**BOFA**: The mobile FumeKART; **LIGHTMACHINERY**: A Brillouin spectrometer; **LASERLINE**: Installed in WA
**SLM**: Part of BMW’s Additive Manufacturing Campus; **WHAT’S IN MY INBOX?** Whales!

**Mobile FumeKART**

BOFA’s Mobile FumeKART has been designed to filter dust particles, mould spores, solvent vapours, and other pollutants from the work environment, keeping the operator and room safe and clean. Key features incorporated into this portable extraction and filtration unit:

- **DeepPleat pre-filter** – Incorporates a sealed pleated layer of F8 media of at least 100mm in height.
- **HEPA filter** – Mini pleat design HEPA (high efficiency particulate air) filters which are tested and certified to a minimum efficiency of 99.997% down to 0.3 microns and 95% as small as 0.1 micron. They incorporate a series of webbing between the pleated media. This feature not only guarantees even spacing for full filter coverage between each pleat, but also alleviates the possibility of airflow vibration or collapse.
- **Advanced carbon filter (ACF) technology** – Assures safe capture and removal of hazardous fumes. Contaminated air must remain in contact with the carbon bed for a period of time sufficient to ensure that no contaminants or odours are emitted. Our filters have been developed to capture all contaminants and odours, eliminating the risk of bypass and/or tunnelling.

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**Brillouin HyperFine Spectrometer**

HF-8999-532-AUTO with Computer Controlled Alignment, Green Killer Pump Suppression, Massive Dynamic Range and Picometer Resolution

The great challenge with Brillouin spectroscopy is that the scattered signal from the un-shifted wavelength of the laser can overwhelm the small Brillouin shifted return signal. So, we have combined our leading-edge HyperFine spectrometer with a very narrow band tunable filter to suppress the bright un-shifted laser frequency. The tunable filter is easily adjusted to suppress the main laser peak and exposure gating is used by the HyperFine Spectrometer to drastically increase the full dynamic range of the instrument. The combination of these two devices achieves a dynamic ratio of 65dB with our standard CMOS camera and is designated — the Green Killer. The tunable filter is comprised of a double passed air spaced etalon. The etalon tuning and alignment are both computer controlled. LightMachinery’s proprietary fluid jet polishing process is utilized to create both the tunable etalon filter and the main VIPA etalon in the spectrometer. The result of the combination of the high finesse elements is unparalleled sensitivity and relatively compact size, perfect for Brillouin scattering.
Just prior to the Covid-19 lockdown, Dr Cédric Chaminade from Raymax, flew to WA to install a High Powered Diode Laserline Laser. The lucky company was CGC Engineering & Manufacturing in Bassendean just south of Perth city.

With over 35 years of experience in servicing the component repair market, CGC can now list laser cladding as a new service to offer clients and prospective clients. “We can now clad worn bearing journals on shafts and other worn external diameters that would normally be deemed to be scrapped. The new system allows us to apply hard wearing material to items and gives CGC the ability to laser clad anything from 60mm to over 2000mm in diameter,” said Mr Ben Sonsee, General Manager of CGC Engineering.

A training area was set up where Cédric was able to explain usage parameters.

Laser metal deposition is controlled by a high-quality powder feeder system and multi-stream coaxial nozzle that channels the laser beam and powder simultaneously creating a molten pool on the substrate surface. The shield gas and minimal molten exposure time ensures that the substrate is not affected as cooling takes place almost instantaneously. The result is a strong metallurgically bonded material, that has been proven to extend the life of a cladded item providing exceptional economic solutions.

Contact CGC for local cladding needs:
workshop@cgcengineering.com.au
08 9379 2000

3D printing is being adopted by industry in Europe – below is a short report of actions by BMW courtesy of 3dprintingmedia.network and METAL AM

The BMW Group has officially opened its new Additive Manufacturing Campus in Munich, Germany. The campus is the result of an investment of €15 million and is expected to allow the BMW Group to develop its position as technology leader in the utilisation of Additive Manufacturing in the automotive industry. In 2019, BMW produced about 300,000 parts by AM. The new AM Campus currently employs up to eighty associates and operates about fifty industrial AM machines that work with metals and plastics.

Daniel Schäfer, Senior Vice President for Production Integration and Pilot Plant at the BMW Group, added: “Our goal is to industrialize 3D printing methods more and more for automotive production and to implement new automation concepts in the process chain. This will allow us to streamline component manufacturing for series production and speed up development. At the same time, we are collaborating with vehicle development, component production, purchasing and the supplier network, as well as various other areas of the company to systematically integrate the technology and utilize it effectively.”

WHAT’S IN MY INBOX?
Whale watching! At last sport is gracing our TV screens with NRL, AFL, Super cars, golf and the news of Australia/NZ winning the rights to host the FIFA Women’s World Cup! And to top all this off now the whales have joined in the competition!