TECHNOLOGICAL CHANGE
IN THE AUTOMOTIVE INDUSTRY IS CREATING
NEW OPPORTUNITIES
AND POSSIBILITIES FOR
THE FUTURE
OF OUR COMPANY

GROB

INTERNATIONAL

Edition

02/17

DEAR COLLEAGUES,
Dear Business Partners and Friends of GROB,

Christian Grob, Chairman of the Supervisory Board

On behalf of my family, I would like to take this opportunity to thank all employees for their support over the past year. Thanks to your help, the GROB Group has once again achieved an excellent result. The value of this result cannot be overstated, particularly considering the far-reaching changes in our core business with the automotive industry. After a little less than two years, it is already evident that the GROB Management was absolutely correct in its decision to set up and develop electromobility as a fourth core business for the company. The GROB Supervisory Board, my family and I have backed this decision right from the start, approved appropriate investment activities and, in so doing, have once again demonstrated the flexibility of our family business. We have taken a major step towards securing the future of our company by buying out DMG meccanica and establishing a completely new „Electromobility" division at the Mindelheim site.

However, we also successfully concluded other important investment activities in our core business last year. First and foremost, there is the completion of the largest production building, hall 13, at the Mindelheim site, which will lead to significant improvements in all processes, from the assembly of the system machines through to shipping. Having acted promptly and bought a 23,000 m² site in the immediate vicinity, we were also able to create urgently needed assembly and production space at our Brazilian plant at short notice. These two investments, like many others worldwide, are not only attributable to the steady rises in the production volumes of our factories, but are also intended to safeguard the GROB Group for challenges that lie ahead.

All in all, it is pleasing to see that the GROB Group was once again able to report positive developments in all key growth parameters over the past year. This is a development that is not only reflected in the sheer size of the company, but also in the appreciation demonstrated by our customers and by the wider public. For instance, we had the good fortune to welcome the German President Frank-Walter Steinmeier to our booth at the official opening of this year's EMO trade fair. This was a visit that will have come to the attention of the German public, in particular.

2017 was another successful year for our company, thanks to your support not least of all. We are also well placed to face the challenges of the coming year. We in the Grob family will always do our utmost to keep our company on a sound footing. As the year draws to an end, my family and I would like to wish all employees, business partners and friends of GROB a blessed Christmas and a healthy New Year.

Christian Grob

DEAR COLLEAGUES,

Last year our company once again faced an extremely dynamic change in the automotive industry, especially with regard to new drive technologies. We are currently seeing a steady downturn in demand for new production lines for conventional internal combustion engines and transmissions. At the same time, there has been a rapid rise in demand for production lines for the latest electric motor and battery technologies in recent months, especially in the European and Chinese markets. It is a welcome relief that GROB's increase in e-mobility projects more than makes up for the decline in projects in combustion engine technology. In the next few years, there will be a large number of new vehicles with pure electric drives or high-efficiency hybrid technologies available in these key European and Chinese markets.

We were quick to spot this turnaround and the change in drive technology. We responded very promptly to the new challenges and have defined and already developed completely new machines for the mass production of high-efficiency electric motors over the course of the past year. This is a very important step for GROB-WERKE, enabling us to secure and implement strategically important projects and orders in new drive technology for the automotive industry.

Alongside the new developments in e-mobility machinery, we have also launched new equipment for machining very light framework and structural workpieces and components for machining turbocharger housings. We have constantly refined the standardization and modular construction of the GROB assembly technology in applications for conventional and electrical powertrains.

Besides the significant consolidation and expansion of the development departments, we are constantly seeking to improve and develop our product and production processes. This means that our company is going through a complete change, getting ourselves in shape to meet new challenges in technologies and in the global markets. We can make the proud claim that we are well prepared for the challenges ahead thanks to our technological expertise as we have wasted no time in readying ourselves for the new developments.

Thanks to your efforts and good cooperation, dear colleagues, we can now look back on the fruits of our realignment with a sense of satisfaction and conviction as the end of the year draws near. The management would like to take this opportunity to thank all employees for their very good support and cooperation.

We would like to wish you and your families a Merry Christmas and every success in 2018.

Your GROB-WERKE Management board

Wolfram Weber, German Wankmiller, Jochen Nahl (left to right)

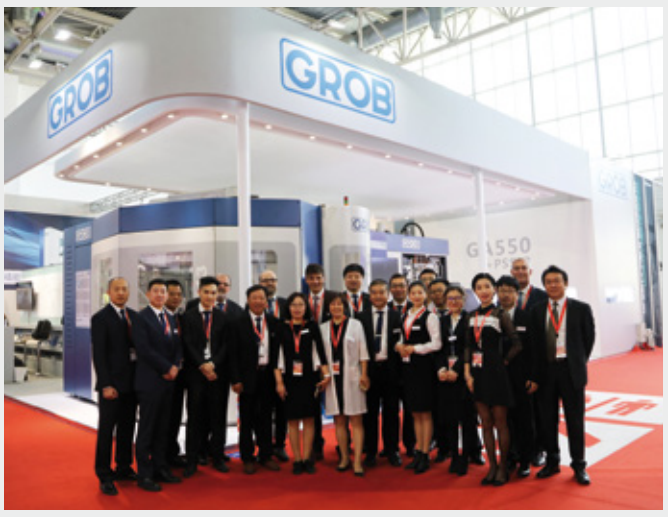
ANNUAL REVIEW

High-level visits, events and new investments – an exciting 2017

January – For the first time in its history, GROB-WERKE took part in the IMTEX machine trade show in Bangalore, India

February – GROB buys Italian machinery and plant manufacturer for electric motors, DMG meccanica

March – GROB receives a double award from Volkswagen in China



April – The CIMT in Beijing, China, proved to be a complete success for GROB and the trade show team

June – Active recruitment for GROB apprenticeships with Girls' Day

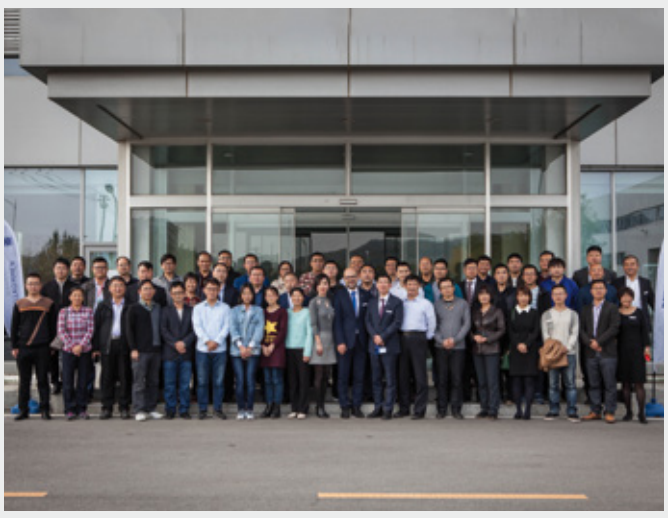
June – Visit to GROB Systems in Bluffton by a high-ranking politician, John Kasich, Governor of Ohio

June – Official opening of the new GROB cylinder-head machining line for the HGV engine platform at DAIMLER

August – Delegates conference at GROB Systems in Bluffton, USA

September – Visit by the German President Frank-Walter Steinmeier during EMO 2017

October – Aerial photograph of the GROB plant in Mindelheim in fall 2017



October – Open House event at GROB Dalian to mark the fifth anniversary

November – Successful GROB in-house trade show in the Technology and Application Center in Mindelheim

GROB PRODUCTION

Final assembly in Hall 13 officially opened

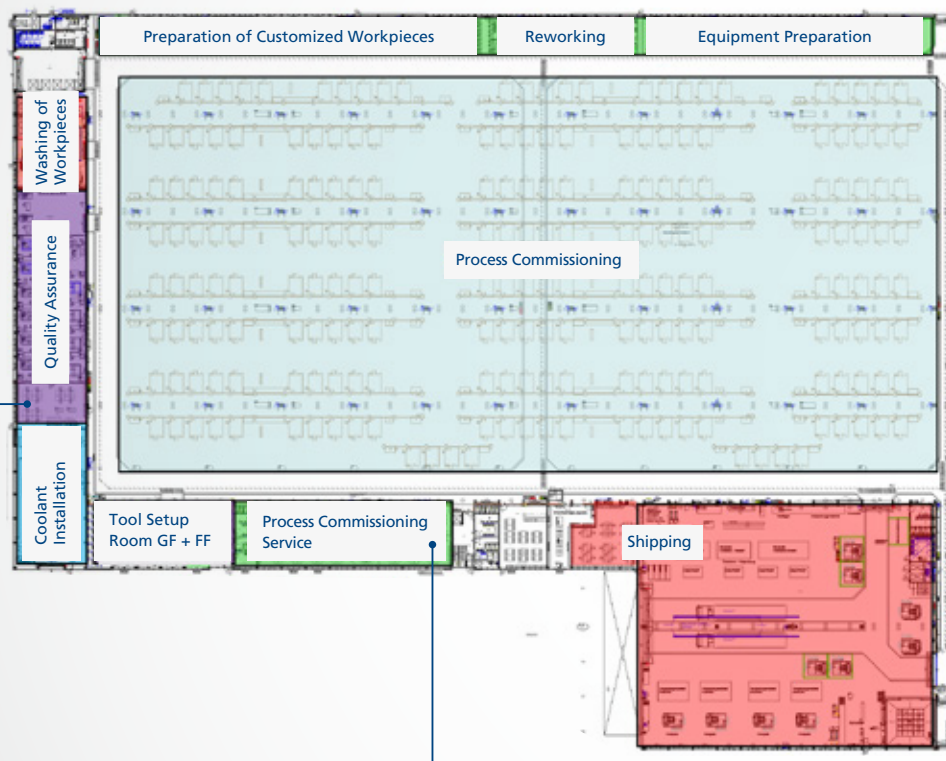
Hall 13 – a further milestone in the development of the site at Mindelheim

Hall 13, the largest hall in Mindelheim, was completed in May of this year as planned. Not only did this mean that automation, which had been outsourced for years, was brought back to the Mindelheim site; all the processes involved, from the set-up of the system through to shipping, could be concentrated in Hall 13. Another milestone in the development of Mindelheim as a location.

Over the years, there has hardly been an issue of GROB International in which we did not report on further investments in building extensions at the Mindelheim site. When Hall 8 was completed back in spring 2009, we spoke of a milestone in the GROB production process and in the investment strategy. Eight years ago, nobody could have imagined the dynamic development that would take place at the Mindelheim site. At the time, Hall 8 was not only the largest hall built, it was also a hall that - like Hall 13 today - was set to play a pivotal role in the GROB production process. Back then, we also spoke about shorter cycle times with reduced idle times; in other words, we talked about optimizing the production processes. The equipment was considered to be state of the art, and even then it was apparent that Hall 8 would mean major restructuring for the entire internal plant logistics. In theory, it was comparable with the current situation and the completion of Hall 13. What's more, the comparison between the new building in Hall 8 and that in Hall 13 clearly demonstrates the changing dimensions at the Mindelheim site and throughout the GROB Group. The construction of Hall 8 resulted in around 11,000 m² (118,403 ft²) of commercial space, and that of 37,785 m² (406,714 ft²) Hall 13 in more than three times as much. While Hall 8 was still the largest hall for the Cutting department in 2008, increasingly large halls gradually joined it - the biggest now being Hall 13 which was more than three times the size.

Many reasons for the construction of Hall 13

Despite the commissioning of four other Halls, 9-12, within four years (2011-2014), there was insufficient usable space available in the existing halls in light of the increase in turnover at the Mindelheim site. In addition, the intention was to bring the automation systems, which had been outsourced to the Finsterwalder company, back on-site at GROB. The production processes were improved considerably by merging the parts of the plant into one system and through direct access to the departments in Hall 13. Besides,



larger customer projects can now be set up with several sub-projects, which would not have been possible in the existing halls. For instance, Hall 13 is set to become the center for installation and commissioning. It will also provide production with a continuous line of infrastructure for customer projects in order to pool many complex work steps which used to be spread over a number of halls in the past. They include, among other things, the setting-up and installation of production units. The existing halls will continue to be used as a buffer and will be geared up for further expansion in line with the future product range.

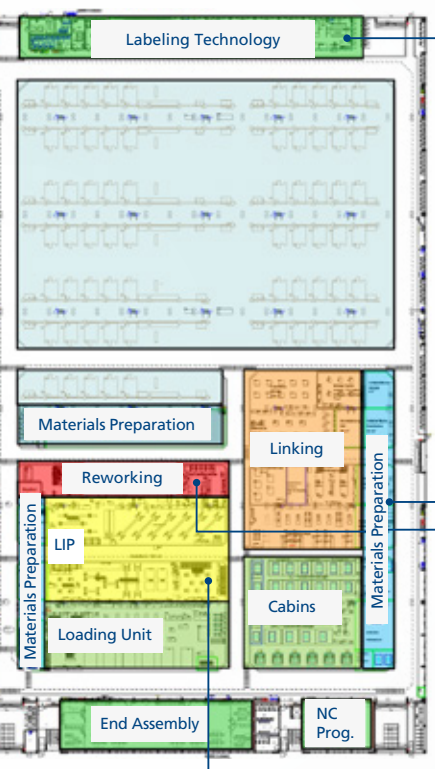
The management of Hall 13 consists of the internal (GROB) aspects and the micro-logistics operations which are run by a partner. Micro-logistics is responsible for the entire material distribution, disposal and cleaning of the hall. The internal team attends to matters such as safety, on-site issues, work equipment, etc. Internal processes, such as orderly conduct, cleanliness and safety for the hall maintenance are still being developed at present.

State-of-the-art and complex features

The complete pre-assembly of automation for the systems business is housed in Hall 13. Process space has been provided for system machines. A tool setting room extends across two levels which are connected by a paternoster system. In addition to the signage department and a measuring room, a washroom has been installed for customer workpieces with two washing machines for baskets and two hand-washing stations.

In the adjacent zones, there are offices, snack bars with standardized kitchenettes, and there are changing rooms on the 2nd floor. The customer area for preliminary acceptance tests is located in adjacent zone 2 on the 1st floor. An efficient shipping area with a field width of 25 meters (82 ft) is equipped with two loading lanes on each of which three large packages can be prepared. Outdoor truck scales are used to determine the weight of items which will be shipped by sea. The largest machines currently available can be moved by a single hook with the cranes in the process area and their lifting capacity of 35 tons. Overall, the height of Hall 13 is greater, which means that even large pieces can be raised to the height required for loading. The central utility supply with compressed air, cooling water and electricity are installed on the main axes, and the central coolant supply is available in the process area at approximately 70 percent.

All the processes involved are concentrated in the hall, from system set-up through to shipping, so that the automation can flow into the final assembly area just in time, where all individual components can be combined to form a system, avoiding the need for extensive transportation.



Overview of hall 13:

Completion:
May 2017

Dimensions:
37,785 m² of developed space
43,049 m² of usable space

Further features:

- Automation components such as a linear portal, swivel-and-slide changer, loading boxes in the hall for direct availability
- Central coolant supply on the process surface
- Innovative mobile crane with swing compensation
- Concentrated material delivery
- Tool setting room on two levels with over 272 pallet spaces for tools
- Air-conditioned measurement chamber with an adjacent washroom for customer workpieces and temperature control area
- Separate customer area on the first floor for project acceptance
- High-performance dispatch area with heavy-duty scales outside

GROB ELECTRIC MOBILITY

Electromobility at GROB as a fourth dimension

GROB broadened its product range significantly at the beginning of this year by moving into the area of electromobility. After several years in installation and development, this new line of business is now well established. It makes GROB one of the few mechanical engineering manufacturers in the world that is fully geared to the issue of „electromobility", and it has once again demonstrated its value as a competent service provider and partner for the automotive industry.

An immediate result: „We were particularly successful in securing a major order from Volkswagen for the new electric drive at the end of September," explained German Wankmiller, chairman of GROB's Management Board. „The plan to diversify further with new products and orders paid off." The order covers the complete production line for the production and assembly of components such as the stator, rotor and complete assembly with flange-mounted gearbox.

Strategic structure for the new GROB "electromobility" division

Against the background of the paradigm shift in the powertrain of the motorcar, a research and development team was set up at GROB three years ago tasked solely with the theme of „electromobility". Working in close collaboration with well-known representatives from the automotive industry, it quickly became clear that there was a great need for mass production installations in the automotive industry, with a particular focus on key components, namely the electric motor and battery components. In order to accelerate the development work, GROB acquired a renowned partner in machine and plant engineering for electric motors, DMG meccanica, benefiting from its expertise in winding and feed technology. In tandem, a dedicated development and application center for electromobility was created in Hall 2 at the factory in Mindelheim. Spread over more than 2500 m² (27,000 ft²), work is under way developing and testing processes and methods in machines and installations in collaboration with the automotive industry. The goal is mass production of highly effective electric motors with completely newly developed technologically, as well as of very compact battery modules with high power density.

The challenge facing GROB now is the task of translating these yet unknown processes and methods into precisely timed movements and workflows in completely newly developed CNC machines. The new, highly flexible and servo-controlled machines are used for mass production of the stator and rotor electric motor components. In stator production, in particular, there are various manufacturing techniques for guiding the copper wires into the slots of the stator. The new GROB machine portfolio covers the entire production process for an electric motor, from various winding and shaping processes for the wires to assembly, to contacting. One of the core processes in the production of an electric motor is the process of guiding the copper wires into the stator. GROB covers all known processes here, including wave winding technology, the hairpin process and fan-coil technology. The GROB subsidiary DMG meccanica also covers the feed technology and needle winding. This means that GROB can market and operate all the production processes required in the automotive industry.

Electromobility spurs the whole company on

When GROB created a new third division ten years ago with the launch of universal machines, it managed to build directly upon the image of the G-modules, since GROB, as a turnkey supplier in the systems business, already had an excellent reputation in the market. It is not the same with „electromobility". With its technology, it is calling for a new way of working and, thus, for changes in approach. While the processes used in existing divisions form the basis and serve as models, it is important to remember that e-mobility is still a relatively new concept for the automotive industry. All market operators have to adjust their approach. Projects are currently only being set up and developed in close consultation with the automotive industry. Many coordination meetings within the project teams of both parties are needed. This is in contrast to our core business of „system machines", where our business is very much up and running. Sales have been enhanced with the recruitment of specialists with experience in electromobility. Customer inquiries are coordinated in an internal sales meeting between GROB and DMG meccanica and are allocated depending on the technology. A project team consisting of project management, innovation management, sales and DMG meccanica will then be formed to work out the best possible alternative for the customer.

GROB Marketing was also faced with the prospect of having to adapt to the new "electromobility" division, since this is a completely new market for us. Trade fairs have to be analyzed and evaluated in order to understand the new environment. "We are encountering completely new competitors and marketing requirements," revealed GROB Head of Marketing Marion Häring, talking about her experiences. "At E-Mobility trade fairs, for example, new technologies are held back intentionally. Great care is taken not to divulge too much know-how." It is mainly the final products that are showcased, not the technologies that are behind them.

Electromobility is on the rise worldwide

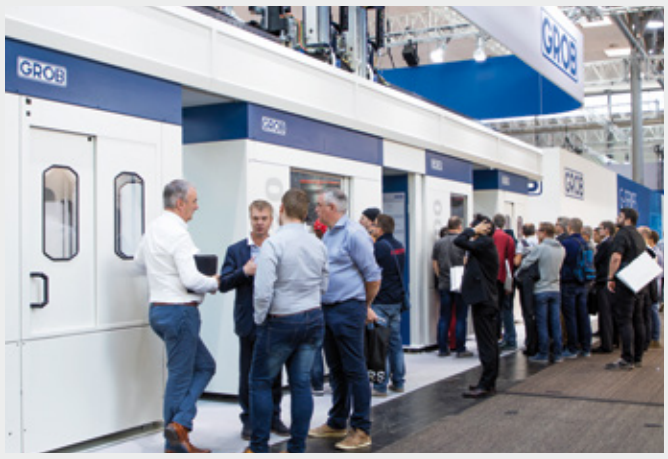
Since GROB has a very good reputation as a turnkey supplier in the automotive industry, we are highly valued as a partner on joint further development projects. „Not only that," said German Wankmiller, „we already have a command of the complete process and technology and can market it." Even though markets are reacting to this at different speeds, GROB sales has adapted to the new technologies right around the world. Within the GROB Group, there is a uniform approach and sales structure which are closely coordinated with the headquarters in Mindelheim. Europe – more especially Germany – and China are pioneers in the field of electromobility. Within the next few years in China the number of electric vehicles will be fixed by law and consequently there is significant investment there. Initial projects are already in progress at GROB.

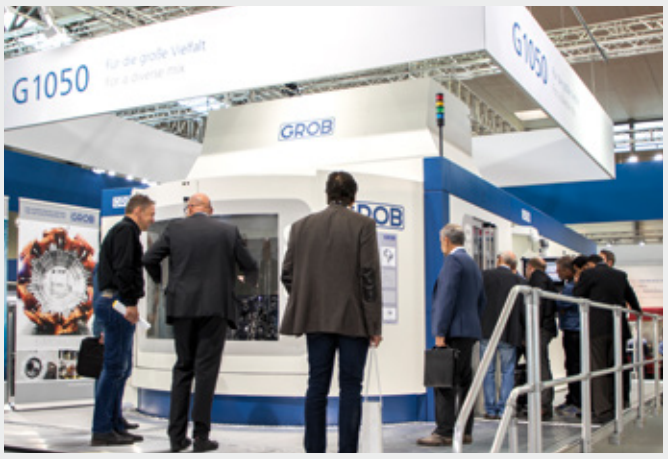
To sum up, it can already be said that GROB is fully geared up for the theme of „electromobility", identifies demand on the basis of market analysis, develops the right products and is already in a position to deliver. We make large development capacities available and have a dedicated team of designers on hand to develop these innovative technologies further.

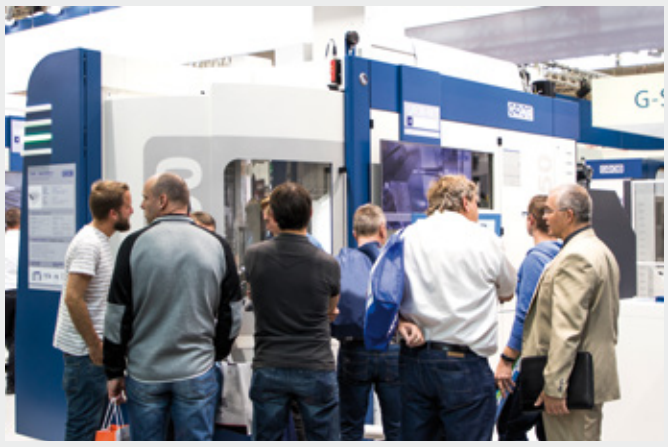
GROB's continued strong standing in machining is proved by the new GROB products which were unveiled to trade visitors at the EMO in September and at the in-house exhibition in Mindelheim, Germany, in November.

EMO 2017

GROB impresses with its innovative strength and a new business segment







APPRENTICESHIPS AT GROB

Over one hundred apprentices for the first time

The number of apprenticeships has quadrupled within seven years, and new opportunities have been created in technical and industrial training. GROB has training the workforce of tomorrow in its sights more than ever in order to meet the increasing demand for skilled workers.

Training young people is vital at GROB to safeguard the further development of the company and to meet the demand for young, skilled workers in a wide range of disciplines. The GROB training center, which is equipped with state-of-the-art machinery and offers the best conditions for training, now offers training to around 100 young people every year in technical and commercial disciplines, preparing them for future employment with the company. The number of training positions to be filled has been rising constantly for years. GROB's apprenticeship program has grown from a mere 26 places in 2010 to breaking through the 100-place barrier across the different career paths in 2017. This trend is not only due to the company's growth, but also to the increasing range of technical expertise, including in the apprenticeship careers.

Wide range of technical and commercial training

GROB currently offers a variety of different technical and commercial apprenticeship opportunities. In addition to traditional training courses for industrial and cutting mechanics, mechatronics, electronics and technical product designers, specializations in warehouse logistics, material testing for heat treatment technology and the apprenticeship to become a construction mechanic have all been added in recent years. The role of warehouse logistics specialist is indispensable in a world where logistics processes are increasingly important. Materials flow that must be coordinated down to the very last detail, various goods movements and a complex stock management system can only be mastered with specific training in this field, optimized to meet operational needs.

New technologies require new directions in training

Substantial new investments were made in the field of heat treatment back in 2015. The GROB apprenticeship is now also providing skilled personnel. An apprentice has been hired to join the team of materials testers, specializing in heat treatment.

New apprenticeship in design mechanics

Apprenticeship to be a materials tester at GROB

He will be continuing his ongoing career development in key operational areas, such as material hardening. Technological progress has also kept up a high pace in sheet metal work in recent years. Laser punching, CNC bending machines, bending robot systems and robot welding have also made their way into GROB's construction portfolio. To keep up with this pace of innovation in terms of personnel, GROB launched an apprenticeship in construction mechanics, starting in the 2017 apprenticeship year. This 3½-year apprenticeship, through vocational colleges in Memmingen and Lauingen, will cover the special requirements in this area in the future.

Strong competition for young skilled people

The hiring process for apprenticeships starting in 2018 is in full swing. Apprenticeship figures are to be kept at their current high levels. However, the competition to attract the best applicants is getting tougher and tougher. „We will not be able to do this without increased apprenticeship marketing with numerous additional trade fair visits and an expansion of collaborative partnerships with schools," explains Werner Drexel, GROB apprenticeship manager in mechanics. As an international company, some of the highlight features of GROB may appeal to young apprentices. For example, the apprentice exchange program among the factories in Bluffton and Dalian is top of the list of priorities on the popularity scale. Those who successfully negotiate the internal application process can look forward to an unforgettable four or five weeks on assignment abroad.

APPRENTICESHIPS AT GROB

Three apprentices tell us about their trip to China

International placement for apprentices at GROB China

International placement for apprentices at GROB USA

Some of our apprentices, Daniel Frenzel, Simon Martin, Levin Schildknecht and Philipp Waldmann visited GROB Systems in the USA in the middle of the year. Last summer, three apprentices from different training backgrounds had the opportunity to spend four weeks working at the GROB factory in the Chinese city of Dalian. Here are their reports. To maintain the sense of authenticity, we have left their accounts virtually unchanged:

Dragan Simeunovic, electronics engineer in automation technology: The work as an electronics engineer was very varied. There are three departments where you have to do different jobs. At the start, I spent a week in cable manufacturing doing the same job that I do in Mindelheim. The following week, I got to help with numerical control cabinet construction. In Mindelheim, this work is outsourced, it is not done in-house. It means that you start with an empty numerical control cabinet, prepare the mounting plate, install the electrical components and, finally, have to wire them. I should mention that I was lucky because my Chinese colleagues spoke English, so there were no problems with communication. I spent the last two weeks in electrical commissioning with Josua Eheim. Mr. Senner, the head of department, gave us a linking unit, which we were had to put into operation together with Chinese colleagues.

Kathrin Tschugg, industrial administrator: The office building in Dalian resembles high-rise block B1 in Mindelheim, from the outside and on the inside. Almost all employees in the office spoke very good English, so communication was easy. I got to work in the following departments in Dalian: Human resources, purchasing, controlling, finance, logistics, training, apprenticeship and assembly. In the departments, the work procedures were generally explained to me theoretically and then demonstrated practically; the workflows are similar to those in Germany. In fact, a colleague in Purchasing even took me to a meeting with a supplier, where product discussions were held, and we were given a tour of the factory. Colleagues gave me a tour of the assembly department and explained how a GROB machine is built from scratch and how it works. This was particularly special for me as I never actually get to see the machines up close in my training.

Josua Eheim, mechatronics technician: As a mechatronics apprentice, I had a very varied working experience. To start off with, I was deployed in pre-assembly for system machines in the first week. I worked there on the tool magazine, rotary table and Z-axis. I was given an insight into the geometry department in the second week. The task here was to coordinate the axes of a dual-spindle system machine, to learn the tool change points, and to mount the bridge with the clamping device. I was involved in pre-commissioning in the third week. It was part of my job there to check a dual-spindle system machine for completeness and to ensure that it was correctly wired. I spent the fourth and last week in commissioning with my colleague, Dragan. We helped in the commissioning of an assembly plant.

Recap by the apprentices: The international placement in China was a very valuable and fascinating experience for us; the memories of it will stay with us forever. From a personal perspective, it was very interesting getting to spend a few weeks in a foreign culture. We met lots of friendly people at work, and this helped us to improve our English. We developed an even greater love of the country as a result of our fantastic excursions. In the end, we were a little sad that it was over, very proud to have been given the chance to experience it and delighted to be back home on terra firma. We really recommend this exchange to the next cohort of apprentices – let's face it, you don't get a great opportunity like that every day!

GROB'S LONG-SERVING EMPLOYEES

The company's long-term employees deserve their honors

40th anniversary and retired employees with links to the company of between 30 and 40 years

Helmut	**Bigus**	Machine Commissioning
Josef	**Demmeler**	Technical Documentation
Reinhard	**Friedel**	Production
Alwin	**Hartner**	Large Part Production
Michael	**Hollederer**	E-Commissioning Administration
Peter	**Holzmann**	Design Fluids
David	**Loder**	Express Production
Johann	**Pichler**	Commissioning Mechanics Assembly Technology
Rudolf	**Preschl**	Electrical Installation
Wendelin	**Riezler**	Production Control
Max	**Schaule**	Controls Engineering
Manfred	**Schilling**	Production
Paul	**Sprencz**	Mechanical Commissioning
Kurt	**Thill**	Mechanical Engineering
Siegfried	**Tschischke**	Production
Otto	**Weiß**	Electrical Preparation Assembly Technology

Josef	**Bartenschlager**	34 Years
Gudrun	**Lasitza**	39 Years
Johannes	**Schuster**	47 Years
Kurt	**Seitel**	30 Years
Reinhard	**Stempfle**	38 Years

25th anniversary

Werner	**Bartenschlager**	Proposal
Helmut	**Binzer**	Controls Engineering
Matthias	**Blank**	Mechanical Engineering
Jens	**Bloch**	Proposal
Alexander	**Böhm**	Production
Michael	**Braun**	Controls Engineering
Stephan	**Braunstein**	Design Assembly Technology
Thomas	**Brecheisen**	Management Small Parts
Andreas	**Degle**	Production
Edeltraud	**Eberle**	Drawing Documentation
Dieter	**Eisele**	Technical Documentation
Herbert	**Frank**	Mechanical Engineering
Thomas	**Frei**	Service Dalian
Wieland	**Garn**	Logistics – Quality Control
Bayram	**Genc**	Order Center (Preassembly)
Michael	**Golsche**	Mechanical Commissioning
Askin	**Güngör**	Preassembly Fixtures
Hermann	**Häfele**	Service – Project Coordination
Helmut	**Hakenes**	Design Software Assembly Technology
Roland	**Haug**	Production
Nicole	**Högl**	Proposal
Armin	**Jakob**	Switch Cabinet & Operator Panel Construction Assembly
Christian	**Jehle**	Facility Management
Charlotte	**Kirschner**	Logistics – Operative Purchasing
Martin	**Kistler**	Automation Technology
Stefan	**Kitzinger**	Production
Sabine	**Kögl**	Mechanical Engineering
Franz-Xaver	**Ledermann**	Waldrich Coburg/Special Machines
Peter	**Loth**	M-Commissioning Preacceptance Team
Anita	**Mairock**	Design Assembly Technology
Jürgen	**Maurus**	Mechanical Engineering
Hubert	**Mayer**	Proposal
Jörg	**Messing**	Mechanical Commissioning
Thomas	**Müller**	Controls Engineering
Larsen	**Mutzel**	Electrical Commissioning
Martin	**Negele**	Logistics – Quality Control
Günther	**Nitsche**	Transport System
Karl-Heinz	**Olejak**	Assembly
Markus	**Ostler**	Service Dalian
Ali	**Özciftci**	Subassembly
Yusuf	**Özciftci**	Subassembly
Robert	**Petroll**	Assembly – Geometry
Erich	**Rampp**	Electrical Installation
Peter	**Rappert**	Admin. Operational Logistics

Harald	**Remmele**	Substructure (G-Module)
Alfred	**Röhrl**	Engineering Department Management
Armin	**Sattelmair**	Controls Engineering
Martin	**Sauer**	Admin. Operational Logistics
Peter	**Scheibe**	Electrical Installation
Werner	**Schildknecht**	Research & Development
Artur	**Schindele**	Logistics – Production
Christian	**Schöll**	Production
Michael	**Schreiter**	Logistics – Production
Christine	**Schuster**	Sales Internal Service
Manfred	**Schuster**	Electrical Installation
Torsten	**Schuster**	Design Fluids
Christian	**Sedlmeir**	Technical Documentation
Nihat	**Sengüler**	Production
Johann	**Sirch**	Works Council
Dieter	**Steinbrecher**	Tool Technology
Mehmet-Gürsel	**Vural**	Production
Ludmilla	**Waldeck**	Drawing Documentation
Ulrich	**Waldeck**	Technical Documentation
Roland	**Weigele**	Project Management
Udo	**Wiest**	Design Electrics – Management

10 years

10th anniversary

Ursula	**Attmann**	Logistics – Operative Purchasing
Mike	**Baatzsch**	Substructure (G-Module)
Franziska	**Baur**	Engineering Department Management
Johannes	**Baur**	Proposal
Sebastian	**Beinl**	Mechanical Commissioning
Andreas	**Berchtold**	Machine Commissioning
Josef	**Berger**	Sheet Metal Preassembly & Internal Logistics
Jan	**Biechele**	Preassembly
Martin	**Böck**	Motorspindle Assembly
Markus	**Claars**	Salzgitter Field Office
Markus	**Dainku**	Mechanical Commissioning
Carina	**Daufratshofer**	Admin. Operational Logistics
Denis	**Degraf**	Production
Andre	**Deinhardt**	Mechanical Commissioning
Stefan	**Drexel**	Electrical Commissioning
Martin	**Ellenrieder**	Design Electrics – Management
Siegfried	**Ettrich**	Mechanical Engineering
Steffen	**Fabian**	Mechanical Commissioning
Jürgen	**Faulhaber**	Mechanical Engineering
Yilmaz	**Fidan**	Order Center (Preassembly)
Peter	**Fischer**	Admin. Operational Logistics
Antonios	**Frantzis**	Subassembly
Christian	**Frey**	Machine Commissioning
Gerhard	**Friedl**	In-house Logistics
Thomas	**Gehrle**	Mechanical Engineering
Rainer	**Grenz**	Subassembly
Peter	**Griebl**	Engine Spindle Production
Reinhold	**Haar**	Production Control
Dominik	**Habigt**	Admin. Operational Logistics
Dominik	**Hack**	Service Universal Machine
Peter	**Haider**	Subassembly Secretary
Benjamin	**Heiß**	Electrical Commissioning
Markus	**Herkommer**	Order Center
Peter	**Hermanns**	Universal Machines
Stefan	**Holdschick**	Controlling
Alexander	**Höpfler**	Mechanical Commissioning
Nina	**Kamm**	Administration
Dimitri	**Katin**	In-house Logistics
Simon	**Keppeler**	Controls Engineering
Stefan	**Kerler**	Electrical Installation
Georg	**Knoll**	Mechanical Engineering
Bernhard	**Kobold**	Customer Training
Wolfgang	**Kobold**	Assembly Technology
Christine	**König**	Finance
Jürgen	**Kreibich**	Large Production Management
Sebastian	**Kutter**	Mechanical Commissioning
Peter	**Löhle**	Land and Buildings
Katharina	**Martin**	Sales Management
Bernhard	**Maurer**	Order Center (Preassembly)
Manuel	**Merz**	Mechanical Engineering
Michael	**Möst**	Electrical Installation
Frank	**Müller**	Fluid Installation (G-Modules)
Markus	**Parton**	Mechanical Engineering
Markus	**Pfister**	Mechanical Commissioning
Michael	**Popp**	Production
Markus	**Preisinger**	Electrical Commissioning
Heinrich	**Pries**	Express Production
Bernhard	**Rauch**	Mechanical Commissioning
Stefan	**Rauh**	NC Programming
Jörg	**Retza**	Key Account Management
Markus	**Rogg**	Subassembly Spindle/Gearbox
Jürgen	**Salger**	Management
Christian	**Satzger**	Mechanical Commissioning
Daniel	**Scharpf**	Mechanical Commissioning
Markus	**Schieler**	Machine Commissioning
Philipp	**Schließer**	Proposal
Christian	**Schmieger**	Project Management
Peter	**Schneider**	Shipping
Thomas	**Schneider**	Mechanical Engineering
Alexander	**Schön**	Machine Commissioning
Florian	**Schweinberger**	Project Management
Andreas	**Senner**	Mechanical Commissioning
Manfred	**Simon**	Research & Development
Waldemar	**Spieß**	Preassembly
Christian	**Stock**	Controls Engineering
Waldemar	**Stöhr**	Tool Technology
Thomas	**Strehler**	Order Center (Preassembly)
Wolfgang	**Treitl**	Electrical Commissioning
Heinz	**Unterweger**	Assembly Labeling Technology
Andreas	**Wachter**	Mechanical Engineering
Philipp	**Wanner**	Preassembly Fixtures
Christian	**Weber**	Mechanical Commissioning
Wolfram	**Weber**	Administration
Stefan	**Weizmann**	Tool Technology
Egon	**Wiedersatz**	Preassembly Fixtures
Daniel	**Wirth**	Production
Alexander	**Wohlfart**	Mechanical Commissioning
Simon	**Zech**	Technical Documentation

25 years

GROB TRAVEL MANAGEMENT

Travel department for modern travel management

In order to handle the enormous increase in travel and to ensure that staff stay on the move on business trips and assembly operations, GROB Travel Management was launched following intensive preparatory work at the end of this year. It will not only assist in the organizing of employees' travel arrangements, it also makes a decisive contribution towards improving procedures and reducing travel and fleet costs in the long term.

Nearly 70 percent of GROB-WERKE's sales are achieved outside Germany, with 60 percent overseas. It is no wonder, then, that about one in every three employees goes on business trips for GROB. This means that more than 13,000 travel expense accounts have to be processed every year, whether it be for assembly operations or for business trips. To enable these travel volumes to be handled efficiently, all tasks and responsibilities have been pooled and have been brought together in the Travel Management department.

The days when only the bosses went on business trips

It began back in the 1970s with some VW Beetles, the first fleet vehicles at GROB, which used to be managed by one of the employees from the work preparation team. Later on, the famous light blue Ladas appeared in the vehicle fleet because a Russian customer paid for part of its order in vehicles. The role of fleet manager was created at GROB at the beginning of 1986, a position that was integrated into the service team; in a manner of speaking, this was the first step towards centralization. The fleet manager was not only responsible for the fleet, but also for booking flights. Back then, flights were still the exception, not the rule. Since there was no such thing as mobile phones or Internet at that time, communication was generally done via fax or telephone.

The first overseas projects started in the 1980s, in Japan and China. Flights there were then personally booked by the international service manager (there were two service managers at the time, one for Europe and one for international), who also took care of other aspects of the travel arrangements on-site. At that time, those sorts of overseas projects were particularly special, and the customer generally used to pick up the GROB employee from the airport in person.

Travel Management for greater efficiency

But how can travel arrangements - especially organizing trips - be made any more efficient in this age of globalization? And what can be done to ensure the coordination and communication of the key issues? They are all questions that management, not to mention the departments concerned of course, have been considering for quite some time. Ultimately, all concerned decided to create a Travel Management department. This makes GROB-WERKE one of the 74 percent of German companies (with a workforce of over 1500) to have established a Travel Management department.

In order to exploit the synergies of travel organization, of the vehicle fleet and of travel expense accounting even more effectively, a combination of trip management and operational services has been created in the Travel Management department. The aim is to be a „one-stop-shop" for everything in the future, incorporating the use of new technologies. This is intended to put an end to the red tape involved in approving and booking trips, doing away with the hassle of having to make repeated phone calls and inquiries.

Integration of the fleet and factories

The fleet, which makes a significant contribution towards the mobility of business travelers, will also be integrated into the new GROB Travel Management department. It will coordinate all use of all 200 vehicles throughout Europe and also manage new vehicle purchases and maintenance of the vehicles. It will also include compliance with legal requirements such as accident prevention regulation testing and checks on driver's licenses. Another of the important tasks to be undertaken by Travel Management is to support other factories and offices if their employees are planning to travel to Mindelheim. Arrangements are to be made centrally via Travel Management for personnel exchanges within the GROB Group, and also for relocations. The „IPEX" (International Personnel Exchange) portal has been specially developed by the Human Resources department and by IT specialists at GROB for this purpose.

Inter-departmental consultation, especially with Human Resources, on travel expense accounting (in combination with Payroll Accounting), with Service, External Assembly Project Management and frequent flyers is every bit as important as liaising with travel operators and service providers. For example, Travel Management and Finance are responsible for standardizing payments made for purchased travel services in Germany and in foreign plants in order to avoid unnecessarily passing on costs internally.

Who's who in the GROB Travel Management department?

The GROB Travel Management department is to be staffed by colleagues with previous experience of handling GROB travel arrangements; they will now be a centralized point of contact for personnel. In addition, we have recruited two new colleagues with many years of professional experience in business travel. Erika Summer has been appointed as a travel manager; she will deal with strategic questions, find ways of improving processes and attend to internal and external communication with service providers. From next year, Alexandra Rücker will be responsible for travel bookings in Travel Management, freeing up Steffen Wurdinger to deal with the increased volume of vehicles in the fleet. Long-standing GROB employees Nicole Möst and Stephanie Funke will provide part-time support to Michaela Lidl's visa office and on travel organization.

Influence of Industry 4.0 on travel planning

Industry 4.0 not only applies to production; it has been incorporated into a company's peripheral procedures for many years, including in making travel arrangements. Digitization is now having a big impact on planning and booking business or private travel. But it's not only generation Y, i.e. the ‚young generation', who are using smartphones and the like to plan and book trips. A survey carried out among major business travel operators revealed that 62 percent of travelers under the age of 40 and 57 percent of over-40s use the Internet and apps to make their travel arrangements. The main motivations for booking online are that the booking process is convenient, you can do it any time, and it also saves you money. With this in mind, GROB has decided to introduce an online booking system which is tailored to the needs of employees and the company, working in association with a partner travel agency. In future, travelers will be able to plan and book their business trips independently using the centralized, dedicated system. The staff in the GROB Travel Management department will be on hand to provide them with any assistance they need. Assembly operations will continue to be booked centrally. The use of the system, which is set to be introduced in the first quarter of 2018, will lead to increased transparency for travelers there. There are also plans to create transparency in the new year for all travel information, which will appear in future on its own website and in the new general travel guidelines.

GROB travel organization

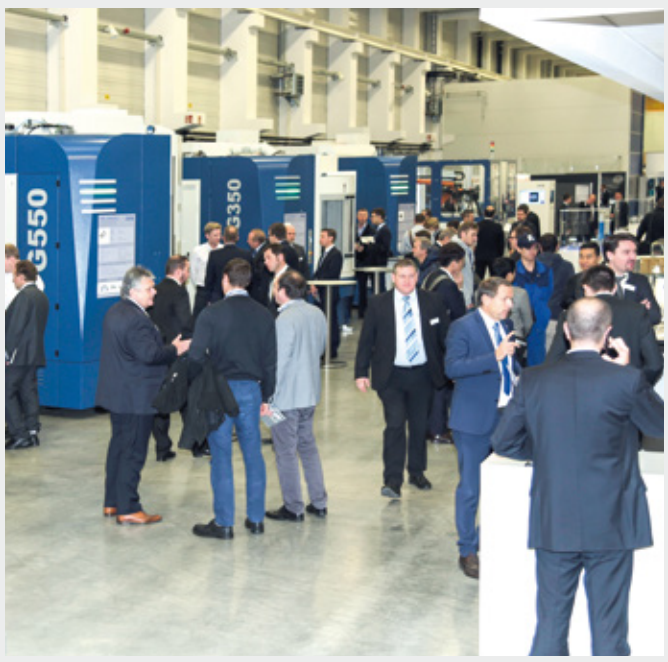
Key issue from the fleet management department

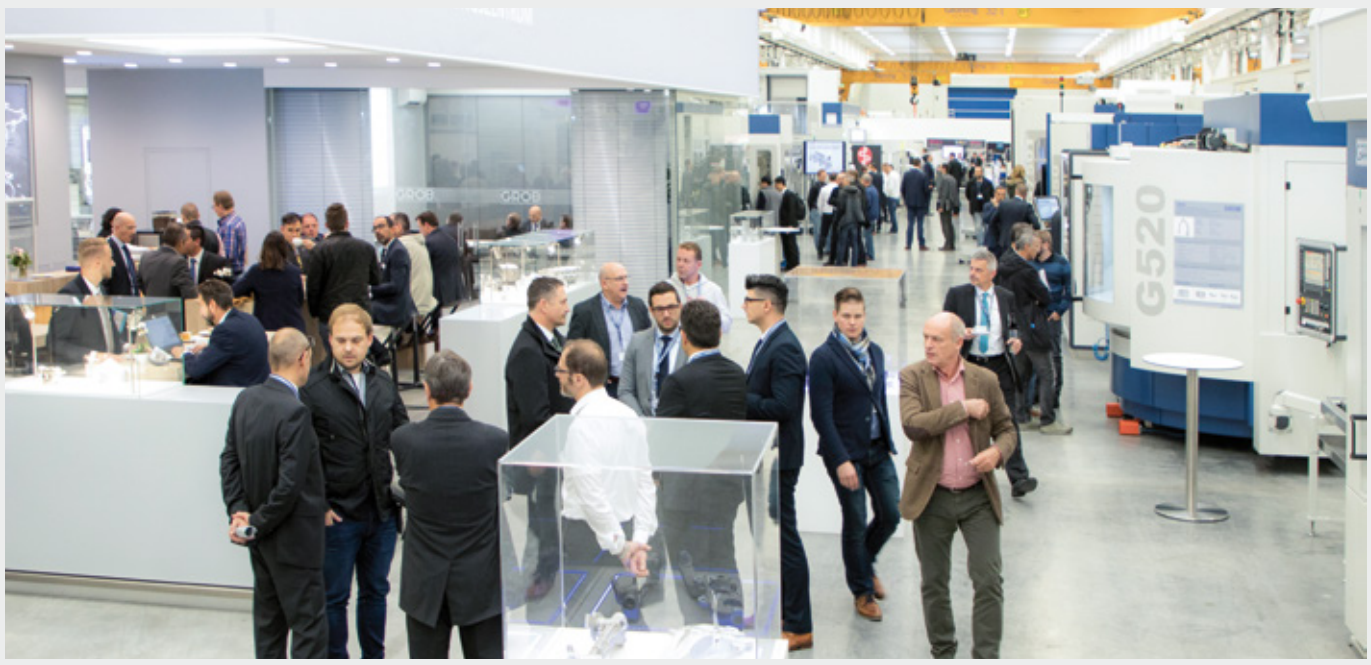
Visa office in the company

Assembly billing section

GROB IN-HOUSE TRADE SHOW

GROB celebrates ten years of universal machines with in-house trade show





GROB-UK

GROB UK is strengthening its market position in the field of aircraft engineering

GROB UK has also managed to expand its market position in the UK aerospace industry over the past year. More than 50 percent of all universal machines sold are currently being sold in this key industry which is so vital to GROB. A first G750 machine was also delivered this year in the field of mold making. Another interesting order was received from a university in Northern Ireland for a G550. Based on „Industry 4.0“, it will be used to set up a „factory of the future“, which GROB UK may also use as a showroom. An order from the systems business is set to be delivered in the summer of 2018. This is a turnkey project with several two-spindle G320 G-modules with a GROB portal, linking unit, washing station and complete process.

Visit by customers from the UK to the 2017 in-house trade show in Mindelheim

GROB-POLAND

Further strengthening and expansion of our market presence

A year after coming into existence, the GROB branch in Poland is making great strides in its expansion. Over the past year, for example, the workforce has grown in size from eight to 14, and the development of a professional service team has been stepped up. This development is reflected in sales, in particular. Machine sales in the aerospace industry are up 75 percent on last year, making GROB Poland the market leader in the sector. Around 70 5-axis universal machining centers have been sold altogether over a three-and-a-half year period. The objective for the coming year is to underpin our market presence, expand our services further and provide quicker access to spare parts in order to continue to safeguard and advance GROB‘s growth in the Polish market.

GROB Poland sales team

GROB-KOREA

GROB automation systems gain in popularity

GROB automation systems are increasingly gaining in popularity in South Korea. A new law signed by South Korean President Moon will increase the minimum wage to 10,000 won (€ 7.70) per hour, and it is set to increase it by 15 percent each year, more than twice as much as in the last five years. Given this situation, the GROB pallet rotary storage system (PSS-R) is a very interesting design feature of universal machines, especially in Korea, as it allows for cost-effective manufacturing by machining in unstaffed or low-staffed shifts. Consequently, GROB Korea concluded two orders for a G550 with PSS-R5 and four G550 with PSS-R10. The customers got to see for themselves how well the PSS-R performed live on-site during a visit to the GROB plant in Mindelheim. The automation solution from GROB, the processing demonstration in the technology and application center, as well as the entire production plant impressed the Korean visitors, confirming their purchase decision.

Visit by customers from Korea to the 2017 in-house trade show in Mindelheim

GROB-USA

Ambitious goals based on good business performance in 2017

Apprentices at GROB USA

Enlargement of the product range for customers in the systems and universal machine business, improvement in product quality and increased productivity, coupled with production capacity utilization and preparation for the new line of business, „electromobility" GROB Bluffton managed to meet a whole array of key, strategic goals this year and has set itself ambitious targets for 2018.

New vehicle registrations hit a record high in the United States last year with some 17 million vehicles. This level of new registrations is expected to be maintained in the coming years. Fueled by low petrol prices, the United States is continuing to shift toward trucks and pick-ups with their V6 or V8-cylinder engines. GROB Bluffton is set, for instance, to supply further production lines for the manufacture of V8-cylinder crankcases to two major automobile manufacturers. The question of electromobility is also increasingly gaining traction in the US. The American automotive industry is expected to invest in both hybrid and electric vehicles in the coming years.

System machines - Larger customer portfolio with new workpieces

GROB Bluffton has successfully increased its sales activities to expand its Tier 1 and Tier 2 customer portfolios, as they also continue to benefit from the good business performance of the OEMs. However, the OEMs will not only be producing classic components such as cylinder heads, cylinder crankcases and gearbox housings. Frame structure components will be produced too. GROB has a solid foothold here with the two-spindle machines with pallet changer. We are also excellently established in the American market for frame structure components with the newly launched G600F, as well as with the future G500F and G520F. Christian Müller, Sales President for America explains, „It is important that we are actively engaged right across the US market in the interests of good order volumes. In particular, since the orders we receive in future will tend to be smaller."

Particular sales highlights in 2017

A special highlight was the signing of a supply agreement with HONDA for the American market. The NAPA (North American Purchase Agreement) makes GROB one of HONDA's seventeen strategic, indirect suppliers. „This is an agreement that has enabled us to get a first foot in the door at HONDA in America; we will be considered a preferred supplier in the future," said Christian Müller, in regard to the importance of this agreement. The order to supply a production cell for a highly complex braking system from a Japanese/Swedish customer was also a particular highlight. It is a fully automated manufacturing cell with two-spindle machines that will be shipped to the US next year.

Furthermore, we delivered a variety of flexible leak-test stations, which enable the machine to be set up for new workpieces very quickly. In total, assembly technology currently accounts for a 50% share of turnover in Bluffton. The other 50 percent share is accounted for by cutting technology.

Universal machines - New customers and ambitious targets

The aerospace industry remains the most important market in the universal machine business. „Needless to say, we are also trying to gain a foothold in the areas of mold-making, medical technology and mechanical engineering, as well as in new sectors. We have managed to sell more than half of the universal machines to new customers in those sectors over the course of 2017," revealed Christian Müller. „This development gives us a sound basis for increasing sales further." In order to make sales of universal machines even more efficient, the G350 and the G550 will be added to the production portfolio in Bluffton and produced in the US from mid-2018 and from January 2019 respectively. The objective is to double sales in this difficult market segment in North America over the next three years. „However, this will only be possible if the entire sales team can be strengthened, i.e. from sales representatives to service personnel to application engineers in the technology and application center," said Christian Müller, clearly acknowledging the enormous challenge of this objective.

GROB Aerospace event at the Technology Center at GROB Bluffton

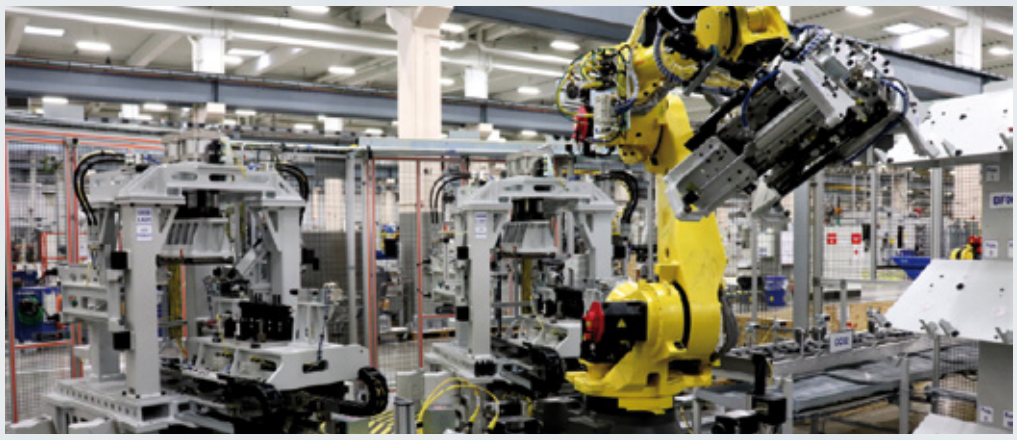
Workpiece machining on the GROB universal machining center was demonstrated with an enthusiastic response

New apprenticeship and training drive in Bluffton

Recruiting apprentices and new, qualified employees is becoming increasingly difficult due to the buoyant state of the US labor market. Unemployment is at a very low level (4.1 percent nationally and 3.6 percent in the Bluffton region). Following Mindelheim's lead, GROB Bluffton is also investing more and more in training young people and is increasing the number of apprentices from 20 to 30. From next year, engineers in the field of mechanical design and electrical design will also be trained in association with the local university. Additional plans to increase the size of the apprenticeship department are in preparation.

Higher quality with greater efficiency

Investment in new machines is reflected in quality improvements and higher productivity. New grinding machines are making it possible to manufacture parts internally with a precision that matches the levels achieved in Germany and Brazil. However, additional suppliers have had to be sought due to the rising demand for parts (90,000 parts in 2015; 130,000 parts in 2017). Over the past seven years, the company has gone from seven suppliers to 28. It is worth noting, however, that the outsourcing of orders in the sheet metal workshop has been reduced to a quarter of the original cost within three years thanks to process improvements, without having to make any additional investments. And that is despite rising production volumes. Outsourcing has also been completely eliminated in the paint shop in the last two years. The new system that has been acquired has paid for itself in just two years. Michael Hutecker, President of GROB Bluffton, observed happily, „Generally speaking, production continues to run at full speed, delivering top quality."



Leak-test station for short set-up times with new workpiece types

GROB-USA

New sales office in the Detroit metro area

First visit by GROB executive management ...

... to the new branch in Detroit, USA

The new sales office in Troy, Michigan, just north of Detroit, opened its doors at the end of July this year after a 12-month renovation period. It lies virtually at the heart of the American automobile industry and will serve as a key hub in the future, in the immediate vicinity of 'The Big 3' - the Ford Motor Company, General Motors and Fiat Chrysler Automobiles. Centrally located and equipped with state-of-the-art facilities, it will offer optimum conditions for providing the best possible support to our customers.

GROB Bluffton had been planning to open a sales office near the heart of the American automobile industry, in metro area Detroit, for a number of years. The idea of a sales office measuring 100 m² to accommodate four key account employees in an office complex in Troy was quickly rejected as this office did not offer any potential for further expansion in the longer term. In the summer of 2016, an opportunity arose to purchase a self-contained 530 m² (5700 ft²) low-rise building in Troy, MI, with office space of 203 m² (2,185 ft²), sitting on a 2,608 m² (28,072 ft²) lot. The rebuild and modernization work took about 12 months because the building was renovated from scratch; only the four outer walls and the roof were preserved. In the future, there will be four key account managers and two project managers, as well as a group leader responsible for project planning and several service technicians on hand to help customers at the GROB sales office in Troy. Together they will make a decisive contribution towards stepping up GROB customer support in metro area Detroit, an area of great importance to GROB.

Extended 'sales workbench' for local business

There will be two large meeting rooms each with seating for about 12 people. They will primarily be used for meetings with customers and video-conferences. In addition to the offices and the meeting rooms, there is another 300 m² (3,229 ft²) of storage space available, which is ideally suited for keeping stocks of materials and parts. "We are delighted to finally have a bridgehead for sales in Troy, Michigan, in the immediate vicinity of the factories of our largest customers in the Detroit metropolitan area," said Christian Müller, Sales President for America, at the official opening in July. "Now we have the opportunity to make our customer service even more efficient." The GROB office in Troy will perfectly complement the marketing and sales activities of the GROB plant in Bluffton, Ohio, some 200 km (125 miles) away, which will continue to be the location of the distribution center and of the technology and application center. Troy is 28 miles away from the Ford Motor Company in Dearborn, 23 miles from General Motors in Detroit and 9 miles from Fiat Chrysler Automobiles in Auburn Hills.

GROB-BRAZIL

Major investments secure the future of GROB Brazil

With the purchase of two halls with a total area of 15,000 m² (161,000 ft²) on a 23,000 m² (248,000 ft²) site in the immediate vicinity of the existing plant, GROB Brazil has obtained the assembly and production space it urgently needs to meet the increased demands in production. Following the move, GROB Brazil is facing major reorganization.

With production volumes increasing steadily for years, a bottleneck has formed in assembly areas at GROB Brazil which is housed, along with pre-assembly, in a 10,000 m² (108,000 ft²) hall. This means that there is currently about 6,500 m² (70,000 ft²) of assembly space available, which is far too little for an annual turnover of about 125 million Euros. As GROB Brazil mainly has to handle customer projects with a high level of automation, the situation has become increasingly complex, with urgent need for action. Fortunately, an opportunity arose a few years ago to purchase a property with two halls in the immediate vicinity. GROB Brazil availed of the opportunity and bought the 23,000 m² (248,000 ft²) property together with the two halls. The converted hall space amounts to 15,000 m² (161,000 ft²) and is the perfect solution to clear the bottlenecks at GROB Brazil. With the acquisition of the neighboring site, GROB Brazil's total area and hall space has increased by around 40 percent.

Clearing many bottlenecks and new organizational structure

There is an upper and a lower hall in the new site, which slopes in roughly the same way as the site of the existing GROB factory. There is parking for 200 cars on the 3rd floor of the upper, three-story building, covering some 5,000 m² (54,000 ft²). This means that one of the three existing factory gates can now be closed, which represents a significant cost savings for GROB Brazil, as all three factory gates have to be guarded 24 hours a day. Pre-assembly and assembly of component groups are moving into the middle floor of this hall. The bottom floor is intended for shipping and for the production of packaging materials which were previously stored in temporary structures. Once pre-assembly has been relocated, the space which is freed up in the large assembly hall can be used completely for the commissioning of processes for customer projects. The move will have been completed by the end of 2017. An additional warehouse for large parts, with an area of about 4,500 m² (48,400 ft²), has been set up in the second hall, which is situated lower down the slope. This meant that all the temporary storage structures could be taken down. It is now important that the refurbishment of the acquired halls be completed as quickly as possible in order to increase the assembly space, thereby enabling customer projects to be processed as effectively as possible in this fiscal year.

Good business development - difficult implementation

GROB Brazil currently has annual sales of around 125 million euros, 26 percent up on the previous year. The workforce has also increased slightly by 25 employees to a total of 560. Nevertheless, „bottlenecks" could only be covered in some departments of the factory by additional outsourcing. Temporary workers have been deployed in design, final assembly and commissioning, while we have had to outsource work in production to cope with volumes at peak times. „In order to keep up with the large volume of new orders, we are currently working at overcapacity of 15 to 20 percent, which is more than 25 percent up on the previous year," says Michael Bauer, CEO of B. GROB do Brasil, explaining the positive trend.

High levels of investment in machinery and process units

The strategy of upgrading production has been continued at GROB Brazil. A DMG CTX 1250 turning and milling center has been acquired in small parts production, and an EROWA pallet store has been ordered for an additional G350. Furthermore, two GROB G350 „loan machines" are also used occasionally to cover order peaks. A G550T was additionally integrated in order to increase the capacity of large turned parts. „This enabled us to deliver some 18,000 parts to the GROB factory network by August," explained Michael Bauer, stressing the importance of this investment. In addition to these machine investments, the second „backup" data center was completed. GROB Brazil is now one-hundred-percent compliant with the requirements of the GROB IT guidelines.

System business: Successful in major projects

After there had only been 2.1 million vehicles produced in Brazil in 2016, production rose to 2.7 million in 2017 due to strong exports to Argentina and Mexico. A further rise in vehicle production is expected in the year ahead. There were two major bidding processes in the Brazilian automotive industry this year, both of which were won by GROB Brazil. This was an order for a cylinder block production line consisting of 34 machines with eight loading and linear gantries and the associated ancillary machines, such as bearing cap assembly as well as leak-test stations, and a second order for a cylinder head production line consisting of 28 machines with automation and the overhaul of a cylinder block production line. The company plans to concentrate more on Tier 1 and Tier 2 suppliers in the coming year. The intensified discussions in the country on the subject of „electromobility" are also interesting. „There is no real market for this as yet, apart from a few small investments, but we are already in close dialogue with representatives of the automotive industry," said Christian Müller, Sales President for America, describing the strategy.

Universal machines: steadily growing market

The aerospace industry is and remains the most important market for universal machines. GROB Brazil has already managed to sell 40 machines in that key market segment. Our current focus is on extending existing contacts and reinforcing product marketing. GROB Sales managed to achieve further successes in the areas of mold-making and medical technology. Expectations are high with the completion of the new TAC (Technology and Application Center) in São Paulo, which is due to be completed in late 2017/early 2018. Christian Müller feels confident about it: „This will give us the best possible facilities for demonstrating our universal machines to customers."

Trade fairs in Brazil are increasingly proving to be extremely good platforms for showcasing our products. For instance, the new double-spindle machine with an integrated pallet changer was unveiled at EXPOMAFE 2017. GROB Brazil received 14 orders for this new technology straight afterwards. GROB Brazil will premiere the new universal machine G350 – Generation 2 at the FEIMEC in April 2018. The fourth „5-Axis Universal Machine Workshop" is planned for next October.

GROB-CHINA

GROB Dalian celebrated its fifth anniversary and a successful 2017

With great success, our Chinese colleagues celebrated their fifth anniversary at the GROB plant in Dalian in October. Over the two days, they unveiled the latest products to be manufactured in-house, as well as GROB technologies in the aerospace, automotive and general engineering sectors, once again confirming that they are among the market leaders in China, Asia's most important export market.

To mark its fifth anniversary, GROB Dalian held an Open House event from October 19-20, where visitors not only had the opportunity to have a look around the factory, but also learned about the different applications of the GA350 and GA550 series for the Asian market. The event was aimed primarily at the aerospace, automotive and general engineering sectors. Large numbers of customers, guests and media representatives came along to find out about the most recently opened of the GROB plants and took a great interest in the exhibits - all machines that are produced entirely at GROB's Dalian plant.

They include a GA350 universal machine with a Heidenhain control and a GROB motor spindle with a speed of 16,000 rpm, which is ideal for machining complex components with stringent requirements in terms of precision and cutting volume. The machining of a cylinder head was demonstrated on another GA350 with a Siemens 840D sl control and a 16,000 rpm GROB motor spindle. A GA550 was also equipped with a rotary pallet storage system (PSS-R).

GROB Dalian was built using the headquarters in Mindelheim, Germany, as a model. Nowadays, five years after the opening, GROB Dalian is a successful, modern production plant which is highly regarded within the GROB plant network and based in Asia's most important export market.

Successful creation of the design department

Our Dalian plant has successfully built all the elements of a comprehensive design department over the past two years. The individual technologies in design include the following groups: clamping devices, tool technology, automation, assembly technology, electrical engineering with hardware and software, fluid technology, as well as the localization and coordination group. There will be 30 technicians and engineers in the design department at Dalian by the end of 2017. The design department will have grown to 40 employees within a year of that, or by the end of 2018.

Successful year with interesting customer projects

One of the sales highlights of 2017 was the delivery of two GA550 machines for a turnkey project with KUKA robots. These machines are connected to other automated equipment and are used to machine steering gears for the automotive industry. The GA series can ideally be converted into low-staffed production with automation solutions, reducing costs effectively while generating increasing sales.

Initial successes in the field of „electromobility"

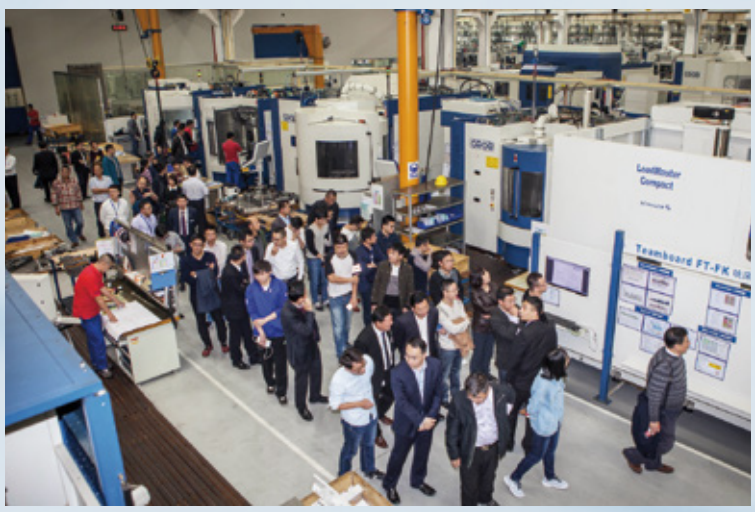
GROB Dalian (GCD) also achieved initial successes in the field of „electromobility". For example, it processed sub-parts of an order for the construction of an assembly line for e-motors. This aspect of the project was built and commissioned independently in Dalian apart from the design. The customer was very satisfied with the outcome and is planning to award further follow-up orders to GCD in the future.

Investments in production and new processes

GROB Dalian continued to invest in production and new processes last year in order to improve profitability and to be in a position to meet the increasing challenges of the market. A nitriding plant was procured for production with a view towards enhancing product quality and eliminating scheduling bottlenecks in the case of external suppliers. GCD plans to invest in a new Zeiss 3D coordinate-measuring machine in order to increase the capacity of the coordinate-measuring room. Additional capacity which is urgently needed due to the good volume of orders and resulting increased workload for conducting measurements on machine components and customer workpieces.

International training within the network of plants

The entire GROB plant network is used to train employees. Training, especially in the field of assembly technology for commissioning, is carried out both at the Mindelheim plant, as well as in Dalian and especially in Tianjin (on-site assembly in China). In the „Ancillary" area, our GROB factory in Bluffton, Ohio, trains Chinese GROB employees in the fields of design, installation and commissioning (electrical as well as mechanical). As the first Generation 6 G-modules are also being built at GROB Dalian, relevant training was also given to Dalian employees.



Open House event to mark the fifth anniversary

Setting up an assembly line for electric motors

AT YOUR DISPOSAL ALL AROUND THE WORLD

Mindelheim plant

São Paulo plant

Bluffton plant

Dalian plant

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