

# Manufacturing Solutions Zone

## LEAP Australia Pty Ltd

LEAP Australia specialises in the latest software technology but this year at AMW there's a large steel mining fan on their stand. Business Line Manager, Paul O'Shaughnessy uses an iPad to demonstrate - on the fan - how companies in manufacturing can benefit from Augmented Reality (AR): "AR overlays digital information on the real world. It's similar to Virtual Reality (VR) but has a number of advantages in industry. VR completely immerses you so you're cut off from the real world, but with AR you still see your surroundings overlaid with extra digital information."

"AR has many uses in manufacturing, such as sales and marketing. Many of our customers sell large machines that are difficult to bring to trade shows. AR gives potential clients an impressive 3D demonstration of how a machine operates, even if that specific machine is not here at the show. AR can also provide step-by-step training instructions to guide you on how to operate new machines, in place of a pdf manual. Here we can use a tablet to overlay 3D instructions on the real fan, highlighting key parts and showing IoT gauges in context."

O'Shaughnessy uses an iPad to overlay additional fan components that were not on display (due to the weight of shipping the entire assembly). "You can also have X-Ray vision to see moving parts inside the fan and display the correct sequence for removing screws and other parts during maintenance."

"There's been a lot of interest this week in our technology and we are hopeful of seeing more Australian manufacturers roll this out after AMW."



## Industrial Laser

Surrounded by many interested AMW expo attendees - mainly engineers - Industrial Laser's Technical Director, Richard Ladley is demonstrating the IPG Photonics Laser Welder. He describes it as the world's first portable hand-held welder for manufacturers.

"This is the first time it's been demonstrated in Australia and we are showing its exceptional features. These include ease of setup and use plus it's fast and a very useful tool for specialised welders working in production."

Industrial Laser is the Australian agent for IPG Photonics hand-held laser welder, advises Ladley: "That means, as well as selling the machine and its technology, we can also provide support, training and service for it."

"We've had a phenomenal response to our hand-held laser welder at this expo and we are hopeful to get 20-30 sales from the show. Also, we are already booked into the welding zone for next year's AMW in Melbourne."



## Raymax Applications

Raymax's Technical Director and physicist, Dr Cedric Chaminade is busy on their stand explaining how the laser optical head with process control that's on display, works: "This is used for metal cladding which is a process of depositing metal for repairs. We have laser cladding solutions with up to 35kW continuous Near-IR laser power and the highest to date at 25kW delivered to Australia soon. It's primarily used in mining, gas & oil sector for refurbishment of hydraulic cylinders and other large metallic shafts."

"For 30 years in business, we've been supplying and servicing our sophisticated lasers and photonics equipment to a wide range of industry sectors, across Australia and New Zealand."

Dr Chaminade adds that additive manufacturing is an important part of the business. "We have installed hundreds of lasers in the field for wine bottle marking. Nowadays lasers are extensively used in metal 3D printing with multiple laser sources mounted in almost every industrial machine. We're also designing and supplying laser systems for applications as diverse as cladding, welding, cutting, micromachining, photo-polymerisation."

Photo-polymerisation is the curing process that's characterised by the use of ultraviolet (UV) light for the manufacture of relatively small 3D objects and microfluidic devices for example.

Raymax has a wide range of advanced manufacturing and industrial laser processing solutions, with laser consulting and engineering advice for clients. Hyperspectral imaging, custom optics and lithography are among its many photonic equipment solutions.

