Jacob

Cable entry systems

CONNECTED BY AMBITION

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That is our motto at Jacob. But it’s more than just a play on words – it is something we truly believe in. Just like our customers, we expect a lot from our products and services. As an experienced cable gland specialist, we’re used to dealing with tricky challenges.

“That was quick!” is a common refrain at Jacob when we respond – with our renowned speed – to inquiries from customers who have shown an interest in our cable entry systems. Our response time sparks a connection, especially as we take every task and request from our customers seriously.

We love it when our customers recognize our efforts, as this also demonstrates an appreciation of how important the interplay between product and service is in the industrial sector. And it really is! Even at this stage, the small, unassuming parts of our process chain can play a key role in the end result. If one component fails, it can bring an entire production line to a standstill – often with costly consequences.

But in the same way, almost every application hides beneath its surface unrealized potential. We have made it our objective to identify this potential and enable our customers to leverage it. To do this, we apply all our specialist knowledge as a problem solver in all matters relating to cable entry products. This approach has enabled us to turn underrated C parts into true all-rounders with the makings of hidden champions.

Read the following pages to find out more about how we work and why our customers are so important to us. Almost anything is possible! Read on and see for yourself.

Enjoy the magazine!

“Intelligent solutions are always worth the effort – down to the smallest detail.”

They joined Jacob GmbH at almost exactly the same time – one in 2002, the other just a year later: General Manager Bernd Bohl, 49 (right), and Manfred Strerath, 53, Sales Manager for Europe, are connected not only by the career path they have shared for many years, but also by a clear vision of the correct course for the future. The key coordinates? Innovation, speed and communication.

Bernd Bohl, General Manager
49 years old, joined Jacob in 2002
Manfred Strerath, Sales Director Europe
53 years old, joined Jacob in 2003

What would you say makes Jacob GmbH special?
Bernd Bohl: Our staff, our products, our service. We are the specialist when it comes to cable entry solutions.

Response times, development times – speed is becoming increasingly important as a criterion in determining market position. How can a medium-sized enterprise with a global customer base like Jacob keep pace with such developments?
Bernd Bohl: We have prepared very well for this. Due to our long-standing customer relationships we are always up to date – communication plays a key role, of course. The Jacob sales managers and the customer service team are in touch with our customers every day. Longstanding international sales partners strengthen the proximity to our customers even further, and are therefore considered an important part of our company. The product managers and developers are always within touching distance of the market, so we are always on the ball. Small, solution-oriented teams create the desired velocity. Everyone communicates with everyone else, which enables us to act quickly and efficiently.

> "THE DETAILS SHOW WHETHER A SUPPLIER UNDERSTANDS THEIR MARKET."

With its heavy focus on international business, the company needs to have a high level of expertise with regard to standards and regulations ...
Manfred Strerath: That's right! Our hands-on work on the relevant committees gives us a key advantage in this regard. Jacob's product management and development staff play an active role in shaping the content of standards and regulations. This ensures that we are always up-to-date to technical and legal requirements. All developments are communicated to our customers and sales partners around the world by our customer service team. And it goes without saying that they can download all the most important documents directly from our homepage.

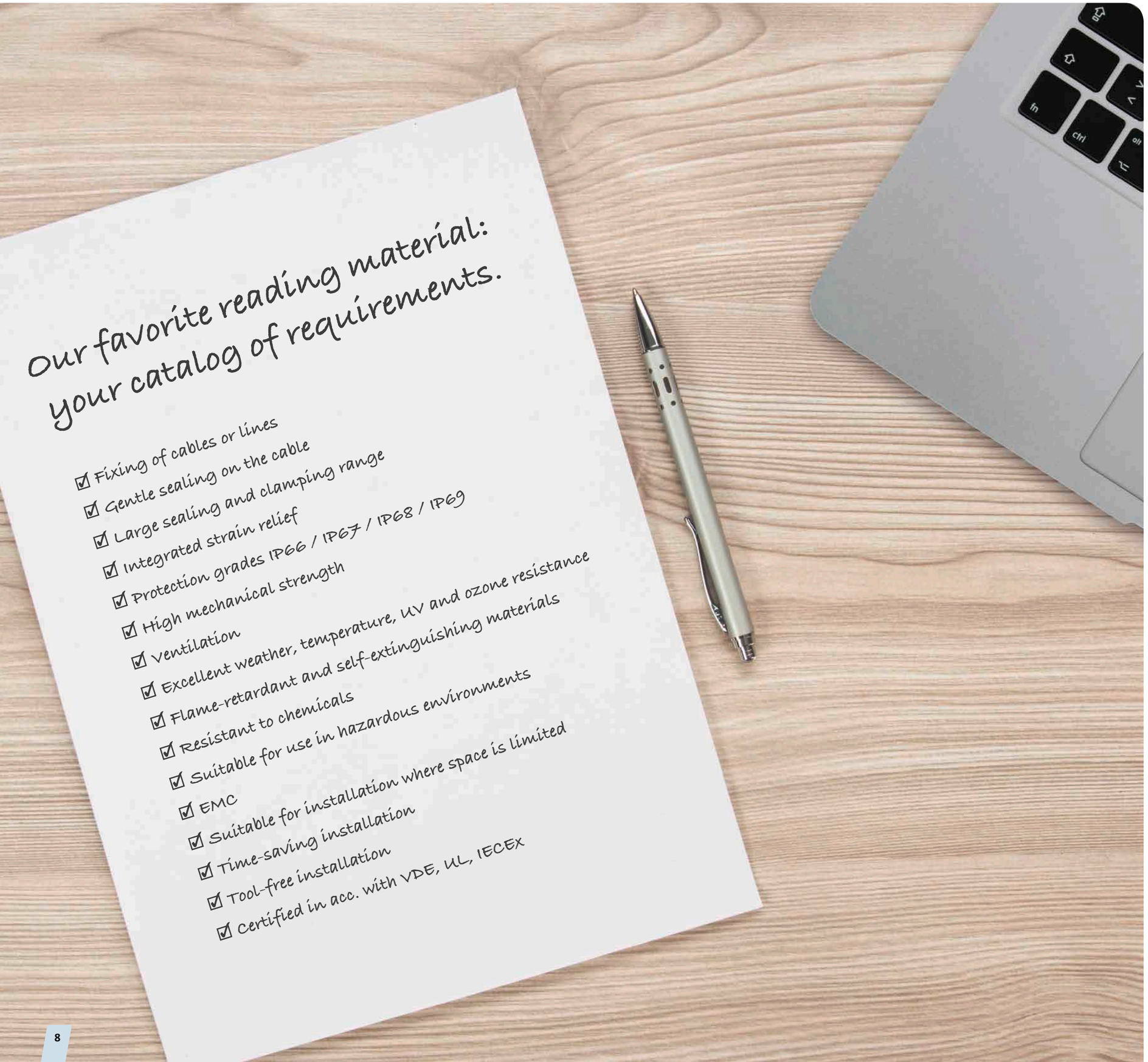
Cable glands are a safety factor in many systems. How much awareness is there on the market of the risks involved?
Manfred Strerath: Jacob products are usually part of a complete high-tech solution in the field of electrical systems. Both we and our users are very aware of the safety concerns involved in such systems. The safety features of our cable glands are designed to make the end product even better and safer for the customer.

Bernd Bohl: Our testing laboratory plays an important role in this. It allows us to simulate extreme cases and to test and design our product features with safety as our utmost concern. Jacob also offers products for use in special and potentially explosive environmental conditions, such as oil platforms, refineries, and public areas like airports and rail vehicles. Safety is a hugely important watchword for us.

So how do you turn fast response times into long-standing customer relationships?
Manfred Strerath: Well obviously, a quick response to a customer's expectations and requirements is the only way to ensure you'll be in with a chance again next time. In the current climate, nobody wants to wait a long time for a supplier to send them a quotation or call them back. Short response times form part of the requirements our customers expect us to meet.

JACOB IN FIGURES:

- 1922: founded by Wilhelm Jacob. He presents his company at the Leipzig Trade Fair and starts to establish a global network
- Production of brass turned parts for the electrical industry
- Starting in 1972: production of plastic cable glands
- Headquarter: Kernen, near Stuttgart, Germany
- 200 employees, more than 5 % trainees and apprentices
- Certified in acc. with ISO 9001:2015, ISO 50001:2011 and ISO 14001:2015
- Jacob is the cable gland specialist
- It produces 200 m parts per year



And we do identify ourselves with our customers' concerns. If we're fast, the customer can keep their own processes running without delay. If you think about it, it's a situation we're all familiar with in our private lives. If we need a new phone, we go where we know we can get one quickly. Speed is now an integral part of a good responsiveness. The number of long-standing great relationships shows how good we are at this.

Technologies or market segments: What's the main focus for Jacob?

Bernd Bohl: Both areas are important, and they play into one another. The market tells us what the requirements are in different industries. Nowadays these are more complex, individual and demanding than ever before. In order to fulfill them, it is essential that we develop and apply our expertise in many different types of technology. Technological innovation is an important key to new products.

The requirements of the markets change fast. What trends have you noticed recently, and how is Jacob responding to them?

Manfred Strerath: We've noticed that a lot of customers can no longer be satisfied with standard products out of the catalog. If you like, there's a trend toward individual solutions – but there are also service-oriented trends toward ever-shorter lead times and individual packaging. Standards and regulations are leading to stricter product requirements in terms of safety and environmental protection. We are running tests with alternative materials, such as lead-free brass.

Bernd Bohl: We're set up well to deal with the customization of products and services with a special team dedicated exclusively to individual, customer-specific solutions. Due to our close communication with our customers and partners we know about the developments on the markets. Together we focus far more on the opportunities the trends present to us than the risks. For example, the politically driven trend toward electromobility represents an area of huge potential for us. I can see a whole host of opportunities we are planning to be involved in, both now and in the future.

Where are the new markets for Jacob's project business?

Manfred Strerath: The old markets are also the new markets. We see potential for customized solutions and special projects in all the well-known fields of industrial applications. There are no limitations for us in this regard. In almost every market segment there's potential for improvement. This is demonstrated by the large number of ongoing projects we are already working on together with our customers. It is our aim to improve the technical aspects of our customers' applications and make them more efficient. This approach works just as well in trend-influenced markets like electromobility as it does in mechanical engineering.

Environmental regulations and the increasing scarcity of raw materials represent additional challenges for technology companies. How is Jacob handling these challenges?

Bernd Bohl: Part of our risk management process consists in qualifying alternative suppliers and materials in order to reduce the risks for our customers. We deal with the increasing complexity of environmental regulations by developing new products using environmentally friendly materials, such as lead-free brass. Generally speaking, though, environmental awareness is too important for us to simply wait around for new laws to be passed – we prefer to be proactive. Year on year we reduce our waste figures and introduce more and more recyclable operating equipment and materials.

What areas of expertise will experience particularly high demand in the industry in the future? What steps does Jacob take to keep new prospects at the company?

Bernd Bohl: Well of course, specialists like process mechanics and cutting machine operators will remain just as essential for us in the future as they are now. However, we're also starting to focus more and more on skills like team spirit, creativity and flexibility. Our employees bring so many different skills and abilities with them. I see it as my job to create the perfect conditions for each individual to put their strengths to use. And to answer the second part of your question: We have our own training program and a great network of vocational training centers, schools and universities. What makes Jacob special? We allow everyone to shape how we work, encourage them to stand on their own two feet and give them the space to try out new ideas. There's always something new going on – that's what makes working here so exciting.

Where do you see Jacob in five years?

Together: We'll still be a major league manufacturer of cable entry solutions, of course! Highly motivated, in great shape and with that special quality and drive for innovation that will allow us to be even better and faster at responding to our customers' requirements.

"CABLE SYSTEMS ARE THE INDUSTRY'S NERVOUS SYSTEM – AND CABLE GLANDS ARE ITS SYNAPSES."

ENERGY:
refineries, oil and gas platforms
hydro, solar and wind power

BUILDING INSTALLATION:
industrial and residential buildings,
outdoor facilities

Jacob can act as a supplier to any sector – from the electrical industry, the machinery and control cabinet construction sector to the building services, energy supply and transport industries. Our solutions range from standard components to fully customized systems.

THE BEST CONNECTIONS IN EVERY SECTOR.

INDUSTRY:
mechanical and plant engineering,
automation, robotics and much more

TRANSPORT AND TRAFFIC:
water and rail vehicles, e-mobility,
infrastructure

FULL RANGE!

With over 6,000 items in our program of products and accessories, we can offer the perfect solution to suit almost any requirement. And if you can‘t find what you‘re looking for, we have a whole team just waiting to develop a new solution to suit your needs. The Jacob brand stands for quality, reliability and safety. Many Jacob cable entry products are VDE-tested or come with UL approval for the North American market. Looking after people and the environment is an integral part of our business philosophy; that is why we never use raw materials from areas of conflict. Our products meet the requirements of the RoHS and REACH environmental directives.

Special solutions

Accessories

Cable entry systems

Cable glands

Venting elements

Solutions for hazardous areas

STAY
“COOL” –
EVEN AT
200 °C!

BRAVE
ICY TEM-
PERATURES
OF DOWN
TO MINUS
60 °C.

WATER TIGHT
EVEN AT
DEPTHS
OF 100 M.

JACOB SOLUTIONS CAN HOLD THEIR OWN ANYWHERE.

At Jacob we make our products in Germany and sell them all over the world. With representation in 50 countries, we are always close to our customers. Jacob products fulfill even the strictest requirements in terms of water tightness, mechanical strength and resistance to temperature and weather conditions. And it‘s no wonder either, considering how thoroughly everything is „put through its paces“ in our lab before we send it out into the world.

“WE ALSO SHOW OUR CUSTOMERS PATHS THEY‘VE NOT EVEN THOUGHT OF.”

Volker Müller, 44, who has been at Jacob since 2015, is our Technical Director – so he‘s always thinking about the balance between technical requirements and creative freedom. The mechatronics engineer applies his know-how to squeeze out every last drop of added value for his customers as their solution grows from a draft design to a fully formed and approved product.

JACOB‘S RESEARCH & DEVELOPMENT DEPARTMENT CUTS TIME TO MARKET WITH A RANGE OF MEASURES, INCL.:

- FEM simulations
- Filling studies
- Rapid prototyping
- CAD-CAM and rapid manufacturing

How many staff are involved in development tasks at Jacob? What do you do personally to engender a willingness to innovate?

Ten of our employees work directly on development tasks – but in indirect terms, almost everyone at the company is involved in the development process. There is a huge willingness to innovate at Jacob. For me personally, the most important way I can contribute to this is by coordinating the teams, giving them the space and support they need. And when it is the right time for the customer – we just do it!

Jacob has been developing and producing cable gland systems for almost 60 years – longer than any other company out there. What do you say to those who claim that there’s no scope for innovation left in this field?

Manufacturing and production processes are constantly evolving – that’s a fact. They are the engine that drives innovation in the field of cable glands, and they provide us with the impetus to imbue our products with important technological innovations. Some of the best known examples of this include metal injection molding, 2K injection molding and rapid manufacturing.

So what is it that makes Jacob cable entry systems so good?

Let me break that down into a few key areas: our decades of experience, our use of simulation and prototyping, and the extensive testing we conduct in our lab.

Where do you think there’s potential for optimization in terms of materials?

Environmental regulations and standards are currently driving development in a clear direction: toward the green product. We are optimizing our products in line with this trend by using lead-free brass, for example.

To what extent do you incorporate your customers’ practical experience into the development process?

Here at Jacob, we have a dedicated team that deals with special requirements from our customers, going far beyond our standard processes. This team develops custom solutions or integrates special features into new standard products’ development.

What is the time frame for developing and realizing a customer project, on average?

We generally say three to twelve months. During this time, the project goes through clearly defined stages, starting with the design, then the product and process development and, finally, the approval.

“POINTING OUT SOLUTIONS – THAT‘S JACOB!”

Could you give us an example to demonstrate the interplay between development and production in the Jacob project business?

There’s a project we’re currently working on where our first step was to develop a solution concept for a specific customer requirement. In the second step, our main challenge was to provide the customer with close-to-production parts on short call. To achieve perfect results in next to no time, several divisions – Development, Turning Technology, Mold Making and Plastics Technology – worked together hand in hand.

It’s not unknown for developers to sometimes give customers answers to problems they might not even have thought of yet ...

Yes, that’s a fairly common occurrence at Jacob. There was an e-mobility project, for example, where we were able to make significant cuts to the customer’s assembly time. Originally, they had only asked us for a cable gland – but in the end we were able to develop a new type of connection box that made their assembly process much easier.

Jacob has its own testing laboratory. How does this benefit the customer?

Strictly speaking, there are actually two advantages. Firstly, it enables us to apply our new knowledge very quickly to the development stage for series products. Secondly, it means that we can carry out tests according to our customers’ specifications.

So where and when do you come up with your best ideas yourself?

Luckily, most of my very best ideas come to me already at the first customer visit. And if I’m stuck in a rut, I find a coffee or two always helps.

Cutting-edge technology and stream-lined paths for the perfect know-how transfer.

At our headquarter in Kernen, close to Stuttgart, Germany, we use modern single and multi-spindle automatic turning machines. Our tool construction team can provide machine cutting tools in near to no time. Our in-house mold making department provides state-of-the-art injection molds for our plastics technology team. Jacob handles a wide range of materials, such as polyamide, polyethylene, polypropylene and polystyrene. Our R&D and laboratory team make sure that the customer's requirements are fulfilled by the product design before production begins. IT-assisted measurement equipment monitors quality while the production process is ongoing. All of our disciplines are housed under one roof. This enables us to respond quickly and with maximum flexibility.

Turning Technology

Every year, our automatic turning machines process more than 1,500 t of brass and stainless steel. We have the skill to make our own machine cutting tools in-house.

Plastics Technology and Mold Making

Over 600 t of granulate flow through our injection molding machines every year. The mold making department keeps our tool technology at the cutting edge.

Development and laboratory

Simulation, rapid prototyping, testing: We make sure to fulfill our customers' requirements.

“In the face of digitalization and accelerated work-flows, being dynamic is essential.”

Jochen Schaller, Director Operations and Logistics
47 years old, Dipl.-Betriebswirt (FH) Diploma in Business, joined Jacob in 2008

What makes Jacob GmbH special in terms of production expertise?
The foundation for all our production expertise is the way that all our departments work together under one roof. In addition to metal turning and plastics technology, these include our in-house tool and mold making departments, which enable us to put our customers’ wishes and special solutions into effect. The other big factors in our success are our highly experienced and qualified staff and our company training – these are the platforms on which our achievements are built.

Jacob has been making brass, stainless steel and plastic cable entry systems since 1951. No other provider on the market has that kind of history. How is this wealth of experience reinvested to give the customer tangible benefits in terms of production?
Here at Jacob, we don’t rest on the laurels of our past successes. We are always optimizing our production methods in order to continuously improve our quality and flexibility. These improvements filter through to our customers – in the form of impressive product quality and delivery performance.

If you look back at Jacob's production over the course of the year, can you spot certain cycles? How do you manage peaks in production?

Unlike other companies, we don't have to deal with significant seasonal fluctuation. Jacob offers a wide range of products and services, and acts as a supplier to a huge variety of sectors. On top of this, all of our business processes follow the "pull principle". This enables us to smooth out our production output.

How flexible can Jacob be during production – in terms of responding to last minute changes in customer requirements, for example?

Our fundamental rule is that we take every one of the customer's wishes seriously. We are incredibly flexible when it comes to our standard range; technical alterations of course, that affect the geometry of the parts need to be checked through in detail.

Jacob produces several million cable glands every year. How do you make sure that product quality remains consistently high?

Standardized production workflows combined with IT-assisted testing procedures ensure that all of our processes are under control at all times.

What tweaks can you make to production in order to save time without impairing quality?

Here at Jacob, we are great believers in the CIP principle. We apply this principle using conventional lean methods such as TPM, 5S and standardized work. This means that we are always in a position to further our development.

The Jacob Logistics Center set up in Kernen-Rommelshausen ten years ago has brought together all logistic tasks for manual and machine assembly, warehousing and shipping under one roof. This is a huge plus for the customer ...

Absolutely. The most important factor in achieving our current level of performance has been the automated small parts warehouse (ASPW) we set up in addition to the Logistics Center. This has made all our logistics processes much more efficient. For the majority of our products we keep the components in the ASPW and assemble them upon request from the customer; the high-runners are available ex stock as finished goods at all times.

What role does special packaging play in the logistics process?

The packaging is part of the product. As such, special packing units and custom labels are services we offer our customers in order to generate effective added value for their logistics chains.

What special product-specific and/or logistical challenges have you identified for the future of the industry?

In the face of business digitalization and the resulting acceleration of workflows, we need to be even more dynamic in terms of our logistics. The solutions to this issue include ideas like wearable computing and paperless consignment. Green logistics – and everything that comes with it – is also something we've been looking at for a long time. But the focus is always on the customer – their challenges are and will always be the most important consideration for us.

FACTS:

The 3,500 m² Jacob Logistics Center

- Conveyor belts provide transport straight from production to the automated small parts warehouse
- More than 6,000 products, over 10,000 storage spaces
- Components sent to assembly line on a job-by-job basis
- Fully automated logistics, warehouse and dispatch under one roof

Jacob GmbH's modern Logistics Center in Kernen-Rommelshausen bundles the company's workflows at a single, centralized site. The Center supplies products to industrial customers and electrical distribution partners quickly and reliably. A fully automated system transports the components from production to the warehouse where several assembly machines speed up the further processing. 250 main items are available within 24 hours.

TEAM SPIRIT BEATS EVERYTHING!

Full power for your project: At Jacob, everyone pulls in the same direction when it comes to finding the optimum solution for our customers‘ requirements. All of our departments are united „under one roof“ – so good ideas never have far to go until they become reality.

IDEAS AND SOLUTIONS HAVE MANY FACES AT JACOB.

"A lot of care and knowledge goes into our components. The teamwork with the mold making and our other departments leads to top-class products – and satisfied customers."

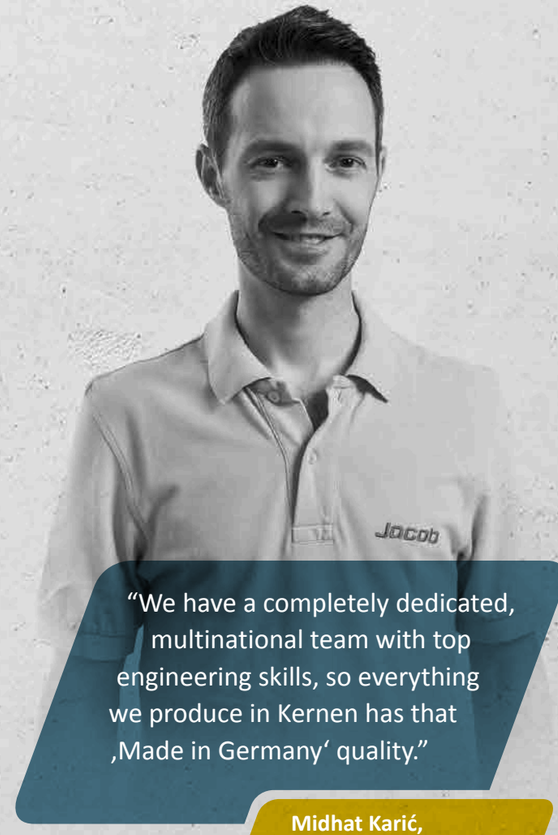
Jhanelle Peralta, Production

"Global presence and proximity to our customers – for this we have been cultivating international relationships on equal footing for so many years."

Grigorius Chafisidis, Sales

"Our team includes specialists with many years of practical experience. We can turn even the most specialized customer requirements into a reality, systematically and quickly."

Benjamin Szuster, Laboratory



"We have a completely dedicated, multinational team with top engineering skills, so everything we produce in Kernen has that ‚Made in Germany' quality."

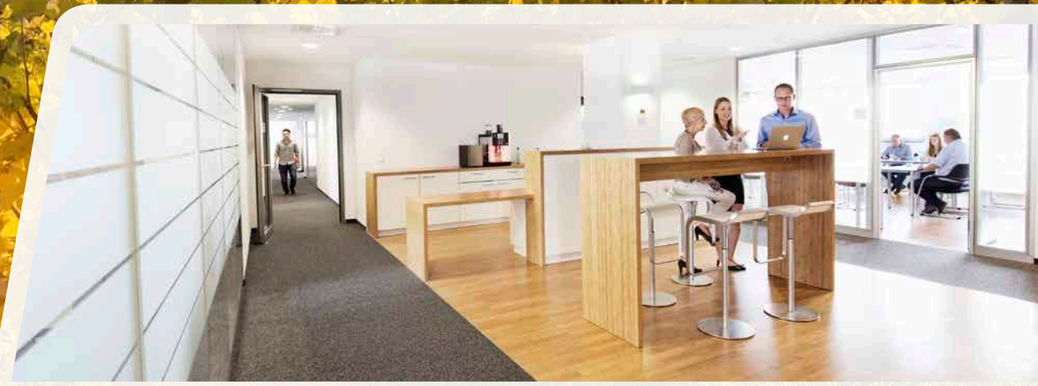
Midhat Karić, Machine maintenance

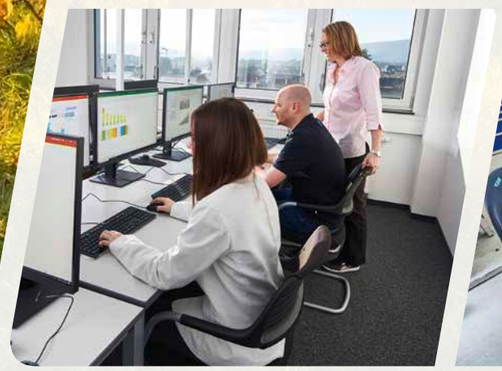
"Speed and reliability are the absolute priorities for our customers. That's why we aim to continually improve our service."

Birgit Schmierer, Logistics

WELCOME TO THE HOME OF GOOD IDEAS!

The Jacob Production and Logistics Center is located in Kernen, just outside Stuttgart. It is here, in the idyllic Rems valley, that all of our R&D and production „Made in Germany“ takes place. Through our own branches and long-standing sales partners in Europe, America, Asia and Australia, we supply customers in over 70 different countries. And wherever you are, we always strive for maximum customer satisfaction – through our quality, speed and reliability.





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