

31 October 2022

September Quarter Activities Update

Highlights

- Silicon Valley fab now operational and contributing to technology roadmap
 - Significantly speeding development to leap-frog cycle times at contract manufacturers
- Joined leading GaN lighting and electronics consortium, gaining access to pre-eminent GaN faculty and world-class facilities
- Appointed Rob Ambrogio as Chief Financial Officer to lead BluGlass' finance functions

Global semiconductor developer and manufacturer BluGlass Limited (**ASX: BLG**) provides the following update and Appendix 4C Quarterly Report for the three months ended 30 September 2022 (Q1 FY23).

Silicon Valley fab contributing to tech roadmaps

During the quarter, BluGlass' Silicon Valley fab commenced processing of GaN laser wafers shipped from the Company's Silverwater facility. Bringing these key manufacturing steps in-house complements and accelerates ongoing product development at the Company's contract manufacturers while also building on the fab's short-loop development and testing.

The benefits of BluGlass' own fab and increased operational control are already evident in the outstanding workmanship demonstrated from the very first laser diode processing lot, which significantly improved process quality and reduced defects. Faster wafer processing and reduced queue times at the Silicon Valley fab have substantially accelerated full-loop and short-loop development cycles, leap-frogging development iterations at BluGlass' contract manufacturers.

BluGlass continues to onboard and validate core processes in-house to vertically integrate its supply chain. The n-metallisation process will start being brought in-house during October and November, followed by thinning and cleaving, and facet coatings which are targeting in-house qualification by early to mid-2023. BluGlass is aiming to eliminate its production dependency on front-end contract manufacturers during FY23. Vertical integration will reduce supply chain complexity, improve problem-solving, quality, yields, and speed of development while also reducing production costs and increasing margins and profitability.

BluGlass President Jim Haden said, "The workmanship of laser diode processing lots from our Silicon Valley fab is exceptional, reflecting the importance of our dedicated production facility and expert team in improving product quality, consistency, and development speed. We also benefit from our team's extensive laser diode manufacturing experience, identifying high-risk areas at our contract manufacturers to reduce defects in our CM development turns.

"Importantly, development progress at our Silicon Valley fab has already leap-frogged our contract manufacturers. We are quickly combining our increased agility with process improvements to solve our reliability challenges ahead of launching our first commercial products. At the same time, we are bringing key processing steps in-house to further enhance the quality and performance of our laser diodes whilst also reducing production costs and reliance on contract manufacturers.

“While our priority remains the launch of our first laser diode products, increased development capacity at our fab has enabled us to accelerate our advanced roadmaps, with our first RPCVD wafers commencing processing at Fremont.”

Operations at the Silicon Valley facility commenced after it was awarded all requisite regulatory approvals, including Environmental Protection Authority (EPA), air quality, and waste management permits.

Laser diode progress

BluGlass continues to improve the performance and reliability of its GaN laser diodes. During the quarter, the Company demonstrated improvements in laser light-output, electrical performance, and thermal management - all of which underpin performance and reliability. These improvements are a result of optimisation efforts in each of the four key ingredients needed for commercial GaN lasers: epitaxy, metals, facets, and bonds.

During the quarter, BluGlass demonstrated its best epitaxial optical and voltage performance to date, launching two improved epi-designs, which are now progressing through the manufacturing supply chain. These new designs have been successfully short-loop tested and have demonstrated enhanced light-output power at lower input power.

Facet coating improvements, resulting from a collaboration between BluGlass' Fremont laser diode team and its coating contract manufacturers, combined with low resistance metals and ohmic contacts, are anticipated to deliver higher yields and significantly improve device performance and reliability.

The Company continues to progress towards launching its first beta products, benefitting from the significant acceleration of development timelines due to its Fremont facility now contributing to full-loop development cycles.

Joined leading GaN lighting consortium

In September, BluGlass joined the University of California, Santa Barbara's (UCSB) Solid-State Lighting & Energy Electronics Centre (SSLEEC) consortium – an invitation-only collaboration between industry leaders and the UCSB'S pre-eminent gallium nitride researchers, focused on the development of new semiconductor technologies.

Consortium membership provides BluGlass access to UCSB's world-class wafer processing facility and pre-eminent faculty, including blue-LED inventor and Nobel Laureate, Professor Shuji Nakamura, and industry luminary Professor Steven DenBaars. BluGlass' Silicon Valley team has already commenced collaboration activities with UCSB, which is expected to accelerate the Company's product development roadmaps for novel blue and green laser diodes.

The SSLEEC invitation recognises BluGlass' ground-breaking innovation in RPCVD epitaxy, novel laser architectures, and longer-wavelength GaN devices, combined with its new ability to independently manufacture and commercialise its laser diode technology.

Rob Ambrogio appointed CFO

During the quarter, BluGlass appointed highly credentialled finance executive Mr Rob Ambrogio to the role of Chief Financial Officer. Mr Ambrogio brings to BluGlass more than 20 years of experience leading high-performing finance teams, in high-growth public, private, and Not-for-Profit enterprises. He has previously held CFO roles at ASX-listed investment company Gowing Bros Limited (ASX:GOW), employment and training firm MTC Australia Limited, and leading Australian marketing agency Creative Activation.

Mr Ambrogio's demonstrated experience overseeing business transformation complements the skills of BluGlass' leadership team and will be invaluable as the Company prepares for commercialisation and profitability.

Mr Ambrogio has joined BluGlass on a part-time basis with the potential to increase to full-time in line with revenue generation activity.

Semiconductor Spotlight Series and Upcoming Investor Events

BluGlass and ShareCafe have partnered to host a series of expert panel sessions to educate the Australian investor community on applications and opportunities within the global semiconductor and high-tech industries.

The first panel in the series, *From Star Wars to Supermarkets: How Semiconductors Power the Universe*, was held on Wednesday 19 October 2022 and profiled Australia's semiconductor and high-tech sector in the context of the global industry. The panel included a keynote presentation by Nobel Laureate and inventor of gallium nitride (GaN) semiconductors, Professor Shuji Nakamura. The webinar recording is available to stream here: <https://www.bluglass.com.au/investor-webcast/>

The second roundtable *Gaining exposure to the booming semiconductor sector on the ASX*, focuses on Australia's increasing role in the global semiconductor sector, the incredible innovation and world-class technology being developed on-shore today, and will feature several of Australia's leading semiconductor companies. The virtual panel will be held on Tuesday 29 November at 10am AEDT. The roundtable is free to attend, register here: https://us02web.zoom.us/webinar/register/WN_Z48bssWVQJeFWVOjyPHnRA.

BluGlass is participating at Automic Markets' TechOpps 2022 conference, being held in Melbourne and virtually on 2-3 November. BluGlass is presenting on 3 November at 3pm. Attendance is free, register to attend in person https://lnkd.in/gP8w7n_P or online <https://lnkd.in/gWAG4jwg>.

Stocks Down Under is hosting its 4th Semiconductor Conference on Tuesday 15 November in-person in Sydney and online. BluGlass will be speaking at the event and investors can register to attend here: https://lnkd.in/f94C_mR.

Financials

Revenue from customers for the September quarter remained largely the same at \$241k, made up predominately of foundry services for its European wafer developer customer.

BluGlass' total net operating expenditure in Q1 FY23 was \$4,065k. Research and development expenses, including salaries, materials, and fabrication costs, accounted for \$2,817k while non-R&D related staff costs totalled \$473k. Higher development costs reflect the Company's ongoing work to bring its Silicon Valley fab online whilst simultaneously progressing the development of its GaN laser diodes with contract manufacturers.

These higher costs were partially offset by the \$4.05 million R&D tax rebate for development work conducted in FY2021. The full rebate was received on 31 October 2022.

Payments to related parties in Q1 FY23 were \$108k, comprising Executive Chair and Non-Executive Director fees. Cash at end of the Q1 FY23 was \$1.289 million.

Activity Undertaken	Amount paid during the Quarter \$'000
Laser Diode product development	\$2,731k
RPCVD equipment development	\$86k
Total direct expenditure	\$2,817k

Outlook

BluGlass continues to optimise its laser diode product portfolio to achieve commercial reliability and launch its first commercial lasers in the 405nm, 420nm and 450nm wavelengths. In parallel, the Company is continuing to vertically integrate its downstream manufacturing supply chain at its Silicon Valley fab to speed development, enhance laser diode quality and consistency, while reducing production costs.

"BluGlass is leveraging our own dedicated Silicon Valley fab to significantly expedite our learning and development cycles. Products spanning violet and blue wavelengths are in advanced development, with alpha products being tested internally and by a customer. Our additional manufacturing capacity has also accelerated our next-generation

product development, and we are now progressing to longer wavelengths and RPCVD-enhanced laser diode development.

“Over the coming quarter, we remain focused on combining the improved workmanship of our expert Silicon Valley process team with improvements in epitaxy, facets, metals, and bonding to achieve our reliability milestones, ahead of beta product release. The pace of development in our fab and the significant quality improvements have validated our decision to acquire this facility and a world-class team. We are nearing productisation within a large and growing market and are well-placed to deliver on our technology and commercialisation objectives.” finished BluGlass President Jim Haden.

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

For more information, please contact:

Stefanie Winwood | +61 2 9334 2300 | swinwood@bluglass.com.au

About BluGlass

Developing leading-edge semiconductor manufacturing technology and devices for more than a decade, **BluGlass Limited (ASX:BLG)** is a provider to the global GaN photonics industries, delivering cutting-edge, custom **laser diode** development across the industrial, defence, display, and scientific markets.

Listed on the ASX, we are an Australian public company established to power the smarter, cleaner, more efficient photonics of tomorrow with our proprietary low temperature, low hydrogen, **remote plasma chemical vapour deposition** (RPCVD) manufacturing technology.

Backed by an extensive network of supply-chain partners, BluGlass is developing a suite of laser diode products, from small-batch custom lasers to high-volume and off-the-shelf products.

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")

30 September 2022

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	241	241
1.2 Payments for		
(a) research and development	(1,709)	(1,709)
(b) product manufacturing and operating costs		
(c) advertising and marketing	(38)	(38)
(d) leased assets	(133)	(133)
(e) staff costs	(1,774)	(1,774)
(f) administration and corporate costs	(411)	(411)
1.3 Dividends received (see note 3)		
1.4 Interest received		
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid		
1.7 Government grants and tax incentives	50	50
1.8 Other (provide details if material)		
1.9 Net cash from / (used in) operating activities	(3,774)	(3,774)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities		
(b) businesses		
(c) property, plant and equipment	(273)	(273)
(d) investments		
(e) intellectual property		

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

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
	(f) other non-current assets (security deposits)	(73)	(73)
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	(346)	(346)
3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	74	74
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		
3.5	Proceeds from borrowings		
3.6	Repayment of borrowings		
3.7	Transaction costs related to loans and borrowings	(20)	(20)
3.8	Dividends paid		
3.9	Other (provide details if material)		
3.10	Net cash from / (used in) financing activities	54	54
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	5,352	5,352
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(3,774)	(3,774)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(346)	(346)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	54	54
4.5	Effect of movement in exchange rates on cash held	3	3
4.6	Cash and cash equivalents at end of period	1,289	1,289

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	851	851
5.2	Call deposits	438	438
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)	1,289	1,289

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	108
6.2	Aggregate amount of payments to related parties and their associates included in item 2	
<i>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.</i>		

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.</i>		
<i>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1	Loan facilities	
7.2	Credit standby arrangements	
7.3	Other (please specify)	
7.4	Total financing facilities	
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 into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.	

8. Estimated cash available for future operating activities	\$A'000	
8.1	Net cash from / (used in) operating activities (item 1.9)	(3,774)
8.2	Cash and cash equivalents at quarter end (item 4.6)	1,289
8.3	Unused finance facilities available at quarter end (item 7.5)	
8.4	Total available funding (item 8.2 + item 8.3)	1,289
8.5	Estimated quarters of funding available (item 8.4 divided by item 8.1)	0.34
<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?	
	<p>Answer:</p> <p>The company does expect to have funds to meet its net operating cashflows for the following reasons:</p> <p>1) The FY2022 R&D rebate of \$4.05 million was received on 31 October 2022; and</p> <p>2) As at 28 October 2022 the company has on issue 149,235,278 listed options (ASX: BLGO) which are exercisable at \$0.03 on or before 30 November 2022. These options are currently in the money and if all are exercised approximately \$4.47 million in gross proceeds will be received by the Company. To date the Company has experienced a constant flow of option exercise requests and are processing these on a weekly basis.</p>	
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?	
	<p>Answer:</p> <p>Yes please refer to answer of 8.6.1</p>	

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 anticipated funds to be received by the 30 Nov 2022 the entity believes it will have sufficient working capital to meet its operational objectives for the remainder of the financial year.

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: 31 October 2022

Authorised by: The Board
(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.