

High technology investments and innovative engineering skills help LaserBond gain highly sought after research collaboration agreement.

The University of South Australia (UniSA)'s Future Industries Institute (FII) has announced a research collaboration agreement with LaserBond Limited after a recent MOU signing was endorsed at a full board meeting on campus in late May 2016.

This strategic combination between UniSA:FII and LaserBond is almost unique in Australia; providing the foundations for a Centre of Excellence in



Laser cladding is a high-performance additive manufacturing procedure, which utilises precisely controlled energy from a high power laser to metallurgically-bond a surfacing material to a substrate to provide very high performance surfaces to new parts for extended operating life. With this precise control, a welded or metallurgical bond is achieved with minimal effects of heat on both the substrate and surface material.

Wearlife Extension for Resource industries.

UniSA is part of a national collaborative group of five major Australian universities that form the Australian Technology Network of Universities (ATN), a new generation of universities focused on industry collaboration and real-world research with accelerated commercial impact. UniSA has a strong foundation in Materials and Mineral Sciences and advanced laser manufacturing technologies.

UniSA's new multi-million dollar FII focuses on building knowledge and capacity in core future industries. Its objective is to develop informed, industry-connected research and innovation in engineering and the physical sciences.

The strategic collaboration of UniSA-FII and LaserBond offers resource industry companies access to the world-class skills, knowledge and facilities of the university, together with LaserBond's 25 years of surface engineering

experience in solving wear life problems in heavy equipment.

LaserBond's R&D and advanced manufacturing facilities group is located just a few minutes away from UniSA's Mawson Lakes Campus in Cavan SA, where it is developing and manufacturing a range of products and services with embedded IP for direct or indirect export markets. This North Adelaide location is ideal for supporting innovation in several key growth centres, particularly in mining resources, oil & gas, agriculture and defence.

The company was established in 1992 as an innovative surface engineering firm at the forefront and developing new surface engineering technologies. In 2000 LaserBond achieved another world first by designing and building a high-powered integrated laser cladding system capable of metallurgically bonding a wide range of metals to heavy machinery components. Subsequently, in 2015, they developed a revolutionary new laser deposition method, which virtually eliminates substrate dilution and detrimental heat effects. This new technology makes laser cladding technology available and economic to a wide range of industrial applications,

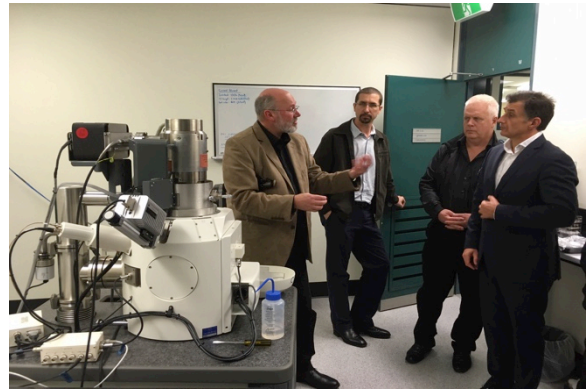
in particular, high wear applications common in resource industries, and as a replacement for hard-chrome, as used on hydraulic cylinders in mining and drilling.

To properly understand the metallurgy and bonding of surface engineered coatings, twenty years ago LaserBond invested in an in-house Scanning Electron Microscope (SEM). To this day, no other surface engineering firm has invested in such sophisticated and costly apparatus to support their R&D. They also worked with the Australian Synchrotron facility to gain high-resolution insights into the metallurgical structure being achieved by its 2015 innovation. Through this research collaboration, UniSA will apply its extensive material characterization laboratories and testing systems to support the development of new cladding materials, applications and technology.

To meet customer demands, LaserBond is also investing and developing new laser additive



Left: UniSA:FI's Prof Emily Hilder, Prof William Skinner and Dr Colin Hall with full board of LaserBond inspecting facilities at Mawson Lakes campus.



Right: Prof Skinner and Dr Hall discussing one of the FI's materials characterization laboratories to board members, Wayne Hooper and Phil Suriano

advanced manufacturing systems. Hereto, the collaboration with UniSA:FI's laser engineering group should deliver dividends for North Adelaide and SA local manufacturing.

Commenting on this milestone collaboration agreement, LaserBond Chairman, Allan Morton, said:

"It's truly pleasing to see LaserBond's history of industry led innovation is taking another step.

A great deal of effort, time and money has been committed to experimental surface engineering developments since 1992 when the company was formed. Founder and Executive Director, Greg Hooper, has always had a passion for continually pushing the boundaries and exploring all things metallurgical. Together with brother Wayne, they have driven the company to outperform the rest, with innovations in application systems and materials.

As an example, Greg recently met with the Fraunhofer Society in Germany to confirm that we are at the cutting edge of laser deposition

technology globally. This society is a research organization with 67 institutes spread throughout Germany, each focusing on different fields of applied science. It employs around 24,000 people, mainly scientists and engineers with an annual research budget of AUD3 billion. More than 70% of its funding is earned through contract work, either for government-sponsored projects or from industry.

It's our belief that this format of industry-lead research collaboration brings the best of industry problem solvers together with best academic capabilities in minerals and resource engineering. Almost always our innovation is through uncharted waters, but it creates the foundation for LaserBond's growth. We're proud that our company has now been endorsed by these two highly respected organisations. We can look forward to a growing cluster of technology companies hastening and broadening of our laser cladding technology to help more industries in more parts of the world".