Founded in 1989, Holo/Or was the very first company to develop high efficiency DOEs - diffractive optical elements - for commercial use at affordable prices. Thereafter, it developed a process for high laser damage threshold DOEs which, until this day, only few companies worldwide are able to offer.

The company develops, designs and manufactures diffractive optical elements (DOEs) and micro-optical elements for any wavelength, from DUV to far IR, as well as software / automation solutions for the design. Its main customers are laser system integrators in industries such as medical/aesthetical, material processing, metrology, and similar industry/research applications.

For those who want to understand more about beam splitters and beam shapers, below is the abstract from an excellent introductory article which may be found in NEWS and EVENTS on www.raymax.com.au or access it directly at https://onlinelibrary.wiley.com/doi/epdf/10.1002/latj.201800021

A diffractive optical element (DOE) uses thin micro-structure patterns to alter the phase of the light that is propagated through it. Those micro-structures, once properly designed, can manipulate the light to almost any desired intensity profile or shape. This technology enables many functions and light manipulations which are not feasible with standard refractive optics. In many applications, these functions are highly beneficial improving system performance significantly. Diffractive optical solutions have many advantages such as: high efficiency, high precision, small dimensions, low weight, and, most importantly, are flexible solutions that meet a variety of different applications’ requirements.

A recent published article, Stefan Liebl from the Institute for Machine Tools and Industrial Management at the Technical University in Munich, worked with Holo/Or on a recent project on adjustable beam shaping methods and provides insights into research applications to further industry development.

Abstract:
Laser welding is used in a wide range of industrial applications including automotive, aerospace, semiconductors, electronics, medical, power, defence, and others. The raw laser beam is not the optimal shape for many industrial applications in general and especially in the field of welding, brazing, soldering, and other similar processes. Compared to other laser material processing applications, these processes stand out in terms of the required laser power (multi kW) and the highly multimode beams often used. A process-specific tailored laser intensity distribution can improve throughput, seam height, strength, and the edge smoothness of the joints.

The article can be retrieved under the NEWS sand EVENTS on www.raymax.com.au web site or from https://onlinelibrary.wiley.com/doi/epdf/10.1002/phvs.201900015

For any further questions you may have regarding the products from Holo/Or please contact Dr Cédric Chaminade at Raymax on +61 2 9979 7646
We were fortunate to have Markus Ruetering, Sales Manager for Asia and Germany from Laserline GmbH world leader in the manufacture of High Power Fibre Coupled Diode Lasers, on the exhibition stand at Avalon Air Show. Markus comes to Australia regularly and accompanies Dr Cedric Chaminade on visits to all of our Laserline installations. This year he began his visit by spending time in Melbourne at the Avalon Air Show, which offered Markus insights into what Australian companies are looking for in terms of laser systems and proposed applications. Already research into the suitability of cladding, using a Laserline, for the repair of damaged parts on aircraft landing frames has been undertaken by RUAG in Victoria and will be applied to the repair of Australian Defence helicopters.

Markus also inspected the installation at Hardchrome Engineering in North Clayton who offer local services of laser cladding attracting a wide range of customers from diverse industries as repairs using a Laserline diode laser with a 6-axis robot and vertical and horizontal rotating equipment provides efficient, fast jobs to damaged parts.

From Victoria, Markus visited Brenco Surface Engineering in Canning Vale, Western Australia where maximised usage of cladding with their Laserline is achieved through the installation of a large robot with a coaxial nozzle enabling repair of specific parts for the gas and oil industry.

In NSW Markus called in on LaserBond at Smeaton Grange on the outskirts of Sydney where he met with the owner/manager Wayne Hooper. Over the last few years LaserBond has developed excellence in laser cladding for repairing parts highly eroded from liquid or gas flows, areas degraded by high impact conditions, and sections where part-to-part abrasion occurs. Cladding and repair provide a cost saving process to companies who would otherwise have to order new parts, often shipping them from overseas adding to both time for shipping and cost. Nowadays, LaserBond have developed OEM activities and export their complete laser cladding systems to customers overseas.

A visit to Newcastle saw Markus call in on Swanson Industries a leader in laser cladding handling high-volume surface, complex geometries, irregularly shaped parts, multidimensional profiles, and threaded areas. With high-powered fully automated laser systems cladding over a range of size capabilities is achieved.

WHAT’S COMING UP:
AUSTECH/NMW
Melbourne Exhibition Centre from 14 – 17 May.

Raymax will be exhibiting on Stand number AM10 in the Additive Manufacturing section of AUSTECH section. We will be showing exclusive samples of 3D printing from SLM Solutions demonstrating the effective design of parts with cooling channels, re-designs of complex parts, weight saving parts all demonstrating the effectiveness of SLM Laser systems. Additionally, we will have samples from Laserline and SPI Lasers as well as Power Meters from Ophir.

Ralf Frohwurk, Head of Global Business Development SLM Solutions Group, will be on our stand as well as speaking at the UNLIMIT3D Conference on Wednesday 15 May, at 9:15am.

We are aware how busy this exhibition can get so suggest you make an appointment today to ensure you get to talk with an expert at a time to suit you.

WHAT’S IN MY INBOX?
Cows with Fitbits!!
Farming can be a tough game with the current drought and sudden rainstorms in many parts of Australia, locating stock is an issue. On large properties with 20,000 head of cattle it is hard to track them. CSIRO teamed up with Ceres Tag to develop a device with similar features to a ‘fit bit’ wearable on every cows’ ear!!! Brilliant!