

26 April 2024

March 2024 Quarter Activities Update

Highlights

- Signed MoU with Applied Energetics to develop advanced systems for next generation national security and commercial applications
- Released new gallium nitride DFB performance data as part of development progress with the US Department of Defense's Microelectronics Commons
- Raised \$10.17 million in well supported Placement and SPP (SPP funds received subsequent to end of quarter) to speed and scale visible laser delivery to fulfil new and existing contracts
- Hosted expert roundtable session on the growing role of lasers in defence and national security sectors

Global semiconductor developer BluGlass Limited (**ASX: BLG**) provides the following update and Appendix 4C Quarterly Report for the three months ended 31 March 2024 (Q3 FY24).

MoU with Applied Energetics

BluGlass and US photonics innovator Applied Energetics are collaborating under a Memorandum of Understanding (MoU) on the development of advanced laser systems for next-generation military and commercial applications. Applied Energetics has complementary laser technology, specialising in ultrashort pulse (USP) optical systems across ultraviolet to infrared wavelengths for the US Department of Defense, defence primes, and intelligence community.

The collaboration will leverage BluGlass' full suite of gallium nitride (GaN) products, including its Distributed Feedback (DFB) lasers, for use within Applied Energetics' advanced dual-use laser systems.

CEO Jim Haden said, "This collaboration combines our highly complementary laser technologies and capabilities to address innovative new market segments where neither company can compete individually. Laser technology is increasingly playing a larger role within modern military and national security strategies, where application size, weight, and power are critical. Brighter, better-performing visible lasers have the potential to significantly reduce these key parameters in next-generation solutions while also unlocking a new era of exploratory technologies. While this collaboration is in its infancy, our work with Applied Energetics has numerous commercial and technical benefits, further strengthening our presence within the US government and intelligence communities, and advancing our next-generation product roadmap."

CLAWS Hub development progress

BluGlass delivered all quarterly milestones under its Microelectronics Commons' CLAWS Hub contract, and is on track or ahead of schedule on all metrics. The Company has made substantial progress against many of next quarter's deliverables spanning operational, single-mode, and DFB milestones. BluGlass has met yearly single-mode electro-optical performance metrics across core 405nm, 420nm, and 450nm wavelengths, and continues to work on refinements.

As part of its development activity with the CLAWS Hub, BluGlass has also improved performance of its novel 450nm blue gallium nitride (GaN) DFB lasers. BluGlass, together with development partner the University of California Santa Barbara (UCSB), improved the side-mode suppression ratio of its DFB lasers by 100% since Photonics West 2023, exhibited power output over 100mW from a single diode, and operated at single-frequency over a wide range of current densities. The Company has also reduced operating voltages by 27% over the same period – a key factor in device reliability, thermal management, and wavelength stability.

Visible GaN DFB lasers are a compact, single-frequency laser light source that meet the unique requirements of next-generation technology, such as quantum sensing and navigation, advanced robotics, underwater and space communications, and bio-medical applications. While DFBs are commonly used in non-visible wavelengths, they are not commercially available in the near ultra-violet (UV) and visible spectrums.

“Our recent breakthroughs in GaN-based DFB lasers offer a game-changing solution for emerging quantum sensing, navigation, and communication needs, as well as critical next-generation defence and aviation applications. Visible DFB lasers offer multiple advantages for these emerging technologies, providing precise stable wavelengths and high-power narrow spectral width. They also address a key challenge for quantum computing, which currently utilise large laser systems with significant power and space requirements. Thousands of GaN DFB lasers are processed simultaneously on one two-inch wafer, potentially paving a way for quantum computers to scale-up in volume production as well as scale-down in size,” said CEO Jim Haden.

The Company has published an updated white paper on BluGlass’ latest DFB laser performance data, which is available to download at www.bluglass.com/laser-diodes .

Intellectual Property

BluGlass has secured the rights to license key DFB fabrication IP, entering an agreement with development partner the UCSB Solid State Lighting and Energy Electronics Consortium (SSLEEC) to obtain the rights to two patents.

These patents protect laser design, microfabrication techniques, and specialised optical structures for high performance GaN DFB lasers for use in wavelengths spanning UV to green.

Customer engagement

BluGlass shipped multiple laser orders from new and repeat customers during the quarter. BluGlass is in various stages of engagement with multiple potential customers and remains focused on converting these opportunities into new orders and custom projects.

The Company is also pursuing large revenue-generating contracts, applying for specialist projects as part of the broader ME Commons initiative and engaging with potential partners on tender applications.

Secured \$10.17 million to speed laser delivery

BluGlass strengthened its balance sheet during the quarter, raising \$10.17 million to fast-track the production and delivery of its visible lasers to fulfil new and existing contracts, invest in additional fab equipment, and working capital. A well-supported Placement to sophisticated investors raised \$4.3 million at \$0.037 per share in March, and a Share Purchase Plan on the same terms contributed \$5.87 million in April. Each new share is inclusive of one free attaching option, exercisable at \$0.046 and expiring on 28 February. For every attaching option exercised, shareholders receive an additional piggyback option.

Hosted expert roundtable

During the quarter, BluGlass partnered with ShareCafe to host an expert panel discussion on how laser technologies are increasingly transforming military and intelligence capabilities within the defence and national security sectors. *LASER: Modern warfare’s strategic weapon: why light could be the defence industry’s most ubiquitous tool* featured Professor John Muth from North Carolina State University (NCSSU), Chris Donaghey and Patrick Roumayah from Applied Energetics, AIM Defence co-founder Dr Jae Daniel, and BluGlass’ Jim Haden.

The webinar recording is available at: www.finnewsnetwork.com.au/archives/finance_news_network458885.html.

Financials

March quarter revenue of \$795k comprised payments under the NCSU contract, laser orders, and foundry services for a European wafer developer.

BluGlass' quarterly research and development expenses were \$2,863k, inclusive of salaries, materials, and fabrication costs. Payments to related parties in Q3 FY24 were \$101k, encompassing Chair and Non-Executive Director fees.

Cash at the end of the quarter was \$3,277k, following a successful \$4.3 million Placement. The cash balance excludes the \$5.87 million raised via a Share Purchase Plan, received in April.

Activity Undertaken	Amount paid during the quarter \$'000
Laser Diode product development	\$2,829
RPCVD development	\$34
Total direct expenditure	\$2,863

Outlook

BluGlass continues to gain traction within the highly constrained GaN laser market, building its novel architecture capability to address evolving market needs. The Company is making substantial in-roads with its next-generation product development as part of its CLAWS Hub activity, and is collaborating on complementary technology solutions with laser pioneer Applied Energetics.

These partnerships align with BluGlass' technical and commercial roadmaps, enabling the Company to further differentiate its visible laser offering from larger competitors, bring innovative new products to market quicker, and build industry credibility. The calibre of BluGlass' industry and academic partners is a testament to the innovation of its product portfolio and unique manufacturing capabilities, which underpins many of the Company's technology advancements.

BluGlass will continue to execute on its growth strategy in Q4 FY24, expanding revenue-generating partnerships, progressing sales and qualification of its direct-to-market GaN lasers, and bringing its vertically integrated fab up-to-speed.

This announcement has been approved for release by the BluGlass Board.

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About BluGlass

BluGlass Limited (ASX:BLG) is a leading supplier of GaN laser diode products to the global photonics industry, focused on the industrial, defense, bio-medical, and scientific markets.

Listed on the ASX, BluGlass is one of just a handful of end-to-end GaN laser manufacturers globally. Its operations in Australia and the US offer cutting-edge, custom laser diode development and manufacturing, from small-batch custom lasers to medium and high-volume off-the-shelf products.

Its proprietary low temperature, low hydrogen, remote plasma chemical vapour deposition (RPCVD) manufacturing technology and novel device architectures are internationally recognised, and provide the potential to create brighter, better performing lasers to power the devices of tomorrow.

Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity

BluGlass Limited

ABN

20 116 625 793

Quarter ended ("current quarter")

31 March 2024

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	887	1,555
1.2 Payments for		
(a) research and development	(2,317)	(5,081)
(b) product manufacturing and operating costs		
(c) advertising and marketing	(49)	(109)
(d) leased assets	(378)	(935)
(e) staff costs	(2,144)	(6,351)
(f) administration and corporate costs	(423)	(1,175)
1.3 Dividends received (see note 3)		
1.4 Interest received	3	63
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid	(137)	(137)
1.7 Government grants and tax incentives	-	7,307
1.8 Other (provide details if material)		
1.9 Net cash from / (used in) operating activities	(4,558)	(4,863)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities		
(b) businesses		
(c) property, plant and equipment	(171)	(1,320)
(d) investments		
(e) intellectual property		

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
(f) other non-current assets (security deposits)		
2.2 Proceeds from disposal of:		
(a) entities		
(b) businesses		
(c) property, plant and equipment		
(d) investments		
(e) intellectual property		
(f) other non-current assets		
2.3 Cash flows from loans to other entities		
2.4 Dividends received (see note 3)		
2.5 Other (provide details if material)		
2.6 Net cash from / (used in) investing activities	(171)	(1,320)

3. Cash flows from financing activities		
3.1 Proceeds from issues of equity securities (excluding convertible debt securities)	4,477	4,477
3.2 Proceeds from issue of convertible debt securities		
3.3 Proceeds from exercise of options		
3.4 Transaction costs related to issues of equity securities or convertible debt securities	(319)	(319)
3.5 Proceeds from borrowings	1,149	3,705
3.6 Repayment of borrowings	-	(2,556)
3.7 Transaction costs related to loans and borrowings	(28)	(110)
3.8 Dividends paid		
3.9 Other (provide details if material)		
3.10 Net cash from / (used in) financing activities	(5,279)	(5,197)

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	2,728	4,258
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(4,250)	(4,553)

Appendix 4C
Quarterly cash flow report for entities subject to Listing Rule 4.7B

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(480)	(1,149)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	5,279	5,197
4.5	Effect of movement in exchange rates on cash held	-	4
4.6	Cash and cash equivalents at end of period	3,277	3,277

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	3,089	2,540
5.2	Call deposits	188	188
5.3	Bank overdrafts		
5.4	Other (provide details)		
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	3,277	2,728

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	101
6.2	Aggregate amount of payments to related parties and their associates included in item 2	

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	1,149	1,149
7.2 Credit standby arrangements		
7.3 Other (please specify)		
7.4 Total financing facilities	1,149	1,149
7.5 Unused financing facilities available at quarter end		
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered or are proposed to be entered into after quarter end, include a note providing details of those facilities.		
A secured loan agreement from Radium Capital, with an annual interest rate of 15% and a maturity date of 31 December 2024. Borrowed against FY24 Quarter 1 R&D rebate.		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(4,559)
8.2 Cash and cash equivalents at quarter end (item 4.6)	3,277
8.3 Unused finance facilities available at quarter end (item 7.5)	
8.4 Total available funding (item 8.2 + item 8.3)	3,277
8.5 Estimated quarters of funding available (item 8.4 divided by item 8.1)	0.9
<i>Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.</i>	
8.6 If item 8.5 is less than 2 quarters, please provide answers to the following questions:	
8.6.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: The company expect to have funds to meet its operating cashflows for the following reasons: 1) The company closed its Shared Purchase Plan on 28 March 2024, raised \$5.87 million, funds were received on 3 April 2024. Both the Placement and the SPP have one free attaching option. Every attaching option exercised will also include an additional piggyback option which will allow the company to secure more funds in the coming 12-24 months. 2) The company is planning to generate revenue from product and project sales; 3) The company will receive a significant R&D grant for the year ending 30 June 2024 in Q1/Q2 of FY2025. And can also borrow against it if needed.	
8.6.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: Yes, please refer to 8.6.1	

8.6.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Yes - with the SPP funds in April 2024, the anticipated product and project sales and access to R&D Funding, the company believes it will have sufficient working capital to meet its operational objectives.

Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 26 April 2024
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Authorised by: The Board of Directors
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(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.