# **CARBON REVOLUTION**

Wilsons Rapid Insights Conference About Carbon Revolution

26th May 2022









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### **Purpose and Vision**

### **Purpose**

To transform the performance and sustainability of the world's vehicles

### **Vision**

To be the world leader in light weight wheels







### **About Carbon Revolution**

### PERFORMANCE IS EVERYTHING. FFFICIENCY IS EVERYTHING FLSE.

- Established in 2007, Carbon Revolution is an Australian-based global technology company which has successfully innovated, commercialised and industrialised the supply of carbon fibre wheels to the global automotive industry – circa 50,000 wheels sold to the global market to date
- The Company was founded with the purpose of bringing a disruptive efficiency technology to all vehicles. 6 programs are currently in production across 3 global OEMs, with a further 9 programs in development.
- Carbon Revolution designs and manufactures what it believes to be the world's most technically advanced and highest performing wheels on the planet, equal to the most advanced lightweight technologies on any car
- These wheels have potential application across a broad range of transportation industries including automotive, aerospace and industrial uses
- The Company's principal operations, which include its corporate office and manufacturing facilities, are located in Geelong, 75 kilometres from Melbourne, Australia. Carbon Revolution also has a number of team members in North America and Europe, to service current and prospective OEM customers
- Listed on Australian Stock Exchange November 2019



Program Summary		Number of Programs
Awarded programs in production		6
Programs in development	Awarded	2
	Under detailed design and engineering agreement	7
Total Active Programs		15

of which full electric vehicle



### Why the industry is so excited about carbon fibre wheels



Performance benefits



Fuel efficiency and range extension



Design freedom – size, style and aerodynamics



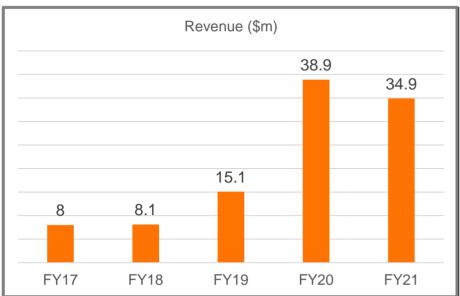
Reduction in road noise

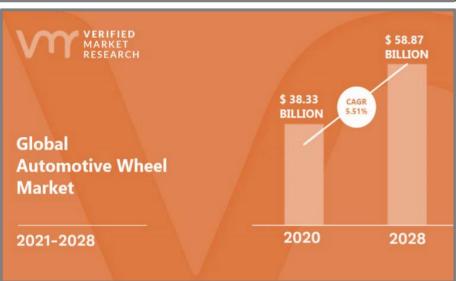
"...the carbon-fibre wheel option, which is 8kg lighter than their forged counterpart, sets a whole new performance benchmark..."

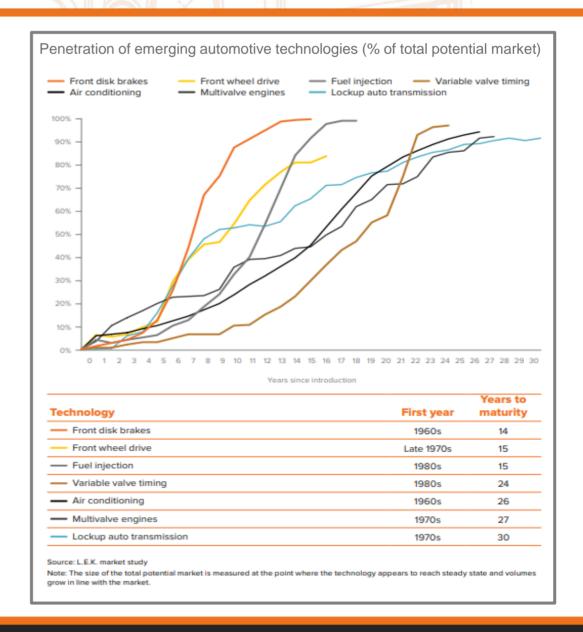
Ferrari, launch of 296 GTB, 24th June 2021



### We're a new and disruptive entrant in the global wheel market



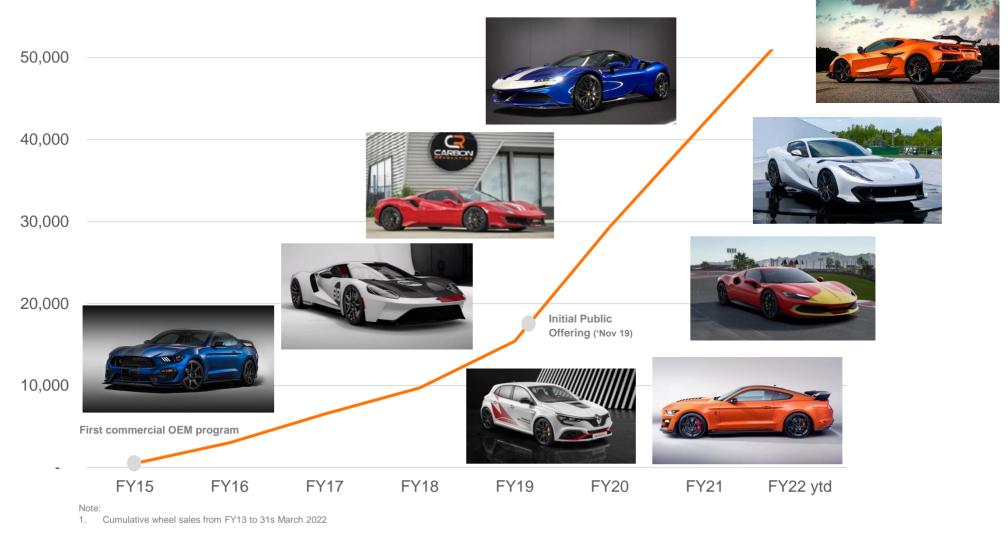






### **Strong Track Record**

# Over 50,000 cumulative wheel sales volume<sup>1</sup> with 9 awarded programs announced by OEMs and in the market



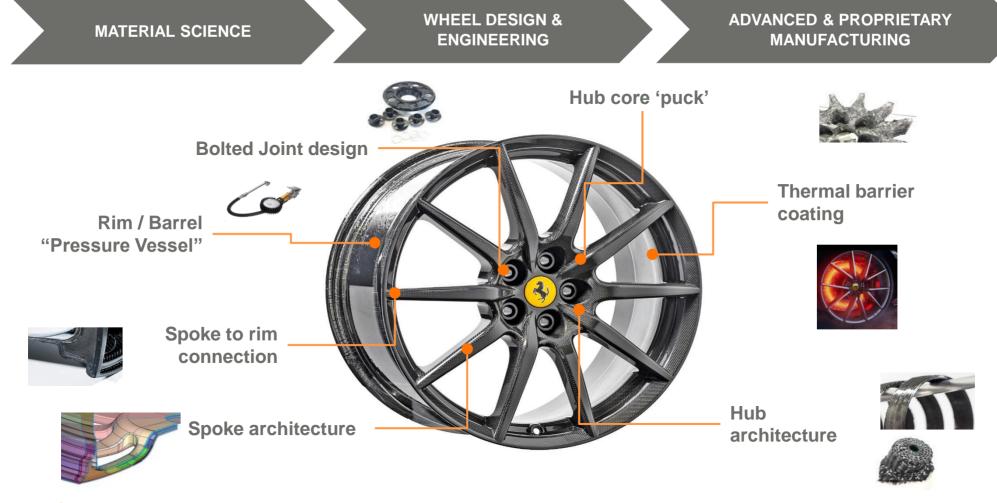


## **Evolution of wheel technology**





# Complex product engineering capability and proprietary, scalable manufacturing



Carbon Revolution has 55 granted patents across 6 patent families, 28 pending patents across a further 4 patent families, 1 pending PCT application in a further patent family and 2 pending provisional applications across a further 2 patent families



# Mega-line production technology – Phase 1 investment underway and is expected to add 75k wheels per annum capacity

Mega-line development: Moulding line (below)



Note: Mega-line moulding line shown at full completion (beyond Phase 1 Mega-line)



### Mega-line infrastructure installation progress and \$12m MMI grant





### Four areas of key focus



Driving sales growth from new programs in production

Production ramp of the Corvette Z06 / Z07

Sustainable increase in production for the Ferrari programs

Completion of GT500 production



Delivering operational efficiencies & COGS reduction

TBC performance

Resin quality resolution

Consistent throughput and flow

Continuous improvement initiatives



Progressing Phase 1 Mega-line project

Installation of productive assets

Systems and services

Begin validation process

Advancing through to formal award of the initial programs that underpin Phase 1 of the Mega-line



Continued cash management focus

New borrowing facilities

Inclusion of existing assets into the Mega-line



### **Emerging ESG**

# Lifecycle Emissions A Potential Competitive Advantage

#### **Upstream**

 A focus for the composites industry as it expands, including adoption of renewable input sources

# Wheel Manufacture

- ISO14001 accredited
- Energy and waste KPIs in place
- Deakin solar micro-grid power supply
- Energy efficient processes in pipeline
- Recycled materials used

# Significant In Use Benefits

- Significant benefits during in use phase driven by vehicle efficiency benefits
- Enabler for customer weight savings

#### End of Life Recycling / Re-use

- A focus for the composites industry as it expands
- Driving industry R&D

# Strong Australian Partnerships in Advanced Manufacturing

# Australian capability

- Established partnerships with leading academic and innovation organisations (eg. Deakin, CSIRO, University of NSW)
- Local equipment partnering on bespoke industrialised equipment (eg. Marand)

#### **Proudly Regional**

- Located in the regional city of Geelong, Victoria in the Waurn Ponds advanced manufacturing technology hub
- Strong growth in skilled employment and advanced manufacturing capability in a city with manufacturing heritage

#### Sustainable

- 100% export with development in Australia
- Supportive and development focused workplace, in particular, women in STEM



### **Compelling Market Position**

# **Demonstrated Value Proposition**

Carbon fibre wheels make cars lighter, faster, quieter, and more fuel efficient, providing a compelling business proposition to global car manufacturers

#### Global Leader

Successfully developed and manufactured single piece carbon fibre wheels with commercial adoption across several major OEM models. Demonstrated track record in the market, with over 50,000 wheels sold to date

# Large and Growing Market

Addressable market is very large with increasing penetration, both in production or under development. Large wheel sizes are becoming more popular and are well suited for carbon fibre

#### Uniquely suited to EV

Value proposition is uniquely suited to EV requirements. The global EV transition presents a significant growth opportunity

# **Proprietary Technology**

Product technology is globally unique and our leading market position and targeted R&D program are enabling us to extend our lead, including 55 granted patents across 6 patent families

# Clear Industrialisation Pathway

Our industrialisation pathway is clear and progressing well. Mega-line investment is supported by market demand, particularly from EV and larger wheel segments

