



**SCHOEN
BORNER**



Always one **Innovation** ahead

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COOPERATION WITH SCIENCE

Hello,

We Schönborners are a family. And not only because some of my family actually work here – as befits a good medium-sized company. But mostly because, at Schönborner, we feel like a family of companies.

A family committed to innovation, quality and reliability. A family that is geared towards what you need and one that cares about sustainability and resilience. And with good reason, because our subject matter is one of the most valuable on earth: water. Water is the most important basic resource and is under enormous pressure worldwide when it comes to both quality and quantity.

Use Schönborner innovations for your adaptation and resilience measures to protect water as a resource. Innovation leadership has always led the Schönborner brand to success ever since it was founded – we have been awarded a 2022 Brandenburg Innovation Prize.

You as our customers and we as a company all benefit from this. Schönborner products are renowned for their functionality, flexibility, innovativeness and durability. Not least because we have built up a very close and extensive relationship with the scientific community, so research and development is part of what we do every day. But that's not all. Precision in manufacturing and the high vertical range of manufacture are our greatest trademarks. And this frees us from dependencies on long supply chains and bottlenecks.

Last but not least, our products are extremely flexible to use, the system approach playing a major role in product development. Our promise to you: together, we are always one innovation ahead.

Yours sincerely,



Thomas Ebert





THE COMPANY'S SERVICES



Research and development (R&D)

Our motto: **Knowledge is power – and so too is science.** Our aim: trust, consolidating and expanding our market position, constant improvements to innovation both in our products and the company itself. We also want to offer interesting jobs for young people with a thirst for knowledge. Schönborner remains state of the art.



Assembly department

Schönborner-developed equipment and technologies are used. This gives great flexibility in order-based production while minimising stock levels.

Additive manufacturing

Schönborner is so far the only player in the field of control elements. An enormous expansion of production capabilities and range of products. The most effective way to produce single-part and small-series plastic products in terms of time and financial efficiency.



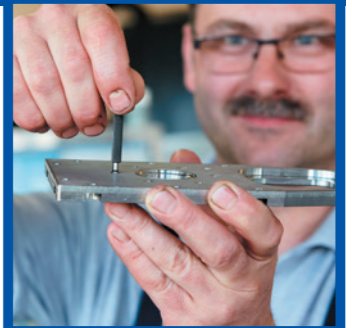
Construction

Creation of design documents from the individual part, assembly, right up to the complete device, both for in-house assembly devices and for tool designs for the production of injection moulding tools.



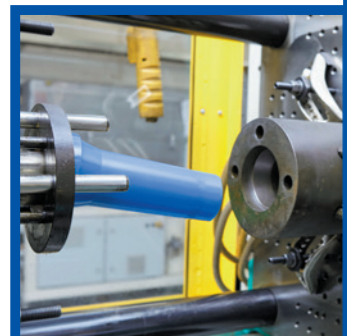
CNC department

The potential to produce custom-made products enormously expands the product range. It is effectively possible to convert standard components into custom-made products. Contract manufacturing leads to the production capacity utilisation.



Plastic working and processing

Schönborner is the only manufacturer of operating elements that uses both injection moulding and extrusion technology. This directly impacts the creation of products and their quality and quantity. Last but not least: significantly enhanced opportunities for product design and contract manufacturing. Good utilisation of production capacity.



Metal working and processing

Schönborner is self-reliant in terms of quality and quantity of its products. This expands the possibilities for product design – even automated material cutting including processing is possible. The rolling mill also produces high-quality square pipes on tools we have made ourselves – resulting in improved effectiveness in the company's own production. Contract manufacturing ensures good utilisation of production capacity at all times.



Configuration

Information from the customer is incorporated into product development using the innovative configurators developed by Schönborner, who themselves guarantee functionality. Configuration is the result of turning the client's ideas and wishes into reality. This contributes to increasing effectiveness in product creation and distribution.



5 DEPTH OF PRODUCTION

A high vertical range of manufacture is of course attractive to protect against international supply bottlenecks. Events over recent years have increasingly highlighted the importance of this topic, because it influences market presence and price – usually adversely for customers. That is why we are taking a different approach. At Schönborner, we have relied for many years on a high degree of vertical integration to benefit our customers. This makes us largely independent of international suppliers and we can therefore almost always meet delivery deadlines.

But that's not all. A high level of vertical integration means we have the quality of our products in our own hands – from planning to final inspection. Our dedicated employees can therefore always have a direct influence on the accuracy of both preliminary and final products. Not only does our innovative strength come into play here, but we also make use of the possibility of final machining of suppliers' preliminary products. Because that opens up the flexible possibility of in-house product customisation to meet specific customer requirements.



The results are impressive: not only is stock minimised, but we have significantly improved flexibility in the spectrum of our products. What's more, there are usually no problems achieving customer wishes. However, a high level of vertical integration

also means that our high standards of precision and thus of product quality are maintained at all times. This precision in manufacturing is a Schönborner trademark which our employees can be justifiably proud of.



SUSTAINABILITY

Our work is grounded in sustainable management – this is the direction that Schönborner product development is fundamentally geared towards. It also includes long service life for our products. For example, we rely on various sustainable forms of galvanisation.

Strip galvanising

Strip steel is drawn through a zinc bath with the existing process heat. The zinc layer is then compacted and strengthened at the same time. Excess zinc is directly recycled. The process heat present in the sheet maintains the temperature in the zinc bath for longer. There is no need to preheat the material to be galvanised.

Piece galvanising

In contrast to this, the pipe components must be cut to length before galvanising and being sent to the contract coater. It is very time and energy consuming, and labour intensive, to apply the zinc layer in the course of piece galvanising. The additional transportation needed has a negative impact on the sustainability assessment.

Square pipe versus square steel

Schönborner is increasingly replacing linkage components made of square steel with higher-strength square tubing. Up to 50% material and weight savings result in larger-scale sustainability effects.

Protective pipe production

Schönborner manufactures protective pipes on its own extruder (**vertical range of manufacture**). Waste materials and rejects are ground up and fed into the production cycle.

Injection moulding

Schönborner produces injection moulded parts on two of its own injection moulding machines (vertical range of manufacture). Incoming and outgoing waste as well as rejects are also ground up and fed into the production cycle.

Corrosion protection in coupling elements

The coupling elements can be galvanised. The inner contour of the coupling element is not coated when using this technology and a corrosion outbreak including transfer to the valve stem is pre-programmed. Schönborner is once again breaking new ground in **sustainability** with the use of **DELTA-PRO-TEKT® coating technology**, which is usually applied to components in the offshore industry.

Operating square

The operating square is made of cast iron and has a galvanised coating to protect it against corrosion. But even here, Schönborner relies on controlling square edge made of pure zinc. **Sustainability starts in the head.**

Protective pipe system with natural fibre reinforcement

Schönborner is working with the **Fraunhofer Institute for Applied Polymer Research IAP** in an **R&D project** to set up an innovative recycling circuit for products made from natural fibre-reinforced material. Schönborner plans to manufacture the complete protective pipe system with natural fibre-reinforced material. The goal is to reduce the proportion of fossil fuel “oil” by 35% in the production of the protective pipe components. Schönborner developed an innovative **laser welding process** for creating the connection between the plastic components of the protective pipe system some time ago in cooperation with the **Technical University of Chemnitz**.

Schönborner thus offers its customers the opportunity to act sustainably.



5 ADDITIVE MANUFACTURING

Additive manufacturing has grown out of its infancy and is now taking industry by storm. At Schönborner, we are intensively involved in the additive manufacturing of components and assemblies. Today, it is only about the manufacture of plastic components and assemblies. But we are already working on the “vision” of additive manufacturing of metal components for tomorrow. As one of the leading companies in the industry, we also realise our innovative standards with implementing and further developing additive manufacturing in production. Schönborner is currently the only converter among manufacturers of controlling elements.

Benefits of additive manufacturing

Design freedom: Additive manufacturing makes it possible to produce almost infinitely complex geometries. It puts an end to the restrictions of classical production. What this means for us at Schönborner is an enormous expansion of the production possibilities and thus of our range of products.



Customisation: Additive manufacturing puts an end to one-size-fits-all products. Individual solutions for products or tools can be adapted to specific customer needs.

Cost savings: The faster production times, shorter process chains and lower material consumption that additive manufacturing brings with it usually significantly reduce costs. It is the most effective form of single-part and small-batch production of plastic products both in terms of time and finance. We can use additive manufacturing at Schönborner to significantly shorten the time transitions from product meetings to design and visualisation to production.

What's more, in the case of individual parts and small series production, we generally manage without the time-consuming and costly injection moulding toolmaking that would otherwise be necessary.

For our customers, this means that product launches can be achieved with minimal financial risk. We also have a high degree of manufacturing flexibility. Because at Schönborner we can now produce different components in different quantities at the same time in a single print job. Last but not least, additive manufacturing contributes to increased vertical integration and thus to the reduced dependence on suppliers that is sought.

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PROTECTING WATER AS A RESOURCE

Water is our most important basic resource and its quality and quantity is under threat worldwide. Schönborner innovations preserve water as a resource. Schönborner develops and manufactures products which consume water as a resource effectively, efficiently and in a resource-saving way as the basis for the production and transport of the basic resource “drinking water”.

We are therefore seeking supporting solutions in this area in cooperation with network operators and water suppliers as well as other companies and science. In this way we Schönborners are initiating the development and implementation of solutions that contribute to the digitalisation of the pipeline network.

Generating information from the pipeline network and its immediate environment affecting the pipeline network is an important approach. Transmitting this important information to the network operator or water supplier is also a challenge, as is, last but not least, its evaluation. Schönborner sees this as a promising way to protect water as a resource.

In this context, Schönborner has developed a test stand on which we can verify the presence of a leak or a pipe burst in various scenarios. The knowledge gained has enabled us to develop controlling elements or their components or parts that can pick up the information, such as sound waves, and transmit it to the area of the surface box.



This earned us the Brandenburg Innovation Prize in the Metal sector in 2022 by the Federal Minister for Economic Affairs and Climate Action.



Drinking water is in danger worldwide

It is not yet realised, or accepted, in many countries that water is an important basic resource. Naturally, such countries attach less importance to the quality of the products associated with water.



Example in UK:

In privatising the water sector, the focus is on maximising profits. The pipeline network and its maintenance are set in the context of the financial benefit. The supply to smaller settlements is financially unappealing because the water price that can be achieved cannot justify laying, operating and maintaining a pipeline. Water trucks are used here to distribute water to households, or it can be obtained from the supermarket.

Example in Azerbaijan

Water losses of up to 75% are a sad reality here. The country has no freshwater sources of its own worth mentioning and can derive either no or only very limited drinking water from the inflows that come from “friendly” foreign countries because of their pollution. At a water conference held in 2021, the majority of attendees were cotton plantation or industrial plant owners; this illustrates the importance of water in this country. Water for the population, on the other hand, is for the most part only transported in large cities like Baku in pipelines – generally dilapidated – and cannot be used for food preparation because of its pollution and chlorine content. Supply via water trucks and supermarkets is standard.



CUSTOMER ORIENTATION AND INNOVATION

Innovations are the heart of Schönborner. Almost every one of our products contains at least one useful innovation. More than 70 patents are impressive testament to this innovation industry leadership. But innovations are not created in a hallowed chamber or ivory tower – not even at the committee table. Innovations come about when the key players come together, where experts from clients and Schönborner can work together.

Customer orientation, i.e. intensive personal cooperation between Schönborner experts and the customer's specialists, is essential to be able to develop innovative solutions that really support the customer – such as network operators and water suppliers – in their daily work.

The secret of success lies in the nuances that emerge in these conversations. This is because it helps to find out where the customer's "pain points" really are. This listening and processing is a gift that we at Schönborner want to preserve and, above all, pass on to the next generation. What customers really appreciate about Schönborner is that we identify problems before they are even aware of them themselves. A compliment we are fiercely proud of.

Expert knowledge is one thing, the right tools are another. Because it is not so easy to work through the problems. Schönborner uses an innovative piece of software to "translate", or configure, the knowledge. These tools, three of them now, help our products to be clearly configured quickly. This saves our customers time and money – and that's Industry 4.0.

Pipe cover configurator

"Pipe cover and construction length" often seem to be a great mystery in relation to the required controlling element. The pipe cover configurator collects the technical details of fittings from many manufacturers, of our controlling elements and of surface boxes from different manufacturers and countries and stores them in a knowledge database. Customers can now simply select the desired fitting and surface box and immediately see which controlling elements are available. The dimensions for the construction length and the pipe thickness to be achieved are also displayed in tabular form and visualised as a 3D view. Standard building lengths/pipe covers are highlighted in colour – 24 hours a day, 365 days a year. The Schönborners will be delighted to answer any questions you may have.

Pipe configurator

If fittings are installed in structures, then a pipe that extends from the fitting to the control level is required for controlling. The pipe configurator lets customers develop a quotation including a parts list and drawing – and very importantly: the result is always a technically functional pipe with no need for a designer to check the configuration.

Configuration of the installation situation is a Schönborner speciality. The 3D visualisation of the installation situation and the pipe gives the customer a means of control.

Built-in fittings configurator

The sales department can use this in-house configurator to create and calculate new controlling elements or installation sets in line with customer specifications. All standard components of controlling elements are stored in the configurator's knowledge base.

A multitude of different functional controlling elements can be put together from countless different combinations.

Snowboard configurator (external contest)

We Schönborners are successfully addressing the target group of future trainees in schools with this configurator. On the surface, it's just a hip snowboard that is being configured here. However, the wider aim is to get the contents of the "General Data Protection Regulation" over in a playful way. The example shows that at Schönborner, we can also develop and create configurations for products that do not form part of our product portfolio. Creating configurations needs existing collected and defined knowledge. Sharing knowledge from configurations, in turn, is the modern way of internal and external digital collaboration. This is the future.



TRAINING

Schönborner can only be successful on the market if qualified and motivated employees guarantee the continued innovative quality of the products. This is why it is so important to us at Schönborner to train junior staff. As a rule, we have up to 6 apprentices training in the company at any one time – the apprentices usually being distributed over the three apprenticeship years.

Recognised apprenticeships at Schönborner:

- ◆ **Software developer (m/f/d)**
- ◆ **Process mechanic for plastics and rubber technology (m/f/d)**
- ◆ **CNC cutting machine operator (m/f/d)**

Schönborner also offers holiday jobs, internships and teaser days. This gives young people the opportunity not only to get to know Schönborner, but also the many opportunities that are available here for future-proof training and jobs.

Thomas Ebert takes training personally:

We train apprentices so that we can introduce the innovative procedures and techniques, which are often unhesitatingly used by younger employees, into the company. We train apprentices because we want to offer young people from the region opportunities: so that they can find a future-proof profession here and realise at least part of their own ambitions. And last but not least, to encourage them to stay in the region to strengthen and, if possible, expand it.

My very personal mission is ...

... that training young people is given greater importance in our society.

... that a company and its trainers are more respected by the trainees.

... that the trainees learn who largely finances their training and to what extent.

... that the image of the entrepreneur is clearly reinforced to increase interest in entrepreneurship and the problem of succession can be solved, at least in a visionary way.

The special thing about training at Schönborner

Dual training in Germany is very thorough and maps many facets of future professional challenges. However, at Schönborner we want to add something on top of this foundation. We demand and require a lot from our trainees – but are also more than happy to reward this with additional offers.

The Schönborner advantages:

- ◆ **Involvement in research and development and innovation**
- ◆ **Training in new technologies and processes**
- ◆ **Varied highly specialised trainers**
- ◆ **Joint trade fair visits**
- ◆ **Extensive support and tutoring available if required**
- ◆ **Interesting experience in an internationally active company**
- ◆ **A good learning and working environment**

Did you know: Schönborner also offers working student places. Students also represent our company abroad, for example in Australia, as part of their work in R&D projects.

Schönborner supports young talents for the first time by awarding two German scholarships.



THE SCHÖNBORNER FAMILY OR A BRIEF INTRODUCTION TO THE TEAM

What would Schönborner be without its employees? Nothing – and not only figuratively speaking. This medium-sized “family business” literally would not exist without their passion, their commitment, their innovative strength.

The diverse expertise of our relatively young team and their unconditional passion to perform and be customer-focused result in the technical solutions so appreciated by our customers. Whether in research and development, production, sales or marketing: our employees live the Schönborner brand – every day.

David Budschulowski (29) – Configuration, 3D printing and design, DIN – started his career at Schönborner in the product configuration area. He was initially responsible there for development of the popular configurators. One of the pillars of Schönborner’s success is a large vertical range of manufacture. 3D printing makes a critical contribution to this and has led to a new independent product group being established. In the meantime, David Budschulowski has seven printers in use and is overseeing the procurement of a far more efficient industrial printer.

He also supports Managing Director **Thomas Ebert (59)** in the Water and Taps Standards Committees and as such is deeply involved in developing and converting DVGW standards into DIN standards.

Marcel Gleitsmann (38) – Technician, design, configuration and deputy production manager – is head of the plastics processing and machining department. He quickly brought his extensive experience as a technician to bear as shift manager and deputy production manager. Together with **Swenja Krüger (22)**, **Maximilian Schröder (23)** and the experienced **Thomas Endler (44)**, he forms a successful team that between them achieves ambitious goals to consolidate and increase the quantity and quality of the products.

What’s more, with his in-depth knowledge of injection moulding, he is responsible for the production and commissioning of new injection moulds in cooperation with specialised companies. He also specialises in the construction of shaft pipes, especially custom-made ones, and the construction of corresponding configurators.

Last but not least, he has implemented a range of automation projects and in doing so contributed significantly to the company’s increased effectiveness.

Alexander Hass (36) – Technician, constructor and designer – was originally brought in to strengthen the construction area. But it very quickly became clear that he had particularly prominent qualities in the field of product visualisation. Today, he is responsible for the Schönborner website, the product catalogue, the design of flyers and photos as well as all materials used in sales and marketing. We value him at Schönborner as an extremely creative thinking, “artistically” acting specialist.

Toni Glaser (33) – Master data maintenance, certification, quality and innovation management – is responsible for a core position at Schönborner, because the correct item structure forms the basis for item costing. He also sits between accounting and sales and is thus an important link in the company – and we can rely on his accurate work at all times. Toni Glaser is the specialist in the field of certification. His detailed knowledge of item structure and item functionality is enormously helpful in making work with the certifying bodies work smoothly. He is also responsible for the important topic of ISO 9001 / Quality Management. His extensive knowledge also gives important impetus in innovation management. Thomas Ebert plans for Mr Budschulowski, Mr Gleitsmann and Mr Hass to be introduced into the management team of the company in the longer term. Step by step, he delegates the tasks he has undertaken so far to several, preferably young, shoulders

in the company. As Schönborners, we want to continue to consolidate and expand our entrepreneurial and innovative leadership in the future. Under Thomas Ebert’s leadership, the four employees form the core of the Schönborner R&D team. Initial approaches to innovations often emerge from customer-oriented conversations that **Jens-Uwe Gebler (54)** from the sales department has – making him part of the core team as well.

Production Manager **Toralf Margraf (53)** has the most experience in production. He has been at Schönborner from the very beginning and knows all the ups and downs as well as all the leverage points that can be used to implement innovative changes to products. Schönborner veterans **Frank Lehmann (60)**, **Tino Ullrich (47)**, **Karsten Flegel (60)**, **Ingo Nowak (44)**, **Diemo Stahlberg (52)**, **Michael Ebert (37)**, **Diana Stephan (50)** and **Birgit Geschine (54)** are also seasoned employees in production. **Mathias Jünigk (45)** and **Niko Müller (41)** keep an eagle eye on the extensive warehouse. **Daniel Jänichen (44)** and **Alexander Schunk (32)** reinforce the Schönborner team as trainers, also sharing their expertise in new or further developments in products and in assessing the feasibility and viability of innovations.

Last, but not least, **Hans-Helmut Heydecke (65)** and **Liane Ebert (59)** from the accounting department share in Schönborner’s success. **Angelika Deil (59)** is new face in the team, providing important impetus in marketing and communication.



THE BRANDENBURG INNOVATION CLUSTER WASSERWIRTSCHAFT (WATER ECONOMY)

Water is the leading basic resource. Careful use of this resource at the forefront of what we do. This also includes keeping the water in this region too. It doesn't matter whether it leaves the sewage treatment plant as pure water travelling towards the foreshore or as precipitation via streams and rivers going to the oceans. Water in sufficient quantity is crucial for the settlement of industry. This is precisely why this topic is so important for the state of Brandenburg.

Water as a resource has very special significance for Schönborner. But our approach, our values, mean it is simply not sufficient to merely pay lip service. We Schönborners want to actually do something. "Think big" was the plan. The first hurdle was cleared in August 2022: the Brandenburg Ministry for Economic Affairs and Climate Action has approved the application for the establishment and financial support of the **WasserWirtschaft (water economy) Innovation Cluster**.

The aim of the cluster is to use innovative technologies and processes to minimise the consequences of climate change on the resource of water and its users.

The **WasserWirtschaft Innovation Cluster** is to be set up as a GmbH & Co. KG and managed by limited partners who will preferably be Brandenburg SMEs. The founding members of the society set the direction and pace. It is important that water and/or waste water network operators, water producers (waterworks), sewage treatment plant operators, associations of the water and waste water industry and authorities are also included as members of the cluster. One special feature is that the **WasserWirtschaft Innovation Cluster** is not run as an association, because the limited partners who have been recruited clearly express their economic interest. The aim is to develop and extend the "Hennersdorf" industrial area in the town of Doberlug-Kirchhain into a business park including a campus.

A test and trial network of the water supply is to be built in this business park and the "Westniederlausitz Water and Waste Water Association" municipal network operator's pipeline network will be equipped with sensors for network monitoring. The test and trial network is to be used, among other things, to train municipal network operators' employees. For example, training is to be given on locating pipe breaks and leaks and on recording and evaluating sensor data from the test and trial network.

SMEs in the region are to develop innovations in cooperation with the **WasserWirtschaft Innovation Cluster**, bring them to production maturity and, if possible, start the first series production at the location. Universities and research institutions are invited to develop solutions if the SMEs indicate a need for this.

The founding members want to introduce SMEs in the region to work in the field of research and development (R&D) and innovation, encourage them to implement their own projects in this regard and invite them to participate in the **WasserWirtschaft Innovation Cluster** and in projects initiated by the limited partners.

The initiators, Reiner Nikula (Innovator) and Thomas Ebert (Schönborner), submitted the application in November 2021. In preparation for the application, a cluster participation study was prepared for the Westniederlausitz Water and Waste Water Association. The study evaluated the advantages that would arise for the association if it participates in the cluster or participates in the **WasserWirtschaft Innovation Cluster**.

We invite everyone to participate constructively in the **WasserWirtschaft Innovation Cluster**.



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COOPERATION WITH SCIENCE

Innovations do not fall from the sky – instead, they are the result of hard and creative work. Schönborner Armaturen GmbH operates its own highly specialised research, development and innovation department for a very good reason. The results not only benefit customers, but above all employees. Because the R&D department is closely intertwined with production and sales at Schönborner – a constant give and take.

It takes people who know the product in its development and application phases to be able to carry out successful R&D and innovation work for the company. On the other hand, employees are introduced to the latest findings and encouraged to take part. Involvement in research projects is also a diversion from everyday working life, so a successful way of combating routine.

PRINCIPLE

Employees' knowledge base is to be consolidated and expanded by dealing with R&D and innovation topics. Schönborner Armaturen offers interested colleagues the opportunity to do this during normal working hours. By continuing to work on these topics, often independently, employees gain further qualifications and in doing so also improve their chances of promotion within the company.

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**SCHOEN
BORNER**
the innovation leader

That is what Schönborners stand for:

- ◆ Innovation leadership leads the company and the customer to success
- ◆ Always one step ahead thanks to customer orientation – intensive dialogue with the customer is the quickest path to developing successful innovations

We are different because:

- ... sustainability and resilience are close to our hearts
- ... we have built up a very close and extensive relationship with science, and research and development is part of our daily business
- ... Accuracy in production and the high vertical range of manufacture are our greatest hallmarks
- ... the system concept plays a major role in product development
- ... we are involved in the development of standards in the water sector
- ... this has made us Brandenburg Innovation Award winners 2022

**Schönborner –
always one
innovation ahead**

