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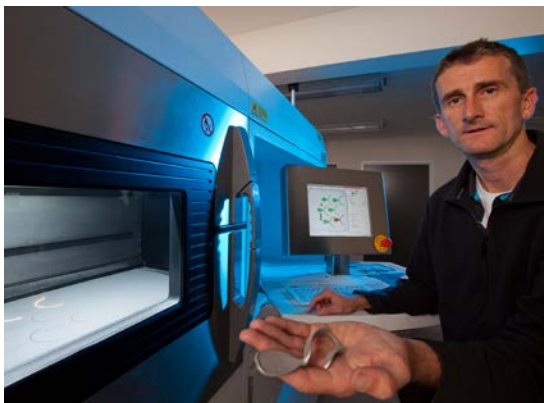
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Introducing TiDA Design Engineer

TiDA is proud to confirm Design Engineer, Graeme Smith has joined the TiDA team fulltime.

Graeme has previously been the Design Engineer with both TiDA and Triodent, specifically involved with SLM/3D printing projects. Graeme's knowledge has led him to become one of New Zealand's pre-eminent SLM operators. Graeme was involved in the commissioning and installation of the new SLM machine housed at TiDA.

“Graemes background in Design Engineering is greatly assisting clients who want prototypes specifically produced via 3D printing systems” said Warwick Downing, TiDA Chief Executive.



Graeme Smith with SLM projects

Photo: courtesy Chris Parker Photography

Suppressors market ready

Oceania Defence Ltd have been working hard to launch an industry changer in the world of suppressors.

After rigorous design research and testing in partnership with Oceania Defence and TiDA, these revolutionary suppressors are now being 3D manufactured by Rapid Advanced Manufacturing (R.A.M.).



The incredibly lightweight suppressors are printed as one integral unit from sintered Ti6Al4V Powder. Thus reducing any need for spacers, thread assemblies or other support structures

Custom designs can be produced within a few weeks, with tolerances of +/- 15 microns. For more information see the team at www.oceania-defence.com.



TiDA Client prototyping successes

The making of a “bionic dog”

TiDA recently received an urgent project to manufacture a custom jaw bone replacement, going from design to implant within five days.

Massey University Vets contracted Axia Design Group in Napier, to design a jaw bone replacement for large dog, who had an aggressive cancerous growth. In consultation with the pet owners and Massey, Axia designed a 3D CAD model from a CT scan, which TiDA then 3D printed on the newly commissioned SLM printer.

“The speed at which the part went from concept, to design and manufacture to surgical implant was astounding” said Andrew Kersley, Axia Design.

“The process was urgent for the welfare of the dog, and to have the piece fitted within five days of finishing the design, ensured that he had this replacement option, as opposed to a straight removal” said Massey University Vets. The surgery was a success, with a happy pup enjoying solid food the following morning.



Finished jaw bone in Ti64 powder

The project will be aired in an upcoming episode of Animal Vets in August, showcasing the project from start to finish. Check out the Facebook promotion on www.facebook.com/theanimalfiles. The team at Axia can be found at www.axia.co.nz.

The pointy end of the Americas Cup

With safety paramount in the Americas Cup, a newly created Ti knife has been produced to keep our sailors safe.

John Bamford, of Victory Knives set about designing a state of the art, light-weight, small knife, but yet strong enough to cut through marine ropes. John and the team here at TiDA designed a knife and sheath, 3D printed in Ti64 alloy powder, then super coated, to produce a knife that can now cut super strong marine ropes in one blade stroke compared to their existing knife which took 10 strokes.



Americas Cup Knife by Victory Knives

The entire project was an urgent six week collaboration between TiDA, Page Macrae Coatings and Victory knives with support by GNS, to produce a unique knife design, to be ready for racing.

“The Americas Cup Safety Team were ecstatic with the fast turnaround, and were amazed at the strength of the new product” said John Bamford. Such was the success; this knife will be available to consumers in the near future. For more details, visit www.victoryknives.co.nz.

Now all the Team need are some competitors to bring the Cup home!

Introducing Rapid Advanced Manufacturing (R.A.M.)

R·A·M·

Rapid Advanced Manufacturing Limited

RAM is a private company working under the TiDA umbrella, and is responsible for the purchase of the new SLM 3D printing system for metal powders.

The company is focussed on manufacturing and commercial outcomes, whilst TiDA maintains all the research and design aspects.

The new machine is based at the TiDA premises in Tauranga with Ti powder being used, with a view to additionally manufacture in stainless steel in the near future.



The TiDA Designers have been having some fun designing some custom-made Ti bottle openers to test the new machine. As they are 3D printed, the design can be very intricate. The team are all looking forward to whipping them out at Summer BBQs!



TiTeNZ Industry establishment

TiTeNZ

TITANIUM TECHNOLOGIES NEW ZEALAND

In collaboration with MBIE, and driven by the University of Waikato, Titanium Technologies NZ (TiTeNZ) has been established with an Industry Advisory Board to govern Ti powder metallurgy research and drive commercial developments.

This covers MBIE funded research involving a multi-party agreement with; the University of Waikato, University of Auckland, Callaghan Innovation, GNS, and TiDA.

The Science Leadership Teams drive each project with the Board providing strategic direction, being led by former NZTE Chair, Mr Jon Mayson.

TiDA boast corner!

The team at TiDA were recently awarded the Metals NZ Innovation Award, during the Metals NZ Annual Conference.

The award recognises the ground breaking research and consistent support provided to New Zealand companies in bringing prototypes to market, cost effectively and quickly.

TiDA is now recognised as a leader in Australasia's Titanium Powder Consolidation Industry.

Well done us!

New Zealand based Powder Conference – International Speakers Announced

The Organisers of the International Powder Processing, Consolidation and Metallurgy Titanium Conference are excited to announce the Guest Speaker line-up. The invited Speakers are leaders in the Ti field, and come from over 10 countries.

Dr Ma Qian, Science Director, RMIT Australia and Conference Committee member states “the calibre of speakers confirmed from both Research and Industry arenas is shaping the Conference to be a not to miss event for Powder Specialists”.

International Guest Speakers and topics include:

- **Professor Hideshi Miura, Kyushu University and President of Japan Society of Powder and Powder Metallurgy (JSPM)**
 - Development of Large Sized Ti Alloy Compacts for Aerospace Application by Advanced Powder Processing – MIM.
- **John Barnes, Leader, CSIRO Titanium Technologies, Australia**
 - Titanium Technologies in Powder for Manufacturing.
- **Dr Ashraf Imam, Senior Researcher, Materials Science and Technology Division, Naval Research Laboratory, USA**
 - Low-Cost Processing of Titanium and its Alloys.
- **Dr Thomas Ebel, Head of Department Powder Technology, Geesthacht Centre for Materials and Coastal Research, Germany**
 - Metal Injection Moulding of beta-titanium alloys.
- **Professor Huiping Tang, Vice Director, State Key Laboratory of Porous Metal Materials, China**
 - Porous titanium structures: their fabrication and applications.
- **Dr Hilda Kundai Chikwanda, Research Group Leader, Powder Metallurgy Technologies, CSIR, Materials, Science & Manufacturing, South Africa**
 - Topic TBC
- **Professor Efrain Carreno-Mortelli, Head of Design & Materials Unit, HES-SO Institute of Systems Engineering, Switzerland**
 - Processing of dense and porous titanium parts by powder injection moulding of titanium hydride.
- **Dr Seung Eon Kim, Principal Researcher, Korea Institute of Materials Science (KMS)**
 - Layer manufacturing of porous titanium for biomedical applications.

Many Australian and New Zealand Guest Speakers are also presenting, including speakers from the Callaghan Institute, Universities across New Zealand and Australia and leading Titanium manufacturers.

Abstracts are currently being received, which will be peer reviewed and proceedings printed and circulated by TTP Publications. There is still time to submit a Poster or Abstract Submission, but need to be received by 10 August. Conference Registrations will soon be sold out, so get your registrations in now.

The Conference is to be held 2-4 December 2013, and hosted on the University of Waikato Campus. This conference is the one opportunity for NZ and Australian Ti Powder specialists to network in a focussed environment, without having to travel long distances



TiDA
Titanium Industry
Development Association Inc



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

TiDA, in partnership with the
University of Waikato, are proud hosts of the

International Titanium Powder Processing, Consolidation and Metallurgy Conference

Hamilton, New Zealand
2 - 4 December 2013

Sponsorship Opportunities,
Call for Papers and Registration is available

For more information visit: www.tida.co.nz
or **E** info@tida.co.nz **P** +64 7 557 0344

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Private Bag 12001, Tauranga 3143, New Zealand **P** +64 7 577 0342 **F** +64 7 577 6010 **E** info@tida.co.nz **W** www.tida.co.nz

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