

# WORLD-CLASS RESEARCH SOLUTIONS

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## THE AUSTRALIAN SYNCHROTRON EMPOWERS INDUSTRY TO PROBLEM-SOLVE AND INNOVATE, REVEALING HOW MATTER FITS TOGETHER, MOVES, INTERACTS AND CHANGES, IN A WAY THAT OUTSHINES WHAT CAN BE ACHIEVED IN ANY CONVENTIONAL LABORATORY.

We partner with industry to achieve world-class breakthroughs in areas as diverse as supporting the development of effective treatments for Alzheimer's disease and reducing impacts of environmentally intensive practices, to boosting the nutritional value of food and gaining new insight into the efficient storage and transport of energy.

Our experts harness light, a million times brighter than the sun, to examine and analyse the structure and behaviour of samples in unprecedented detail, with precision, accuracy and speed not available elsewhere, helping industry partners to interrupt, boost and manipulate the most basic of processes to overcome technical hurdles and roadblocks and drive product innovation.

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## SHEDDING NEW LIGHT ON INNOVATION ACROSS INDUSTRY SECTORS

ADVANCED  
MANUFACTURING



AGRIBUSINESS  
AND FOOD



BIOTECH  
AND HEALTH



ENERGY



ENVIRONMENT



RESOURCES



TRANSPORT  
AND DEFENCE



## WE PROVIDE FULLY-SUPPORTED ANALYTICAL SERVICES BEFORE, DURING AND AFTER YOUR EXPERIMENTS, INCLUDING:

- identifying and tailoring effective synchrotron techniques for your sample to expedite detailed analysis
- delivering fast data acquisition from your sample, in unprecedented detail
- supporting timely data analysis and reporting.

*'The cost saving is dramatic – this new method is far more cost effective, and we've now been able to design a range of products for market that we were unsuccessful with before.'*



## WHAT OUR CLIENTS SAY ABOUT US

### COMPARING TECHNIQUES TO DRIVE NEW PRODUCTS

'While our internal analysis showed our newly-invented method of laser deposition was producing excellent results, the Australian Synchrotron was able to confirm, visually, how much difference there was.

'The cost saving is dramatic – this new method is far more cost effective, and we've now been able to design a range of products for market that we were unsuccessful with before.'

*Gregory Hooper, Founder, Executive Director, LaserBond*

### REFINING A NEW CANCER DRUG TO MAKE IT MORE EFFECTIVE

'The precisely detailed understanding of key protein structures that only the Australian Synchrotron can provide was crucial to our work.

'We needed this level of detail to develop a drug that targets one single protein – and not the other four very similar proteins in the same family – critical for minimising potential side-effects.'

*Dr Peter Czabotar, Laboratory Head, Structural Biology  
Walter and Eliza Hall Institute of Medical Research*

### TAKING IRON-ENRICHED RICE FROM CONCEPT TO CROP

'We had exhausted staining methods to try and highlight iron in the rice grain.

'The powerful synchrotron beam was sensitive enough to detect trace metal and we were able to see iron in the endosperm, in incredible detail, for the first time.

'We now have grants with HarvestPlus and World Vision Australia to move into the development phase of our project and grow iron-enriched rice in the field.'

*Dr Alexander Johnson, School of BioSciences, Faculty of Science,  
The University of Melbourne*

*'The powerful synchrotron beam was sensitive enough to detect trace metal and we were able to see iron, in incredible detail, for the first time.'*

**For further information on how the Australian Synchrotron can help you problem-solve and innovate, contact:**

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