

21 October 2024

BluGlass 2024 AGM Chair & CEO Address

Global semiconductor developer **BluGlass Limited (ASX: BLG)** is pleased to present its 2024 Annual General Meeting.

Chair's Report

Good afternoon, everyone.

My name is James Walker, and I am the Chair of BluGlass Limited.

Welcome to our 2024 Annual General Meeting. It is now past 12pm, the nominated time for the meeting and as we have a quorum, I'm pleased to declare the meeting open.

Here with me today are Non-Executive Directors Stephe Wilks, Jean-Michel Pelaprat and Vivek Rao. I'm also joined by CEO Jim Haden, Chief Financial Officer Sam Samhan, Chief Technology and Operations Officer Dr Ian Mann, Head of Corporate Communications and Investor Relations Stef Winwood, and our Company Secretary Patricia Vanni.

Representatives of our auditors InCorp are also present.

Today, I'll take you through our FY24 achievements and financial performance, before I hand over to Jim for an operational update on our product development, customer engagement and partnerships, vertical integration progress, and product roadmaps.

We encourage shareholders to take part in the meeting. The Board and senior leadership team will address any shareholder questions before commencing the formal business of the meeting.

ACHIEVING RECORD REVENUE AND SUCCESS IN FY24

The 2024 financial year was our most successful year to date, delivering record revenues of A\$10.1 million, securing a coveted position within the US Department of Defense's Microelectronics Commons, completing in-sourcing our wafer fabrication capabilities at our Silicon Valley production fab, and partnering with commercial and academic leaders to build and enhance our industry credibility and prepare the business for scaling and growth.

- In FY24, we were awarded our largest contract to date, signing a A\$2.6 million laser development contract with North Carolina State University (NCSU) – the lead member of the Commercial Leap Ahead for Wide Bandgap Semiconductors (CLAWS) Hub. The CLAWS Hub is part of the US Microelectronics Commons established by the US Department of Defense and funded by the CHIPS and Science Act. Core development agreements are awarded on an annual basis, and I'm pleased to report we delivered all milestones under the year-one contract. CLAWS participation has increased BluGlass' visibility in our target markets from defence, dual-use and the broader quantum and scientific markets.
- In July we received our largest single customer payment of A\$1.93 million from our European wafer developer customer. BluGlass has been developing IP for this customer to bring their unique specialty wafers to market since January 2022 under a paid development contract. This one-off payment is for the transfer of these intellectual property rights, relating to GaN growth techniques on their specialty wafers. We continue to collaborate with this customer, now on development and manufacturing runs on their wafers under an ongoing foundry services agreement.

- Our epitaxy expertise, and track-record in helping customer solve challenging problems, combined with our manufacturing flexibility and agility is a key competitive advantage, complementing our laser business and providing additional revenue and customer opportunities.
- During the year, we acquired a commercial contract manufacturer GaNWorks Foundry, allowing us to advance the vertical integration and manufacturing steps in our Silicon Valley facility. Our wafer fab is now benefitting from having core wafer processes under its operational control. This acquisition will fast-track development and production cycles, delivering significant cost savings over the long-term.
- In FY24, we began collaborating with Applied Energetics to develop advanced laser systems for military and commercial applications under a Memorandum of Understanding leveraging BluGlass' complementary GaN laser products, including our Distributed Feedback (DFB) lasers, within Applied Energetics' advanced dual-use laser systems. Combining the complementary laser technologies and capabilities enables us to address new market segments, particularly applications where size, weight and power are critical. This collaboration reinforces our reputation within US government and intelligence sectors, and aligns with our product development roadmaps.
- In January 2024, we received the first order of our prototype blue GaN DFB lasers from an advanced laser systems pioneer for evaluation in next-generation defence, aviation and scientific applications, demonstrating the significant customer and partner interest our pioneering DFB development is attracting.
- We continued our semiconductor education series in FY24, partnering with ShareCafe to host two expert panel discussions – LASER: Modern warfare's strategic weapon: why light could be the defence industry's most ubiquitous tool and The GaN Revolution: Powering the technologies of tomorrow – and launched Australia's premier semiconductor, quantum, and photonics conference, Semiconductor Australia 2024, happening this week. This event will bring Australia's brightest deep-tech entrepreneurs, industry and innovation policy makers together with the international investor community to discuss the opportunities and roadmap to help secure the nation's next-generation economic growth engines and we encourage our investors to get involved with the event to deepen understanding of the opportunities of the semiconductor and quantum markets both here in Australia and globally.
- During the year, we entered an agreement with development partner the UCSB Solid State Lighting and Energy Electronics Consortium to obtain rights to two pending patents to protect laser design, microfabrication techniques, and specialised optical structures for high performance GaN DFB lasers for use in wavelengths spanning ultraviolet to green.

FINANCIAL PERFORMANCE

In FY24, BluGlass generated its highest ever annual revenue, generating topline income and revenue of A\$10.1 million. Customer revenue was up 307% over the prior corresponding period to \$A4.7 million, comprising the NCSU CLAWS contract, a one-off payment for IP transfer to the European wafer developer, and initial laser product revenues. At the same time as growing our topline revenue and customer receipts, the business has demonstrated reduced reliance on the R&D tax rebate, which is down 35% to A\$5.4 million for development activities carried out in Australia during FY24. Our total operating loss of \$10.13 million was down 14% from a loss of \$11.75 million in the previous year.

During the year we raised a further \$10.17 million to fund the commercialisation and development of our visible laser portfolio, invest in additional fab equipment and working capital. Ongoing shareholder support is appreciated, and not something we take for granted. We look forward to delivering value for shareholders in FY25 as we ramp-up production, win large revenue generating projects with the view to on-board large, and long-term production contracts, and move the business towards profitability and sustainability.

Following strong growth in FY24, we will continue the considerable momentum we've built and drive further growth in FY25. With significant advances in revenue generation, strategic partnerships, and operational capabilities, we are ready to take advantage of new opportunities in the global semiconductor and laser markets, further solidifying our standing as a leading innovator in GaN laser technologies.

On behalf of the Board, we extend our appreciation to our shareholders, partners, and team for their continued support. We are confident that the progress made in FY24 has set the stage for even greater success in FY25, and we look forward to delivering on our ambitious goals and creating lasting value for all stakeholders.

I will now hand over to CEO Jim Haden.

CEO's Report

Thanks James. I'm Jim Haden, the CEO of BluGlass Limited. It's a pleasure to be here in Sydney for the 2024 Annual General Meeting, and I look forward to speaking with shareholders today.

This afternoon, I'll provide an overview of what's driving growth in the global demand for visible GaN lasers, our progress on the US Department of Defense's CLAWS Hub, where we are seeing increasing interest from strategic customers and partners, our commercial roadmap to exploit our novel GaN lasers and enable new applications and markets, and the path to profitability and business outlook in FY25.

OVERVIEW

DELIVERED OUR MOST SUCCESSFUL YEAR

FY24 was both our most successful and most challenging year to date. For the third consecutive year we grew our top-line revenue, delivering record income of A\$10.1M, nearly three times our revenue of 2021. This was supported by our important partnership with the Microelectronics Commons, CLAWS Hub funded by the US Department of Defense, record foundry customer receipts, and growing early-stage product revenues.

We fully executed on our development sub-contract with the US Department of Defense, as part of the CLAWS Hub. This collaboration with Hub Lead, North Carolina State University (NCSU), in conjunction with our development work with University of California, Santa Barbara, has led to world-leading visible GaN DFB performance, and is driving significant commercial demand for next-generation applications in high-potential emerging markets, including the \$6B by 2040 quantum sensing market.

At the same time, we continued to bring our Silicon Valley fab online, in-source contract manufacturers with the acquisition of GanWorks foundry, establish new capabilities, extend our DFB wavelength range, and develop our project and revenue pipeline.

During the year, we experienced disruptive equipment downtime and failures and subsequently developed new processes, equipment fixes, and purchasing strategies. We continue to enhance our fab uptime and ensure production flow, improve repeatability, product availability, speed of delivery, and manufacturing yields.

Despite these hurdles, the business delivered on our top priorities and executed all partner milestones. We continued to grow the business, create record revenue growth, advance our technology capabilities, deliver world-class innovation, attract industry-leading partners, and establish our reputation as the agile partner-of-choice in the marketplace.

CLAWS CORE YEAR HIGHLIGHTS

Our important work with the CLAWS Hub advanced our single-mode laser development and led to world-leading GaN DFB laser performance. This capability is key to enabling emerging technologies such as quantum computing, atomic and ion clocks, magnetic sensing, atmospheric and underwater LiDAR, sea, air, and space communications, and more.

Our narrow-linewidth lasers are moving the industry closer to quantum transition application requirements that will unlock these applications in the \$173 billion quantum technologies marketplace. Later in this presentation pack, I will discuss these markets and the commercial advantages of GaN DFBs.

Further, our participation in the US Department of Defense's Microelectronics Commons has raised our business profile considerably throughout the industry and is leading to growing opportunities with primes, government agencies, and the broader quantum and dual-use markets.

MOU WITH NATIONAL SECURITY CONTRACTOR – APPLIED ENERGETICS

During the year, we entered a Memorandum of Understanding with strategic partner Applied Energetics to augment capabilities and combine high-performance solutions and expertise across a wide range of emerging technologies. We are working with the US prime contractor, leveraging their direct access to US government agencies to explore

highly synergistic commercial opportunities and develop advanced solutions critical to national security, aviation, and commercial applications.

Applied Energetics pioneers next-generation ultrashort pulse (USP) optical systems for the US Department of Defense, defense primes, the intelligence community, and commercial, medical, and space markets.

GROWING DEMAND & MARKET VALIDATION

Our go-to-market strategy has been thoroughly validated during the year by the incredible calibre of partners engaging with us to develop ground-breaking innovations. Our unique approach to addressing unique customer challenges and bringing novel applications and capabilities to the market is attracting growing interest. We are working with industry leaders as part of the CLAWS Hub and renowned research organisations, including UCSB and NCSU, while progressing negotiations with several potential customers and strategic partners, from defence primes to government agencies and OEMs through to disruptive start-ups.

The market continues to affirm its need for a high-capability, collaborative, flexible supplier who can meet custom needs, deliver underserved wavelengths, and address integration challenges. We remain pragmatically optimistic about the company's future as we establish highly valuable, strategic relationships with industry-influencing partners across diverse opportunities and markets.

GROWING PROJECT PIPELINE

Our growing pipeline of projects and opportunities bolsters our confidence. We have a healthy number of programs in various stages in our funnel. We are progressing with a range of semi-custom development agreements (based on our core technology and standard operating procedures) and long-term projects, including the potential for follow-on production contracts and manufacturing supply agreements.

While these negotiations can take time to realise, cumulatively, they build momentum down the path to product commercialisation and profitability to secure the company's growth and sustainability. Our pipeline opportunities prime the business to exploit our captive fab, skilled manufacturing team, growing innovative laser portfolio and technology capabilities, and the growing number of high-value partnerships and collaborations.

TECHNICAL AND OPERATIONAL PROGRESS

DFB PERFORMANCE IMPROVEMENTS – WORLD-LEADING NARROW LINEWIDTH DEVICES

During the year, we significantly advanced our innovative visible GaN Distributed Feedback (DFB) lasers, achieving world-leading GaN DFB demonstrations.

BluGlass, in conjunction with our partner, UCSB, doubled the side-mode suppression ratio, achieved power outputs exceeding 100mW from a single diode, and maintained near single-frequency operation over a wide range of current densities. We also reduced operating voltages by 27%, enhancing device reliability, thermal management, and wavelength stability.

The performance metrics show incredible commercial promise as we progress closer to the quantum transition requirements needed to support applications in quantum computing, atomic and ion clocks, magnetic sensing, atmospheric and underwater LiDAR, and sea, air, and space communications.

DOUBLED DFB SIDE-MODE SUPPRESSION RATIO

BluGlass' world-leading side-mode-suppression ratio (SMSR) underpins customers' growing interest within the quantum, scientific, and biotech industries. SMSR is a key metric indicating the laser's suppression of undesired wavelengths.

BluGlass' latest design iterations demonstrate a world-leading side-mode-suppression ratio (SMSR), which underpins customers' growing interest within the quantum, scientific, and biotech industries.

As part of the ME-Commons project, we doubled SMSR from ~20 dB at drive currents up to 6 kA/cm² to ~40 dB at even higher current densities.

IMPROVE MARKET ACCESS: ADVANTAGES OF NARROW LINEWIDTH GaN DFB LASERS

Ultra-precision, near-single-frequency DFB lasers are not yet commercially available in the near-UV and visible spectrums. These visible DFB lasers offer crucial benefits for emerging technologies, where their precise and stable performance is essential for quantum sensing, navigation, communication, and next-generation defense and aviation applications. They also help address critical challenges in quantum computing, allowing for greater production volume and smaller device sizes with wafer-level processing.

Our industry-leading technology capabilities in GaN distributed feedback (DFB) lasers position the business as a first mover in rapidly growing markets and applications. Partnered with UCSB, BluGlass' groundbreaking work in DFB laser development has generated significant interest from customers and partners; and has resulted in valuable intellectual property. In January 2024, the company received its first order for prototype blue GaN DFB lasers from an advanced laser systems pioneer for use in next-generation defense, aviation, and scientific applications and has since sampled DFBs to similarly motivated innovators.

IMPROVED DEVICE CHARACTERISATION CAPABILITIES IN NASHUA

Our packaging and characterisation of our GaN lasers are critical to getting our lasers into our customers' and partners' hands. During the year, we commissioned significant upgrades to our burn-in racks, moving from research-scale capability to large-scale commercial racks retrofitted from existing GaN LED racks.

We also installed a state-of-the-art monitored reliability testing system, which has scaled our laser reliability testing capabilities by more than 40x relative to our home-built system while adding operational capabilities and system stability, which to date were missing.

With the addition of burn-in and reliability monitoring systems, we've drastically increased our ability to evaluate our devices under various conditions (known as HAST and HALT-highly accelerated stress and life tests), which prepares the Company for continuous improvement and performance on a much larger scale than previously available.

INSOURCING WAFER FAB UPDATE

During the year, we completed the integration of GaNWorks Foundry into our operations, with only a slight year-over-year increase in expenses. With this strategic acquisition, BluGlass insourced (to our Silicon Valley facility) critical backside GaN wafer processes, including n-side wafer metallization, wafer thinning, and laser bar cleaving.

By insourcing these capabilities, we strengthened our engineering team and supply chain, enhanced learning cycles, and reduced cycle times while improving production yields. Together, this leads to increased operational efficiencies and significant future cost savings.

We've already seen improvements in backside processing, reducing breakage by 50% and increasing processing speed by 30%.

MARKET OVERVIEW

GaN DFB LASER APPLICATIONS

Quantum information science is rapidly advancing, driving an urgent need for compact, near single-frequency laser light sources. Advancements in quantum computing and quantum applications are underpinned by stimulated light interaction with unique materials, down to the atomic scale, requiring specific wavelengths to target individual atomic interactions.

Natural physics dictates the unique wavelengths required to interact with specific atoms, crystals, and the environment. Many of these wavelengths are in the near ultraviolet (UVA) and visible spectrums. Due to their unique laser properties, gallium nitride (GaN) wide-bandgap semiconductor lasers are ideally positioned to address these nature-dictated UVA and visible wavelengths.

We are seeing strong interest in our GaN DFB capabilities to support:

- Quantum sensing
- Aviation and defence applications
- Quantum navigation
- Atomic and ion clocks
- Undersea communications and sensing
- and biophotonics

QUANTUM OPPORTUNITY

The quantum sensing market is nascent but snowballing - driven by global demand for high-precision measurements and critical-application data.

While quantum sensing is more mature than other quantum technologies, such as computing and communication, for these applications to reach their potential and replace existing industrial-scale sensing markets, greater precision, control, and stability are required – and these needs underpin considerable market interest in the capabilities of our near single-frequency GaN DFB lasers.

According to a recent McKinsey analysis, the quantum sensing market is projected to experience explosive growth, reaching US\$1 billion by 2030 and \$6 billion by 2040, as its advantages both disrupt existing industries and forge new industries that rely on sensor technology.

Emerging quantum markets present an enormous opportunity for BluGlass due to the many enabling atomic transitions at near UV and visible wavelengths. Customers increasingly seek these wavelengths to support up-and-coming applications, including advanced robotics and bio-medical devices. Brain-driven prosthetic automation and atomic clocks for quantum navigation used in military and commercial applications are exciting examples of this next-generation tech.

THE YEAR AHEAD

BLUGLASS TECHNOLOGY ROADMAP

We continue to advance our ambitious technology and commercialisation roadmap, which drives our ability to win market share and position the business as the global partner of choice in our rapidly growing target verticals.

During the year, we advanced all segments of our roadmap, from enhancing our core capabilities to shipping initial products to customers. We also significantly expanded our market research through our participation in the CLAWS Hub.

We enhanced our novel capabilities, driving world-leading GaN DFB performance, and augmented our portfolio with semiconductor optical amplifiers (SOAs) as a natural off-shoot of our single-mode lasers. Due to customer demand, we extended our GaN DFB wavelength range from violet to aquamarine and introduced semiconductor optical amplifier capabilities.

Together, these capabilities enhance our ability to win in emerging markets with higher-value offerings, attract project development revenues, and achieve higher average selling prices (ASPs).

As the only pure-play visible GaN laser supplier in the market, with our unique technology capabilities and enhanced offerings, we continue positioning the business as the industry's partner.

WHAT WE INTEND TO ACCOMPLISH IN THE COMING YEAR

Looking to the year ahead, we will continue focusing on four critical areas of our business:

- Building strategic relationships
- Advancing our technology roadmaps
- Continuous improvement of manufacturing and operations, and
- Winning non-dilutive revenue and development funding.

The partnerships we established in FY24, including our collaboration with North Carolina State University and Applied Energetics, have added to our already strong foundation bolstered by our work with UCSB to drive innovation and market penetration. We will deepen these relationships and seek new opportunities to partner with industry leaders, governments, and academic institutions to expand our reach within key markets and deliver next-generation GaN laser solutions.

Our DFB lasers, which garnered significant interest during prototype evaluations in FY24, will remain a core focus as we push toward full commercialization. The continued development of these lasers and our expertise in epitaxy and specialty wafer applications positions us to address critical challenges in advanced technology markets. Semiconductor optical amplifiers (SOAs) can increase the power in conjunction with our single-mode Fabry Perot and DFB laser or as stand-alone gain sources for external cavity laser diodes (ECLDs).

We will focus on continuous operational and manufacturing improvement, leveraging our vertically integrated wafer fabrication and packaging capabilities, and capitalizing on the cost efficiencies and faster development cycles achieved through the GaNWorks Foundry acquisition. This will enable us to scale production and meet the growing demand for advanced laser products in high-value sectors such as defense, aviation, and quantum sensing.

We anticipate that BluGlass will grow revenue and advance along our strategic roadmap toward long-term sustainability and profitability in FY25. Our commitment to innovation, enhanced manufacturing capabilities, and partnership portfolio will ensure that we remain at the forefront of the semiconductor and laser industries for years to come. To support our technology and operational roadmaps, we will continue to grow our non-dilutive product development project revenue, positioning the company for a continuous flow of new products into this vibrant market.

BLUGLASS – THE WORLD’S LEADING PURE-PLAY VISIBLE LASER SUPPLIER

We enter FY25 with a growing project pipeline, with multiple negotiations in late-stage development, promising significant revenue growth for the year ahead.

BluGlass’ offering has been designed to tackle our customers’ challenges head-on with flexible product, design, and manufacturing capabilities. Our world-leading GaN growth technology and novel laser architectures, combined with packaging and integration capabilities, pave the way to winning market share in highly strategic and rapidly growing markets.

GaN lasers are a nascent yet critical technology, and we are establishing ourselves as a supplier of choice as the adoption of visible lasers increases to support global megatrends.

I’m incredibly proud of the momentous contribution and achievement of our talented and perseverant team, who delivered our top priorities this year in the face of strong headwinds. We continued to grow the business, create record revenue growth, advance our technology capabilities, deliver world-class innovation, attract industry-leading partners, and establish our reputation as the agile partner of choice in the marketplace.

I’d also like to acknowledge our investors for their continued support of the business as we advance our reputation and deliver on our shared vision of providing the world’s easiest-to-use GaN laser light.

Thank-you.

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

For more information, please contact: Stefanie Winwood | +61 2 9334 2300 | swinwood@bluglass.com

BluGlass Limited (ASX:BLG) is a leading supplier of GaN laser diode products to the global photonics industry, focused on the industrial, defence, 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.