



GRUPO  
MASTER

# ATR World

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in Guatemala

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Dear readers



**W**elcome to this second issue of ATR World in 2022 in which we warmly welcome our newest shareholder from the LatAm region: Grupo Master from Guatemala. Grupo Master is one of the leading distributors in the Guatemalan automotive parts market. Founded in 1956, Grupo Master has developed into a very dynamic company that provides effective, safe and innovative solutions to both its wholesale business and its retail business. Read more about Grupo

Master on pages 08 and 09.

The 33rd Shareholders' Meeting finally took place in Vienna in June 2022. It was lovely to see our shareholders again, to network and to have some fun together. You may also be curious to read about my recent trip to Latin America together with Guido Goyeneche and Francisco Carvajal to visit our LatAm shareholders. Furthermore, we report on the IPAS Online APAC event. Please browse pages 10–15 for more information.

We conclude this issue with an interesting contribution about connected vehicles and advanced safety systems in the aftermarket. The possibilities are exciting, however the success of the independent aftermarket depends on the access to data, training and equipment. The time to prepare for it is now. Please go to pages 45–47 to read this article.

Enjoy reading!

Warren Espinoza  
CEO, ATR International AG



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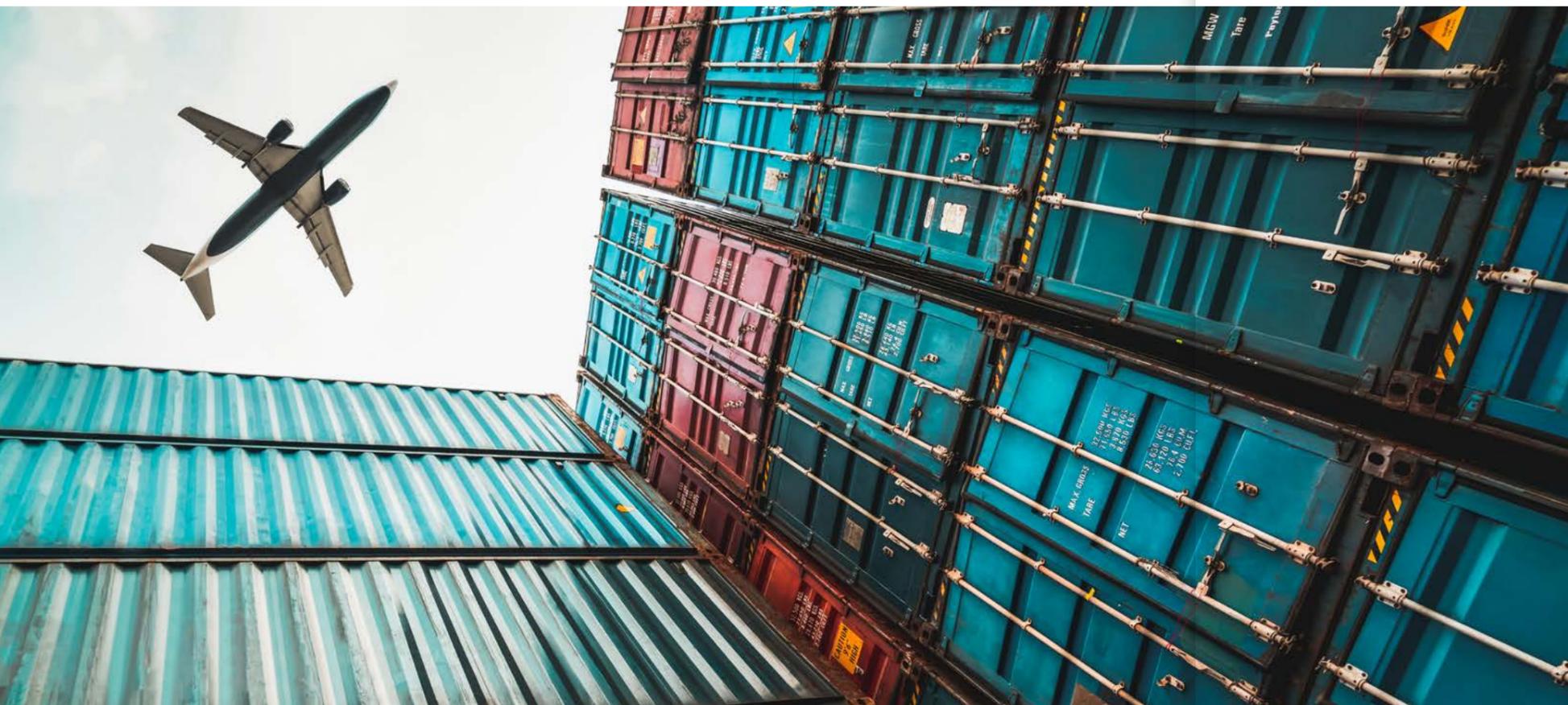
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# Supply chain compromised: navigating disruptions and the lessons learned

Unprecedented global disruptions have reshaped the automotive industry, including the aftermarket. Are there valuable lessons to be learned?

Throughout the past two years, we have seen the fragility of global supply chains first-hand as unforeseen events have brought immense trade disruption. While the pandemic is now a well-worn topic and talk around supply and logistics issues has been at the heart of industry discussion, understanding these challenges and learning from such experiences is essential.

In many cases, the aftermarket has shown impressive resilience to strong external forces, from supply chain labour issues to commodity price volatility. This has seen many businesses find new ways of working, evolving to meet customer

and consumer needs, finding camaraderie within the turmoil. Now, as supply chains recover and new challenges emerge, the aftermarket must work hard to meet new demand and build even greater resilience.

### Compounding supply chain issues

The pandemic brought long-lasting impacts, which the aftermarket has since wrestled with. These include extensive supply chain issues in Asia, a global microchip shortage and, more recently, the tragic return of armed conflict to Europe. In addition, inflation and sharply

rising fuel prices have increased supply chain costs across the board, in particular container and freight costs. Delays in product development and delivery are therefore set to continue with the cost, ultimately, passed on to the consumer.

### Disturbances set to continue

The extent of ongoing instability is leading some to predict that aftermarket supply chain issues may not fully stabilise until the second quarter of 2023. Suppliers are contending with rising raw material costs and uncertainty around demand, navigating between inflation and true market appetite. Reduced motorist

While there is clearly no short-term silver bullet, this period has shown that there is much that the aftermarket – and many other industries – can still learn. While the ever-extending network of raw materials, manufacture, distribution, workshops and consumers is incredibly complex and evolving, businesses are finding some positive steps to take. As always, those who adapt quickly to a new environment are the most likely to bounce back fastest and to a greater degree.

Switching to domestic or regional suppliers is one such change, as is increased vertical integration – in essence bringing more processes in-house. While cash flow issues arising from the pandemic may still be present, those who can afford to do so should place advanced orders and expand their supplier base wherever possible. Demand for inventory space is at an all-time high, but efficient management and streamlining of stock can reduce negative impacts.

**Distributors, workshops, technicians and consumers are all being affected by delays and price changes.**

Investment in greater supply and logistics management and associated technologies is critical for larger businesses, while smaller companies must leverage their agility to be more flexible and adaptable than competitors. These both carry short-term cost implications but could lead to greater long-term supply chain resilience.

With many countries now opening up and the widespread return of pre-pandemic behaviours, there are positive signs for supply chain recovery – the situation is certainly much better now than it was during 2020 and 2021. Of course, this means there are new challenges on the horizon and businesses must leverage the knowledge and experience gained during these tough times to meet the future head-on.

#### KEY FACTS

*Ongoing instability is leading some to predict that aftermarket supply chain issues may not fully stabilise until the second quarter of 2023.*

miles from fuel price rises and broader inflation should lead to reduced overall aftermarket demand. For the moment, however, demand for aftermarket servicing and parts is recovering.

Stock shortages, higher lead times and the resulting lost revenue are requiring businesses to increase inventory and maintain sufficient 'safety stock'. Naturally, this increases demand for labour and storage, thus raising costs. While shortages from a single supplier would usually be no cause for concern, widespread interruptions across much of the industry are a much more substantial issue.

### Preparing for the unpredictable

Distributors, workshops, technicians and consumers are all being affected by delays and price changes. Many businesses are finding it difficult to meet customer expectations in this landscape, with the competing requirements to pass on costs while maintaining strong business relationships and reputations of transparency.



# Connected Vehicle Field Test 2.0 brings new insights

What is the current state of access to OE in-vehicle data in Europe as an enabler for many different types of third-party mobility services?

The population of connected cars in Europe has been steadily increasing over the past few years. CARUSO estimates that depending on the countries between 10% and 15% of the passenger car park is equipped with OE telematic hardware. This portion will increase in the coming years since the vast majority of the newly registered passenger cars coming into the market are connected.

After the success of the first field test conducted in 2020, CARUSO and its shareholders decided to run a second field test using data collected from their company cars. Once again, the aim of this test was to generate facts about access to car data, through hands-on experience with a large number of vehicles over a 6 months' period, from October 2021 to March 2022. The size of the fleet and the duration of the test were to enable statistical analyses.

The results were gained with the help of automotive software & data specialists, tier 1 suppliers, OEMs, diagnostics specialists, and spare parts distributors: among others ATR and ATR Shareholders and trading companies AUTONET, INTER CARS, KGK, LKQ and TOKIĆ.

All participating companies were interested in securing mid and long-term strategic advantages in the newly emerging field of 'connected vehicle and technologies' and to have sample data at hand to enable learning and insight.

## Key findings

1. Data is now available across multiple countries and for more OEMs.
2. The Coverage of Connected Car Data is expandable.

3. B2B consent is a game changer... but still not available from all OEMs.
4. A common data set across all OEMs remains the main issue.
5. Innovative fleet use cases can be implemented:
  - Refuelling and Charging Behaviour for PHEVs
  - Behaviour of Individual Vehicles
  - Vehicle Service Dates



Countries where participating cars were driven

## 1. Participating cars were driven in the following countries:

Bulgaria, Croatia, Finland, France, Germany, Italy, Netherlands, Republic of Ireland, Romania, Spain, Sweden, UK

## KEY FACTS

CARUSO and its shareholders ran a series of connected vehicle field tests in Europe that has resulted in many strategic insights for automotive software & data specialists, tier 1 suppliers, OEMs, diagnostics specialists, and spare parts distributors.

## 2. The coverage of connected car data

- Over 1,600 VINs from fleets located in 12 different countries were shared with CARUSO.
- From these VINs, 966 vehicles (60%) were from OEMs from which CARUSO was able to retrieve data during the CVFT data collection phase.
- From these 966 vehicles, 433 (45%) were actually telematic capable.
- However, this average figure of 45% masks differences between OEMs:
  - OEM 1: 20% were telematic capable
  - OEM 2: 75% were telematic capable
  - OEM 3: 95% were telematic capable
  - OEM 4: 89% were telematic capable

The full report will be available in fall 2022 [here](#).



## KEY FACTS

Due to its sustainability and independence from supply bottlenecks, the importance of 3D printing in the production of automotive components is going to continually increase over time.

# New processes and materials

3D printing is increasingly becoming a permanent fixture in the production of automotive components. For accessories, the first OEMs are turning to additive manufacturing. ATR spoke with Dominik Heinz about the production process.



Dominik Heinz, Head of AM & 3D Printing at druckerfachmann.de GmbH & CO. KG

## Please introduce yourself and druckerfachmann.de briefly.

Since its foundation in 1998, druckerfachmann.de has developed into a nationwide network of medium-sized companies. The core business of Managed Print Services has since

been expanded to include the future-oriented areas of Document Management, 3D Printing/Additive Manufacturing and Managed Workplace.

My name is Dominik Heinz and I have built up the 3D Printing & Additive Manufacturing business unit. We advise and support manufacturing companies in implementing 3D printing technology as a manufacturing method. We look at the entire workflow and offer solutions, from 3D scanning, prepress, 3D printing for prototypes to series of printed end products, as well as high-performance post-processing.

## What resources and know-how does it take to produce additively?

As in any field, basic knowledge and constant knowledge building are required for in-house production. Starting with the selection of the components to be produced, through the acquisition of the appropriate printer to the subsequent optimisation of the process chain, including quality management. The first step is to identify components that can be produced

cost-effectively using additive manufacturing. Printable files might already be available for the components or these are created by 3D scan with the aim of obtaining a digital inventory. If this catalogue is available, the right choice of material can be made depending on the application and load specifications.

## What materials can be used

It is possible to print with various plastics as well as metals. At druckerfachmann.de, we specialise in plastic printing with high-performance materials. These include the chemically resistant polypropylene (PP), flexible thermoplastic polyurethanes (TPU), polyamide 12 as well as the sustainable alternative polyamide 11. Plastic is a very efficient material compared to metal and can even replace it very well, depending on its properties. Through simulation, the force impact can be captured and reproduced in plastic, including compliance with the appropriate safety class. We have found that 3D printing is often used for prototyping, operating equipment & fixtures or small series.

## How do you get from a printed part to a saleable product? (Downstream processes e.g., finishing).

Once the component has been printed, various post-process stages can be run through, depending on the desired quality of the product. Cleaning removes powder residues and prepares the surface for fur-

ther finishing. Subsequent surfacing gives the components a unique matte-gloss look and a pleasant feel. With a further innovative technology, the components can be coloured from corporate colours to seasonal trend colours to individual skin tones. So, the application varies depending on the customer's wishes or area of use.

## Why should 3D printing be used in the enterprise? (As a service/own printer + as a service provider).

1. Independence: companies that use 3D printing as an additional or complete production solution are independent of supply bottlenecks.
2. Sustainability: in the printing process, only the material from which the product is created is heated. The remaining powder can be reused several times.
3. Future orientation: both hybrid manufacturing (3D printing with conventional processes) and additive manufacturing, open up great opportunities to reduce costs and produce more flexibly. For example, warehousing is greatly reduced because components can be manufactured on demand.
4. Innovativeness: skilled workers expand their knowledge in 3D printing and develop innovative product ideas (based on prototypes).

## Is 3D printing cost-efficient and does it have to be?

In discussions with customers, the question often arises as to how much a printed component costs compared to conventional production. This is a legitimate question if the conversion of production is planned. However, comparing two different manufacturing methods is not quite so simple. Much more important is the question of why the company wants to manufacture additively and what other factors represent greater pressure to act. For example, independence from suppliers has become much more important in recent years.



## Leader of the Guatemalan aftermarket auto parts sector joins ATR family

Grupo Master has a large network of stores and sales outlets in Guatemala and builds on strong relationships with clients, partners and employees.

Grupo Master is one of the leaders of the aftermarket auto part sector in Guatemala, the biggest of the six small countries of Central America. The country is home for more than 17 million inhabitants, close to 2 million vehicles and a rapidly growing motorcycle sector of 1.5 million. The country enjoys a very stable economy partly reinforced by a large remittance inflow from Guatemalan immigrants in the USA and partly from agriculture commodity exports. The vehicle market is dominated by Japanese cars, followed by a small presence of American, Korean and European ones. Of the approximate 160,000 cars entering the market every year, 80% are used cars driven from the USA and 20% are new cars sold through dealerships.

The company was founded in 1956 as the exclusive distributors of Robert Bosch lines, which had earned the name "La Bosch". In 2011 this company merged with the leader of the wholesale business of parts for Japanese cars, into what is now called Grupo Master. It was the beginning of a new and stronger management, guiding the company's strategic growth to a new vertical, the retail business. Currently several reputable brands are distributed

through the different channels including Bosch, 555, Monroe, Denso, Flösser, Bizol, Campbell Hausfeld, Snap-On, Beissbarth.

A strong culture of helping their clients and of empowering their employees and has given Grupo Master a sustainable growth and a strategic positioning in the market. A profit-sharing plan, currently in implementation, has been designed to strengthen a bottom-up approach to generate ideas and innovations from investor minded teams of employees.

One of the objectives of joining ATR is to tap other worldwide operators with benchmarking sessions to share best practices, as well as to strengthen our business developing plan with the introduction of new product lines. Currently the company has total revenues of US\$26M with the great majority in the auto part area. The head count is close to 300 with close to 65% in different sales roles.

Their chain of retail stores is reaching 30 this month, most of them in the larger metropolitan area of Guatemala City, where the country's GDP is concentrated along with 65% of the vehicles on the road. Grupo Maser counts on business



from +/- 9,000 retail clients and +/- 1,500 wholesale clients per month, but still strongly depend on the wholesale business after decades of dominating this channel.

Although e-commerce has not been widely accepted in the auto part market in Guatemala, it already is part of Grupo Master's omnichannel strategy catering to the market through their website, their chain of retail stores, their complete wholesale network, their call centre, other e-commerce players and their social media presence.

Grupo Master has a very strong tech focus, running SAP B1 during the last 15 years with servers on the Amazon cloud. Their sales force has apps to connect to the company servers for placing their orders and they use other software for store sales, sales forecasting and direct marketing. Although they have their own modern warehouse and vehicles for delivery, they rely heavily on third party logistic companies for storage and delivery.



Just like most of the members of ATR, Grupo Maser constantly face challenges and during these last years the procurement and logistics have been their biggest focus. Another challenge they face in the long term is the uncertainty on how electromobility will impact their business model. Since EVs have less parts needed in the aftermarket and dealerships are looking for ways to lock the cars maintenance and part replacement. In the middle of today's problems and those in the future, are the constant challenges to maintain a good culture in the company to embrace change and to continue taking advantage of the Digital Transformation tools to enhance productivity. Depletion of the team's energy in pursuing short term goals many times distracts the long term strategic needs to pursue new channels, new product lines or new operating models. Recent geopolitical events will hamper globalisation and we will all face challenges on how to source our merchandise in efficient ways.

No challenge is too big to stop Grupo Master from upholding their corporate

social responsibility. Presently they are focusing on: a) helping to remodel the homes of the employees whose houses are in great need, b) training their clients with entrepreneurial boot-camps to facilitate their growth and c) recycling most of the packaging material they receive with the merchandise they import. They believe that their company does not operate in a vacuum, and they need to reach out and impact the other different stakeholders around who share their values and culture, giving them the opportunity to lead with a purpose.

We at Grupo Master already feel the value added we receive from ATR on all fronts and we are very excited about the great impact we will enjoy in the future that further enable us to move and build Guatemala.

### KEY FACTS

#### GRUPO MASTER AT A GLANCE:

Headquarters: Guatemala City  
 Founded in: 1956  
 Sales: US\$ 26M  
 Master Auto sales stores: 27 stores with 9,000 clients/month  
 Wholesale clients nationwide: 1,500  
 Employees: 280





# The 33rd ATR Shareholders' Meeting was held in Vienna from the 9 to 12 June 2022

The ATR family met face-to-face in Vienna in June and spent two pleasant days with intensive networking, interesting lectures and of course fun.

Vienna is a blend of endearing charm and magnificent architecture which made it the perfect location for the 33rd ATR Shareholders' Meeting, fortunately again in person. After two years of holding the meeting online, all attendees were unanimous in the view that despite the latest technological innovations, there is nothing that can adequately replace the comradie and fellowship that is achieved

with face-to-face meetings. 30 ATR Shareholders were able to attend the event to rekindle long established relationships, meet new partners and make new friends.

The annual general meeting took place in one of approximately 160 Palais in Vienna. ATR's recently appointed shareholders from AREM Group (Tunisia), Digraph Transport Supplies Ltd (UK), hsy

Autoparts Pty Ltd. (Australia) and Grupo Master (Guatemala) were given the opportunity to introduce themselves to the assembly. Unfortunately, Rimbunan Kuasa Sdn Bhd (Malaysia) and Andes Motor (Chile) were unable to attend the meeting and will introduce themselves in the future.

Despite the challenging times being experienced currently, the ATR International AG shareholders achieved a combined new record in sales turnover of € 30.88 bn in 2021.

ATR's local representatives from Latin America and Asia Pacific were present in Vienna giving all the shareholders a chance to meet and network with them for the first time. During the past business year, the IPAS Online event and the 2021 Hot Topics Webinar Programme with over 200 attendees were successfully completed in the LatAm region. The 2022 Hot Topics Webinar Programme is already underway with the next webinar taking place on 8 September 2022. In the APAC region, a series of successful Supplier Days were held in 2021 and the next IPAS Online meeting has been scheduled to take place from 24 - 26 October 2022.

Additionally, the participants received



Welcome Dinner f.l.t.r. Bayer Özalp, Martaş, Mirsad Suman & Adis Mehurić, Motorex, and Ivan Gadže, Tokić



Opening of the Annual General Meeting by Kurt Schnyder, Chairman of the ATR Supervisory Board



New shareholders introducing themselves f.l.t.r. Rached Belkhodja, AREM Group, Derick Barrios, Grupo Master, David Dimbleby, Digraph, and Mark Micic & Sidney Tworowsky, hsy

an update from Caruso regarding their work to access car data for the connected independent aftermarket, the data available through the plat-

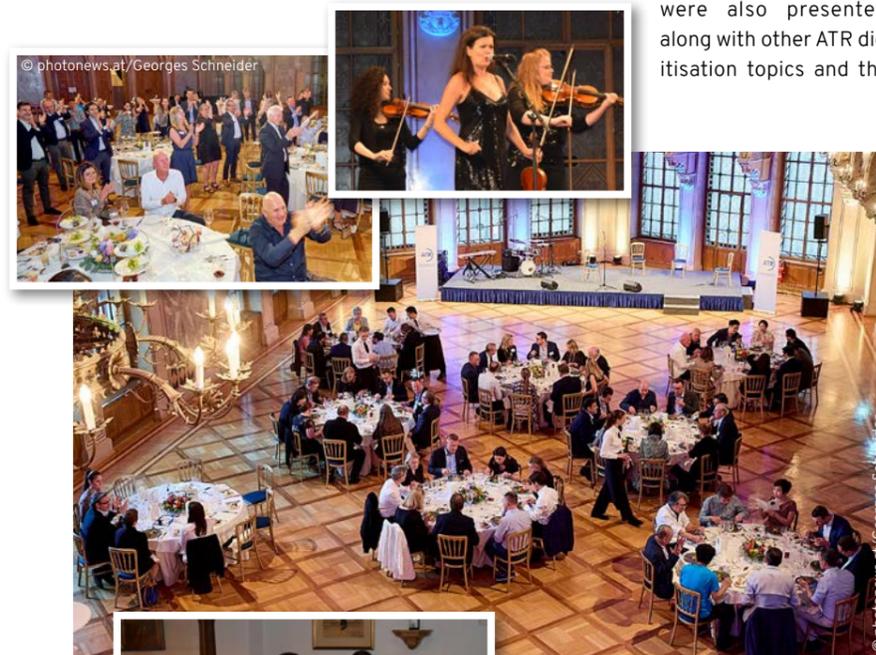
form and the challenges and opportunities associated with it. A status update on Repdate and its relevance for the ATR and

ATR Digitisation GmbH were also presented, along with other ATR digitisation topics and the

focus for the coming years. On 8 November 2022, ATR will host a Digital Conference for its shareholders on challenges, solutions and opportunities of the digital future of the IAM.

ATR was pleased to have CLEPA (European Association of Automotive Suppliers) at the meeting to do a presentation on the challenges and joint opportunities for suppliers and distributors in the IAM. In addition, Roland Berger gave a presentation on the mobility of the future with some interesting perspectives on the Automotive Aftermarket as a whole. Both presentations gave valuable insight into the current and future trends being experienced in the aftermarket and were most appreciated by the attendees.

The Shareholders' Meeting ended with a great day of sightseeing around the



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Group picture of participants of the last evening

Hofburg Palace as a mirror of European history and a gala dinner with a beautiful musical accompaniment.

The preparations for the next Shareholders' Meeting which is to be held in Copenhagen from 15-18 June 2023 are underway. We are already looking forward to hosting all of you for another weekend of networking, fun and fellowship.



Vincent Tan, General Manager – Asia Pacific and Alexander Birnstein, General Manager Coordination Purchasing, with APAC shareholders Goldenlink, Parts-Mall and hsy

## Wolfgang Menges – 25 years of service

ATR had another good reason to celebrate during the Shareholders' Meeting! Wolfgang Menges, Managing Director Purchasing / IT, was honoured for his 25 years of service at ATR. He has been a pillar of strength within the company and was thanked for his dedication and commitment to both the shareholders and suppliers of ATR.



Kurt Schnyder, Warren Espinoza and ATR Shareholders congratulated Wolfgang Menges on his anniversary



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# Trip or ‘adventure’ of Warren Espinoza and ATR LatAm team to visit LatAm shareholders



Join us on the eventful journey of Warren Espinoza, Guido Goyeneche and Francisco Carvajal, which was peppered with valuable discussions, exchange of information and some airline anarchy.

Most of the time, talking about Latin America invokes a blurry vision of that V-shaped piece of land down there at the lower-left corner of the world map. Some picture tropical beaches and warm weather; however, only in the northern hemisphere does south equal warm weather. Others think that people in all countries in this large part of the world speak Spanish, but in one, more by acci-

dent than planned, residents happen to speak Portuguese. And there are a few that know that this part of the world, discovered by accident, is almost 15 times larger in surface area than Central Europe. It has 650 million inhabitants, is home to 20 countries and besides Spanish, Portuguese and some French, it treasures seven native languages still spoken today.

At the end of April, ATR’s CEO Warren

Espinoza, together with the ATR LatAm team, Francisco Carvajal and Guido Goyeneche, had the chance to travel through part of Latin America’s southern cone, visiting Brazil, Paraguay, Argentina and Chile.

The trip—‘adventure’ might be more accurate – started with a visit to DPK, ATR’s shareholder in Campinas, Brazil. DPK is owned and led by Luis Norberto Pascoal, a visionary, curious executive and philanthropist. Long before the current focus on sustainability, Luis Norberto stated that it is the entrepreneur’s duty to act with social and environmental responsibility. “Our mission is to serve society,” he asserts. And he puts his money where his mouth is. From modern social housing projects to his “Educar Foundation” and all the way to a widespread employee profit-sharing business model, Luis Norberto’s impact does not end with words. His core concept views business relationships as a collaborative and open ecosystem, a belief that is widely embraced among his entire team. This truly empowered and multidisciplinary team is not only leading DPK’s wholesale business but also DPascual’s retail stores, a high-end IT development area, the organisation’s MaxxiTraing department, and its open e-commerce platform.

At the end of an amazing day at DPK, the ATR team left not only thinking of how to keep supporting each other driving business growth, but also how some aspects of DPK’s IT developments might be viable solutions to broader supply chain challenges.

Francisco Carvajal, ATR LatAm, Warren Espinoza, CEO ATR, Sebastián Silva, Purchasing Manager Reydi, Guido Goyeneche, ATR LatAm (f.l.t.r.)



The group continued on their journey, heading toward Paraguay, but not until after finally hunting down a piece of luggage that had gone missing two days earlier, with all that that implies! Paraguay, one of the region’s smallest but proportionally most promising economies, received the team with its colonial-style city architecture, high humidity, and 36°C heat at 10 a.m. Somewhat lagging behind the region’s average development level, Paraguay’s booming agricultural business is nurturing aftermarket growth—growth fuelled by 60% of all VIO being imported used vehicles. Many of these come through the free trade zone in Iquique, located in Chile. Cars from all over the world enter the region through this city and are transported to different countries, including Paraguay. Very often, windshield blades made a great job for the co-pilot, leaving evidence that left-driving cars were precariously converted into right-driving ones.

After their meetings and extensive sightseeing in the automotive aftermarket area, the team took off to Buenos Aires, Argentina, but not without overcoming some additional airline anarchy.

After the small Bombardier CRJ 200 touched ground, Buenos Aires received our travellers with a movie-like storm. Autumn leaves flying 15 to 20 meters high heralded an inevitable torrential downpour. As the group reached the hotel, the time it took to get out of the car, open the trunk, and take out the suitcases was enough to soak everyone. Nevertheless, under a blue sky the next morning, Warren, Francisco, and Guido had the chance to see some second-generation-run businesses up close and learn some insights along the way. The most interesting of these was the confirmation that emerging IAM players are not only facing traditional challenges as markets start maturing, but also new ones as technologies reshape the competitive landscape. The unique advantage of having a “window into the future” when looking at a developed market’s history is blurred by the challenges posed by new technologies, consumer behaviour changes and distribution channel rearrangements. All this without mentioning the global supply

**After the small Bombardier CRJ 200 touched ground, Buenos Aires received our travellers with a movie-like storm.**



Francisco Carvajal, ATR LatAm, Warren Espinoza, CEO ATR, Javier González, Purchasing Manager Carlos Várquez, Guido Goyeneche, ATR LatAm (f.l.t.r.)

chain disorder, coupled with the country’s unique economic and political constraints. It might be fair to say that if anyone in a developed country, who is complaining about current circumstances, would spend six months in Argentina, life would seem so much easier once coming back.

And off the three went to Mendoza, a city of 1.5 million inhabitants in the eastern middle of Argentina. There, ATR’s shareholder Reydi was ready to meet and go over business figures and growth evolution. Most important, however, was to discuss core strategic challenges the company is facing and how they can leverage being an ATR shareholder to embrace some of these obstacles. Objective but challenging discussions revealed strengths and improvement areas and defined clear next steps for ATR on how to support its shareholders’ future growth.

After being on the ground for more than 24 hours, our travellers seemed to be eager to hit the sky again. And so they did—this time, heading to the south of Argentina and the gateway to Patagonia to meet Carlos Vasquez. Here, travel

time is measured in days rather than hours. After an entire pandemic of separation, it was great being able to talk face to face again. The discussion centred around a successful 2021 and a 2022 full of challenges yet to overcome. Here, product availability and service level are equally as important as personal relationships. Fighting, like many others, for a somewhat steady product supply, Carlos Vazquez was no exception.



At the same time, this ATR shareholder was eager to start business with new suppliers. They often are faced with the harsh reality of manufacturers wanting to grow but



Francisco Carvajal, ATR LatAm, Guido Goyeneche, ATR LatAm, Daniel Mannheim, Director of Purchasing Mannheim, Warren Espinoza, CEO ATR (f.l.t.r.)

struggling to even supply their current distributors. Nevertheless, ATR will continue supporting Carlos Vazquez, as well as each of its shareholders, to achieve the maximum possible growth rate in their markets.

As some of you might know, when you leave Argentina, you do so with a slightly higher cholesterol level than upon arrival. That was the state in which the ATR team arrived in Santiago de Chile after nine flights in eight days and a total of 14 delay-hours. A relaxed Sunday was welcome before kicking off the new week with an interesting visit to Mannheim. Daniel Mannheim, director of purchasing and grandson of the company's founder, spent the majority of the day with the ATR team. They visited Mannheim's packed warehouse to mitigate supply chain constraints, learned more about the company's contribution to reforestation, received insight into their online sales initiatives and learned about a new talent sponsorship programme. Most of the rest of the day went by quickly, discussing business growth opportunities and challenges and exchanging information about potential regional suppliers and shareholders. Another IAM sightseeing stop-over exposed emerging markets' contrasts, juxtaposing Mannheim's professionally run 17,000 sqm warehouse and self-identified mechanics repairing cars on the streets with almost non-existent infrastructure.

ATR's final stop on this trip was at Andes Motor, one of the ITG's newly acquired shareholders. Here, the presence of a South African CEO running a German company with a Latin last name

again required some explanation. Andes Motor is a rather rare example of coexistence between OE and IAM; however, its highly professional organisation stands out at the Latin American level. Operating out of a 24,000 sqm automated warehouse, Andes Motor's expansion plans into the IAM are a strong statement. While grasping still important and attractive traditional IAM market potentials, the company and its holding group are investing in exploring, understanding and materialising new business opportunities arising out of changing market conditions and technological advancements. By leveraging ATR's horizontal network capabilities, Andes Motor expects not only to leverage its peers' experiences and best practices but also to share lessons acquired from its own learning curve.



Francisco Carvajal, ATR LatAm, Guido Goyeneche, ATR LatAm, Warren Espinoza, CEO ATR, Patricio Bravo, Spare Parts Manager Andes Motor (f.l.t.r.)

While debriefing an intense, interesting and productive 10-day agenda, the ATR team's conclusions were multiple. With LatAm being an emerging market, valuable experiences from more developed regions can be leveraged, allowing learning curves to shorten as the business matures and faces new complexities.

In contrast, however, in less mature markets, higher flexibility enables companies to better face challenges driven by new technologies and structural market adjustments. What comes out of markets where engine overhauls on dirt floors are performed, VIO diversity seems unmanageable, automated warehouses are operated and high-tech developments are coded might sometimes be hard to grasp. Combining this with the leadership of an international CEO, who has hands-on experience running an IAM distribution company for 10 years in an emerging market, results in more than interesting insights and development opportunities. When all of the above is consciously managed in collaboration with all of ATR's shareholders and the entire ATR team, surprising output can be expected.

KEY FACTS

At the end of April, ATR's CEO Warren Espinoza travelled with the ATR LatAm team, Francisco Carvajal and Guido Goyeneche, for ten days through part of Latin America's southern cone, visiting Brazil, Paraguay, Argentina and Chile. ATR team's conclusions were multiple.

# IPAS Online APAC – Next chapter of digital communication

When large parts of Europe went into lockdown due to the COVID-19 pandemic, events had to start working very differently. Physical meetings went digital. Face-to-face discussions became screen-to-screen discussions.



KEY FACTS

Last year's IPAS Online 'speed date' events for IPAS Suppliers and ATR Shareholders were a success, which proves that virtual events are here to stay.

Last year's IPAS Online 'speed date' events for IPAS Suppliers and ATR Shareholders, proved that this digital communication format offered an alternative precious value-add, by providing a great opportunity to strengthen the cooperation between all parties despite not having the means or time to travel.

Following the very successful IPAS Online events in September and October 2021, a new chapter of the proven IPAS Online events for 2022 was kicked off with a regional focus on APAC on 10 and 11 May. The APAC Supplier Days event series, which was also very successful in the past, was integrated into the IPAS Online event series. Here, too, the aim was to strengthen existing business relationships, to uncover and exploit existing potential or

to set the basis for establishing a business relationship.

The IPAS Suppliers Continental Aftermarket, Hella, MAHLE and Schaeffler met ATR's APAC Partners during the IPAS Online APAC event. In overall 32 meetings, ATR recorded 56 participants. The event was a complete success and fulfilled the expectations for a further successful future cooperation amongst our strategic partners. ATR would like to express its sincere thanks to all participants.

Virtual events are here to stay as powerful alternatives to build engagement with audiences everywhere. That's why ATR International AG is planning further IPAS Online events for 2022. The LATAM regional event is scheduled for 4-6

## ATR takes part in Auto-mechanika in Frankfurt from 13 - 17 September

We'll be there, ready to restart personal networking! Let's meet again physically in Frankfurt in Hall 4.0 at booth A12! We look forward to seeing you there.

Save the date in your calendar.

October 2022 and the EMEA regional event is scheduled for 7-9 November 2022.

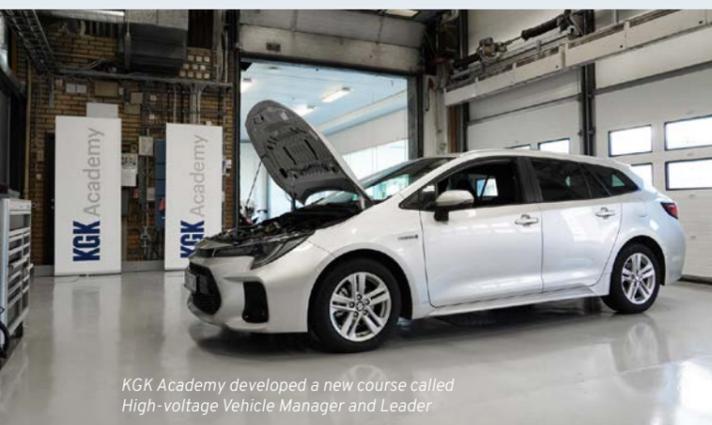
Make sure to save these dates in your busy calendars!

Image: Messe Frankfurt

## New workshop standard for electric cars led to a new education at KGK Academy



The new Swedish industry standard – safe handling of high voltage systems in electric vehicles – defines several roles that members of the workshop team can be assigned.



KGK Academy developed a new course called High-voltage Vehicle Manager and Leader

KGK Academy has developed the course High-voltage Vehicle Manager and Leader. The electrification of cars is a major challenge for workshops. All personnel who encounter an electrified vehicle must be trained to handle the vehicle in a safe way for them and the vehicle. Through BIL

The standard states which level of education different categories of staff need to be able to safely work on electrified cars.

Accountability is as equally important as knowledge, since the responsibility for the work environment lies with the employer, who needs to understand the different roles and knowledge levels assigned with the new standard. Therefore, the course High-voltage Vehicle Manager and Leader was developed. The course has been designed to be given online and goes through the employer's responsibility, delegations and the different competence levels defined by the new standard.

The course was developed by Örjan Borgström for KGK Academy. He has many years of experience in the electricity industry, where he has worked as a development manager at the Electricity Industry Development and Training Centre.

ish Motor Industry Association (MRF) and the Swedish Vehicle Workshops Association (SFVF), the industry has developed the standard for safe handling of high-voltage systems in electric vehicles.

This new standard sets a recommended minimum level of knowledge required for workshops in Sweden to work on electrified cars. To support managers in understanding the new standard,

## KGK invests in the greentech company ChargePanel AB

KGK has acquired 10% of the shares in ChargePanel AB. KGK was also a major underwriter in connection with the company's listing at the Stockholm stock exchange. The investment means that KGK has become an anchor investor and sits on ChargePanel's new board. After the listing, the ownership share is approximately 18%. ChargePanel is a greentech company that offers B2B solutions in the fast-growing e-Mobility sector. The company provides customers with a white-la-

bel SaaS platform for operation and management of charging networks regardless of geographical markets. The platform is independent of both electricity companies and manufacturers of charging infrastructure.

The end user gets access to ChargePanel's user-friendly app to control vehicle charging. For those who drive a company or service car and charge at home, ChargePanel's service offers a complete management to divide expenses

between for example a private car and a company car.

The investment is part of KGK's commitment to contribute to the energy conversion of Sweden and Europe's vehicle fleet. A commitment guided by the goals adopted by the UN in Agenda 2030.

"The investment is part of KGK's efforts to contribute to an emission-free future for the transport sector. A future where electricity is a large part of the energy mix in Sweden's vehicle fleet and where charg-



Johan Haack, CDO KGK Group and Jan Berggren, CEO ChargePanel AB (f.l.t.r.)

ing infrastructure is easy to use and accessible to everyone. With the investment, we hope to support the company in its development so that more charging operators have access to this fantastic platform," says Johan Haack, CDO KGK Group.

"We feel privileged that such a reputable and established company as KGK has chosen to invest in ChargePanel. With KGK as both anchor investor and commercial partner (via the Carsmart brand), we are seen as an even more serious and

professional for existing and potential customers", says Jan Berggren, CEO of ChargePanel AB

### KEY FACTS

KGK has acquired 10% of the shares in ChargePanel AB – a greentech company that offers B2B solutions in the fast-growing e-Mobility sector – and was a major underwriter in the company's listing at the Stockholm stock exchange.

## CGA participated in MOTORTEC MADRID 2022



CGA Group, present at MOTORTEC MADRID 2022, presented its new E-TECH network, and AUTO CHECK CENTER

The company took advantage of its presence at the show to launch its new "E-TECH" network, the AUTO CHECK CENTER development, and the innovations that have been incorporated into the rest of the networks, both in Spain and Portugal. The event, organised by IFEMA MADRID, at its Exhibition Centre, was held from 20 to 23 April.

The CGA Group's stand in Hall 3 was a meeting point for its shops and, above all, for its CGA Workshop Network. This network is the umbrella of CGA CAR SERVICE, MULTITALLER, SACORAUTO, MULTIOFICINA PT, and E-TECH, with more than 1,200 workshops in Spain and Portugal.

The CGA Group is very satisfied with its participation in MOTORTEC MADRID, especially with the response from repair professionals to the presence of the corner of its stand with the image of the new E-Tech workshop network aimed at a technological future.

The entire team was channelling requests for information from the hundreds of workshops that came to the stand thanks to the promotional work carried out by the partners.

Of all these requests, a good number are already being assessed so that, in the coming months, they can be accommodated within the new network and thus increase their number.

The CGA Group is made up of 70 distributors and more than 300 sales outlets in Spain and Portugal.

Please click [here](#) for CGA's video of the fair.



CGA Group's stand in Hall 3 was a meeting point for its CGA Workshop Network



Tokić Group has long been committed to the concept of lifelong learning and regular staff training

## New EU standards are coming to Croatian car services

Knowledge is the currency – Tokić verified the training of electric and hybrid vehicle service technicians

Electrification of vehicles has accelerated development of new technologies, new habits and digitisation is playing an important role in the transformation of the automotive industry. At the recent conference of the Tokić Group TIMEETUP, it could be heard that, in addition to health care, vehicle servicing is the activity that lags behind the most in the field of digitisation. Therefore, the gathered international experts agreed that increasing emphasis needs to be placed on the correct and quality education of all vehicle repair experts. Networking, continuing education, and equipping workshops are key not only to the development of small repairers but also to the entire industry and compliance with international regulations.

Vehicle owners are also more and more demanding on average and are looking for top service and availability, and with the

digitisation of vehicles, they expect equally advanced services and repairers. "In the future, with advances in technology," said Warren Espinoza, CEO of ATR International AG, "traditional workshops and service centres equipped with the appropriate technology and regularly educating their experts will play a key role in the vehicle maintenance and repair system."

Therefore, as the region's leading auto parts retailer, Tokić has defined education as a strategic direction in its development, calculating that in addition to the Tokić Group, its partners must also grow. Tokić Education Centre – TEC was founded in 2014 and provides continuous education and training to service technicians, partners, and anyone eager for knowledge in vehicle maintenance. Through the TEC, whose curriculum has been certified by the Dortmund Chamber of Skilled Crafts,

more than a thousand professional and amateur car mechanics and car electricians have so far raised their knowledge to a higher level. Recently, a seminar on the maintenance of electric and hybrid vehicles has been available to them, on a unique simulator, but also on real vehicles.

European regulations stipulate that electric and hybrid vehicles cannot be serviced in workshops unless they are equipped with adequate tools and staffed with trained technicians in how to properly and safely turn off high-voltage circuits. Although these regulations have not yet come into force in Croatia, TEC in cooperation with ZIRS College – Institution for Adult Education, conducts training designed for the profile of experts in electric vehicles, also verified by the Ministry of Science and Education. The multi-day seminar, in addition to experienced lec-



### KEY FACTS

*Tokić Education Centre (TEC) was founded in 2014 and provides continuous education and training to service technicians, partners, and anyone eager for the latest knowledge in vehicle maintenance. Education goes beyond the training centre (TEC) and permeates the entire Tokić Group.*

Ivančević, technical trainer and head of the Tokić educational centre with many years of experience in authorised services.

Education as one of the strategic guidelines goes beyond the training centre (TEC) and permeates the entire Tokić Group. This is confirmed by the latest partnership with the IEDC-Bled School of Management, where the Tokić Group has recently become the head of the Chair of Creativity and Innovation. Just like the long-term cooperation with the German-Croatian Chamber of Industry and Commerce - AHK through the programme of "Dual Education", which guides vocational school students through an expanded practical part of teaching that is combined with theory. Representatives of the AHK recently visited the centre of Tokić and TEC with a delegation of German businessmen, where guests were pleasantly surprised by the company's expansion and culture that emphasizes the professional development of each employee.

made precisely for the education of high voltage technicians, i.e., to merge the EU and our regulations, and that is our pioneering venture. We have practically created a new profile of additional profession – a qualification that has not even existed in our country so far. Any workshop wishing to carry out work on electric and hybrid vehicles should have at least one employee who will complete such a course and receive a recognised diploma. Thus, it is legally insured as a responsible entity that has professionally trained employees, so it is not subject to sanctions or penalties

Every Tokić employee focuses on their natural development within the company, either through internal education or formal education. This is in line with the concept of lifelong learning, but also the KAIZEN-business philosophy, which the Tokić Group has been successfully implementing for several years. It is a concept of measured but daily progress that generates greater progress in the long run, and which has been bringing continuous growth to some (often automotive) companies for decades.

With such an approach to development in Tokić, they like to say that they often play with new technologies, which, although internally developed, will soon be useful to partners as well. This joint process of business digitisation, in which the Tokić Group supports its partners, will enable people to use their knowledge and qualities where they are most needed, and leave repetitive tasks to "machines".

In the automotive industry of the future, the Tokić Group believes, man will continue to be central, because innovation and creativity come from him, while knowledge and continuous development will be the main currencies in companies, both to customers, partners, and potential employees.



Tokić introduces modern European standards in the professional development of workshops and educational institutions

turers, also includes practical work with the most advanced simulator in Croatia.

"We decided to legally verify our seminar, which is following EU norms and

in case of inspection. Tokić has thus become the first company to introduce modern European standards in the professional development of workshops and educational institutions", said Hrvoje

# DPK reports on 'Alliance Award'



'Alliance Award' recognises the best practices of distribution and platforms related to education and sustainability

Sustainability is becoming increasingly important in the way people do business. DPK is also committed to sustainability by cooperating with ISO-certified partner companies for its recycling process and by being open to innovation and innovative resources. Therefore, DPK is proud to report on a sustainable initiative of its holding company Companhia DPaschoal de Participações.



The Alliance Award is a recognition programme for suppliers, partners and clients of DPaschoal Company, with the intention to encourage the best practices in the supply chain environment. The award intends to strengthen the chain value in the market, promoting an integrated effort based on big data use, and seeking to reach success in the present and in an even more promising future.

The main theme for the 2022 edition was 'Green Economy', a methodology used by DPaschoal to consistently measure the whole lifecycle of automotive parts and equipment that are sold by the group, before trying to sell them again without 'true' need. By using this methodology – that completes 15 years in 2022 – all the agents in the chain can have their

benefits: the stores become more trustful, the sales team can be more transparent and the clients can reduce their costs; the environment, itself, can be less harmed by the impact of discarding products.

During this event occurred the presentation of the 'Tree Ilion' project, that started inside Daterria - the company held by DPaschoal that is responsible for producing high-quality coffee – committed with the goal of planting 20 million trees by 2030, contributing with the target established in Economic World Forum. The global target is joining efforts to plant and preserve a trillion trees around the world, so we can fight climate changes over the globe.

The award was divided in three categories: Excellence and Quality in Automotive Training, Quality & Innovation and, also, the Alliance Award. The first one recognises industries that are significantly investing in automotive repairing capacitation for people; the second one recognises the partners that are concerned about the future and the improvement of services in general; and the third, the Alliance.

Delfim Calixto, VP of Automotive Aftermarket in Latin America for the Robert Bosch Limited Company, states that "For us (Bosch), it is always an honour



KEY FACTS

The Alliance Award is a recognition programme for suppliers, partners and clients of DPaschoal Company that encourages best practices in the supply chain environment.

to be part of the Alliance Award, a celebration that recognises the automotive suppliers that make difference for our market".

Armando Diniz Filho, Business Director of DPK, states that "In a moment when we are facing several challenges because of the COVID pandemic, highlighting these partners is such an honour for us. We know we're living in a time that demands a lot from us – resilience, mitigation, investments and analytical perspective, without leaving the personal motivation aside. This award is very important for us to keep recognising our partnerships, always based on trust, transparency and in the commitment that together we are developing for the automotive market".

The ceremony was broadcasted on YouTube and is now available for everyone to watch [here](#).

Talking about social media, Maxxi Training – an education platform used by the DPaschoal Company to promote technical training about the Brazilian automotive market for professionals of the sector– developed along with Sebrae (an organisation that provides business support for small and medium entrepreneurs in Brazil) a list of Social Media training courses focused on people that are now at the beginning of their careers. Called 'First Job' and completely free of charges, the programme has involved 20 students so far. In Brazil, there is a big number of young people (less than 29 years) that

are currently not at university nor working – the self-called 'not-not'. The estimated number is close to 12.3 million people in that situation.

"That happens because, each year, more and more students do not complete full graduation and are not absorbed by the market, becoming the 'not-not' public. Without a job or income, most of these people do not finish their graduation", explains the Maxxi Training Manager, Leandro Mateus Vanni. He adds that the situation is not so comfortable even for people who have jobs, but had just started

in their new positions, in that an economic crisis can force them to leave if those positions are cancelled – because of their inexperience. "So, when we analyse the whole scenario, we create an agenda (called 'First Job'), that has the intention of providing a bigger chance for those young people to get jobs and that brings experience to the students", concludes Leandro.





**bilsteingroup®**



**KEY FACTS**

The bilstein group, a family-owned company, has been named an IPAS supplier for timing chain and timing chain kits.

# Inter Cars is the best performing customer for the IPAS Chain drive product line

With over 60,000 replacement parts, the bilstein group offers repair solutions for all common vehicle types in both the private and commercial vehicle sectors.

The market has recognised all the effort the company has put into developing its complete solution for timing chains. As a result, since the beginning of 2021, the bilstein group has been named an IPAS supplier for timing chains and timing chain kits.

### Perfectly meshed - Timing chains

- As part of the company's wide range of products, timing chains from bilstein group are the perfect example of their commitment to quality. This is demonstrated by various aspects, including:
- The chains being manufactured with high-grade, heat-treated steel for accurate tolerance and surface quality.
- Compliance with vehicle manufacturer requirements.
- Thorough checks of all timing chains and system parts to ensure OE- matching quality.
- In-house production of select components at bilstein group Engineering.
- All components not produced in-house are supplied by leading manufacturers,

guaranteeing the highest level of quality across the range.

bilstein group offers over 440 chain drive kits (timing chain and chain kits) which are designed with the customer in mind. With over 23,000 applications, the kits come complete with all the necessary parts for a timely, cost-effective, professional repair - all in one box.

### Inter Cars is the best performer in the timing chain category

Inter Cars has won the bilstein group "Chain Drive Award 2021" based on their performance. For this occasion, Jörg Hergl (second from left, Regional Sales Director East Europe) and Maciej Lipiec (second from right, Sales and Marketing Director Poland) traveled to Inter Cars to ceremoniously hand over this award to Krzysztof Soszyński, Vice-President of Inter Cars (first from left), and Sławomir Rybarczyk, Inter Cars Commercial Director (first from right). This was an informal ceremony, but like our cooperation with Inter Cars, it was convenient and successful!



# Continuous loop vs. single use: sustainability in the aftermarket

Bosch programs based on the principles of circular economy support workshops in their contribution towards increased sustainability.

**KEY FACTS**

Bosch continuously works on improving sustainability along the value chain and has for many years included services that promotes sustainable behavior by supporting the circular economy.

### Circular economy promotes careful use of resources

While global demand for raw materials is rising, resources are becoming increasingly scarce. In addition, the use and extraction of raw materials are having a significant impact on the environment.

Smart and sustainable use of raw materials is therefore becoming increasingly important. This includes using products for as long as possible and extending their life cycle. For this reason, processes such as the reuse of parts, repair, remanufacturing or recycling are used in the circular economy. This conserves resources and the repeated use keeps the materials in the economic cycle for as long as possible.



### Workshops are increasingly focused on sustainability

Bosch continuously works on improving sustainability along the value chain. For

many years already, the Bosch range has included services enabling and promoting sustainable behavior. They allow workshops to perform value-based repairs using Bosch eXchange products which implies returning old parts - so-called cores - thus supporting a circular economy. At the same time, the use of remanufactured units and devices also results in price savings - not to mention their resource-saving production. Owners of older vehicles or vehicles with a high mileage benefit from this advantage. The Bosch repair service for electronic components as well as 1:1 Reman of classic parts offer further opportunities for reuse. In this way, workshops can do their part for sustainability - also catering for the increasing environmental consciousness of workshop customers.



### Bosch eXchange

Products from Bosch eXchange are renowned for their high quality and reliability. The exchange products are treated according to the same standards as original parts and have to pass stringent functional and quality tests.

[www.boschaftermarket.com](http://www.boschaftermarket.com)



### Bosch Electronic Service

The first-class exchange and repair service for electronic vehicle components is perfectly geared to the needs of automotive workshops. Highly qualified specialists repair electronic Bosch products from around the world and combine top repair quality with short delivery times.

[www.bosch-repair-service.com](http://www.bosch-repair-service.com)



### 1:1 Reman

By means of the 1:1 Reman service, selected components of classic vehicles are restored according to original Bosch specifications. The reconditioned component is returned to the workshop to be reinstalled in the customer's vehicle.

[www.bosch-classic.com](http://www.bosch-classic.com)

## Why a working Start-Stop system is important to save fuel

Saving fuel has been and continues to be an important aspect of driving – not only in terms of environmental protection. It also benefits your wallet. A lot depends on an individual's driving style e.g., shifting up early makes an important contribution to reducing consumption. But technology also provides support in the form of the Start-Stop system.

### A brief history of Start-Stop

When the idea of the automatic Start-Stop system was born, it was rather the oil price crisis of the time that provided the need for fuel-saving measures. Toyota invented the first automatic Start-Stop system in the mid-1970s. Volkswagen and Audi introduced their versions of the Start-Stop system in the 1980s. A new generation of Start-Stop systems followed in the 2000s. This sophisticated and robust technology marked the beginning of the Start-Stop success story.

Depending on the style of driving, Start-Stop technology can achieve fuel-savings of up to 15%. However, the effectiveness of the system depends on many factors, including the area of use. During

urban use, the automatic Start-Stop system causes the engine to switch off at standstill. Naturally, it is less effective on long motorway journeys.

### High demands on the battery

The reliable supply of electric consumers while the engine is switched off is very demanding. That is why an advanced lead-acid battery is at the heart of every well-functioning Start-Stop system. The only battery technologies which can withstand the challenges of automatic Start-Stop systems are AGM and EFB.

### EFB batteries – for entry-level Start-Stop systems

EFB batteries (EFB stands for "Enhanced Flooded Battery") are suitable for the power supply of cars with entry-level automatic Start-Stop systems. The design of EFB batteries is a further development of conventional lead-acid batteries. Several enhancements on component level help to extend the life of the battery. EFB batteries' low internal resistance guarantee a strong cycle durability and improve the stability in challenging applications such as Start-Stop – they can

### KEY FACTS

*The only battery technologies which can withstand the challenges of automatic Start-Stop systems are AGM (Absorbent Glass Mat) and EFB (Enhanced Flooded Battery).*

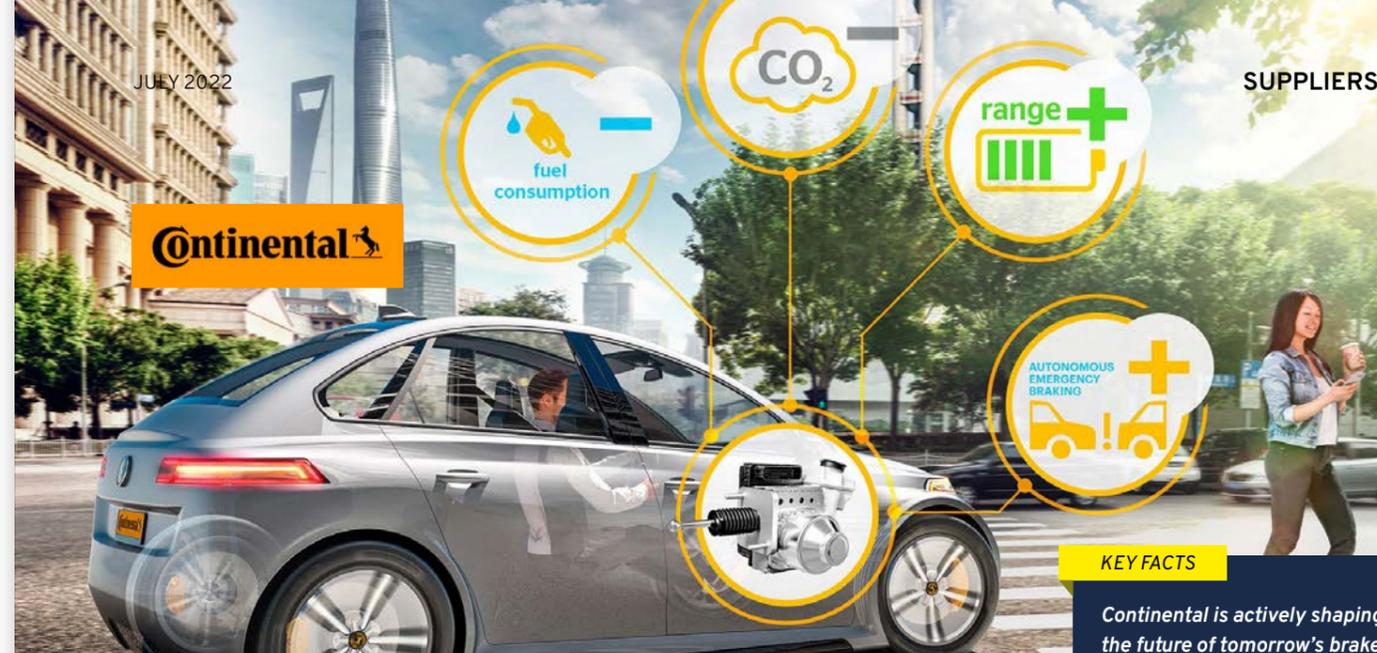
withstand two times more charging cycles compared to conventional starter batteries.

### AGM batteries – for advanced Start-Stop systems

When it comes to vehicles with automatic Start-Stop systems with braking energy recovery (recuperation), or cars with premium equipment and sophisticated accessories, AGM batteries (AGM stands for "Absorbent Glass Mat") offer a higher capability to withstand these high-power demands compared to regular starter batteries.

AGM batteries have excellent cold start characteristics. They enable a powerful engine start which supports a reduced operation time of the starter. Thanks to their good recharge capability and high power in lower states of charge, a warm engine can be switched off and started again several times at short intervals, without the risk of difficulties when restarting. Regarding their service life, AGM batteries also have significant advantages over traditional starter batteries. They can withstand three times more charging than conventional starter batteries. Because the electrolyte in an AGM battery is bound in an absorbent glass fleece, it makes them resilient to hard conditions, leak-proof and maintenance-free.

If an AGM battery is already installed in the vehicle, it must always be replaced with another AGM battery. An upgrade from an EFB to an AGM battery is possible though and can increase the efficiency of the automatic Start-Stop system resulting in more efficient fuel consumption.



### KEY FACTS

*Continental is actively shaping the future of tomorrow's brake systems, and its aftermarket brand ATE supplies the independent aftermarket with premium brake products and services.*

## Intelligent, connected, safe: the future of brakes

As the vehicle architecture develops, brake systems are becoming increasingly intelligent, so they can meet the future needs and requirements of automated driving (AD) and electrification. Continental actively shapes the future of tomorrow's brake systems, and its aftermarket brand ATE supplies the independent aftermarket with premium brake products and services.



Brakes are the single most important element of active driving safety. So far, they have primarily been mechanical systems with vacuum brake boosters and hydraulic power transmission from the brake pedal to the wheel brake. Electronic safety systems, such as the anti-lock brake system, ensure that the brakes proactively contribute to the driving safety in borderline situations even without driver intervention. In addition, brakes must now also contribute to vehicle efficiency by helping to prevent CO<sub>2</sub> emissions or even particulate emissions during friction braking. With more and more functions added, the vehicle architecture has become a complex network of dozens of dedicated Electronic Control Units (ECUs). However, to realise

a modern E/E architecture, single functions such as the anti-lock brake system need to be integrated in a more centralized structure, in which there is one high performance computer responsible per domain (e.g. infotainment, driving assistance). This architectural revolution of motion control has already begun – one recent example: Continental has supplied VW's e-car ID.3 with the world's first mass-produced high-performance server for cars.

### Brake-by-wire technology

Another important development for brake systems that comes with the changing vehicle architecture is the switch from hydraulic to electromechanical actuation (brake-by-wire). This is an important change for assisted and automated driving functions as well as the electrification of vehicles. The first existing electrohydraulic brake-by-wire brake system named MK C1 by Continental went in production in 2016. The MK C1 as well as its successor, the MK C2, build up brake pressure faster than any conventional hydraulic system and do not require any brake booster or vacuum pump. While the brake feeling is constantly simulated for the driver, dosage of the maximum braking power does not depend on the force in the foot. In case of an emergency braking, the actual braking request comes from the automation or an assistance system

and takes instant action – a very important point for safe and effective emergency braking in an automated vehicle. Furthermore, in 80% of deceleration situations in electric or hybrid cars, recuperative braking can help to recharge the battery while the pedal feels completely normal to the driver.

### Eliminating the hydraulic system step by step

The MK C1 by Continental was only the first step towards a true brake-by-wire technology operating the rear axle wheel brakes electromechanically. In theory, if all four wheel brakes are actuated electromechanically ("dry"), this could entirely eliminate the hydraulic system. The current focus on pressure generation and modulation with appropriate control intelligence would then no longer be necessary. However, as this is a future scenario of how the brake system can be designed in the future, there is still some time until true brake-by-wire technology and the elimination of the hydraulic system become relevant for daily business in the workshops.

Today's daily workshop business focuses on hydraulic brake systems and therefore, the right spare parts and services are needed. ATE is the well-known premium brand by Continental that offers the brake technology and products in car manufacturer quality.

# Busy workers: new belts for light commercial vehicles



**KEY FACTS**  
 Continental develops special aftermarket drive belts for hard-working delivery vehicles that make frequent stops and starts in urban centers – both for the primary and auxiliary drives.

These are hectic times for light commercial vehicles: The delivery van segment with payloads up to 3.5 t is growing steadily, with the number of new registrations in Western Europe rising continuously in recent years, bar a small dip in 2020. The key reason for this is our changing shopping habits. We are ordering more and more items online and the merchandise has to be brought to our front door somehow. So, delivery services and logistics specialists are increasingly relying on the Ford Transit, Mercedes Sprinter, VW Crafter and the like.

Delivery operations mean seriously hard work for the vehicles though, mainly due to the frequent stops and starts involved and the high mileages over all sorts of different routes in urban centers. All of which means shorter maintenance intervals for belt drives. Continental develops special aftermarket drive belts for precisely this sort of application – both for the primary and auxiliary drives.

The CT1233 timing belt for driving the timing gear is new to the range, as is the CT1234 for the oil pump drive, which was purpose developed for the aftermarket

requirements of 2.0-liter engines fitted in the Ford Transit and Ford Tourneo. “In these engines, a timing belt in oil synchronises the camshaft and crankshaft,” explains Robert Franz, Head of Product Management EMEA at Continental Power Transmission Group. “This reduces frictional losses by around 30% compared to a chain drive.” This in turn has a positive impact on fuel consumption and resulting CO<sub>2</sub> emissions. Right now, these are two of the most crucial criteria for efficient operation of light commercial vehicles. Which is yet another reason why they will continue to be very busy in the future.

## Watch & Work: now also in the PIC and TecDoc

New episodes of our popular Watch & Work series of service videos have been recorded and are being regularly published on [YouTube](#), [Facebook](#) and the Continental [website](#). Mechanics searching for

information on a certain product in our PIC or in TecDoc will also now find a direct link to the related Watch & Work service video there. It couldn't be simpler.



# Tackle emissions regulations head on with market-leading sensor technology



Euro emissions standards are one of the key drivers in the continuing evolution of greener on-vehicle technology and certainly present a challenge that technicians around the world must rise to meet in the ongoing shift to smarter and more sustainable mobility. Since 1992 and the inaugural Euro 1 standard, emissions laws have demanded improvement, putting pressure on rapid technology innovation and adoption by both the manufacturers and workshops alike, and the automotive industry has had to continually step up – with sensor technology at the fore.

At Delphi Technologies, we proudly offer a premium range of exhaust sensor solutions across EGT, O<sub>2</sub>, and DPF technologies, devised from our leading OE-manufacturing experience, and provide workshops around the world with the latest innovative technologies for maximising vehicle service life.

With the vital role sensors play in vehicle safety and comfort, it's important that today's sensor technologies help workshops to optimise vehicle performance and contribute to essential emissions monitoring. Now, more than ever, it is imperative that

market leading sensor technologies give workshops the ability to deliver customer satisfaction from replacement and maintenance services while the focus on vehicle emissions and efficiency continues to evolve.

Our comprehensive exhaust sensors portfolio of over 1000 SKUs combines OE technological innovation with leading vehicle coverage, expert diagnostics, training, and technical support; an unrivalled offering that packages together a full service solution for the workshop with bespoke-level detail.

### Support that makes sense...

With our evolving and market-leading technical support, workshops are never alone in the on-going journey to smarter mobility. We strive to bring the best of both worlds to our OES and Independent Aftermarket customers, ensuring that resources exist for the real-time Aftermarket, while charging forward for what is next. We are committed to developing solutions that prepare technicians all over the world, to help vehicles become cleaner, better, and drive further, throughout their lives.

**KEY FACTS**  
 Delphi Technologies offers a comprehensive exhaust sensors portfolio of over 1000 SKUs that combines OE technological innovation with leading vehicle coverage, expert diagnostics, training, and technical support.



To find out more about our pioneering exhaust sensors portfolio visit [delphiaftermarket.com](http://delphiaftermarket.com)



## KEY FACTS

The DENSO lambda sensor range is optimised for smart consolidation: maximising benefits without incurring negative impacts.

## Benefit from smart consolidation with DENSO lambda sensors

The aftermarket has always been tremendously adept at evolving to remain competitive in a business landscape driven by fast-changing technology.

Thanks to continual advancements by parts manufacturers, there is a trend to stock a smaller, but just as widely applicable, range of parts, enabling firms to meet customers' needs while reducing overheads.

However, the challenge comes in working out how far to reduce the stock without compromising the offering, or inadvertently introducing issues with fitting or efficacy.

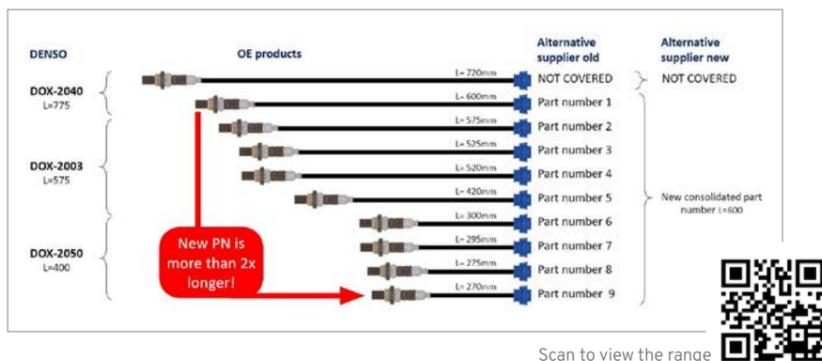
That's where the DENSO concept of "smart consolidation" comes in: merging products in a range just enough to benefit, but not too much that they experience problems.

### Lambda sensors: an optimised offering

One group of components where smart consolidation is already at work is lambda sensors, as some manufacturers have identified these parts as a target for range consolidation – and with their variety of wire lengths and fit types, it is easy to see why.

Lambda sensors are a crucial component not only for optimising engine performance, but also for reducing emissions – something the entire industry knows to be important in the context of international climate goals. Therefore, their performance cannot be compromised.

However, by taking a group of 10 different original equipment sensors, which all share an identical sensor core, connector type and pinout, with the only difference being the length of their wires, DENSO has put smart consolidation into practice by selecting only three optimised wire lengths, thereby greatly improving the stock efficiency of servicing all the related vehicles.



Scan to view the range

As a result, DENSO provides workshops with maximum vehicle coverage without having to buy a prohibitive amount of stock. Having fewer parts, therefore, makes the lives of garages easier and supplying the right parts that result in efficient and error-free fitting reflects well on them from their customer's perspective.

### When is a saving not a saving?

The question that then could be asked is whether it's possible to take the concept further and reduce the range all the way down to one cable? In theory, yes – and other manufacturers have indeed done this. However, if you reduce the range too much, the constraints start to outweigh the benefits.

In the case of the example in the diagram, the longest possible length would mean an excessive wire length that needs to be secured with cable ties, for example. However, with high temperatures, fast rotating parts and heavy vibrations, wire harness fixation is a safety and reliability issue that DENSO is not prepared to compromise on. In general, depending on the

actual wire length, DENSO does not allow the wire to be more than 35% over length. Others in the aftermarket do not apply such a limit and may even permit wire that is more than 100% over length.

The most extreme version of consolidation is universal fit sensors. Such sensors will always require additional preparation time by cutting the wires to length and splicing them onto the original wire and connector. Though when done correctly (with the right tools, materials and methods), this provides a perfectly reliable result. Preparing the sensor will significantly extend the installation time.

### Choose smart consolidation

The DENSO lambda sensor range is optimised for smart consolidation: maximising benefits without incurring negative impacts. Not only do the sensors themselves match strict quality standards, but the segmentation of the range also confers the maximum possible benefits to members, calculated across the entire life cycle of a product from purchase to installation to use, while maximising vehicle reliability.



## DRiV continues to introduce innovative tools to support success of garage owners and technicians

As the pace of everyday life continues to accelerate, it is vital for automotive service professionals to maximise the speed, efficiency and accuracy of every repair.

DRiV Motorparts helps repair professionals complete more jobs in less time by providing world-class parts from trusted brands as well as an ever-growing range of timesaving business solutions. And now there are two additional business tools available from DRiV to further enable success in the repair bay.

DRiV has introduced QR codes on packages of Ferodo® and Jurid® brake pads and rotors, Monroe® shock absorbers, MOOG® steering parts and an array of products from its Engine Expertise brands – Glyco®, Nural®, Goetze® and AE® and its emissions control brand – Walker®. QR codes will be added to additional DRiV product packaging in the coming months.

This important packaging feature enables professionals to instantly access a wealth of helpful information when selecting, fitting and/or authenticating a part. Once they scan the QR code, the user is directed to a main menu where they can easily navigate to the fitment instructions, product specifications, warranty details and much more – all available in English, Spanish, French, German, Italian, Dutch, Polish, Russian, Portuguese and Swedish.

As an additional benefit, these QR codes enable repair professionals to instantly confirm they are using a genuine DRiV product rather than a counterfeit part that could put their customers – and their own reputations – at risk.

Also available via the QR code link is access to Tenneco and DRiV's impressive Garage Gurus Learning Management System, which offers a host of technical courses, webinars and other content.

"By adding QR codes to our packaging, we are connecting professionals with comprehensive, invaluable information at a time when they need it most," said

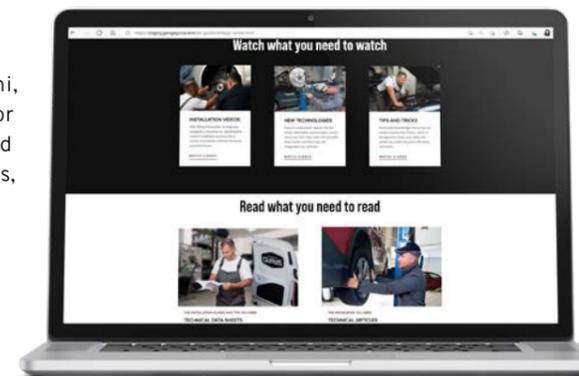
Massimiliano Milani, Executive Director for Marketing, Sales and Commercial Operations, DRiV EMEA.

### One destination – all the answers

Garage Gurus, the technical support service operated by DRiV, has launched a comprehensive new website for the EMEA region. This impressive resource, offering content in nine languages, is designed to benefit technicians, garage owners and parts providers through a wealth of free technical content, including illustrated fitment guides, technical tips, diagnostic videos and more covering DRiV's extensive portfolio of brands and products.

### The website also complements Garage Gurus' four service/training pillars:

- On-Call:** Dedicated technical support call centre, available via phone or [email](#).
- On-The-Go:** Training delivered at the customer's premises from specially equipped technology vans.
- Onsite:** In-depth training provided by Garage Gurus' master technicians at the company's dedicated training facilities and other locations.
- Online:** Free [24-hour e-learning](#) platform offering webinars, interactive courses and more.



### Pathways to growth

In addition to providing ready access to valuable technical information that can assist in repairs, Garage Gurus offers in-depth learning opportunities for technicians to expand their skills and keep up to date with the latest vehicle technologies, including maintenance requirements of the fast-growing fleet of electric vehicles.

"Our goal is to help automotive professionals and the entire aftermarket industry remain on the leading edge of technology to offer superior convenience and value to consumers," said Marijn Staal, Senior Manager for Training and Technical Services at DRiV. "DRiV is not simply a parts provider – we embrace the responsibility and welcome the opportunity to be the premier full-service business and technical partner to distributors, garages and technicians."

## KEY FACTS

DRiV Motorparts helps repair professionals complete more jobs in less time by providing world-class parts from trusted brands as well as an ever-growing range of timesaving business solutions, such as its efficient QR code system.

# Elring – Das Original also TOP among the Top 30 Asian vehicles



The Top 30 Asian vehicles in Europe account for around 9.4 million cars. Around half of these, 4.4 million, are Toyota and 2.5 million are Yaris. Around 2.2 million vehicles have the Renault, Nissan or Dacia logo in the radiator grille. The two Korean brands Hyundai – Kia combined make up 1.6 million vehicles. The rest is divided between Honda, Suzuki and Daewoo.

The engines installed in these 9.4 million vehicles are unsurprisingly also used in other models of the individual vehicle manufacturers. Many engines are also installed by other manufacturers. For example, the 1KR-FE engine from Toyota can be found in a Subaru. This is just one example among many.

## Nissan The K9K | 1.5 litre | Diesel

There are many different versions of this engine among the 1.7 million vehicles that it's installed in. So, it's important to check carefully which product fits the relevant engine when searching for the suitable gaskets.

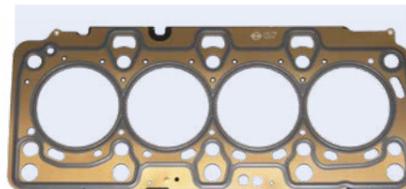


Elastomer gasket 263.380

Metal-elastomer gasket 380.960

Since 2016, the cylinder-head gaskets are delivered with the improved partial screen print on the functional layers of the metal-layer steel gasket. This should definitely be used in the event of a replace-

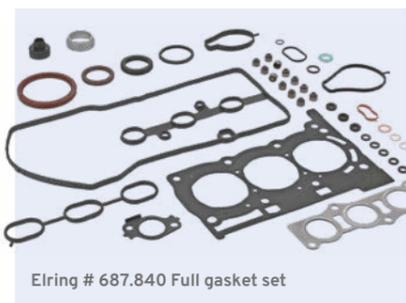
ment, as it offers improved sealing potential. For engine overhauls, Elring also offers this technology with a 0.2mm thicker gasket.



Elring # 456.710 – Rep.level +0.2mm

## Toyota The 1KR-FE | 1.0 litre | petrol

By far the most widely spread engine with over 2 million units in the Toyota Yaris alone is the 1KR-FE engine with 3 cylinders. Added to this are the small cars from Peugeot and Citroën that run on the same engine. So it's hardly surprising that Elring offers all gaskets and gasket sets for these engines. It's just important to remember that, even though the same engine code is used, the gaskets from year of manufacture 05/2014 are different. The cylinder-head gaskets may look very similar, but they're not.



Elring # 687.840 Full gasket set

## Hyundai – Kia The G4FC | 1.6 litre | G4FA | 1.4 litre | petrol

With 600,000 engines the G4FC engine appears to be just one among many. But if we include the G4FA engine, which has all the same gaskets, we get the impressive figure of 2.7 million engines. Because the two 1.6 and 1.4 litre engines share the same

**KEY FACTS**

*Elring offers different types of engine gaskets and gasket sets for Asian vehicles in Europe.*

gaskets and different engines are also installed within Hyundai and Kia depending on the vehicle and brand, it is important to pay attention when selecting the gaskets.



Elring # 877.190 Full gasket set

## Electric drive and plug-in hybrid

There is neither a vehicle with pure electric drive, nor a plug-in-hybrid vehicle among the top 30 Asian vehicles. There are around 300,000 electric vehicles and 170,000 plug-in-hybrids. However, there is a full-hybrid from Toyota with around 600,000 vehicles. Full-hybrids drive mainly with the combustion engine and therefore eventually also need engine gaskets. Elring – Das Original – also has all the gaskets in the range for this 1.5 litre petrol engine.

In the future Elring – Das Original will continue to expand its range of information to offer its customers the best possible service and set new standards.



# Exide lead-acid batteries will have a crucial part to play in the future

The traditional automotive battery significantly changed with the introduction of Start-Stop cars in the early 2000s. The demand on the battery has intensified due to an increased number of starts, coinciding with higher vehicle equipment levels. Exide Technologies is widely recognised as the leading innovator in Start-Stop battery technology. As an OEM partner with major vehicle manufacturers, Exide developed and launched the first European AGM (Absorbent Glass Mat) battery in 2004, followed by the first EFB (Enhanced Flooded Battery) in 2008.

The company strives to continuously improve the performance of its products. For example, 'Carbon Boost® 2.0' is a unique recipe of chemicals developed by Exide for both its Premium and EFB ranges. Unlike most other brands, Exide EFB's unmatched energy recovery and exceptional dynamic charge acceptance is highly recommended for vehicles incorporating regenerative braking. It also offers significant performance advantages for conventional vehicles in urban use such as taxis, emergency and street services.

## The advent of electrification

Some new vehicles have the dual benefits of an internal combustion engine and

an electric motor. Variations of this arrangement are categorised as mild/full/plug-in hybrids. For cold starting of the engine, lead-acid batteries remain the best solution.

The electric powertrain has different requirements. Higher tensions from 48V to 400V+ are essential to operate high-power electric motors. Even though specialist lead-acid batteries can be used for traction, new Lithium-ion batteries have an advantage in terms of light weight and faster recharging. But challenges still remain with this new technology to lower the initial cost and find practical recycling solutions.

## Lead-Acid in fully electric cars

12V lead-acid batteries have already proved essential in most fully electric models as an auxiliary unit to the main traction power. Independent Auxiliary Batteries maintain continuous power for all critical safety and security functions of Advanced Driver-Assistance Systems (ADAS), especially in the event of faults in the high voltage pack. You must be able to stop and exit the vehicle, meaning ADAS and door locks must be powered at all times, and a 12V lead-acid battery is the safest solution. This power segregation, which is becoming a feature in all cars with

heavy reliance on ADAS, will become even more vital to safely operate driverless systems in the future.

**KEY FACTS**

*77% of the electric car parc\* require a lead-acid battery for critical safety & security loads.*

## The aftermarket and the current light vehicle parc

Currently, about one third of the European LV parc fleet is made up of Start-Stop vehicles and newer conventional cars are equipped with more electrical devices than ever before.

A modern vehicle's electrical system depends on the correct battery and exact original part matching is essential. This task is made easier with the Exide battery finder app or online portal. Simply enter the registration or chassis number to instantly identify the vehicle and best battery options.

Because Exide is an original OE manufacturer, you can be assured that our aftermarket products are produced in the same factories and with the same high quality processes as the original.

\* car parc = number of vehicle registered in EU



## More compact and lightweight for state-of-the-art powertrains

### Face Spline Joint Technology by GKN Automotive

**G**KN Automotive is rethinking articulated joints – with its interlocking Face Spline technology that is more efficient and saves both space and weight. Where conventional approaches usually rely on pins, Face Spline uses splines on the front of the joint. Thanks to its wider surface area, this solution is able to transmit up to 50% higher torques. It can be attached at the front with a single bolt, which makes installation easier than ever. An appealing proposition for premium car manufacturers like BMW Group, that uses Face Spline to significantly reduce weight in the drive train of their xDrive models.

#### Light, compact and powerful

The future of mobility has a clear objective. To achieve ambitious climate goals, emissions need to be reduced. Components that reduce as much weight and save space as possible are therefore more important than ever. This is where GKN Automotive can score with its innovative Face Spline connections. Not only are they lighter and more compact (in conjunction with a monobloc tubular shaft) than conventional solutions for connecting the joint of a side shaft to the wheel hub – they also perform better. In contrast to common approaches – like pin joints – GKN Automotive uses a special spline design over the entire surface of the joint front. This front spline and its counterpart

on the wheel hub mesh precisely and are centered by the cone of the Face Spline joint. The components are secured and friction-locked with a fastening screw. Another innovative new feature of the Face Spline shafts by GKN Automotive is the use of



With only one bolt and the help of the cone, the Face Spline joint is securely connected and centered to the wheel hub. Thanks to the wide spline surface, the joint is more efficient than conventional pin solutions.

special space-saving diaphragm boots for sealing the rear axle, which are suitable for any application with a deflection angle of up to 25 degrees.

The advantages speak for themselves: These new technologies allow transmission of up to 50% higher torques. The weight saving on the wheel reduces the



Allows a deflection angle of up to 25 degrees on the rear axle: the space-saving diaphragm boots.

#### KEY FACTS

*GKN Automotive is the only manufacturer of ST technology in combination with Face Spline technology on the market. This means that the company plays not only a vital role as an OEM supplier, but also in the aftermarket.*

unsprung mass by about 20%, which noticeably increases ride comfort. The use of GKN Automotive's ST technology (Sideshaft Twin Ball with S-shaped ball track) also further reduces the internal frictional resistance in the joint. Together with the decreased weight, this leads to lower fuel consumption and improves the vehicle's environmental footprint. The hollow monobloc shaft, which is characterised by minimum weight with maximum stability and torsional rigidity, also contributes to this.

GKN Automotive is the only manufacturer of ST technology in combination with Face Spline technology on the market. This means that the company plays not only a vital role as an OEM supplier, but also in the aftermarket. For example, to enable workshops to easily repair vehicles with Face Spline hub connections, the technology is available from all major wholesalers. Ordering is possible with just a few clicks. Customers benefit twice by receiving OEM quality at wholesale conditions, while employees at the garage benefit from working with this easy-to-install component.

The extensive product range of GKN Automotive propshafts can be ordered from all major wholesalers and is listed on TecDoc.



## One for all: new HELLA online catalogue sets digital standards

The new HELLA online catalogue sets new standards in terms of user guidance, parts research and up-to-dateness. It includes the complete HELLA aftermarket product range and is a research platform.

#### KEY FACTS

*HELLA's strong digital support and new online catalogue covers the entire HELLA aftermarket parts program and thus offers both workshops and wholesalers a central research platform.*

**D**igitisation is also advancing ever further in the automotive sector. As a lighting and electronics expert, HELLA is always close to the pulse of the time. This applies not only to product innovations such as innovative headlamp technologies and advanced electronic products in the field of driver assistance systems, but also to workshop and wholesale services.

The latest example of HELLA's strong digital support: the brand new online catalogue. The completely revised online catalogue sets new standards in terms of user guidance, partial search and topicality - informative, clear and sustainable. This puts an end to the time spent tediously leafing through thick print cata-

logues, as well as searching through various online catalogues for vehicle-specific products and universal parts.

Because the new online catalogue is literally one for everyone: it covers the entire HELLA aftermarket parts program and thus offers both workshops and wholesalers a central research platform. The catalogue portfolio is updated daily and is therefore always up to date. The intuitive search with sophisticated filter functions leads to the right product with just a few clicks, saving users time and effort. Another highlight of the online general catalogue is the advanced comparison function. This allows the properties of several products to be compared in a structured manner and differences to be identified at a glance. The

HELLA online catalogue is free of charge and accessible 24/7.

With the new catalogue, HELLA, as a friend of independent workshops and partner of wholesalers, offers an innovative, contemporary online tool that is ideally tailored to the requirements of the user groups.

# Say hi to hydrogen

# MAHLE

Although infinitesimally small, as old as can be, simple in structure, colourless, odourless, tasteless, lighter than air, nontoxic, noncorrosive, nonirritating, and nonradioactive, the potential of this element is enormous. There's no doubt that H<sub>2</sub> will play a role in powering our mobility in the future.



Some 14 or 15 billion years ago, there was a powerful explosion. Referred to as the big bang, this event left one thing, above all, in its wake: hydrogen. Other elements only formed billions of years later. It's still the most common chemical element found in the entire universe. On Earth, too, hydrogen gas is available in abundance, although almost exclusively in chemical compounds such as water.

Researchers and developers recognized hydrogen's potential early on. That's why the fuel cell was invented even before the internal combustion engine. Hydrogen can be produced through electrolysis, which is the process of using electricity to split pure water into its constituent parts of hydrogen and oxygen. The electrical energy used is thus stored in the hydrogen. What takes place inside a vehicle fuel cell is electrolysis in reverse: hydrogen combined with oxygen transforms back into electricity and water. The electricity drives the motor, and the water leaves the vehicle through the tailpipe. And there are no other emissions. Aside from its use in fuel cells, hydrogen can also be combusted directly in a reciprocating piston engine. And MAHLE is already working on that too.

## Interest is booming

So there's no shortage of hydrogen. What's more, it's an efficient energy storage medium. Whatever the time of day or

night, hydrogen can be produced cost-effectively on a decentralised basis using renewable electricity from wind, solar, or hydropower. It can then be stored flexibly and transported, so that it can be converted back into energy elsewhere later. These are all promising factors that point to a climate-neutral energy supply in the future. That's why there are many hydrogen infrastructure development programs currently underway worldwide.

## Large vehicles are first to take advantage

There are already thousands of hydrogen buses and vans in use in China today. And this is precisely the market segment that MAHLE is targeting in its extensive embrace of this technology. After all, purely battery-powered drives are not an option for heavy-duty trucks engaged in long-haul transportation. The excessively large and heavy batteries required would limit the payload capacity considerably and take too long to charge. What would be the commercial sense in that? Hydrogen storage systems, however, are "comparatively" light and simply have to be refilled, like the tank of a combustion engine vehicle. MAHLE therefore considers fuel cells and batteries to be complementary, not competing, technologies. So H<sub>2</sub> has good prospects.



## We keep fuel cells running

MAHLE already has around 10 years of experience with hydrogen and is able to make full use of its expertise in filtration, thermal and air management, and power electronics. After all, spare parts and diagnostics solutions will be needed here in the future as well. Visit [mpulse.mahle.com](http://mpulse.mahle.com) to read about the role MAHLE products play along the air pathway.

## Combustion-driven carbon-neutral vehicle

Your eyes aren't deceiving you – this is exactly what MAHLE is currently working on as part of a subsidy program. The goal is to run commercial vehicles with internal combustion engines on hydrogen. The benefit is that there would be zero carbon emissions. MAHLE is responsible for developing and producing the prototype engine and valve train components for the hydrogen-powered engine with direct injection. It has commissioned a new hydrogen test centre at its Stuttgart/Germany location, which is focusing on developing drive systems for heavy-duty commercial vehicles. [mahle-aftermarket](http://mahle-aftermarket), [mpulse](http://mpulse)

### KEY FACTS

MAHLE considers fuel cells and batteries to be complementary, not competing technologies, and is working on developing both aspects of H<sub>2</sub> technology to power our mobility in the future.



# Premium for synthetic fuels

# MANN-FILTER

Carbon-neutral combustion engine: MANN-FILTER now also offers filters for passenger cars that are compatible with synthetic fuels.

Climate change is one of the biggest dangers facing mankind and requires urgent action. In 2018, road traffic was responsible for around 18% of global emissions of climate-damaging CO<sub>2</sub>. According to forecasts by the German Association of the Automotive Industry (VDA), well over 75% of all passenger cars will still be equipped with a conventional drive in 2025. To meet the climate goals of the Paris Agreement, CO<sub>2</sub> emissions from passenger car traffic need to be significantly reduced. This is where synthetic fuels can play a role. Synthetic fuels can be produced sustainably from biomass – like straw – or organic waste such as used vegetable oil. Electrofuels or e-fuels are synthetic fuels produced using renewable electricity from water and carbon dioxide, for example. (Synthetic fuels allow greenhouse gas-neutral operation of conventional gasoline and diesel engines.)

The premium MANN-FILTER brand of the global filtration specialist MANN+HUMMEL already offers various fuel filters for passenger cars that are compatible with synthetic fuels. Dr. Björn Schmid, Director of Material Development at MANN+HUMMEL, explains: "Synthetic fuels can be aggressive to some types of elastomer seals and can leach plasticizers from the fuel filter sealing ring. As a result, a seal can lose up to 10% of its volume. In the worst case, this can even cause fuel to flow out and the filter to come loose while driving."

The seal materials in MANN-FILTER fuel filters for synthetic fuels, according to DIN EN 15940, have been tested, are ideally suited for application, and have the relevant OE approvals. They ensure a permanent hold and a complete seal of the filter.

MANN+HUMMEL has already started

series production of these highly efficient fuel filters for various vehicle manufacturers. In the independent automotive aftermarket, for example, the MANN-FILTER PU 11 001 z Kit is available in original equipment quality for the Mercedes-Benz C-, E-, and S-Class. This innovative filter, which features an encapsulated mixed fiberglass layer, achieves a filtration efficiency of more than 99.7% down to particles measuring four micrometres (in accordance with ISO 19438). For comparison: These particles are up to 18 times smaller than the width of a human hair. The PU 11 001 z thus stops 997 of 1,000 streaming particles. This is just one of the MANN-FILTER fuel filters for synthetic fuels, and the range is constantly being expanded.

"The mobility of the future will certainly consist of a mix of different drive technologies, and liquid fuels will be required for a long time, such for passenger car fleets. Here, synthetic fuels can make an additional contribution to effective climate protection in transport," says Schmid. To meet the challenges ahead, MANN+HUMMEL experts are developing the filters of tomorrow in the vehicles of today. After all, customers in the future should also be able to rely on: MANN-FILTER – Perfect parts. Perfect service.

### KEY FACTS

The premium MANN-FILTER brand already offers various fuel filters for passenger cars that are compatible with synthetic fuels that are produced sustainably.



# Parts & Services equipment: only the best for your clients



Operators in the field of car maintenance need to be able to rely on efficient and reliable tools that can make their day-to-day work easier and ensure that every job takes place in complete safety. Drivers need to be able to contact reliable, serious and precise professionals who are capable of taking care of their car in the best possible manner.

Magneti Marelli Parts & Services, the commercial division of Marelli that distributes spare parts and equipment to the independent aftermarket sector, offers an extensive catalogue of equipment including the new line of efficient and innovative Alaska A/C recharging stations, and the

connected and that respect the environment. There are 4 models: two versions of Alaska Prime, R (R-134a) and H (R-1234yf), and two Alaska EVO models, R and H.

Alaska Prime R and Prime H are the entry level models in the range. They allow workshops to achieve the utmost levels of technology in air conditioning services without having to make extensive investments. They are affordable without compromising on quality; they are compact, mobile and durable, and guarantee the highest levels of environmental protection. They are ideal for use alongside other more complex solutions

workshops to access tax benefits for Industry 4.0.

## Oxhydro+ for engine cleaning

Oxhydro+ is an innovative solution for the removal of combustion residue and the cleaning of the engine air intake system.

With a dual treatment, through the use of a specially designed and tested cleaning liquid (Intake Liquid) and the generation of oxyhydrogen, it is possible to eliminate carbon residue from diesel, petrol, LPG and methane engines. The use of this instrument allows significant advantages to be obtained; it prevents breakdowns and vehicle wear, improves the function of the DPF filter, makes turbos and EGR more efficient, and improves the performance of the intake manifold and its components. Furthermore, it makes the engine quieter and more reactive, even at low revolutions, improves combustion, reduces emissions and fuel consumption, and improves automatic gearbox function.

The equipment is fitted with a touch screen control panel and wi-fi connectivity, allowing for activities to be monitored; furthermore, an OBD module and a series of sensors applied to the generation cell – the heart of the equipment – allow for totally safe operation.

The generation capacity of Oxhydro+ combined with the completeness of the treatment, allows the system to be used on cars, motorbikes, industrial vehicles, agricultural machinery and boats.

or as mobile units. They have a USB interface for software updates and remote diagnostics.

The ALASKA EVO R and EVO H are more complete models. They have an innovative design and a 7" touch screen display that guides the operator through each stage of servicing, with either automatic or manual functions. They have wi-fi connectivity, meaning they can be updated at any time, connected to a printer to print end-of-service reports simply and immediately, and be controlled remotely for support.

Both the Prime and EVO models allow



new Oxhydro+ decarboniser for perfect engine cleaning. These are solutions for two very different jobs that both require the utmost quality and reliability.

Further details on Magneti Marelli Parts & Services equipment are available from the company website, [here](#).

## The ALASKA range for operations involving A/C systems

The Alaska range responds to all technical requirements for the maintenance and repair of A/C systems, including those in hybrid and electric vehicles. It offers solutions that are easy to use and

### KEY FACTS

Magneti Marelli Parts & Services offers an extensive catalogue of equipment including the new line of efficient and innovative Alaska A/C recharging stations and the new Oxhydro+ decarboniser for perfect engine cleaning.



metelligroup  
AUTOMOTIVE PASSION



### KEY FACTS

"Hyper" (HYbrid Propulsion for Electric Realignment) is a project funded by the Lombardy Region that is developing innovative electric automotive components at industrial level. Leading the Hyper project is Metelli, along with its key partners: E-Novia, the University of L'Aquila, Sisme and 1000 Miglia.

# Hyper Project

HYPER

The Italian automotive sector is currently facing a major challenge: the transition to sustainable mobility. Even before the pandemic, many Italian companies had already embarked on a major process of industrial and cultural transformation, having identified sustainability as the only viable way forward for the development of the country. Europe appears to have taken a decisive step on this path, identifying green solutions as an asset for recovery, on the one hand, whilst emphasising the urgency of reducing CO<sub>2</sub> emissions through increasingly stringent regulations, on the other hand.

There is an entrepreneurial part of Italy made up of companies which have shown that they understand the need to network and exchange expertise, with a view of becoming more competitive together, speeding up the development of innovations and technologies that can make Italy a leading player in the e-mobility sector. "Hyper – HYbrid Propulsion for Electric Realignment," – is a project funded by the Lombardy Region that is developing innovative electric automotive components at industrial level, in order to improve energy efficiency in the sector. Leading the Hyper project is Metelli, a company which has been active in the automotive sector for

around 60 years, and which has built its success on precision and attention to the needs of the customer, as well as an increasing focus on sustainability. With a view to facilitating the sharing of expertise, a number of other key partners are also involved in the project, including E-Novia, the University of L'Aquila, Sisme and 1000 Miglia. Meanwhile, the Metelli Group is responsible for coordinating the project and making its expertise available to all parties, particularly with regard to fluid dynamics and industrialisation.

In order to facilitate the transition to electric mobility solutions, the Hyper Project has set itself the goal of electrifying all the auxiliary components of the vehicle – or in other words, the components that do not directly act on the



Prototype

propulsion system – with the goal of reducing emissions. Electrified components are not only compatible with hybrid cars, making them more sustainable, but also with full electric vehicles. The project, which was launched in 2019, considers various transport scenarios (heavy vehicles, high-performance vehicles, etc.): using this as a starting point, the team has worked to develop a host of technological options, ranging from the control of the cooling of various devices to innovative hydraulic models and new structures within the vehicle.

One example of this is the innovative hydraulic pump developed by the Hyper team: the performance of this product demonstrates the ability to achieve nearly 80% hydraulic efficiency at the point of use, whilst maintaining very high values over the entire operating range. This product has now been joined by the full range of electric pumps, with various powers and voltages for different applications. The proto-zero units, which have been constructed and are now in the final stages of development, range in voltage from 12V to 48V, with a variable power from 150W to 2500W and a number of potential applications (passenger cars, duty vehicles and super-sport vehicles). As it approaches the end of this positive experience, the Hyper Project has also produced a thermal management study of the vehicle's powertrain, with the aim of maximising the energy efficiency of the vehicle.



# 20-year anniversary of MEYLE HD



How MEYLE continues to successfully optimise spare parts.

The long-standing family-run business MEYLE has reason to celebrate – it has been 20 years since the Hamburg-based spare parts specialist developed the first technically refined MEYLE HD part, triggering a revolution in the independent aftermarket. Since then, the MEYLE engineers have worked day in, day out, to identify new ways of making OE parts longer-lasting, more reliable and more sustainable. And how exactly does that work?

In keeping with this pioneering spirit and to mark the 20th anniversary of the HD product line, MEYLE began to produce its MEYLE HD steering and suspension solutions carbon-neutrally for the first time this year. Manufacturing for MEYLE means to be always improving and creating the perfect spare part, which calls for a comprehensive optimisation process of six clear principles – the MEYLE HD principles:

## 1. Identification: looking closely

Every optimisation process for a new product begins with an analysis of the relevant OE part and any possible premature failures. This involves 3D technology and close examinations at the MEYLE quality laboratory by means of specially developed test procedures.

## 2. Definition: thinking in terms of perfect solutions

Elaborate simulations are used to determine whether there is a recurring problem and to identify the cause of the OE-part failure. Possible solutions are then determined and turned into precise specifications for the MEYLE HD part.

## 3. Development: making it better

Development of the HD part starts on the basis of the specifications. The engineers work on the part until a solution is found that lives up to the MEYLE experts' high standards.

## 4. Prototype: being thrilled

The development phase is followed by the highlight for any MEYLE engineer: 'When, after identifying a weak point, researching the causes, development work and numerous tests, we have succeeded in holding a first prototype in our hands, it is something special for us every time. In the end, these are exactly the moments for which we give our best every day,' says Stefan Bachmann, Head of Steering and Suspension at MEYLE.

## 5. Production: doing it ourselves

Only once comprehensive quality tests have been conducted under realistic con-

### KEY FACTS

MEYLE began producing its MEYLE HD steering and suspension solutions carbon-neutrally for the first time this year for its twentieth anniversary.

ditions, the experts know whether a MEYLE HD part is ready for mass production. All MEYLE HD steering and suspension parts are manufactured by SIO automotive, the company's own production site. Out of conviction, the manufacturer unconditionally offers a four-year guarantee\* on all MEYLE HD parts.

## 6. Launch: continuing to think

Once a new MEYLE HD product has been rolled out, MEYLE's optimisation process does not end. Potential improvements and future challenges are precisely what drive and inspire MEYLE.

For 20 years, with every new MEYLE HD part, MEYLE has been realising its aspiration to develop perfect as well as durable solutions for its customers and to be a DRIVER'S BEST FRIEND. And throughout, MEYLE has had its eye on the environment and on future requirements. Workshops, partners and customers can therefore rest assured that the MEYLE engineers will not stop until they have found the perfect solution.



MEYLE HD principle

\* More information: [here](#)

# Hybrids are changing the aftermarket



Hybrid cars play a growing role in the market and will become one of the drivers of aftermarket sales. With its focus on the future of mobility, NGK SPARK PLUG already has a comprehensive range of aftermarket products for this growing segment.



### KEY FACTS

NGK SPARK PLUG provides wide-ranging coverage for hybrid cars and the aftermarket.

Many drivers do not want to switch to a fully electric car. They worry about how far an electric car can travel on one charge, the lack of infrastructure and the fact that recharging takes time. Hybrid vehicles are an increasingly popular solution for those who want the best of both worlds. And NGK SPARK PLUG, with its ignition and vehicle electronics range, provides wide-ranging coverage for hybrid cars.

## Precious metal spark plugs is the way to go

Hybrid cars achieve fuel efficiency by switching from combustion engine to electric motor and back, or using both, as the situation demands. To meet the resulting higher technological demands, garages should make sure to use the precious metal

spark plugs. The expected lifetime and service intervals for spark plugs in hybrids are the same as for general ICE vehicles.

Ignition coils and leads in hybrid cars must be able to handle a higher load range. At the same time, electrification means that they will not be used as frequently.

## Solutions for diesel hybrids

Diesel technology is not that frequent anymore but is still used in roughly 10% of today's hybrid cars, with glow plugs used primarily in vehicles for the upper/middle class segment. Due to standby annealing in hybrid mode, ceramic glow plugs should be used to ensure optimal performance.

## The question of emissions

Hybrid cars still have to ensure that the combustion engine meets modern emis-

sion standards. From oxygen sensors to exhaust gas temperature sensors, MAP/MAF sensors and engine speed and position sensors to EGR valves, all NTK products use the latest state-of-the-art technologies to meet automotive standards, regardless of whether for combustion or hybrid configurations.

The NTK product range offers a constantly growing car parc coverage in EMEA, and not just for hybrids, so that NGK SPARK PLUG really can be considered a one stop shop for many aftermarket needs.



# More product innovations from Nissens Automotive

Danish manufacturer Nissens is forging ahead with its intense product and service extensions. This autumn, the company will showcase its recent innovations at key industry trade shows.

Nissens' announced portfolio extensions confirm the parts manufacturer's strong commitment to expanding its footprint in the automotive aftermarket. The company focuses on fulfilling its business partners' needs by continuously enlarging their sales potential with new products. Innovations will play an increasingly important role in the aftermarket with new technology vehicles, and Nissens will support their distribution partners in maintaining market relevance.

## Continued parts electrification

Electronically-controlled system components have been OE standards in vehicle design for a long time. The systems they belong to offer improved efficiency thanks to optimised electronic control. Nissens has developed skills and expertise in designing these components over the past several years by introducing various new product groups. In 2019 the auxiliary electrical pumps followed the well-established Nissens' ranges of fans and blowers. The company successfully launched its electronically-controlled turbo in 2021. This year, Nissens plans to introduce even more electronically controlled parts. A comprehensive range of air conditioning and

engine cooling pressure sensors, temperature sensors, and high-voltage AC compressors for climate control systems will further bolster their offering.

## Future AAM and New Energy Vehicles

As increased component electrification transforms the shape of the vehicle aftermarket, Nissens is staying ahead of entirely new system designs. Thermal management systems are seeing the fastest change and those complex systems will remain critical to new energy vehicles. Nissens is following this fast evolution closely and already offers a suitable package of solutions addressing new vehicle technologies.

The company's range of thermal system components for hybrid and electric vehicles caters to over 500 items and covers more than 2000 OE numbers. The program now extends to pressure and temperature sensors and electric high-voltage AC compressors. These add-ons will further support the independent aftermarket distributors in gaining access to critical parts in the future and strengthen Nissens' technical expertise in the new energy vehicle sector.

As always, Nissens' new product groups come with a set of valuable services.

Among them are detailed resources outlining new vehicle systems as well as dedicated technical training programs.

Learn more about the newest systems at the Nissens' Experts platform [here](#).

## Traditional vehicles are still in focus

As a manufacturer and specialist in the automotive air conditioning, engine cooling, efficiency and emission systems, Nissens constantly works on its product range extensions dedicated to combustion vehicles. This autumn, Nissens' parts distributors can count on even more exciting products to enlarge an already broad program. Furthermore, +500 new products were added to the current lines since last year, and more will launch by the end of 2022.

Nissens' product portfolio remains unrivaled in coverage, which exceeds +95% of car park in some product lines. All Nissens products conform to the highest Genuine Nissens Quality standards, and many are First Fit products delivered with all additional installation parts in the box. Finally, Nissens' worldwide product availability is crucial to distributors' business performance, which the company is committed to supporting.

Experience the real difference, learn all about Nissens' offering and visit the company at upcoming fairs this autumn: Automechanika in Frankfurt, Germany, Equip Auto in Paris, France, and many local events worldwide.

Read more about Nissens innovations [here](#).

New Energy Vehicles are already shaping the aftermarket of the future. Nissens Automotive follows the trends and develops its support within matching components and technical expertise offering for the independent sector.



### KEY FACTS

Nissens' range of thermal system components for hybrid and electric vehicles caters to over 500 items and covers more than 2000 OE numbers.



NRF Easy Fit is a large benefit for the workshop.



# NRF offer reaches 10,000 references

### KEY FACTS

NRF is launching six new product groups in 2022 and is celebrating its milestone of 10,000 parts.

The NRF offer is growing rapidly. And now NRF is celebrating reaching the milestone of 10,000 parts. In 2022, NRF continues with this expansion. NRF will launch six new product groups.

## Six new product groups in 2022

NRF aims to be a one-stop supplier by offering a complete range. This makes it easy for ATR members, because they can choose their trusted NRF brand for a growing number of product groups. For NRF, it's a logical development to add all these new product groups because the internal organisation is perfectly organised and completely ready for this growth.

NRF has a large technical centre which is equipped with advanced equipment and tools to check and test all parts of the range. NRF can perform leakage tests, pressure tests, vibration tests, corrosion tests and durability tests, as well as tests of electrical parameters. Furthermore, NRF has dedicated test equipment for radiators, condensers, compressors, interior blowers, EGR coolers and much more. Adding a new product group is basically adding a new procedure within the current processes. As a result, with each new product group, the market gets the high aftermarket standards that NRF is known for.



NRF goes beyond cooling with their latest introduced product group; exhaust gas temperature sensors (EGTS). More new product groups will follow soon!

## Largest aftermarket ev range

NRF is ready for the future because NRF has the largest and fastest growing aftermarket range for electric and hybrid vehicles. The number of electric vehicles is increasing worldwide, resulting

in an increasing demand of aftermarket parts. NRF offers a range of more than 550 references for electric and hybrid vehicles. Due to the focus on this topic, this number will grow rapidly.

Recently, NRF introduced a Tesla Model 3 condenser (# 350517) and pressure switches for a Tesla Model 3 and Model S (# 38971 / 38972 / 38973).



NRF provides a large range of parts for electric vehicles. The latest introduced part is a condenser for a Tesla Model 3.

## Becoming the largest aftermarket supplier of interior blowers

In May 2022, NRF's range of interior blowers reached 460 references. This makes NRF the largest aftermarket supplier of interior blowers. All NRF interior blowers are perfectly balanced, have a perfect fit and last for a long time. Before adding a blower to the range, NRF carries out performance, electrical, balance and noise tests. High quality guaranteed!

## A large range of added assembly parts

NRF Easy Fit is an important added value. When a NRF part has the Easy Fit label, all necessary mounting parts (such as O-rings, adapters, clamps and clips) are supplied in the product packaging. This saves a lot of time, which ultimately saves costs for the workshop and the vehicle owner. NRF offers a range of almost 3,000 Easy Fit references, the largest range of added assembly parts in the aftermarket.





## KEY FACTS

As the original source of ASB® technology, NTN is expanding its offering by proposing a range that combines its own experience with the core of its profession: the wheel speed sensor range for the automotive aftermarket.

## Wheel speed sensor: an essential component for safety

Wheel bearing specialist NTN supported car manufacturers in the development of ASB® (Active Sensor Bearing) technology, which has become the global standard. In 2017, NTN drew on that experience in launching its range of wheel speed sensors intended for the automotive aftermarket. Today 324 part numbers are covering nearly 7,000 vehicle models. Four years later, NTN is accelerating the pace. By the end of 2022, NTN wants to add another 100 sensors to its range, pushing the total to over 400 part numbers.

Positioned above the wheel hub or the drive shaft, the wheel speed sensor was designed to detect the speed of rotation of each wheel. That information is then sent to the control unit. First developed in the context of the ABS system, this sensor thus permits the central processing unit to identify a significant reduction in speed on one or more wheels, which can lead to their blocking. It then intervenes rapidly to guarantee the proper functioning of the safety devices that are key to the braking

system by modulating the pressure of each wheel individually. Braking is thus assured, and the driver retains control over his vehicle, even in the case of emergency braking.

High-quality and technically sophisticated products, today wheel speed sensors are indispensable for the proper functioning of many onboard systems, such as ESP (Electronic Stability Program), ASR (Anti Slip Regulation), cruise control as well as the integrated navigation system. This safety product par excellence necessitates considerable know-how such as the expertise developed by NTN in order to be perfectly reliable.

Twenty years after the launch of the series production of the first instrumented ASB® wheel bearing, NTN is now expanding its offering by proposing a range that combines its own experience with the core of its profession: the wheel speed sensor range.

### Today it comprises:

- 192 passive ABS sensor part numbers. These inductive sensors intended for

toothed wheel encoders represent 60% of the manufacturer's range.

- 132 active ABS sensor part numbers. Divided into three categories (Hall effect sensors, with or without magnetic ring encoder and magneto-resistive sensors), they are used for wheels with a magnetic encoder or toothed wheels.

As the original source of ASB® technology, NTN benefits from its legitimacy to impose itself on this market in continuous growth.

More than 92% of vehicles in circulation are equipped with 2 to 4-wheel speed sensors, most often mounted across from the bearing. A percentage that is unlikely to decline in the years to come, in view of the ever-growing number of key functions that wheel speed sensors perform in most recent models.

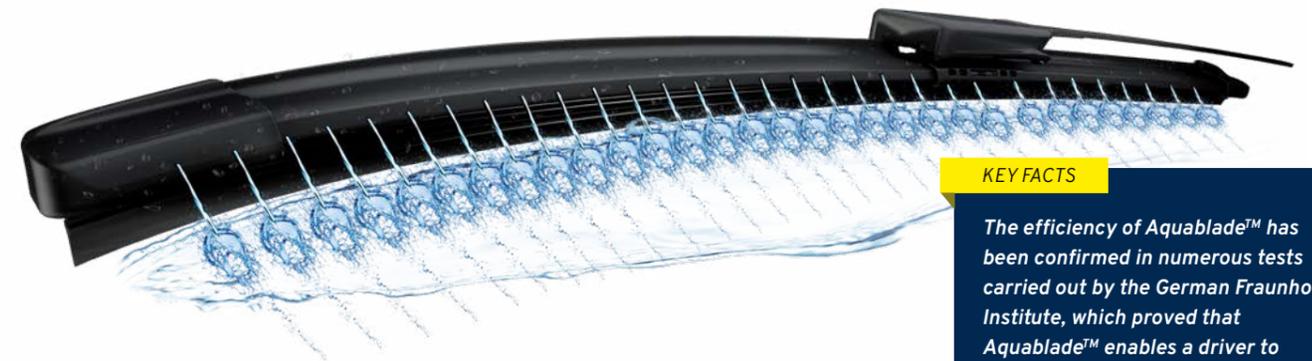


Find out more about the aftermarket range of NTN's wheel speed sensors here

## Valeo presents its latest OE innovation: AquaBlade™



Aquablade™ technology on the IAM market



## KEY FACTS

The efficiency of AquaBlade™ has been confirmed in numerous tests carried out by the German Fraunhofer Institute, which proved that AquaBlade™ enables a driver to respond microseconds faster than with the traditional solution.

Aquablade™ is an innovative solution based on the precise spraying of the fluid on the surface of the vehicle's windshield, obtained by integrating the screen wash nozzles into the wiper blade. Wiping the glass is faster and more even than with conventional wipers. Its quality also does not depend on the driving speed. The efficiency of AquaBlade™ has been confirmed in numerous tests carried out by the German Fraunhofer Institute. It was proved there that AquaBlade™ enables a driver response faster by 0.315 s than with the traditional solution. In practice, this means shortening the stopping distance at the speed of 50 km/h by 4 meters, which corresponds to the width of a pedestrian crossing. AquaBlade™ technology debuted as original equipment for premium passenger cars. With time, it began to be used also in other types of vehicles and has recently been available on the aftermarket under the Valeo and SWF brands. According to Valeo's calculations, AquaBlade™ wipers are already present in over a million vehicles on European roads.

### New in the offer of SWF Das Original Truck – AquaBlade™

Following its success in the passenger car and bus market, Valeo has also been successful in the heavy-loaded truck market. For over a year, wipers in AquaBlade™ technology are installed as original equipment for DAF XF, CF \* trucks. These wipers, under the SWF Das Original Truck brand,

have been available on the aftermarket since January 2022.

An efficient windshield washer fluid distribution system increases driving safety in difficult weather conditions. This is extremely important in the case of vehicles used to transport people. AquaBlade™ wipers not only ensure instant cleaning of the windshield and thus improve the visibility for the driver, they also provide a reliable support for vehicle safety systems. In many latest generation vehicles, the cameras and sensors for driver assistance systems are located at the top of the windshield. Conventional windshield washer fluid does not often reach this area, especially at higher speeds. Thanks to the

use of AquaBlade™, the problem of the limited field of view of cameras and sensors have been eliminated.

### Increased safety

- Better visibility and comfort: limited driver visual disturbance.
- Best performance at any vehicle speed, night vision and snowy conditions.

### Best-in-class cleaning performance

- New integrated cleaning solution.
- More efficient cleaning all over the windshield: washer fluid distributed all along the blade.



# ZF's global remanufacturing initiatives support sustainability commitment



In recognition of Global Remanufacturing Day, ZF recently confirmed its continued commitment to remanufacturing and the resulting substantial positive impacts to the environment, economy, and product lifecycles.



ZF Aftermarket offers a broad portfolio of remanufactured parts for passenger cars, commercial vehicles and off-highway applications.

Industries Council (RIC), other benefits of remanufacturing include the conservation of raw materials, reduced energy usage, less waste and reduced cost. The remanufacturing process also plays a critical part of the global economy in terms of employment. The council estimates there are nearly a half million global remanufacturing jobs today, employing a wide range of engineers, technicians, scientists, designers and more.

### 60 years of reman experience

ZF has been involved in the industrial remanufacturing of components and assemblies for vehicles for around 60 years. For remanufacturing the Group operates 22 plants and service locations in 15 countries. A total of 1,800 employees at ZF are dedicated to the remanufacturing of products for passenger cars, commercial vehicles and off-highway applications including transmissions, steering systems, axles, torque converters, clutches, brake calipers, engine parts and much more.

“Protecting the environment is one of our main corporate objectives,” said Colpron. “As remanufacturing is an important contributor to circular economy, we are constantly striving to extend our reman capabilities and combining those with other future-facing technologies, such as remanufactured parts for electric vehicles.”

#### KEY FACTS

Over 1,800 global employees are dedicated to remanufacturing in 22 ZF locations worldwide. Thanks to remanufacturing, ZF can reduce its global CO<sub>2</sub> emissions by 12,444 tons per year.

Remanufacturing enables the Group to significantly reduce CO<sub>2</sub> emissions and save energy every year: In 2020, for example, ZF reduced its global CO<sub>2</sub> emissions by an estimated 12,444 tons and realised an estimated energy savings of 8,740,000 kWh through remanufacturing – measured against the production of the same quantity of new parts. ZF is offering a steadily growing reman-portfolio for a variety of products for passenger cars, commercial vehicles and off-highway applications.

### Global remanufacturing footprint

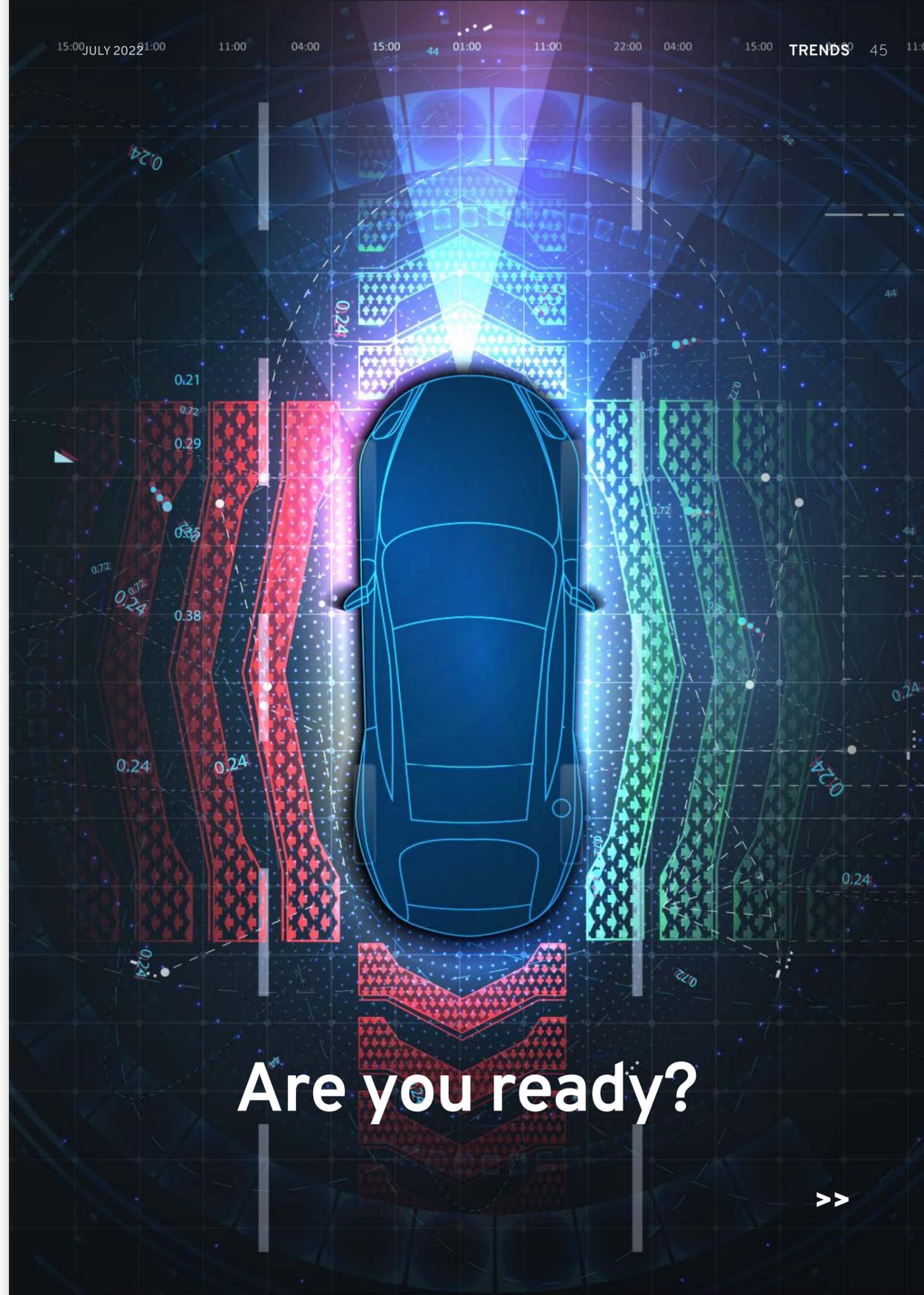
“We all need to be part of the solution when it comes to the sustainability of our planet. Our ambition is to pave the path for a green and sustainable aftermarket. Thanks to our global remanufacturing footprint, we are already saving valuable

resources today – offering our customers a wide variety of remanufactured products in OEM quality,” said Philippe Colpron, Head of ZF Aftermarket.

Remanufacturing is the controlled, reproducible, and sustainable industrial process by which previously used products or parts are returned to an as-good or better-than-new condition from both a quality and performance perspective. This process enables products to have multiple lifecycles and offers significant time, material, and cost savings when compared to creating a replacement product completely from scratch.

Additionally, as disruptions continue to challenge nearly all industries, remanufacturing fills an increasingly important role in supplying needed parts to help keep supply chains moving.

According to the Remanufacturing



# Are you ready?



# Connected vehicles and advanced safety systems

High-tech safety and connectivity systems are now reaching the aftermarket. Preparation and education will be key to maximising the opportunity of this significant technological shift.

Just as the personal electronics we use in everyday life have become more powerful and connected, so too have our vehicles. Laden with electronic control units and a myriad of sensors, the quantity of data that vehicles can collect and process has increased exponentially over the past decade. As such, advanced driver assistance systems (ADAS) and broader vehicle connectivity are presenting the aftermarket with a new challenge.

The global aftermarket ADAS market is expected to grow by 3 billion euros from 2021 to 2026 – a compound annual growth rate of almost 10%. Considering that the vast majority of these systems are installed on newer cars, and thus still within warranty periods, this is a substan-

tial opportunity for the aftermarket – and one that is only set to grow.

At the same time, the number of connected vehicles continues to rise sharply, with 237 million connected vehicles now operating globally (2021) and an estimated 96% of new vehicles expected to be shipped with built-in connectivity by 2030. Given the proliferation of connected vehicles, how will the aftermarket be able to compete with OEMs, who have immediate and reliable access to the valuable data generated?

## Lost in the lingo

One of the more frustrating aspects for aftermarket professionals is deciphering the OEM-specific language used to

describe equivalent technologies. While undoubtedly seen as critical to vehicle marketing, different descriptors for the same technology may cause doubt and apprehension among technicians, as well as confusion among consumers. Fundamentally, ADAS covers all passive assistance technologies that enhance safety and driver awareness as well as active systems that can make control inputs.

Examples of passive systems could be blind spot detection, head-up displays, lane departure warning and tyre pressure monitoring systems. Active systems are things like adaptive cruise control, automatic high beam control, automatic emergency braking and lane keeping assist. More advanced vehicles, including

## KEY FACTS

The global aftermarket ADAS market is expected to grow by 3 billion euros from 2021 to 2026 – a compound annual growth rate of almost 10%.

those with semi-autonomous driving capability, rely on systems including LiDAR and RADAR as well as infrared, ultrasonic and image sensors.

But while an opportunity, a fundamental concern is that effectively servicing these systems can seem daunting. For technicians, dedicated ADAS education and training is essential. The reason these systems are so important to understand – even if they are not currently a high-earning aspect of a workshop's business – is their crucial role in modern vehicle safety. Euro NCAP's 2022 ratings include 'assistance competence' and 'safety backup' metrics as part of its Assisted Driving (AD) testing. It is, therefore, extremely important to correctly understand and be equipped to handle the removal, installation and calibration of such systems.

## Capability and access

As might be expected, there is currently a significant technology gap between OEM and aftermarket ADAS offerings, with substantial R&D costs required to develop such systems. It is, however, important to note that some suppliers are currently helping to bridge that gap by supplying both OEMs and the aftermarket. Outside of these suppliers, most aftermarket product development has focused on the simpler passive systems.

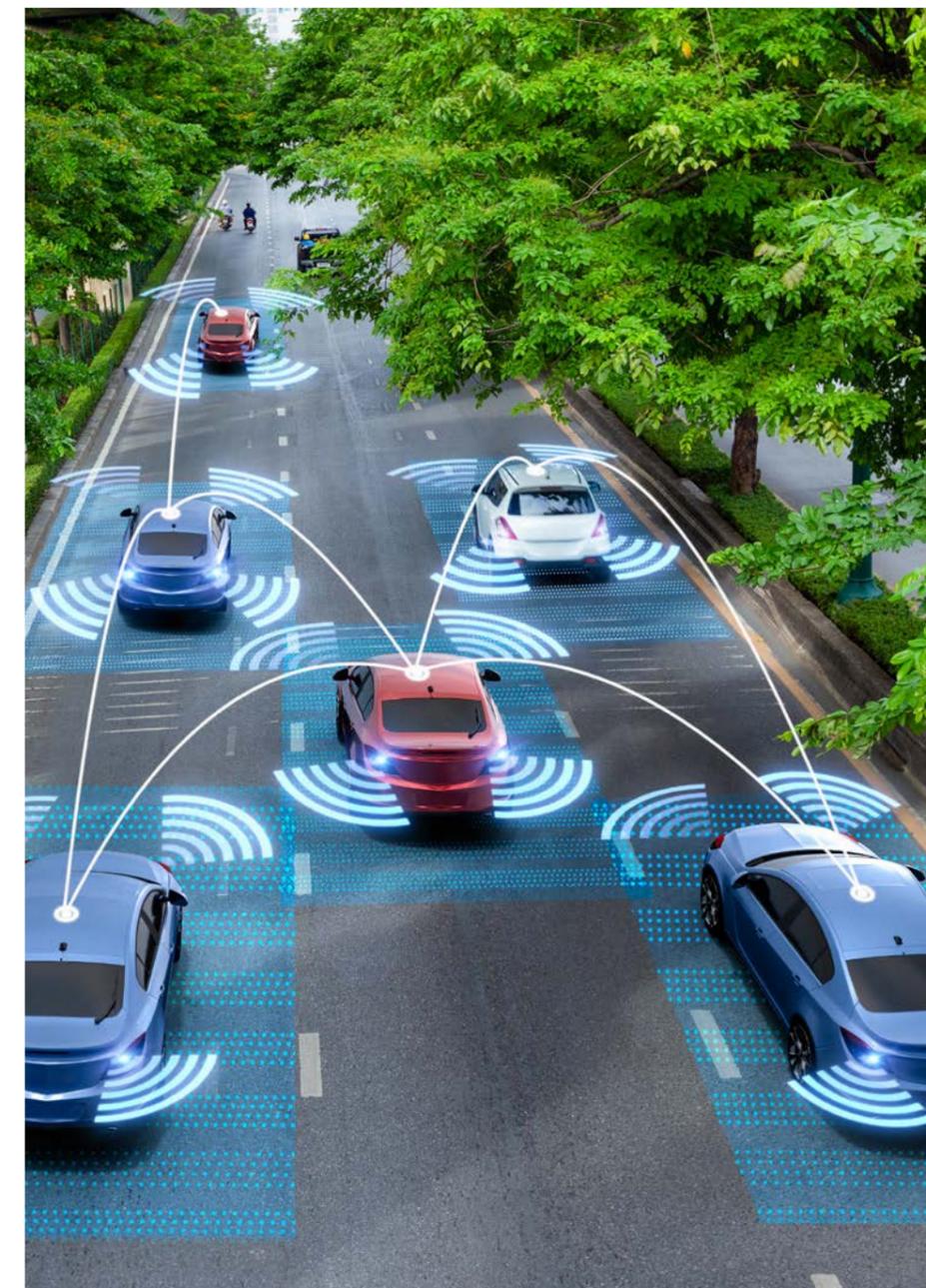
Connectivity is another area where OEM control and access could prove challenging. The existing role – and enormous potential – of enhanced remote diagnostics and 'over the air' repairs is yet another area of concern. Industry discourse around this topic is vital, as access to this data (or a lack, thereof) could have an immense impact on the aftermarket's ability to effectively compete with OEM dealer workshops.

**Cars with ADAS and connected systems are a rapidly increasing share of the global car parc, with most new models equipped with multiple individual systems.**

That said, the opportunities presented by vehicle connectivity could provide a step-change in vehicle servicing. The time required to make a correct diagnosis, for example, could be eliminated entirely with the workshop receiving a notification of the issue before the vehicle even reaches the garage. Simultaneously, the workshop may have an automated system that orders all required parts from a trusted

distributor, potentially even arriving before the vehicle itself.

While the possibilities are very exciting, aftermarket success will depend on access, training and equipment. Cars with ADAS and connected systems are a rapidly increasing share of the global car parc, with most new models equipped with multiple individual systems. Soon, millions of these vehicles will find their way into aftermarket workshops; which means that the time to address these three areas of concern – and turn concern into an opportunity – is now.



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