Raymax Applications Pty Ltd will be at AUSTECH/NMW stand AM10 in the Additive Manufacturing section of AUSTECH.

Our key 3D printing system laser will be featured: SLM Solutions. On the stand will be many samples printed using SLM laser systems with information about the metal powder used, product size, as well as time to print. These samples were developed with SLM partners exploring real opportunities to implement 3D printed parts.

SLM Systems have now introduced production systems to assist with the next phase of 3D printed parts – full production.

Visit our stand to meet with our experts in 3D metal printing from Germany, Singapore and Australia who will explain the process and discuss how your company could use 3D metal printing.

SLM Solutions provides a complete package, from design software, high-quality metal powders and a safe power handling system, multiple lasers for faster printing and a range of build volumes.

SLM®280 for Production
Ideal for series manufacturing, the third-generation SLM®280 with up to two 700W lasers

SLM®800 Modular Setup
The SLM 800 large format machine features to scale from one to five machines.

Join other attendees and make an appointment to have your questions answered.
Use email: info@raymax.com.au or phone: +61 2 9979 7646 to set a time and date to suit.

Raymax Applications Pty Ltd choose the ‘best’ lasers and laser systems to distribute into Australia and New Zealand. Information on the laser systems that support Advanced Manufacturing will be available and include:

SPI Lasers, Laserline Lasers, BeAM Machines and Optec laser power meters.
SPI Lasers and Welding
Laser welding is the process of welding materials together, whether this is one piece or multiple pieces of similar or dissimilar materials. Renowned for the increased strengths of welds, laser welding is an application that businesses simply can’t afford to ignore for quality and cost reasons.

Regardless of the material, thickness or dissimilarity of metals, welding is an application that both Pulsed and Continuous Wave (CW) lasers can achieve.

From fuel cells and batteries through to fine wires for medical device manufacture, if your aim is to perfect your processing techniques then look no further than the range of SPI Pulsed and CW Fiber Laser solutions.

Benefit from SPI’s “fit and forget” technology, which requires zero maintenance and requires no re-alignment, SPI fiber lasers are supplied as complete units in 19” configurations and for most customers save large amounts of space compared to previous technologies.

SPI Lasers answers your basic questions about laser welding:

What is fiber laser welding?
Fiber laser welding is the process of creating a strong joint between two materials. More often than not this will be two metals, of the same or different nature, although other materials can be welded together too.
The process works by focusing the fiber laser beam onto the material being worked with. The high intensity of the light beam will vapourise and melt the material, allowing for another material to be joined. After time, this will solidify, leaving a strong bond behind.

What is keyhole welding?
Keyhole welding, also called deep penetration welding, is the process of creating a deep hole within the material being worked with. The other material will essentially be inserted into this, and the melted material will fill the cavity around this, creating a high depth, low width joint.

What is spot welding?
Also known as micro welding, this works in a similar way to keyhole welding as listed above, except a much smaller hole is created.

What is conduction welding?
The aim here is to create a strong joint between the two materials at surface level, and so the depth of the weld will be no more than 2mm. This will be a high width, low depth weld.

What is dissimilar metal welding?
Dissimilar metal welding is the process of joining together two metals which are dissimilar in nature. It may mean that they are entirely different metals, such as aluminium or copper, or it may simply mean that they are two different metals of the same category. Such as two different types of steel.

What materials can be welded?
A whole range of materials can be worked with in this process
A whole range of materials can be worked with in this process:
- Plastics, including clear plastics
- Silicon and
- Various metals, including steel, copper, gold, silver and aluminium

What are some of the applications of this process?
- The welding of plastics
- The joining of fuel cells
- Working with lithium-ion battery cells
- The dissimilar metal welding of copper and aluminium
- Using a continuous wave laser to weld medical devices
- The wobble welding of copper and
- Precision micro welding.

What’s in my inbox?
Register today for the SPI webinar on 'ns Pulsed Welding'.
On the 15th May 2019 Dr Mike Poulter, will be giving an in-depth insight into ns Pulsed laser Welding; focusing on areas such as the ns welding process, benefits over conventional welding techniques, dissimilar welding benefits and much more!

Dr Mike Poulter is the Pulsed Product Manager at SPI Lasers, with 20 years of experience in the research, development and application of industrial lasers.