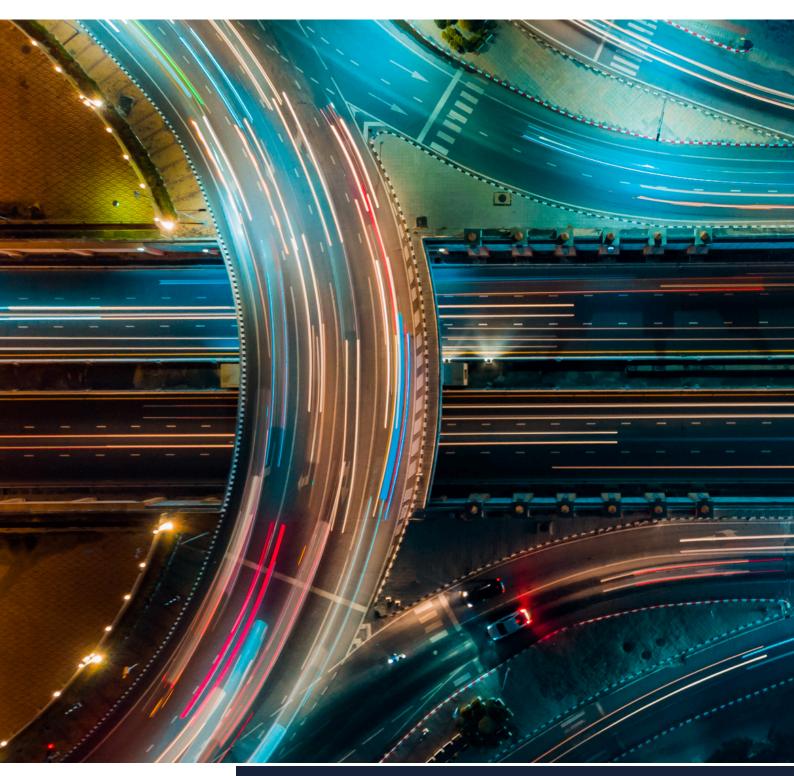
PGUB | Management Consultants



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WELCOME

by Peter Gresch

Dear Customers and Business Partners,

According to the Roman poet Ovïd, everything changes, but nothing perishes. Due to the many challenges, which the Automotive industry is facing, PGUB has been on a steady growth path over the last years for and with our customers.

One result is that a new company emerged from PGUB in April: Protonik GmbH. Matthias Brendel, Co-General Manager at PGUB since August 2022, and seven colleagues - all part of our hydrogen team - have moved from PGUB to Protonik in April. Over the past two years, they built up a new field of expertise for PGUB, thus enlarging our offer of topics and services. A few months back, when discussing the way forward, we agreed that this new setup was better suited to work the somewhat different markets. Both companies will continue to work together and share our office and administration in Wiesbaden.

Time to say good-bye: Josef Schriek, Executive Consultant at PGUB since 2021, has started his retirement time. He and I have known each other for several decades and worked together in many changing constellations. I am very grateful that he chose to work at PGUB for the last three years, and we will cherish the moments together. My team and I wish him all the best for the years to come!

In parallel, we welcome Karsten Reiß as Executive Consultant and authorized officer in our company starting May 1st. Among other things, he will take over some of Josef's responsibilities.

From the industry we keep hearing that 2024 will be another tough year. E-mobility, for now, has lost some of its momentum. Lay-offs and business adjustments are being announced and the situation for many companies remains critical. PGUB, of course, will continue to help and support our customers under all circumstances. Our slogan remains, after all: **Partners for Growth, Underpinning your Business!**

Finally, we are expanding our training, marketing, congress and exhibition activities, including additional partner booth concepts. To support this line of work, Günter Ettinger and Julian Weymann joined the company in April. Both have been active in this field of expertise for many years.

We look forward to working with you, carefully listening first and then proposing the best way forward. While everything changes, our dedication to support you remains unscathed.

Yours sincerely,

Peter Gresch



#Bordnetzkongress

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BOARDNET REVOLUTION

by Dr. Thomas Stange

It is that time of the year when boardnet experts prepare to converge on Ludwigsburg, just north of Stuttgart. There to meet for the 12th International Conference on Automotive Wiring Systems – or simply the "Boardnet Congress". And as every year, PGUB and some of our client companies will be there as well. Joining us this time are Telamon (US), JX Metals (JP), Rutronik, MTG Montagetechnik and CTM Dortmund (all DE).

These are exciting times for the boardnet community. Over the decades, they have seen many changes and developments. But what used to be a stream of evolutionary steps to an even higher content in Electronic Control Units (ECUs), actuators and sensors – and, hence, cables – now turns into a revolution.

Normally any of these buzzwords – Electrification of the Powertrain, Autonomous Driving features or Software Defined Vehicle – would mean years of fascinating and challenging work for the boardnet pundits. Now, all of these developments come about at once! Creating an abundance of topics for the presentations and interactions during the breaks and the evening event. Need some suggestions?

- Zonal Architectures will require higher amounts of software code, more powerful computing and less cabling. One can expect between two and six zones – before some OEMs will switch to one or two central High Power Computers as the "brain" of car operation.
- The rise in data rates has already started when cameras and radars came aboard. Lidars for more and more autonomous driving are further boosting the need for Automotive Ethernet connections going beyond today's 1 Gbit/s standards.
- Speaking of autonomous: here, more and more components and subsystems will need to reach functional safety levels C or D. This, in turn, will require safety critical systems to be implemented in a redundant fashion.



BORDNETZE

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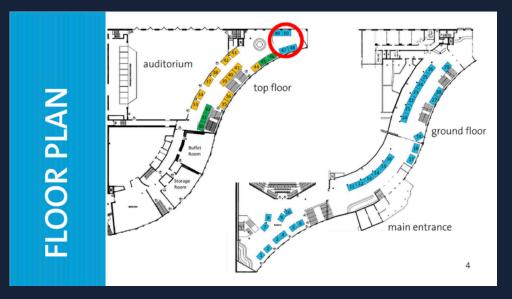


- Which voltage levels will prevail? For driving, 800V will probably gain traction at least for midsize and large passenger cars. Will this evolve further to 1000V or even 1200V? And what about the low voltage levels? Is 48V going to replace fully or only in part in part the traditional 12V boardnet?
- Or, if you are more interested in cable harness manufacturing topics: how is the automation of cable manufacturing going to progress over the next few years?

As for the subjects to talk about in our exhibition space (red circle in below's floorplan), these range from cable assemblies (Telamon and MTG) via EMC shielding with rolled copper foils (JX Metals) and non-destructive testing (CTM) to sourcing smaller volumes of parts from a specialized distributor (Rutronik) to technical consulting in E/E architecture matters (PGUB).

Clearly, you should note down the date: the congress will take place on May 7th & 8th. PGUB secured a special part of the first floor exhibition zone where you can engage with our clients and us over a coffee or a soft drink. The future car as a "mobile living room" may yet take a while to become our everyday's reality, but the meetings and discussions to get there are held in Ludwigsburg.

So, you better be there!





OUR PARTNERS @ BOARDNET CONGRESS

Rutronik's Automotive Business Unit (ABU) focuses on strategic issues in the vertical market segment of automotive electronics. The ABU supports their customers in mastering the transformations in this market and thus enables a win-win situation for the benefit of all parties involved. The Automotive Business Unit holds a unique position as an intermediary between manufacturers of electronic components and customers. Our suppliers include Vishay, Infineon, ROHM, Diodes Inc. and many more. Decision- makers from Tier-1, Tier-2, from component manufacturers and service providers – whether from the engineering or manufacturing sectors – appreciate partners to gain momentum together.

With a 30-year heritage in supplying wire harness solutions to the automotive industry, our operational excellence encompasses design, engineering, and manufacturing. Our team is dedicated to exceeding your expectations by working together to deliver the added value expected by leading Tier 1 and OEMs. Our focus has been to develop long lasting relationships with our customers and support them through all aspects of their business. We continually strive to perform at ZERO DEFECTS and 100% on-time delivery. We are certified to ISO 9001:2015 and IATF16949 standards at all of our manufacturing facilities to ensure this high-quality commitment is maintained across all of our operations. Telamon is dedicated to providing solutions to fit your specific needs.

Employing advanced metal fabrication technology cultivated over the years of business, the Company has become a global supplier in the automotive sector of copper foils for FPCs, which are used in flexible circuit boards. In addition, JX's main products are precision copper titanium alloy and Corson alloy in connectors and shielding parts within the boardnet. Our focus has been to solve the increasing EMI problems in the automotive industry by covering ECU housings with 3D-formable Cu-PET composite [Mighty Shield®] and cables with Sn-Cu-PET – highly corrosion resistant Sn-plated Cu foils.

We are a future-oriented, innovative company with the claim to provide you with qualified support. Since 1993, we offer various solutions for planning, development and production of electrical and electronic systems. From concept to finished product, our slogan is not chosen arbitrarily, but reflects the dynamics throughout our company: **POWER ON DEMAND.** We realize new projects through continuous, intensive cooperation with the R&D departments of our customers – from the initial concept to series production. We manufacture electrical networks for the automotive industry according to customer specifications. Complete wiring systems, from small series to large-scale production, are a specialty of our production.





OUR SPORTIVE HIGHLIGHTS

by Corinna Gottschalk



Kim Kalicki with Costa Laurenz, Peter Gresch, Tanja Fasshauer and Ute Buss



Kim Kalicki has won a bronze medal at this year's Bobsleigh World Championships in Winterberg.

It was a nerve-racking racing weekend: minor mistakes during the final race led to a loss of time and so Kim and her pusher, Leonie Fiebig, ended up in third place. In the lower area they even achieved a track record, which opponent Laura Nolte eventually caught up with again.

The race was a great success for the German women. Lisa Buckwitz and Vanessa Mark were happy about winning gold, closely followed by the silver bob with Laura Nolte and Deborah Levi.

The Wiesbaden supporters who came along, including Peter Gresch, chairman of TuS Eintracht Wiesbaden, and Ute Buss, chairman of WISPO (Wiesbaden Sports Promotion), are proud of Kim: "A great experience, it certainly wasn't the last time", said Ute Buss, who was very impressed by the atmosphere.

Another sporting highlight is the WTO, which will take place from April 28th to May 5th at the T2 Sports Health Club Nordenstadt in Wiesbaden. This year's prize money is at 100,000 USD. We are looking forward to an exciting women's tennis tournament full of thrilling "battles" out on the court.

The WTO is a family-organized tennis tournament. In the last years it has become the largest tournament in Germany within the International Tennis Federation (ITF). Some participants made it into the top 50 of the international world ranking.

As "Wiesbadeners" we are proud to be a sponsoring partner and to support women's tennis and excellence.



THE IMPORTANCE OF TRAINING

by Dr. Thomas Stange

Trainings are an integral part of developing the workforce of a company. In the case of newcomers, they can give a first introduction to a given subject. But they can also be about refreshing knowledge and skills or about updating them to the latest, the current state-of-the-art. In the automotive industry, trainings are very common because of the overall evolution of knowledge, because of fluctuation, changing roles or new trends.

Training, in a way, is closely related to consulting. In both cases, a given experience and know-how need to be concentrated on the trainer's or consultant's side in order to render the trained or consulted a service. Since PGUB employs some of the top heads in their respective fields, we offer not only consulting, but also training to our clients. Needless to say: these can be via video conference or in-house person-toperson interaction.

For about two years, PGUB is also working together with the VDI Wissensforum. In 2023, the first sessions of two-day seminars with PGUB trainers took place. In the second half of this year two additional technical seminars start with Sueddeutscher Verlag namely "Einführung in die Entwicklung von Software getriebenen Systemen in der Automotive Branche" and "Lichttechnik und Optiksysteme im Automobil".

In the basics of auto-motive E/E architectures seminar we talk about the move towards zonal architectures, the rise of power electronics, the merging of ECUs and the effects on data and power transmission.

Lighting technology for cars covers items such as the basics of vision, how to measure light, types of light sources and how to control them, head-up displays and human-machine interfaces and so on.

Our Software seminar concentrates on the status and outlook of vehicle software, market requirements and their complexity, software factory, structured development in an automotive environment, processes, tools and so on.

These seminars are in German, but can also be booked for in-house trainings at your company. In such a setting, our subject matter experts could also relate their respective topics in English.

<u>Trainings via SV-</u> <u>Veranstaltungen:</u>

Lichttechnik: 1. Termin: 22./23. Juli 2024 2. Termin: 30./31. Oktober 2024 SZ Tower, Munich

<u>Software:</u> 1. Termin: 24./25. Juli 2024 2. Termin: 28./29. Oktober 2024 SZ Tower, Munich

> <u>Trainings via VDI</u> <u>Wissensforum:</u>

Kompaktwissen Elektrik/Elektronik (E/E): 1. Termin: 14./15. Mai 2024, Leverkusen 2. Termin: 24./25. Sept. 2024, Hannover

Optische Technologien im Fahrzeug: 1. Termin: 13./14. Mai 2024, Stuttgart 2. Termin: 16./17. Sept. 2024, Frankfurt/M



IZB & electronica 2024

IZB 22.-24. October 2024 in Wolfsburg

"Empowering partnerships" is the main theme of this year's IZB in Wolfsburg. With us as your partner you can benefit at this year's International Suppliers Fair (IZB). The IZB is a great opportunity to exchange and network between manufacturers and suppliers and encounter the topics of the automotive industry of tomorrow.

Please contact us if you are interested in participation: <u>fmp-izb@pgub-consult.de</u>



electronica: 12.-15. November 2024 in Munich

The world's leading fair and congress for electronics opens its doors in November at the trade fair grounds in Munich. The **electronica** covers the total electronics spectrum, here one can meet global players, niche players, start-ups and, naturally, skilled workers.

As in 2022, we will offer a partner exhibition booth with about 340m². Our concept includes booth personnel, meeting rooms and a space for presentations. We also provide separate storage places, which can be used by visitors. Furthermore, companies joining us for this event can look forward to a VIP Evening Dinner for Partners and Guests.

Please contact us if you are interested in participation: <u>fmp-electronica@pgub-consult.de</u>



WHERE TO MEET US

by Corinna Gottschalk

From electrying discussions on charging technologies to future trends and insights in mobility solutions: the next months will be full of events and congresses to meet and talk together.

Join the conversation and connect with us at the following highlights:

May 0708.	BORDNETZE IM AUTOMOBIL, LUDWIGSBURG Meet us at our booth	
May 15.–17.	FUTURE MOBILITY ASIA, BANGKOK Meet us at our booth	
Jun 0506.	CHARGETEC Chairman Peter Gresch	SV Veranstalt
Jul 10.–11.	THE AUTOMOTIVE BATTERY Chairman Peter Gresch	
Sep 0910.	AUTOMOTIVE CHARGING & BATTERY ASEAN, SINGAPORE	
Oct 2224.	IZB, WOLFSBURG Meet us at our booth	
Nov 1215.	electronica, MUNICH	







NEW ON BOARD



Karsten Reiß Executive Consultant & PPA

We are happy to have Karsten Reiß new on board.

With more than 35 years of experience in the automotive industry, Karsten Reiß will enhance our company with knowledge and expertise across powertrain chassis, interior and e-mobility mechatronic systems.

A passionate leader of crossfunctional, global teams, who is also certified New Work Consultant and Agile Coach, dedicated to driving innovation and collaboration within our organization.

"Knowing Peter Gresch as a person and his PGUB team for many years, I am more than happy to now be part of this company. Having worked at various suppliers in hardware, software, services in expert and leadership functions, lately also as agile coach, I look forward to interesting and challenging projects with our customers."



Julian Weymann Consultant Marketing, Trade Fairs & Congresses

Julian Weymann joins us with extensive experience from the trade fair and event sector and will be part of our team. Julian trained in trade fair construction and has organised trade fairs and events himself. He has also organized workshops and training courses. With his passion for unique and unforgettable events and his commitment to the further development of trade fair & congress appearances, we are sure that Julian will be a valuable asset to our company.

"There were two reasons why I decided to join PGUB. On the one hand, I was attracted by the new professional challenge of further expanding the Trade Show & Conferences business segment and passing on the PGUB's expertise through training courses and workshops. On the other hand, the passion and professionalism of the PGUB team impressed and convinced me and made the decision to join PGUB an easy one."



Günter Ettinger Senior Consultant Media, Marketing & Exhibitions

We welcome Günter Ettinger to our PGUB team starting May 1st. With an impressive 40 years in the automotive supplier sector, including vears the 30 in international trade fair organization, Günter Ettinger brings comprehensive expertise to our team.

His extensive knowledge spans across trade shows and congresses in the key automotive markets such as China, Japan, Korea and India as well as North America, Mexico and Brazil.

We look forward to his support within our conferences & trainings unit as well as in our consulting projects.

"I am thrilled to join PGUB at the end of my career as a young and dynamic company, where I will be leveraging my longtime automotive experience to actively advance PGUB in the area of marketing, workshops and exhibitions."



PGUB TEAM AND LEADERSHIP



Peter Gresch General Manager & Owner



Thomas Pfeffer Executive & PPA



Karsten Reiß Executive & PPA



Maximilian Ettinger Branch Coburg, PPA



Florian Heinzelmann Branch Dortmund

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PG3E

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Check out our PGUB Podcast: ZUKUNFT AUTO