BLUGLASS 2013 AGM PRESENTATION

25 NOVEMBER 2013

BLUGLASS

DISCLAIMER

- This document has been prepared by BluGlass Limited to provide existing and prospective investors in BluGlass Limited with a summary of progress to date.

- Any statements, opinions, or other material contained in this document do not constitute any commitments, representations or warranties by BluGlass Limited or/and associated entities or its directors, agents and employees. Except as required by law, and only to the extent so required, directors, agents and employees of BluGlass Limited shall in no way be liable to any person or body for any loss, claim, demand, damages, costs or expenses of whatsoever nature arising in any way out of, or in connection with, the information contained in this document.

- This document includes certain information which reflects various assumptions. The assumptions may or may not prove to be correct. Recipients of the document must make their own independent investigations, consideration and evaluations prior to making any decisions to invest in the Company.

THE YEAR IN REVIEW

George Venardos, Non-Executive Chairman

BluGlass is positioned to commercialise its ground breaking technology during a period of high market growth

SIGNIFICANT PROGRESS IN FY13

BLUGLASS

September 2012	Awarded a key patent for depositing metal nitride films
October 2012	Impurity levels equal to the industry standard process
November 2012	n-GaN films with electrical properties meeting industry benchmarks
December 2012	$4.75m raised through Institutional Placement & Share Purchase Plan
December 2012	Preliminary demonstration of p-GaN films using RPCVD
February 2013	Successfully produced p-GaN using RPCVD
July 2013	$2.99m award under the Clean Technology Innovation Program
October 2013	Australian Cleantech Competition – Overall winner
November 2013	Commissioning of Thomas Swan MOCVD system

FINANCIAL RESULTS

BLUGLASS HAS A SOUND CASH POSITION

AS AT JUNE 30	FY12	FY13
Revenue and Other Income $'000	2,478	4,726
Net loss $'000	(6,231)	(1,676)
NET CASH	**3,549**	**5,590**

KEY CASH EVENTS:

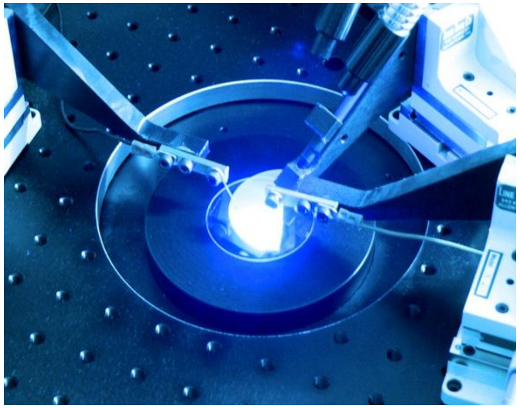
- December 2012 - Institutional placement ($2.35m) and SPP ($2.47m)
- July 2013 - $3m Cleantech Innovation Grant
- September 2013 - $1.96m R&D tax credit

THE YEAR
AHEAD

Giles Bourne,
Chief Executive Officer

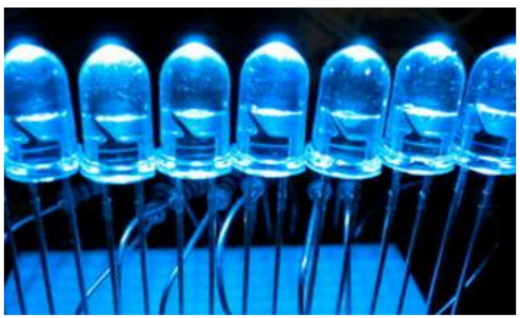
IN THE US ALONE, LED LIGHTING WILL REDUCE
ENERGY CONSUMPTION IN LIGHTING BY **62%;**
AND VOID THE NEED TO BUILD **133 NEW POWER PLANTS**

STRATEGY FOR THE COMING YEAR



TECHNOLOGY

- Meet milestones, especially p-GaN performance
- Accelerate R&D in other areas (GaN on silicon)
- Increase activity on PV technology and milestones



MARKETS

- Continue to focus on LED, PV
- Evaluate other applications, e.g. power electronics

COMMERCIALISATION

- Continue dialogue with market leaders in the LED value chain
- Enter into commercialisation through a number of options including; licensing, strategic partnerships and providing foundry service

INCREASING CAPACITY

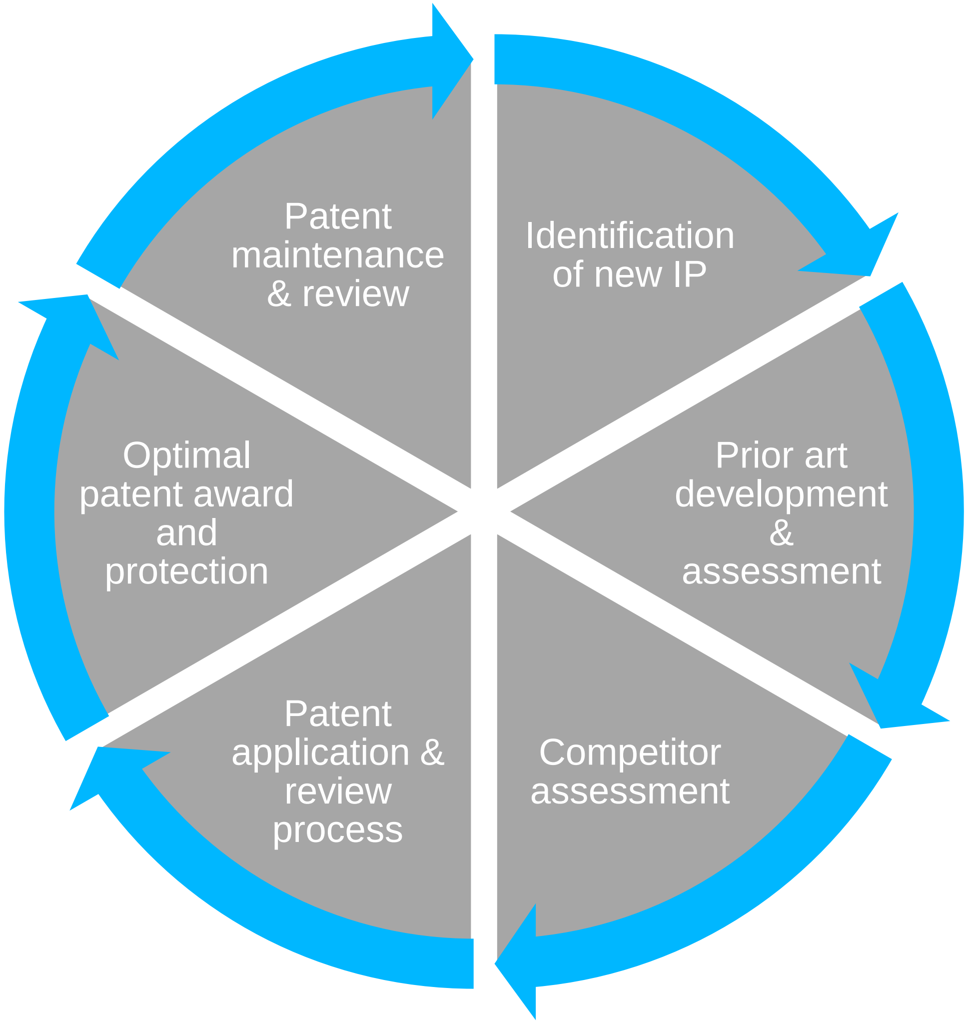
BLUGLASS

TIME

	FY 2012	FY 2013	FY 2014 FORECAST
TECHNOLOGY	Progressing towards reducing impurities levels in GaN films	Proof of Concept Milestone Low temperature n-GaN and p-GaN films that meet industry benchmarks	Brighter LEDs using low temperature RPCVD Developing GaN on silicon at low temperature
CAPACITY	One system: 5th Generation RPCVD system	One system: 5th Generation RPCVD system	Three systems: 5th Generation RPCVD system Thomas Swan MOCVD system Thomas Swan retrofitted RPCVD system
COMMERCIAL-ISATION	On track to deliver technology milestones	Commenced LED industry engagement	Early template revenue stream as a market entry point (MOCVD/RPCVD) Partnering/licensing agreement with company/ies in the LED value chain

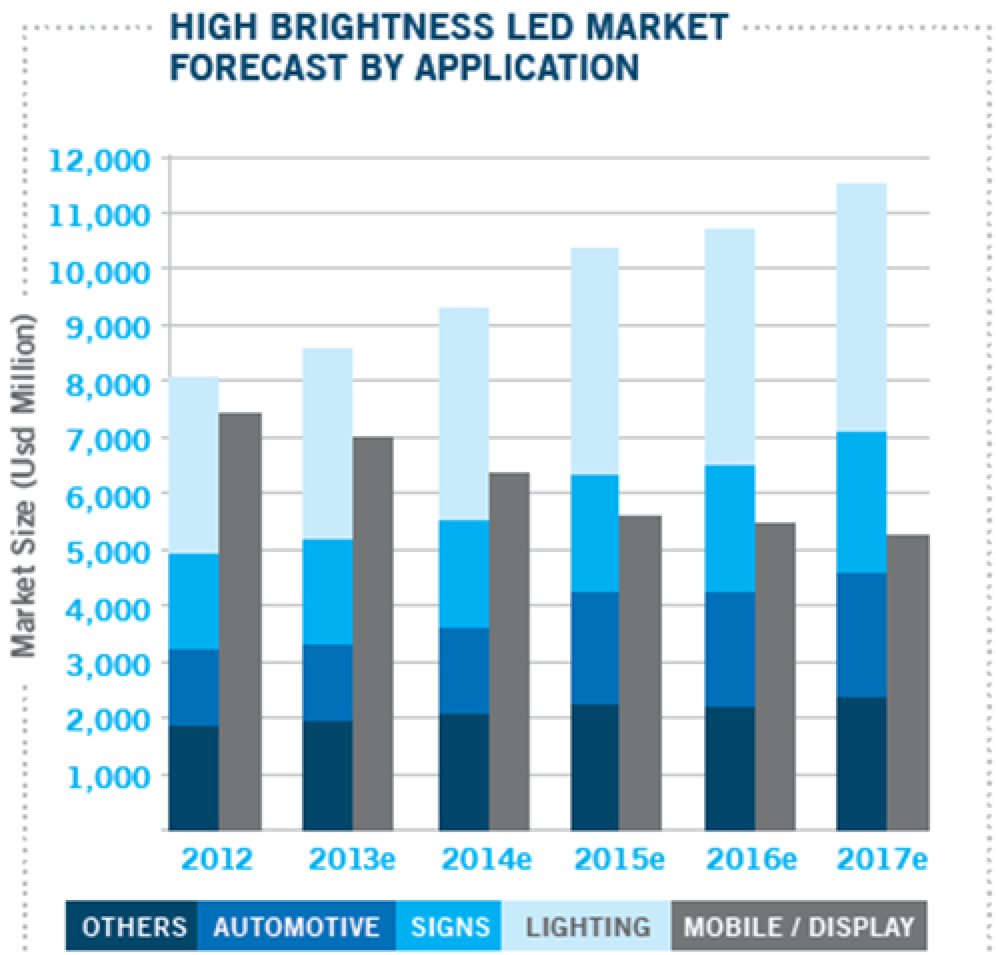
PATENTS STRATEGY

RIGOROUS IP PROTECTION PROCESS



2	▪ **Provisional patents in drafting**
17	▪ **Pending patent applications**
17	▪ **International granted patents in six patent families** ▪ Granted in key semiconductor markets including Europe, China, Japan and the US

MARKET OPPORTUNITY - LED



SOURCE: Strategies Unlimited Feb 2013

The LED equipment market (MOCVD) represents a **$6.1B market opportunity** through to the end of the decade*

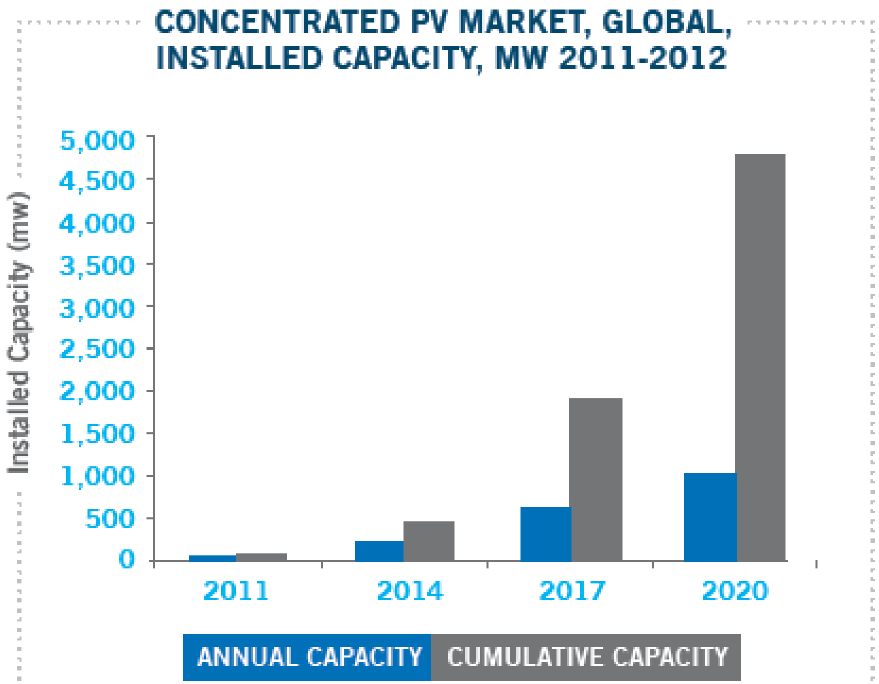
The LED share in general lighting is expected to grow from **5% today** to over **45% in 2016** and **70% by 2020****

The global lighting market is forecast to have revenues in excess of **US $103B by 2020****

* Yole Developpment

**Lighting the Way, McKinsey Report

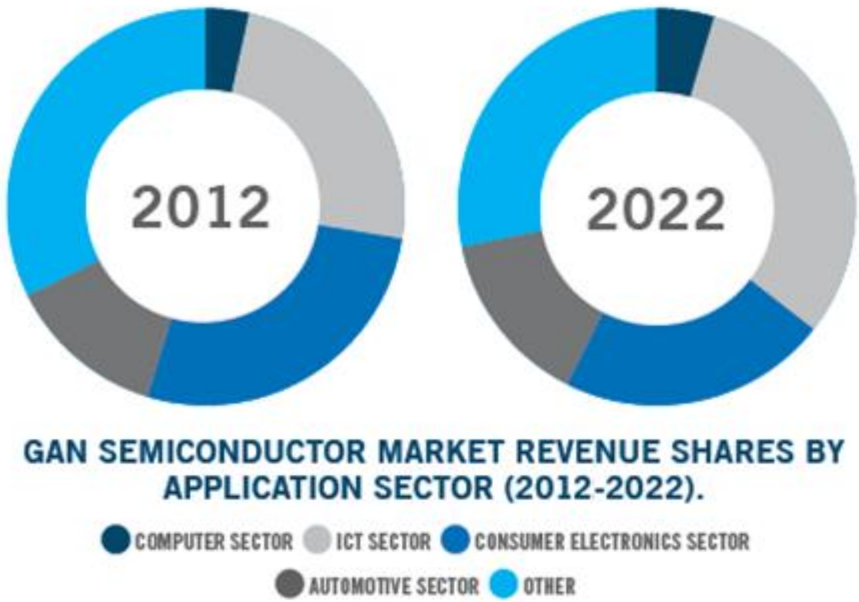
OTHER MARKET OPPORTUNITIES



SOURCE: GlobalData; Primary research with C (Chief) - level marketing and technical experts in Italy, the UK, Spain, China and the US

The CPV market is expected to grow to **4.75GW by 2020.** CPV continues to emerge as the most effective method to deliver large scale, cost effective renewable energy from the sun (Global Data)

The power electronics market was worth US **$20B in 2012.** GaN use in power electronics is still in its infancy and in 2012 was worth only $12.6m. It is expected to grow at a **CAGR of 63.78%** over 10 years to **$1.75B by 2022** (Markets and Markets)



SOURCE: Chart and Data - GaN Semiconductor Devices, Global Forecast and Analysis (2012-2022) by Markets and Markets)

AUSTRALIAN CLEANTECH WINNER

BLUGLASS

BluGlass is awarded the 2013 Australian CleanTech Competition Overall Winner & Manufacturing Industry award

AUSTRALIAN CLEAN TECH COMPETITION

Australian Winner 2013

AUSTRALIAN CLEAN TECH COMPETITION

Industry Winner 2013

Australian Government

Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education

TRADE MISSION TO ASIA

BLUGLASS

THE TECHNOLOGY UPDATE

Dr. Ian Mann,
Chief Technology Officer

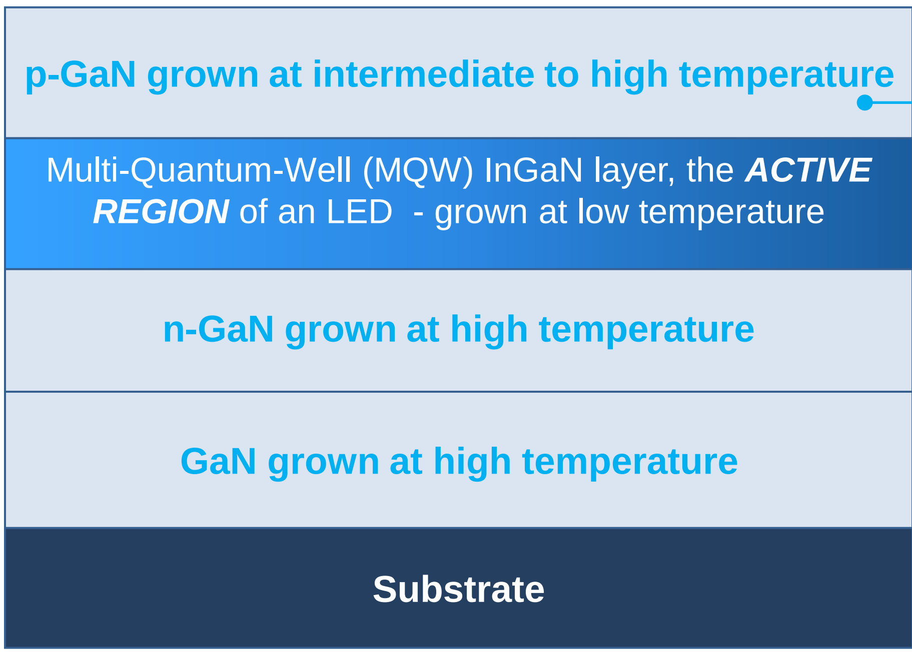
Having demonstrated these material specifications, BluGlass is now in a position to commence experiments targeting improved LED device efficiency using RPCVD grown p-GaN layers to demonstrate the commercial value of a low temperature technology

BENEFITS OF RPCVD FOR LED

BLUGLASS

A low temperature growth system such as RPCVD may offer LED manufacturers compelling performance advantages at several stages of device growth. Low temperature p-GaN is one area that BluGlass is presently focusing on.

LED STRUCTURE GROWN USING MOCVD



BENEFITS OF RPCVD GROWTH

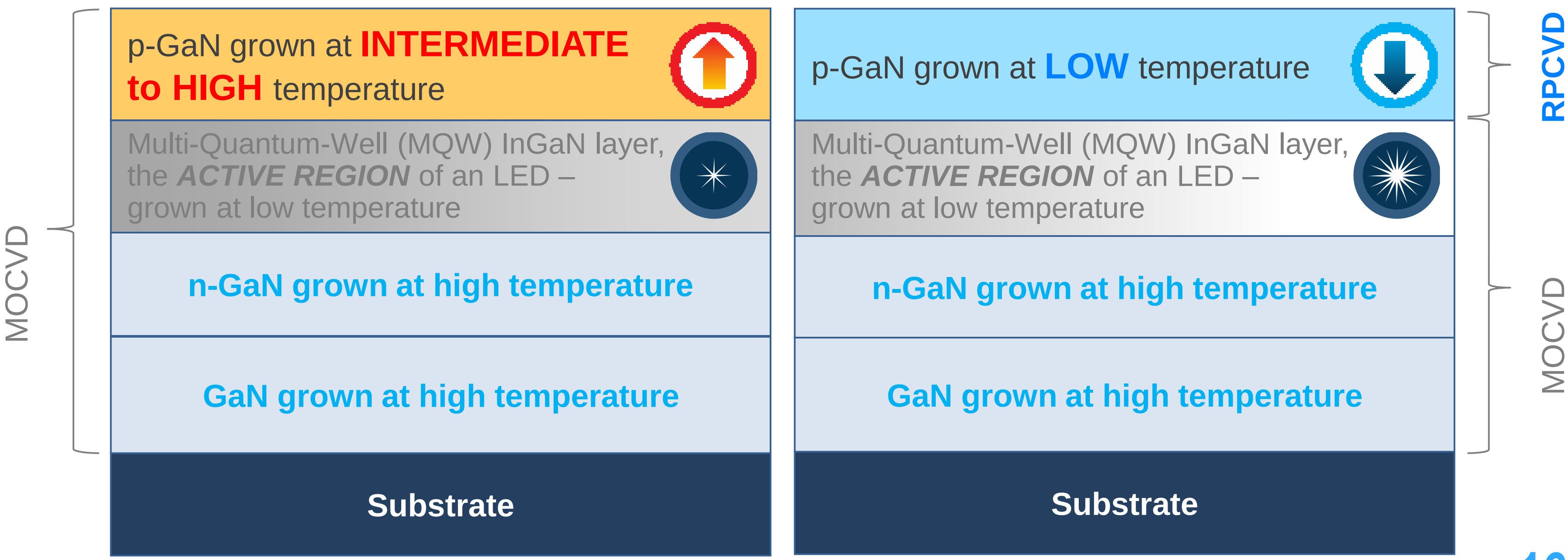
The higher temperature growth of the p-GaN top layer compared to the MQW layer can cause degradation to the active MQW layer and reduce the LEDs light output. MOCVD cannot effectively grow high performance p-GaN at lower temperatures

RPCVD has great potential to improve device performance by growing a low temperature p-GaN layer which in turn improves the stability of the InGaN layer during growth

DEMONSTRATION PLANNED
FOR LOW TEMPERATURE p-GaN

BluGlass is targeting low temperature p-GaN as the first commercial opportunity

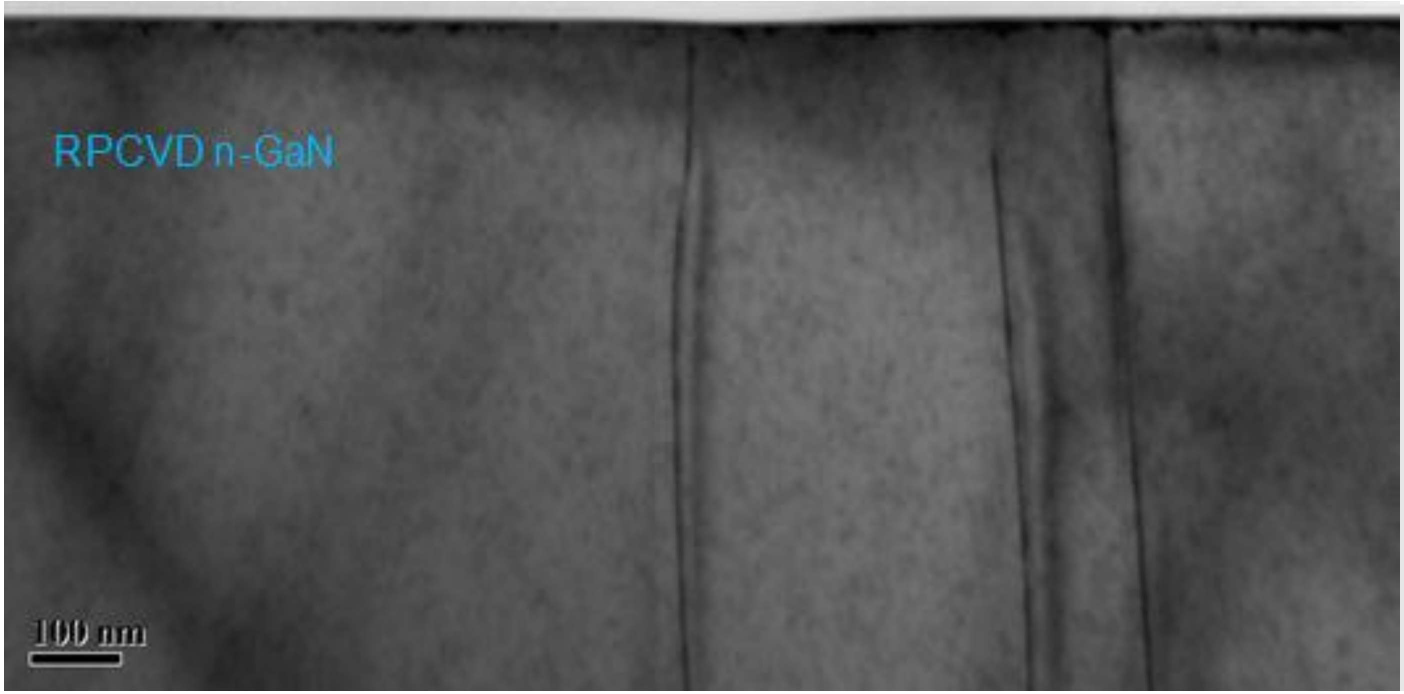
LED STRUCTURE GROWN **USING MOCVD**	p-GaN GROWN **USING RPCVD**



2012 PROGRESS –
LOW IMPURITIES AND n-GaN

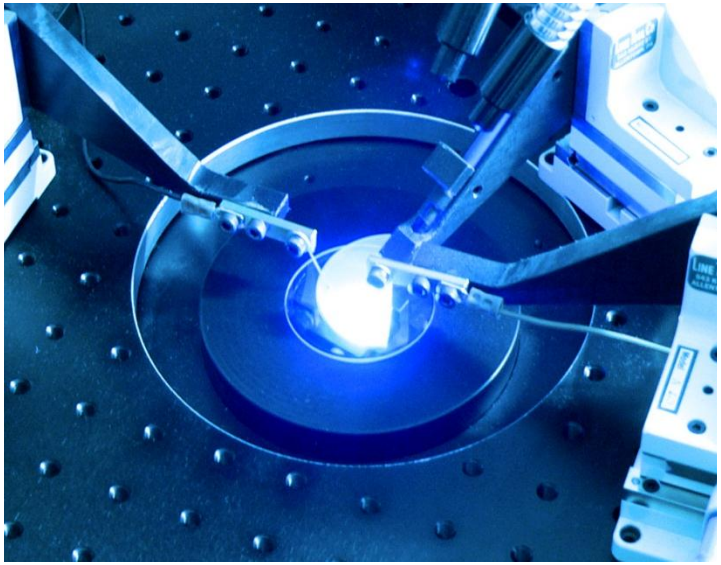
Room temperature Hall Measurement results of an RPCVD n-GaN film grown on a commercial GaN template - compared to a typical MOCVD grown n-GaN film specification

	TYPICAL MOCVD n-GaN SPECIFICATION	RPCVD n-GaN DATA
MOBILITY	≥ 250 $cm^2/V.s$	300 $cm^2/V.s$
FOR A CARRIER CONCENTRATION OF	2.0×10^{18} cm^{-3}	2.1×10^{18} cm^{-3}



Cross sectional TEM image showing the sample used for the above electrical data and for impurity levels: carbon, oxygen and hydrogen impurity levels less than 1×10^{17} atoms per cm^3

2013 PROGRESS: p-GaN



- BluGlass has successfully demonstrated p-GaN films grown at low temperature with electrical properties equivalent to films grown using MOCVD
- Since this was announced earlier this year, BluGlass has continued to improve the quality of its p-GaN (see below). This was achieved with an RPCVD hardware design modification

Room temperature Hall Measurement results of an RPCVD p-GaN film grown on a commercial GaN template

	TYPICAL MOCVD p-GaN SPECIFICATION	FEB 2013 RPCVD p-GaN DATA	RECENT RPCVD p-GaN DATA
RESISTIVITY	≤ 3 Ohm.cm	1.0 Ohm.cm	1.0 Ohm.cm
FOR A CARRIER CONCENTRATION OF	$\geq 1.0 \times 10^{17}$ cm^{-3}	2×10^{17} cm^{-3}	**8×10^{17} cm^{-3}**

2013 PROGRESS - CHALLENGES

BLUGLASS

INPUT FROM KEY PARTICIPANTS IN THE LED INDUSTRY

- Require that RPCVD can demonstrate:
  - Improved LED performance
  - The technology is scalable

KEY TECHNICAL CHALLENGES

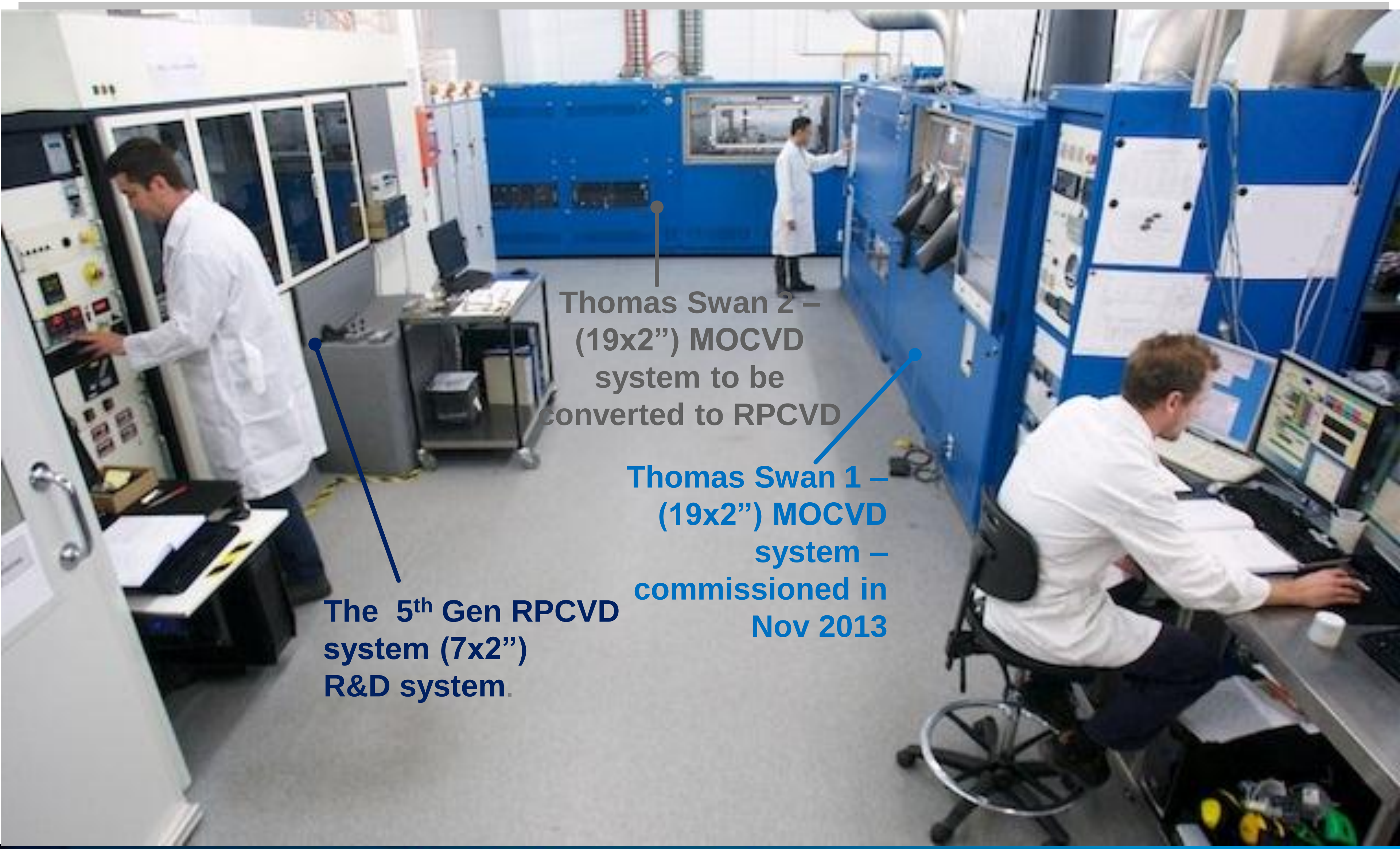
- Establishing the appropriate growth initiation conditions when growing on a MQW
- Scaling the plasma technology to achieve uniform deposition over large areas

WHAT NEEDS TO HAPPEN TO MEET CUSTOMER INTEREST

- Improved LED performance demonstration on the 7x2” RPCVD system
  - Implement a hardware change (enhanced plasma source)
  - Integrate MOCVD growth with RPCVD growth – enabled with the newly commissioned MOCVD system on site at BluGlass
- Improved LED performance demonstration on the 19x2” (scaled up) RPCVD system

FACILITIES UPGRADE 2013

BLUGLASS



FACILITIES UPGRADE 2013

BLUGLASS

DEVELOPMENT ROADMAPS

TIME

FACILITIES

1. **FACILITIES UPGRADE**
2. **INSTALL MOCVD SYSTEM**
3. **COMMISSION NEXT GENERATION RPCVD PLATFORM**

LED

1. **Deliver p-GaN** – DEMONSTRATE RPCVD GROWN p-GaN THAT MEETS INDUSTRY BENCHMARKS
2. **Brighter LEDs** – INCREASE LED EFFICIENCY USING RPCVD p-GaN ON MOCVD MQW LAYERS
3. **Industry Acceptance** – PRELIMINARY INDUSTRY EVALUATION OF RPCVD p-GaN
4. **Bring to Scale** – DEMONSTRATE SCALABILITY OF RPCVD TECHNOLOGY

This indicative Roadmap is a forward looking statement based on the current expectations, estimates, projections and assumptions of BluGlass Management. Because it is a work in progress, subject to known and unknown risks and uncertainties, actual future milestones, results and timelines may differ materially from what is forecast at this time.

RPCVD GaN ON SILICON

BLUGLASS

WHY THE INTEREST IN GaN ON SILICON?

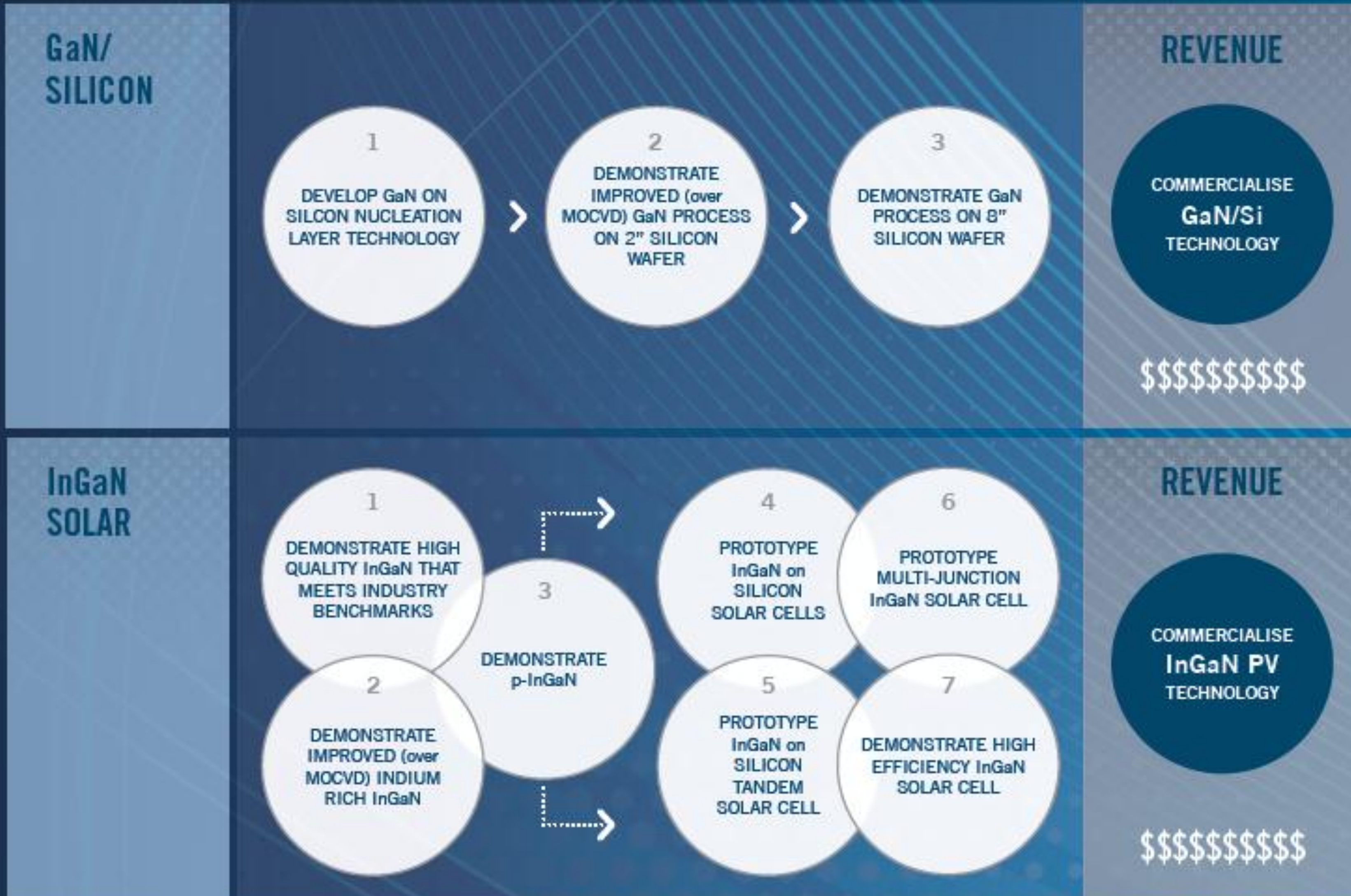
- LED manufacturers continue to look for ways to reduce cost
- New Market opportunities outside of LED market
  - Power electronics

THE PROBLEM WITH GaN ON SILICON?

- However GaN on silicon is prone to cracking during manufacturing due to a large lattice and thermal mismatch. Notably the thermal mismatch can lead to severe bowing during cooling from the high temperatures used in MOCVD growth

THE RPCVD SOLUTION

- Low temperature RPCVD has the potential to reduce bowing and avoid wafer cracking
- BluGlass will convert a 19 x 2" Thomas Swan MOCVD system into an RPCVD system for use on development of GaN on silicon
  - Demonstrate up to 8 inch silicon wafer deposition



This indicative Roadmap is a forward looking statement based on the current expectations, estimates, projections and assumptions of BluGlass Management. Because it is a work in progress, subject to known and unknown risks and uncertainties, actual future milestones, results and timelines may differ materially from what is forecast at this time.

THANK - YOU

74 Asquith Street, Silverwater, NSW, 2128
Australia
P: +61 (0) 2 9334 2300
W: www.bluglass.com.au