

verbinder

The staff and customer magazine of the binder group

M12 connector
Fit for the IIoT

Sustainability
Increasing relevance

binder China
20-year anniversary



The big picture starts small

Extreme heat waves, destructive floods, devastating forest fires – the effects of climate change are becoming increasingly apparent.

Science has been warning for decades that our lifestyle is harmful to the environment. As a society, we finally need to stop turning a blind eye and do something about it in the long term.

We only have this one planet, so we need to become aware of the great responsibility we have without delay. Everyone needs to question themselves and consider what individual contribution they can make to stop climate change and its effects. After all, the big picture begins small – with each individual.

On that note!

Marketing

The verbinder is also online

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www.binder-connector.com/de/news-presse/kundenmagazin-verbinder

Your opinion counts

We are open to suggestions, ideas and every form of criticism – both positive and negative – because it is only by keeping a dialogue going that the verbinder will keep its dynamic quality.

So be brave and tell us what you think of the verbinder:

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Forging ahead

Dear reader,

Happily, the order situation continues to develop with an upward trend. We had previously been affected by the crisis in the electronics industry and the coronavirus crisis over a period of 20 months. After a reserved start to the year, we now have high demand for our products again – and this at a level that can be compared with the positive 2018 financial year.

The upward trend is clouded only by the currently poor supply situation of raw materials and input materials. The disastrous flood in the Ahr Valley is also affecting the supply of parts to the binder group. Nevertheless, the improved economic situation has made it possible for me to keep my promise and pay the agreed salary and wage increases in August.

In recent weeks, a total of 335 coronavirus vaccinations have been administered in our company to our employees and their relatives. It was of great personal importance to me to offer a vaccination to every employee and thereby contribute to the fight against the pandemic.

I would like to take this opportunity to thank all those involved in planning and implementing the vaccination campaign.

Happy reading!

Kindest regards,



Markus Binder
General Manager



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**more boldness,
more style,
more branding**





M12 circular connectors

The durable allrounder makes the IIoT possible

The IIoT (Industrial Internet of Things) makes it possible to network components and devices with one another and drive forward equipment automation. Analysts estimate that from the 17.7 billion deployed today there will be more than 36.8 billion active IIoT devices by 2025.

Meanwhile, the M12 connector has become the de facto standard for factory automation, autonomous robotics, data transmission and measurement and control technology. This is really quite remarkable because the M12 was introduced in the mid-1980s for the automotive industry. In other words, it comes from a time when hardly anyone was familiar with the term 'Internet'. If you take a closer look at its versatile applications and its robust, reliable properties, the popularity of the connector becomes immediately clear. The top quality was impressive back in 1985 and is still impressive today.

Text The Editorial team



Thanks to the industrial Internet of Things, it is possible to map and control all electromechanical parameters in the manufacturing process in a completely transparent way. Sensor networks allow plant operators to discover unused capacity, reduce maintenance costs and downtime, improve safety, and maximise overall equipment effectiveness (OEE). The system technology can be monitored automatically, operating temperatures, vibrations or sound frequencies can be analysed precisely and the data obtained can be stored in a central location or transmitted to the cloud. However, all this is only possible if the connection components meet the new requirements.

Reliable connectivity is vital

Connection components should have the ability to transmit more data at higher frequencies – and all this with improved robustness, reliability and immunity against electromagnetic interference. The latest versions not only ensure the vital connection between the transmission cables and the networked devices as well as the collection and transmission of data, they now also meet the gigabit data requirements of the fastest sensors and the

increasing demands of plant manufacturers in terms of more compact control technology and decentralised machine control.

M12 connectors from binder are fit for the IIoT

Whether in the production hall or outside in the field, the personnel for constructing and maintaining the networks must be able to disconnect existing connectors for maintenance purposes and be able to connect newly laid cables quickly and easily with new connectors, in particular where connectors must remain dust-proof and waterproof. M12 connectors are easy to install and reduce the risk of incorrect plugging thanks to clear coding.

M12 coding and secure power supply

The S-coded and K-coded connectors are designed for AC power supply with up to 630 V and 16 A, while the T-coded and L-coded connectors are designed for DC power supply with up to 63 V and 16 A. The former are ideal for applications such as AC motors, motor switches and frequency converters, the latter for applications with lower DC voltages such as DC motors, fieldbus

Ethernet components, network devices and LED lights. The secure connection of cross-linked system parts requires protection against accidental disconnection, whether due to vibrations, oscillations or tensile forces. M12 connectors are therefore available with push/pull locks, screw locks and bayonet locks.

Versatile options with M12 connectors

Connectors can be matched with great precision to the requirements of a specific application. This includes connection type, housing material and contact surface coating. Furthermore, in addition to the operating voltage and current, the degree of protection against the penetration of dust and water can also be selected for the respective requirements of the plants and systems.

Development and further development

At binder, circular connectors are available in eight application-specific configurable versions. For data transmission, the latest M12 connector can handle data rates of up to 10 Gbps. The development of M12 connectors is constantly being advanced at binder in order to expand their

properties with ever new features. This means M12 connectors can continue to meet the rapidly changing requirements in the robotics, automation, food and beverage industries as well as in the fields of alternative energies and wireless

technology. At binder we are clear on this: The M12 will remain an important building block of Industry 4.0 in the future. ■

In overview

Four good reasons in favour of M12 connectors

1. Unrivalled ruggedness

The circular design that shields contacts from contaminants such as dust, moisture, and foreign objects, while also protecting against impact, vibration, UV exposure, and temperature changes. M12 connectors meet a minimum of protection class IP67 against the penetration of dust and water and up to IP68 or IP69 for particularly harsh environments.

2. Long service life

The mating cycle rating is determined not only by the material used for contacts and plating, but also by the thickness of the plating. Connectors made of corrosion-resistant materials with thickly gold-plated beryllium copper contacts, which are rated for more than 100 mating cycles, have particularly good properties.

3. Optimal shielding

Interference impairs the performance of high-precision sensors, which are often already under significant strain from noise and vibrations in the production area. Hard-wired cable-based M12 connectors therefore offer many advantages over wireless connections and are particularly well suited to avoiding radio interference.

4. Compact size

Ever smaller devices and sensors transmit more and more data, which also increases the miniaturisation of the connection solutions. The M12 connector has a locking thread with an outer diameter of just 12 mm. Its small footprint makes it well suited for applications with little free space.



From the cabinet to the field

flexible feed-throughs for M12 and M12 Power

M12 and M12 Power control cabinet feed-throughs from binder ensure a robust and secure connection between the modules in the cabinet and automation components in the field. The combination of plug or socket as well as coding on each connection side allow for a variety of configurations even in complex automation installations.

Text The Editorial team



binder, a leading manufacturer of industrial circular connectors, announces new control cabinet feed-through connectors for the M12 product series 713, 813, 814, 823 and 824, which are available with different codings and pin counts. The M12 or M12 Power type components – in accordance with the DIN EN 61076-2-III standard – allow signal, data, and supply cables to be connected using circular connectors of the same type from the respective series. They are equipped with an M12 locking thread and an M16 mounting thread.

Flexible installation in automation technology

In order to ensure the reliable flow of signals, data and electrical power between the control, communication and power modules within the control cabinet as well as the automation components in the field, M12 and M12 Power feed-throughs are indispensable components. The new binder products are available with A, S, K, L as well as T coding and, depending on the coding, with 4 to 8 pins.

General specifications

The technical data of the feed-through connectors, such as protection degree, rated

voltage and current, contact resistance, and others, vary from series to series according to the specifications of the respective binder M12 and M12 Power circular connectors. In general, this means that the products meet the requirements of protection degree IP67 and achieve a mechanical lifespan of >100 mating cycles (excluding 713 series). They are designed for operating temperatures between -40 °C and +85 °C (814 series: -25 °C to +85 °C). ■



**Thanks to
flexible coding:
maximum room
to manoeuvre
for installation.**



Avoiding ‘flying blind’ in production operations

Key figures – without them, production operations would be like flying completely blind. The basic prerequisite for a reliable basis for calculation are measurable variables and the option to input data as centrally as possible and to analyse that data regularly and with ease. On the path to professional production controlling, the digitisation of data and a high level of automation in data collection are therefore critical. Thanks to modern data recording systems for operating data, this objective is no longer a significant challenge in the field of automated production technology – often even the software tools from the manufacturers in question are sufficient.

Text Nico Greß

What to do, however, when individual processes involved in the value chain cannot easily be evaluated because they cannot be integrated

into a digital network via an interface? Areas with a large proportion of manual activities or human-machine concepts in particular are faced with the

problem of poor compatibility. In these areas, analytical root cause research often falls by the wayside and is at best possible in terms of output

quantities and error rates. At binder, too, a need for optimisation was also determined, especially in cable connector production. This is because multiple delicate steps that occur during the assembly of a plug-in connector require manual implementation. It is therefore particularly challenging to include these workplaces in the monitoring process. To make this possible, a new method was specially developed in the area of one-piece flow production lines. By means of an existing Manufacturing Execution System (MES), this allows faults in the individual processes upstream of the clock generator to be made visible and measurable.

Host computer system as a solution

The Arburg host computer system from the manufacturer of the same name for injection moulding machines was developed specifically for production planning and operational data acquisition of machines from Arburg. However, it also offers the option to integrate external equipment with a suitable interface. To be able to detect the non-measurable variables outlined above, such as faults in the production line workflow, and to be able to take them

into account in the context of evaluations, the data acquisition process was adapted in line with the binder production system. There are two key reasons why the system is suitable for this purpose: Firstly, it permits the definition of individual error codes corresponding to the cause, and secondly, it is also linked to the existing steps on the line, down to the injection moulding machine controlling the cycles. The host computer system is therefore able to provide feedback allowing conclusions to be drawn regarding malfunctions in upstream processes. If, for example, there are problems with a device required for packaging, meaning the production line comes to a standstill, this interruption is reported back to the injection moulding machine by the personnel via a corresponding error code.

Fault-free thanks to digital production monitoring

In the past, technical faults were occasional problems that were simply accepted because it was barely possible to avoid them. Today, on the other hand, they can be traced back directly to the person responsible and addressed openly with the responsible service team. If products that are to be processed in a very

complex manner suffer standstills due to cycle times being exceeded, these are also reported back as a process fault. In-house work planning and process technology personnel then check the corresponding workflows. Necessary improvement measures are then developed in collaboration with production-related CIP experts, implemented and finally monitored by the updated monitoring system. ■

About the author



Nico Greß has been working at binder since 2011 and has worked as a team representative for cable lengths in plant 3.



Protecting people and the environment

Upgrading the field of data transparency

'Tell them what's inside' – this is the task of Angelika Diem and Markus Grimm from Team Product Compliance at binder. In the area of chemical ingredients in particular, the EU wants to know in detail. And that's as it should be – but the task becomes complex when the legal regulations change yet again. Fortunately, there is support from the database professionals at opesus AG.

Text Markus Grimm

The European Chemical Agency (ECHA) is the name of the EU organisation that monitors the use and careful handling of only permitted chemicals in Europe. At binder we also use chemicals that are subject to declaration within the con-

text of the REACH regulation. The abbreviation stands for 'Registration', 'Evaluation' and 'Authorisation of Chemicals'. In other words, these chemicals must be registered, evaluated and authorised, only then may they be pro-

cessed in connectors and marketed in accordance with the law. These ingredients are summarised under the name SVHC (Substances of Very High Concern). The term may sound rather dramatic, but simply represents a clear statement

that these chemicals are only for professionals who can ensure the proper handling of them. ECHA has always maintained what is known as a candidate list, which lists all substances that must be reported. To comply with our duty to provide information, at binder SVHCs have been entered into SAP for some time and automatically transported to the online database so that you can see for each product whether and which substances of concern are contained.

An amendment to the law and its consequences

At the beginning of 2021, ECHA introduced a new SCIP database. The focus here is not on the chemicals used, but on the products containing them. This makes sense for end users, authorities and waste operators in particular, as they can quickly find out what they have to pay attention to when handling individual products even without complex chemical knowledge. For binder, the introduction of the new SCIP database was a major challenge, as our product range is so extensive that the manual transfer of all individual products seemed impossible.

We came across opesus AG, based in Augsburg, when looking for a suitable solution for this task. The company has developed software for SAP databases that fully automatically validates, approves and transmits SCIP messages to ECHA. The software allows us to communicate in a very simplified manner which chemicals are contained in a product. In addition, it then reports on which products are manufactured from which ingredients.

One solution for the benefit of all

Thanks to the excellent cooperation between opesus AG, the Processes and Organisation department headed up by Daniel Pfeil and the Product Compliance team, the software was installed very quickly and we were able to start sending the first notifications to ECHA. Over 15,000 data sets have already been submitted to ECHA. Thanks to Stefan Gronwald and his team, we are now also able to provide our customers with the SCIP numbers, which they can use for their own entries. When it comes to product conformity, binder is now fully in step with the times. We are not only still able to meet all legal requirements, but now

also offer our customers the best possible service thanks to state-of-the-art solutions. This is good for binder, good for our customers and good for the environment. ■

About the author



Markus Grimm, with binder since 2008, is team leader in the product certification and product conformity division (T-PC). In addition, as JobRad representative he is also the commercial contact for all queries relating to JobRad.



Sustainability more than just environmental protection

It doesn't take an environment crisis to be able to think and act sustainably. Everyone can be involved in sustainable processes and integrate them into their own everyday lives. The entire subject encompasses much more than consideration for our environment, as the following description shows.

Text Ann-Katrin Braun, Anita Hartwig and Maria Petrik

More than ever before, the topic of sustainability is in the public awareness. Be it children and young people who take to the streets every Friday to fight for the judicious use of resources and a secure future

for future generations, or the daily efforts of each individual such as waste separation, rejecting plastic or reducing meat consumption. Many equate the term 'sustainability' directly with environmental

protection – although many other factors are also very important.

The big picture

In principle, developments that satisfy the needs of the present without impairing the quality of life of future generations can be described as sustainable. Protecting our environment, reducing harmful exhaust gases, preventing waste and preserving biodiversity are therefore only part of a larger whole. A sustainable way of life can also include the use of financial resources or effective investments in human capital, and does not stop at the individual design of one's own everyday life. The concept of efficiency also plays a decisive role in this context.

Sustainability at binder

The topic of sustainability is also gaining increasing relevance at binder. Some time ago, the first steps were taken which today form the basis for future successes. Since sustainable development relies in particular on future generations, it was first of all important for binder to find out where our young minds stand on this essential topic. To this end, a survey of all trainees and students was launched to analyse both private and professional factors in connection with sustainability. An important part of the survey was gathering ideas. There was open reflection here as to what extent binder is already acting with adequate sustainability and how even more sustainable development can be supported in the future.

You can find out which departments and processes at binder are directly affected by the development of sustainability in this edition of verbinder. ■

About the authors



Ann-Katrin Braun is team leader in personnel development and has been with the company since 2016. **Anita Hartwig** (Category Leader Employer Branding, since 2016 at binder) and **Maria Petrik** (since March 2021 as an intern at binder), both working in Marketing. Together they tackle various projects on the topic of sustainability.



KREATIVE KÖPFE

Double the success 'Creative minds 2020' scores points with support from binder

The 'Creative Minds' competition in the Neckarsulm region awakens the ingenuity of school pupils between the ages of 13 and 19 every year. They are invited to develop project ideas and implement them with the support of experts from regional companies. Due to the pandemic, there were delays in the process in 2020, which is why it was only possible to hold the award ceremony in June of this year. This makes it all the more gratifying that binder supported two of the six winning projects.

Text The Editorial team

Top-class ideas deserve top-class support. Especially in times of coronavirus, hygiene is a topic close to the heart of a participating pupil (15 years) from the Hohenstaufen-Gymnasium school in Bad Wimpfen. She had noticed that in supermarkets, buying nuts and dried fruits offered as loose products is rarely very hygienic. Her solution: A vending machine operated via a touchscreen that releases an exact amount of food. A weighing scale and a label printer were also to be integrated. In cooperation with the designers at binder and the IT department of the Dieter Schwarz Foundation, the 'NuAT' nut machine was created. The young participant was able to convince the judging panel of the innovative community development. As a result, 'NuAT' succeeded in winning the second overall prize in the competition, right behind a mattress alarm clock able to wake up even the sleepest of heads by vibrating the mattress.

Triumph

No less innovative was the second project supported by binder. It has long been a thorn in the side of two creative minds from the Albert-Schweitzer-Gymnasium

school in Neckarsulm that they never knew exactly which gear they were in when cycling on their nightly bike trips. The two 13-year-olds quickly developed the idea of lighting up the bicycle gears. With binder as a project partner, an award-winning prototype was created, which rightly took first place in the 'Technical Implementation' category.

Close to our hearts

For binder, it was also a great pleasure and a matter of honour in 2020/21 to be a strong partner and supporter of these 'creative minds'. Although the competition was affected by the coronavirus and the associated restrictions, we succeeded in providing young inventors and explorers with valuable insights into the company. It is a matter close to our hearts to give students the opportunity to research, tinker about and try things out together with our designers.

We are already looking forward to the next competition and the many new innovative projects. As part of the binder Workshop 2020, the main theme of the workshop was sustainability. ■



Talented communicator with commitment and enthusiasm

It's not that long ago that Carina Föll turned 30 years old. In 2007, she began her apprenticeship as an industrial management assistant in Neckarsulm, meaning she has been an integral part of binder for almost half her life. In 2010, coinciding with binder's 50th anniversary, she successfully completed her training. No wonder that Carina looks back on this time with fondness in two regards.

Text JAV



Now celebrating 14 years of service at binder:
Carina Föll

'I can still remember the anniversary celebrations in the car park in Rötelstraße. On a warm summer evening, the entire workforce gathered to celebrate the company's 50th anniversary. It was a really exciting time for me. Shortly before this, I had completed my training and now I was just getting settled in sales. That was the first time I really felt like I had arrived.' When Carina Föll started her training in Neckarsulm, she knew exactly what she was getting herself into. She had already completed the BORS project at binder during her school days. Her mother – then working in marketing at binder – told her a lot about everyday working life. A decision was soon made: 'When I

leave school, I want to work at binder.' Work experience was a good opportunity to get a taste of life at the company. After that, Carina was one hundred per cent certain and applied directly for an apprenticeship at binder.

A salesperson through and through

Carina Föll has now been active in the sales arena for eleven years and has never toyed with the idea of changing department. There are several reasons for this: on the one hand, she enjoys the variety that work brings with it, and on the other, she enjoys personal contact with customers, whom she has been taking care of for years.

'After some time, you develop a really close relationship – it's really fun to communicate with one another. A job with no direct customer contact and without interaction with my colleagues just wouldn't be for me.' Carina also brings her communication skills into her profession in other ways, because she also supports trainees and students.

Being there for the next generation

'I had a really good start to my working life in 2010. I would also like to make this positive experience possible for today's apprentices and students. I believe that it is particularly important for trainees and students to receive open and honest feedback on their appearance and work performance. It is important for them to understand what they can already do and the areas where there is still potential for development. Via feedback forms, the young people always receive detailed written feedback from me. The concluding interviews I have with them at the final stage of their training also give them additional security. This means that the quality of training can be sustainably maintained at the highest level.'

Let the music play

Many know Carina Föll not just from the sales department, however. She has been a singer in a band since her graduation in 2010 and has already helped to shape the format of a variety of musical events at binder. Only with a significant level of commitment and planning skill is it possible to successfully combine two important components in life – work and hobbies. Carina Föll has passed this challenge with flying colours.

At JAV we are happy that we have got to know Carina's story; we wish her all the best for the future and are already looking forward to her next musical appearance at binder. ■

About the authors

The **JAV** (Youth and Apprentice Council) at binder includes **Rudolf Schmidt** (Chairperson), **Andrea Messer** (Deputy Chairperson), **Vincent Kühnle** (Secretary) and **Lucca Stoppani** (Backup Member). These four dedicated young professionals were elected to the board for two years on 22 October 2020.

'A job with no direct customer contact and without interaction with my colleagues just wouldn't be for me.'

Udvidet sikkerhed i snap-in cirkulære konnektorer fra binder

Elek-data, Danmark

Neue M8 Kabelstecker für sensible Anwendungen

Automation, Österreich

Clips de verrouillage pour connecteurs séries 620 et 720

ECI Electronique, Frankreich

M12-A-connector met voedings-en signaalcontacten

E-Totaal, Nederlande

binder migliora il materiale e il processo di produzione dei connettori Serie 712 e 702

Elettronica Plus, Italien

M12 connectors from binder – the perfect fit for sensors and actuators in automation applications

Automation Update, UK

Tillförlitlig EMC med 360°-skärmning, kontaktdon för känsliga tillämpningar

Automation, Schweden

PR international Familiar. Special. Successful.

How important is public relations? And what contribution can good PR make to establishing a brand, a company and its products? This specific knowledge is provided by PR agencies. For five years, binder has been working with specialist Nick Walker from NJW Media in a successful and trust-based business relationship. Nick tells his story below.

Text Nick Walker

Hi, my name is Nick Walker and I run a public relations agency near London. My team and I specialise in public relations for the electronics industry and have acquired a significant amount of experience in this field over many years. In my youth, I was a professional athlete. For four years I enjoyed athletic success cycling in Belgium and later in France. After retiring, I returned to England and started working in the advertising industry. That was more than 25 years ago, but my focus was already on the electronics industry. After a few years as an employee, I finally decided to become self-employed and founded my own company: the agency NJW Media.

Strengthen visibility

My collaboration with binder began about five years ago. At that time I met David Phillips, Managing Director of binder UK, during a football match in the Premier League. What followed was an in-depth exchange on the opportunities and options for collaboration and, ultimately, the implementation of our common ideas. Thanks to this successful cooperation with binder UK, I had the opportunity to present my agency and my work at binder headquarters. Today I

am very happy that I am able to coordinate and provide support for all international press work in Europe for binder headquarters. Our task is to ensure that the binder brand, the history behind the company and, of course, the outstanding products are presented in the European media and reach the right audience. The aim is to strengthen the qualitative and quantitative visibility of binder throughout Europe.

Clear positioning

NJW Media is able to look back on 25 years of experience in the electronics industry and comprises a team of expert editors who are very familiar with binder's product range. I am delighted and very proud to be able to support this family business in its public relations work. binder has a clear marketing strategy, distinguishes itself from its competitors and is bold in its actions. I like that and as a former professional athlete I can fully identify with this approach. ■

About the author



Nick Walker has worked in the advertising industry for 25 years and heads up PR agency NJW Media based near London, with a focus on the electronics sector.



It all began with a business card

On 24 August 2021 binder China celebrated its 20th anniversary. What began with a trade fair contact is now a true success story. The binder group's first sales office represents sustainable growth, economic success and utmost loyalty.

Text The Editorial team



The past: Weiqun Li in 2001

Markus Binder, General Manager of the binder group, was already aware long before the first sales office was founded that internationalisation offers numerous opportunities in the connector market. He soon evaluated the Asian market, especially the Chinese market, as particularly lucrative. It was also clear to Markus Binder that someone would be needed to set up the site who he can trust 100% and who meets a clear set of requirements: they needed to be a native, speak German, have experience in the connector industry and have the motivation to build something big.

Groundbreaking meeting

In September 2000, Markus Binder visited a connector

trade fair in Beijing. There, he met Weiqun Li at a trade fair stand, who is now the site manager at binder China and was still working for a competitor at the time. The two had a constructive conversation, at the end of which Weiqun Li handed over her business card to Markus Binder – the start of binder China's 20-year success story.

In the spring of 2001, Markus Binder remembered Weiqun Li's business card. Finally, there was a groundbreaking telephone conversation during which they soon reached agreement on the joint founding of binder China. 'In retrospect, one of my most important and best decisions,' says Markus Binder, confidently – and adds: 'Weiqun Li



New look: Offices at binder China

has positioned binder in the Chinese market, established the firm and made a name for it. She has been a stroke of luck for our company. I really appreciate her commitment, her willingness and her desire to always give her best.'

Numerous milestones

Weiqun Li still likes to recall the early days: 'In 2002, I visited Neckarsulm for the first time and had the opportunity to familiarise myself with the binder headquarters. I was warmly welcomed by my colleagues on site. During my two-week stay, I had the opportunity to learn many things that I was able to make use of in setting up the Chinese sales office.'

In the following years, the company notched up numerous milestones: in 2006, annual sales exceeded one million euros for the first time. In 2009, binder China was certified in accordance with ISO 9001 (international standard for quality management systems) for the first time. In the same year, production began on site of the 713 and 763 series connectors which are in great demand in China. In 2016, the five million euro annual turnover was exceeded for the first time.

Special market conditions

The connector market is generally very heterogeneous and has different areas of focus in the individual countries. In

China, the railway industry in particular is an important sector that has enjoyed rapid growth since 2010. In the last two years, there has also been an increasing demand for connectors in the automotive industry, the electrical industry and in medical technology.

The team from binder China currently consists of 34 employees and can meet the various requirements of the individual industries thanks to its high flexibility. Its diverse product selection and many years of experience offer true added value compared to local competitors. Through direct sales, binder China can avoid the risk of negative market factors (e.g. high price pressure, ►

dubious intermediaries or inferior imitations) and thus guarantee maximum customer orientation. 'Our success is based on our high levels of product and service quality, our credibility and the corporate identity of the binder brand,' says Weiqun Li, summarising the success factors of binder China.

Ambitious goals

In coming years, binder China aims to further expand technical support for its customers on site. The reciprocal exchange of information and the knowledge gained are intended to perfect the connectors in terms of user-friendliness. In addition, it is important to find out more about the various application areas of the

products, which should help open up further industries and customers. Weiqun Li looks back with a smile on the past experiences and is full of anticipation for the future: 'In retrospect, we have achieved great success with binder China, which is something my team and I are very proud of. We look forward to the challenges ahead and are full of confidence and hope.' ■



Present: Weiqun Li in 2021

The rail industry is adopting a key role in China.



Five years of pure innovation

At binder, 'ITC' is now the accepted and familiar abbreviation for the 'Innovation and Technology Centre'. From an three-person project team initially, a pioneering innovation engine and guarantee of success was developed over the course of just five years.

Text Elisabeth Warsitz

In 2014, binder received 2.5 million euros from the German Federal Ministry of Education and Research for the ELSE research funding project (electroluminescence in capacitive sensors). The three-year project started on 01 January 2015. ELSE finally found a home in Bad Rappenau in 2016. The relocation was followed by the founding of the binder ITC. Work on ELSE began with

a three-member research team, but by the time the ITC was opened, the workforce had already grown to five people. The physicists, printers and chemists all devoted themselves to the development of two capacitors. They developed both a luminous capacitor which requires a high capacitance, as well as a sensor capacitor with low capacitance. At the premises

in Bad Rappenau, a clean room, an electrical laboratory and an optics laboratory were created. Even before the end of 2017, the ELSE project was successfully completed with the construction of a first prototype. The project sponsor, VDI, was really impressed. The project team received special recognition for the fact that all target milestones were achieved on time, in

the required quality and in compliance with the budget set. During the binder Sales and Management Meeting 2017, the ITC team presented the goals achieved and the technical possibilities to binder executives.

Research and development work according to ELSE

Since 2018 – after the end of the three-year research period – more work has been carried out on customer orders, aiming towards series production. As part of this, the electronics laboratory was expanded, programs for circuit board layouts were procured, and the ITC team was extended to include a mechatronics technician and an electronics and information technician. In the same year, the first series production at binder ems (electronic manufacturing services) was started after a development period of just twelve months. In the following year, 2019, the development and production of printed heaters was advanced in the process of fulfilling customer orders. To achieve this, the pilot plant was equipped with a 3D printer for prototype and print recording production. In addition, a femtosecond laser was purchased for the production of the specific printing plates.

GLOBAL

The ITC is now also able to produce high-precision printing plates for functional layer printing. In addition, several different plate depths and screenings can be realised simultaneously. In recognition of these achievements, the Heilbronn Chamber of Industry and Commerce awarded the ITC the 2019 Innovation Transfer Prize in Silver.

Recent past

In 2020, the range of ITC topics was expanded to include printed force sensors and lighting of rotating components based on energy harvesting. The merger of binder ems, binder introbest and binder ITC forms binder electronic solutions; a group of companies that combines the specific com-

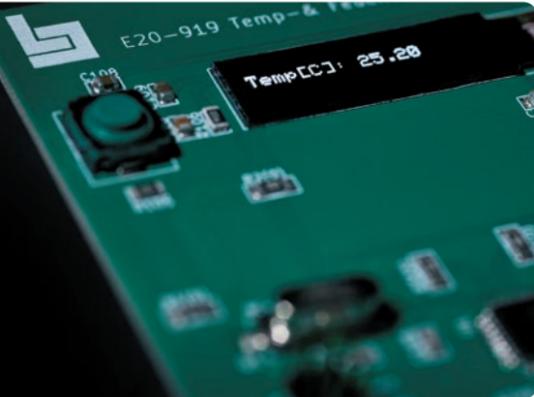
petencies of the areas of electronic solutions and printed electronics. Development, sample and series production are now possible from a single source. The ITC undertakes the project coordination as well as the layout development of the printed circuit boards. The actual production process is then carried out in the affiliated companies. To meet the increased requirements for the printing pastes used, a chemical laboratory with rheometers and chemical vents was set up at the ITC. For the development, modification, analysis and quality assurance of the pastes, the team was also expanded to include a chemist. In addition, the first sales structures were set up and the connection to ►



Tensile test with elastic conductor tracks

GLOBAL

binder's SAP systems was established. To further advance the research, a total of four additional research projects were applied for, all of which were approved. These include printed force sensors, further development of the printing process, flexible printed circuit boards and heating elements.



Printed temperature sensor

A glimpse into the future

Since the beginning of the year 2021, one of the focal points has been the in-house design of a product for the medical sector. Numerous beta tests are currently being carried out to prepare for the market launch. In parallel, the company will continue to work in the fields of printed electronics and electronics manufacturing. In addition, the expansion of the connection to the binder SAP systems and to the binder sales network is being driven

forward. Alongside this, the ITC recently gained its own website, which further increases its visibility on the market. A new program for PCB layouts is currently being introduced to meet the greatly increased requirements in the area of PCB layouts. In this context, a separate factory standard for circuit board layouts was recently adopted. In the field of chemistry, new classes of pastes are also being tested with regard to their possible applications in the functional layer area (e.g. smart textiles, 'robot skin' sensors) and in the area of new substrate pretreatments.

Conclusion

The ITC's rapid success story is impressive. From a small research team established for a limited time, to a multidisciplinary team of eleven people in five years. Now firmly embedded into the structures of the binder group, research is carried out here on new products and processes with full commitment and great enjoyment. One thing is already clear: the team at the Bad Rappenau site will continue to grow in coming years and will bring many exciting innovations to series production. ■



Printed touch sensor

About the author



Elisabeth Warsitz has been with binder since 2008. Since the formation of binder ITC in 2016, she has acted as department manager at the Bad Rappenau site.

M16 FAMILY



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Opportunity seized Transformational experience



binder
galvanic surfaces

When a company goes bankrupt, a long period of fear is usually followed by an uncertain outcome. Three insolvent companies did things quite differently in mid-2019. The business activities, their employees and trainees were transferred to binder galvanic surfaces GmbH – an exciting time and a transformational experience.

Text Vivien Weißgerber

The phase of insolvency was a roller coaster ride of emotions for all participants over many months. Most of our colleagues will probably never forget these months, when we experienced worry and hope in constantly altering conditions. We were afraid of change and were constantly faced with new tests of patience. Nobody could have guessed at the time that we would soon be looking positively at the future again as part of the binder group – least of all me, as a commercial trainee in the first year of apprenticeship.

Starting pistol

The takeover of the business by binder galvanic surfaces was the start of a new future for us. What I experienced during those subsequent months, I now refer to as a transformation. Usually, the term is used more in connection with topics such as digitisation, Industry 4.0 or e-mobility. But for me personally, the fundamental changes in a company were more impressive and influential than any other transformation I have seen so far.

Times of change

First of all, an important wish came true, because all ongoing training relationships were

taken over by binder galvanic surfaces. This saved my training, too. With the help of new financial resources, prospects suddenly re-emerged for the company and for us as employees. Our motivation increased significantly as a result of the newly created structure. Suddenly we were a team in a large, merged company. Being part of the binder group from now on was a great incentive to us – and still is today. It is a great feeling to be able to contribute to this shared success story.

New home

We were warmly welcomed into the binder group from the very beginning. Markus Binder visited us in Pforzheim and welcomed us with a big company party. We trainees were also invited to the trainee and student event that was held in Vienna in 2019. This was a special highlight for us. Suddenly the world was open to us and we were also able to gain international insights into the binder world. New opportunities have now also arisen in my apprenticeship as an industrial management assistant. Suddenly everything took place on a much larger scale than before: twenty times more employees in the group, national and in-

ternational locations, a wide variety of technologies in the affiliated companies, all of which contribute to the production of connectors and offer a much higher level of value creation than we have previously known.

No end in sight

We, the employees of binder galvanic surfaces, continue to make progress every day – always keeping an eye on the next goal. We are currently working on several internal optimisation projects, such as the fine-tuning of drum technology (bulk electroplating). The inner urge to continually improve helps us to cope with the steadily increasing quantities of orders in the long term. Already, we find ourselves in the midst of this exciting transformation process. As a now highly experienced, integral part of the binder group, I am delighted to be able to continue contributing to joint progress in the future. ■

What does the word
‘transformation’
mean to you in relation to
binder galvanic surfaces?

We are clearly feeling the transformation towards e-mobility. Electrical contacts often have larger cross-sections in this region, as higher currents are flowing. Larger production parts have different requirements in terms of handling and operating equipment – this is the task we have set ourselves. Our speciality, however, remains the high-quality precious metal coating of the smallest precision parts, in particular the area of selective coatings.

Matthias Frank
Sales Manager

In terms of personnel and work culture, we are in the midst of a transformational process moving away from the ‘old school’ and towards the ‘next generation’. This is excellent for binder galvanic surfaces as well as for the entire binder group.

Johannes Gaus
Acting Head of Administration

From the point of view of production, it is a significant gain for binder galvanic surfaces that we are now receiving great support in many areas as part of the binder group. We are doing our best to return the favour to our parent company, but above all we are pleased to see that our customers are benefitting from this development.

Bernhard Metzger
Production Manager

About the author



Vivien Weißgerber, with the company since September 2018, has been working as an assistant in the Administration/Personnel division at binder galvanic surfaces since the successful completion of her business studies in July 2021.



The pandemic as an opportunity

The coronavirus poses economic challenges for many companies. After some brief initial difficulties, binder South East Asia has been able to quickly overcome pandemic-related challenges and at the same time pay particular attention to social contacts.

Text Christena Chua

The coronavirus pandemic has hit South East Asia hard. Worldwide, supply chains have been interrupted and companies have faced major challenges. Steadily rising insolvency figures confirm this dramatic development. It is striking that the South East Asian market for industrial automation and process control is experiencing sustained growth, while other industries are still suffering heavily from the effects of the pandemic. As a result of the pandemic, increasing numbers of industrial plants and production facilities were closed around the world in the first half of 2020, but there was already an increase in demand and the reopening of many production facilities in Asia at the beginning of 2021. Both developments are due

to the increasing automation of production plants.

Challenges

In times of global digital transformation, reliable connectivity, high performance and efficiency are the most important growth accelerators on the global market. They all require the installation of high-quality connectors. With the increasing demand for transport, industrial and medical technology in the Asia-Pacific region, a booming market for circular connectors is expected. binder South East Asia is currently negotiating numerous new projects. These include planning a collaboration with a drone manufacturer in the field of state-of-the-art unmanned aerial systems who wants to

equip these systems with M8 connectors from the 718 series.

However, the positive trend in demand is being counteracted by challenging market conditions: the cost of many raw materials is rising rapidly and the supply chain structure is constantly being put to the test. For the binder group, two challenges arise from this overall situation, which must be overcome: on the one hand, replenishment deliveries are slowing down and, on the other, it is becoming increasingly difficult to recruit skilled workers to achieve the anticipated growth. Nevertheless, binder South East Asia is optimistic about overcoming these challenges as well. An important success factor was identified in the area of customer strategy. It is built on

the fact that the investments made here generally have a positive effect on the overall value added.

Customer acquisition

The commercial world has also changed considerably as a result of the coronavirus crisis. Previously, it was face-to-face meetings and direct interaction with potential customers that decided the success of a sales call. Those who managed to leave a lasting positive impression could hope for a lasting, trusting and loyal customer relationship. In times of social distancing, it is much more difficult to establish social contacts and maintain existing ties. Today, in close cooperation with the marketing, sales and service departments, new ways of digitisation are needed in order to quickly and effectively get in touch with potential customers. Only those who react quickly are able to prove their commitment. This is precisely why it is extremely important to respond quickly to the immediate needs of customers.

Staff motivation

But it is not only customer acquisition and customer loyalty that are decisive for the company's success. Employee motivation is just as important. True to the motto 'A company is only as good as its employees', only a highly motivated workforce shows the willingness to always do their best and thus make their contribution to the growth of the company. binder South East Asia is therefore also making significant efforts to increase employee satisfaction. Recently a big adventure day was held: a vintage car rally on Vespa scooters for the entire workforce. The route ran from the Esplanade Bridge, one of Singapore's key landmarks, to the streets of the port district of Tiong Bahru. For the participants, it was an unforgettable event, where everyone had a lot of fun. Actions such as these make an important contribution to the motivation of employees and increase their loyalty to the company in the long term. Especially in times of acute shortages of skilled workers, binder South East Asia has recognised the high value of a satisfied and motivated workforce at an early stage. ■



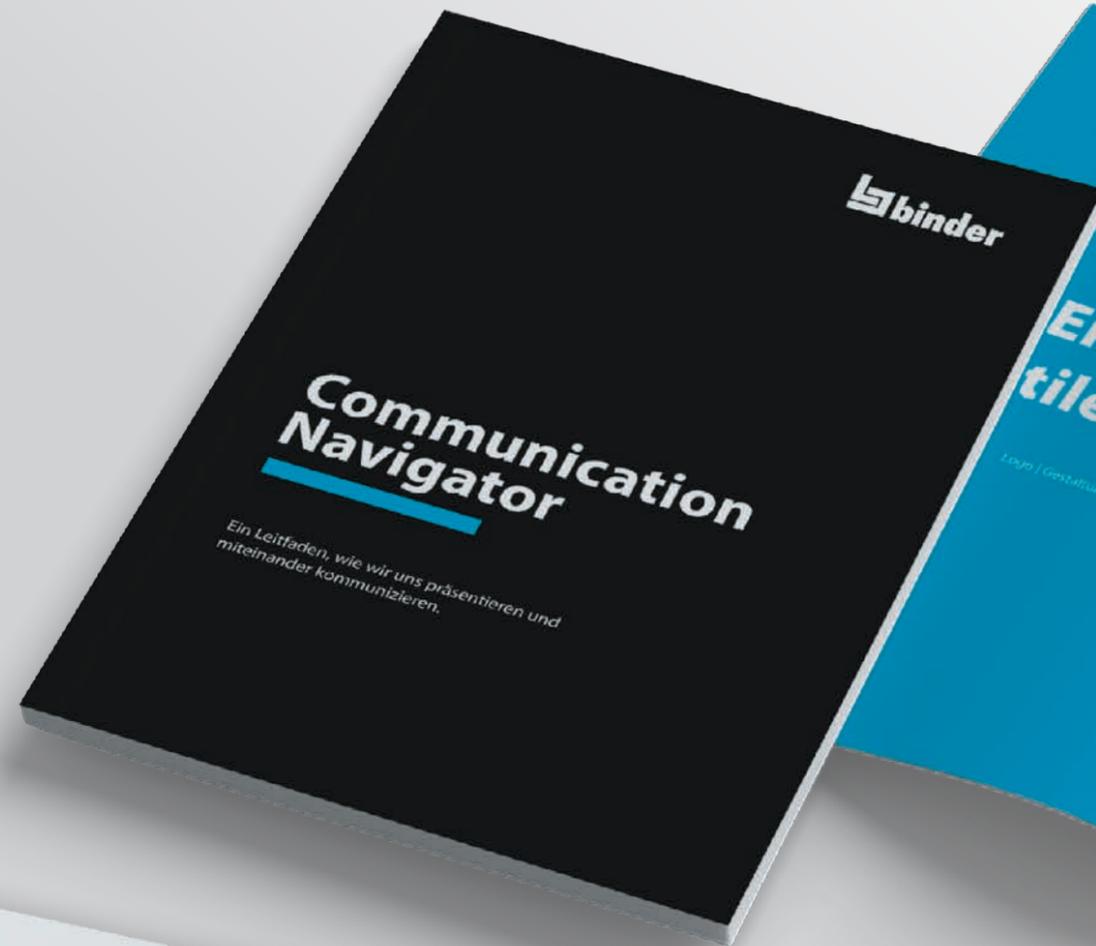
Team building at the vintage car rally

About the Author



Christena Chua has been at binder South East Asia since January 2015. Here as site manager she is in charge of everything related to operations.

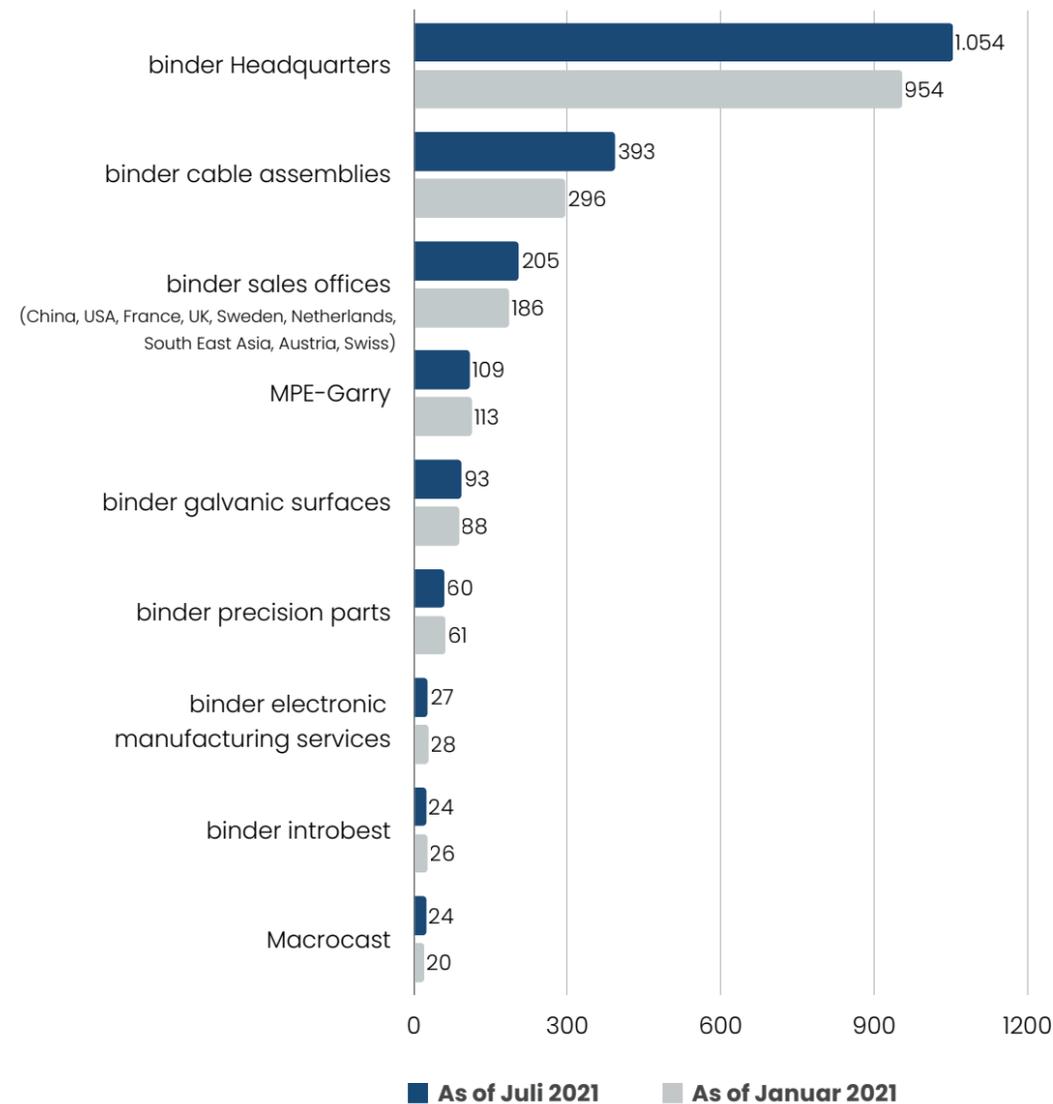
brandbook theory



Communication Navigator practice

binder in figures

Staff deployment within the binder group



As of **1 July 2021**, the binder group employed **1,989 members of staff**.
On **1 January 2021** – six months earlier – it employed **1,772 members of staff**.

binder on Instagram



@binder_gruppe

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AND STAY
EXCITED!**

A warm thank you

to everyone who has written articles for this issue!

It is only through you that a magazine can come into being, only through you that ideas are generated, only through you that the verbinder comes to life. Feel like writing something? Then please send in your idea for an article – the moment one issue of the verbinder is finished, it's time to start the next one!

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