and equity of ~A\$80m.

Base-case DCF valuation is \$1.13b or \$1.40/share fully-diluted

Our base-case DCF valuation is \$1.40/share (previously \$1.50/share), fully diluted for anticipated strategic raisings, or \$1.13b (previously \$1.39b). On the current share count of 479m shares the valuation is \$2.35/share. There is a potential risk in the long lead times to profitability and we have sought to reflect this in our forecasts and valuation. Our expectation is that Amaero will deliver revenue from FY25, profitability from FY26, and secure 'at capacity' earnings in H2 CY28.

Historical earnings and RaaS forecasts (in A\$m unless otherwise stated)

Y/E	Sales revenue	Gross profit	EBITDA	NPAT	EPS (c)	EV/Sales (x)	EV/EBITDA (x)	PER (x)
06/23a	0.8	2.1	(7.9)	(12.5)	(2.8)	nm	nm	nm
06/24f	2.6	(4.3)	(16.0)	(14.9)	(2.8)	nm	nm	nm
06/25f	33.7	12.2	(5.2)	(9.1)	(1.4)	9.3	nm	nm
06/26f	111.9	48.0	14.1	2.0	0.2	2.9	19.0	nm
06/27f	219.7	99.5	47.0	28.2	3.6	1.4	6.3	9.2

Source: Company data for historically; RaaS estimates for FY24f-FY27f

Critical Metals Manufacturing

16 February 2024

Share details

ASX code	3DA
Share price (16-Feb)	\$0.33
Market capitalisation	\$158.2M
Shares on issue	479.4M
Cash at 31-Dec-2023	\$11.7M
Free float	37%

Share Performance (12 months)



Upside Case

- Amaero develops a significant presence in the advanced manufacturing supply chain
- Strong tailwinds in US and global demand for US advanced metal powder production
- Strong Chairman/CEO with experience and connectivity to key stakeholders in the US

Downside Case

- Further strategic equity raises result in dilution
- Pre-production with no guarantee that strategy will translate into earnings success
- Cashflow profit still at least two years away

Catalysts

- Project finance secured for Tennessee operation
- Strategic equity commitment secured
- Completion of fitout at Tennessee facility
- Successful commissioning of first EIGA atomiser
- Offtake agreements for C103 production
- Purchase/installation of additional EIGAs
- Confirmation of first revenues/cashflow

Company Interview

[Amaero International RaaS Chairman & CEO Interview](#)

Board of Directors & Management

Hank J. Holland	Chairman and CEO
Eric Bono	Executive Director/CTO
Lucy Robb Vujcic	Non-Executive Director
Omar Granit	Non-Executive Director
Robert (Bob) Latta	Non-Executive Director
Erik Levy	Non-Executive Director
Jamie Levy	Non-Executive Director

Company Contacts

Hank J. Holland (Chair/CEO) +61 3 9905 9847
hank.holland@amaero.com.au

RaaS Contact

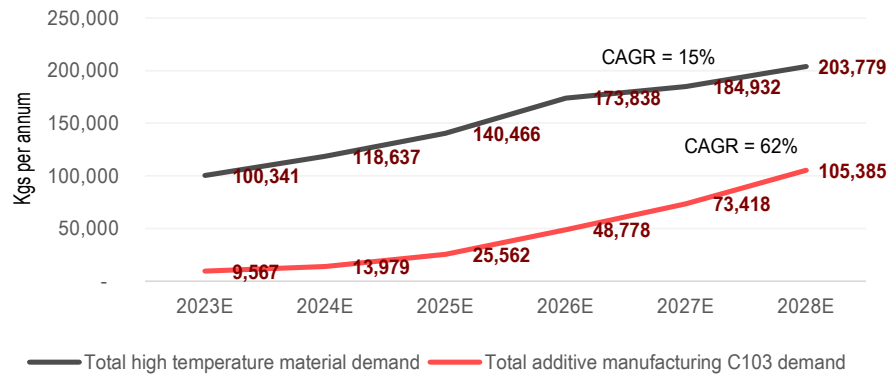
Finola Burke* +61 414 354 712
finola.burke@raasgroup.com

*The analyst holds shares

US Demand For C103 Powder Is Confirmed

Fairmont Consulting conducted a market study of the niobium C103 alloy and other high-value specialty materials used in mission-critical defence and space applications on behalf of Amaero. The consulting group estimates that demand for C103 PBF powder in FY2025 will be 25 tonnes with this growing to 105 tonnes by FY2028, for a 62% CAGR over the five-year period. This is the market that Amaero plans to operate in with its Tennessee operations.

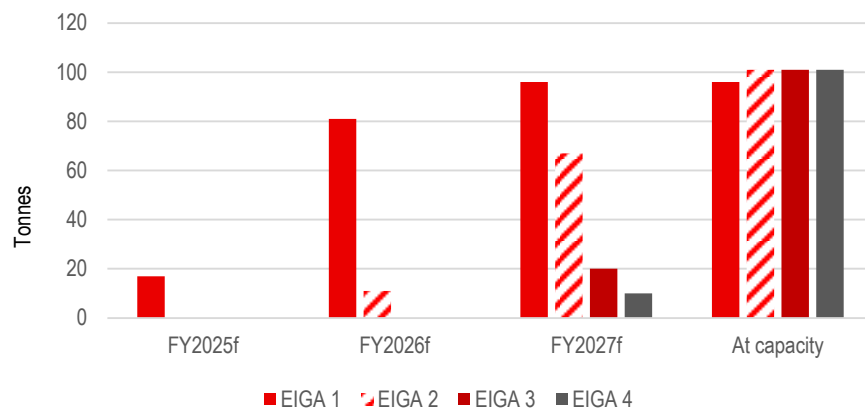
Exhibit 1: High-temperature material demand by AM C103 addressability



Source: Fairmont Consulting Group Report, "State of the PM industry in North America, 2023"

Fairmont also found that the current C103 powder price was ranging from US\$2,700/kg to US\$3,500/kg (A\$4,150/kg to A\$5,385/kg). This is significantly higher than the US\$2,000/kg we used in our 4 October 2023 model adjustments. With the Fairmont study in hand, Amaero has highlighted that it is pursuing a strategy of prioritising production of C103, development refractory alloy and other high-value specialty alloys, and Ti-64 powder. The company has provided a detailed breakdown of its PBF powder production schedule by gas atomiser, as detailed in Exhibit 2. The company expects steady state production for EIGA #2, #3 and #4 to be 101 tonnes of PBF powder per year.

Exhibit 2: Amaero estimated PBF powder production schedule by gas atomiser



Source: Company announcement (8 February 2024)

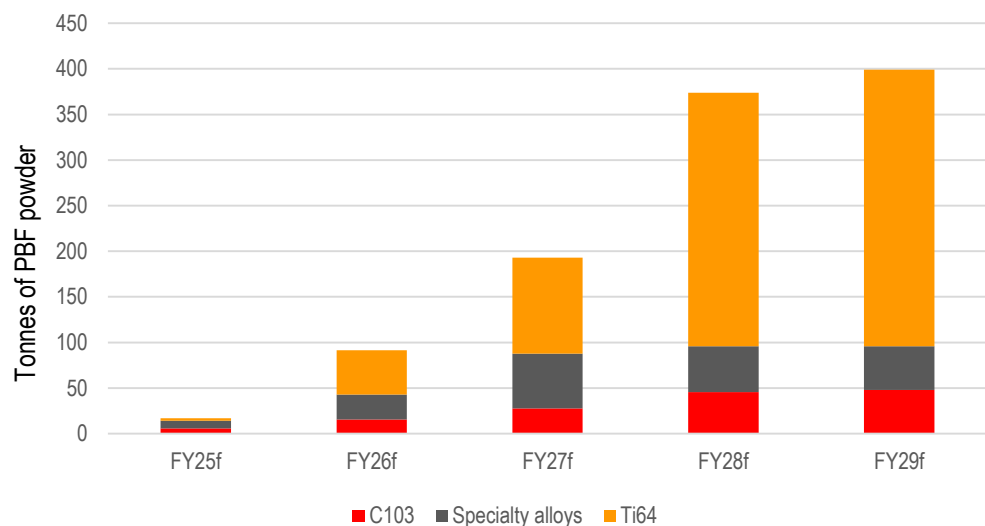
Based on Fairmont's estimate of Amaero's achievable market share, the company will pursue a C103-first strategy, prioritising the refractory alloy, particularly in its first EIGA. This will be followed by high-value specialty alloys which tend to be contracted for smaller batch runs. Excess production capacity will be allocated to titanium alloys, in particular Ti64 PBF powder. Given the 12-18 month qualification period for

Ti64, Amaero plants to produce the powder with EIGA #1 so as to secure qualifications with multiple customers.

Earnings Forecast Changes

We have adopted the company's production profile in terms of expected overall tonnages by year and by EIGA and pricing ranges for powders in our forecasts. In terms of C103, we have used the mid-point of the range highlighted in the Fairmont report and on specialty alloys, we have assumed the price secured per kg is just under three times the Ti64 price we use. This has had the effect of reducing our revenue forecasts as we have changed the mix of C103/special alloys/Ti64 in our estimates. Our modelling now anticipates that Amaero will secure around 20% of the C103 market (estimated by Fairmont Consulting to be 25 tonnes in FY25 and 105 tonnes in FY28), gradually increasing its share until it hits around 40% or 48 tonnes in FY29f.

Exhibit 3: RaaS's forecasts for PBF powder production by type



Source: RaaS estimates

We have also included estimates for a fourth EIGA in production by FY2027 and have reduced our capital expectations, which has had the effect of reducing our fully-diluted share count. The key parameter changes are set out in Exhibit 4 below.

Exhibit 4: Key parameter changes based on new detail from the Fairmont Consulting report

Parameters	Previous	New
Number of gas atomisers	Three	Four
Annual PBF powder production capacity per unit	207t	101t
Total 'at capacity' annual production	621t	404t
Price for C103 powder/kg (now mid-point of range)	US\$2,000/kg;	US\$3,100/kg
Price for specialty alloy powder/kg	US\$600/kg;	US\$675/kg
Spot price for Ti64/kg (unchanged)	US\$210/kg	US\$210/kg
Median EBITDA margin (10 years)	27%	30%
Total capital required	A\$125m	A\$80m
Shares on issue fully diluted	1,006m	808m

Source: RaaS analysis

Our earnings adjustments from FY24f-FY27f are set out in Exhibit 5. Note that the first EIGA, producing a combination of C103, specialty alloys and Ti64, is the key driver of our FY25f to FY27f forecasts, contributing 88% of our revenue forecast in FY26f and 49.7% in FY27f.

Exhibit 5: Earnings adjustments FY24f-FY27f (in A\$m unless otherwise stated)

Year ending June 30	FY24f old	FY24f new	FY25f old	FY25f new	FY26f old	FY26f new	FY27f old	FY27f new
Sales revenue	1.8	2.6	43.3	33.7	240.1	111.9	474.2	219.7
Gross profit	(7.8)	(4.3)	(14.2)	12.2	63.4	48.0	175.5	99.5
Gross profit margin (%)	-	-	(32.8)	36.2	26.4	42.9	37.0	45.3
EBITDA	(22.2)	(16.0)	(30.9)	(5.2)	41.3	14.1	110.5	47.0
EBITDA margin (%)	nm	nm	nm	nm	17.2	12.6	23.3	21.4
NPAT	(19.9)	(14.9)	(28.9)	(9.1)	26.3	2.0	80.9	28.2

Source: RaaS estimates

DCF Valuation

In our view, given the early-stage nature of Amaero's business and the lead time to revenue and cash generation, the discounted cash-flow methodology is the most appropriate method for valuing the company. We derive a weighted average cost of capital (WACC) of 11.6%, unchanged, (Cost of Equity 14.4%, beta 1.6, terminal growth rate 2.2%) and this gives us a base-case valuation of \$1,128m or \$1.40/share on a fully diluted basis. Our previous valuation was \$1.39b or \$1.50/share fully diluted. On the current share count of 479.4m, the valuation is \$2.35/share. We use an equity risk premium of 6.5%, risk-free rate of 4.0%, and target gearing of 25%. Note that we use the US corporate tax rate of 21% in our valuation. The valuation also assumes that the \$76m in capital expenditure outlined by the company is funded half from strategic equity and half via debt. As a sense check, our FY27 forecast, the first full year of positive NPAT, implies EV/Sales of 5.1x, EV/EBITDA of 24.0x, and a PE Ratio of 39.0x.

Exhibit 6: DCF valuation (in A\$m unless otherwise stated)

DCF valuation	Parameters
WACC (unchanged)	11.6%
Beta	1.6
Terminal growth rate	2.2%
Sum of PV	443.5
Present value of terminal value	675.5
PV of enterprise	1119.0
Fully diluted cash and debt inc options conversion	(8.6)
Net value – shareholder	1127.6
No. of shares on issue (fully diluted) (m)	808.3
NPV in A\$/share	\$1.40
NPV per share based on current share count (479.4m)	\$2.35

Source: RaaS estimates



FINANCIAL SERVICES GUIDE

RaaS Advisory Pty Ltd

ABN 99 614 783 363

Corporate Authorised Representative, number 1248415

of

BR SECURITIES AUSTRALIA PTY LTD

ABN 92 168 734 530

AFSL 456663

Effective Date: 6th May 2021



About Us

BR Securities Australia Pty Ltd (BR) is the holder of Australian Financial Services License ("AFSL") number 456663. RaaS Advisory Pty Ltd (RaaS) is an Authorised Representative (number 1248415) of BR.

This Financial Service Guide (FSG) is designed to assist you in deciding whether to use RaaS's services and includes such things as

- who we are
- our services
- how we transact with you
- how we are paid, and
- complaint processes

Contact Details, BR and RaaS

BR Head Office: Suite 5GB, Level 5, 33 Queen Street, Brisbane, QLD, 4000

RaaS. 20 Halls Road Arcadia, NSW 2159

P: +61 414 354712

E: finola.burke@raasgroup.com

RaaS is the entity providing the authorised AFSL services to you as a retail or wholesale client.

What Financial Services are we authorised to provide? RaaS is authorised to

- provide general advice to retail and wholesale clients in relation to
 - Securities
- deal on behalf of retail and wholesale clients in relation to
 - Securities

The distribution of this FSG by RaaS is authorized by BR.

Our general advice service

Please note that any advice given by RaaS is general advice, as the information or advice given will not take into account your particular objectives, financial situation or needs. You should, before acting on the advice, consider the appropriateness of the advice, having regard to your objectives, financial situation and needs. If our advice relates to the acquisition, or possible acquisition, of a particular financial product you should read any relevant Prospectus, Product Disclosure Statement or like instrument. As we only provide general advice we will not be providing a Statement of Advice. We will provide you with recommendations on securities

Our dealing service

RaaS can arrange for you to invest in securities issued under a prospectus by firstly sending you the offer document and then assisting you fill out the application form if needed.

How are we paid?

RaaS earns fees for producing research reports. Sometimes these fees are from companies for producing research reports and/or a financial model. When the fee is derived from a company, this is clearly highlighted on the front page of the report and in the disclaimers and disclosures section of the report.

We may also receive a fee for our dealing service, from the company issuing the securities.

Associations and Relationships

BR, RaaS, its directors and related parties have no associations or relationships with any product issuers other than when advising retail clients to invest in managed funds when the managers of these funds may also be clients of BR. RaaS's representatives may from time to time deal in or otherwise have a financial interest in financial products recommended to you but any material ownership will be disclosed to you when relevant advice is provided.

Complaints

If you have a complaint about our service you should contact your representative and tell them about your complaint. The representative will follow BR's internal dispute resolution policy, which includes sending you a copy of the policy when required to. If you aren't satisfied with an outcome, you may contact AFCA, see below. BR is a member of the Australian Financial Complaints Authority (AFCA). AFCA provide fair and independent financial services complaint resolution that is free to consumers.

Website: www.afca.org.au; Email: info@afca.org.au; Telephone: 1800931678 (free call)

In writing to: Australian Financial Complaints Authority, GPO Box 3, Melbourne, VIC, 3001.

Professional Indemnity Insurance

BR has in place Professional Indemnity Insurance which satisfies the requirements for compensation under s912B of the Corporations Act and that covers our authorized representatives.



DISCLAIMERS and DISCLOSURES

This report has been commissioned by Amaero International Ltd and prepared and issued by RaaS Advisory Pty Ltd. RaaS Advisory has been paid a fee to prepare this report. RaaS Advisory's principals, employees and associates may hold shares in companies that are covered and, if so, this will be clearly stated on the front page of each report. This research is issued in Australia by RaaS Advisory and any access to it should be read in conjunction with the Financial Services Guide on the preceding two pages. All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable. Opinions contained in this report represent those of the principals of RaaS Advisory at the time of publication. RaaS Advisory provides this financial advice as an honest and reasonable opinion held at a point in time about an investment's risk profile and merit and the information is provided by the RaaS Advisory in good faith. The views of the adviser(s) do not necessarily reflect the views of the AFS Licensee. RaaS Advisory has no obligation to update the opinion unless RaaS Advisory is currently contracted to provide such an updated opinion. RaaS Advisory does not warrant the accuracy of any information it sources from others. All statements as to future matters are not guaranteed to be accurate and any statements as to past performance do not represent future performance.

Assessment of risk can be subjective. Portfolios of equity investments need to be well diversified and the risk appropriate for the investor. Equity investments in listed or unlisted companies yet to achieve a profit or with an equity value less than \$50 million should collectively be a small component of a balanced portfolio, with smaller individual investment sizes than otherwise.

The science of climate change is common knowledge and its impacts may damage the global economy. Mitigating climate change may also disrupt the global economy. Investors need to make their own assessments and we disclaim any liability for the impact of either climate change or mitigating strategies on any investment we recommend.

Investors are responsible for their own investment decisions, unless a contract stipulates otherwise. RaaS Advisory does not stand behind the capital value or performance of any investment. Subject to any terms implied by law and which cannot be excluded, RaaS Advisory shall not be liable for any errors, omissions, defects or misrepresentations in the information (including by reasons of negligence, negligent misstatement or otherwise) or for any loss or damage (whether direct or indirect) suffered by persons who use or rely on the information. If any law prohibits the exclusion of such liability, RaaS Advisory limits its liability to the re-supply of the Information, provided that such limitation is permitted by law and is fair and reasonable. Copyright 2024 RaaS Advisory Pty Ltd (A.B.N. 99 614 783 363). All rights reserved.