

INNOVATIONS@IZB

Connecting Car Competence.

11th to 13th October 2022

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Pre-version!



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#izb2022



DEAR SIR OR MADAM,

the newly edited innovations@izb report contains innovations and world premieres of the exhibitors at this year's International Suppliers Fair (IZB) and presents the current state of innovation and advancement. We are pleased to be yet again able to provide you with an exclusive insight into the many innovations of our exhibitors in the preliminary version of innovations@izb.

This year, the report features companies from eight different countries, namely France, Great Britain, Northern Ireland, Singapore, Spain, Switzerland and the USA alongside the host nation Germany. At present, exhibitors are bringing with them 45 innovations, 10 of which are world premieres, according to the current report. The key topic of E-mobility is strongly represented, featuring as many as 19 innovations and 1 world premiere. Next in line are the key topics of Production 4.0 with 9 innovations and Electrification with 8 innovations and 2 world's first each.

In the preliminary version of innovations@izb you will be able to receive first-hand information on the latest innovations presented by our exhibitors, and it will help you to plan your tour of the IZB 2022.

We look forward to enjoying a successful trade show with you.

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The AutoScan-K 3D inspection system

NON-CONTACT AND NON-DESTRUCTIVE INSPECTION USING MACHINE VISION TECHNOLOGY

3Dokuteam – das dokuteam NordWest GmbH

Hall 5 | Stand 5124

The **AutoScan-K series** (see image) from SCANTECH, an automatic 3D inspection system, can carry out non-contact and non-destructive inspections using machine vision technology. While ensuring extra-high accuracy, it can effectively perform online batch scanning and inspection. Featuring 24-hour constant operation, the AutoScan-K 3D system helps enterprises reduce manufacturing costs, accelerate product time to market and increase return on investment. Equipped with multiple working modes, the AutoScan-K 3D system can adapt to carry out measurements in various industrial scenarios. What's more, it can also precisely control robot movements based on cutting-edge machine vision algorithms, thus enabling efficient and automatic batch inspection. 3Dokuteam is a value-added reseller for SCANTECH products in Germany.

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The Dynamic Controllable Clutch

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NOVEL WAY TO DISCONNECT THE E-MOTOR FROM THE WHEELS IN ELECTRIC DRIVE UNITS

Amsted Automotive
Hall 6 | Stand 6418

Amsted Automotive's first-to-market **Dynamic Controllable Clutch** (DCC – see image) and **Electro-Mechanical E-axle Disconnect Solutions** provide a novel way to disconnect the e-motor from the wheels in electric drive units. The DCC is the first production disconnect solution to be located at the EV transmission output. Other main benefits include the discrete and simplified technology packaging, imperceptible engagement and disengagement and the fact that the solution is easy to apply, calibrate and use. The torque-dense and robust design is ideal for delivering quality components and managing the extreme torque and impact demands of electric vehicle propulsion. Further impressive features include the opportunity to significantly reduce battery and structural mass, a sub-20 ms engagement time, a transfer of 6,200 lb-ft (8,500 Nm) of ultimate torque and a 10-percent increase in battery range due to improved energy efficiency.

IMMERSIVE 3D SOUND AND A TAILOR-MADE SOUND SIGNATURE

Arkamys SA
Hall 1 | Stand 1312

Comprised of 100-percent software, the **SoundStage solution** by ARKAMYS is dedicated to media enhancement and brings immersive 3D sound, a tailor-made sound signature and unique audio ambiances to vehicles using their existing built-in speakers. By creating individual audio features, the solution provides listeners with an immersive audio experience so that they can enjoy all kinds of media sources. The user experience makes the most of the benefits provided by the connected capability of the head unit, which allows users to select the best sound setting depending on the content provided or by activating on-demand features. The SoundStage solution is adaptable to many hardware technologies such as small speakers, actuators, roof speakers or even headrest speakers. ARKAMYS has also developed innovative technologies such as Smart Tuning, an automatised in-vehicle tuning system for tuning process standardisation and time and resource optimisation.

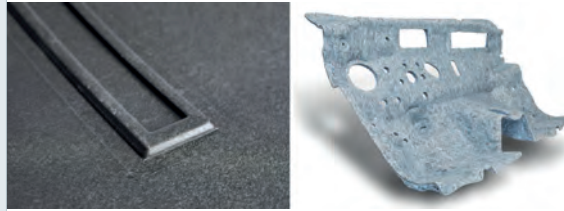
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*A composite battery protection plate and inner dash
(image right)*

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The KVBA 01 evacuation, filling and test system

A LIGHTWEIGHT BATTERY PROTECTION PLATE AND SUSTAINABLE ACOUSTIC TECHNOLOGY FOR MAXIMUM PASSENGER COMFORT

AUTONEUM AG
Hall 3 | Stand 3406

2 World Premieres!

Capitalising on its industry experience and expertise in the engineering of underbody systems for vehicles, Autoneum has developed a lightweight **composite battery protection plate** (see image left) for electric vehicles. Since composite materials are much lighter than metal alternatives and can outperform them in terms of impact protection, thermal insulation and fire resistance, they are ideally suited for the design of this key component of the battery housing. **Hybrid-Acoustics**, which is also an IZB world premiere, is an acoustic concept for improving the NVH (noise, vibration and harshness) performance of interior components (see image on the right). With its lightweight and porous material construction, the technology offers both acoustic insulation and absorption, thus providing optimum protection against rolling and powertrain noise. The ECO+ version of this hybrid technology is based on thermoplastic felt with up to 70-percent recycled content and is fully recyclable.

QUALITY ASSURANCE AND ERROR MINIMISATION BY MEANS OF SPECIFIED PROCESSES AND STANDARDISED PROCEDURES

Autotestgeräte Leitenberger GmbH
Hall 5 | Stand 5127

With the automatic **evacuation, filling and test system KVBA 01** (see image) from Autotestgeräte Leitenberger, a device is now on the market that is oriented precisely to the requirements of manufacturers and has been specially developed for the cooling system and thermal management system of fuel cell vehicles and electric vehicles. Great importance was attached to the following points in particular: quality assurance and error minimisation by means of specified processes and standardised procedures, documentability of filling and parameters, reduction of process costs due to effective and fast testing and filling, user-friendly operation, a fully automatic and reproducible process and, last but not least, freely configurable sequences via a simple graphical user interface. The KVBA 01 can be used for initial filling in production, for rework or for small series and test benches, as well as in development.

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The CRASH PROTECT R (left) and THERBATEX (right) protective hoses

SOLUTIONS FOR DATA-DRIVEN ADAS/ AD FUNCTION DEVELOPMENT, VARIANT AND CYBERSECURITY MANAGEMENT

AVL Deutschland GmbH
Hall 1 | Stand 1403

World Premiere!

With the **ADAS/AD Big Data & Analytics Platform**, an IZB world premiere, AVL offers a solution that allows efficient and scalable searching, visualisation and analysis of large data sets in an integrated way. By digitising the vehicle development process with state-of-the-art and highly-scalable IT, software, and technology platforms, AVL creates new, sustainable solutions to further advance developments in the field of future mobility. **Tools established throughout the Group for managing ECU data** according to Group guidelines, based on a secure and scalable multi-tier architecture, are available in close collaboration in 2022. Thanks to state-of-the-art REST APIs, the tools can be integrated with CI/CD and DevOps, making them usable by decentralised teams. In combination with the AVL Cyber Framework, the solution can be used for audit-proof management of work products relevant to functional safety and cybersecurity.

A PROTECTIVE HOSE WITH HIGH CRASH PROTECTION

BIW Isolierstoffe GmbH
Hall 2 | Stand 2404

World Premiere!

CRASH PROTECT R (see image on the left) has a mechanically high-quality design and was specially developed for use in the automotive sector, for e-mobility applications in particular. This new solution is being presented at the IZB for the first time. The constructively developed and tested textile fibre structure provides very high crash protection and features high-quality impregnation that allows it to withstand mechanical and thermal stress and meet current environmental requirements. The round design of the hose makes it very easy to install, while the flexible PET material also allows it to be laid with tight bending radii. The new **THERBAFLEX** and **THERBATEX insulating protective hose series** (see image on the right) offer an environmentally friendly basalt-fibre knitted or braided fabric that is resistant to high temperatures of up to 700 degrees Celsius (working temperature). The basalt fibre is extracted from natural rock and manufactured in an environmentally friendly production process with low carbon emissions.

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The RTK031 COFDATA 50 031 105 FLEX-1 (left) and COFDATA 100 JSTP ETH 105-7 (right) signal lines

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The COMAN Mobile app

EFFICIENT AND SAFE DATA AND HV CABLES

Coficab Deutschland GmbH
Hall 1 | Stand 1326

2 World Premieres!

The coax cable **RTK031 COFDATA 50 031 105 FLEX-1** (see image on the left) offers very good IL and RL behaviour. It performs outstandingly in the M3 test of the LV213-2 standard without losing performance in EMC and RF behaviour. Another IZB world premiere from Coficab is the **COFDATA 100 JSTP ETH 105-7** (see image on the right), which allows frequencies of up to 6 GHz for cable transmission rates of up to 12 Gb/s. Another of the exhibitor's new innovations is the **COFData coaxial cable for headlamp applications**, which provides high flexibility and is optimised with regard to the environmental impacts of headlamps. Last but not least, the innovative and cost-effective **e-COF Power+ cable** comes with two different layers of insulation and combines the unique benefits of a SiR insulated conductor and a flexible XLPO jacket.

NEWLY MARRIED: PROGRESS RECORDING AND DEFECT MANAGEMENT

COMAN Software GmbH
Hall 5 | Stand 5301

World Premiere!

When COMAN Software GmbH added the lightweight LoP (List of Open Points) app to its project management tool COMAN five years ago, no one could have predicted just how much of a success story it would be. At the interface between OEMs and suppliers, the mobile app makes it possible to record the project progress of all parties involved and can be used as a basis for coordinating deadlines and reporting the findings from the store floor to the boardroom – in real time, with consistent data, customisable and audit-proof. The software company then tried its methodology in defect management – and what was intended to be a feature quickly became a standalone app. But since you can't plan defects and they appear at any time in the daily process, constantly switching between apps became increasingly annoying. The exhibitor therefore combined what belongs together and created a unique fusion of quality and time management in one app: the new **COMAN Mobile** (see image), an IZB world premiere.

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A comparison of the installation processes of a metric fastener and a thread-forming fastener

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The sleeves in the NU-CRUSH V1 range

EXCELLENT ELECTRICAL GROUNDING QUALITIES

CONTI Fasteners AG
Hall 6 | Stand 6306

Thread-forming fasteners (see image) have been used in industrial applications for decades because they help to save costs, simplify processes and eliminate quality problems. **TAPTITE PRO® fasteners** are an advancement in thread-forming technology. Their hand-to-glove fit offers excellent electrical grounding qualities, which are especially important in electric vehicles. When thread-forming screws are not an option but reliable and secure locking is required, **POWERLOK® II™ fasteners** are the ideal fasteners. They create a physical interference in the root of the threaded nut, which eliminates the need for physical and chemical locking solutions. In addition, POWERLOK® II™ fasteners offer excellent grounding qualities. They work well in both steel and aluminium and offer vibrational resistance and/or secure locking. They additionally provide excellent electrical grounding and can be removed and reused several times when necessary. The exhibitor's global licensing network is comprised of more than 85 companies at nearly 150 locations worldwide.

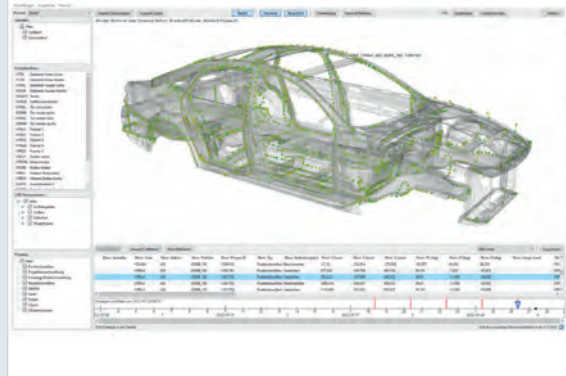
EFFECTIVE PROTECTION IN CASE OF COLLISIONS

DELFINGEN DE – Hassfurt GmbH
Hall 3 | Stand 3322

NU-CRUSH V1 is a range of woven sleeves made of high-tenacity PET. The products feature an extremely special weave design that was developed by DELFINGEN and gives these products their outstanding level of impact resistance. The products exist in two different constructions: tubular (NU-CRUSH V1) or self-closing (NU-CRUSH SC V1) for easy installation. **The new NU-CRUSH V1 range** (see image) is an improved version of the company's NU-CRUSH range. The versatility of the process gives DELFINGEN the ability to be more flexible in terms of colours, thus enabling it to offer a large palette of colours adapted to all application needs. NU-CRUSH V1 products can also be cut with a cold cutting process to avoid fraying. The sleeves were developed for applications on the cable harness and on wires and cables, but also on hoses and tubes, to provide protection in case of collisions.

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The graphical interface of the process visualisation

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The enhanced and expanded 10000 series

A COMPREHENSIVE SOLUTION FOR THE COMMISSIONING, ANALYSIS AND QUALITY ASSURANCE OF ROBOTIC PRODUCTION PROCESSES

Dressler Automation GmbH
Hall 6 | Stand 6338

RoboLive® is a comprehensive solution for the commissioning, analysis and quality assurance of robotic production processes. Its “Process Visualisation” (see image) enables monitoring of the equipment from project planning and throughout the product’s entire service life. All parties involved have the same data basis for their analyses and can therefore initiate specific corrections and monitor their implementation. The integrated best-fit algorithm and the “Vehicle-0 Determination” significantly reduce the effort required for the optimisation of and changes to plants. With the “Software Overview”, data that are relevant for planning are bundled and made available in one document. The “Path Calibration” shifts parts of the workload from the plant to the office, speeds up commissioning and enables the digital twin to be connected to the real plant. Last but not least, “Robot Documentation” replaces unused and obsolete archives with the current status at all times.

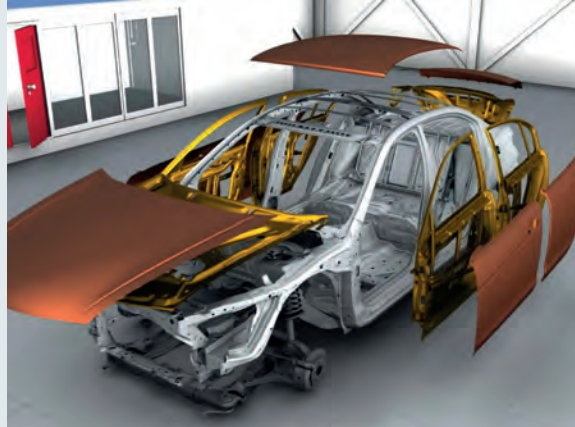
PROGRAMMABLE DC POWER PRODUCTS – BIDIRECTIONAL AND REGENERATIVE WITH AUTORANGING

EA Elektro-Automatik GmbH & Co. KG
Hall 1 | Stand 1125

The enhanced and expanded **10000 series** (see image) includes the EA-PS and EA-PSI programmable DC power supplies, the EA-PSB bidirectional DC power supplies and the EA-ELR regenerative electronic DC loads. More than 180 new models offer an impressive, enlarged power range from 0 to 600 W to 0 to 30 kW, output currents of up to 1000 A and output voltages of up to 2000 V. Users can look forward to powerful features that make working with the high-tech devices even easier and more efficient. These include parallel connections for high power systems up to 1.92 MW, allowing systems to be comprised of different power levels from 1.5 kW to 30 kW within the same product family, accessing a wider voltage and current range in one device with autoranging and, last but not least, a built-in arbitrary waveform function generator for creating AC and DC signals and for simulating fuel cells, battery cells and more.

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Virtual Prototyping technology

A LIGHTWEIGHT BODY AND CHASSIS THANKS TO MULTI-MATERIAL ASSEMBLIES

ESI Group
Hall 5 | Stand 5220

When it comes to the challenge of electrification, multi-material assemblies are critical to producing vehicle bodies that are both lightweight and cost-effective and to increasing energy efficiency during production. However, higher investments for powertrains translate into more conservative investments for the body and chassis. This increases the pressure to achieve better cost efficiency in vehicle engineering and manufacturing. Automotive manufacturers are now shifting towards a fully streamlined and virtual prototyping approach to assess feasibility, predict assembly processes and validate performance at very early stages of development in order to solve this conundrum. ESI is presenting the latest **solutions of its Virtual Prototyping technology** (see image) at the IZB 2022. Find out more at <https://bit.ly/3xJ0HoL>

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An optimal brake solution for the rear axle

AN OPTIMAL CORROSION-RESISTANT AND LIGHTWEIGHT SOLUTION FOR THE REAR AXLE

Fagor Ederlan S. Coop.
Hall 6 | Stand 6203

In electric vehicles, 80 percent of the braking comes from regenerative brakes, meaning that conventional mechanical brakes are used less. This reduced use increases the potential of corrosion issues on the brake system, meaning that specific solutions that are highly resistant to corrosion are now required. Fagor Ederlan pursues the goal of providing specific solutions for electric vehicles, in which sustainability, weight reduction and improved performance are the key focuses. With this goal in mind, the company has now launched its latest development: **EDERALSI Aluminium Brake Discs and Drums**. The final development step in the **EDERALSI** innovation programme is the production of its new **Aluminium Brake Drums** (see image), an optimal corrosion-resistant and lightweight solution for the rear axle that incorporates sustainable processes in terms of energy efficiency, recyclability and reduced waste.

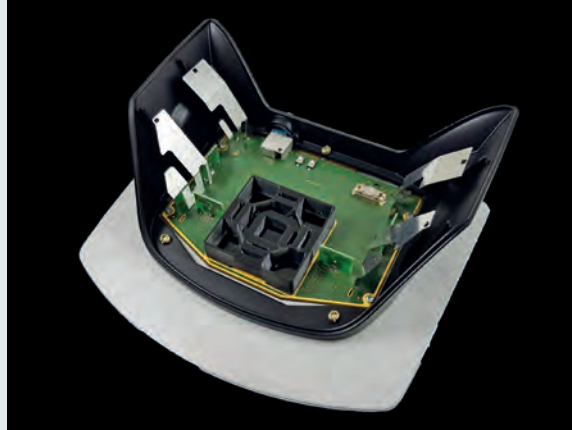
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The Fuba Smart Antenna

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The Haptic Evaluation Board (HEBO – on the left) and Manual Artificial Finger (MarFi – on the right)

ANTENNA ARRANGEMENT THAT SUPPORTS ALL RELEVANT RF COMMUNICATION STANDARDS

Fuba Automotive Electronics GmbH

Hall 2 | Stand 2610

Fuba Automotive Electronics GmbH is presenting a full running prototype of its **Smart Antenna** (see image) for all services within the automotive standard at the Merit Automotive Electronics Systems stand. The highly sophisticated antenna arrangement supports all relevant RF communication standards and integrates all antennas and all receiving electronics on one PCB. The data is then provided via Automotive Ethernet in the car.

A MEASUREMENT SYSTEM FOR THE UNCOMPLICATED MOBILE QUANTIFICATION OF HAPTICS

GREWUS GmbH

Hall 3 | Stand 3424

Especially in the field of prototyping haptic technologies, complex development kits are often needed to generate the desired haptic signal. With the new **HEBO** (Haptic Evaluation Board – see image on the left), the exhibitor GREWUS GmbH offers a simple and comprehensive solution to meet this requirement. Users can connect many types of electromagnetic actuators to HEBO and also easily customise the haptic feedback. A simple UI can be used to select the haptic feedback signal for the actuators and the trigger. With **MarFi** (Manual Artificial Finger – see image on the right), GREWUS has developed a measurement system for the uncomplicated mobile quantification of haptics – a world first. The significant advantage of this device is that it doesn't need a complex setup – just connect MarFi to the software and get started. This ready-to-use measuring system impresses users with its precise measurement results, handy shape and uncomplicated application method.

World Premiere!

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The IONSTAR ionising gun

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Magnetic wire

EVEN MORE TOP PERFORMANCE FOR THE BEST PAINTING RESULTS

Herrmann Innovations GmbH

Hall 6 | Stand 6326

A clean surface is an important basic requirement for the painting process. Dust, lint or other contaminants on the vehicle surface lead to defects and dust inclusions in the paintwork, which must then be removed. Dark edges, cloud formation or colour-matching difficulties also extend the post-processing and polishing time. The result: lower productivity and higher costs. **IONSTAR** (see image) is a unique solution to all these problems. As the world's first anti-static gun with innovative fibre-optic technology, the device offers even better performance and works without any external power source or batteries. Its built-in air turbine supplies the necessary power when connected to the existing compressed air system in the spray booth. IONSTAR does not require cables, rechargeable batteries or battery packs and therefore offers more freedom of movement and easier operation. In addition, the ionising gun has a much lower weight of 240 g as a result.

TEMPERATURE-RESISTANT SOLUTIONS FOR ELECTRIC MOTORS

HEW-KABEL GmbH

Hall 2 | Stand 2207

The further development of e-technology poses major challenges for the automotive industry, especially when it comes to engines. Electric motors not only have to be more compact and designed for mass production but also need to produce higher power and have a longer lifespan. Temperature resistance additionally plays a major role. Conventional enamelled copper wires have reached their limits, and improved insulation is now crucial. HEW-KABEL solutions are available with **round, profile and hollow chamber profile wires** (see image) that reliably meet this requirement. In addition, the company has developed a particularly powerful **alternative to enamelled copper wires**, which is based on fluoroplastics and guarantees 100-percent adhesion between copper and plastic. The result is permanent temperature resistance of up to 260 degrees Celsius.

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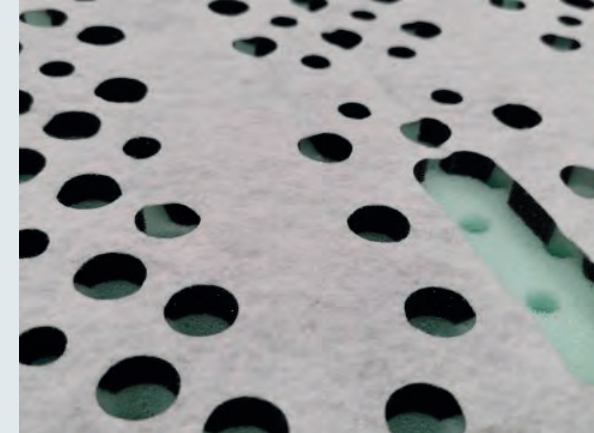
A forged structural component made of aluminium

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A carrier material for improved ventilation of seat surfaces

MAXIMUM FUNCTIONALITY WITH MINIMUM WEIGHT

Hirschvogel Holding GmbH
Hall 4 | Stand 4313

The forged aluminium components (see image) manufactured by Hirschvogel combine maximum functionality with minimal weight. Here are three examples: heat sinks for pulse inverters support thermal management in the vehicle thanks to optimum conductivity and pressure-tightness; high-strength and ductile structural components for battery boxes protect the battery while also performing an underbody or bodywork function; and drive-independent chassis components such as steering knuckles, wheel carriers and control arm components additionally contribute to weight optimisation. As a result, vehicle concepts make gains in terms of safety and range. At the IZB, the exhibitor is providing an insight into its growing range of components for the clean mobility of the future. Its new products include a **structural component for enhanced protection of the battery box**.

BETTER VENTILATION WITH CONSTANT FAN POWER

I.G.Bauerhin GmbH
Hall 2 | Stand 2109

I.G. Automotive, a leading supplier in the electric seat heating and seat air conditioning market, has succeeded in developing a completely new **approach to distributing and controlling the airflow in seating**. This new solution, which is now readily available for series production, is being presented as a world premiere at the IZB. The innovative approach is based on a carrier material (see image) that is in turn based on the comfort requirements of the seat manufacturer and aims to achieve targeted adjustment of the air flows for optimal use of the cooling capacity. The solution uses a foam which, with the help of a newly developed manufacturing process, directs the airflow to where it is needed to cool passengers. Thanks to its cooperation with various OEMs and Tier 1 suppliers and the in-depth analysis of the air flows, the exhibitor has succeeded in improving the ventilation of the seat surfaces while maintaining the same fan performance.

World Premiere!

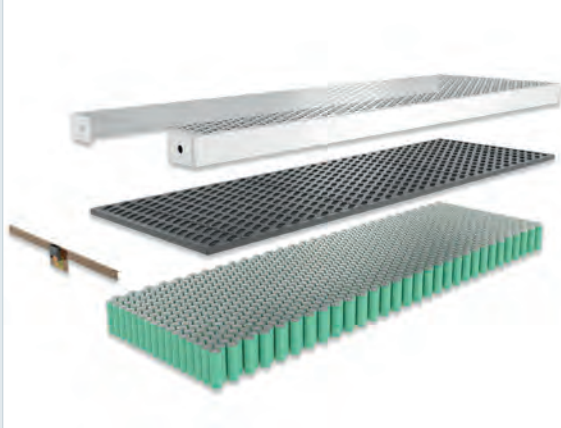
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The Cell-PLX Battery Interconnect System

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A forged and machined shaft

A ROBUST AND CUSTOMISABLE SOLUTION FOR ALL EV BATTERY DESIGN NEEDS

Interplex

Hall 1 | Stand 1229

When it comes to addressing battery design and assembly challenges, there is no “one-size-fits-all” approach because each challenge has its own set of specifications. Interplex’s **Cell-PLX™** (see image) addresses these challenges with a custom Battery Interconnect System that is designed to provide battery manufacturers with a single robust, customisable and cost-effective solution for the full range of design requirements. Cell-PLX™ connects battery cells to current collectors and can be used with cylindrical, prismatic or pouch battery modules. It offers the option of high-speed, robust laser-welded attachment to the cells, thus enabling efficient production processes, lower manufacturing costs and high-volume operations. As a global solutions provider with vertically integrated in-house production capabilities, key OEMs and Tier 1 suppliers trust Interplex to design, develop and manufacture custom battery solutions to reduce their total cost of ownership (TCO).

OUTSTANDING TECHNICAL PART COMPLEXITY

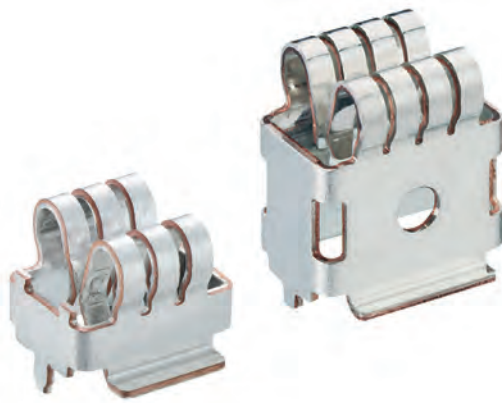
Jesus Oñate, S.A.

Hall 5 | Stand 5217

Jesus Oñate has been producing complex metallic components since 1879 and is presenting its **new special parts** at the IZB 2022. The company developed these new parts by applying and combining the most innovative techniques in the preparation of the raw material and the cold-forging and machining processes. On the one hand, utilising the fully robotised facility enables the company to use the raw material in such a way that it can significantly reduce its purchase price, and on the other hand, the company applies edge cold-forging techniques using extremely competitive mechanised equipment. By cleverly combining both techniques, Jesus Oñate is able to offer the best of the net shape concept and the best profile definition by means of soft and hard machining. The result is outstanding technical part complexity and quality (see image) accomplished with highly competitive prices.

Press contact:

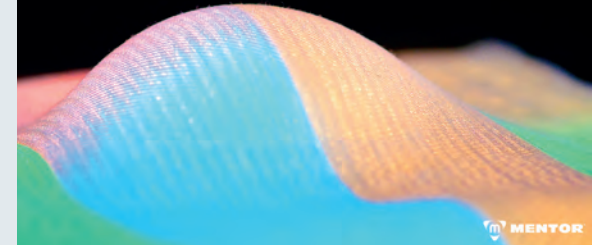
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*High-current contact elements with positioning pegs –
4580 04 and 4580 03*

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A textile lighting system

A BOOM FOR HIGH-CURRENT CONTACT ELEMENTS

Lumberg Connect GmbH
Hall 1 | Stand 1118

Lumberg has been producing customised high-current contact elements for automotive applications (see image) for more than 15 years. Its products are installed in millions of mechatronic modules and control units, especially in current electric vehicles. They are also recommended for use in industrial electric motors. In tight spaces in particular, the phase contacts, which are plugged into standard tab contacts, optimally connect PCBs that are on top of each other. The phase contact, which is SMT-soldered onto the PCB but can just as successfully be laser-welded onto a lead frame, makes vertical contact with a blade contact on the second PCB. Phase contacts with a plug-in area that is open on both sides are a special feature: here, the tab contact can optionally be inserted from above or, through the circuit board, from below. The exhibitor is presenting its **latest contact elements** at the IZB.

TEXTILE LIGHTING SYSTEMS FOR INNOVATIVE LIGHTING SOLUTIONS

MENTOR GmbH & Co Präzisions-Bauteile KG
Hall 2 | Stand 2401

The technology of **textile lighting systems** (see image) offers great advantages for the realisation of innovative lighting solutions and creates possibilities for completely new lighting applications in a variety of vehicle areas. The lighting system can be formed into (almost) any shape and therefore offers particularly high flexibility in the use of installation space as well as fascinating possibilities for dynamic lighting scenarios in both textile and non-textile automotive applications. Due to the flexibility of the material, textile lighting systems can also be integrated into crash-sensitive zones. This allows the illumination of larger areas in vehicle zones that would not be permissible with other technologies. With regard to the trend of autonomous driving, textile lighting systems also offer numerous possibilities for intelligently integrating light into the vehicle interior, both as an ambience element and a communication component.

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The Intelligent Human Interface (IHI)

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Mechanical recycling (left) and recycling concept (right)

INCREASED DRIVING INTELLIGENCE, SAFETY AND COMFORT

Merit Automotive Electronics Systems
Hall 2 | Stand 2610

Merit's **Intelligent Human Interface** (IHI, see image) is designed to make the driving experience smarter, safer and more enjoyable. It features innovations such as a steering wheel that combines all functions within reach of the driver's fingertips, giving them the opportunity to personalise and embed their favourite items. By offering direct access to the most used commands, the steering wheel improves driving safety. Thanks to the reconfiguration approach, the functions of the lever are also implemented in the steering wheel. This simplified solution is style-oriented, lightweight and convenient for electric and autonomous cars.

RECYCLING ALL KINDS OF ENGINEERING PLASTICS

MKV GmbH Kunststoffgranulate
Hall 3 | Stand 3147

MKV GmbH Kunststoffgranulate is a company involved in the mechanical recycling of plastics. Founded in 1960, MKV has promoted the establishment and development of the circular economy since day one. It focuses on recycling all kinds of engineering plastics. Due to their special properties and longevity, engineering plastics play an important role in a wide variety of industries, including the automotive sector. Their advantages become apparent once the raw material is fed back into the loop, with recyclates providing benefits such as reducing the carbon footprint, increasing yield and becoming part of the circular economy. Innovations and trade fair highlights of MKV on display at the IZB include **mechanical recycling, recycling concepts (see image) and CO₂ savings by means of recyclates.**

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The plant-based high-performance cellulose separator for EV Li-ion batteries

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The upper part of the fronted carrier

A BATTERY SEPARATOR MADE FROM 100-PERCENT CELLULOSE

NAGASE Europa GmbH
Hall 1 | Stand 1411

The world's first **plant-based high-performance cellulose separator for EV Li-ion batteries**, NAGASE, is being presented at the IZB 2022. The battery separator (see image) is made from 100-percent cellulose. This purely organic and environmentally friendly separator gives the battery high performance and stability. Compared to inorganic separators like PP film, it has low electric resistance, high capacity retention after galvanostatic cycling and better dimensional and thermal stability. These properties improve the battery's input-output characteristics and give it a longer cycle life for a quicker charging time, better low-temperature performance, a better high-rate charge and discharge and better suitability for high-voltage applications. In the battery manufacturing process, our separator can also help to improve production efficiency by shortening the drying time and electrolyte impregnation time.

A FRONTED CARRIER WITH 20-PERCENT MINERAL-FILLED POLYPROPYLENE COMPOUND

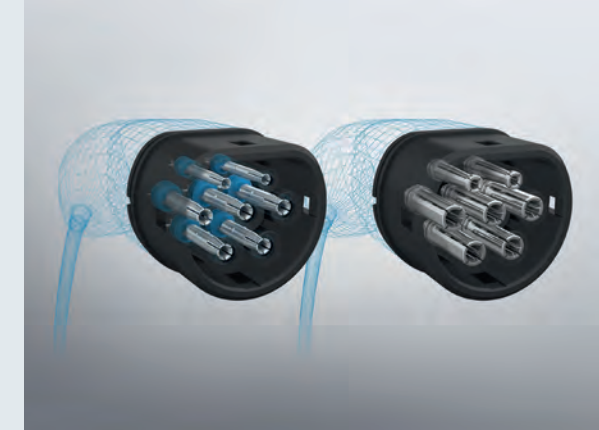
nexeo Plastics Germany GmbH
Hall 3 | Stand 3240

Nexeo Plastics has helped a Tier 1 supplier to develop an **upper part of the fronted carrier** (see image) for a German OEM. The material of choice was Borealis MS64T20-9502, a polypropylene compound with a 20-percent mineral filling intended for injection moulding. This material has excellent balanced mechanical properties and is easy to process. It has been developed especially for the automotive industry, namely for cowl vent grilles and exterior and interior automotive applications. Several key factors contributed to the success of this project, especially the fact that the material was already validated by the OEM and that the Business Development Engineer Team at Nexeo Plastics provided its support extremely rapidly. Thanks to cooperation with Tier 1 and material suppliers and in-depth analysis of the material flows, the exhibitor has succeeded in integrating Borealis MS64T20-9502 into this project.

www.nidec-gpm.com



www.odu-automotive.com



The ODU TURNTAC charging contact (right)

PRODUCT DEVELOPMENT BASED ON ECO-FRIENDLY “GREEN TECHNOLOGY”

NIDEC GPM GmbH
Hall 1 | Stand 1105

In recent years, there has been a trend of vehicles becoming increasingly fuel-efficient and highly value-added, with more than 100 motors installed in each automobile. NIDEC'S AMEC Business Unit develops its business on a global platform and makes concerted efforts to develop and manufacture its products to meet the needs of customers all around the world. Its current main products include electric power steering motors, which use Nidec's core high-performance brushless DC motor technology; electric brake motors; dual-clutch transmission motors; electric pumps and motors; a wide variety of compact-size brushed motors and traction motors for EVs and hybrid electric vehicles. NIDEC is especially focused on product development based on eco-friendly "green technology" and will be showcasing its **latest innovations** at the IZB.

PERFECT COORDINATION OF DESIGN AND PRODUCTION METHOD

ODU Automotive GmbH
Hall 1 | Stand 1207

ODU Automotive GmbH was founded in 2004 as a subsidiary of the company ODU GmbH & Co. KG. Since the early days of e-mobility, manufacturers have relied on the innovative connector and contact systems of this globally active specialist. Thanks to 80 years of manufacturing expertise, customers have been able to rely on ODU Automotive right from the start and make the most of its high vertical range of manufacture, even largely independent of world markets. The **ODU TURNTAC® charging contact** (see image on the right), for example, is ideal for charging plugs or charging cables. Thanks to the perfect coordination of design and production method, the contacts are suitable for high volumes and are manufactured with a correspondingly high output on high-performance lathes – in the usual ODU quality. Trade visitors can find the company at Stand 1207 in Hall 1 at the International Suppliers Fair (IZB) from 11th to 13th October 2022.

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A single-track cargo bike

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The ASM 306 S helium and hydrogen sniffer leak detector

MAKING TRANSPORT EASIER

Pendix GmbH
Hall 5 | Stand 5301

Pendix GmbH and VSC Bike GmbH form the Pendix Group, which combines innovative drive technologies and industrial cargo bikes in one company. The Group's largest customer is Deutsche Post AG, which uses its single and multi-track cargo bikes (see image). More and more companies are now also relying on Pendix's robust factory bikes for internal transport, including Volkswagen AG sites. The cargo bikes, which can carry a total weight of up to 280 kg, are driven by a powerful motor. The products are complemented by a range of competent services, including UVV inspections on request. In addition to low downtimes, customers benefit from the low complexity of the cooperation. At the IZB 2022, Pendix is presenting its latest developments such as **cargo bikes with a higher transport volume** and the new **hub drive**, which is also available as a serial-hybrid variant.

A HELIUM AND HYDROGEN SNIFFER LEAK DETECTOR FOR EASY AND ACCURATE FULL-TIME SNIFFING OPERATIONS

Pfeiffer Vacuum GmbH
Hall 5 | Stand 5305

With the **ASM 306 S** (see image), Pfeiffer Vacuum offers a state-of-the-art product that supports a variety of applications. The helium and hydrogen sniffer leak detector is designed for 24-hour use, even in harsh environments. With its high sensitivity of $1\text{E-}07$ mbar l/s, it enables precise and error-free measurements that meet the stringent requirements of automotive applications. Designed to perform fast and repeatable measurements, this instrument offers short recovery times and in turn ensures maximum operational availability coupled with low maintenance and reduced service costs. Its compact design and small footprint, which are unique in the industrial sniffer market, make it easy to integrate into the production line, and it has proven itself in leak testing in the automotive sector in particular.

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PRYCHARGE AC and DC charging cables

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A 3K thumbwheel produced without chromium(VI)

ROBUST, FLEXIBLE AND EASY TO USE

Prysmian Kabel und Systeme GmbH (Prysmian Group)
Hall 1 | Stand 1227

For the fast, easy and reliable charging of electric vehicles, the Prysmian Group has developed optimised charging cables that are both robust to withstand changing temperatures and years of use and flexible and easy to use – **PRYCHARGE AC and DC charging cables** (see image). Thanks to optimised cross-sections, both types of cable are lighter, more flexible and easier to handle than comparable products. In addition, they are extremely cold-resistant (to -40 degrees Celsius) and still remain highly resilient and user-friendly due to their specially cross-linked EVI-2 HEPR rubber power cable insulation. This special insulation additionally allows conductor temperatures and current-carrying capacities of up to 120 degrees Celsius for the DC variant. Cross-linked control cores increase the resistance of the cables to mechanical impact and give them a significantly longer service life.

ABS, ABS/PC AND PA PLATING WITHOUT CHROMIUM(VI)

SAXONIA Galvanik GmbH
Hall 3 | Stand 3209

Due to the current REACH process in the European Union to ban the use of hexavalent chromium, it is necessary to substitute chromium(VI) processes in the long term. As an innovative company, SAXONIA Galvanik GmbH has already rebuilt some of its production lines so that it can **mass-produce plastic parts completely free of chromium(VI)** (see image) in parallel with its former production process. The deposition of the final layer from a chromium(III) electrolyte is already established on the market. The pre-treatment for both ABS and ABS/PC (single and multi-component parts) and polyamide has been in place for more than a year in the exhibitor's series production plants. Normal sampling of existing serial parts is possible without changing the parameters of the injection moulding. Approvals for this process have been received from various OEMs, especially AUDI, VW, Daimler and Stellantis.

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The axial grounding contact – designed for use in wet (heavy oil load) and dry applications

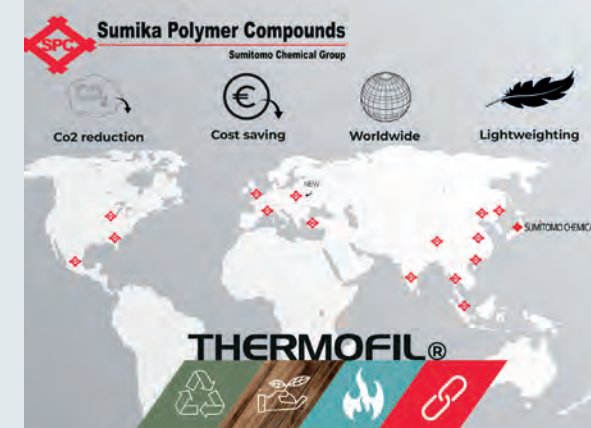
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The advantages of THERMOFIL

INNOVATIVE SOLUTIONS FOR SAFEGUARDING ELECTRIC POWERTRAINS

Schunk Carbon Technology GmbH
Hall 1 | Stand 1315

The challenge: Originating from the power electronics (especially SiC), parasitic shaft voltages can be observed on the shaft. They cause severe sparking inside the bearings that lead to noise and – in the worst case – even broken bearings and broadband radio interference. The IZB exhibitor Schunk has developed a solution to this problem: the innovative Schunk shaft grounding contacts discharge the capacitive interference currents directly via a grounding contact. This technology offers effective protection against damage to the bearing and minimises the radio frequency interference emitted by the shaft. Schunk's latest development, the **axial grounding contact** (see image), has been designed especially for oil-based applications. This brand-new product achieves the best suppression rates in combination with an extraordinarily low wear rate.

A DROP-IN SOLUTION FOR MORE SUSTAINABLE CARS

Sumika Polymer Compounds
Hall 3 | Stand 3301

The main range of Sumika Polymer Compounds is comprised of THERMOFIL HP®, a high-performance short-glass-fibre polypropylene (see image). The development and continuous upgrading of this range have made it the reference in terms of weight reduction and cost savings in automotive structural parts. What's more, technological breakthroughs have allowed the creation of related products such as THERMOFIL FR® flame-retardant high-performance compounds. At the same time, the company has also understood the necessity of developing alternatives to virgin compounds since 1992. Against this background, it additionally offers **THERMOFIL CIRCLE®** as a pioneer in the field of recycled short-glass-fibre polypropylene. This drop-in solution aims to replace new materials and contribute to more sustainable cars in the future.

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SurTec 650 protects the battery housing

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The Cross Charger electrified turbocharger

OPTIMAL CORROSION PROTECTION FOR THE BATTERY HOUSING

SurTec International GmbH
Hall 3 | Stand 3127

SurTec offers cleaning technologies throughout the manufacturing process, high performance, light metal corrosion protection and decorative chrome plating for interior and exterior use. Choosing the right surface treatment technology enables the production of state-of-the-art lightweight battery housings with reliable and durable lifespans. The **power brand "SurTec 650"** is the chromium(III) benchmark pre-treatment technology at leading OEMs and Tier 1 suppliers. In combination with a gasket, it optimally prevents corrosive seal creepage of moisture into the battery compartment and ensures low electrical contact resistance (see image). The technology also provides electromagnetic compatibility and is therefore the perfect solution for surface treatment of, for example, battery pack housings and electronic control unit housings. Due to its best-in-class bare metal corrosion protection, additional e-coating applications of the battery housing could be considered redundant.

THE CROSS CHARGER TAKES A LOAD OFF COMBUSTION ENGINES

Swoboda
Hall 2 | Stand 2106

Combustion engines are facing increased demand for emission and consumption reductions with reduced development budgets at the same time. Swoboda's patent-protected electric turbocharger actuator, **Cross Charger** (see image), offers vehicle manufacturers a solution that enables them to achieve an increase in fuel savings of up to ten percent and cleaner and more powerful gasoline, diesel and hybrid drives without typical turbo lag. No other competitor offers the option of using or leaving out electrification from one and the same turbocharger. In test bench trials, a 2-litre diesel engine consumed up to ten percent less fuel and emitted 40 percent fewer nitrogen oxides (NOX). With the Euro 7 standard planned for 2025, the amount of NOX needs to decrease many times over, and after a much shorter engine warm-up at the same time. Swoboda makes it easier for all vehicle manufacturers to achieve these targets.

World Premiere!

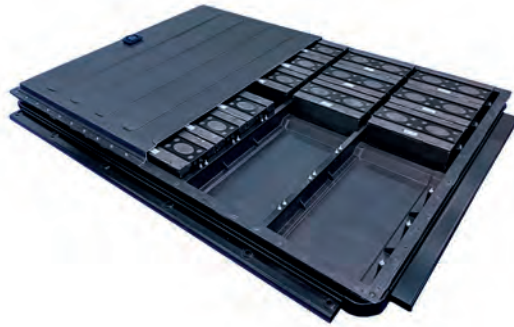
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A multi-material battery electric vehicle

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The membrane synthetic leather Parmia, filter media ELITOLON, polyester PEN film Teonex and composite material HAYATE

NON-CONDUCTIVE FEATURES, THE ABILITY TO MOULD COMPLEX SHAPES, SEALING FEATURES AND SHIELDING

Teijin Automotive Technologies
Hall 3 | Stand 3303

Teijin Automotive Technologies has developed a **multi-material battery electric vehicle** (BEV, see image) enclosure that meets the most stringent static, dynamic and regulatory requirements while reducing overall weight. Additional benefits of this enclosure include non-conductive features, the ability to mould complex shapes, sealing features and shielding, less complexity in tooling, high strength, dimensional stability, corrosion resistance and reduced tooling costs. Furthermore, the glass-fibre composite materials allow for greater design freedom and parts integration compared to metallic options. Additionally, the seamless box structure is watertight and cost-competitive over an aluminium structure. Teijin Automotive Technologies is a leading global Tier 1 automotive supplier for light eight composite solutions with strong integration along the value chain.

EV MOTOR INSULATION, FUEL CELLS AND FLEXIBLE WIRE HARNESS APPLICATIONS

TOYOBO Chemicals Europe GmbH
Hall 3 | Stand 3208

Toyobo is a long-established Japanese manufacturer that was founded almost 140 years ago. Over its long history, the company has cultivated its manufacturing expertise and developed its business by offering solutions for mobility and society. The company's core technologies include polymerisation, modification and processing of polymers, which were accumulated from the development of synthetic fibres. The IZB, Toyobo is introducing its heat-resistant **polyester PEN film "Teonex®"** for EV motor insulation, fuel cell and flexible wire harness applications. It is additionally presenting its electrostatically charged **filter media "ELITOLON™"**, the porous **membrane synthetic leather "Parmia®"** and its carbon-fibre-reinforced **composite material "HAYATE®"**. Looking to the future, Toyobo aims to offer high-function materials that offer added value for the future of mobility, in line with its motto of "Ideas & Chemistry".

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The MX Prime Seat with innovative features (left) and an MX 221 Concept vehicle (right)

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Sample plant from the inside

TIME AND SPACE QUALITY FOR YOUR JOURNEY

Toyota Boshoku Europe N.V.
Hall 3 | Stand 3224

When a ride in the car becomes a life experience – with a mist and aroma generator, cloud swing seats and an intelligent individual audio system, discover **MX Prime concept** (see image) and see how Toyota Boshoku creates a personalised, safe driving experience. This concept was born to shape the future mobility of urban cities. Let's start with a smart seat with comprehensive features available directly via smartphone and add an exclusive interior space that fosters well-being to achieve a driving experience on a completely new level. MX Prime cares about comfort, health and safety. Need to sanitise your phone? No problem! How about comfort pneumatic functions? You can have it all! Want to relax while on the move? Enjoy the gentle swing-motion seats! This is what a cosy interior space is all about: new technologies and top-notch innovations.

PROGRESSIVE LASER PROCESSING FOR THE PRODUCTION OF BIPOLAR PLATES AND SHEET METAL ASSEMBLIES

Weil Technology GmbH
Hall 5 | Stand 5218

Weil Technology supports fuel cell applications with innovative system technology using laser welding and cutting for the production of metallic bipolar plates. The company's manufacturing solution for PEMFC, PEMEC, SOFC and SOEC relies on innovative laser scanner technology. The patent-pending **welding module** achieves process-reliable welding speeds of 1000 mm/s for high output in a compact installation space. The system (see image) is equipped with tool holders for interchangeable tools and offers high flexibility. For this purpose, Weil Technology has developed its own automated **clamping technology to control the welding process**. In the area of sheet metal assembly production, the exhibitor's flexible laser solutions ensure increased added value: variable system technology combines efficient laser welding and cutting of sheet metal assemblies with individual concepts and other manufacturing processes.

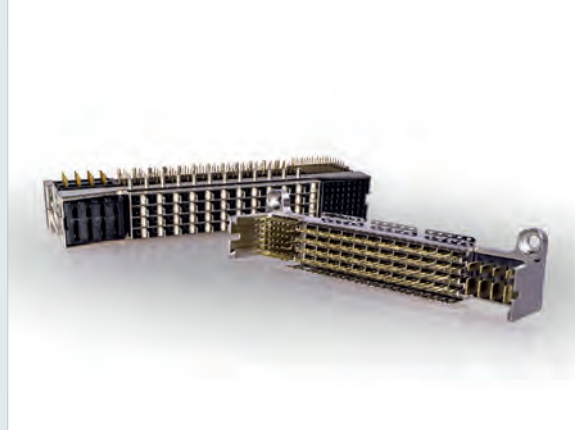
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Yamaichi-Car-Computer-Connector (Y-CCC)

A CAR COMPUTING CONNECTOR FOR GROWING DATA STREAMS AND HIGH POWER PROFILES

YAMAICHI ELECTRONICS Deutschland GmbH

Hall 1 | Stand 1327

In close cooperation with a large German OEM, Yamaichi Electronics has developed an interface that is above all equipped to deal with the significant growth of data streams within the vehicle and high power profiles. The interface is called the Y-CCC, which stands for **Yamaichi-Car-Computer-Connector** (see image). With this hybrid connector, it is possible to accommodate the requirements for power, signals and high-speed data in one receptacle size and transmit them accordingly. To meet the high demands of the automotive industry (with regard to vibration, shock etc.), the materials and the design were laid out and internally tested according to common automotive standards such as LV214 and VDA. The zinc die-cast connector housing can be taken as an example. It offers an optimal compromise in terms of electrical shielding properties (signal integrity) and the required vibration resistance.

Patrons:



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