

The PGUB Management Consultants GmbH is an internationally oriented Corporate and Technology Consulting Company specialized on mechatronic tasks.



Newsletter No. 6

01. August 2019

Consulting Capabilities

- **Strategic and Change Management**
- **Process and Project Management**
- **Studies and Trainings**
- **System Analysis and Cost-Break Downs**
- **Cooperations, Mergers & Acquisitions**



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DATES 2019 AND IMPRINT

Dear customers and business partners,
Dear supporters of PGUB,

Much has happened at the PGUB Management Consultants GmbH since our last newsletter in August 2018. Other experts and student employees came to us. We came across many new projects and customers at home and abroad.

In total we have meanwhile almost 30 internal and external employees under contract, including our successful cooperations with JSC Automotive in Shanghai/Singapore, Albelissa Engineering from Italy,...

In March 2019 we therefore have established another office in Wiesbaden and also strengthened the back office team. Furthermore, our plan for a new sales office in Munich becomes concret.

The congresses ISELED and ABU Rutronik successfully launched in 2018, become and were continued, as well as the EVTec in Shanghai and the eAC Munich. In addition, the first „Automotive Battery Conference“ early July 2019 in Munich was launched well. All events received very good response and a lot of positive feedback.

With our meanwhile 8th PGUB Executive Workshop on the 9th of August, 2019 in Wiesbaden and the celebration of our „official 6th birthday“ of PGUB Management Consultants GmbH on September 6, 2019, we are looking forward to an exciting future for our company. With the growing number of real customers and business partners.

Sincerely, you

A handwritten signature in black ink, appearing to read "P. Gresch".



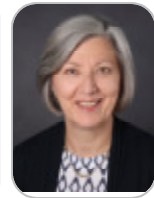


PGUB

Management Consultants GmbH

OUR TEAM

- Strategies, Markets and Products
- Sales, Marketing
- Business Development
- Cooperation
- Due Dilligence, M&A



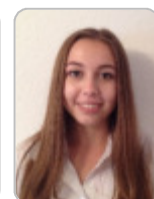
- Office, IT
- Accounting
- Conferences
- Trade Fair
- Customer Care



- Mechatronis, HW, SW
- Light, Inner Space
- Secondary Aggregate
- Sensors, Connectors
- Materials



- Project support
- Research
- Presentation
- M&A, Analysis



Our "network" experts:

- E-Mobility, 48V, EE Architectur
- Connectivity, Development Services
- Test Concepts & Strategies
- Project Management & Quality



Our cooperation partners



Engineering Services & Recruiting



China and Asean Market Forecast and Consulting



PCBA, EMS Costs and Supply Chain Analyses



PCB and PCBA Costs and Supply Chain Analyses

GUEST ARTICLE JSC AUTOMOTIVE: THE CHINESE CAR MARKET WILL IMPROVE IN THE SECOND HALF OF 2019



One of the key factors in the decline in car sales in 2018 was the rapid slump in peer-to-peer (P2P) credit in the same year. The impact on the car market has even increased as the share of car loans in total P2P loans fell from 10% in the first half of 2018 to 6%.

Assuming a car price of RMB 150,000 on average, it is estimated that about 150,000 cars were financed via P2P in 2017, compared to only about 85,000 in 2018 on a monthly average. In 2017, approximately 1.8 million vehicles were financed via P2P, which corresponds to an 8% share. In 2018, the number of P2P-financed cars dropped to about 1 million cars, which corresponded to about 4.5% of the market.

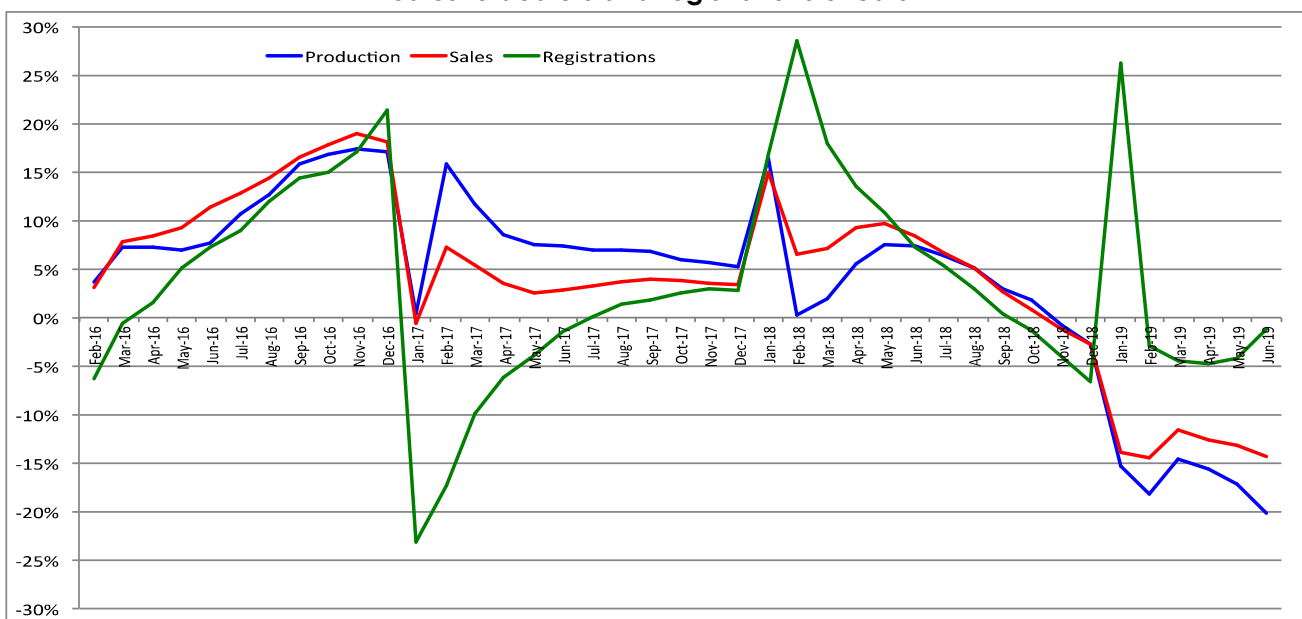
Interestingly, from 2017 to 2018, the total market decreased by exactly 750,000 units, so it is reasonable to assume that the problems of P2P networks was one of the main reasons for the car market in China last year.

If, as in the last 11 months, the share of car loans in the total volume of P2P loans remains the same, we assume in 2019 that around 600,000 vehicles will be financed via P2P, which corresponds to 3% of the market. The decline of 400,000 units represents a 2% decline in the car market.

Although sales and sales to distributors had fallen by 20% and 14% respectively by the end of June, registrations were only down by 1.2%. The good result in June registrations was partly due to the early China 6 regulation that forced many dealers to launch China 5 vehicles at very high discounts. In any case, the dealers were able to reduce their stocks significantly, with which the OEM can sell more cars to them and finally, the production can be restarted. Toyota has already done so in June and others will follow later.

Guest Article: Jochen Siebert

Cumulative growth rate up to and including June for production, Sales to dealers and registrations of cars





The customer in focus

The "automotive world" is undergoing a massive transformation: autonomous driving, electromobility, new services, ...

This leads to many changes in the "supply chain": The comprehensive challenges in product and business development must be met by all suppliers and vehicle manufacturers. However, this also offers opportunities, especially for innovative companies to expand their business development. In addition to competitiveness and technical know-how, "Unique Selling Points" are the main drivers here.

The PGUB / PG3Engineering Services has been with companies for some years, mainly medium-sized companies looking for market and customer access in Europe / Germany. In addition to the need to support initial acquisitions and projects, we also assist our customers with the structural development of a powerful sales and application organization.

With our many years of expertise in all conceivable questions and commercial facets in the field of sales, we have already won several projects. And for our customers successful partnerships, co-operations initiated, ..., in order to develop further in the "jungle" of the automotive world.

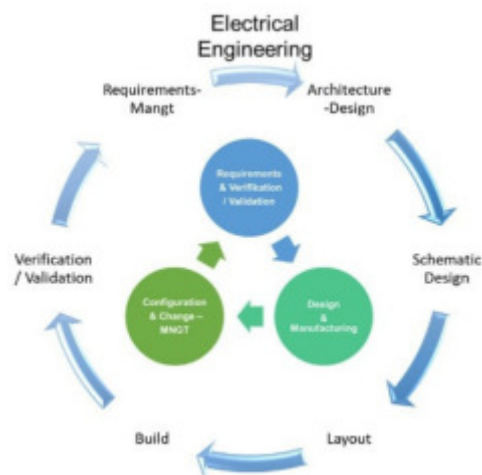
Report: Dirk Jürgens

Integration EE-Process

As a result of the transformation in the automotive industry, numerous companies in mechanical products are making the step towards their own hardware and software development. This brings new, often unfamiliar process flows into the companies, of which we currently accompany some, mostly medium-sized companies in process design and implementation.

Spice and agile methods require adjustments and modification of existing process models. To the three main pillars requirement & verification, change management and design documentation the detail steps of the respective department must be integrated. Tool-based approaches simplify the effort for introduction and everyday documentation.

Using the example of "Electrical Engineering":



- Using the existing ECAD tool to integrate circuit descriptions, simulation results, etc.
- EE verification and validation can be well mapped with requirements tools (Doors, Polarion, ...).

Thus you can define and design the integration of new processes "lean" and "agile".

Report: Peter Störmer

CONFERENCES AND FAIRS - EXAMPLES

The Automotive Battery – Key Technology for Electric Vehicles

The "Automotive Battery Conference" was organized for the first time on the 2nd and 3rd of July by the SV Veranstaltungen GmbH in the Holiday Inn Westpark in Munich and by Peter Gresch, Managing Director of the PGUB Management Consultants GmbH, the Program compiled and the event moderated.



At the beginning of the event the participants were invited to a tour in the e-Mobility Laboratory of SGS SA in Geretsried, where employees at several stations explained the Test devices and procedures. In general in environmental simulations and testing of electrical and electronic components. The program of the first day ended with a "get-together" at dinner and the revealing speech of Dr. Ing. Damasky (technical director of the VDA) on the role that e-mobility plays and will play in the future with regard to Germany and Europe's climate goals.

The presentations on the second day of the conference were divided into the two themes "Market and Technology Trends" and "Battery Technologies", where participants were informed about the new findings and technologies and the key factors in electromobility. For example, the topics were: Fast charging of batteries as a success factor in electromobility, new semiconductor technologies, the recycling of batteries and many more. Finally, next year the "Automotive Battery Conference" will take place in Munich **8./9. July 2020.**

Report: Nadja Noui, Florian Heinzelmann

eMobilConvention 2019 – Congress on Electromobility

On 28 and 29 May 2019, the eMobil Convention took place for the first time in the Rhein-Main Congress Center (RMCC) in Wiesbaden.

The PG 3Engineering Services (provided by PGUB Management Consultants GmbH) presented itself there with its own booth to exchange ideas with participants and speakers.

As an intern at PGUB Management Consultants GmbH, I'm not one of the experts in the electromobility industry and yet I learned a lot about the relevant areas and the latest specialist knowledge. Although all presenters presented different topics, they agreed that, especially in Germany, a lot still needs to be done to make electromobility suitable for everyday usage and accessibility.

My interest was mainly in the lecture on the disposal and recycling of waste electronic, because it is a topic that has not been discussed much yet although it will be very relevant in the future.

Bericht: Nadja Noui



New branch since March 1, 2019 in Wiesbaden

- Investment in additional „back office“ structure
- Strengthening sales and business development activities
- Start of „Recruiting Services“ through the subsidiary of PG **3E**Engineering Services
- Congress and fair organization, conference lines, presentations, ...

PG **3E**Engineering Services

| Hagenauer Straße 47, 65203 Wiesbaden

The Future of Transportation

Have you noticed it in your daily life, the ways in which our relationship to the auto-mobile is changing? Whether on account of carbon emissions, bumper-to-bumper traffic or city driving bans, driving is no longer the carefree experience it used to be. And the alternatives are also not so enticing – owing to high prices, frequent delays and limited accessibility. What does the future hold in store? Is the electric vehicle (EV) the solution to the problem of sustainability? Do we even want to drive, or would we prefer to be driven?

While the latest developments demonstrate the feasibility of striking technological changes, it seems to me that it'll take many years before we'll see a legal framework for and societal acceptance of the widespread use of autonomous vehicles in public spaces. The necessary investments in infrastructure, especially in densely populated areas and on highways, are also daunting. At the same time, we're witnessing the electrification of the powertrain. Given global concerns about climate change and local initiatives to cut emissions, the prospects for electric passenger and freight vehicles appear to be very promising.

In little Norway, the share of new EV registrations increased in the first quarter of 2019 to 60 % of total vehicle registrations. In Germany, the share rose to 2.7 %. With a total of 23,000 EVs, Germany is first in Europe when it comes to total EVs registered during the quarter and third internationally, behind the United States with around 100,000 and China with around 240,000.

Globally speaking, China is a forerunner. The share of new EV registrations in China increased in the first quarter of 2019 to 4.7 %, despite declining subsidies. At the same time, the electrification of buses in China is gaining steam, with a total number of almost 400,000. Thanks to massive investments and subsidies for battery and cell manufacturers, China has also assumed a dominant position when it comes to the value-added processes in the manufacturing of battery electric vehicles. To avoid falling behind, we need a massive transformation of our automotive sector and transportation systems. This will require large investments, especially in metropolitan areas.

Given that the task is too big for individual companies and municipalities, it will be crucial to approach the new developments in the framework of partnerships. Major players in the ICT sector are discovering ever more automotive business opportunities. This will shake up our traditional automotive industry. With the appearance of many new market participants and the growing significance of agility, new and flexible concepts are in demand.

For many of us in the 50-plus age range, turning 16 meant getting a driver's license and saving up for our own car. Young people who turn 16 today are likely to have a different relationship to the issue of transportation. That's why it would be unwise for us to insist on looking in the rearview mirror. Companies in the automotive industry need to adjust their portfolios and business plans to the new opportunities out there.

Guest commentary Peter Gresch for ATZ electronics worldwide 07-08 | 2019

NEWS FROM 2019/ ENGAGEMENTS

Wiesbaden Tennis Open from April 29 to May 05, 2019

With a prize money of 60.000US \$ for the first time, the Wiesbaden Tennis Open 2019 conquered a place in the „TOP FIVE“ of Germany. As one of the main sponsors the PGUB Management Consultants GmbH pioneered this development, which not least also through the promotion by the state of Hessen, grants from the city of Wiesbaden and the acquisition of other sponsors could be realized.



Sponsors, Tournament Director (Middle), Finalists, City of Wiesbaden (2nd f.l.), Home Secretary Hessen (ri)

As in previous years, the tennis week on the grounds of the TC Bierstadt e.V. offered high-class and extremely exciting matches, which demanded strong nerves for both the players and the fans. From T-shirt weather on May 1st to rather supercooled temperatures on the final day everything was offered weatherwise.

The Czech Barbora Krejčíková won in a very close match the tournament victory over the Ukraine-born Katarina Zavatska, who could not get the victory in last year's final either.

Report: Barbara Tekampe

Participation PGUB Office Dortmund on the 7th Schumann Classic Day

On the 7th of July, the 7th Schumann Classic Day took place right in front of the doors of our TZDO office. Reason enough for Florian Heinzelmann with his 1982 Mercedes W123 and Detlef Decker with his 50-year-old (!) VW Bus 2a - to participate.

In addition to the presentation of our own vehicles, we had the possibility of taking a look at more than 400 other classic cars from over seven decades. Also the mild summer weather fit the successful event and attracted the record visitor number of about 12,500 spectators. *Report: Detlef Decker*



Hope for Cameroon e.V.

A club headquartered in Bochum with the aim of helping orphans and single-parent women in Cameroon.



Youth development

Volleyball and supporting Tennis youth.



Tennis

Donation for one new clubhouse.



UNO-Flüchtlingshilfe

Leben retten – Rechte schützen

Events August – December 2019

- | | | |
|---|------------|-----------------|
| ▪ 8. PGUB Executive Workshop | 8. -10.8. | Wiesbaden |
| ▪ IAA Hall 5.0, European High Tech Pavilion | 10.-13.9. | Frankfurt |
| ▪ 2nd Rutronik Automotive Congress | 18./19.9. | Pforzheim |
| ▪ 1st Rutronik Automotive Congress Italy | 22./23.10. | Turin |
| ▪ EVTec (Chairman & Moderator Peter Gresch) | 28./29.10. | Shanghai/ China |
| ▪ Productronica | 12.-15.11. | Munich |
| ▪ ZVEI: ECS Automotive Conference (Moderator Peter Gresch) | 2./3. 12. | Munich |



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