The desire for Australian companies to enter additive manufacturing with metals was evidenced on February 24 with turnout of over 50 attendees to a 3D printing with metals Seminar held at the RMIT Advanced Manufacturing precinct in Melbourne.

Participants came from NSW, Victoria, Queensland and South Australia with representatives from advanced manufacturing, software development, medical, dental, defence, and a wide range of engineering companies.

The purpose of the event was to provide information about SLM and LMD 3D manufacturing processes using metals. Steps and stages, issues, options and solutions were all raised and discussed at length. Time was allocated for one-on-one discussions with each presenter, to assist in identifying individual requirements and provide possible directions for going forward. Participants were invited to view the SLM lasers systems, end products and to accompany Professor Brandt on a site tour.

Presenters included: Professor Milan Brandt and Associate Professor Martin Leary from RMIT; Stefan Ritt from SLM Solutions; and Dr Cédric Chaminade from Raymax. This event was supported by AMTIL who will publish a summary in the April/May edition of the AMT Magazine.

UNSW – Bionic Eye Project

UNSW Professors Nigel Lovell and Gregg Suaning began their research in 1997 and in 2009 established Bionic Vision Australia, which, with a team of engineers at the University of New South Wales has developed a bionic eye with the potential to aid the blind in the same way that the cochlear implant has aided the deaf.

Dubbed the Phoenix99 bionic eye, it is the first fully implantable system to restore sight to sufferers of the degenerative disease retinitis pigmentosa, as well as the more common age-related macular degeneration.

Following successful preclinical work involving a team of elite surgeons from Sydney, the UNSW team in collaboration with the University of Melbourne and ANU, hopes to implant a dozen patients with the Phoenix99 over the next two years. With its cutting-edge neural stimulation technologies, it is anticipated that the Phoenix99 will enable recipients to ‘see’ several times better than with previous devices. The Phoenix99 activates phosphenes, allowing recipients to discern shapes and brightness. Test subjects have explained that it takes time to learn how to use the technology, in the same way that cochlear implant recipients learn to ‘hear’ electrical impulses.

Raymax has supplied a laser system to assist with the UNSW development of the ‘bionic eye’ project. For more information on the project contact Professors Lovell and Suaning. For more information on a laser system contact info@raymax.com.au

Slides used by each presenter will be made available via email on request. Or you might prefer to request Cedric present to your company on-site.
GIFAS (French Aerospace Industry Association) organised the France-Singapore Business Forum to open opportunities for partnerships between the two countries. The Forums discussed the possibility of R&D cooperation, innovation and the new paradigm in aerospace MRO. One of the only French panelists contributing to the Forum was Frédéric Le Mollec, the Business Development Manager for BeAM. BeAM Machines are used in aerospace and defence projects, for the repair of critical aeronautical parts and development on new shapes and functions using the Laser Metal Deposition (LMD) method.

SLM Solutions
Headquartered in Luebeck, Germany, SLM is a leading provider of metal-based additive manufacturing technology. Exhibiting at the Airshow, SLM Solutions demonstrated their innovative and highly efficient integrated system for 3D metal production using metal powders and the Selective Laser Melting process. With offices now in the USA, Singapore, Russia and China, SLM Solutions enables innovation in additive manufacturing across a range of industries from aircraft to dentistry!

Raymax is the Australian partner of both BeAM and SLM. Should you want advice on which system is most suitable for your needs, LMD or SLM, contact us on info@raymax.com.au or ring +61 2 9979 7646

February/March AMT Magazine
contains an article providing an example of the use of 3D metal printing in the production of unmanned aircraft – better known as drones. SLM Solutions partnered with Aero Kinetics to produce ultra-lightweight aerospace grade components for their unmanned aircraft systems. This example is just one of the diverse application of 3D printing technology using metals.

The raft of design tools include:

- Etalon Designer
- Lens Design Cloud
- Thin Film Cloud
- Other tools include:
  - Duel Etalon Designer
  - Etalon tuning
  - Fizeau Wedge Designer
  - Frequency conversion
  - Fresnel Rhombs
  - Gaussian Beam Propagation
  - Grating Spectrometer

... and there’s more.
Check out the web site on https://lightmachinery.com/optical-design-center/

For confirmatory advice and to order contact Raymax at info@raymax.com.au

Step aside Bruce Wayne – it turns out that ordinary bats can be superheroes all on their own! Despite acting as natural hosts for more than 100 viruses (including MERS, Ebola and the Hendra virus) researchers have discovered that bats have a unique ability to carry but remain unaffected by lethal diseases!

So next time you see that bat fly over as the sun goes down, take time to check out the super hero coat!