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070809 101 112

BLUGLASS 2012 AGM PRESENTATION

GILES BOURNE, CEO, BLUGLASS LIMITED

MONDAY 26 NOVEMBER 2012


BLUGLASS

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BLUGLASS GROWS HIGH QUALITY GaN FILMS USING LOW TEMPERATURE RPCVD

HITS PROOF OF CONCEPT: PRODUCING n-GaN FILMS THAT MEET INDUSTRY BENCHMARKS

CRITICAL IMPURITIES BROUGHT TO WITHIN INDUSTRY STANDARDS

KEY US PATENT GRANTED BY THE US PATENT & TRADEMARKS OFFICE

EPIBLU JOINT VENTURE FILES TWO PROVISIONAL PATENTS

BLUGLASS PURCHASES SPTS SHARE OF THE EPIBLU JOINT VENTURE

THE YEAR IN REVIEW

The Company is now well positioned to take its recent results and data to leading participants in the LED industry to begin the process of commercialising the technology

IN THE MEDIA: SNAPSHOT

BLUGLASS HITS NEW HEIGHTS WITH LED TECHNOLOGY

NOVEMBER 22, 2012



BLUGLASS DRIVES DOWN DEFECTS IN GaN FILMS GROWN BY RPCVD

OCTOBER 29, 2012



BLUGLASS TECHNOLOGY A POTENTIAL GAME CHANGER

OCTOBER 26, 2012



BLUGLASS TARGETS LED MARKETS

Compound Semiconductor Magazine asks BluGlass "Will the Australia-based firm's low temperature deposition technology take the strain away from LED manufacturing?"

NOVEMBER 09, 2012



BLUGLASS RPCVD GROWN GAN LAYERS DEMONSTRATE REDUCED LEVELS OF KEY IMPURITIES

OCTOBER 29, 2012



BLUGLASS SHARES SURGE AFTER TECHNICAL BREAKTHROUGH

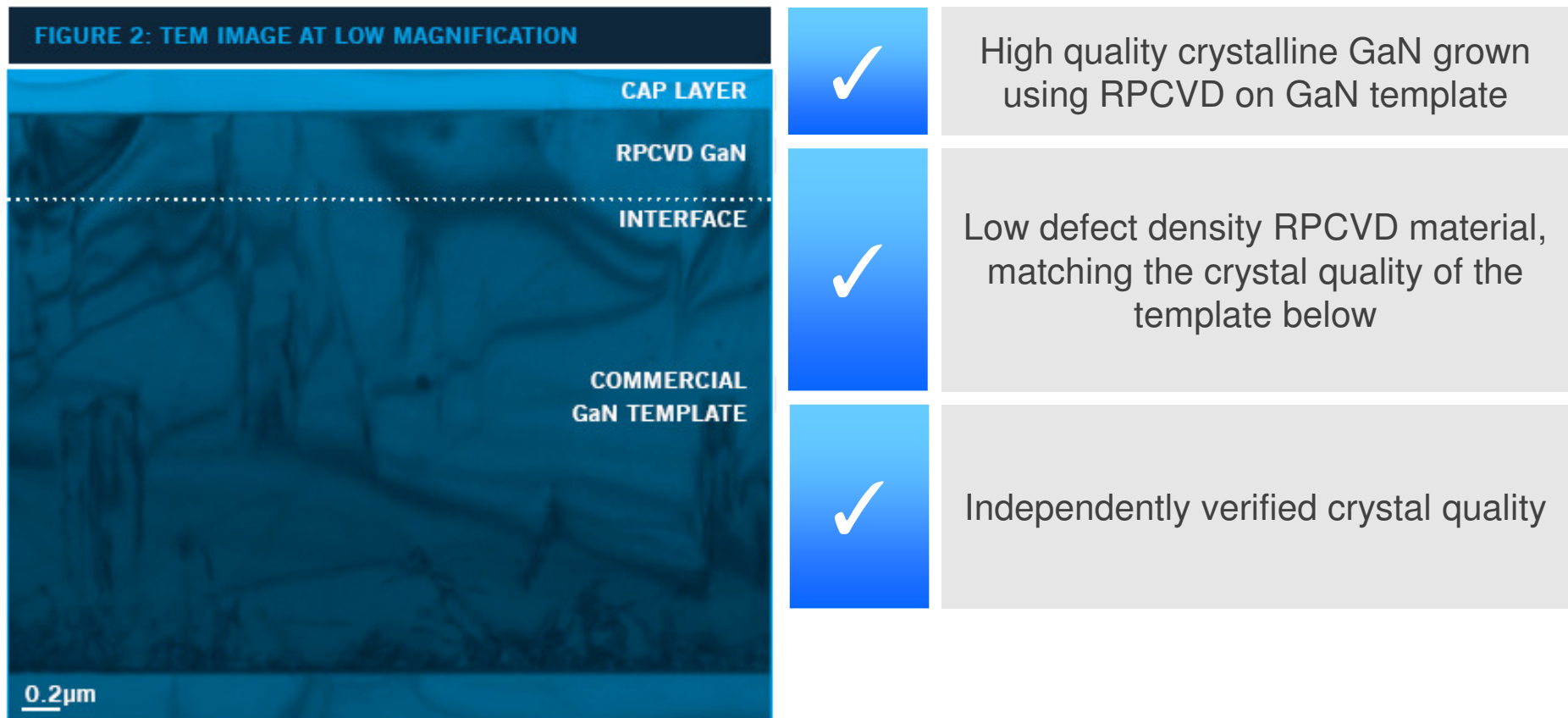
OCTOBER 25, 2012



MAJOR TECHNICAL BREAKTHROUGH:

HIGH QUALITY CRYSTAL GaN

This is a critical step in proving to industry the potential of our breakthrough technology



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HITS PROOF OF CONCEPT MILESTONE: DEMONSTRATION OF INDUSTRY QUALITY n-GaN AND REDUCTION OF IMPURITIES

This is a significant step forward that BluGlass believes will help enable the demonstration of enhanced LEDs grown using RPCVD.

✓	WORLD FIRST	Reduction of impurities and demonstration of n-GaN grown on GaN template
✓	EXPERTLY VERIFIED	Independently verified by Evans Analytical Group, IQE and The Australian National University
✓	KEY IMPURITIES ON PAR WITH INDUSTRY	Carbon, oxygen and hydrogen impurity levels less than 1×10^{17} atoms per cm^3
✓	ELECTRICAL PROPERTIES ON PAR WITH INDUSTRY	n-GaN mobility of $300 \text{ cm}^2/\text{Vs}$ for a carrier concentration of $2.1 \times 10^{18} / \text{cm}^3$
✓	CRITICAL ENABLER OF TECHNICAL AND COMMERCIAL MILESTONES	

SIGNIFICANT NEW INTELLECTUAL PROPERTY

The extent of our intellectual property portfolio is visible testament that BluGlass is successfully breaking new ground towards RPCVD becoming a commercial reality

02

Provisional Patents

- Technical advancements have resulted in two provisional patents being filed by the JV company EpiBlu
- PV provisional patents filed to protect solar research advancements

21

Patent Applications in PCT phase

17

International Granted Patents in 05 Patent Families

- Granted in key semiconductor markets including Europe, China, Japan and the US

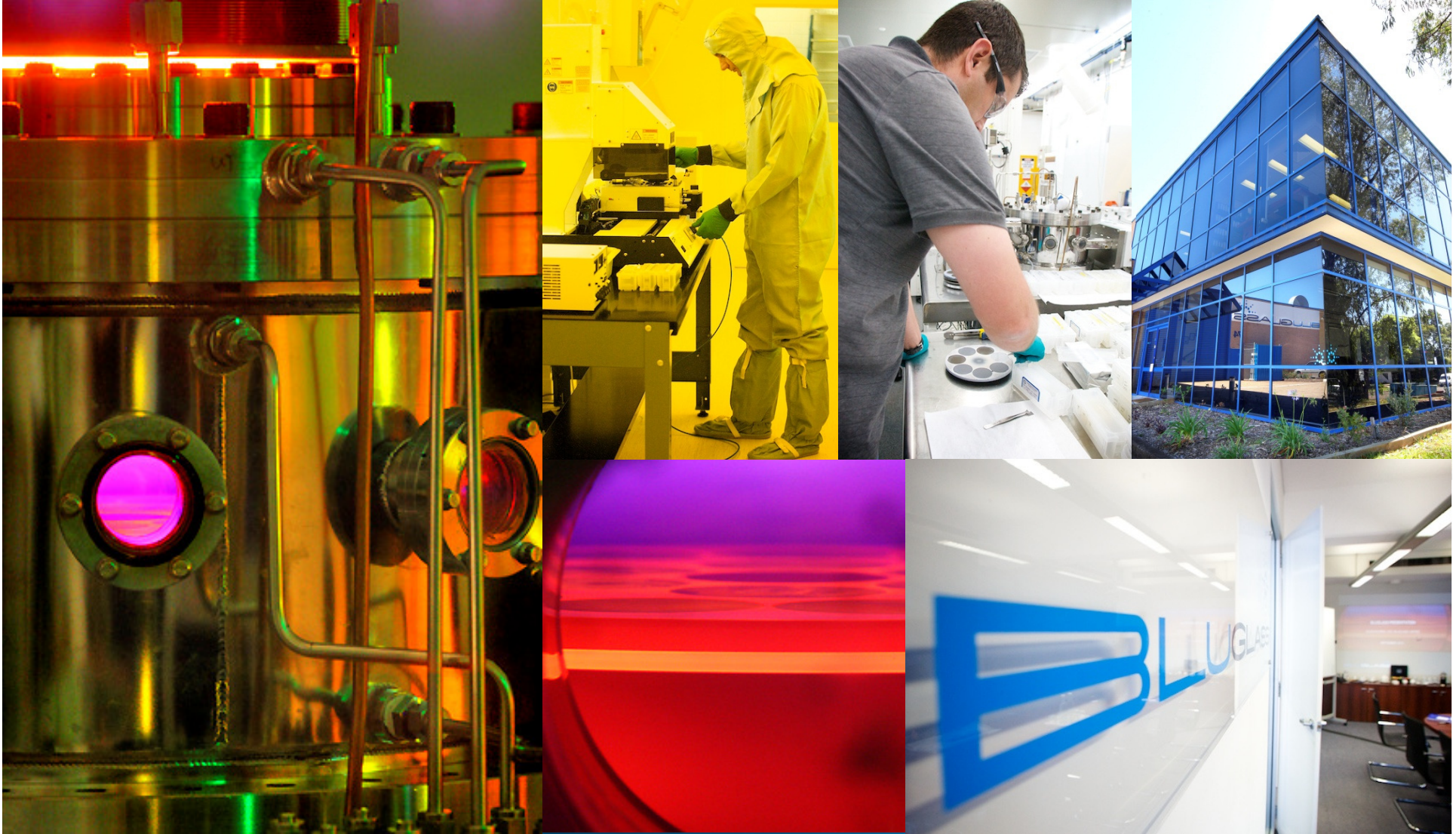
100% OWNERSHIP OF EPIBLU

- BluGlass negotiated the acquisition of SPTS' 49% stake in the EpiBlu Joint Venture

✓	VALUE	<ul style="list-style-type: none">▪ BluGlass will receive 100% of the benefit of future cash flows from its core IP▪ BluGlass will also retain a license to the SPTS background IP
✓	CONTINUED SUPPORT	<ul style="list-style-type: none">▪ Fully aligns the interests of SPTS with shareholders▪ SPTS will provide marketing assistance to promote commercialisation
✓	COMMERCIALISATION	<ul style="list-style-type: none">▪ Enables BluGlass to determine the optimal route for commercialisation▪ Could now involve one of the major LED equipment manufacturers
✓	STRUCTURE	<ul style="list-style-type: none">▪ Simpler corporate structure, no minority interest▪ Easier access to grants and R & D tax rebates

VIRTUAL TOUR

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AUSINDUSTRY VISIT



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FINANCIAL RESULTS

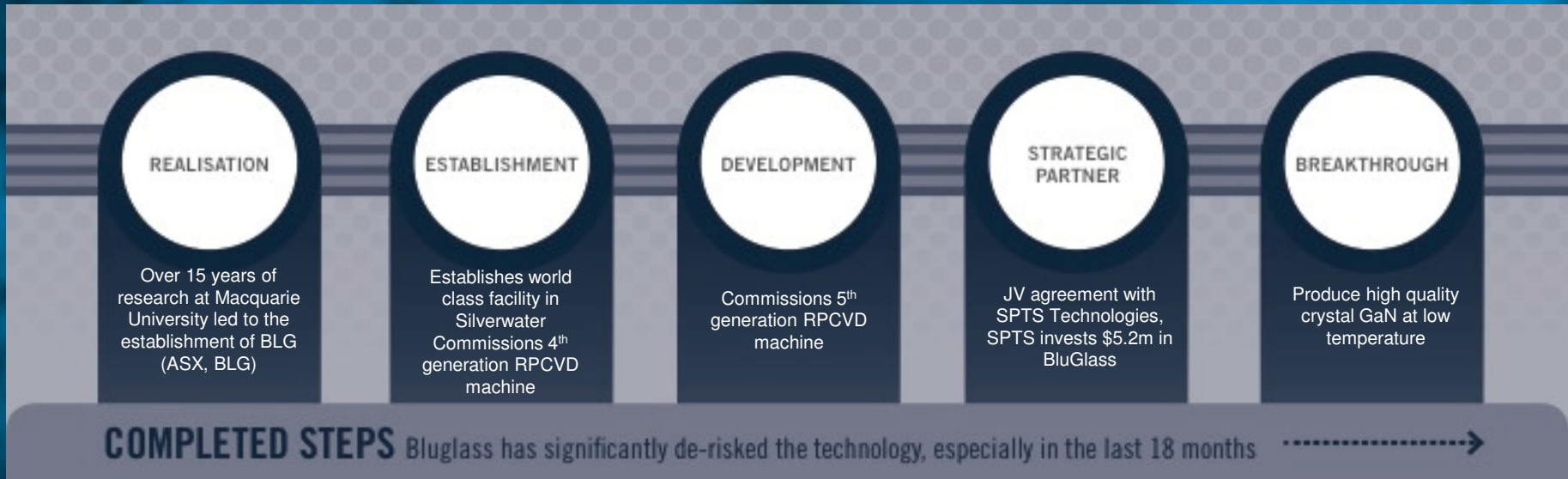
	2011	2012
Revenue \$'000	2,085	2,478
Net Loss \$'000	(4,171)	(3,237)
Consolidated Cash	\$7.97M	\$3,73M
Patents Lodged	1	3
Patents Granted	2	1

- Revenue increased 16.1% to \$2.4M due to the following factors:
 - Receipts from the Commonwealth Climate Ready Grant increased by \$300K reflecting the company's expenditure on the photovoltaic project
 - Interest income increased by \$43K up 19% following the injection of equity funds from SPTS
- BluGlass expects to receive an R&D rebate and its current cash reserves allow the company to meet its immediate goals

THE YEAR AHEAD

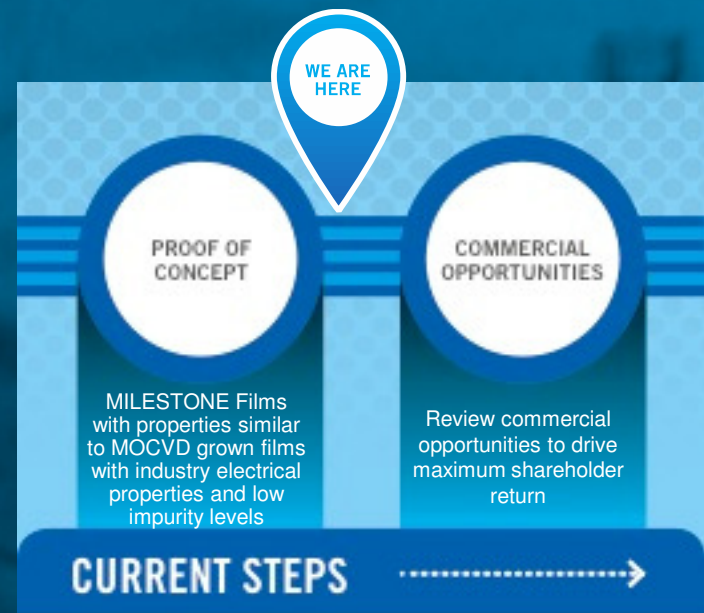
BluGlass' technology, RPCVD, has the potential to offer LED manufacturers significant performance and cost advantages, by growing group III-nitrides at lower temperatures

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ROADMAP TO MARKET

WE ARE HERE



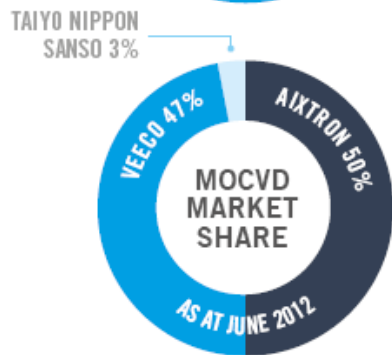
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MARKET OPPORTUNITIES



- Revenues for high-brightness LEDs grew 108% to \$11.2 billion in 2010
- Revenue is expected to peak in 2014 at \$16.2B and then fall to \$15.3 B in 2015. The dip in revenues will be temporary, as lighting will take over as the engine for growth after 2015. *Source: Strategies Unlimited, The Worldwide Market for LEDs, Market Review and Forecast 2012*



- The LED equipment market (MOCVD) represents a US \$6.1B opportunity through to the end of the decade *Source: Yole Développement III-V Epitaxy Equipment and Application Market Report 2012*
- In 2011 the \$1.5B market continued to be dominated by two global companies Aixtron and Veeco. Veeco estimates ~400-800 machines will be shipped for the LED market annually to 2016 *Source: Veeco Investor Presentation June 2012*



- The rapidly expanding concentrated photovoltaic (solar) market is forecast to reach 1.5GW by 2015 by the CPV Consortium in their 2010-2015 CPV Consortium 2010 Report growing from a small base of 60MW in 2011

THE TECHNOLOGY UPDATE

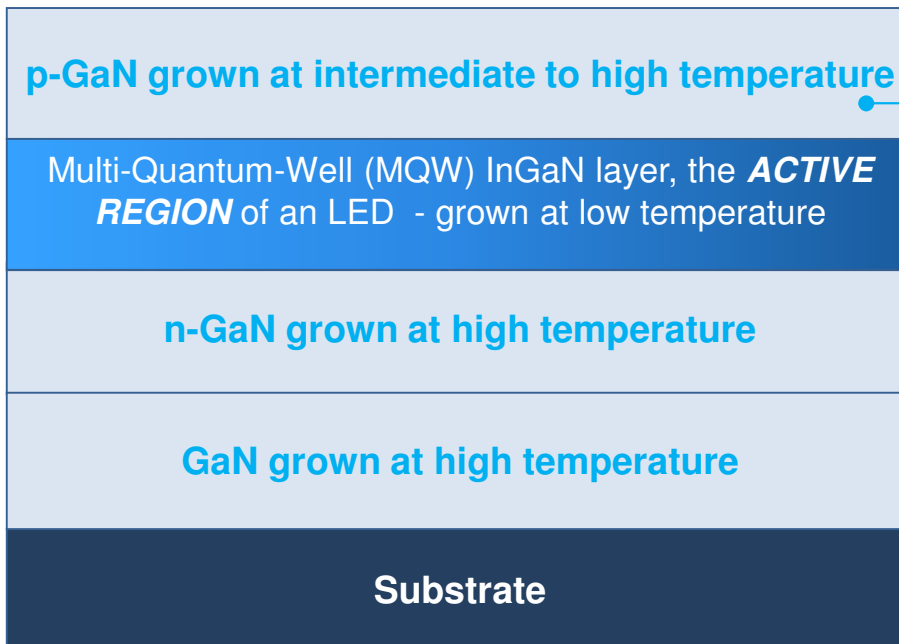
“It is estimated it is possible to alleviate the need for 133 nuclear power stations in the US by the year 2025 if white solid state lighting is implemented”

PROFESSOR SHUJI NAKAMURA

POTENTIAL BENEFITS OF RPCVD FOR LED

*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



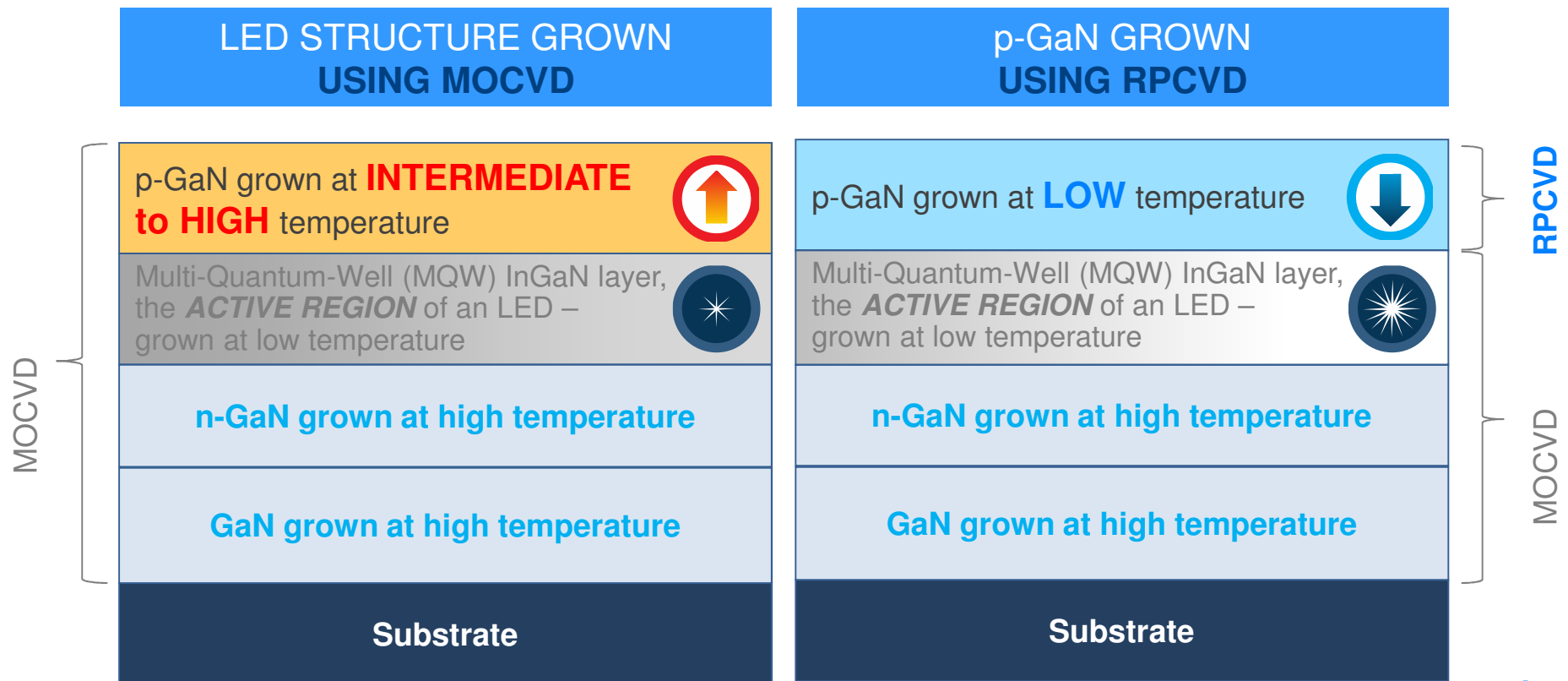
BENEFITS OF RPCVD GROWTH

The higher temperature growth of the p-GaN top layer compared to the MQW layer can cause some of Indium to diffuse out of 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.

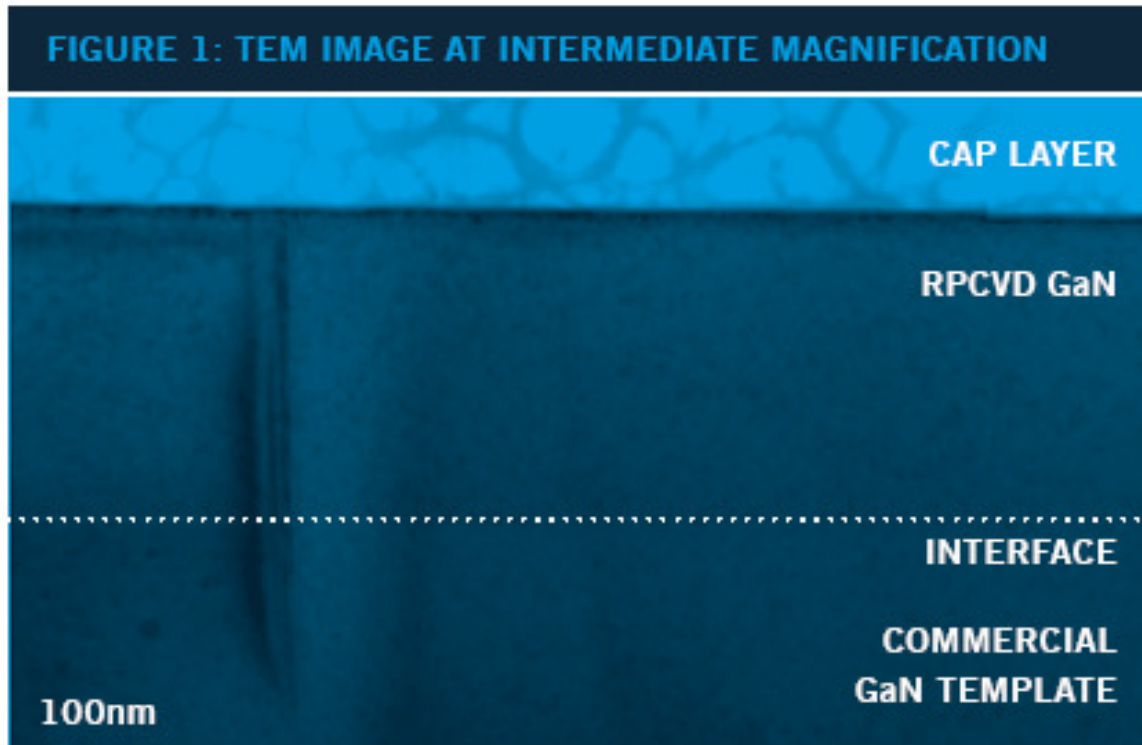
DEMONSTRATION PLANNED FOR LOW TEMPERATURE p-GaN

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



PROGRESS TOWARDS THE p-GaN COMMERCIAL OPPORTUNITY

REDUCES IMPURITIES



- Earlier this year, an RPCVD grown GaN film with good crystal quality was demonstrated when grown on a GaN template (refer to Figure 1)
- Recently, an RPCVD GaN film grown on a GaN template was shown to have low impurities with carbon, hydrogen and oxygen levels all less than 1×10^{17} atoms/cm³

PROGRESS TOWARDS THE p-GaN COMMERCIAL OPPORTUNITY

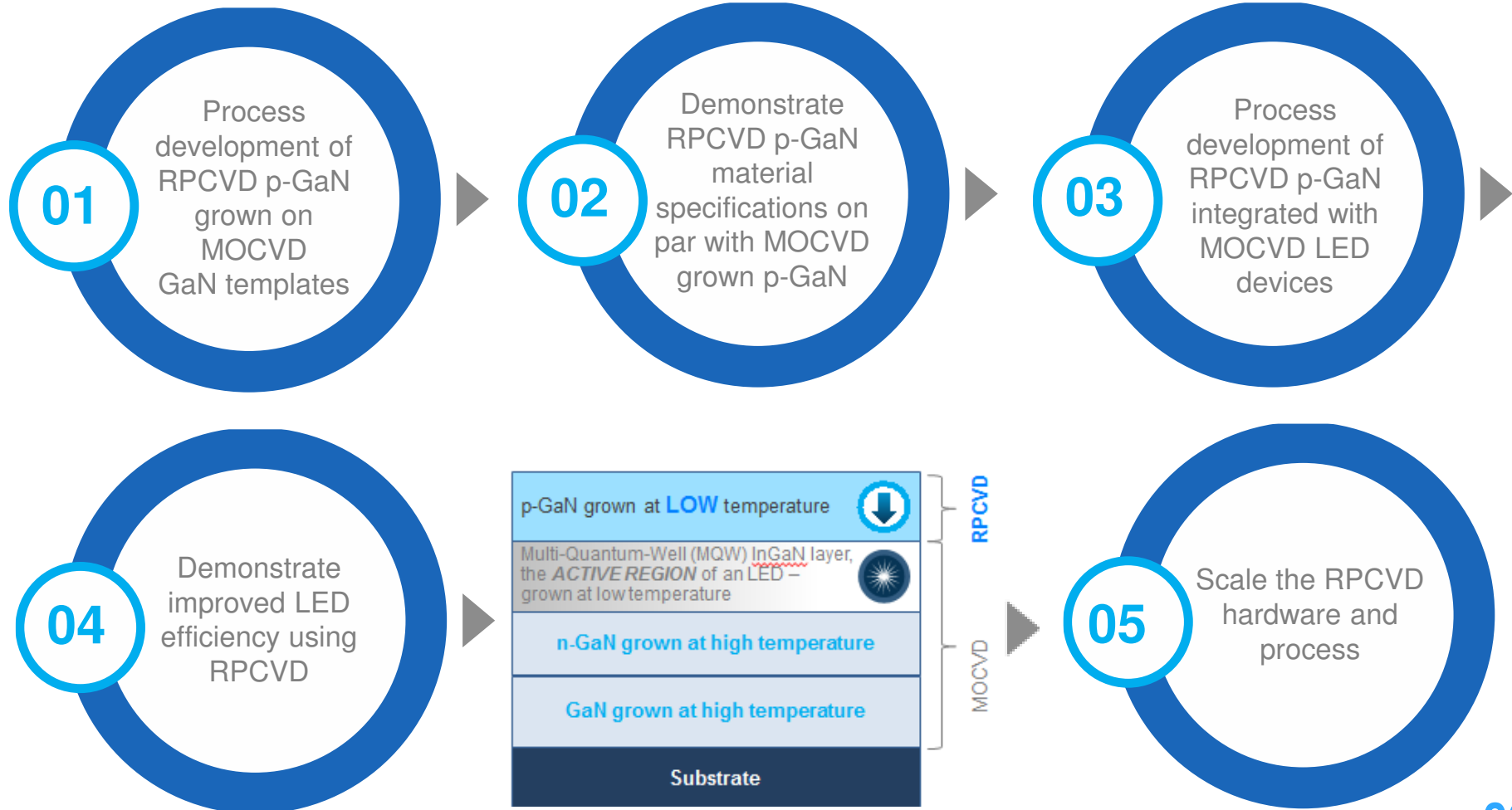
ELECTRICAL PROPERTIES

ROOM TEMPERATURE HALL MEASUREMENT RESULTS OF AN RPCVD n-GaN FILM GROWN ON A UN-DOPED COMMERCIAL GaN TEMPLATE COMPARED TO A TYPICAL MOCVD GROWN n-GaN FILM

	TYPICAL MOCVD n-GaN SPECIFICATION	RECENT RPCVD n-GaN DATA	
		IQE Data	ANU Data
MOBILITY	$\geq 250 \text{ cm}^2/\text{V.s}$	297 $\text{cm}^2/\text{V.s}$	300 $\text{cm}^2/\text{V.s}$
FOR A CARRIER CONCENTRATION	$2.0 \times 10^{18} \text{ cm}^{-3}$	$2.0 \times 10^{18} \text{ cm}^{-3}$	$2.1 \times 10^{18} \text{ cm}^{-3}$

NEXT TECHNICAL STEPS

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