



TRANSFORMING POSSIBILITIES INTO REALITY

 **ACS**  
AUSTRALIA



## Advanced Composite Structures Australia

ACS Australia is a highly awarded and recognised world leader in composites innovation, helping companies to excel in implementing new composites technology. Dedicated staff bring expertise, professionalism and value to clients worldwide seeking transformative change, enabling them to stay ahead of the competition.

ACS Australia has a rich history that includes:

- A track record of successful delivery of advanced composites related services to clients spanning a range of diverse markets.
- Proven solutions for low risk composites technology adoption and implementation within a global customer base.
- A portfolio of innovative products and processes that are available for commercialisation and technology transfer.

Professional expertise enabling transformation

# An interdisciplinary, integrated and flexible organisation

globally recognised for solving challenging problems in novel ways.

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## A team of experts that has successfully delivered

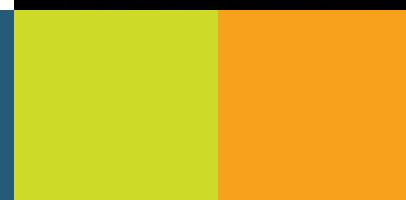
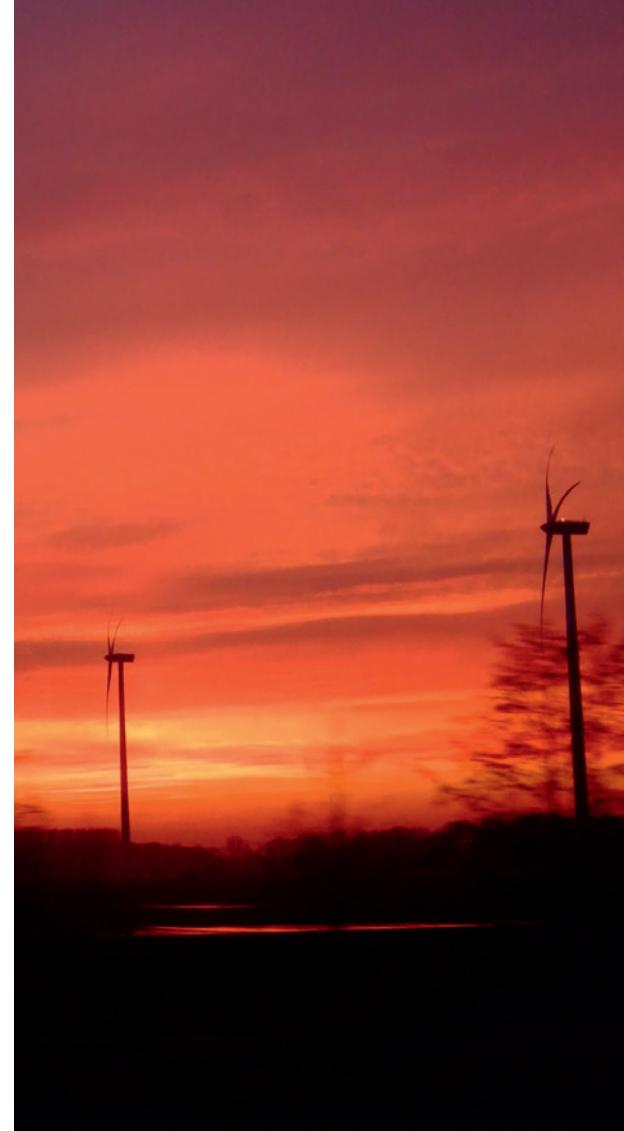
ground breaking design, analysis, materials,  
manufacturing and maintenance solutions to its customers.

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## Unique knowledge and depth of experience

that leverages more than 20 years experience  
in advanced composites technology.

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## World leading services to enable transformative change

### Design and Analysis

ACS Australia has a state of the art facility for composite design and analysis, fast-tracking the development process by coupling advanced software with experimental testing and validation. An expert team optimises design to the most demanding of customer requirements, and through close integration with manufacturing, ACS Australia ensures solutions are provided with a focus on practical implementation.

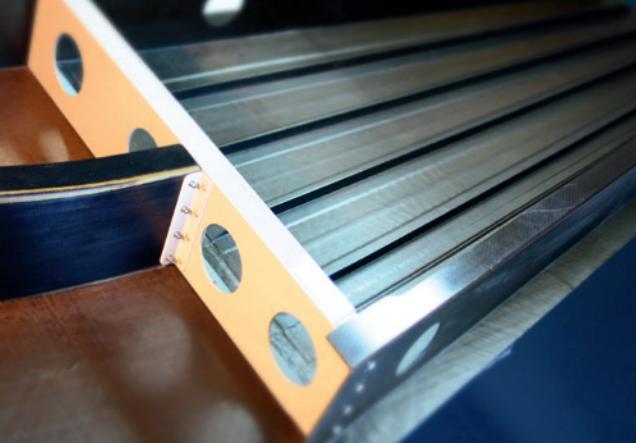
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**Specialised design tools** for impact and failure, enabling accelerated implementation and airworthiness certification for aerospace and defence clients.

**Advanced simulation technology** to predict the response of energy absorption in highly loaded structures including helicopters and automotive structures for leading European manufacturers.

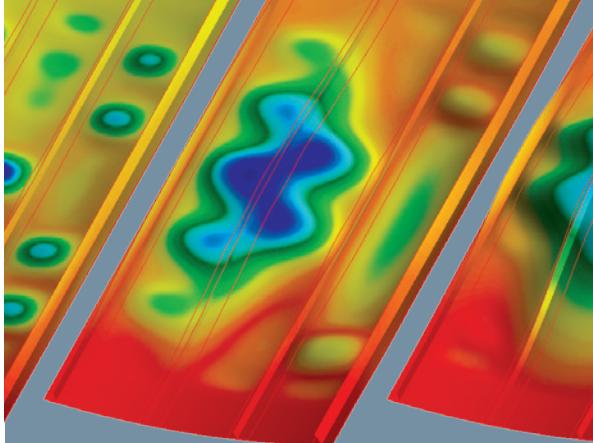
**Structural optimisation capabilities** ensuring full utilisation of the unique properties of composite materials have been developed for implementation on leading defence technology programs.

## World leading unique technology



### Novel processes

for manufacturing and assembly, such as double diaphragm forming, resin infusion processing and weldable carbon/epoxy composites have been adopted or implemented by aerospace OEMs.



### Simulation tools

to optimise composites manufacturing processes and to estimate manufacturing costs of complex composite structures have been developed for aerospace OEMs and tier one suppliers in Europe and China.



### Prototype manufacture

and production support have considerably aided implementation of advanced composites in high profile sporting and automotive applications in Australia.

## Unique technology to ensure competitive advantage

### Materials and Manufacturing

Many of the major successes of ACS Australia have involved the creation, demonstration and subsequent transfer of innovative materials and manufacturing technologies to its clients, providing a clear competitive advantage. In-house development of advanced material and process modelling tools have delivered significantly reduced experimentation during the design process, enabled process optimisation for improved component quality and repeatability, and reduced manufacturing costs.



# Globally recognised expertise in a range of markets

## Maintenance and Inspection

Unique expertise and a proud history in the fields of repair, rehabilitation and inspection places ACS Australia at the leading edge of new technology implementation. The breadth of skills, from technicians to engineers, has been successfully used to provide customers with a practical and cost-effective approach to operation, restoration, enhancement and sustainment of composites in fields varying from infrastructure and oil and gas to aerospace.

## Development and implementation

of composite repair methods for metallic structure, including collaboration  
on award-winning pipe repair technology for the oil and gas industry.

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## Critical support

and expert advice on bonded composite patch repair  
technology for the Australian defence industry.

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## Novel technology

to detect, monitor and evaluate the structural health of composite  
structures for next generation commercial and military aircraft.

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# Globally recognised innovative products

# Innovative products creating a revolution

## Thermoset Composite Welding – enabling an assembly revolution

ACS Australia has developed and patented ground breaking assembly technology called Thermoset Composite Welding that eliminates fasteners and secondary bonding, and enables high quality, rapid assembly of components.

This novel technique is being prepared for implementation by a key European aerospace partner, and has the potential to revolutionise composite assembly in high-rate automotive and complex civil infrastructure applications.

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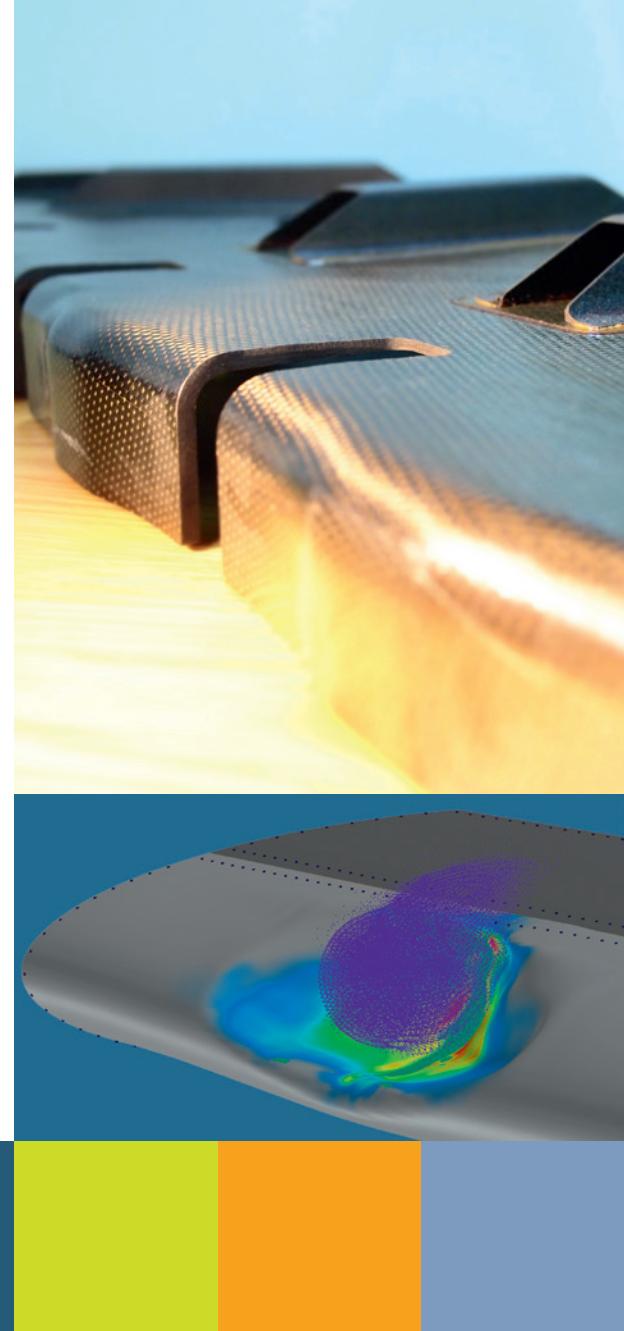
*Real competitive advantage requires not just keeping up with technology and continuous improvement, but being the first in your industry to adopt and embrace the latest developments.*

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## Impact Analysis Tools – when performance is critical for success

ACS Australia has world leading knowledge, capability and tools for simulating complex impact damage events in composite structures.

These have been successfully used to extract the highest performance and safety in critical applications such as crash analysis of supercars and birdstrike certification of aerospace structures.



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