BLUGLASS (ASX:BLG)

Annual General Meeting

23 November 2020

2020

FORWARD LOOKING STATEMENT

This document has been prepared by BluGlass Limited to provide readers with an update of the Company and the Company's technology.

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Information on Service Addressable Markets (SAM) is based on internal BluGlass modelling and assumptions, both of which depend on successful R&D outcomes and results achieved within estimated timetables. BluGlass recommends a cautious interpretation be taken by investors.

ORDER OF BUSINESS

CHAIR'S REPORT

MANAGING DIRECTOR'S REPORT

CHIEF OPERATION & TECHNOLOGY OFFCIER'S REPORT

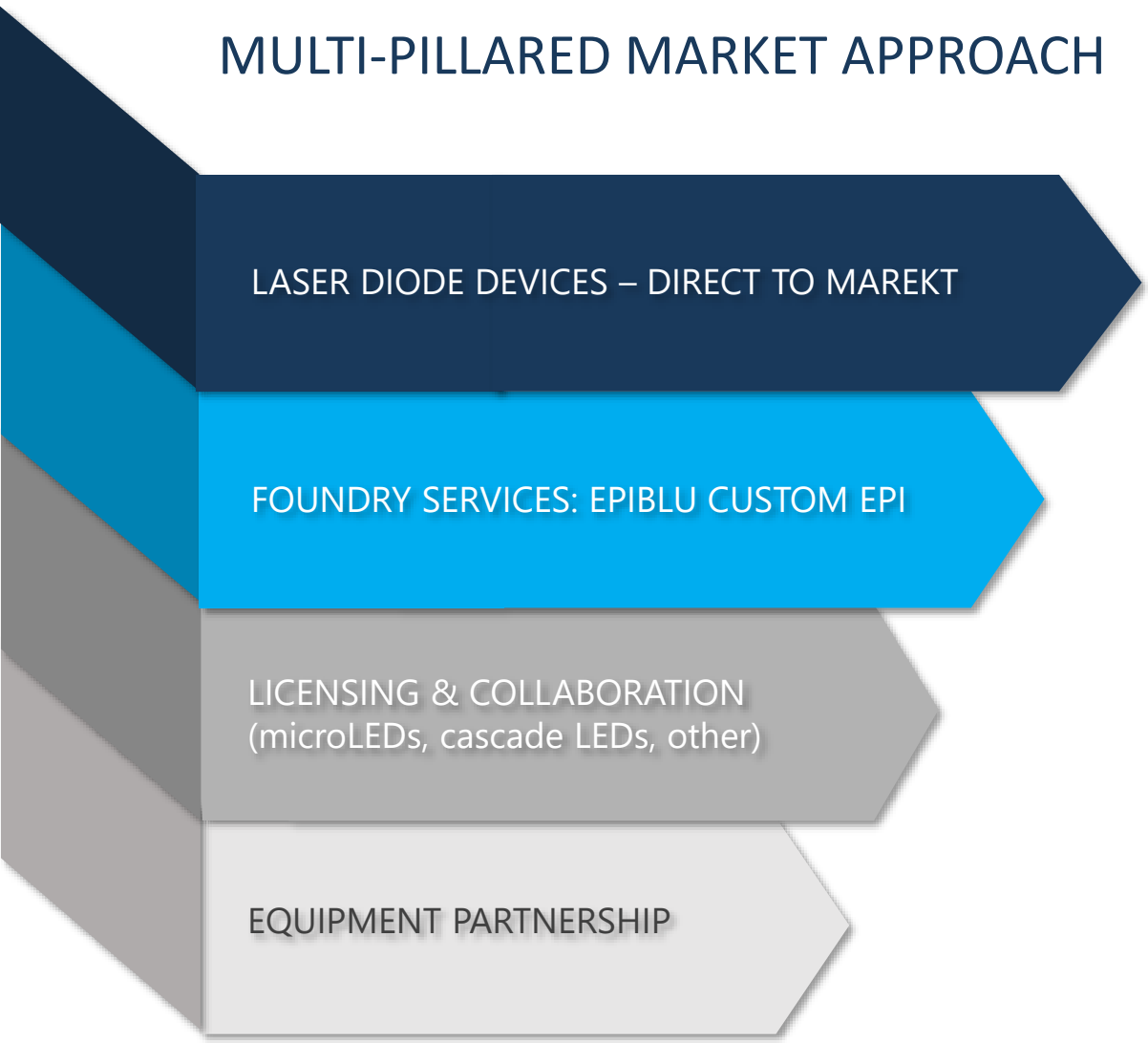
QUESTION & ANSWERS

OFFICIAL BUSINESS

JAMES WALKER
CHAIR'S REPORT

STRATEGY

MULTI-PILLARED MARKET APPROACH



STRATEGIC FOCUS IN 2020

BUILD LASER DIODE SUPPLY CHAIN

Secure and qualify manufacturing supply chain (wafer processing through packaging) for product delivery in CY2021

ESTABLISH US TESTING FACILITY & TEAM

Open our Nashua, New Hampshire testing facility and hire expert laser diode testing and packaging specialists

MEET FUTURE CUSTOMER NEEDS

Develop customer engagement to develop bespoke products to meet specific unmet needs

SUCCESSFULLY SCALE RPCVD TECHNOLOGY TO COMMERCIAL CAPABILITIES

Deliver commercial scale RPCVD platform, the BLG-500 in collaboration with equipment partner, AIXTRON SE

ESTABLISH CONTROL OF COMMERCIALISATION TIMELINES

BluGlass remains on track to deliver sample products to customers in FY20 and commence product delivery in CY21

2020 PROGRESS HIGHLIGHTS

July 2019

BluGlass awarded key Tunnel Junction patent by United States Patent and Trademark Office

Aug 2019

BluGlass expands operations and officially opens its upgraded state-of the-art Silverwater facility, unveiling the Paul Dunnigan Laboratories

Sep 2019

Enters Joint Development Agreement with leading US based LED company, Bridgelux, to develop cascade LEDs for general lighting applications

Oct 2019

BluGlass launches direct-to-market Laser Diode business unit to capture 6-10% of $658M serviceable market

Dec 2019

Enters cascade LED collaboration with US lighting company, Luminus to develop cascade LEDs for entertainment and projector LED applications

Apr 2020

Raises $5.8M in well supported Rights Issue and Placement

Jun 2020

Opens BluGlass' Laser Diode test facility in New Hampshire, USA, and establishes US subsidiary, 'BluGlass Inc'

Jul 2020

Wins $250K government grant to manufacture smarter, more efficient plasma sources with the ANU, AKELA Laser and Objective 3D

Jul 2020

Commissions the largest RPCVD platform to date, the BLG-500 in collaboration with global semiconductor leader, AIXTRON SE

Oct 2020

Wins subaward contract from Yale University to supply laser diode development for US government funded Defense Advanced Research Projects Agency (DARPA) program

FINANCIAL PERFORMANCE

	2020	2019	Movement
	$	$	%
Total Revenue	**655,830**	**424,555**	**Up 54%**
EpiBlu Foundry Revenue	505,830	424,555	Up 19%
Laser Diode Revenue	150,000	-	-
Interest	29,976	235,640	Down 680%
Net Assets	12,393,472	11,643,567	Up 6.4%
Impairment Expense	-	8,696,000	-
Monthly Burn Rate	617,000/month	633,000/month	Down 2.5%
R&D Tax Rebate	2,735,000	2,366,000	Up 15.6%
Cash Position (as at end of FY)	5,430,240	6,116,427	Down 11.2%
Cash Position (as at October 31)	5,636,870	5,154,457	Up 9.4%

GILES BOURNE
MANAGING DIRECTOR'S REPORT

A PLATFORM TECHNOLOGY WITH MULTIPLE GO-TO-MARKET OPTIONS

BluGlass' patented RPCVD semiconductor manufacturing technology has demonstrated R&D results, showing competitive advantages with potential application in multiple high-growth market segments

CONTINUING EXPANSION OF IP ACROSS SEGMENTS:

- **Laser Diodes (Standard & RPCVD TJ)**
- HB-LED (green, blue, red, UV)
- Tunnel junctions
- microLED (RGB)
- RPCVD Equipment
- Power electronics

BLUGLASS WILL GO TO MARKET VIA A COMBINATION OF THE FOLLOWING:

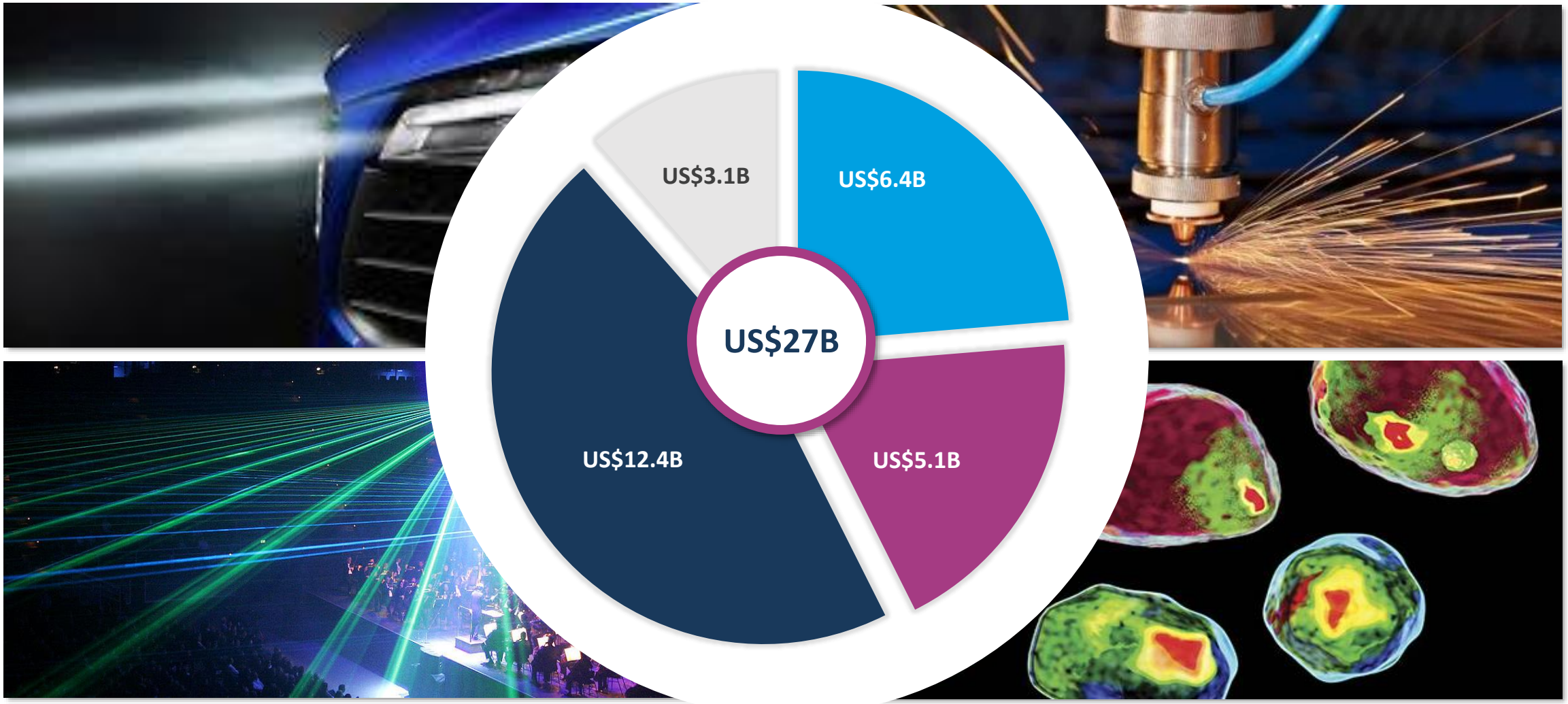
Direct-to-market Laser Diode sales

EpiBlu RPCVD foundry (wafer) sales

RPCVD licence fees and royalties

RPCVD equipment partnerships/licensing

GLOBAL LASER END-MARKET OPPORTUNITY (FORECAST 2025)

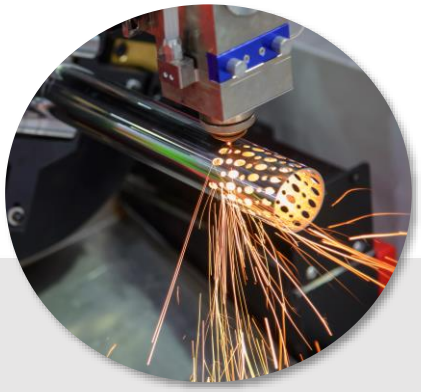


Source: Internal BluGlass modelling based on industry sources

Industrial cutting/welding Life sciences Laser display Automotive

PORTFOLIO OF PRODUCTS

Industrial Markets



(405nm, 450nm, 525nm)

Applications:
- Welding cutting
- Machine vision
- Machine sensing
- 3D printing

Display Markets

(450nm, 525nm)

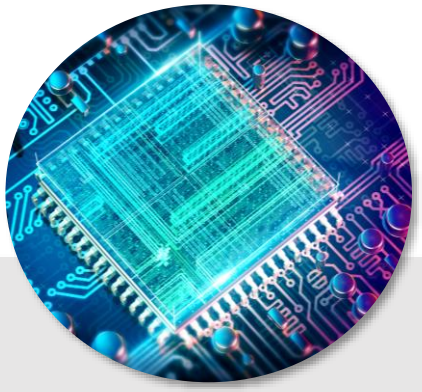
Applications:
- Pico projector
- Business/Cinema projector
- Heads-up display
- Augmented reality/Virtual Reality

Biotech/Life Science Markets

(405nm, 420nm, 450nm, 490, 525nm)

Applications:
- Flow cytometry
- Medical diagnostics
- DNA sequencing
- Endoscopy
- Bio-fluorescence

Scientific Markets



(405nm, 420nm, 450nm, 490, 525nm)

Applications:
- Raman spectroscopy
- Quantum computing
- Confocal fluorescence microscopy
- Optical clocks
- Forensics

Lighting Markets

(450nm)

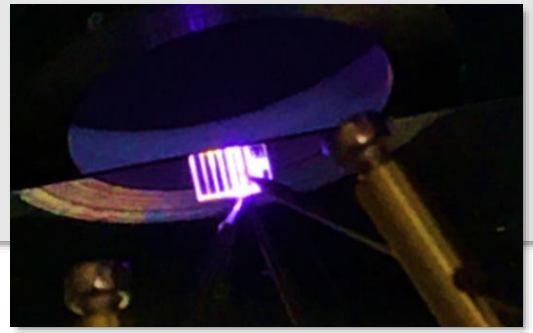
Applications:
- Automotive
- General lighting
- Spotlight/Torch

PRODUCT DEVELOPMENT PROGRESS

405nm

Industrial & Biotech Applications

- Good lasing behaviour verified through multiple process steps and vendors
- Approaching commercial specification and sample products



420nm

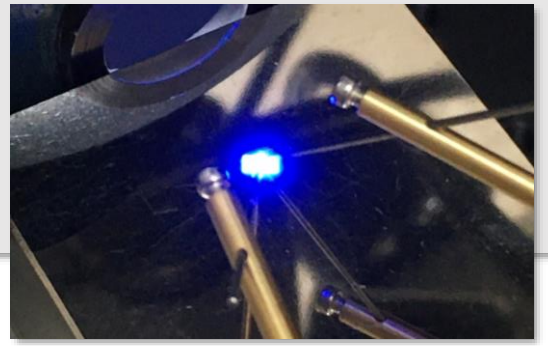
Biotech & Scientific Markets

- Good lasing behaviour verified through multiple process steps
- Customers awaiting sample products

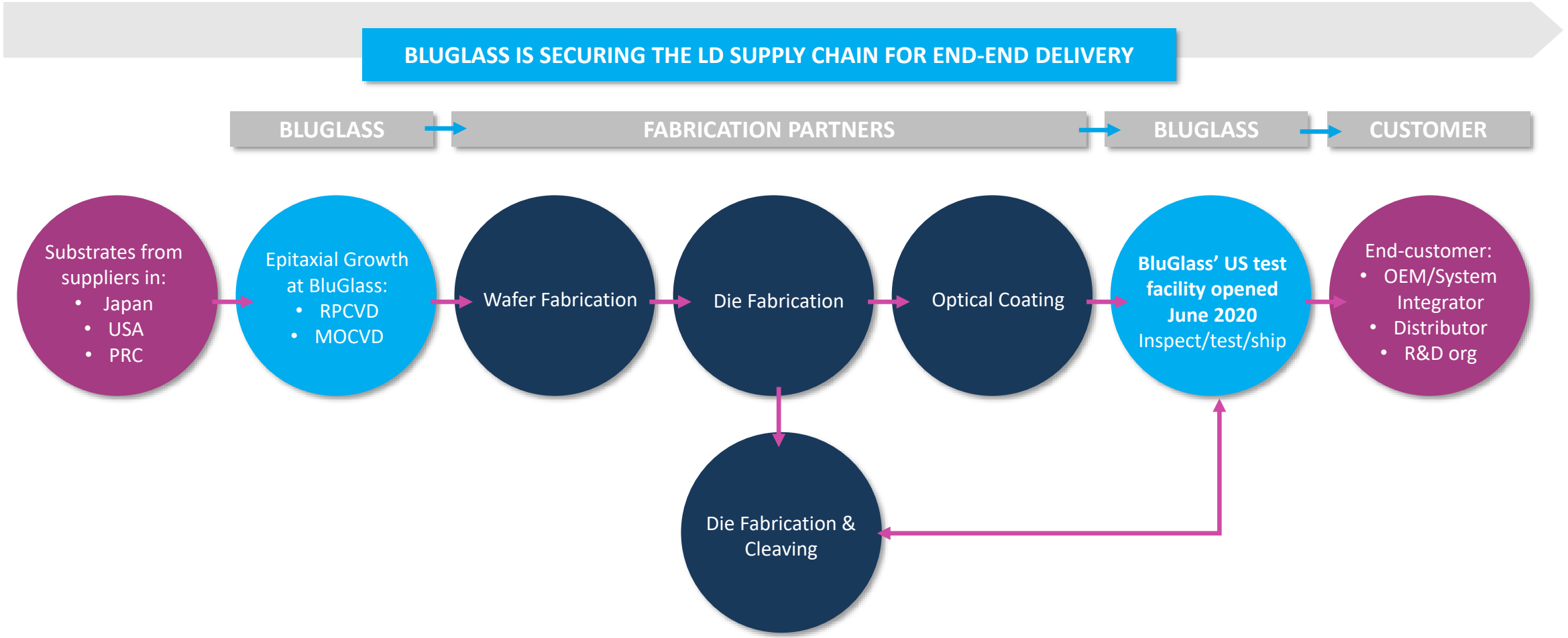
450nm

All Markets

- High brightness lasing demonstrated
- Multiple customers awaiting sample products



LASER DIODE SUPPLY CHAIN DEVELOPMENT & QUALIFICATION



CUSTOMER SEGMENTS & NEEDS

R&D Institutions

(Universities, Military, Commercial)

- This customer requires highly flexible, bespoke design and development services
- Developing novel devices and applications
- Typically require differentiated designs (e.g. RPCVD and tunnel junction technology advantages)
- First example is our contract with Yale University for DARPA program

Engagement Points: Unprocessed epiwafers, partially processed epiwafers, full products

OEM/ System Integrator

(e.g. Electronics Manufacturer)

- This customer requires high-powered laser diode, and not in the same form factor

Requires greater flexibility from a manufacturing partner in development of products and in developing novel designs

Engagement Points: Partially processed laser products, full products

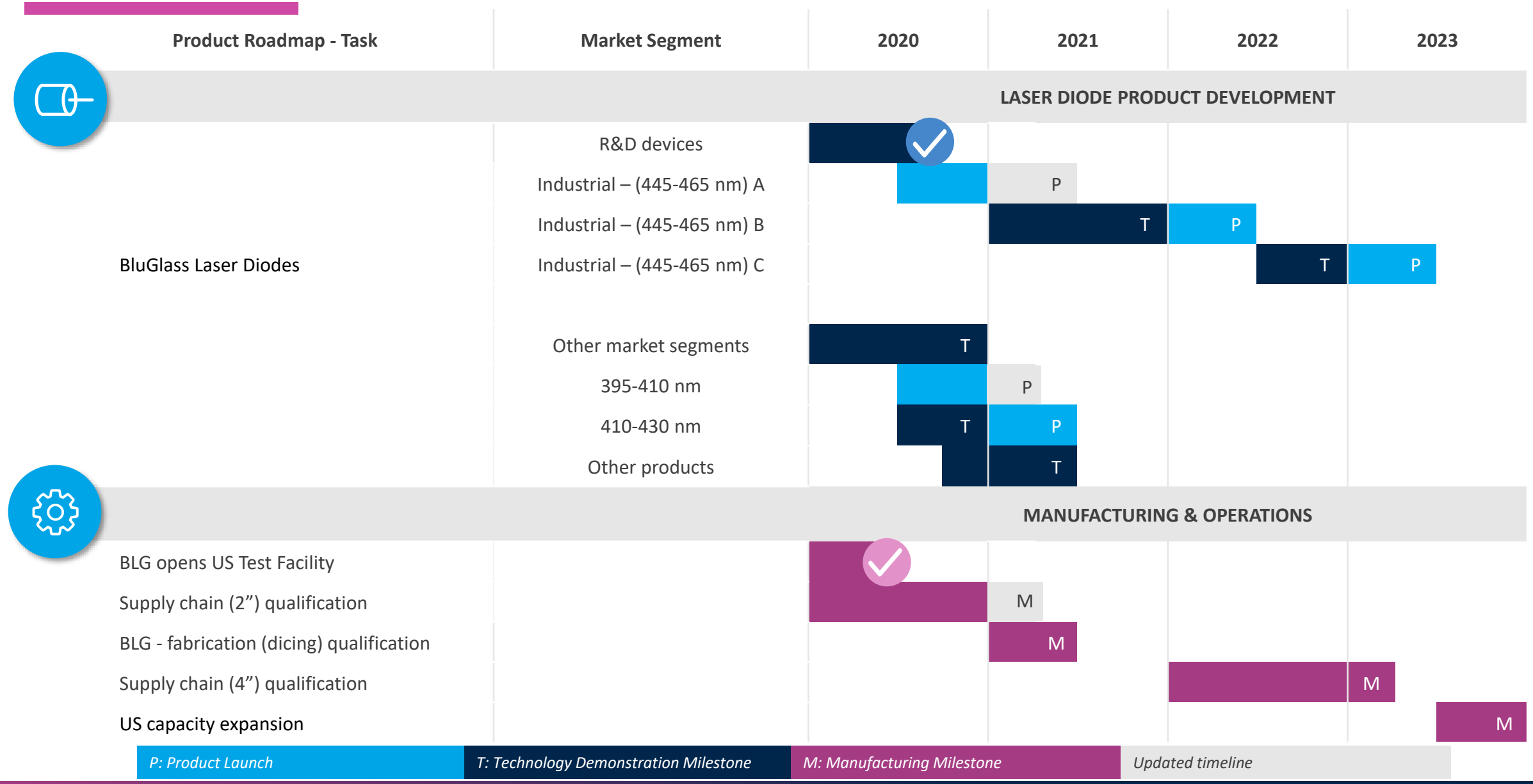
Distributor

(e.g. Biotech product providers)

- This customer requires high-powered laser diodes, in standard form factors
- Supply a huge variety of products and require broad range of wavelengths and power levels
- Requires greater flexibility from a manufacturing partner in development of diverse products and in developing novel designs (e.g. biotech applications, machine vision and sensing)

Engagement Points: Full products, completed reliability testing

BLUGLASS LASER DIODE PRODUCT: SUPPLY ROADMAP & TIMETABLE



ECONOMIC SCENARIOS - BLUGLASS TARGET MARKET REVENUES

Target revenue is based on the timely achievement of technical milestones.

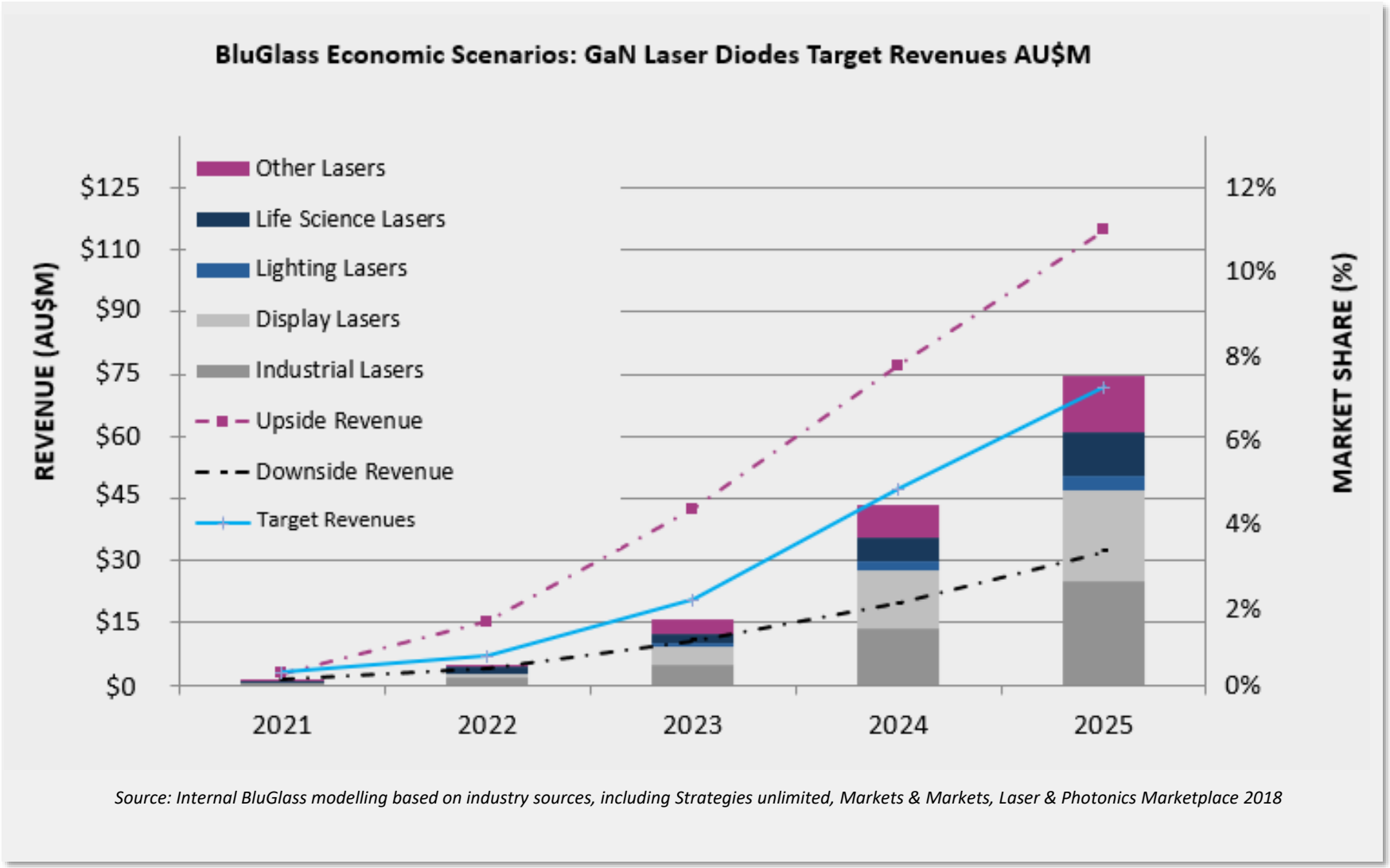
Upside revenue is based on the timely achievement of BluGlass' technical milestones and accelerated customer demand and market growth.

Downside revenue is based on a delay in the attainment of certain technical milestones that reduces the number of laser diode products for sale or slower customer demand and market growth.

Assumptions used in creating these scenarios:

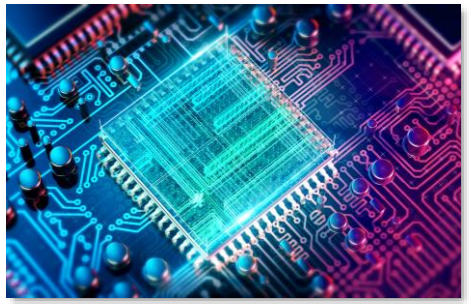
BluGlass' economic scenarios rely on key technology (including RPCVD & tunnel junction performance), financing, supply chain and market penetration assumptions.

Any failure to achieve the assumed outcomes will have a material affect on the economic scenarios outlined here. In particular, BluGlass has not yet manufactured its initial laser diode product, and any target market revenues outlined should be considered speculative until proven.



Source: Internal BluGlass modelling based on industry sources, including Strategies unlimited, Markets & Markets, Laser & Photonics Marketplace 2018

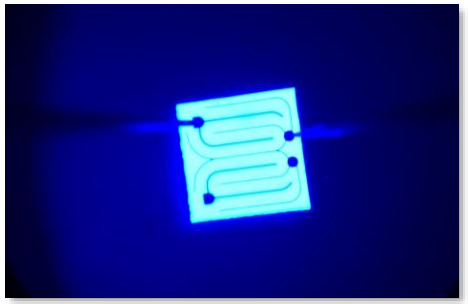
COMMERCIAL & PARTNER ENGAGEMENTS



Yale University DARPA

- Paid development program for novel laser diode development
- To combine LDs and PICS in a single device
- DARPA are the US Department of Defense's technology research arm

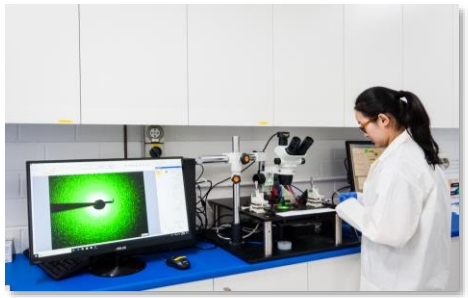
Developing technology for military & commercial applications (e.g LiDAR)



bridgelux

- International leader in LED solutions for the general lighting market
- The partners are jointly investigating cascade LEDs for new applications

$6.8B general lighting market (packaged LEDs) (2018)



LUMINUS

- International leader in LED solutions for projector& display applications
- Projectors require ultra-high efficiency and low heat solutions such as cascade LEDs

$6.8B general lighting market (packaged LEDs) (2018)

Xdisplay

- Formerly X-Celeprint, X-display is a world leader in micro-transfer printing (µTP) technology
- Using RPCVD to deliver active matrix microLED display prototypes

$20B microLED market (2024)

AIXTRON

- AIXTRON collaborating on scaling RPCVD technology
- AIXTRON evaluating RPCVD equipment

$1.4B global MOCVD equipment market(2025)

Sources: Strategies Unlimited, Yole Développment & Markets and Markets, Market Study Report LLC

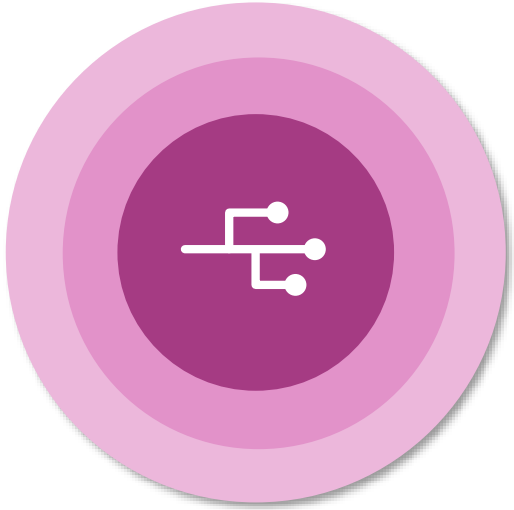
GLOBAL PATENT PORTFOLIO – IP UPDATE

- Our Intellectual Property portfolio is a critical foundation for our future commercial success and underpins our licensing-based business model
- In July 2019 BluGlass was awarded a key US Patent for buried activated p-GaN in tunnel junctions
- This important patent brings our internationally granted patent portfolio to a total of **75 patents** in key semiconductor jurisdictions across **8** patent families

75

Internationally Granted Patents

LASER DIODE BUSINESS ON TRACK TO DELIVER SIGNIFICANT PRODUCT REVENUES



Several commercialisation paths

- **Direct-to-market Laser Diode business**
- Epitaxy wafer sales (EpiBlu foundry services)
- Licence fees & royalties (LED and other markets)
- Equipment sales with equipment partner(s)

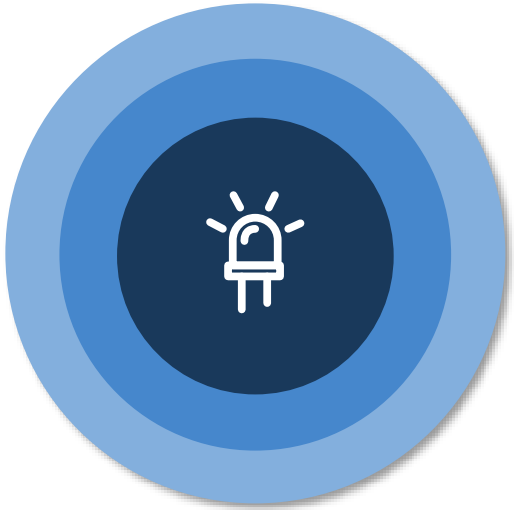
Greater control of commercialisation timelines

Direct-to-market laser diode business and the securing of the end-to-end manufacturing supply chain will drive significant product revenues and complements BluGlass' existing partnerships and commercial plans

Strong patent portfolio

75 patents granted in key semi-conductor markets (USA, Europe, Asia).

Key US Tunnel Junction Patent for multiple applications granted in 2019



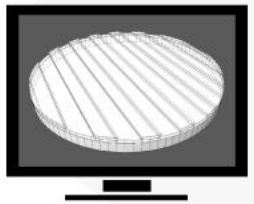
Large and growing markets

BluGlass' RPCVD technology has demonstrated performance advantages in a number of large and growing photonics market segments including **laser diodes,** LEDs, microLEDs, & power electronics

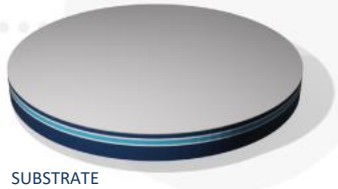
DR IAN MANN
CHIEF OPERATIONS & TECHNOLOGY OFFICER REPORT

BLUGLASS LASER DIODE MANUFACTURING STEPS

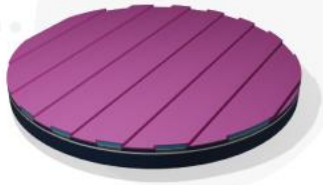
DESIGN/MODEL



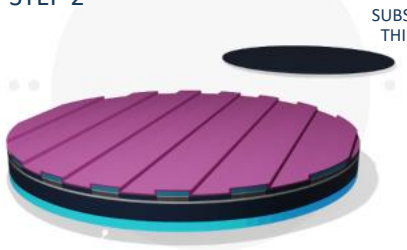
EPITAXIAL WAFER GROWTH



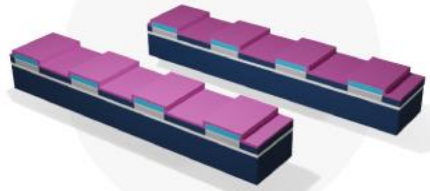
WAFER FABRICATION



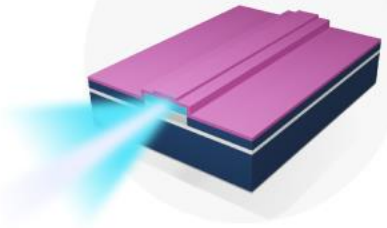
WAFER FABRICATION STEP 2



CLEAVE

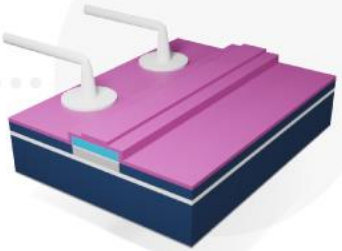


LASER DIODE PRODUCT READY FOR SYSTEM INTEGRATION

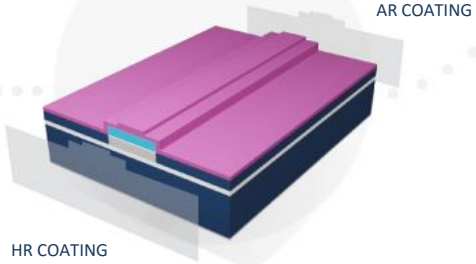


RELIABILITY TESTING

PACKAGE



FACET COAT



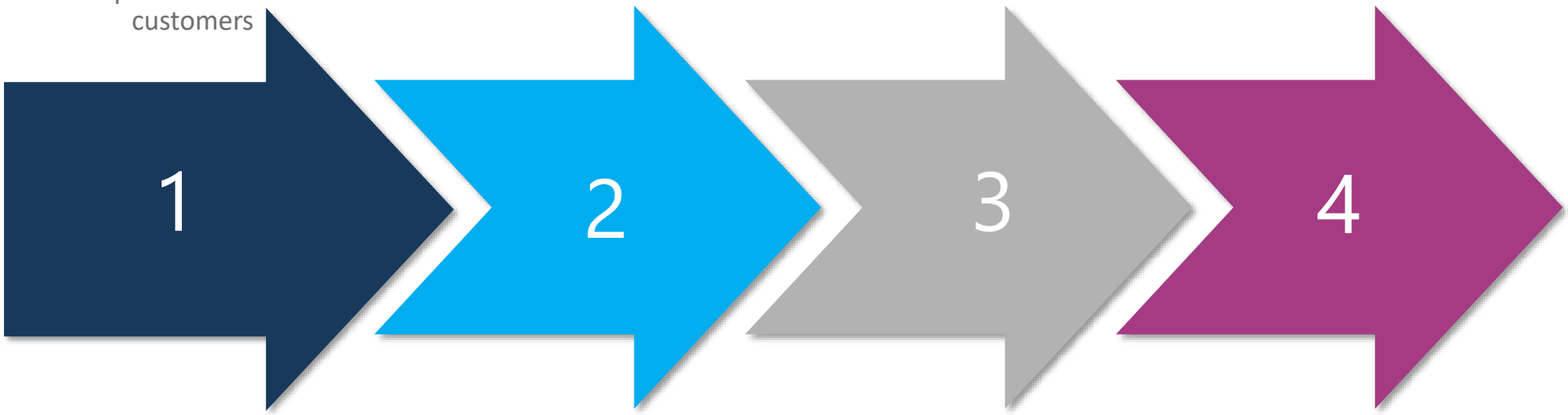
LASER DIODE UPDATE – FROM R&D TO PRODUCT

Technical Demonstration

Design, build and test LD devices (at different stages of fabrication) to provide initial performance specification to customers

Product Launch

Reliability testing of LDs completed. LD product is launched and available for customer orders



Product Samples

Small volume of fully fabricated LDs available to customers for evaluation

Enhanced Products

Enhanced performance via new LD designs, including **RPCVD Tunnel Junction laser diodes**/ custom devices for specific customer applications

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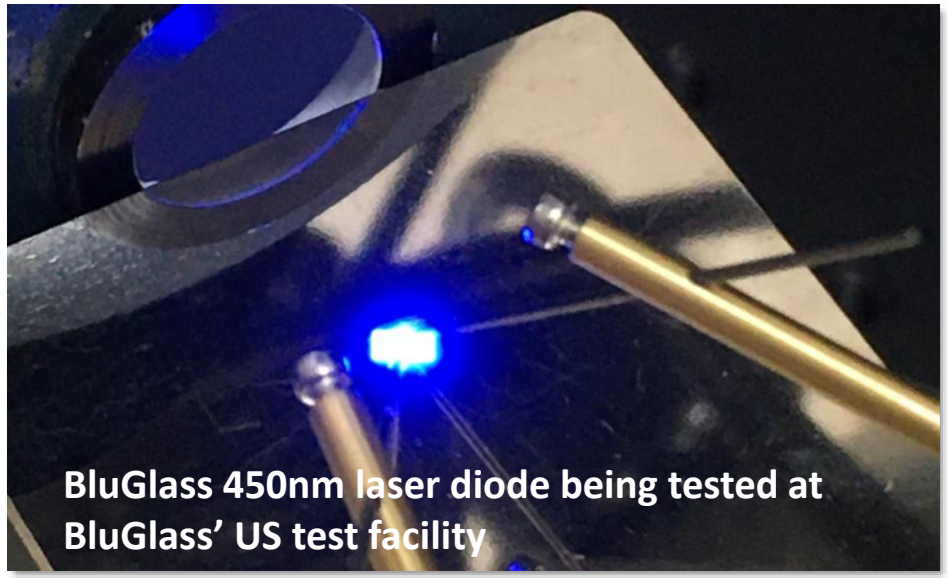
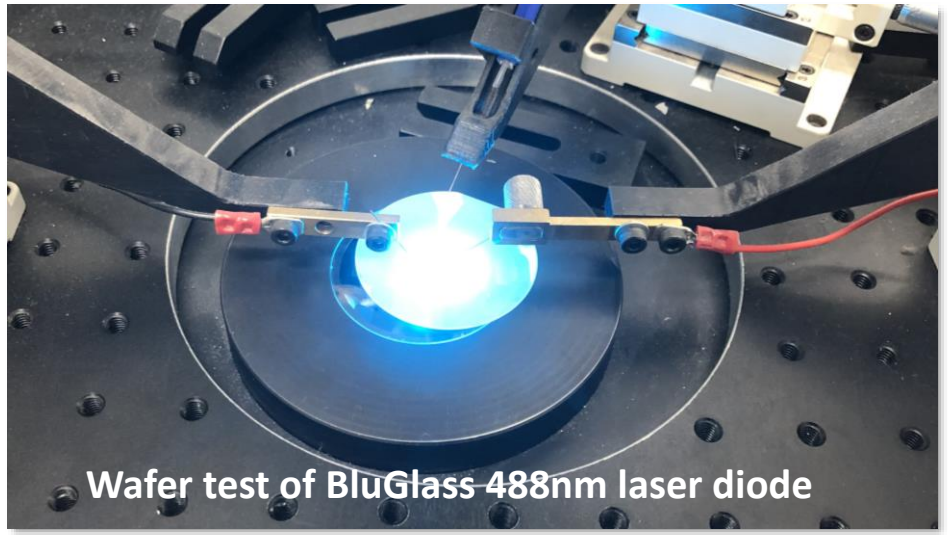
LASER DIODE TECHNOLOGY UPDATE



BluGlass 450nm laser diode being tested at BluGlass' US test facility



Wafer test of BluGlass 488nm laser diode

BluGlass is developing a portfolio of laser designs for a wide array of end-products to meet specific customer needs and product trails

405nm, 420nm and 450nm standard laser diode designs are all lasing

- Validated through multiple vendors and fabrication approaches

405nm design is approaching commercial specification showing very good brightness. 450nm design has made recent progress also demonstrating good brightness

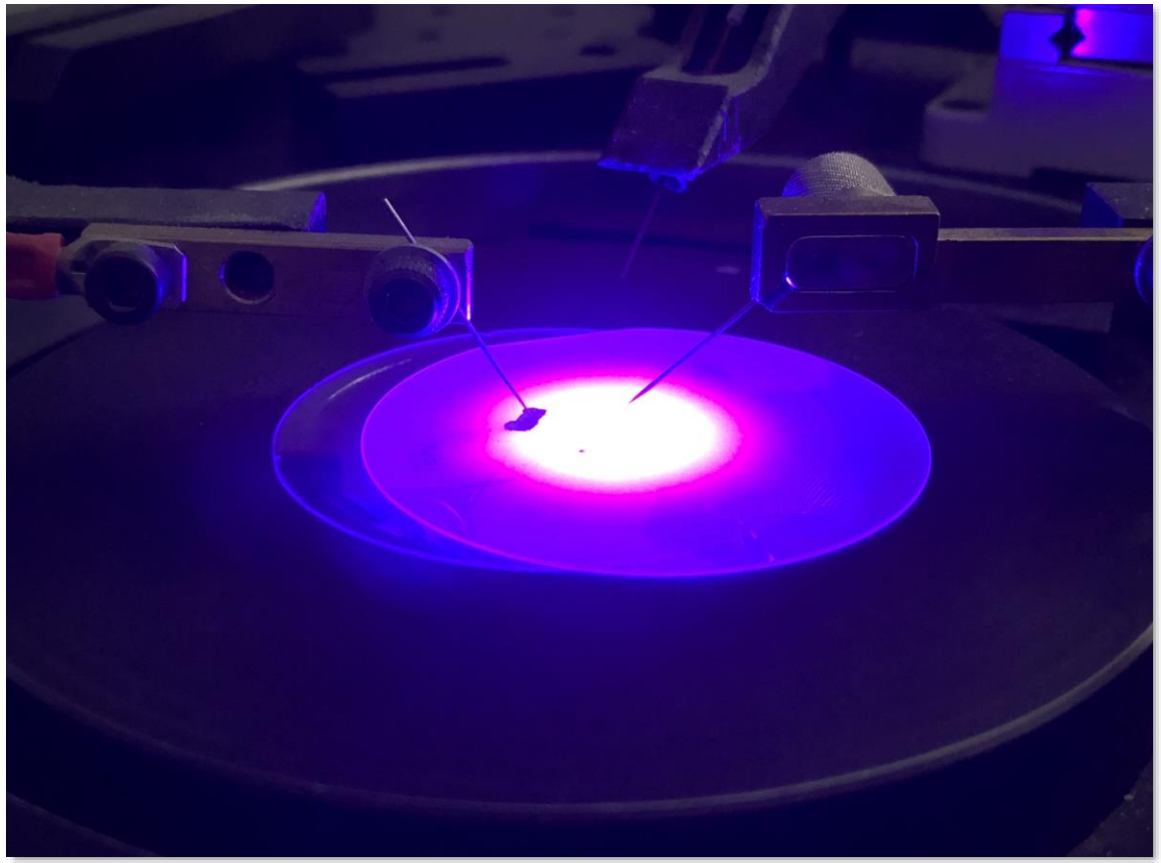
- Final stages of fabrication (for coating and packaging) required for availability of product samples

In addition to the standard laser diode (fabricated using MOCVD only) BluGlass has advanced the RPCVD TJ Laser Diode development with recent improvements in LD design and epitaxial quality

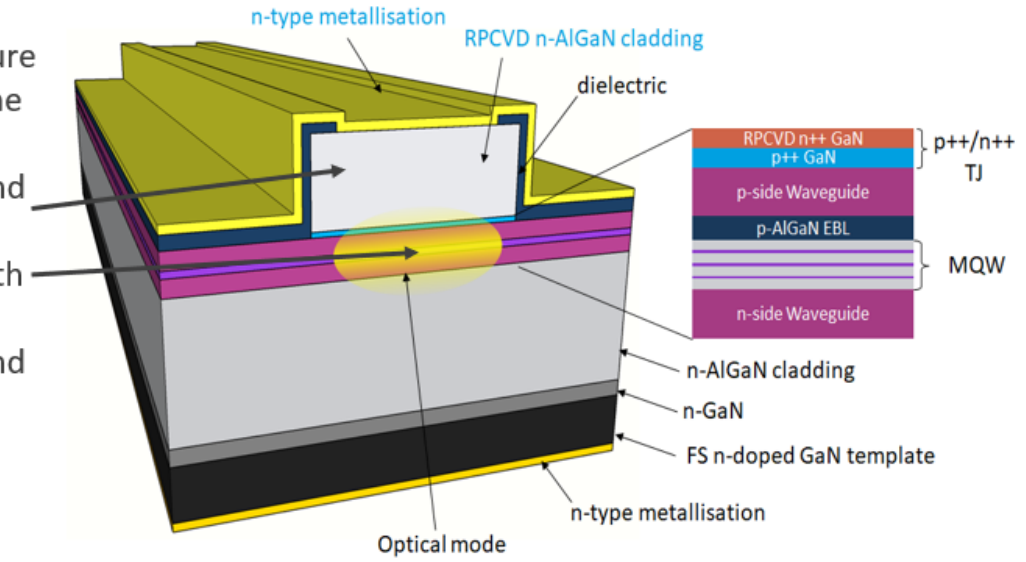
- Working with the University of New Mexico to fabricate into LDs with the new designs

RPCVD TUNNEL JUNCTIONS FOR LASER DIODES

Improving low conversion efficiency in GaN laser diodes – RPCVD tunnel junctions



TJLD structure replaces the p-AlGaN cladding and p-Ohmic contact with n-AlGaN cladding and n-Ohmic contact



Replacement of p-type layers with n-type layers **reduces both the series and contact resistance** as well as the optical loss in the cladding layers

LASER DIODE CUSTOMER: YALE & DARPA DEVELOPMENT PROGRAM

Yale University

DARPA

- BluGlass has won a sub-contract from Yale University to provide custom laser-diode development for the US Defense Advanced Research Projects Agency (DARPA) *LUMOS* program
- The LUMOS *(Lasers for Universal Microscale Optical Systems)* program aims to combine for the first-time laser diodes and photonic integrated circuits (PICs) in a single device
- The first phase of the paid program represents early laser diode revenue and significant future technical and commercial potential for BluGlass laser diode products
- The two technologies (lasers and photonic integrated circuits) combined in a single device could enable high power applications such as compact optical phased array LiDAR and neuromorphic optical computing

microLED AND TUNNEL JUNCTION LED UPDATE

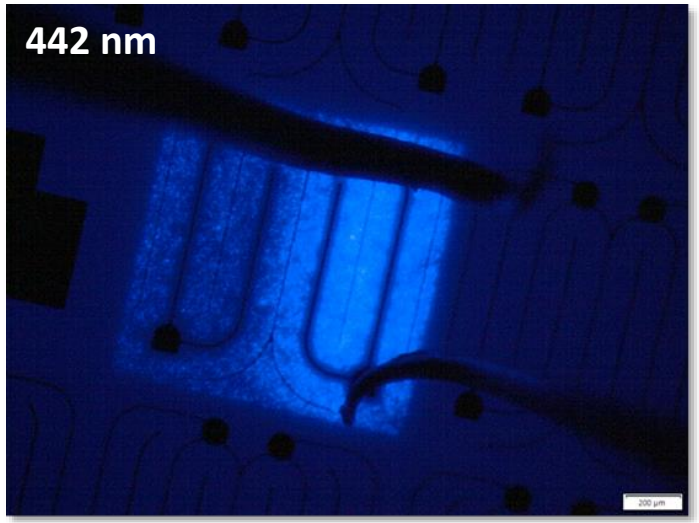
microLED update

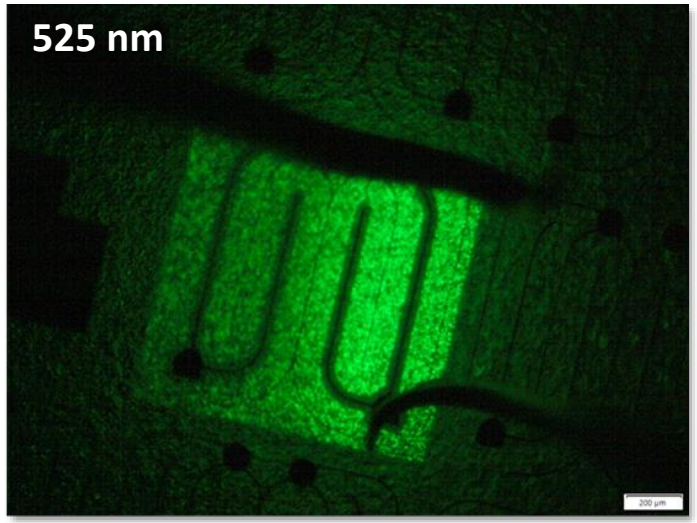
BluGlass is working with partners to advance microLEDs for red-green-blue (RGB) applications with good progress in demonstrating RPCVD grown orange and red LEDs and microLEDs for customers.

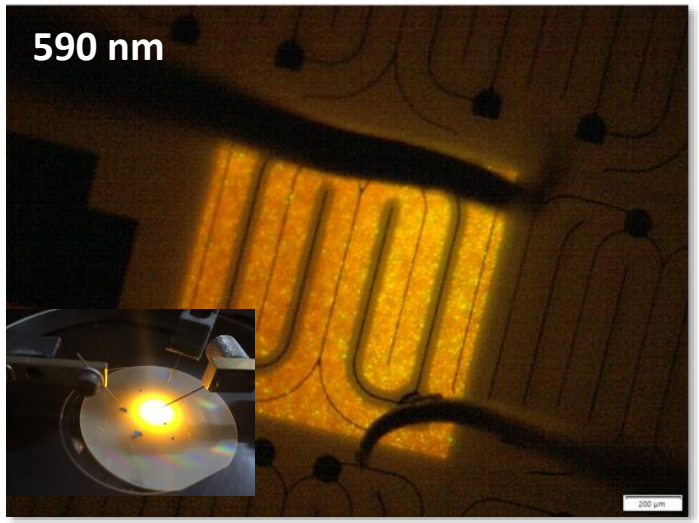
microLED customer foundry orders were impacted during the year by COVID-19 shutdowns in Europe and the USA. Customer orders have now recommenced with the majority of our customers.

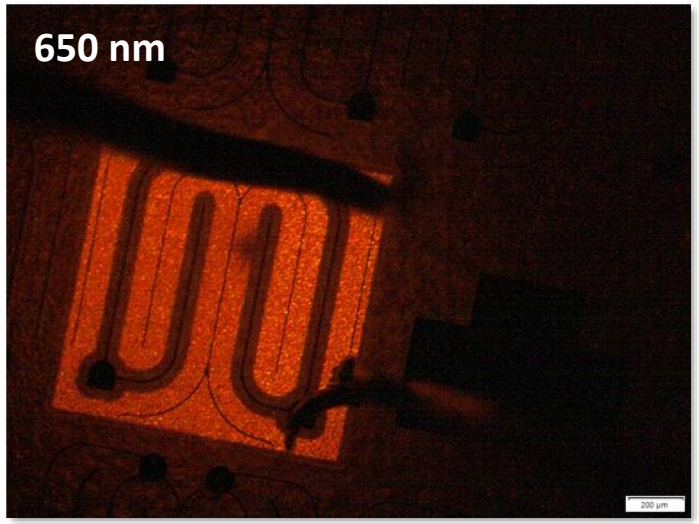
Tunnel Junction and Cascade LED update

- Efforts in the last several months devoted to tunnel junction development for laser diodes
- LED development will exploit LD TJ development work once completed
- There is a strong synergy on the design of the TJ and RPCVD growths across all applications
- The main difference is the fabrication steps required for laser diodes



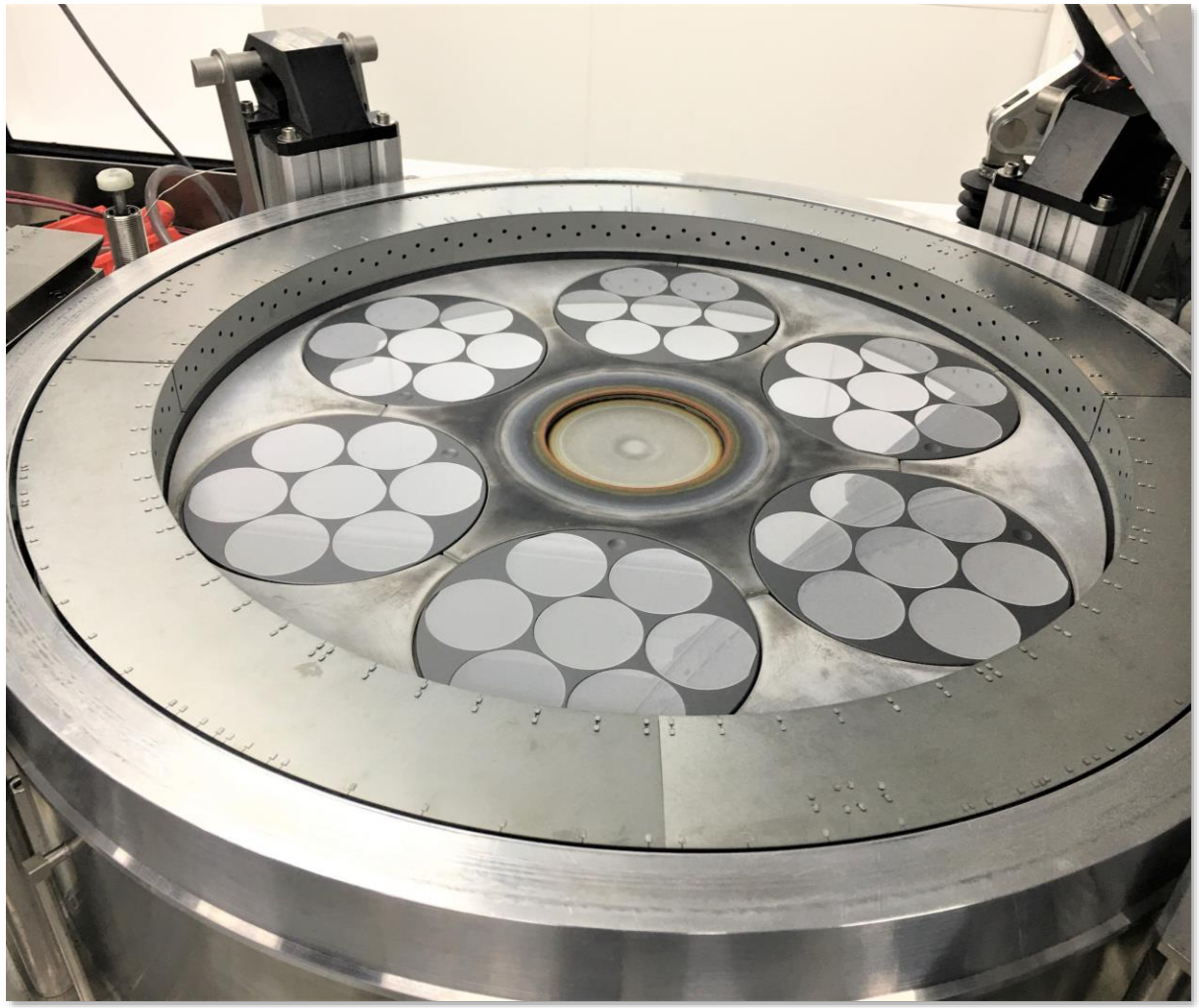






RPCVD SCALING MILESTONE & PLASMA GRANT

- The BLG-500, BluGlass' commercial scale RPCVD platform completed in collaboration with AIXTRON SE has successfully completed its performance testing and demonstrated working tunnel junction wafers
- Has demonstrated improved uniformity over a 6" wafer size equivalent area compared to the BLG-300, further improvements in the works
- The new platform is now contributing to our key tunnel junction development for the Company's laser diode commercialisation roadmap
- This milestone forms a major part of the Company's commercial scaling activities. The BLG-500's large scale will significantly increases BluGlass' RPCVD research and manufacturing capacities
- Plasma scaling Grant is making good progress with the new plasma design approaching completion for use on the BLG-300 to suit uniform deposition for 4" Laser Diode wafers

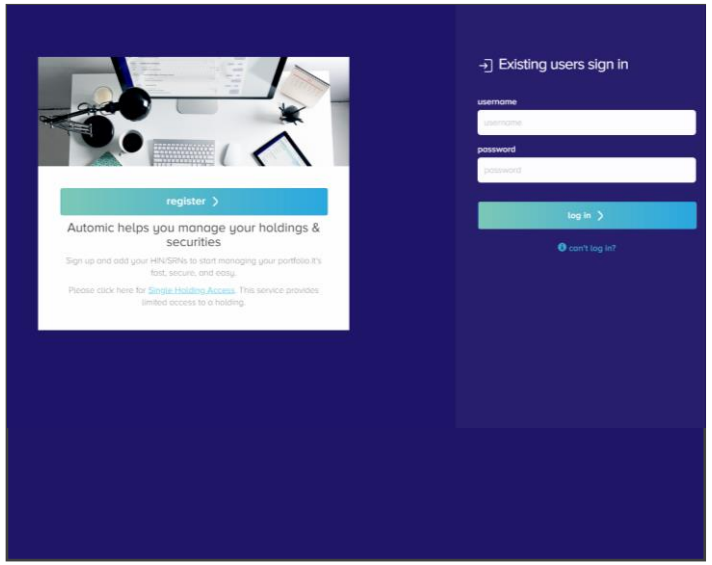


QUESTIONS

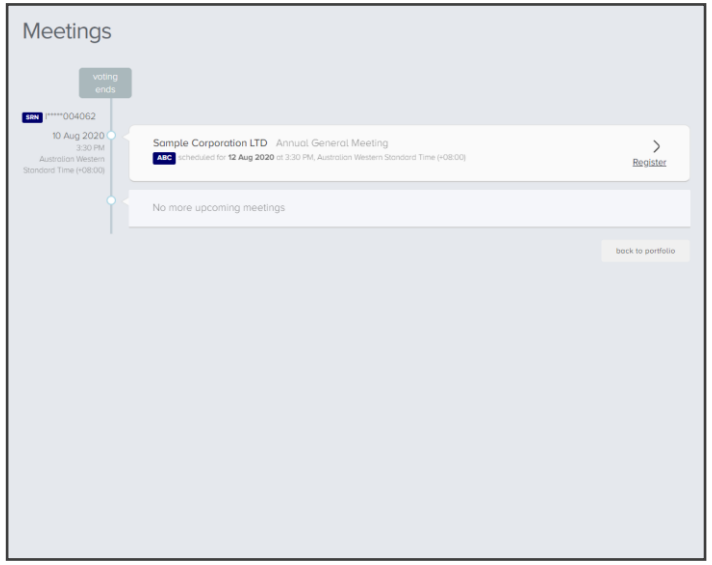

OFFICIAL BUSINESS

REGISTRATION AND VOTING

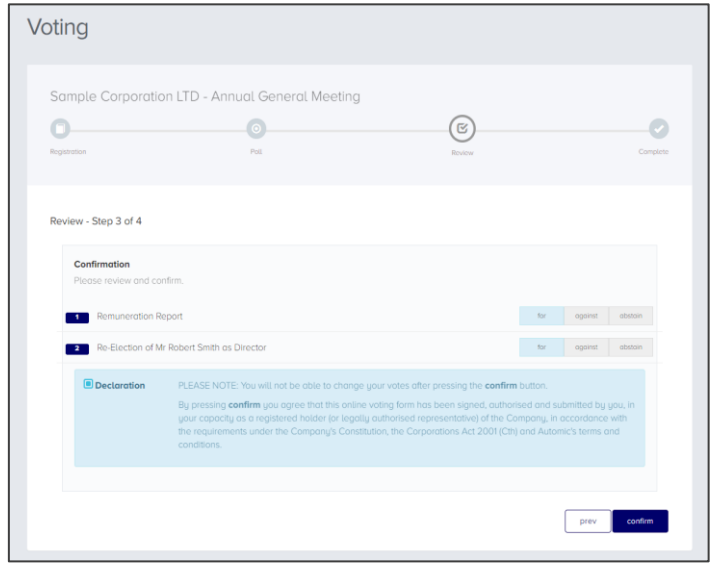
1. Log in or register at:
https://investor.automic.com.au/#/home



2. Click view and register your attendance for the meeting



3. Record your vote. Once you confirm it is lodged and final



To contact support:
Call 1300 816 159 or open live chat from the Investor Portal

AUTOMIC GROUP

THANK YOU

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BLUGLASS

2020