Dear Members & Friends,

Welcome to the third edition of the German–Australian Business News for 2019 which focuses on Advanced Manufacturing. With more and more companies embracing digitalization, technologies continue to evolve and new trends emerge. The German–Australian Chamber has invited its members to present scenarios and real-life examples that illustrate the rapid development that is happening today.

In this issue of our magazine, the Advanced Manufacturing Growth Centre outlines how every manufacturer has the potential to be advanced – introducing their Manufacturing Academy, a free online-education tool. Member companies like Rema Tip Top already see the potential to utilise innovative hardware and software solutions for increased efficiency and productivity. Siemens Australia summarises recent research results and presents a case study of an SME, who is already utilising technologies to react flexibly to current market demands. Swinburne University provides insights into their 4.0 test lab for 3D printing of composites, while Schaeffler explains condition monitoring technologies or “Wind 4.0” as an example which helps illustrate the tangible benefits of Industry 4.0. Finally, our partner AusTrade presents an overview of the Agriculture 4.0 initiative for Australia and how this country is shaping the future of food and agriculture globally.

We hope you enjoy reading the current issue and if you have any feedback please don’t hesitate to contact us.

Yours sincerely,
Alexandra Voss
Executive Director
German–Australian Chamber of Industry and Commerce

On May 16 the German–Australian Chamber of Commerce and Industry held its 42nd Annual General Meeting 2019 at Deutsche Bank Sydney.

We are pleased to announce that following the elections the following members will be serving on the Board of Directors for the business year 2019-2020:

Dr Wolfgang Babeck
Buse Heberer Fromm

Mr Jeff Connolly (Chairman)
Siemens Ltd

Ms Tea Dietterich
2M Language Services

Mr Rolf Drohn
Ernst & Young

Dr Jens Goennemann (Vice Chairman)
Advanced Manufacturing Growth Centre Ltd

Ms Heidi Krebs
Heidi Lore Krebs

Ms Rebecca Lee
Covestro Pty Ltd

Mr Bodo Mann
Australian Institute of Company Directors

Mr Bernd Portugall
Winder Controls Australia Pty Ltd

Mr Paul Sansom
Audi Australia Pty Ltd

Mr Gary Stewart*
Rheinmetall Defence Australia Pty Ltd

Ms Alexandra Voss
German–Australian Chamber of Industry and Commerce

Ms Simone Whetton
Colin Biggers & Paisley

Furthermore, former Board Member Mr. Ron Koehler was elected as new Vice President of the German–Australian Chamber of Commerce and Industry and former Vice President Mr. Paul Koenig was elected honorary member of the Chamber.

We congratulate all new or re-elected members of the GACIC Board of Directors and thank all parting Board Members for their valuable contributions and support over the last years.

*indicates new board member

UPCOMING EVENTS
Events range from workshops & seminars to roundtable discussions, receptions, to large-scale conferences. Some events are open to the public, while others are only accessible for members. Our speakers include top-level industry experts, leading government representatives and inspiring thought leaders.

18 Jul  Christmas in July, Brisbane
24 Jul  Christmas in July, Melbourne
02 Aug  Business Lunch: NSW Premier’s Address with The Hon. Gladys Berejiklian MP
07 Aug  Workshop: Employee Retention in the Era of Millennials
12 Aug  Business Dinner: Medtech Industry in Queensland and Europe
14 Aug  YEF Stammtisch Melbourne: Discussion & Networking
21 Aug  Workshop: The Influence of Culture on Business Practice
10 Sep  6th Annual Chamber and Allianz Golf Day
13 Sep  Behind the Scenes: Monash Motorsport Group
11 Oct  Breakfast Forum: Current Energy Policy Challenges for Australia and Germany
The natural choice for German businesses in Australia since 1941

Accru Felsers can provide your business with personalised, partner-led service and a full range of financial expertise that meets globally recognised standards. Whether it's supporting your audit, tax and advisory needs or a business acquisition, our top priorities are always promptness, accuracy and client partnership.

Please contact Michael Kersch or Steven Zabeti for a confidential discussion on +61 2 8226 1655 or email szabeti@accrusyd.com.au
Governmental Affairs Update on Trade and Investment

The results of the Australian federal election and the European Parliament election will have an impact on the trade and investment relationship. At the same time, our Chamber Delegation to Germany at the end of June supported the deepening of the bilateral relationship.

The global trade and investment environment remain challenging due to the weakening of the multilateral order, particularly the World Trade Organization (WTO), by the actions of some countries and a few bilateral trade disputes as well as the ongoing Brexit uncertainty.

Therefore it is particularly important to remove trade and investment barriers between partners that are willing to do so. This will deliver the benefits of rules-based fair open trade and investments to consumers and businesses in those countries.

In the Australia-Germany context, the Australia-EU Free Trade Agreement (FTA) negotiations are the single biggest item that those two like-minded countries can establish to remove trade barriers. While the agreement is negotiated with the European Union, the support for the negotiations from the German government has been very strong and instrumental.

After three successful rounds of negotiations with the last one taking place in Canberra in March, the fourth formal round of negotiations takes place in July in Brussels. I have attended the stakeholder briefings by the two chief negotiators in Canberra and it is good to see that there is not only significant progress in all major aspects of the FTA negotiations, but that there is clearly also a good and productive personal relationship between the two chief negotiators. There is definitely a strong political will to achieve a comprehensive agreement that removes many tariffs and non-tariff trade barriers between Australia and the EU.

On the Australian side, our engagement before the federal election with both the government and the opposition showed us widespread support for this particular FTA from both major sides of politics in Australia. The Labour party supports most aspects of the agreement but has reservations in the area of labour mobility and a few other aspects. The re-election of the Liberal/National government has provided us with certainty in regards to the full support of the agreement and, on a personal level, also allows me to continue the personal relations we have established with relevant politicians that work in this area as well as into the relevant departments, especially the Department of Foreign Affairs and Trade (DFAT).

On the European Side, the European Parliament election has strengthened the left and right parties and weakened the political centre parties in most countries. One example is Germany, where both CDU and SPD lost voters. There is still widespread political support for open trade and investment in the new European Parliament, but a new European Commission still needs to be formed. It is therefore unclear who will be the new Trade Commissioner and therefore oversee the Australia-EU FTA negotiations. The success of green parties in many European countries, including in Germany, will likely result in a stronger focus on the Sustainable Trade chapter in the FTA negotiations. This chapter is a must-have chapter in every European FTA for several years and deals with environmental and labour standards. However, I do not expect significant problems agreeing on this chapter between Australia and the EU.

Overall the FTA negotiations seem to be going well, but one also needs to be realistic in terms of the timeline of the agreement. Details matter in trade agreements and trade agreements are complex legal documents and have political relevance.

Therefore, even between like-minded partners such as Australia and the EU, including Germany, the final steps and details of an FTA are the most complex ones where each side needs to be sure that the agreement includes many new business opportunities and consumer benefits to be politically acceptable. We are now slowly coming into the more complex negotiations for this agreement and therefore a conclusion of the agreement in 2019 is highly unlikely, especially given the timeline that the new European Commission will probably not start working before November.

Some of the challenges of the negotiation now include Australian agriculture access to Europe and the protection of geographical indications (GIs) in Australia. Both are long-standing items in the Australia-EU relationship and both sides understand the views of each other well. There will be no FTA if there is no agreement on those issues and both sides will likely have to move in order to agree to compromises. But given the strong political will to achieve an agreement, also relevant for both sides in terms of the symbolism it presents in a globally challenging trade environment, I am very confident that both sides will be able to agree on such necessary compromises.

We also very much welcome that the FTA negotiations take place as relatively transparent processes that include regular stakeholder briefings by both sides, the Australian sides presenting summaries of each negotiation round on the DFAT website and the European side publishing summaries of the discussions and draft texts. In addition, stakeholders are also invited to provide submissions and to provide input into specific areas such as technical barriers to trade.

The German-Australian Chamber, thanks to the support from many members and the Board as well as the Policy Advisory Committee, has been one of the most active bilateral chambers in this process and we were able to raise a number of issues in our submissions and the various discussions that are now part of the negotiation process and should, therefore, make trade and investments between Australia and Germany easier in future.

The Chamber’s governmental affairs work has been further strengthened by Kerrie Thornton joining the Chamber team and the Events and Governmental Affairs department as Governmental Affairs Coordinator. Kerrie supports our members in the area of governmental affairs and delegations.

Stay tuned for more updates on the website about the latest developments around trade and investment developments. As with all our policy projects, please feel free to get in touch if you want to discuss them or want to get involved.

Written by Dr Michael Zettinig, German-Australian Chamber
Email: michael.zettinig@germany.org.au
Phone: (02) 8296 0448
The German-Australian Chamber of Industry and Commerce and Gustav Käser were delighted to welcome our members to a workshop here at the international Chamber House in Melbourne on May 8, 2019.

Attendees were greeted by Sheila Walthoe, director and training leader at Gustav Käser.

Among the topics covered were:

- How to establish a real need rather than a perceived benefit
- Negotiation techniques for more positive outcomes with co-workers and customers
- Overcoming the greatest obstacles
- How to more positively influence co-workers and customers for better performance

In her presentation, Sheila delivered her insights in a highly interactive way, creating a true workshop atmosphere. She stressed on the importance of being a constant learner and used examples from both personal and professional situations that everyone could relate to. In small groups, the attendees worked together to rethink perceptions and stepping out of their comfort zone.

Again, we would like to extend our sincere thanks to Gustav Käser for delivering this insightful event, and to all the participants who took time out of their busy schedule to attend and for sharing their experience in leadership and communication. We look forward to seeing everyone again at one of our upcoming events.

As always, we welcome any feedback and suggestions or event ideas that you may have.

Written by Caroline Stapleton
German-Australian Chamber
The German–Australian Chamber of Industry and Commerce and Print Media Group (PMG) were delighted to welcome more than 40 guests to a Watch us Work event in Heidelberg West on March 21, 2019.

Hosted by our National Corporate Member PMG, guests were greeted by Tina Thoms, the Chamber’s Membership Director, and Melbourne Branch Manager. She thanked our attending Premium Partners Mercedes-Benz and Siemens and of course PMG for their kind support before handing over to Paul Rushton, General Manager Manufacturing at PMG, who initiated a tour of the manufacturing premises.

Guests were organised in small groups and were treated to an extensive tour of the impressive factory.

Visitors could witness where old meets new, with equipment reaching from very old printing machines manufactured in Heidelberg, Germany, to offset printing and state-of-the-art digital printing machines. The extremely knowledgeable and enthusiastic staff explained the range of products that are being printed at the facility, and how much detail goes into some of the products, from innovative, scented food labels to complex products such as passport applications and parking permits, where various adhesives need to be applied in multiple steps. The shift towards digital printing also became apparent.

Following the tour, guests were invited to the tearoom, where Leo Moio, Managing Director at PMG, gave a short overview of the printing company’s long history. It was founded in 1892, and during that time has only experienced two changes in ownership. PMG prides itself in operating as the family business that it truly is, and has an impressively low turnover of staff. The friendly atmosphere among the people who work there and their passion for what they do was palpable.

Quite contrary to what some people believed, print was far from dead, Leo assured us – increasing demand for items like product labels was just one example for how the industry continues to evolve and thrive. Leo then invited our guests to a beautiful spread, giving everyone an opportunity to mix and mingle while enjoying some delicious food in a relaxed atmosphere.

Again, we would like to extend our sincere thanks to PMG for hosting this insightful event, and to all the employees who provided us with an exclusive look behind the scenes – and of course to our members who took time out of their busy schedule to attend. We look forward to seeing everyone again at one of our upcoming events!

Written by Caroline Stapleton, German-Australian Chamber
4th Annual German-Australian Chamber and Qatar Airways Sailing Regatta

Sunny weather, good wind, competitive participants, plenty good sailing manoeuvres (some that missed other boats by only a whisker), excitement at the finish line, happy winners and overall a great day outdoors and there is not much more to wish for when it comes to a sailing regatta on Sydney Harbour.

On Friday, 29 March all these elements aligned and resulted in a very successful 4th German-Australian Chamber & Qatar Airways Sailing Regatta 2019. At 12 pm the first eager sailors arrived at the Sydney by Sail Festival Pontoon in front of the Maritime Museum in Darling Harbour. The participants received matching polo shirts and caps and enjoyed drinks and sandwiches while more and more guests arrived. Once all teams had gathered, Lars Mehlun, former Director of Events & Marketing at the German-Australian Chamber welcomed all guests and thanked Premium Partner Qatar Airways for being a generous partner to the Chamber and a consistent event partner for the Sailing Regatta. He also welcomed Premium Partners & Executive Members in attendance and then continued to introduce this year’s regatta participants: DB Schenker, Schaeffler Australia, PwC, and of course Qatar Airways. Since several tickets had been purchased by individuals this year, the Chamber contributed another contender: the AHK yacht. With a total of five boats on the water and the contenders hungry for victory, the regatta promised to be a heated competition.

After introducing all participants, Lars handed over to the event’s Principal Partner Qatar Airways, represented by their new Commercial Manager Cassandra Kerr. Cassandra welcomed everyone on behalf of Qatar Airways and concisely presented a selection of new products and services that clients can expect from Qatar when flying with them.

Then, Lars announced a special guest who was able to join the event and shed some light on the life of a professional sailor and sailmaker. Julius Raithel, from Hamburg, Germany participated in the past two Rolex Sydney Hobart Yacht Races and shared some anecdotes about his experience with our guests. After this, everyone seemed to be even more eager to get on board and compete for the trophy (even if the trophy would not be quite as prestigious as the Tattersall Cup of the Sydney Hobart Yacht Race).

It was now time for the teams to be allocated to the boats and the skippers started their safety briefing. It wasn’t long till the yachts headed towards Shark Island where the race started. A few practice manoeuvres were undertaken and off they went! The scenery of the beautiful Sydney Harbour, good wind conditions and a sunny day made for a fun race full of tactical cleverness, sleek manoeuvres, tight line honours and overall great sportsmanship! Back at the pontoon, line honours and handicap were calculated before the winner was announced: PwC won the perpetual trophy of the 4th German-Australian Chamber & Qatar Airways Sailing Regatta 2019! Congratulations to PwC Partner Christian Holle and his crew! As in previous years, also each skipper had the opportunity to nominate a special crew member who was the “Star Performer” of the crew due to outstanding performance (not necessarily only related to sailing). This year’s winners of the “Star Performer” trophies were: Zain Alzawahreh from Schaeffler Australia, Johan Sandahl from DB Schenker, Andreas Dammann from uvex (crew member on the PwC yacht), Ralf Mueller from DB Schenker (crew member on the AHK yacht), and Tanja Ghahraman from QBT Travel (crew member on the Qatar Airways yacht).

After the prize ceremony, it was time to turn to the BBQ that was awaiting our hungry sailors on the pontoon. While the sunset against the horizon and the day slowly came to end, guests enjoyed food and drinks while sharing their sailing stories about the adventures they had experienced while out on Sydney Harbour.

For four years in a row now Qatar Airways has been a great supporter of the German-Australian Chamber and the Sailing Regatta on Sydney Harbour. We are very thankful for their continuous support and hope to continue this great relationship in the future.

Written by Eva Kosinski,
German-Australian Chamber
More than 60 members joined the German-Australian Chamber on Thursday, 16 May for the Chamber’s 2019 Annual General Meeting, kindly hosted by Executive Member Deutsche Bank. Following the AGM, members and guests had the opportunity to join our Evening Forum and witness an interesting presentation and discussion on the topic of value chains in Advanced Manufacturing.

Alexandra Voss, Executive Director of the German-Australian Chamber opened the Evening Forum by welcoming all guests and thanking Executive Member Deutsche Bank for hosting the event. She then introduced James Roth, Co-head of Corporate Finance at Deutsche Bank to say a few words. James welcomed all participants on behalf of Deutsche Bank and elaborated on the long history Deutsche Bank has with the German Chamber.

Dr Jens Goennemann, Managing Director at the Advanced Manufacturing Growth Centre (AMGC) then opened the topic discussion by giving an insightful presentation on the work of the AMGC. The presentation started with a brief overview of the transformation of advanced manufacturing over the centuries into what it is today. In other words how the shift was made from mechanical production, over mass production and automation into intelligent production today and how the workforce involved in manufacturing diversified over the centuries.

Then he invited Daniel Rodgers, Chief Executive Officer and Dr Luke Djukic, Chief Technical Officer at Omni Tanker on stage. As an Australian success story, Omni Tanker explained first-hand how they used advanced manufacturing to grow their business. A lively discussion evolved where not only Jens, but also the audience had the opportunity to find out more about their approach. Eventually, the discussion had to come to an end, although it could have gone for much longer. Only the prospect of refreshments could lure away the audience eager for knowledge and our guests were able to continue their chats over drinks and canapés until late.

The Evening Forum was both informative and a great success, which was mostly due to the very engaging nature of the guests and those on the panel. We would like to thank Dr Jens Goennemann for sharing his expertise and knowledge with us and for moderating the evening. We also thank Omni Tanker for giving us a great example of advanced manufacturing and the success its applications can bring. Finally, we would like to thank Deutsche Bank for hosting the event. We are looking forward to many more engaging discussions in the future.

Written by Eva Kosinski, German-Australian Chamber
The German-Australian Chamber of Industry and Commerce was delighted to welcome several new members who have joined the Chamber over the past months to a working breakfast on 9 April 2019 in Melbourne and on 11 April in Sydney.

In Melbourne, 17 new members accepted our invitation and attended our New Member Breakfast at our premises at International Chamber House to hear about the Chamber’s services in more detail and enjoy a light breakfast.

In both cities, the new members were welcomed by senior Chamber staff and provided with insight into the Chamber’s work, supplying detailed information about our publications, consulting services, and other membership benefits. The other departments such as policy, events and the DEinternational department also provided updates to the participants. In terms of events, they were invited to be involved as an attendee, speaker, sponsor, or host.

In Sydney, Michael Kersch from very long-standing member company Accru Felsers provided a fascinating insight into how he has used and benefited from the membership over many years, particularly the network that the Chamber provides.

The functions concluded with networking over more coffee, tea and breakfast, offering a great opportunity to talk directly to the chamber staff and connect with other new members. We are happy to say that there were quite a few business cards exchanged.

We look forward to a long-lasting member relationship with our newest members and thank everyone for attending this breakfast event.

Written by Caroline Stapleton,
German-Australian Chamber
Tea Dietterich, National Board Director of the Chamber and QLD Chapter Vice Chair, welcomed over 60 attendees at the evening forum. She outlined the importance of innovation and inspirational entrepreneurs who take risks to adopt developments at an early stage. The Hon Kate Jones, Minister for Innovation and Tourism Industry Development and Minister for the Commonwealth Games, then opened the event with a speech about Queensland’s economic development and the key role of new technologies, to fulfil the state’s bright future.

Next, keynote speaker Leanne Kemp took the stage to provide insight about the science behind blockchain. The technology pioneer, founder and CEO of Everledger and Queensland Chief Entrepreneur, explained blockchain technology, how it evolved, and why this ingenious invention is disrupting industries. The presentation was followed by a panel discussion with a group of diverse entrepreneurs, moderated by Monica Bradley, Non-Executive Director, Corporate Innovation & Venture Investment Adviser. The panel included Richard Romanowski (Planet Ark Power), Michelle Ash (GM Group), Chris Pienaar (Schenker), Paul Cooper (AMGC), David Fox (LA Services) and Darren Younger (Lakeba Group). The panelists shared and discussed different examples of blockchain implementation, highlighting their journey and the outcome.

The forum concluded with lively conversations and networking over drinks and canapés. The evening was a huge success for the Brisbane chapter, and we would like to thank all speakers, our event partner Advance Queensland and our sponsor Lakeba Group for bringing this event to life.

Written by Michaela John, Queensland Chapter, German-Australian Chamber
In April, Siemens Australia (supported by the German-Australian Chamber) led its fifth cross-industry delegation of over 70 customers and key stakeholders to Hannover Messe – the world’s largest industrial fair in Germany. The delegation included leaders and key decision makers from manufacturing, energy, power and gas, infrastructure, government, engineering, data analytics and education sectors.

The Australian delegation was also joined by members of the Industry 4.0 Advanced Manufacturing Forum including Ai Group, Advanced Manufacturing Growth Centre, Engineers Australia, Australian Manufacturers Workers Union, Standards Australia, Swinburne University of Technology, Department of Industry, Innovation and Science, AustCyber and the Innovative Manufacturing CRC.

The delegation began with an official welcome function at the Australian Ambassador to Germany, Lynette Wood’s residence where Siemens’ CEO for the region Jeff Connolly was recognised with the title of Adjunct Professor by Swinburne University for his outstanding contribution to progressing Industry 4.0 in Australia.

Under Hannover Messe’s 2019 theme “Integrated Industry – Industrial Intelligence” that placed a spotlight on the synergy between humans and machines in the era of digitalisation, delegates got to observe global best practise and assess their potential applications in Australia.

Normally, Germans would not be told how to brew beer, but in the Siemens MindSphere lounge at Hannover Messe, Melbourne-based Kaiju brewery was showcased as an example of how advanced manufacturing technology can be used to optimise production without sacrificing quality—support the journey to Industry 4.0 for businesses of all shapes and sizes. Having an Australian reference at Hannover showed that with the application of leading technology, Australian competes locally and globally.

As well as attending the Hannover Messe (fair), some of the delegations spent time at Siemens’ state-of-the-art High Voltage Switchgear factory in Feldheim–Germany’s ‘renewable village’. Delegates also took part in a Hydrogen Silyzer (electrolyser) lab tour in Erlangen, seeing first-hand how Siemens is setting the standards for sustainable hydrogen generation for the future. They saw ‘Industry 4.0’ in action with a visit to Siemens electronics and automation factory in Amberg–the same factory often highlighted by Chancellor Merkel as being a showcase of Industry 4.0.

Provided by Siemens Australia
Rehabilitating defective water pressure pipelines over large distances and through bends without massive impact on the environment. Sounds too good to be true? There is, however, a relining solution that provides these benefits – and even more.

Australia: vast, spacious and red rocks ... Notions people often associate with this continent. Its enormous dimensions make water – and particularly drinking water – a precious resource. This is one of the reasons why Australian water companies and consumers attach much attention to the preservation of the environment. Leakages in water mains will be repaired immediately to lose as little of the valuable medium as possible and with as little impact as possible on the everyday life of the people concerned, sparing them noise and dust as well as obstructive construction sites.

This was the promising situation for the exploration of the local market for the trenchless rehabilitation of pressure pipes back in 2013, when the Rädlinger primus line GmbH from Cham in Bavaria decided to extend their business activities from Europe and the United States to Australia.

What is the Primus Line® system?

Primus Line® is a flexible sliplining solution for the trenchless rehabilitation of pressure pipelines. The system is referenced in EN ISO 11295:2018-06 and consists of a flexible Kevlar®-reinforced liner and specially developed end fittings. Most important assets are long insertion lengths of up to 2,500 metres in one single step and the product’s ability to traverse bends of up to 45 degrees. Small construction pits, short rehabilitation times, manpower of maximally four people for installation and the low level of impact on the surroundings turn Primus Line® into the ideal technology for the rehabilitation of defective lines in sensitive environments.

The liner is self-supporting and not attached to the host pipe – an annular space remains. Developed by experienced engineers, the system is suitable for different media such as gas, water and oil. Besides the rehabilitation of damaged pipelines, it can also be used to increase the pressure within existing systems, protect them from corrosion and build bypass systems or stand-alone solutions. The Primus Line® system meets the highly demanding standards for the transportation of drinking water worldwide and is certified in many countries, amongst them Australia. Primus Line® is completely manufactured in Germany and available in nominal diameters ranging from DN 150 to DN 500.

The nominal pressure of Australian water mains of 16 bar is higher than in Europe. Since Primus Line® was originally developed for gas applications that must withstand higher nominal pressures, it is also suitable in this respect.

These benefits that meet the demands of the Australian market and thus reduce installation time and manpower costs make Primus Line® the perfect match.

Intensive support for Australian customers

Rädlinger primus line made first contacts to local water companies and operators at exhibitions. First project enquiries arrived in 2014, mainly for the rehabilitation of drinking water lines. To realise these projects, the approval according to standard AS/NZS 4020:2005 was required. So Rädlinger primus line applied for this certificate in the middle of 2014 and passed it by the end of the same year. Primus Line® finally entered the Australian market with the rehabilitation and upgrade of a leaking water main in Lismore at the beginning of 2016.

As a signal of long-term commitment to the Australian market and in order to grant customers a more intensive local support, Rädlinger founded the Raedlinger Primus Line Pty Ltd. in Sydney one year later. With some additional advantages for the Primus Line customers: They are relieved of customs clearance and the products are sold in their home currency. Moreover, the subsidiary in Sydney is their point of contact for all concerns. In the first years, the focus was on business development put into practice with local staff. Since the beginning of 2019, the subsidiary is supported by Pressure Pipe Rehabilitation Specialist Heiko Manzke who has gained his technical expert know-how in more than five years as Primus Line Key Account Manager.

The German-Australian Chamber of Industry and Commerce not only accompanied the whole foundation set-up process, but also provided contact to local companies, for example for accounting, or assisted in direct mailing activities. The smooth and easy cooperation facilitated networking and gaining foothold considerably.

Partners and projects

Apart from the representation’s foundation, 2017 was also the year of the first cooperation with a local operator: The Sydney Water Corporation (SWC) included Primus Line® as “approved technology” into their product portfolio after two successful test projects. Furthermore, Primus Line qualified the SWC team for installation, so that they can act independently. Queensland Urban Utilities (QUU), Brisbane’s water supply company, followed suit and is meanwhile also certified installation partner of Primus Line supplying and mounting the system with their own teams.

Also, thanks to the openness of Australians to innovations, more than 15 projects have been realised in Australia up to now. Mainly in the drinking water section, the installations covered distances of up to 1,800 metres and delicate environments like along high-traffic roads, under creeks, railway stations or railway crossings. In any case, Primus Line® extends the lifetime of the rehabilitated stretches by 50 years. Like for the rehabilitated water main at Melbourne Airport, a project characterised by difficult accessibility, confined space, restricted working time slots and proceeding airport traffic: A typical case of application for Primus Line®. www.primusline.com

Provided by Stephanie Zapf, Rädlinger primus line GmbH
Advanced Manufacturing – Technology and Application Scenarios & Innovation in Mining & Construction

A key focus in the mining and construction industries in today’s day and age is the use of innovative technologies to increase efficiency and productivity through predictive monitoring and maintenance of key systems and processes. Innovative hardware and software technology solutions such as sensors, radar-based scanning, digital modelling and cloud-based reporting, analytics and management offer the greatest opportunity for plant operators to improve efficiency and productivity and reduce unplanned downtime and cost.

A key focus for Rema Tip Top in 2019 is the pioneering and utilisation of these key technology solutions to increase our customers productivity and efficiency, now and in the future. At Bauma earlier this year, Rema Tip Top presented its new MCube & CCubetechnology solutions, unique solutions for digital, proactive monitoring and maintenance of conveyor systems that utilise modern sensor technology and associated cloud-based service management to more efficiently manage conveyor belt operation. The systems provide ongoing monitoring of critical equipment parameters at regular intervals, depending on plant operator needs, and can thus make a significant contribution to scheduling maintenance stops and reducing production downtime.

There is a growing expectation from plant operators around Australia to create Smart Plants that allow for digital monitoring and management. Innovative technology solutions such as belt rip detection, belt thickness monitoring, scanning and sensors, provided by MCube, can be used to provide plant operators with greater insight into the current status of their conveyor belts by providing real-time data showing any forms of damage.

One of the most important factors considered by plant operators is the life expectancy of their conveyor belts. Belt thickness monitoring technology allows operators to continuously measure the condition of the conveyor belt using ultrasonic soundwaves to generate thousands of readings per second to present an accurate graphical representation of the condition of the conveyor belt.

Conveyor belt scanning systems also provide plant operators with crucial information about their conveyor belts, allowing for the detection of broken cables, tension breaks and splices in real time. Whilst these technologies allow operators to detect potential problems before these arise and cause damage to the belt, they also allow them to predict the remaining lifetime of the belt, therefore allowing for scheduled maintenance or replacement when the belt reaches the end of its life.

The speed and alignment of conveyor belts are two additional factors that are very important in the efficient running of conveyor systems. Innovative radar-based sensor systems have the ability to provide real time information about the speed at which the belt is running and its alignment, allowing the belt to always be operated at its most efficient state.

Provided by Luca Hudson, Rema Tip Top
From the Clouds to the Ground: Tangible Benefits of Industry 4.0 Advances

Australia has doubled its digital growth over the last five years and the trend looks to be accelerating, with an expected 50 billion devices to be connected to the internet by 2020. The total economic contribution of the digital economy by 2020 is forecast to attain $A139 billion, which is equivalent to 7.3 per cent of Australia’s GDP.

One of the major questions asked about Industry 4.0 advances – especially amongst B2B companies in industrial sectors like mining, manufacturing, food and beverage, water and waste, agriculture, resources and materials handling is: “What are the tangible benefits?”

It’s a good question. Companies that are looking at the cost, performance and efficiency of their operations need to know that new technologies that sound good in theory, and look good on paper, will work in practice.

Globally, Schaeffler has invested considerable time researching and demonstrating the benefits of Industry 4.0.

Our research indicates that most industry sectors in the region contemplating expanded digitalisation, see it producing revenue improvements of typically 10-15 per cent over the next three or four years.

And the potential is vast beyond that for ‘connected’ machinery, with efficiency, adaptability to individual needs, safety and machinery lifespan optimisation all seeing strong improvements through online monitoring and maintenance.

Setting the baseline for Industry 4.0 success

Before discussing the results of successfully implementing Industry 4.0 technologies, it’s important to identify supporting infrastructure that allows digitalisation technologies to thrive.

Crucial to success in execution, is having strong partnerships from all stakeholders, including equipment suppliers, technology suppliers, manufacturers and end-users. If all parties embrace Industry 4.0 from the outset, results are far more likely to meet or exceed expectations.

Once all parties are on board, setting the right foundation for the successful implementation of digital technologies relies on sourcing quality components, using advanced mechanical systems and having the right mechatronics and Industry 4.0 expertise.

Key tangible benefits

1. Cost reductions:
   If a new technology can provide cost efficiencies, or even pay back the initial investment, this is a major value driver for industrial companies. Industry 4.0 can provide cost benefits in three main areas:
   - Reduced downtime: Advances in condition monitoring technology can radically improve predictive maintenance plans and ensure machinery downtime is scheduled during times of least impact on production and overall operations. Companies implementing digitalisation are typically seeing machine downtime reductions averaging 30-50 per cent.
   - Reduced maintenance costs: With downtime being planned at optimal times, and continuous monitoring of machinery and devices, maintenance programmes can be streamlined, and costs can be reduced. Companies implementing digitalisation are typically seeing maintenance cost reductions of 10-40%.
   - Reduced inventory holdings costs: With maintenance schedules being able to be planned in advance, and with real-time reporting on the condition of all machinery and parts, there is no longer a need to keep an abundance of spare parts for when a machine breaks down. Companies implementing digitalisation are typically seeing inventory holding cost reductions of 20-50%.

2. Efficiency improvements:
   In Australia’s competitive industries, efficiency is vital to long-term, profitable operations. Industry 4.0 can provide efficiency benefits in three main areas:
   - Optimised production: Smart connected products provide access to vast amounts of data on what goes in inside machinery, which allows for better control and management of important machinery and plant.
   - Shorter lead times: Advances in agile and smarter software are providing logistics and supply chain efficiencies that result in faster delivery times, even for innovative, custom-designed products and solutions.
   - Flexibility and adaptability: Digitalisation advances mean that more data than ever is available on machinery and operations. If companies have a need for new equipment, upgrades or retrofits, all the data is there to create a tailor-made solution and react swiftly to market changes.

Example: Wind 4.0

Condition monitoring technologies are a long-term investment. Wind farms typically have a 20-25-year life, and real-time condition monitoring of every bearing can provide valuable data and improve maintenance programmes throughout that lifespan. However, an up-front cost can often be a deterrent to the investment, especially when budgets are tight. But it’s worth considering the costs throughout the entire life of a wind farm, particularly as the fleet ages.

Australian wind farms have typically anywhere between 10 and 200 turbines. For the purposes of this example, the figure of 10 turbines will be used. To place condition monitoring technology on the bearings of all 10 turbines could cost between $100,000 and $150,000, depending on the technology employed.
If no condition monitoring is in place, and a single main rotor bearing fails, the cost of repair or replacement, including tools, cranage and lost production time could cost between $350,000 and $400,000.

These figures show that if condition monitoring technology prevents a single failure, and saves on these costs, it has already paid for the cost of condition monitoring technology for an entire wind farm. In most cases, it would save these costs multiple times over throughout the life of the turbine.

Schaeffler already has more than 120 online condition monitoring systems installed in wind farms across Australia. These systems collect approximately 138,000 characteristic data points daily, which adds up to more than 40 million per annum.

Continuous monitoring

For production-critical machinery like draglines, continuous monitoring by means of vibration diagnosis is indispensable in many cases. Investment in such monitoring systems often pays for itself after a few months due to the reduced failure costs.

Depending on the area of application, different sensor configurations and solutions can be applied, including single-channel standalone solutions for smaller equipment, medium-sized systems with up to 8 channels that can be extended on a modular basis and complex monitoring systems with up to 2,048 sensor channels.

Condition monitoring technology can, where necessary, integrate into existing systems to upgrade their efficiency and performance. The user can decide whether to monitor the system independently or take advantage of online system monitoring services. Due to the communication options of the monitoring systems, remote analysis can be carried out by digitalisation experts.

Smart technologies require a smart approach

Industry is critically dependent upon optimum bearing and rotating machinery performance, which is why automation and digital strategies must incorporate such technologies from the very outset.

Adding digital technologies, such as sensors, at a later stage in the process will certainly provide benefits, but not at the same rate or effectiveness as those implemented at the beginning.

Condition monitoring software implemented with a new product, or as a new project begins will always provide the greatest return, because it will have relevant data from the whole life of the piece of equipment, and can use this additional data to make better recommendations.

Developing a digital strategy, as early as possible, is the best way to take advantage of the tangible benefits of Industry 4.0 technologies.

Written by Andre Kluge, Managing Director and Digital Agenda Project Manager, Schaeffler Australia

ABOUT SCHAEFFLER

The Schaeffler Group is a global automotive and industrial supplier. By delivering high-precision components and systems in engine, transmission, and chassis applications, as well as rolling and plain bearing solutions for a large number of industrial applications, the Schaeffler Group is already shaping “Mobility for tomorrow” to a significant degree.

The technology company generated sales of approximately 14.2 billion Euros in 2018. With around 92,500 employees, Schaeffler is one of the world’s largest family companies and, with approximately 170 locations in over 50 countries, has a worldwide network of manufacturing locations, research and development facilities, and sales companies. With more than 2,400 patent registrations in 2018, Schaeffler is Germany’s second most innovative company according to the DPMA (German Patent and Trademark Office).

Written by Andre Kluge, Managing Director and Digital Agenda Project Manager, Schaeffler Australia

Contact:
Ben Kang, Manager – Digital Services & Engineering Solutions,
Schaeffler Australia Pty Ltd, Belrose
Tel: +61 2 8977 1044
Email: Ben.Kang@schaeffler.com
Industry 4.0 Strategy Needed for Australian Manufacturing

Industry 4.0 is rapidly changing Australia’s manufacturing industry. New research undertaken by Siemens, Swinburne, PwC and the Australian Manufacturing Workers’ Union (AMWU) – as part of the Australian Industry Group (AiG) Industry 4.0 Forum agenda – identifies the ways in which businesses and workforces must adapt to these changes.

The research report, titled Transforming Australian Manufacturing: Preparing businesses and workplaces for Industry 4.0, provides information and advice for government, industry, unions and peak employer bodies, and education/research institutions.

"The consequences of the fourth industrial revolution are profound. Industry 4.0 is expected to add $21 trillion to global GDP by 2030 and there will be a significant net increase in jobs created. However, Australia needs to act quickly to capture its share of the potential and avoid being left behind," said Jeff Connolly, Chairman and CEO of Siemens in Australia Pacific region.

"The transformation is about new globally shared standards, innovative application of research, new business models and rethinking the role of education for job-ready outcomes. Importantly, it’s also about ensuring a cyber secure environment. Provided there is a complementary set of actions put in place by government, researchers, education, industry and organised labour, there is little to be feared and much to be gained," added Connolly.

Manufacturing workers responding to the report survey agree traditional job roles are changing and that specialised training is needed to upskill employees. Nevertheless, more than a third indicate they do not have a strong understanding of the fourth industrial revolution known as ‘Industry 4.0’, which encompasses end-to-end digitalization and data integration of the value chain.

"There’s an urgent need for investment in cross-sector collaboration to respond to employee needs for development of essential skills required by the Industry 4.0 economy. It must link the manufacturing industry with the education sector to facilitate collaboration and seamless learner pathways across the entire continuum of education and training, from VET across higher education and research. This will help bridge the skills gap that continues to grow between the fast-paced and rapidly digitising manufacturing industry and the workforce that underpins it," said Professor Aleksandar Subic, Deputy Vice-Chancellor (Research & Development) at Swinburne University of Technology.

"The research really underlines the fact that the reskilling and upskilling agenda in
Industry 4.0 and scalability – a case study

Industry 4.0 offers significant opportunities for small to medium enterprises (SME's) in Australia to set the right platforms for future growth. In case of Brogan's Way, a Melbourne based gin distillery that opened in 2018, automation solutions are crucial to its success. For small gin distillers like Brogan's Way, technology gives them increased visibility of the process, which allows them to respond quickly, flexibly and cost-efficiently to current market demands, with no loss of quality.

Provided by Siemens Australia
Swinburne’s Industry 4.0 Testlab for 3D Printing of Composites

Australia’s manufacturing sector is globally connected; to remain competitive and be able to integrate into global supply chains there is an urgent need to support the transition and uptake of automated and digital systems. This is referred to as the fourth industrial revolution and it has led to the re-shoring of manufacturing in developed economies (1). In April 2016 the Prime Minister’s Industry 4.0 Taskforce was created to connect Australia with Plattform Industrie 4.0 (Germany).

The leadership of the task force, together with the work of the Advanced Manufacturing Growth Centre and the Innovative Manufacturing Cooperative Research Centre created a new initiative in the digitalisation of Manufacturing. The task force has recently been transformed into the Industry 4.0 Advanced Manufacturing Forum, led by the AiGroup.

In Germany, digital transformation is supported through a network of Testlabs (Labs Network Industrie 4.0: http://fini40.de/en/) providing experimental platforms that enable companies to explore Industry 4.0 scenarios from conceptual design to feasibility testing. Each Testlab has a distinctive product focus, offering both the required infrastructure and personnel with the necessary technical competencies to establish and implement test projects and to create usecases.

Supported by the Australian Federal Government and a digitalisation grant from Siemens, Swinburne will establish Australia’s first Industry 4.0 Testlab, focusing on industrial automation for 3D printing of high-volume composite products. This will be one of six in an Australian national network, the concept for which was originally outlined in a paper by Prof. Aleksander Subic (2) as part of his leadership role in the taskforce. The Federal Government has acknowledged the manufacture of composite products as a viable niche for Australian industry but positioning the manufacturing sector to participate in this growth market requires the development of flexible, automated composite production processes.

The Industry 4.0 Testlab for 3D Printing of Composites will provide a pilot scale process to advance Australia’s manufacturing capabilities. This will serve two purposes; it will demonstrate in an immersive environment the features of digitalisation of a manufacturing process in addition to providing the nascent and rapidly growing carbon fibre composite industry access to the latest in production technology for this engineered material.

A 3D printing approach to carbon fibre composite manufacture

Carbon fibre composites are lightweight, high strength engineered materials which can be ten times stronger than steel and eight times the strength of aluminium at a fraction of the weight of these materials. Composite manufacture has become a growth area for Australia in the past decade leading to new export markets. However, in order to maintain this lead and momentum, the key challenge to overcome is to increase the rate and lower the cost of production. This can only be achieved by using automation and digitalisation to reduce labour intensive, slower manual processes.

The digital approach to composite manufacture shown in figure 2 has been co-created with several local and global industry partners. Each part of the three-step process is innovative in its own right and can be accessed individually, however the digital integration of these steps is completely unique and facilitates rapid prototyping and flexible manufacturing.

A world first, the Fill Multilayer process

The Multilayer process developed by Fill based in Gurten in Austria is shown in figure 2. The world first Multilayer system is capable of rapidly producing near net shape fibre stacks reducing scrap from more than 60% to less than 10%. The process accepts material input as a feed from a spool and is capable of depositing a layer of fibre onto the rotatable stacking table every 15 seconds in a highly digitally controlled manner. The large-scale prototype machine was showcased at the JEC trade show in Paris in March 2019 and is capable of producing parts that are 1.6 by 1.6 m in geometry.

Global Innovation Linkage Project

Swinburne University of Technology and its industry and research partners have been awarded received $1 million of research funding through the Global Innovation Linkages Program led by the Department of Industry, Innovation and Science (AusIndustry). The total value of the project is $3.6 million. The project is focused on Industry 4.0 manufacturing of high-volume lightweight composites.

The International Team is comprised of:

- Fill is a global leader in the design and supply of automated solutions, machinery and equipment for various industrial sectors and is located in Gurten, Austria.
- Quickstep is the largest independent aerospace-grade, advanced composite manufacturer in Australia. Quickstep has developed significant capabilities and expertise in the production of high-quality composite components, using both conventional autoclave-based manufacturing and leading out-of-autoclave production technologies.
ARENA2036 is the industry on campus model for research at the University of Stuttgart. In 2016 Swinburne formed a partnership with ARENA2036 'Active Research Environment for the Next Generation of Automobiles' to foster innovation in high-tech manufacturing research and development. Swinburne became a full member of ARENA in 2018.

Plataine is an emerging leader in the development of digital technologies for carbon fibre composite manufacture. Their software systems enable the tracking and tracing of tools, parts and raw materials. Plataine have an existing partnership with Siemens, who recently awarded a $135 million grant to digitalise the Factory of the Future at Swinburne.

The outcome of the project will be to further develop the process, cement the global partnerships and create new products that can be exported from Australia, particularly in new mobility markets. The project will train a new co-hort of digitally savvy joint PhD students between Swinburne University of Technology and the University of Stuttgart.

Written by Bronwyn Fox and Aleksander Subic, Swinburne University

References:


Australia For Agriculture 4.0: Shaping The Future of Food and Agriculture

A guide for international firms considering investing in Australia.

Australia has captured the world’s attention for its pioneering efforts in agriculture and food innovation. Australian developments in robotics, remote sensing and machine learning have delivered innovative solutions to global challenges. Australia’s innovation in bioscience, novel farming techniques, and food innovation and processing are driving disruption across the global food supply chain.

With these technologies, Australia is driving a more profitable, efficient, safe and environmentally friendly food production sector – with flow-on benefits to international partners and markets.

The nation’s agricultural sector – one of the least subsidised globally1 – has always been hungry for innovation to drive productivity and value. Australia is emerging as a hub for Agriculture 4.0 and is producing the next generation of technologies set to revolutionise the agriculture and food sector.

Australia’s total agricultural production is expected to reach A$100 billion by 2030. Agricultural innovation and the technologies of Agriculture 4.0 will drive and cement this growth.

Addressing global technology trends and consumer demands

Across the globe, farmers and food producers are seeking sustainable solutions to increase production, combat the effects of climate change and respond to increasingly complex consumer demands. As a result, enterprises are seeking opportunities to invest in Australian innovation. From bioscience to technologies that improve supply chain transparency, Australia offers solutions for investors to commercialise for global adoption.

Australia’s counter-seasonal environment to the Northern Hemisphere holds many advantages for foreign investment. It means companies can develop and trial solutions all year round, making it an excellent product-test market and ideal launch pad for exporting to larger regions.

Australia’s proximity to and familiarity with Asian markets create a competitive advantage for firms looking to meet the varied consumer demands of this growing population.

A track record of innovation

Australia has an exceptional record for developing solutions that address real-world issues. Below are some examples.

• Combatting environmental challenges: Farmers in Australia are resilient, highly innovative and forward adopters of new technology. Australia has a long history of responding to a broad spectrum of land and weather challenges and seizing technologies and practices to maintain optimal outcomes.

• Improving resource management: Australian farmers’ experience in managing scarce resources such as energy, water and labour has spurred the development of robust solutions along the supply chain.

• Meeting market demands: Australian food producers are innovating to stay productive and meet ever-changing consumer demands. New processing and packaging technologies to differentiate and produce premium products are producing food that is safer, more nutritious and traceable.

• Driving industry growth: Australian farmers’ ingenuity and appetite to trial and adopt technology have contributed to

---

the agriculture sector’s average productivity growth rate of 2 per cent per annum over the last 10 years.²

• Leading exporter: Australia exports two-thirds of its agricultural production. In 2018, the country’s food and fibre exports were worth A$49 billion, making Australia the 12th largest agricultural exporter in the world.³

Research excellence

International companies have many opportunities to collaborate with Australia’s world-renowned universities and research institutions on leading-edge research and development (R&D) projects with strong commercialisation potential. Australia’s research capabilities include:

• High level investment in R&D: Australia invests around A$1.8 billion in agricultural R&D and extension each year.

• World-class universities: The agricultural research of 24 Australian universities is rated as world-class and above.

• A national science agency with a strong focus on commercialisation: The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is the country’s largest patent holder, with more than 3,600 individual patents. It has a formidable track record of converting research into globally adopted commercial opportunities.

• Dedicated agriculture food and innovation hubs: Australia has agriculture and food innovation hubs in most states and territories. Covering everything from food research to field robotics and remote sensing, they provide a wide array of commercial partnership opportunities.

A thriving agtech and foodtech sector

Australia’s estimated 300 agtech and foodtech startups and enterprises⁴ are developing globally relevant solutions that are attracting international interest. A recent example includes: Australian farm management software provider AgWorld attracting A$11.5 million to date from Reed Elsevier Ventures (UK), Syngenta Ventures (US) and Yuuwa Capital (Australia).

While Australia’s venture capital market has expanded substantially in recent years – having doubled in total size from 2016 to 2017 alone⁵ – there are still plenty of opportunities for international investors in Australia. Between 2016 and 2017, Australian agtech startup, The Yield, received a significant investment from one of Europe’s largest conglomerates, the Bosch Group. With this, The Yield developed its aquaculture and agribusiness practices. The Yield’s Your Sensing+farm sensors are used to capture data from any location, irrespective of terrain, infrastructure or vegetation, allowing for a fully integrated data storage solution for farmers.

In 2016, technology development and marketing company, CISCO, opened Innovation Central, an innovation centre based at the Australian Technology Park in Sydney, investing US$15 million in agtech and smart cities. These centres are currently focused on developing new solutions through IoT technology to agriculture, transport, and natural resources.

Australia’s state and federal governments offer a range of grants and pilot programs, and have passed legislation to encourage innovation, entrepreneurship and commercialisation of new opportunities.

The close working relationship between Australian farmers, food producers, research institutions and government is driving innovation and creating dynamic investment and collaboration opportunities for international enterprises.

Australia is truly shaping the future of food and agriculture globally.

Written by Karen Caston, Senior Investment Specialist, Agribusiness and Food, Australian Trade and Investment Commission


⁴ KPMG/National Farmers’ Federation, Talking 2030, Growing agriculture into a $100 billion industry, March 2018, www.talking2030.com

⁵ United States Studies Centre, Australian agtech: Opportunities and challenges as seen from a US VC perspective, 9 October 2018
Every Single Manufacturer Has the Potential to Be Advanced

For us, it is a fair assertion. We spend a lot of time thinking about advanced manufacturing and spreading awareness of the term and its importance is part of our job.

But for someone less familiar with the topic, they might have questions. Three of them might be: What does that mean? Why does it matter? And what does it look like in real life?

Striving to be advanced matters because while the manufacturing sector is vital, it is changing quickly. Falling behind would be costly for the country. Manufacturing is in the top five revenue generators in Australia, and our research shows that nearly 1.3 million jobs directly and indirectly depend on this sector. At the same time, there is work to be done to lift its competitiveness.

Our research shows that advanced manufacturers create more value through the non-production steps of manufacturing. Yes, manufacturing is more than production alone. Pre-production includes research and development (R&D), design and logistics. After production are the steps of distribution, sales and services. We call this value chain the ‘smiley curve’, with production in the middle and it contributes the least amount of value.

The first step, R&D, has become increasingly vital to manufacturing due to the pace of technology. Currently, we do not have enough manufacturers focusing on this step: Five per cent of local manufacturers account for 54 per cent of the sector’s total R&D spend.

Essentially, our evidence shows manufacturers must compete on value, not on cost.

Here is a real-world example: Omni Tanker was formed in 2006 to commercialise a promising technology around bonding thermoplastic with thermosets. This on its own might not sound particularly revolutionary, but it allows lightweight, high-strength carbon fibre composites to attach to high-integrity linings in vessels. This means composite containers and tankers can weigh 35 per cent less than stainless steel versions, last longer, and save transport companies lots of money in fuel and maintenance costs.

This one invention took time to be incorporated into products, for these to be certified, and for the market to accept a new technology. Innovation, as we say, is not an idea but the commercialisation of an idea, and that takes effort.

Omni Tanker’s products have won international awards, and exports to Germany began in 2016. A newer product with huge potential is an ISO intermodal container suitable for dangerous goods, targeting a $1.5 billion global market growing at eight per cent a year.

Germany and the US are the first two markets for the new container. Developing new technology and satisfying international standards for safety-critical uses is not cheap or easy for an SME, but it is worth the effort. Links with the University of NSW and the university’s ARC Training Centre for Automated Manufacture of Advanced Composites have been important in the journey. I’m proud to say AMGC has supported some of Omni Tanker’s product development through co-funding.

The significance of what Omni Tanker is offering has been realised. It recently conducted a $7.9 million funding round and is in the middle of a “major increase in production capacity by 2020” to satisfy export demands.

We do not pretend for a moment that what Omni Tanker has done is easy or for the faint-hearted, but we do think they show what a manufacturer can and should do: Advance.

It is an approach that starts by accepting that your business should be value-based, not cost-based. If Omni Tanker were competing on cost, they’d be making boring, undifferentiated stainless-steel containers as cheaply as possible – and they probably would not be scouting for folks to fill jobs which require high skills.

Every single manufacturer has the potential to be advanced. It is a complicated journey, and we can only begin to explain it in this article. If you are interested, we encourage you to learn what it means from some of Australia’s manufacturing leaders via our new Manufacturing Academy program.

www.manufacturingacademy.org.au

Written by Dr Jens Goennemann,
Advanced Manufacturing Growth Centre
At a point, India’s best-known car, the Ambassador (modelled after the British car Morris from the ’50s) was a symbol of India’s (underwhelming) manufacturing industry. It was a testimony to the severe lack of technological prowess in an economy that was cut off from the rest of the world run unfortunately by bureaucrats than by market forces.

Manufacturing in India still faces problems, such as poor infrastructure, red tape, global supply chain issues, restrictive labour laws and yet quietly over the past decade, India’s auto industry has scripted a success story.

The world over, the latest technologies in automation and data sharing in manufacturing - Industry 4.0 is redefining outdated manufacturing processes and is catching up well. The ‘Make in India’ campaign is positioning India as a potential manufacturing hub. The government is also making efforts to improve India’s global competitiveness index.

Advanced manufacturing trends encompass a gamut of technology groups and trends like additive manufacturing, artificial intelligence, advanced robotics, augmented reality, cloud computing, internet of things, cyber security, simulation, system integration, analytics and so forth. Each of these has the potential to revolutionise industry significantly. These advanced manufacturing trends are referred to as ‘Industry 4.0’.

As a percentage of GDP, manufacturing in India contributes only about 17%, which is surprisingly unchanged from the amount it contributed back in 1991. The Government has set a growth target for the manufacturing sector to reach 25% of GDP by 2025. The National Manufacturing Policy and the emphasis on ‘Make in India’ is a powerful strategy for economic development.

While the country’s world-class information-technology sector put it on virtually every global boardroom’s agenda, Indian manufacturing trails that of East Asian powerhouses such as South Korea and Taiwan, or even much smaller economies like Vietnam or Bangladesh.

Where India stands in Advanced Manufacturing, the advancement and adaptation depends from country to country and is based on the national agenda. India has been quick to realise the potential of digitisation and has launched several initiatives such as ‘Make in India’, ‘Digital India’ and ‘Skill India’ to improve investment opportunities and to enhance manufacturing capabilities in the country. These initiatives involve an overarching strategy for accelerating economic growth through digitisation.

‘Digitisation’ therefore, should be viewed as an opportunity, not as a threat. Given the government’s interest in boosting manufacturing, major manufacturers have established 3-D printing assembly lines and distribution centres in partnership with foreign technological firms. The surge in demand for Advanced Manufacturing is enticing major global firms to set up their manufacturing units in India.

A survey by PricewaterhouseCoopers (PwC) on ‘The Global Industry 4.0’ in 2016 showed India at 27% slightly below the global average of 33%, and that of Asia, where nearly 44% of industries have either already invested or will be investing in Advanced Manufacturing technology within the next five years.

Many Indian manufacturers have adopted Advanced Manufacturing in their plants successfully, such as leading car manufacturer Maruti Suzuki India Ltd now has one robot for almost every four workers —it deploys some 5,000 robots at their Manesar and Gurgaon plants. At Honda’s scooter plant at Vithalapur (80 km from Ahmedabad), the thunder from its press machines is near deafening. Five giant robots orchestrate operations lunging, twisting, shaping, breaking and bending metal. Without robots, a manual press shop of this magnitude would have required 72 men.

In fact, the emergence of robots, which can work with humans, has hugely extended the use of robotics on the shop floor. In the past, only big automotive companies would use robots, but now it has become affordable for small/medium industries and component manufacturers to increasingly use robotics, therefore, boosting the use of Advanced Manufacturing techniques.

Would this mean an end of human workers? Of course not, just like computers never replaced human beings, rather human workers were upskilled to manage machines and robots. The gains of automation are far too significant to ignore and eventually, society will have to find the best human-machine balance for optimising manufacturing processes.

Written by Indo-German Chamber of Commerce
Exclusive Member4Member Offers

HOTELS & TRAVEL & ENTERTAINMENT

The Quest Narre Warren is offering AHK members special rates, as well as year-long guaranteed corporate rates. With a dedicated account manager to assist with any of your travel requirements, and flexible booking with a 24-hour cancellation policy.

Europcar is one of the most popular providers of car rental services and offers 10% off the best rate of the day. Fixed daily rates with a reduced damage liability are included.

The Quest Frankston offers special member rates for members of the AHK, as well as Guaranteed corporate rates, all year round, flexible booking and a dedicated account manager to assist with any travel requirements.

Hilton Worldwide offers a member discount code for all Hilton Hotels in Australasia. To access rates online, please book your hotel online, following the steps described in the member area.

Qatar Airways is pleased to offer valued GAC members a discount valid for leisure travel to some of our top destinations worldwide, including all our European, the United States, and African destinations.

SERVICES & OTHERS

2M Language Services is offering Chamber members a 30% reduced industry rate on translation services into German and other European and Asian languages.

Europcar

Das Insure is offering a complimentary consultation to members to help you and your team understand the obligations of the GDPR and its relevance to Australian Businesses.

Brokat is offering 15% off Digital Health Checks to German-Australian Chamber members.

Qatar Airways

Firbank Grammar is an International Baccalaureate school and is offering priority placement to families of Chamber members.

Dammann German-English Translations is offering all Chamber members a 30% discount on the translation of personal documents.

Qatar Airways

Audi Australia are delighted to offer you as a member of the German-Australian Chamber of Industry and Commerce benefits and superior servicing of the AudiCorporate program on the entire range of premium new Audi vehicles.

Thomas Sabo Jewellery & Watches offers a 25% discount off all purchases on the website.* Enter code GACI25 at checkout https://thomassabo.com.au/

*Offer valid until July 31, 2019. Not to be used in conjunction with any other offers. Not valid on sale or gift card products.

Kärcher is pleased to share with the members of the German-Australian Chamber of Industry and Commerce, an exclusive members only 15% discount on selected Kärcher products.

Trade Fair Tours is offering complimentary season entrance tickets for Hannover Messe.

Qatar Airways

The Victorian Chamber of Commerce & Industry offers Members of the German-Australian Chamber a 50% discount on the Complete Membership package.

MEMBER2MEMBER OFFER SUBMISSIONS:

We are pleased to present you with a range of discounts and special deals from GAC members for GAC members.

Please log in to our Online Membership portal to book these special deals.

If you have an exclusive rate or special product that you would like to offer your fellow members, please e-mail: tina.thoms@germany.org.au to submit your offer.
BayWa r.e.'s Australian wind and solar companies are co-located in our Melbourne office. We focus on delivering Australian wind and solar projects and offer services such as asset and operations management across the APAC region, as well as turnkey construction, internal financing and investment opportunities and Power Purchase Agreements (PPAs).

CBIS (Comprehensive Business Improvement Solutions), is a boutique training and consulting firm that works collaboratively with business owners and line managers to achieve compliance and excellence by drawing on cross-disciplinary expertise in business improvement frameworks such as Lean and Six Sigma as well as design and implementation of various management systems (ISO Standards) such as quality, Safety and Environmental Management Systems.

Our success results from our truly collaborative approach, our eye for detail, client focus and diverse knowledge and expertise. We are highly passionate and committed to achieving results and are conscious of minimising business disruption. We treat our clients’ business as if it was our own.
NEW MEMBERS

Ecovis Clark Jacobs, located in the Sydney CBD is a full service, independent firm of accountants.

As a genuine alternative to the major accounting firms, our highly specialized approach provides a quality perspective to business problems, ensuring that we produce realistically priced and pragmatic solutions. Our Directors and Senior Staff Members have a diverse background ranging from experience in Big Four firms through to smaller, suburban firms and come from around Australia. We have the experience and local knowledge to tailor a solution to the different market conditions prevailing throughout Australia.

As the Australian office of the German 'Ecovis' network, we also have the skills to assist inbound German businesses to establish their Australian and New Zealand operations. From establishing the company through to tax registrations, insurance and resident director services, we have a wealth of knowledge and can, along with our allied advisers, provide you with complete solutions.

Fisher Management Consulting is a proudly Australian owned consultancy made up of a collaborative team of Strategic HR and Executive Search industry professionals, partnering with leaders across a wide variety of industry sectors to create results through people. We are passionate about people, human behaviour, attracting and building capability to achieve strategic outcomes now and in the future. Our partners entrust us with their business critical people based strategy, talent management and senior appointments, delivering tailored solutions and results that make a meaningful impact. Fisher Management Consulting has developed a strong reputation for results through exceptional service and rigorous process in diverse markets, successfully working with clients in every state of Australia, as well as the APAC region, Europe (including Germany), and New Zealand. Our services include:
- Research-based search & selection
- Specialist Executive Recruitment & Selection
- Difficult to fill roles
- People based strategy consulting
- Executive and career coaching

Kurz is a worldwide leader in thin film technology with over 5,500 employees.

Kurz develops and manufactures decorative and functional coatings that are applied to carrier foils and employed for a wide variety of products: for automotive components, cell phones, TVs, washing machines, furniture, packaging, books, textiles, bottle labels, bank cards and lots more.

Kurz coatings decorate products, enhance brands, label goods, protect surfaces and prevent counterfeiting. Moreover, Kurz inserts optical elements with digital functions, linking the visual to the virtual world.

Kurz provides complete solutions that include project consultancy plus machine and technology. The Kurz Group has over 30 sites worldwide and produces under standardized quality and environmental standards in Europe, Asia, and the USA. With a global network of subsidiaries, agencies and sales offices, we ensure short paths, reliable delivery and individual on-site assistance.

Resolve Litigation Lawyers is a leading Australian boutique law firm, specialising in commercial litigation and dispute resolution, regulatory investigations and compliance, competition and consumer law, intellectual property and insolvency. We are proud of our ability to achieve optimal outcomes for our clients while delivering a boutique level of service and fee structure.

Resolve Litigation Lawyers offers large-firm expertise and an outstanding record of success to both corporate and private clients.

With its directors and senior lawyers having developed their careers with Allens, Freehills and PricewaterhouseCoopers, our team has extensive experience across a broad range of industries including banking and finance, energy and resources, manufacturing and retail, telecommunications and IT, healthcare and pharmaceuticals and agribusiness.

Resolve Litigation Lawyers is able to serve its clients in English, German, Spanish and Russian and has acted for numerous European clients from different industries to resolve their disputes in Australia.

Phoenix Contact is a global market leader and innovator of components, systems and solutions in the area of electrical engineering, electronics and automation.

Founded more than 90 years ago in Germany, our diverse product range includes components and system solutions for industrial and device connection, automation, electronic interface, and surge protection. From the classic terminal block to splash-proof machine connectors and wireless Ethernet, our products power, protect, connect and automate systems and equipment. With eight locations across Australia and New Zealand, Phoenix Contact has been providing our customers with inspiring innovations and local support since 1995.

RewardsCorp is a proud Australian owned, global, technology company, recognised as the market leaders in the Travel + Leisure Rewards space. RewardsCorp patented its travel promotion in 2005 and has since undertaken promotions with many of Australia’s favourite brands.

Our corporate culture of innovation, market and consumer analysis and technology integration along with strong customer service has created today’s suite of exciting, engaging and highly effective travel + leisure programs. Additionally, we create fully bespoke client campaigns that incentivise your ideal consumer behaviours. Visit us at RewardsCorp.com and give us a call to discuss how we can benefit your marketing initiatives.
Rheinmetall AG, publicly listed and based in Düsseldorf, Germany, is an integrated technology group and a market leader in the areas of environmentally friendly mobility and threat-appropriate security technology. The Group’s Automotive division commands a foremost position as a global first-tier supplier to the automotive industry for modules and systems. The Group’s Defence division is Europe’s foremost supplier of army technology and a longstanding partner of the armed forces. Rheinmetall Defence products set the global standard for excellence in a wide array of disciplines: from vehicle, force protection and weapon systems to infantry equipment and air defence, and from network-enabled warfare capabilities to electro-optics and simulation technology. Rheinmetall Defence Australia and New Zealand is a subsidiary of Rheinmetall AG, with offices in Adelaide, Canberra, Melbourne and Brisbane. Rheinmetall Defence Australia currently the largest supplier of military vehicles to the Australian Defence Force, is establishing a national military vehicle industry based in Queensland. For more information visit www.rheinmetall.com

Singulus Technologies builds innovative machines and systems for economic and resource-efficient production processes. The core competencies include vacuum coating technology, surface treatment, wet-chemical as well as thermal production processes. The company offers machines, which are globally deployed in the photovoltaics, semiconductor, medical technology as well as consumer goods. Singulus Technologies is a renowned manufacturer of advanced thin-film deposition equipment.

It is the trusted partner in respective industry and extends its leadership in the thin film deposition technology for these applications. Singulus Technologies operates as a driver of innovation in technologic areas with high growth potential.

The headquarter is in Germany, Kahl am Main, Bavaria with a second manufacturing close to Munich. Singulus Technologies has a sales and service network in all relevant global regions, enabling it to offer advisory and other services worldwide.

SNP SE supports organizations in adapting their business models and using new technologies. SNP software and services make it easy to implement business or technical modifications to business applications. CrystalBridge® and Transformation Backbone® are the world’s leading software suite for data transformations that automatically analyzes, implements and tracks changes to IT systems. As a result, they offer clear qualitative advantages, while significantly reducing the time and expense involved in transformation projects.

The SNP Group has over 1,300 employees worldwide. Headquartered in Heidelberg, the company generated provisional revenue of approximately EUR 131 million in the 2018 fiscal year. SNP’s customers are global corporations from all industries. SNP was founded in 1994 and has been publicly traded since 2000. As of August 2014, the company is listed on the Prime Standard segment of the Frankfurt Stock Exchange (ISIN DE0007203705). Since 2017, the company has operated as a European stock corporation (Societas Europaea/SE). Further information is available at www.snp-group.com.
Solutions that work

We work with passion and dedication, developing the best solution for every requirement and working hard to ensure that our services are just right all the time - that is what makes Logwin stand out.

Logwin Air & Ocean Australia Pty. Ltd.
13 Ferguson Street
Kewdale WA 6105
Phone: +61 8 9270 1600
E-Mail: airocean.au@logwin-logistics.com

Logwin Air & Ocean Australia Pty. Ltd.
Level 2, Suite E28
75-85 O Riordan Street,
Alexandria NSW 2015
Phone: +61 2 9313 7299
E-Mail: airocean.au@logwin-logistics.com

Logwin Air + Ocean Australia Pty. Ltd.
4 Elata Drive
Tullamarine VIC 3043
Phone: +61 3 9310 4108
E-Mail: airocean.au@logwin-logistics.com

Logwin Air & Ocean Australia Pty. Ltd.
Unit 1.06.1, 2-6 Leonardo Drive
Da Vinci Business Park
Brisbane Airport QLD 4007
Phone: +61 7 3860 5161
E-Mail: airocean.au@logwin-logistics.com

www.logwin-logistics.com