



Ensitech invests in innovation

Australian-owned manufacturing company Ensitech produces high-quality products which provide a safe and efficient alternative to dangerous industrial practices. Their first product, the TIG Brush®, offers a cleaning system for stainless steel weld that not only cleans but also passivates stainless steel without the need to use dangerous chemicals. And with the Ensitech Surface Finishing System the company created a comprehensive range of products for pre-weld fabrication, post-weld cleaning and surface finishing of fabricated metal products. Managing Aging Plants had the pleasure of speaking with Clive White, Managing Director at Ensitech, about how it all began and where the company is heading.

By Jolanda Heunen

Ensitech currently not only celebrates its 10th anniversary, but can also look back at a number of successes. The Australian-owned company started business in 2006 and has earned a well-deserved reputation as a global leader in the area of metal surface finishing. As the inventor and manufacturer of the TIG Brush® Ensitech has

managed to create a Stainless Steel Weld Cleaning System that is truly novel and offers a solution that is both safe and efficient.

Inventing new technology

Ensitech and its TIG Brush® technology were created as a solution to a specific and recurring problem of

removing discolouration from a stainless steel weld. From its headquarters in Western Sydney, Ensitech today manufactures and supplies TIG Brush® products worldwide. Mr. White, electrical engineer by trade and one of the inventors of the TIG Brush® explains how this technology was developed.



Clive White, Managing Director at Ensitech

"It all began when I moved from Victoria to New South Wales and my new neighbour brought me in contact with a friend of his," Mr. White starts. The friend had received a large contract from McDonald's to supply the drive-through windows with a 'charity panel' – a coin chute made of stainless steel that is welded into a finished panel where coins can be put through as a donation to charity. McDonalds wanted a 'brushed finish' for this panel. "The problem however was that whenever stainless steel is welded, the surface of the welded portion turns black and becomes difficult to remove," Mr. White tells. "This phenomenon is called 'heat tint', and in this case it

prevented the surface from having the brushed finish the client wanted." All common methods were tried and failed in safely and effectively removing the heat tint. "So we started working on this project in conjunction with an aeronautical engineer, and working together as a team we discovered by 2004 a way of creating a product that was quite effective for what we wanted. We made the units and called them TIG Brushes® since Tungsten Inert Gas (TIG) welding was the type of weld we initially cleaned, with a conductive brush as method of application." And then business started running really fast for the team. "Our first run of units were sold to friends in the

industry. A number of these broke down however, as it turned out to be quite difficult to drive the brush from an electrical standpoint," Mr. White explains. "We would get a call from a customer requesting to please repair their TIG Brush® and we would ask the customer to send it to us for repair, which resulted in the response 'but you don't understand, our whole factory is at a standstill'. This was initially quite a shock for us, to learn that customers had gotten rid of methods such as pickling paste altogether and were now reliant on our TIG Brush®. But it was also the moment we realised we had invented something for which a big need existed in the industry," Mr. White states.

Moving ahead

In 2006 the TIG Brush® team registered Ensitech as their company name. This is because 'Ensi' means 'first' in the Finnish language (one of their partner's wives was from Finland) and the TIG Brush's® purpose was to 'finish' the surface of stainless steel products. "So 'first in finish'," Mr. White concludes. In 2008 one of the three founders left and the remaining two spent their funds showcasing the TIG Brush® at the large Australian manufacturing trade show, National Manufacturing Week. "Our products caused a huge sensation, it was awesome," Mr. White recounts. Up until then Ensitech was manufacturing the TIG Brush® out of Mr. White's garage, but business really started to boom in 2009 and so the team moved into a factory, which they





outgrew in 2011, and then moved to their current factory in Emu Plains, which is a Sydney suburb. "We then realised that we shouldn't restrict ourselves to the Australian market," Mr. White continues. The company began thinking about exporting their products overseas and started with exporting to New-Zealand first, before moving on to the UK and other parts of Europe. "Our business just exploded after we started exporting to the UK and we now export to 19 countries. Our distribution is done from Germany, Spain, Italy, France, The Netherlands, as well as Asia and the Middle East," Mr. White adds. And in addition to the very rewarding turnover, the company earned several awards from 2011 onwards, including the 50th Australian Export Awards 2012 (Small Business Category), the 2012 NSW Export Awards (Small Business Category), and the Excellence in Innovation 2012 NSW Business Chamber Awards. "Exporting really did put us on the map, it is very worthwhile doing," Mr. White states. "The TIG Brush[®] machines are manufactured in Australia where we source all raw materials from local suppliers," Mr. White continues. After manufacturing, 100% of the machines is tested before these are shipped. "Whilst exporting to several countries

in Europe, the Middle East and Asia, we received a lot of inquiries from US businesses for our products. At one point there were five distributors that wanted to be involved, so in 2013 we established our American headquarters in Chicago by investing in staff, training, and customising all of the product parts for the US market."

Investing in solutions

'Change the way you do business' is one of Ensitech's company mottos, which reflects embracing the values of safety, efficiency, and innovation. The company always strives to find new ways to do business and therefore investments in Research & Development are constantly made. "We also invest in keeping training guides and manuals up-to-date to make sure these contain the most recent information on new products and their technologies," Mr. White adds.



In addition, Ensitech invests in customer relations, by providing training in how to best use the TIG Brush[®] for example, or by working together with the customer on the application. And the efforts the company makes in this way are not only highly valued by their



At a glance

Company name:	Ensitech
Years in business:	10
Accreditation:	ISO 9001
Global Headquarters:	144 Old Bathurst Road, Unit 1, Emu Plains, NSW 2750, Australia
American Headquarters:	1005 N Commons Drive, Aurora, Illinois 60504, USA
Products:	TIG Brush [®] : TBE-440, TBE-550 and TBE-700; TIG Brush [®] Marking Kit; TIG Brush [®] fluids: Pre and post, weld cleaning, neutralizing, Steel Marking and Etching etc.; Parts & accessories: Brush tips, dual and quad brush adapters, Insulating shrouds, wands, extension cables, etc.
Industries:	Oil & gas, food & beverage, building & construction, Metal fabrication, marine, etc.
Website:	North America: www.tigbrush.com Global: www.tigbrush.com.au

clients, these after-sales services also provide the company with valuable feedback from their customers.

The TIG Brush® technology for example provided an unexpected solution for corrosion.

"Stainless steel contains a high percentage of chromium, which forms an oxide layer around the metal, protecting the material against corrosion, but when stainless steel is welded, this protective layer is destroyed,"

Mr. White explains. Early clients however informed Ensitech that the TIG Brush® re-forms the protective oxide,

providing the welded surface with a protective layer containing anti-corrosive attributes once again.

The stainless steel 'passivation' was confirmed in scientific testing which was conducted in response to the clients' feedback. "Listening to customer feedback and being prepared to use the information for product innovation is very much a part of our success," Mr. White concludes.

Products and applications

To celebrate the milestone of its tenth year of operation, Ensitech has

released a new line-up of TIG Brush® models. The TBE-440 is the most economical solution, the TBE-550 model is a general purpose machine, and the TBE-700 is the fastest weld-cleaning machine currently available.

In line with the company policy to keep innovating, different accessories and machine configurations are constantly being conceptualised, prototyped and tested both in-house and in the field by long term trusted customers, to ensure we deliver the best quality and most reliable products.

Project with 3C Metal



Different applications present Ensitech with many and varied opportunities to tailor solutions to customer needs and one recent opportunity was presented by 3C Metal, a Global operation working in a number of industries.

3C Metal contacted Ensitech to discuss the possible benefits to them in carrying out a refurbishment contract on an off-shore Drilling Ship. They had seen the TIG Brush® system some time earlier, but not had the right project to warrant the investment until they won this contract.

Prior to the start, five days of training was provided by Mr. Chris Gaida, International Sales Manager Ensitech Pty Ltd, on board the Drill Ship to ensure the correct demonstration and understanding of the best method of restoration of the piping and tubing in question.

The project (in progress at the time of writing) involves the cleaning and passivation of over 1 kilometre of various Stainless Steel pipes and tubing from 3" to 1/4" and perhaps sounds quite simple until you take into account that these pipes and tubes are running up and around and over brackets, stays, other pipes and fixtures, through bulkheads etc. Then add to this the overhead and rope access work required, and the job takes on a completely different flavor.

Past experience with salt laden air environments allowed Ensitech to provide a solution for this project which would save time and provide a level of passivation exceeding the original material's resistance due to the combination of Engineered cleaning fluid, heat and electric current.

The plan was to use 3 x TBE-700 and 2 x TBE-550 machines on site by 4 – 6 operators (including riggers for rope access) for a period of some 6 weeks living on the ship whilst anchored offshore near Tenerife Spain / Nigeria.

Reports from the project manager indicate that the TIG Brush® Surface Finishing System has allowed them to get and remain ahead of their schedule, so much so, that they have already indicated their intention to use the system on all future jobs of this type, in all their operations centres.

For further information, please contact Ensitech or 3C Metal (spezenec@3cmetalme.com).

