



TR PRESS PACK

Press Releases

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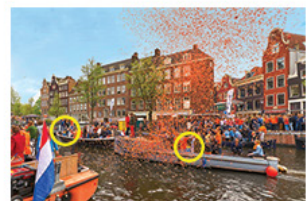
February 2020



Congratulations to Samantha Parker from Fife Fabrications who has won our annual calendar competition!

Well done Samantha, we hope you enjoy your new Ultimate Ears Boom 2 Bluetooth Speaker.

Check out the answers above to see if you managed to find where Terry Torque and Ruby Rivet were hiding too, we would like to thank everyone who took part in this years competition!



February 2020



Faltec Europe employs TR Fastenings to deliver competitive fastener supply and tooling solution

About Faltec Europe

Faltec Europe Ltd, part of the global Faltec Group, is a world-class manufacturing company and an accredited Tier 1 supplier to the automotive sector. Faltec Europe manufacture many of the interior and exterior vehicle trim products you see every day on the most popular cars on UK roads.

Faltec's European division produces over 300 car products from front bumpers to radiator grills, roof mouldings, door mouldings, door sashes, roof finishers, weather strips and lots more.

Faltec's business model is based on being robust, flexible and adaptable to meet customers' requirements within a fast-changing market and global economy. This case study is a true demonstration of that ethos.

Industry landscape

The automotive industry is a vital part of the UK economy. The industry has an £82 billion turnover (plus £20.2 billion value added). More than 30 vehicle manufacturers in the UK rely on a complex network of suppliers - a single car has around 30,000 parts. In the UK there are also around 2,600 component manufacturers supplying parts directly to OEMs.

The automotive industry has a traditional tiered supply chain (Tiers 1, 2 and 3, with Tier 1 feeding directly into OEMs), but some lower tiered component manufacturers, such as TR Fastenings (TRF), are challenging the existing market structure, taking a much larger role in innovation and Tier 1 production-line support.

Project background

Faltec Europe required a bespoke fastening for a new major programme it had recently secured with a key global OEM. The trim product to be developed was an injection moulded exterior trim part for a new vehicle due for release in November 2019.

A late design change to improve the fit of the part to the vehicle required the attachment of a strengthening support via a Peel type rivet. Peel rivets are a type of blind rivet designed to offer improved support in brittle, soft or ductile materials, applicable to the vehicle trim products in this project.

Fired using bespoke tooling, the head of the Peel rivets explode and become mushroom-shaped as they enter the moulding. This

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creates a large blindside bearing surface, significantly reducing the risk of the rivet sinking into or breaking the moulding.

TR Fastenings (TR) and Faltec are both active within the North East Automotive Alliance (NEAA) network. Following a successful pitch, TR Fastenings was appointed By Faltec as the company's provider.



Approach and solution

As a global specialist in the design, engineering, manufacture and distribution of high quality industrial and Cat C fastenings, TR was able to identify the original equipment source and submit a competitive supply solution. TR is renowned for working with clients from design table to production line to achieve innovative, effective and efficient solutions. The TR product and tooling for this project offered a robust solution and would guarantee efficient production - this secured the initial business.

Not only could TR provide the specific fastener solution, but in this instance, it was also able to supply bespoke tooling compatible for the fastener. The tooling required a bespoke rivet gun that would not only automatically fire the rivets into the moulding to be joined, but also have capability to apply rivets in a fast production environment.

Project challenges

Timescales were challenging for both parties but with close co-operation qualified parts were supplied along with tooling for development and ongoing production, both being delivered on time. Not only did TRF have to supply production intent rivets in a short timescale but also the gun was ordered late due to last-minute design changes, requiring 24 hour delivery.

The late design change by the OEM required special rapid response by TR and Faltec. TR was able to take the lead on supplying fast-production intent rivets and tooling in a very short period.

Greg Lynch, Automotive Business Development Manager at TR said, *"Perhaps the biggest challenge came with technical advice and training. TR had to ensure correct and safe operation of the rivet gun. Due to its bespoke nature, Faltec staff responsible for the operation had no experience in the use of this particular tool and engineering."*

Greg further explained that when Faltec first tried the application they thought it had failed. However, once it had been confirmed that the rivet was in fact the correct specification, it was understood that perhaps further assistance would be required in how to use the tool and rivets in a fast production environment.

TR's Quality Manager, Dave Fearon, visited Faltec at the production facility to help lay out the process and demonstrate how to use the Rivet tool in a safe manner. It was acknowledged that without correct use, the application could have been dangerous to operators.

TR Press Release

TR Fastenings provides bespoke fastening solution to leading Tier 1 automotive company (Cont...)



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As full service was of the utmost importance to TR their engineers visited Faltec several times, initially to explain how the Rivet gun would operate, but then to train staff in appropriate use and safety.

TR provided ongoing support throughout the initial trial phase and was asked to assist in technical evaluation ready for onsite production at Faltec. This project is indicative of TR's service which goes far beyond product supply and applications.

Project outcomes and advantages

Following success with this project, TR has been nominated to supply serial production, cementing its ongoing relationship with Faltec.

Outcomes and advantages of the project included:

- Parts and tooling were delivered on specification and on time given challenging timescales
- Due to TR's extensive capability, it was able to offer Faltec additional product tooling over and above the initial bespoke fastening RFQ
- TR provided ongoing project support ensuring onsite production timescales were met
- The successful project has resulted in ongoing work for TR for the supply of serial production for a further three years

	
<p><i>"TR Fastenings want to be the first point of contact for Faltec's ongoing fastener requirements and business development, so providing a first-class service and gaining trust from Faltec Europe was of paramount importance to us. Being an active member of the NEAA has enabled good business networking opportunities with new and existing customers."</i></p> <p>Greg Lynch, Automotive Business Development Manager</p>	<p><i>"Following late design changes on a project, Faltec Europe was faced with a challenging timeline to find a solution. We contacted TR for their input and support, which proved invaluable. TR quickly offered a product that met the design requirements and they also suggested solutions on the assembly equipment that could be used, speeding up our process development. The final result was a change delivered on time and on budget."</i></p> <p>Wayne Turnbull, Senior Manager</p>

March 2020



International Women's Day

IWD 2020 is being celebrated across the world today, March 8th 2020 and TR is marking the occasion by sharing latest information on our female apprentices across our UK locations.

Our apprentices make a huge impact on TR, at all levels of the business. We are immensely proud of their achievements and commitment to the company.

We currently have four female apprentices:

- Shani Coker – Administration Apprentice, Uckfield
- Lydia Ball - HR Apprentice, Uckfield
- Emily Cowens – Business Apprentice, North East
- Emily Haigh – Warehouse Apprentice, North East

We are also proud to have five out of seven of our UK locations headed up by females!

Q&A with our Apprentices

Shani Coker, Uckfield

"The best part of my role is the variety of work I do here at TR, every day brings something different. I am looking forward to progressing within the company and to developing my skills further by learning new things. This is an exciting opportunity for me."

[Click here](#) to read more about Shani and her Apprenticeship at TR.

Emily Cowens, North East

"I love working at TR, I would say my greatest achievement is that I am the main point of contact for our kitting companies, which I am really proud of, as I have full control of checking what is going out to them on a weekly basis and what we are receiving back. Another achievement is that I have never had a sickness day in the full year and 7 months that I have worked here."

[Click here](#) to read more about Emily and her Apprenticeship at TR.

Interested in finding out more about an Apprenticeship with TR? Visit our Careers pages.

May 2020



Chris Black, Director of Automotive Business Development at TR Fastenings has been invited to be the industrial lead for the new Trade Working Group set up by the North East Automotive Alliance (NEAA), the largest and fastest growing organisation of its kind in Europe.

This recently launched trade group is a key part of the NEAA's 5 year strategy to better understand and support the trade activity of its members. With over 35 years of industry experience and an active alliance member, Chris Black is well placed to share latest insights, best practices and successes achieved through his global leadership position with international specialist TR Fastenings.

Founded in 2015, the NEAA is an industry-led automotive cluster which aims to be at the forefront of the Government's strategy to progress automotive technologies within the UK. The north east produces 30% of all UK passenger vehicles, which includes 20% of all electric vehicles across Europe and 10% of all UK non-highway vehicles per year. The region has firmly established itself as the leading UK location for battery manufacturing and is now the world leader in power electronics, motors and drives. It is home to a globally competitive supply chain which consists of 31 tier 1 suppliers and a host of specialist SMEs, R&D centres and a strong support network.

Chris Black feels passionately about his involvement with the NEAA; *"Since joining the alliance five years ago, I've been actively involved attending meetings, events and providing guidance, whilst also encouraging collaboration between members. The alliance has grown significantly during this time which reflects the buoyancy in this sector and a need for a trade support mechanism for members."*

"TR has a vast global footprint which continues to expand and by sharing our experiences with fellow members, we can help to find solutions to the challenges of growing overseas such as investment, recruitment and securing new business."

"This trade group brings together ambitious companies looking to scale up, within the UK and abroad, and I am truly delighted to be working with Rohan Kohli at the NEAA to support this new initiative."

The NEAA Trade Group meetings are held quarterly with the first meeting hosted in November 2019 at the Port of Tyne in South Shields.

June 2020

TR Formac, part of Trifast plc with corporate world headquarters in East Sussex, U.K. has expanded its global presence by moving into larger premises in Prawet, Bangkok, in response to strong growth across Asia and winning new business from global OEMs. The new facility provides around 3000 sq. ft. of space enabling the company to trade more efficiently and to help further strengthen its position in the growing EV market.

Operations in Thailand are headed up by Country Manager David Ng, a knowledgeable and well connected individual who has witnessed the fast development of the automotive sector across the country. Chris Black, Global Director of Automotive Business Development, will be supporting David and the TR Formac team to increase their market share of the Automotive EV sector, sharing his experience and knowledge with the Thailand team.



David commented; *"There are huge growth opportunities in Thailand with key focuses on technology and innovation of electric vehicles. With this in mind, and to collaborate with other companies, we decided to join the Electric Vehicle Association of Thailand (EVAT) which the Thai government was instrumental in launching.*

"There are three phases involving intensive R&D to enable the production of 1.2 million units by 2036 and 690 EV smart charging stations. All types of electrified vehicles are on the agenda; battery, hybrid, plug-in and fuel cell. Moving into bigger premises facilitates our continued growth; it's a key part of our strategic business development initiative to move us forwards."

The Electric Vehicle Association of Thailand (EVAT) was set up in 2015 by individuals from the private and public sectors to promote and support industrial manufacturing, research and development, and EV usage in Thailand. There has been strong recognition within the country, specifically at government level, to strengthen knowledge and global competitiveness of Thailand as an EV manufacturer. Supported by the Ministry of Energy and the Energy Regulatory Commission, the EVAT enables members to exchange information and initiate changes towards a low-carbon transport community.

TR's manufacturing capacity in Malaysia, Singapore and Taiwan totals over 359,000 sq. ft. of factory space producing 525 million components per month. Thailand is the 13th largest automotive parts exporter and the sixth largest commercial vehicle manufacturer in the world with aims to become one of the top performers in the global automotive market.¹

TR Formac is recognised throughout the industry for world-class products and services, manufacturing and distributing a huge range of industrial fasteners and associated components. PSEP (Power Steel & Electro-Plating) in Malaysia was acquired in 2011 and the Thailand office opened in 2013.

Source: 1 ASEAN (Association of Southeast Asian Nations) briefing online report 2018

June 2020



For over 45 years TR Fastenings' UK manufacturing plant in East Sussex has produced millions of products, including its own highly regarded Hank® brand.

The current purpose built factory which opened in 1992 houses 50 single and multi-spindle machines and produces 3 million parts each month. The multi-spindle machines can form, turn, drill, knurl and part off a steel component in as little as 1.2 seconds.

In an era where manufacturing is usually focused in the Far East, TR Fastenings is proud to have retained their manufacturing unit in the UK to maintain a competitive advantage through greater flexibility with pricing, volumes and short lead times. Additionally, sourcing raw materials locally allows faster production times to meet customer demands.

As the only producer of the genuine Hank® Rivet Bush, the site also manufactures the K-Series® nuts as well as bespoke items in aluminium, brass, stainless and steel. The diverse range of machines enables TR to produce products as small as M2 and as large as M36, which are used across a host of industry sectors.

Looking to the future, the TR Fastenings UK manufacturing plant will continue to make the product it is famous for – the Hank® Rivet Bush. As well as the design and manufacture of new products, such as the recently introduced K-Series® Thin Nuts, TR will continue to work with customers with any application requirements and manufacturing bespoke parts, when required.

Simon Lockyear, Production Manager, who has worked for TR Fastenings for the last 37 years comments: *'The company is proud of its factory, the quality of the products we produce and the loyal and skilled workforce. In a day of dominant foreign imports, it is a breath of fresh air to have a UK producer holding its own in a very competitive market place.'*

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The outbreak of the Covid-19 pandemic created a surge in global demand for medical equipment, with the subsequent knock-on effect of a huge demand for sheet metal fasteners, specifically for those companies producing essential equipment, including ventilators. International specialist TR Fastenings focused on being as responsive as possible to meet this demand and is now further investing in its sheet metal range to accelerate growth of this product portfolio.

TR has been leading the sheet metal fastening industry for over 45 years, providing products to more than 5,000 global customers from 32 business locations in 18 countries. TR's ability to move with the times and adopting a fast track approach has firmly positioned the company as a market leader; an internationally respected manufacturer who is flexible enough to continually adapt its range and stay ahead of the competition.

This latest investment sees expansion of its own highly regarded Hank® Self Clinch Fasteners and the launch of a new range of K-Series® Thin Nuts. TR's own facility in the UK can manufacture as small as M2 and as large as M36 which are used across a wide range of industry sectors.

TR has a robust business model for large OEM's and SME's and competitive advantage is achieved through flexible pricing, volumes and short lead times with the capability to source raw materials locally, allowing faster production times to meet demand.

There are many application challenges within the sheet metal industries and TR can offer fastener testing capabilities across mechanical, dimensional, installation, and plating and finishes. TR supplies sheet metal products for pressing, riveting or welding during manufacturing or assembly processes.

TR's website leads the way in showcasing sheet metal fastening solutions

TR's industry leading website now further enriches the customer journey by showcasing the very latest information on sheet metal fasteners with technical, explanatory animations and visualisation tools showing how products can be installed.

The videos and enhanced online resources provide key insights including detailed product specifications such as dimensions, materials and performance guides, FAQs, spotlight pieces and customer feedback supported by global sales and marketing activity.

Steve Wallis, Sales Office Manager at TR Fastenings, said: *"The recent pace of change across the industry has been unprecedented and TR has been able to utilise years of experience to adapt to this. Customers are looking for higher quality and smarter application-based sheet metal fasteners, and selecting and installing the right fastener, within tight timeframes, is a challenge.*

"This is where TR's global teams can add real value, from our knowledgeable customer services assisting with product suitability through to our expert quality and application engineers providing guidance from early design through to specification and manufacturing."

TR Press Release

Getting a grip on fasteners and their coatings within the transport sector



July 2020

A focus on automotive and the EV market

By Sven Brehler, Engineering Project Manager at TR Fastenings

As a full service provider with a worldwide reach from the USA to Asia and Europe to the UK, TR Fastenings works closely with automotive Tier 1 companies to respond to their needs and global developments. Supplying 10,000 different fasteners annually into the automotive sector, TR is playing a central role in shaping the future of the fastener industry within this changing space.



The global electric-vehicle (EV) industry is expanding rapidly with 60% year on year increase and sales growing to 2.1 million units in 2018¹. As a result, advanced technology is now a top priority for competing OEM's and the role of fasteners is significant.

Transport technology companies around the world are under pressure to innovate as a result of rising cost pressures, and trends such as lightweighting, autonomous driving and electro mobility growing apace.

Suppliers into Tier 1, such as TR Fastenings are increasingly required to come up with technical innovations for fasteners that work harder and 'smarter' that can be produced quickly and cost-effectively.

The key fastening applications within automotive include sub tier manufacturers; seating; power trains; thermal management; HVAC; high-end performance cars and the EV market - the latter being the fastest growing sector for TR Fastenings to which they

supply automotive grade fasteners to OEM specification. It's an evolving application that is leading the fastener industry to greater sophistication.

Lightweighting in fastener technology

Achieving fastener weight reduction whilst maintaining high torque demands have become an important requirement in automotive applications. Industrial drive systems such as the Mortorq® screw require up to 25% less material in the head yet still provide super high strength internal drive – an example of an innovative system providing the lowest head possible without compromising on fastener assembly performance.

One of the heaviest components in an EV is the electric battery, which runs the risk of negating the idea of carbon emission reductions if the vehicle's weight increases energy consumption. As a result, fastener companies such as TR and their supply chains are constantly looking to innovate and are inspired by other transport industries such as aerospace.

Fastenings and their coatings within the EV sector

Batteries, motors, transmissions and all their associated electronics are the leading technology areas of EV R&D and the fastenings and their coatings play an essential role.

Innovative engineering techniques are now being applied throughout the design and manufacturing process in order to meet customers fast changing needs.

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Why are fastening innovations crucial for EV battery (EVB) manufacturers?

There are a number of components which are particularly relevant for EVB assembly - fasteners with electrically isolating coatings; lightweight, non-magnetic fasteners; battery retention bolts; cable management hardware and compression limiters.

All these require fasteners to provide robust and secure settings for the costly battery. And fasteners are essential, not only in the electric vehicles themselves but also in supporting technology and applications including charging units, EV battery casings, and general infrastructure equipment.



Coatings do more than just provide protection against corrosion

An EV's battery module can be secured with inserts for plastics that are used to maintain either good connectivity where required or avoid unwanted short-circuits due to corrosion or product failure.

Fasteners for the EV batteries are designed to incorporate various coatings to suit the functionality of the joint. Examples of these include: silver plating to improve connectivity or high temperature resistant organic top coat to provide an electrical barrier.

Sven Brehler, Engineering Project Manager at TR Fastenings explains: *"Component suppliers are beginning to work closely with battery module manufacturers to develop and apply functional coatings to fasteners including protection from corrosion. These help to either maintain good electrical connectivity or retain isolation where needed to avoid unwanted electrical resistance or potential short circuits."*

Battery heat

Highly conductive coatings can be applied to certain materials such as plastic fasteners or fasteners prone to corrosion so they can act as electrical conductors, being part of the electrical circuitry. Increase in electrical resistance causes generation of heat together with loss of energy.

Sven continues; *"EV batteries can generate high levels of heat, so it's essential that it is distributed over the assembly to provide general cooling and avoid localized overheating. Busbars can support the distribution of heat from local hotspots to heat sinks, but only when correctly tightened to optimise heat transfer between the various elements. Using fasteners in thermally and electrically conductive coatings will aid an effective service life."*

Insulation coatings are advantageous

Regarding insulation coatings, in certain cases electrical currents must be contained. Barrier coatings avoid electricity from going where it shouldn't and causing interference or a risk to safety through electrocution or fire.

Specific coatings used include PTFE (Polytetrafluoroethylene) because it is highly heat resistant with the ability to retain its properties across a temperature range, from -200°C to +260°C. It also has low predictable friction, which can help to create secure joints through torque control essential when assembling the battery module.

One solution does not fit all

As well as hardware in battery casings and structures, many differing conditions also need to be considered so adopting a 'one solutions fits all' approach to applying coatings would not be appropriate.

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Depending on the material and the function of a particular component and the task it performs, different solutions are necessary.

Automotive quality standards

TR Fastenings supplies from its own IATF 16949 as well as from a select range of external suppliers. The International Standard for Automotive Quality Management Systems is based on ISO 9001 and applicable to organisations that manufacture components, assemblies and parts for the supply into the automotive industry.

Only manufacturers passing strict audits and reviews by TR's fully VDA 6.3 certified auditors, and able to deliver to the highest OEM quality standards are used to provide the necessary high quality products into the battery market. This helps to ensure a stable and sustainable supply chain in addition to the engineering and logistics TR can deliver.

Early engagement in design

Manufacturers and sub-contractors must work together from the start to ensure the correct Design for Manufacturing (DfM) considerations. When cost-efficiency, sourcing, materials and product lifecycle concerns are discussed early on at the design table; costly delays later on can be avoided.

As an emerging transport sector, the fasteners needed in EV charging units and their associated structures, requires manufacturers and their supply chain to have technical knowledge and experience. There are increasing pressures and opportunities involved working within intricate global supply chain networks, and manufacturers servicing the automotive, electronics and technology sectors will be best placed to work with emerging EV related businesses.

Looking to the future

The EV sector is a fascinating one to watch as it develops and gains momentum. As the requirement for robust EV charging points grows, the automotive industry continues to innovate with fasteners playing a major role in the electric vehicle revolution.

It is a rapidly accelerating market with huge potential for manufacturers and suppliers. It is therefore essential the supply chain has the infrastructure, technology and solutions in place to meet future demand for electric car use.

Source 1: <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/expanding-electric-vehicle-adoption-despite-early-growing-pains>

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International fastener specialist TR Fastenings has achieved the AS9120 Certification following an extensive audit of its operations and in response to customer demand. AS9120 recognises the continuing commitment to aerospace quality and conformance and places TR amongst a select group of companies that have been recognised for practicing the highest quality standards required in this sector.

The AS9120 Certification is specific to organisations holding and distributing Aerospace related components such as fasteners and is designed to ensure that parts are handled and tracked properly while they are en route from the original manufacturer to the end customer.

It adds almost 100 additional requirements specific to aerospace suppliers beyond the general manufacturing standard ISO 9001:2015, including traceability from receipt to delivery, counterfeit parts prevention and detection, and evidence of conformity and on-time delivery. All of which are critical for meeting the most stringent requirements of supplying components into the aerospace and defence sectors.

With a proven track record in these sectors, TR's post Brexit strategy is to focus on differentiation by using its industry experience, technical expertise and proven capabilities to further expand its business within aerospace.

Kevin de Stadler, Sales Director at TR Fastenings comments: "It was a long process but the rigorous work behind it further strengthens TR's position within this sector and guarantees the highest level of competence. It's proof that we are committed to being a major player in the supply of fastenings to the aerospace and defence industries and continuing to increase our footprint.

"It will open up opportunities such as improved performance against competitors and expansion of our UK market. We also hold ISO 9001 and 14001, however, AS9120 sets us apart in the industry and now firmly positions us at the forefront of fastener provision in this highly regulated sector."

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2020 marks 30 years with TR Fastenings for Glenda Roberts. She recently stepped down from the Trifast plc Board, as she considers her retirement plans and will be working on special projects. She has seen the company grow from a UK business to become a global Full Service Provider.

Here editor Will Lowry, speaks to Glenda about how the Group, and the market, has developed over the last three decades, and about future opportunities.

Although Glenda is celebrating her 30th anniversary at TR Fastenings, she's actually been in the industry a little longer. Before joining TR, she had been with another fastener company for seven years. "When I first joined, TR had already positioned itself between the manufacturer and the customer. It was a smaller company with 8 sites focused very much on the UK market – and it was doing very nicely developing JIT fastener supply systems inside larger customers".

Then Glenda remembers that a standard enquiry could take two to four weeks to complete using post, telex and fax machines. "Developments such as the internet and email connected us to the world, and really helped us to take a leap forward. Mobile phones weren't commonplace when I first joined the company. Very few people had them, and everyone was nervous about using them because of the cost - how far have we come today when everyone wants instant responses?"

In 1998, TR Fastenings decided to expand outside of the UK, largely because its customers and other businesses were migrating to countries with lower manufacturing costs. "We would have lost these customers if we hadn't taken that decision," says Glenda. "I was asked to put together a global team and to follow the business initially to China and India. That success led TR to open operations in other parts of the world to support global customers."

"We carried the processes and the direct line style feed systems from the UK to the new customer locations. Not only did this help to keep the business, it was a big success story for us. We made it easy for companies setting up in these new areas to have consistency of supply, processes and services. Continuing this successful strategy, TR Fastenings opened operations in America, China and India and has continued that strategy today adding Hungary, Italy, Germany, Spain, Thailand and the Philippines in recent years. Focusing on large global companies, and our tier one suppliers, rather than going after local business, was undoubtedly the best thing we did. We worked with companies that needed the services and support that they were used to getting from the UK and Europe."

"Working with these multi nationals, and their global commodity teams, enabled us to demonstrate how well we could service them almost anywhere. Consequently, they were keen for us to work with them in other countries, and so we were able to meet their needs at their locations – whether in Europe, America, or Asia."

Wherever customers have moved geographically, TR has identified opportunities to acquire manufacturing businesses already established within those geographic markets.

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"This was another big step in our development as adding manufacturing sites to the group meant we weren't just another distributor – we were now a full-service provider and it gave us gravitas", Glenda says. "By evolving our engineering and technical support services, we were able to work more closely with customers on applications and solutions."

"We now have eight manufacturing sites – 32 sites in total. We are also proud of the 36 master distributors who support us, especially in areas where we need geographical coverage. They are integral to our Group and have enabled us to get our proprietary branded products to customers as quickly and effectively as possible."

Application engineering and technical support

TR sees this as a key part of its success story, and this enables the company to work closely with its customers with early involvement at the design and development stage.



"A high percentage of the parts we supply are dedicated customer specials to customer drawings. But often there is a need for technical input to assist and this is where our engineering teams are involved", explains Glenda.

"Building up these relationships and supporting the different disciplines on a customer's site encompassing quality, logistics, sourcing and technical demonstrates that we understand their needs and can meet their requirements."

"Whilst working with customers has become easier, their requirements have become much more demanding over time", Glenda tells me. "They have very specific needs and wants. There's also a lot more documentation these days, with more detailed work involved. We even have in house lawyers to deal with the vagaries of the contracts that

each new piece of business entails. Some companies might see this as a challenge, but thanks to our experience, knowledge and capabilities, we are more than able to meet these requests. This hopefully helps us stand out." Glenda continues, "We are no longer just supplying a humble fastening; these products do an important job and could be involved in a safety critical application. Therefore, guaranteeing quality and reliability is essential."

"A lot of contracts, especially for the automotive market, can be for five to ten years. This means we have to make sure we get everything right and are flexible enough to accommodate any changes that might happen. Customers have heightened expectations on quality with zero ppm as a requirement. However, we believe it's really about having a zero-defect philosophy – because that encompasses everything we try to do".

Handling Covid-19

The Covid-19 pandemic is unprecedented and certainly has proved one of the most challenging times in Glenda's 30 years at TR.

"Because our operations are located around the world, we felt the impact of the virus from the first outbreak in China, and we monitored this as it spread globally," says Glenda. "Our first concern was to make sure our staff were safe, and all of the correct health and safety protocols were in place. After this we focused on supporting our customers and our vendors." TR set up a Covid-19 task force, which included the board and key personnel, to help it manage its supply chains and customer base. "When you are an FSP there is no buffer as you are the only line of supply. "As part of our business continuity plan that originally was put in place during the SARS outbreak, we looked at all the risk factors, the numbers of weeks stock and in WIP for every customer special. Then we mapped out where our vendors were based compared to the virus epicentres. This enabled us to stand back and evaluate whether we had supply issues looming. We went into minute detail as it was no small task, but it was important to do it thoroughly. There have been challenges along the way, but customers have not been impacted and we have had great support from our vendor base."

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Glenda believes the next challenge is the length of time it will take markets to get back to 'normal' post Covid-19. "The pandemic will undoubtedly impact companies – particularly those in the automotive industry, and liquidity will become a critical factor for many. The shape of recovery will also have a huge impact. Will it be a 'U' curve, a 'V' curve or a fast return to a new normal? She believes the next three months will give us a good indication of how things will develop. "TR is in a strong position financially, so we can manage the current situation. It won't slow us down or prevent us from focusing on opportunities and interesting markets for the future."

Future opportunities

"Coming out of the pandemic we see opportunities in providing even more product to the Medical industry. The move to 5G and the infrastructure requirements is another area of focus as we have worked on projects for 3G and 4G in previous years."

"But the key and potentially the largest growth area is in supporting builds in the EV sector which is the future. If Covid-19 has taught us anything it is that our health and welfare is paramount, and a cleaner environment is essential. We will have to adapt to the materials we'll be working with in the future, such as composites, and how we adapt to any new opportunities this may create. For instance, we are currently looking into silver plating for fasteners, which is not as common, but this is required along with the need for electro-static finishes in applications involving EV batteries. This is an example of how we are being pulled into new areas and providing the right products for these applications. These new opportunities are fastener rich which is good for our industry and I think we are all in for an interesting time".

Credit:

Will Lowry - Editor

Fastener + Fixing Magazine

www.fastenerandfixing.com

August 2020

By Ian Parker

Catastrophe theory is a branch of mathematics which looks at sudden and often unexpected change. Such events are usually both good and bad. They can be anything from a bent ruler suddenly flexing the other way to the spread of a new virus. And they're not unforeseen by everyone. Bill Gates warned of a virus pandemic five years ago. Selling prevention is always much harder than selling cures.

When a catastrophe is underway, changes can be rapid as can human responses to them. Everyone can see that the Covid-19 pandemic is firstly a health issue, but it will go on to affect much more than that. Mathematicians are not the only people trying to see where things are going. Engineers are too, including those in the fasteners and fixings business.

How will recent trends, reinforced by the pandemic, affect transport and what developments will the fasteners business have to make to support them? Will there be much less travelling and will many people eschew public transport to avoid getting close to others? Will travel and transport broaden out into mobility, with a much wider range of vehicles and their operation?

TR ponders the issues

Some 34% of TR Fastenings Ltd's business is in automotive, so the company has a great interest in where the business is going. The company is part of Trifast plc and is an international specialist in the design, engineering, manufacture and distribution of high quality industrial and Cat C fastenings principally to major global assembly industries. TR has 32 business locations within the UK, Asia, Europe and the USA including eight high volume manufacturing sites. TR's manufacturing network represents a third of the group's business.

It was founded in 1973 by Mike Timms and Mike Roberts who gained their business knowledge through previously working as managers in the fastener industry.



In 2018 TR Fastenings celebrated 45 years of "Holding the world together". Today, it has some 1,300 colleagues working in 32 divisions in 18 countries across three continents, with three Technical and Innovation Centres located in the UK, USA and Sweden. TR's first Centre opened in 2018 and is in the heart of Sweden's automotive industry, on the Lindholmen Science Park in Gothenburg which is home to many of the key players developing forward-thinking solutions for the automotive market, including Electric Vehicle (EV) technology. With major OEM firms and IT software developers and technical and engineering teams from Tier 1 manufacturers, Lindholmen is fast becoming a hub for automotive innovation in Europe.

Sven Brehler, engineering project manager at TR, spoke to Fastener and Fixing Magazine about how he sees the transition from automotive to mobility. He says "We use the term mobility because there may be a

lot of changes following coronavirus. For example it may hasten people towards electric, self-driving vehicles. The whole automotive sector might actually physically change away from the combustion engine and steering wheel control."

But will the adoption of electric propulsion make that much difference to the fasteners used in vehicles? Brehler thinks it will. He continues "Electric vehicles are designed on such a different platform - for example we can drive individual wheels or we can work through a gearbox or converters - we have many more choices than we have with a conventional car. We use the term mobility because units may become smaller, if we can get round the status symbol element of a car, particularly in the UK.

"Home deliveries from companies such as Amazon, Ocado, Tesco and Asda etc, have increased dramatically during the lockdown and

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if autonomous vehicle development is pushed forward, we might be able to include that in mobility as well. We don't know yet what directions such things might take."

Being ready for such changes is not easy and companies will need to watch the market closely and move quickly. TR is watching the mobility business with keen eyes as a large proportion of its sales are in that area and it's increasing. The company's automotive business has just hit 34% of sales and could go higher as this sector becomes mobility. Smaller vehicles may mean more vehicles and so more fasteners.

Even though the automotive industry is currently hard hit by the effects of coronavirus, the mobility industry will remain an important sector in the near future. There will likely be some large changes to the current automotive industry in the next decade, and the need for individualised mobility will rise. Therefore, the company expects the mobility industry to be a large part of its future business, but with more diversification into other markets, such as healthcare and automation.

Brehler continues "The new technologies required for development and maturation of the New Energy Vehicles (NEVs) and the subsequent energy supply has seen a large influx from technologies developed in other industries, such as the mobile technology and aerospace market. Our expertise in high tech applications, electronics and electrical switch gear has allowed TR to follow and support the advances in electrical propulsion, storage, charging and infrastructure for the transport of tomorrow.



"The current standstill of production has allowed the OEM and Tier 1 suppliers to take stock of their current designs and projects still in the pipeline, the main focus being on overall reduction of cost and weight without compromising on the current designs. They start to contain more mixed materials, including composites and honeycomb structures, which benefit from bonding. However, adhesives need large contact points between the materials to be able to create structural joints, favouring mechanical fasteners for lean and slender designs. Furthermore, a refocus on maintenance and repair as well as reuse and recyclability prefer the application of removable fasteners."

What effect will NEVs have on fastener demands? Interior and trim applications are expected to maintain a similar route to reduce weight whilst promoting an increased modularity to allow

customer's individualism at lowest assembly costs. The greatest disruption to the original bill of materials will come from the change in propulsion and the safe storage of on-board energy.

Ensuring safe storage and delivering it to the propulsion on demand requires electronic control mechanisms which cannot be disrupted by electro-magnetic waves or affected by corrosion, contamination or moisture. This is where there will be a growth in uptake of isolating coatings and non-magnetic fasteners. Initial NEV designs used bolted-on batteries, whereas new designs are looking to integrate the battery assembly as part of the structural design of the vehicle. Battery retention bolts and compression limiters are playing a large role in the materialisation of these designs to allow transfer of forces through the structure, whilst allowing access for repair and maintenance. Well designed cable management will secure the ever growing wiring looms for delivery of energy to all parts of the vehicle and report back any key information picked up by the multiple sensors.

Quality and recycling

Reliability and quality are controlled through fastener traceability from manufacturers on the AVL (approved vendor list) which are signed up to TR's code of conduct following a thorough auditing programme.

This avoids the introduction of counterfeit or products with questionable quality to enter the supply chain. Brehler says "Early

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involvement of application engineers allow our customers to optimise the design by selecting the right product to suit the requirements. System testing has been a mandatory requirement within the automotive industry. We cannot stress enough the importance of these tests as they can make a difference in case of a vehicle accident. The PPAP (production part approval process) proves that parts are manufactured to the required standards.

"The majority of fasteners have a high content of steel, which can generally be reused in the recycling process. The automotive industry has been a forerunner restricting dangerous materials, making recycling of fasteners possible without the need of firstly needing to separate them from the rest of the scrap. Our plastic fasteners are generally manufactured of similar hydrocarbons used in trim and interior applications, allowing these parts to follow the main recycling stream. When involved with new projects and applications TR's application engineers consider the removability of the fasteners as well as the installation and function during operation."

Thailand and the EVAT

In keeping with its international and forward-looking philosophy, TR Formac, part of Trifast plc, has expanded its global presence by moving into larger premises in Prawet, Bangkok, in response to strong growth across Asia and winning new business from global OEMs. The new facility provides around 3000 sq. ft. of space enabling the company to trade more efficiently and to help further strengthen its position in the growing EV market.



Operations in Thailand are headed by Country Manager David Ng, who has witnessed the fast development of the automotive sector across the country. Chris Black, Global Director of Automotive Business Development, will be supporting Mr Ng and the TR Formac team to increase their market share of the automotive EV sector, sharing his experience and knowledge with the Thailand team.

Ng says *"There are huge growth opportunities in Thailand with key focuses on technology and innovation of electric vehicles. With this in mind, and to collaborate with other companies, we decided to join the Electric Vehicle Association of Thailand (EVAT) which the Thai government was instrumental in launching."*

"There are three phases involving intensive R&D to enable the production of 1.2 million units by 2036 and 690 EV smart charging stations. All types of electrified vehicles are on the agenda - battery, hybrid, plug-in and fuel cell. Moving into bigger premises facilitates our continued growth; it's a key part of our strategic business development initiative to move us forwards."

EVAT was set up in 2015 by individuals from the private and public sectors to promote and support industrial manufacturing, research and development, and EV usage in Thailand. There has been strong recognition within the country, specifically at government level, to strengthen knowledge and global competitiveness of Thailand as an EV manufacturer. Supported by the Ministry of Energy and the Energy Regulatory Commission, the EVAT enables members to exchange information and initiate changes towards a low-carbon transport community.

TR's manufacturing capacity in Malaysia, Singapore and Taiwan totals over 359,000 sq. ft. of factory space producing 525 million components per month. Thailand is the 13th largest automotive parts exporter and the sixth largest commercial vehicle manufacturer in the world with aims to become one of the top performers in the global automotive market. PSEP (Power Steel & Electro-Plating) in Malaysia was acquired in 2011 and the Thailand office opened in 2013.

Responding to the Covid-19 pandemic will require a huge range of responses from many industries and the companies which will benefit are those which can look ahead and move quickly. Most people would probably think that the fasteners business would be not be affected at all and certainly not quickly. But the reality is very different.

Following the pandemic, transport will probably never be the same again. There will be winners and losers and in some cases it will be extreme. As Zoom is finding in the IT sector, it is an ill wind that blows no one any good. TR is watching the weather and setting its sails for maximum benefit.



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