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PROGRESS

[2024]

CONNECTING

Collaboration in the age of connectivity

PROGRESS, MADE BY INDUS

How INDUS promotes collaboration strategically

INTERVIEW WITH PROF. ISABELL M. WELPE

Making the most of digital opportunities

INCREASING KNOWLEDGE TOGETHER

Innovation boosters: science and research

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Magazine 2024

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Knowledge is precious and central to success. The best tool is collaboration.



Dr. Johannes SchmidtChairman of the Board of
INDUS Holding AG

Dear Readers,

Thank you for spending your time catching up with INDUS – it shows that we're on the same wavelength. At the moment, this is just one-sided as I'm writing and you're reading, but luckily there are occasions where that isn't the case. If we come together during our everyday business or on the capital market, there's two-way communication. We discuss and clear up issues, we negotiate and enter into contracts, we talk about projects and agree to cooperate.

The one thing that all these occasions have in common is that when we come together, we make progress: more knowledge, further opportunities and new solutions.

Dialogue is always worth it. It leads to collaboration. And collaboration nurtures trust – it is both the foundation and the glue that holds us together. At INDUS, collaboration takes many forms – within the holding company, the Group and beyond.

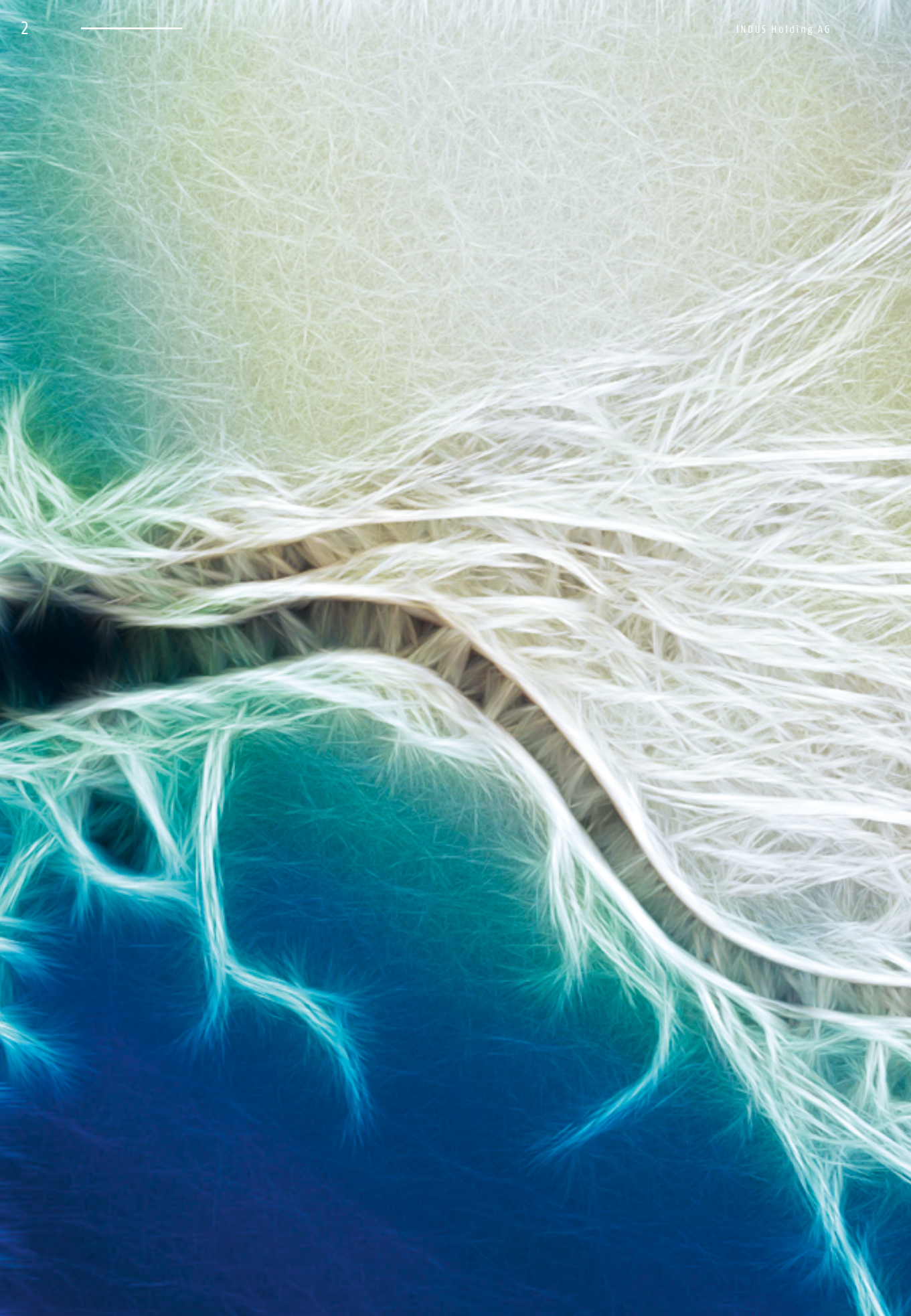
We believe our differences are our strengths and apply them to mutual interests to make progress.

Our world is becoming increasingly complex. And at the same time, the likelihood that we can handle all the tasks that fall to us alone is decreasing. Making connections is therefore a smart decision, strategically speaking. We all know the feeling: You wait and wait for an opportunity, and when it comes an important element is missing. You need to know someone who can fill the gap. On top of that, people who have connections also have roots. These people are more grounded and in a better position to decide what steps to take next.

I hope these thoughts encourage you to stay in touch with us. And if we haven't met yet, then I'd like to invite you to get to know us – maybe there's a connection to be made.

Johannes Schmidt

A stylized, handwritten signature in blue ink that reads "Schmidt".



CONNECTED

WOOD WIDE WEB

Even the mightiest oak can't survive alone. Trees boost their immune systems by living symbiotically with mycorrhiza fungi. Like little network connections, mushroom filaments wrap around the roots and thus there is a permanent exchange with the plants. This enables the trees to optimize their water and nutrient balance, and in return the trees offer up to a third of the sugar produced by photosynthesis. The mushroom filaments, which form a net under the entire forest floor, also allow communication from tree to tree. This helps with pest infestations, for instance. Researchers suspect that warning signals in the form of chemical messages are sent out to neighboring trees.

CONNECTED

POOLED POWER

The production of luxury goods flourished as early as the 17th century around royal residences. The English cotton industry formed an early industrial district in Lancashire in the 18th century – close to sources of hydropower. Silicon Valley became an important IT and high-tech hub in the 1970s. Numerous historical economic clusters show how companies benefit from competition, but also from collaboration in immediate proximity to one another. The Swiss watch-making industry is a prime example. In the 16th century, experienced Huguenot craftsmen, who fled the French Wars of Religion, laid the foundations for a center of precision watchmaking in Geneva. And watches made in Switzerland are still known for their quality and precision to this day.





CONNECTED

THE JOURNEY IS THE GOAL

Flexible personnel planning, efficient material flows and good route planning – the behavior of ants can serve as a blueprint for solving complex problems. Ants looking for food are able to instinctively find the best route. They use scents to mark their routes and this becomes an ideal path for their hungry sisters to follow. And route planning is built in – the faster the ant returns, the more intense the scent markers are. The other ants choose the fastest way without any superior coordination. The ant algorithm, a combinatorial optimization process that solves planning problems in production and logistics, is based on this swarm intelligence.



CONNECTING

WE LIVE IN THE AGE OF INTERCONNECTIVITY. Not least because digitalization will soon connect everyone and everything around the world, but also because social and entrepreneurial challenges can only be solved through collaboration. The INDUS Group companies are preparing for this new world and are using it to boost their competitiveness.





BALANCE THROUGH COLLABORATION

Wherever we look, the world is undergoing major changes. The restructuring is so broad and complex that even experienced observers are struggling to keep up. International power shifts, rising emerging markets, digitalization and the vast mobility of people and goods are laying open a path to a global culture that never existed before now.

We are seeing the unbridled growth of urban centers, while entire regions are being virtually abandoned. The global flow of goods has become a matter of course, while companies again turn to local markets. We are witnessing momentous wars and conflicts, while established intergovernmental organizations and trade agreements strengthen global stability. We are living in a world of contradictions, a place of both yes and no.

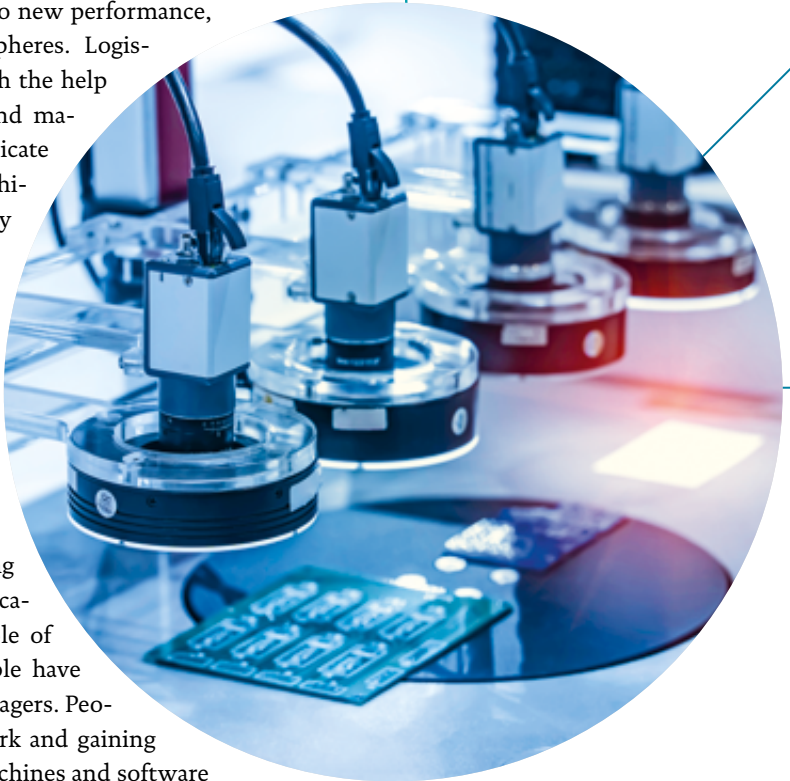
Despite this complexity, we can still keep the balance in our lives and the economy. And not just by luck or chance, but because we know how to reduce uncertainty. One way we do this is by cooperating with one another and making new connections. This leads to an increasingly connected world where the spheres of economy and politics, science and society agree on new rules for living together and starting down new paths together.

The constant changes that we face every day force us to leave our comfort zones. In the scientific arena in particular, this process produces new partnerships – with start-ups for innovative approaches and with established companies from mature industries. Previously independent industries are merging and infrastructure is becoming ever more closely connected, the construction industry is becoming smarter, machine construction more digital and mobility increasingly electric. The convergence between industries presents opportunities for more efficient and effective processes and encourages a number of business options through new alliances.

DIGITALIZATION IS THE DRIVING FORCE

The INDUS companies are looking to these business options and using the megatrends relevant to them to do it. One of these is digitalization. Without a doubt, hardly anyone builds machines like German SMEs. Software is increasingly providing them with a new tool that opens the door to new performance, productivity and innovation spheres. Logistics are monitored non-stop with the help of high-performance sensors, and machines and equipment communicate with one another in real time. Vehicles move partially autonomously through traffic, energy systems connect with one another independently and manage the flow of energy highly efficiently. Sensor and measurement technology is a key success factor for this new reality. It is revolutionizing technical processes in countless industries and presents new opportunities for improving efficiency and innovative applications. It is also changing the role of people in many processes. People have become the managers of the managers. People are delegating their own work and gaining time and capacity to do what machines and software can't. And that is still a whole lot.

Customers of the INDUS portfolio company JST - Jungmann Systemtechnik® also benefit from this development. The company from the south of Hamburg specializes in designing, installing and maintaining control rooms, centers and stations – for industry, traffic, or critical infrastructure, for example. The ability to react fast and act flexibly are naturally decisive when it comes to handling crises. With the central platform myGUI®, JST enables



access to all control room applications from any location. The chief of the fire department, for instance, who has the best overview of a dangerous situation, could coordinate the response to a major fire on site, making use of all the resources available and without delay.

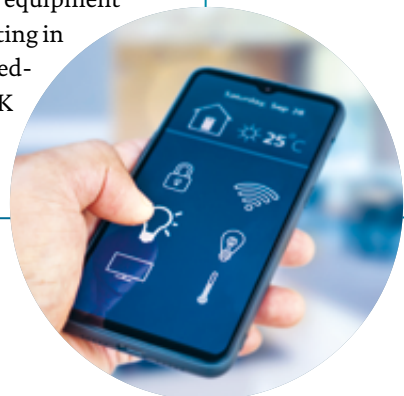
SUSTAINABILITY – THE TRANSFORMATION BOOST

Germany and many other countries have to reduce their carbon footprint to zero in the coming decades. An ambitious goal that can only be achieved through new forms of collaboration and new rules of engaging with one another. The benchmarks for business practices are changing. We need to treat resources differently and find new materials and new processes that we can use to invent new products and solutions for all areas of life. The circular economy is a group effort. It requires new partnerships that go beyond the value chains we know. The INDUS Group companies are bringing their core skills to these efforts. BETEK, a producer of wear tools, feeds its used carbides back into the production loop. OBUK, a manufacturer of door panels, feeds rigid foam back into the loop. Thanks to cutting-edge production methods, the Rietberg-based window manufacturer WIRUS produces windows that are 100% recyclable.

Becoming more energy efficient and reducing emissions is only possible with a new understanding of networking. “Self-sufficient on the outside, connected on the inside” – that is the new formula for the construction sector, which is responsible for a third of the carbon emissions in Germany. The construction of a building should be as energy efficient as possible, once it is built and being used, it should be climate neutral in the best-case scenario. The INDUS companies are also involved in making this vision reality. This includes SCHUSTER, a specialist in energy-efficient ventilation and air conditioning technology, REMKO, a heat pump manufacturer, and HAUFF-TECHNIK, a manufacturer of cable and pipe feed-throughs. The latter has continually adapted its business model to the growing sustainability demands. Whether that’s for photovoltaic equipment on the roof, the wall box in the garage or smart lighting in the garden. The data cables need distributors and feed-throughs – requirements that HAUFF-TECHNIK has the right solutions for.



Becoming more energy efficient and reducing emissions is only possible with a new understanding of networking.



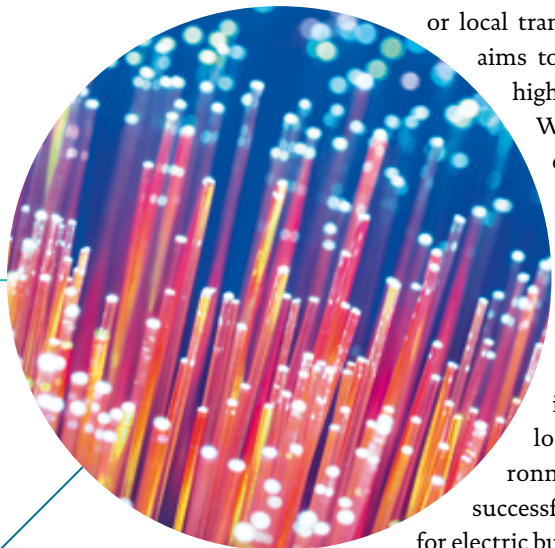
INFRASTRUCTURE CONNECTS

Along with digitalization and sustainability, the megatrend of mobility and urbanization presents another important driving force for INDUS. This megatrend needs a solid infrastructure. Whether it's data, radio or supply networks, transport routes or local transport concepts – the expansion of infrastructure aims to connect. Increasing interconnectivity requires a high-performance network infrastructure. This is where WEIGAND Bau comes in with its pipe and cable channels for fiberglass networks that are designed to ensure people in cities, but also especially in more rural areas, are connected. The megatrend mobility requires new infrastructure buildings such as bridges and tunnels. This is an area where ANCOTECH and BETOMAX and the most recent complementary addition QUICK Bauprodukte are involved. Finding solutions to mobility tasks is no longer possible without taking into account environmental aspects. AURORA has been doing just that successfully with its heating and air conditioning systems for electric buses for a number of years now.

LOCAL FOR LOCAL – WITH NEW ENTHUSIASM

Regional collaboration has always been a vital aspect of the INDUS Group's tradition and that of its companies. Not just because of the short distances, but also because experience shows that a market is best built on local connections. Every market has its own peculiarities and only those integrated in local structures know them. Local for local is the principle by which the INDUS Group taps into international markets. A good example is the HORN-GROUP subsidiary TECALEMIT Inc. in the United States. In 2013, the specialist for refueling and workshop technology got together locally with Lubrication Solutions Inc. Since then, the business unit has been independently developing equipment platforms for the North American fuel and tire filling sector. It is holding its own as a successful and highly flexible niche provider in a market dominated by big players.

The focus on regional networks has proven itself in the crises of recent years. These crises showed us that alongside all their advantages, global supply chains also pose a risk – they are susceptible to disruptions. Many sectors in Europe responded to these developments by boosting or rebuilding local supply chains. The hope is to create more security and resilience in times of crisis with this “revival.” An opportunity for the INDUS Group to revive old European networks and build new ones.



PROGRESSING TOGETHER

The rule “sharing knowledge delivers better solutions” also applies for collaboration within the supply chain. And better solutions keep the competition at bay and create new advantages. HEIBER + SCHRÖDER Maschinenbau GmbH, part of the INDUS Group since 2022, has mastered the principle of cooperating within a network. HEIBER + SCHRÖDER supplies special machines for the cardboard industry and supports its customers directly and comprehensively in configuring their packaging. The range of products and services spans from determining needs and planning to building the equipment and putting it into operation on site. HEIBER + SCHRÖDER’s expertise is in particularly high demand when it comes to developing sustainable packaging solutions. To satisfy this demand, the company set up a showroom at its new location in Atlanta. Packaging manufacturers can consider the packaging requirements of their (end) consumers from a product-oriented point of view, which gives them a firmer foundation for making decisions regarding their machine specifications.

INDUS – FACING THE FUTURE TOGETHER

Valuing connections, making new connections and maintaining them has been a fundamental principle of conduct at the INDUS Group for three and a half decades. This principle applies not only between the holding company and the portfolio companies, but in many ways also between the more than 40 SME specialists in the Group. They all benefit from the advantages of collaboration to their business. The world is becoming ever more complex. At the same time, the tasks to be tackled are much the same for many. Finding common solutions, for example through collaborative projects, is worthwhile. Everyone plays their part and brings their experience to the table. And in the end, the result is greater than the sum of its parts.

Accordingly, INDUS is an interesting option for manufacturing SMEs on the lookout for solid partners for their corporate development. Joining INDUS means becoming part of a group where everyone actively supports one another in their development. With knowledge. With networks. And with capital for future-oriented products and advantageous acquisitions.

Valuing connections, making new connections and maintaining them has been a fundamental principle of conduct at the INDUS Group for three and a half decades.



PROG- RESS MADE BY INDUS

The PARKOUR perform strategy update focuses on collaboration and support at all levels. This creates a platform for the development of portfolio companies – and makes the Group attractive to new additions.

“One for all, all for one.” The Swiss national motto chosen in 1848 as their country was founded is without a doubt also a central element of INDUS’ corporate understanding. Since its foundation 35 years ago, the Group has been guided by this motto. With good reason. Together, we can achieve more – particularly if the partners’ strengths complement one another. One brings capital, the other a specialization. One can create connections, the other can use them to generate new ideas. One provides impetus, the other turns it into entrepreneurial success. The success of the individual boosts the Group as a whole.

SEGMENT MANAGEMENT: THE START OF MORE ENGAGED EXPERT DIALOGUE

The markets have become tougher, including for the INDUS portfolio companies. In response, the Board of Management adapted its corporate strategy to the framework conditions at the beginning of 2023. An important aim of the **PARKOUR perform** strategy update is to keep boosting dialogue within the Group. Just like with our new segment management. Each of the three segments is now the responsibility of a specific member of the Board of Management. This allows the members of the Board of Management to immerse themselves more fully in the trends and challenges in “their” sectors and recognize and develop strategic and operational commonalities between the segment companies.

In order to nurture collaboration in the segments, INDUS organizes **segment meetings** over the course of the year. This direct communication enables the managers to get to know the other portfolio companies’ business models better. A company that wants to break into a certain field can benefit from a portfolio company that is already well established. For instance, an INDUS company wants to expand

“Valuable expertise is pooled in our three segments. It is the Board of Management’s task to recognize the strengths of the individual companies and to encourage dialogue within the segments.”

Dr. Johannes Schmidt
Chairman of the Board of
INDUS Holding AG

into a country where another INDUS company already successfully operates. The company with experience abroad can report on its findings and introduce the fellow INDUS company to its network. Many of the segment meetings are held at the portfolio companies. This gives the companies a clearer picture of each other and the opportunity to gain what would otherwise have remained abstract – an understanding of each other’s products, an insight into the actual business processes and an overview of the challenges in the value chain.

FROM COMMONALITIES TO NEW PRODUCTS

These talks result in specific starting points for mutual product innovations, such as those that FS-BF, a specialist for sealants made from silicone and acrylic, and HAUFF-TECHNIK, a manufacturer of cable and pipe feed-throughs, have come up with.



Whether for wall boxes, photovoltaic equipment or even faster internet – ever more cables are fed through house and apartment walls. Expert sealing is of vital importance. The two INDUS subsidiaries HAUFF-TECHNIK and FS-BF have combined their specialist areas: Based on the current quality requirements for the house feed-through system with integrated injection system designed by HAUFF-TECHNIK, FS-BF developed, produced and assembled the necessary two-component resin for this application. This enables fiberglass cables or telecommunications cables to be installed expertly, quickly and safely.

QUICK

More than 4,500 of the 130,000 bridges in Germany are now in urgent need of renovation. For many others, the need for action is already foreseeable. A good reason for INDUS to keep an eye out for another specialist. With QUICK Bauprodukte GmbH, with registered office in Schwerte, North Rhine-Westphalia, the Group gained another specialist in 2023, who ideally complements the Infrastructure segment with its wide, highly customized product portfolio of formwork and reinforcement accessories for bridge building, overground and underground construction, and tunnel construction.

GROWTH CLUSTER: FORUM FOR STRATEGIC COOPERATION

To avoid leaving the creation of new products and other collaboration options to chance, growth clusters have been formed within the segments. The aim is to work on future fields that are important for the Group's success together. Many INDUS portfolio companies are active in related markets and face similar technological challenges. They're in an ideal position to tackle these challenges together. Reinforcement and thermal technology, measuring and monitoring technology, fluid technology and component manufacture – the portfolio companies in these clusters have a lot of common focal points and complementary relationships that make sharing knowledge and experience worthwhile. The clusters provide the platforms for just that.

As an example from the field of fluid technology, valve specialist GSR has developed an innovative hydrogen valve. Hydrogen is a topic that the HORNGROUP is currently focusing on. As an international supplier of refueling technology, the company is ideally placed to support GSR in tapping into new markets related to hydrogen refueling stations. Another example is OBUK and WIRUS – both companies manufacture products that are complementary in some cases and also target the same end consumer groups. OBUK has become a key supplier of front doors for WIRUS.

COMPLEMENTARY SKILLS: A VITAL ASPECT OF ACQUISITIONS, TOO

The INDUS holding company also encourages the principle of reciprocal complementary skills. Management consistently looks at how the investment and thus also the product portfolio can be supplemented with direct and subsidiary acquisitions, while keeping an eye on the strategic potential for the segment.

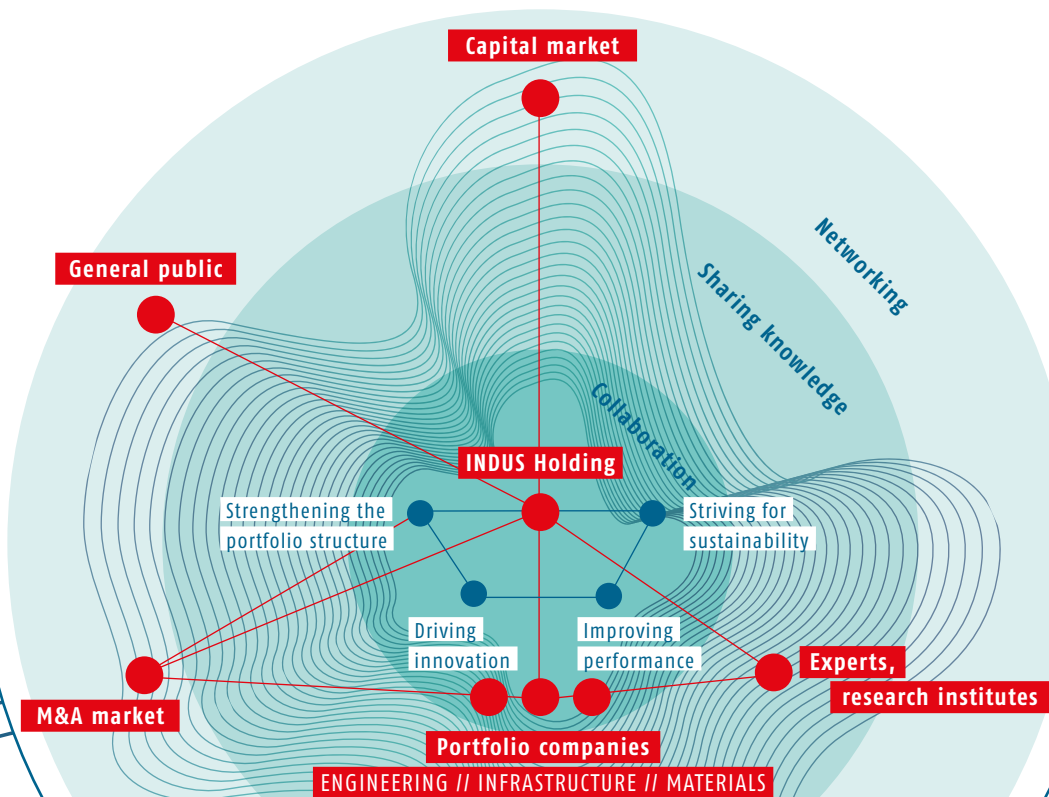
The add-on acquisition of QUICK Bauprodukte last year is a prime example. The specialist for formwork, reinforcement and bridge building technology not only ideally complements the product range of its new owner BETOMAX, a structural concrete and civil engineering systems provider. Together with ANCOTECH, a manufacturer of special reinforcement and anchor technology, these companies form

the mainstay of the future reinforcement technology growth cluster. One case study for an acquisition with and impact on geographical growth is PCL, through which HORNGROUP broke into the British market a few years ago. Just as ROLKO, a manufacturer of rehabilitation technology, acquired Ability Products, thereby gaining a foothold in the North American market.

THIS IS THE WAY

Just over a year in, **PARKOUR perform** has shown that focusing structures and processes on sharing knowledge within networks is very worthwhile. Dialogue nurtures ideas. Ideas lead to innovative products, better performance and new scope for development. Making the most of this means growing out of existing groups and attracting new partners.

THE INDUS NETWORK



CONNECTED IT

DATA INT ELLI GEN CE

WHETHER IN WAREHOUSE MANAGEMENT, FACTORY CONSTRUCTION OR CUSTOMER COMMUNICATION, THE INDUS PORTFOLIO COMPANIES CAN NETWORK THEIR PROCESSES IN THE RIGHT DIGITAL ENVIRONMENT.

The manufacturing SME industry is of course very well aware of the potential of digitalization in the value chain: Faster. More efficient. Higher quality and better performance. The progress that companies can make is huge, and digital and automated processes often also optimize interfaces – both externally and internally.



GAINING DIGITAL EXPERTISE...

That the INDUS companies are already working intensely to take advantage of this potential goes without saying. They are receiving strategic support from the holding company as well as specific project management from a team of specialists. One central aspect of the PARKOUR initiative “Improving Performance” is optimizing the value-adding core processes and improving operational excellence further. Good IT solutions are of course indispensable.

In 2023 alone, experts from the holding company provided support to a total of ten IT-related projects – from the selection processes and contract negotiations to implementation and optimization projects. The expert team’s role is that of sparring partner and knowledge multiplier. It also plays the role of messenger, sharing project experience within the Group so that the companies can learn from each other.

INDUS uses its network of external experts to boost the portfolio companies’ ability to develop digitally. An example of this is the “Project Manager Business Software” certificate course organized in collaboration with RWTH Aachen. Graduates of this course understand how to successfully launch business software and avoid typical pitfalls.

...AND USING IT

INDUS provides in-depth support, but the digital potential has to be recognized by the portfolio companies themselves. This also applies to IT systems, where a Group-wide approach may seem particularly tempting. But precisely here, individual solutions are the answer. Each INDUS portfolio company must find its own way to develop digitally – one in sales, one in production and another in logistics.

THREE EXAMPLES:

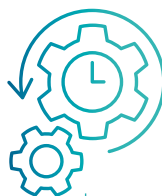
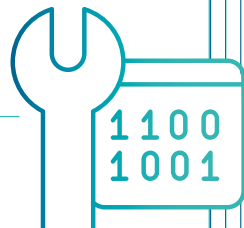


THE MIGUA MEASURING APP: PRECISE COMMUNICATION IN REAL TIME WITH MIGUPLAN

The INDUS portfolio company MIGUA is a specialist in the construction, manufacture and installation of joint profile systems. Visit an airport, railway station or shopping center, and you're likely to encounter one of MIGUA's approx. 600 joint profiles, channel systems or expansion joint tapes. And each of these products is individually made. To make this possible, the sales team must accurately capture the customer's requirements, which are often very unique, and communicate these for the next steps in the process. A "digital drawing board" is the key: MIGUPLAN, the measuring app developed by MIGUA, connects the field sales representatives virtually with both their company and the customers. The data, which comes from millimeter-precise measurements taken on site, is entered into the app directly by the field sales representatives and used to create drafts and quantity lists before being passed on to the customers and the experts in the service center. As soon as the sales representatives get the go ahead from the customer for the production drawings created in the app, the baton is passed to their colleagues, who then initiate the internal order and production process. The advantages are clear: Making the process digital avoids the time-intensive back and forth between sales and production, offers access to all project data at any time and place, and enables precise and reliable production.

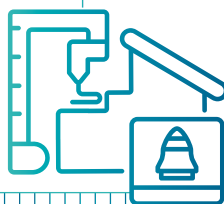
MACHINERY CONNECTION AT BETEK

With around 400 employees, BETEK, located in Aichhalden, Baden-Württemberg, manufactures carbide-tipped wear parts and tool systems for road construction, civil engineering and agriculture, for example. With their investment in a new production facility, the company also took the opportunity to reconsider their concept for managing the extensive machinery. Detail planning was optimized further with the introduction of a machine execution system (MES) – a key project for digitalization in the company. Basically, the MES, which has been tailored to the company's needs, enables digital networking in production. The live connection of the individual machines to the ERP system allows the entire production process to be comprehensively planned, managed, monitored, traced and documented. What is the status of the machinery? What maintenance is due? Which construction contracts can be scheduled next? Many questions can be answered in real time at the press of a button with this new system.



SMOOTH PROCESSES WITH MES:

- Secure capacity and production planning
- Recording operating data, determining lead times in real time (planned/actual)
- Down time/disruption recording
- Preventative maintenance
- User administration with assigned work steps
- Logistics: Location/provision of semi-finished goods
- Constant key figure evaluation as the basis for CIP
- Recording of energy and consumption data
- Digital provision, for example, of drafts to machine





HAUFF-TECHNIK: INTERCONNECTED LOGISTICS

Fast delivery times are a central aspect of INDUS subsidiary HAUFF-TECHNIK's success. HAUFF-TECHNIK manufactures cable and pipe feed-throughs in Hermaringen. This is no easy task – with highly variable production that covers the whole range from individual items to series production. But with the construction of a new 5,500 m² automated logistics center, which was completed in 2021, 85% of all orders can now be met within 48 hours. The ERP system records and manages up to 4,500 transport moves directly each day. This makes a difference. 90% of the goods go through the fully interconnected logistics center in less than two hours.

These are just three of many examples of how INDUS companies use the opportunities offered by connected IT for success. Who knows what opportunities AI will bring in the future? One thing is certain though: INDUS companies will examine the opportunities and make the most of them if they're right for them.



DIGITAL FROM A TO Z: WIRUS FENSTER

WIRUS Fenster has been part of the INDUS Group since 2021. A company that has integrated digitalization throughout its value chain. From quotes to order processing, from LEAN manufacturing to logistics, WIRUS's networked IT system enables orders to be processed quickly and efficiently across systems. And to continually grow in a consolidating market, almost as a side effect.

WIRUS manufactures around 150,000 windows and 11,000 front doors each year. Fully automated, paper-free production allows an efficient implementation of the just-in-time principle. This allows WIRUS products to be produced at the right time and in the right amount. Without an intermediate or finished-goods

warehouse. Thanks to a high level of digitalization, one-off production is possible within just a few days. The foundation for this is the connection of the entire supply chain – from the manufacturer to the courier and then to the customer.

In addition to their speed, the Rietberg-Mastholte-based window specialist is also committed to sustainability. All components of WIRUS windows are fully recyclable. Theoretically, the loop of window use and recycling can be completed at least seven times – without any deterioration in the high level of raw material and processing quality.



INDUS Supervisory Board member Prof. Dr. Isabell M. Welpé is an expert in digital transformation

"COMPANIES HAVE TO BE MORE CONNECTED"

THE RAPID DEVELOPMENT OF DIGITAL TECHNOLOGY IS REVOLUTIONIZING THE INDUSTRIAL LANDSCAPE. IT OPENS NEW HORIZONS, BUT ALSO POSES A MYRIAD OF CHALLENGES. WE TALK TO PROF. DR. ISABELL M. WELPE ABOUT THE OPPORTUNITIES THESE TECHNOLOGIES CREATE AND HOW THEY OVERHAUL ESTABLISHED SUCCESS FACTORS.

DIGITAL TECHNOLOGIES OPEN UP NEW HORIZONS FOR INDUSTRIES. WHAT ARE THE OPPORTUNITIES AND CHALLENGES IN YOUR OPINION?

First of all, digital technologies open up new opportunities. They make things economically viable that previously were not. But this also means that the success factors are changing. That which made companies successful in the past, may not be helpful today and tomorrow. In some cases, a success factor may turn into a failure factor. In the past, assets like buildings and machinery kept the competition at bay. Digitalization has changed all that. It's bringing new competitors on the market who don't have to invest in these assets. They settle into the value chain and sometimes even turn former market leaders into sup-



pliers. They secure a disproportionate share of the margin for themselves. Just one of many examples is Airbnb. It owns no buildings but has a higher valuation than Hilton. You might say that's unfair, but that means nothing when it comes to business strategy.

WHAT ARE THE NEW SUCCESS FACTORS?

The companies that are successful today organize their processes around the customer experience. They ask themselves: "What do we have to focus on so that our customers have a positive experience?" At the same time, they're also opening up interfaces strategically in order to create opportunities for new collaboration. That is because decisive innovations do not always come from technology anymore – unfortunately for the technology powerhouse that is Germany – but through new processes, new value chains and new modes of collaboration. This means that companies need to open up and network more – within their own sectors, but also beyond their own communities with start-ups, competitors and policymakers. In short, with everyone that might hold some interest for their business and its future. This includes communicating with universities. Many of the digitally successful companies are closely connected to places where knowledge originates. Developer conferences are also recommendable. Here, announcements are made about where the interfaces are and how developers can create digital and analog solutions for products. The best part of this is that, if you're successful, you have developers worldwide who will improve your product, but are not on your payroll.



**PROF. DR. ISABELL
M. WELPE**

Professor for Strategy and Organization at the Technical University of Munich since 2009 and Scientific Head of the Bavarian State Institute for University Research and Planning (IHF) since 2014. Professor Welpé's expertise ranges from the digital transformation of companies, the impact of digital technologies on the economy and organizations and the future of management and work/organization structures. Isabell M. Welpé joined the INDUS Supervisory Board in 2023.

"SUCCESSFUL COMPANIES ORGANIZE THEIR PROCESSES AROUND CUSTOMER EXPERIENCE"

GERMAN COMPANIES STILL NEED TO CATCH UP IN THIS REGARD...

Germany is great at research and it was and is the land of engineering. We're in a great position when it comes to AI research, too. But when it comes to turning knowledge into actual innovations and founding new entities for practical applications, other countries are often faster. This is most likely a cultural difference. How much security do we need? How are failures judged? Who are our role models? The number of new entities being established

has sunk continually in Germany in recent years. Students want to become civil servants, not entrepreneurs. Something needs to give here. It must.

WHAT ARE DIGITAL COMPANIES ESPECIALLY GOOD AT?

WHAT CAN TRADITIONAL COMPANIES LEARN FROM THEM?

Studies happened to reveal that successful digital companies hardly ever employ business consultants. They have developed a culture of solving their problems themselves. Using data experiments, or by simply trying things out. Or even just by listening: If a company wants to know what changes to make, then it's advisable to listen to the top talent in the company – and to talented individuals who applied to their company but then decided to work for another. We should not only be asking why they turned the company down, but also consider it as an opportunity to develop and the starting point for the next project.

Many companies would also benefit from a little spring cleaning in their processes. There was a reason for the processes and rules when they were introduced, but sometimes the conditions change while the processes stay. It's like a basement where everything piles up over the years. We're quick to talk about agility and launch change programs, but eliminating redundancies and inefficiencies is a simpler and more cost-effective solution.

WHAT CAN MANAGERS DO TO MAKE ORGANIZATIONS FIT FOR THE NEW, FAST-PACED WORLD?

Research shows that the people and organizations that we surround ourselves with have a big impact on our lives and our success. This is something we have control over. I recommend all managers to consciously spend more time with people and other organizations that have already achieved what they want to achieve. In such an environment, you need virtually no will power to learn. Habits, contacts, findings almost rub off automatically. You can set the stage for change in everyday life by inviting interesting people who are making a difference in your industry or in the world at large, attending innovation conferences, or hosting your own conferences. Successful companies are not successful because of their goals, but because of their systems, routines and processes. This is something worth exchanging information about.

IN AN INCREASINGLY DIGITAL WORLD, WHAT IS THE ROLE OF MANUFACTURING SMES?

German SMEs have always been able to successfully adapt to change. And I'm certain they will continue to do so. As long as we have a physical presence, we will always need excellent machines and production facilities – with

a quality, reliability and performance that we have come to expect from German manufacturing SMEs over the decades. Building these machines requires complex abilities that are the envy of the world. If we can manage to connect the hardware a little better with the software, it will give us a competitive advantage that will be difficult to imitate. We have a number of world-leading companies, but not in the digital field. This has to change. Because great development potential lies in digital models.

Approx. **27%** of companies in Germany indicate they have implemented a **digitalization strategy** according to a study conducted by the German Federal Network Agency.

SHARE BY COMPANY SIZE:

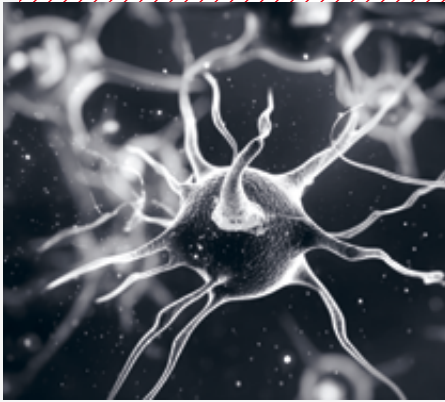
69% large companies
42% medium-sized companies
33% small companies
24% smallest companies

Companies with a digitalization strategy rate their **digitalization potential** higher and invest **almost twice as much in digital technologies** than companies without a digitalization strategy.

COMPANIES' AVERAGE INVESTMENT IN DIGITAL TECHNOLOGY:

→ **approx. 6%**
 of net sales

Source: www.bundesnetzagentur.de

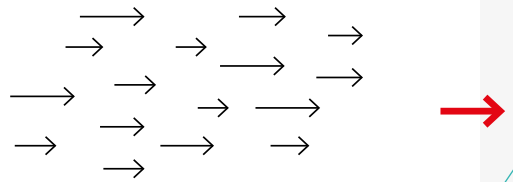


Adaptable memory **A clean sweep**

Communication between the brain and body would be unthinkable without special nerve cells. Neurons transmit sensory information and motor control orders in the form of electrical impulses. These neurons work together in neural networks with each thought. The networks are constantly adapting – old connections are capped, new ones created and frequently used transmissions are structurally refined. This means we can always learn something new, while valuable knowledge is preserved.

Herd mentality **A seductive force**

Two cafés, close together. One is virtually empty, the other is packed full. This is herd mentality. People tend to mimic the behavior of those around them. Even three-year-olds can differentiate between majority and minority, and want to follow the majority. This sociopsychological phenomenon can be observed in many situations – including on the stock exchange. But the principle of “if one person buys, more will buy” is not always a good one. Private investors in particular often buy and sell at an unfavorable time – because they're following the herd.



MAKING CON- NECTIONS



Die Brücke

A short period with a big impact

Bright colors and radically reduced forms are the hallmarks of the artist group Die Brücke. Founded in 1905 in Dresden by the students Ernst Ludwig Kirchner, Erich Heckel, Karl Schmidt-Rottluff and Fritz

Bleyl, the group broke with traditional teaching and discovered new forms of expression. Emil Nolde and Max Pechstein also joined the group later. Following a disagreement, the group disbanded in 1913, but the individual artists continued to create expressionist art. Their artistic style went on to influence generations of artists.

Constellations

Looking up

They're not exactly in the neighborhood – the nearest star is no less than 40 billion kilometers from Earth. That's why we need big telescopes to survey the stars. Astronomy fans are often fascinated by constellations. Put simply, constellations are images that connect prominent stars. Or to put it another way, constellations are the countries on the map of the sky. In total, 88 constellations can be seen from Earth. The most well known are Ursa Major and Orion.



Social networks

Digitally connected

Number of people worldwide with social media accounts in 2023:

4.62 BILLION

The five largest social networks (by user number) in 2023:



2.9 BILLION



1.0 BILLION



2.5 BILLION



0.9 BILLION



1.3 BILLION

Sources: Statista, blog2social.com



Railway history

On track

1825 saw the start of a new era in the history of the railway. This was the first time that a locomotive with wagons transported people and not just goods. This created new opportunities for people to exchange information. A revolution in mobility. No wonder that the spectacle drew a few thousand interested people along the roughly 40-kilometer route from Stockton to Darlington in the north of England.

Mathematically speaking

Interdependency

How about a little math? To express a network mathematically, you use terms such as directed graphs, edges, nodes, meshes and in the end you have a fairly complicated formula

$$N=G+K+s+t+u:E \rightarrow R_+e \in E$$

And everything is connected through interdependencies that influence part or all of the network.



**"THE WHOLE
IS MORE THAN
THE SUM OF
ITS PARTS"**

ARISTOTLE
(384 – 322 BCE)

INNOVATION BOOSTERS: SCIENCE AND RESEARCH

INCREASING KNOWLEDGE TOGETHER

In joint projects with external product and industry experts, INDUS brings the latest technological knowledge to those places where they are most useful to the market.

Germany's strength as a scientific location is undisputed. Research facilities, institutes and laboratories full of thousands of scientists are working on the foundations, components and systems, some of which will become important building blocks in the industrial value chain. Researchers go deep into the details because they want to know everything precisely. They have this in common with companies that are specialists in a particular niche of the market – like the many hidden champions in the INDUS Group. In a fast-paced market, they have to develop a good feel for the trends and “take the temperature” of the market at exactly the right time. This is where the right network comes in. External scientific and research partners bring the latest research into the portfolio companies and act as a catalyst for the companies. A perfect match.



Germany has more than **420** universities. **Fifteen** focus exclusively on technical disciplines. They research for themselves, and together. Just like the specialized research institutes Fraunhofer and Max-Planck, Helmholtz and Leibniz.

DIGITALIZATION AND AI: HARNESSING POTENTIAL

Digitalization is not a new topic for the portfolio companies, but it has many dimensions and is highly dynamic. Accordingly, companies have to constantly keep their eye on what's trending. Which digital trend is important and why? How should it be prioritized? How much will it cost to implement and what are the benefits? INDUS helps Group companies to answer these questions with the **digital potential map**: In

collaboration with WDP consulting firm, six chosen portfolio companies collected and prioritized their digital initiatives and combined them into a digitalization strategy in 2023.

📄 SUSTA[IN] #3 2023, p. 15

The INDUS **artificial intelligence** funding program is entering into the next digitalization phase – the application possibilities of AI in an industrial context are rising exponentially. Many things that have long only been possible for a human to carry out will be supported or performed by software that can “think” in the future. At the first **specialist topic day**, organized with the Fraunhofer Institute for Production Technology and Automation (IPA), the portfolio companies gained an overview of the state of the technology in October 2022 – and derived potential starting points for their companies. 📄 SUSTA[IN] #3 2023, p.18 Due to the enormous potential of AI, INDUS launched an extensive **AI initiative** after the event. One building block of this AI support program is a customized training package, consisting of:

- A training course for managers: Introduction to Data Science at TUM’s AI Lab
- A training course for implementers and drivers: compact AI course with Fraunhofer IAIS which introduces participants to the latest AI applications and analyzes specific applications
- Specialist topic day in collaboration with Fraunhofer IAIS: word processing with AI

In this training course, technology experts pass on their expertise in an application-oriented manner, creating the foundation for AI projects in the Group.

INDUS INNOVATION DEVELOPMENT BANK: NOW WITH SPRINT MODE

Key knowledge alone is not enough. The portfolio solutions have to be developed in real projects and set into motion. As an incentive for companies to implement AI applications even faster, INDUS expanded the established innovation development bank and the **AI sprint program** in 2023. INDUS provides funding of up to EUR 30,000 and 100% of the project volume for AI-oriented projects without any red tape.

RAGUSE, a manufacturer of customer-specific medical devices, is using this latest form of support to automate incoming orders. Orders that come in through various channels (such as the online shop, telephone or email) will increasingly be processed by AI in the future and entered automatically into the ERP system. IPETRONIK, a specialist for measuring and testing technology, is using the funding to set up a chatbot as a service assistant in sales. Both applications that have the potential to be used in similar processes throughout the Group.

“SHARE AND LEARN”:

NETWORKED FOR A MORE SUSTAINABLE WORLD

Another megatrend that industries are currently focused on beside digitalization is sustainability. The INDUS portfolio companies have to identify potential opportunities related to sustainable technologies and develop new business models and products. Here, too, exchanging information and experiences is key. Both in the INDUS network and with external experts. This is what the INDUS working groups are focusing on as institutional roundtables on current trend topics. Helmholtz Institute HI-ERN had some information to motivate the hydrogen working group, while the sustainable construction working group benefited from input from Fraunhofer IAO Stuttgart. 📄 SUSTA[IN] #2 2022, p. 11

USING THE NETWORK TO ACHIEVE MARKET EXCELLENCE

Improved market positioning and market processing. Particularly the traditional entrepreneurial development areas profit from external fresh wind, new points of view and impetus. ➡



Through the innovation development bank, INDUS provides up to 3% of the average consolidated EBIT for innovation projects.

Collaboration with universities and research institutes is generally a key element in these projects.

INDUS sets up contact to external experts for specific and varied portfolio company projects. One example is the Innovation Cell®, a project that focused on creating approaches for the further expansion of international markets. How can we gain new customers in foreign markets? What impact do the national building standards in each country have on supply and demand? How can we ensure fast delivery times abroad? These are the questions that HAUFF-TECHNIK, a specialist for house feed-throughs, sought to answer in a workshop spanning several days last October – together with select customers and Prof. Burkhard Wördenweber Paderborn University.

THE LEADERS OF TOMORROW ARE GETTING INVOLVED TODAY – WITH STUDENT FIELD STUDIES

The collaboration with Prof. Christian Landau's faculty at the European Business School (EBS) in Oestrich-Winkel is already very well established. Students at the private university have been researching practice-oriented questions for and with industrial companies under the professor's lead since 2017. All in the spirit of "Breaking out of thought patterns and finding new solutions through a new point of view."

For Dessauer Schaltschrank & Gehäusetechnik DSG, for instance, the idea was: If you can manufacture high-quality switch cabinets, you can build innovative bicycle garages.

EBS students created a study for the new product covering

"Networks enable the mutual use of resources: a central element of success in the segments and throughout INDUS."

DR. JÖRN GROßMANN,
MEMBER OF THE INDUS
BOARD OF MANAGEMENT

the scope of function, sales channels, markets and customers. For OBUK, a specialist for high-quality door panels, the students came up with suggestions for a possible expansion of the product range last year. One question they asked themselves was where is the market heading? The aim was to discover ideas that would bring new and promising impetus.

KNOWLEDGE – COLLABORATION RELEASES POTENTIAL

Knowledge is precious and central to success. The best tool in this context is collaboration. INDUS has known this for a long time – and uses the tool in a number of collaborations with a constantly growing network of external partners. The result is added value that is both innovative and sustainable.



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News from the
holding company

THREE QUESTIONS FOR THE NEW MEMBER OF THE INDUS BOARD OF MANAGEMENT GUDRUN DEGENHART

YOU JOINED INDUS IN OCTOBER 2023. WHAT FIRST ATTRACTED YOU TO THE GROUP? WHAT DO YOU BRING TO THE BOARD?

For as long as I can remember, I have had huge respect for and fascination with entrepreneurs. At the beginning of my career, I worked for successful entrepreneurs, founded companies myself and developed and restructured them. I have also invested in companies, integrated them and managed investment portfolios. The typical SME mindset of taking responsibility and going your own way has always reflected my own. Over the



course of my career in the corporate world, I've come to appreciate methods and tools that focus on the customer, and that also help companies to improve and make product and process innovations. From there to INDUS it was just a small step, because SME hidden champions in particular are characterized by a high level of adaptability, professional structures and customer-orientation – regardless of the business model. Taking responsibility and striving to do something better tomorrow than you did today with methodological support from the Group is also a core part of how INDUS operates. I also have experience in product and component manufacturing, materials and construction technology, which cover the three segments of the INDUS Group almost exactly. So you might say INDUS is a perfect match for me with my experiences, mindset and interests.



Facts

Gudrun Degenhart has more than 20 years' experience in managing and developing portfolio companies in Europe, the United States and Asia Pacific. Before joining INDUS, Ms. Degenhart was the CEO of the German portfolio companies of the internal service group ISS A/S. Before that, she held several positions in the thyssenkrupp Group, including CEO of an international business unit for specialized elevators and CEO Materials Western Europe and Asia Pacific. Before she moved to thyssenkrupp, Gudrun Degenhart was a member of the Board of Management at Schöck AG, a construction technology company. The business administration graduate began her career by establishing Central and Eastern European subsidiaries for the Lindner Group, a construction specialist.

YOU'VE BEEN GETTING TO KNOW THE GROUP VERY WELL IN RECENT MONTHS. CAN YOU SUMMARIZE WHAT INDUS REPRESENTS TO YOU?

Since October, I have been on the road almost constantly, finding out how the portfolio companies in my segment, Materials, operate. You can really only find out what makes them tick by visiting them on site. I was particularly impressed with their drive to make a difference and the level of identification with the companies, which only comes

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“Working with people energizes me.”

from a positive corporate culture that allows people to make mistakes. With the courage to be proactive, we can make the most of scarce resources – and this encourages people to try new things, develop innovations and tap into new markets.

HOW WOULD YOU DESCRIBE YOURSELF AS A MANAGER? WHAT IS IMPORTANT TO YOU IN COLLABORATION?

Being a successful entrepreneur means reflecting on your own performance, being open for new things and being curious. You have to be very frank and willing to learn from others. Today's world is too complex for one person alone to be able to manage everything. Good management to me therefore is to really see people for who they are – and finding solutions together as equals. I personally prefer to look at the big picture and look for patterns. I would say I'm a numbers person and an analyzer. At the same time, working with people energizes me. And with all that I'm looking to identify potential for improvement, shape growth, learn new things and create new things together with the team at INDUS.

MAKING NEW CONTACTS AT THE INDUS ANNUAL BUSINESS CONFERENCE

43 portfolio companies with approx. 9,000 employees worldwide – that's around 180 individual companies in 29 countries. All are included in the INDUS consolidated financial statements, in forward-looking overall planning and a sustainable corporate strategy. Only a virtually unspoken understanding between the commercial managers of the individual companies and the holding companies makes this possible. In addition to largely automated processes, INDUS encourages direct communication in the Group. Since 2018 the commercial experts have been getting together at the annual business conference to discuss changes in accounting, reporting obligations or tax law and vote on detailed annual plans or the financial statements, planning and financing processes – and to gain a better understanding of the holding company's strategic initiatives. Another focal point is determining what the requirements of the capital market mean for the SME industry. Because the increasing governance, risk and



compliance and sustainability regulations pose considerable challenges for the individual companies. Another important factor is the networking between the commercial managers during the event and the presentation of best-practice projects from the portfolio companies. The INDUS commercial managers last met in Cologne on September 7, 2023. And the next conference is already being planned.

IN CLOSE CONTACT: INDUS AND THE CAPITAL MARKET

As a listed company, personal contact with the capital market is vital for INDUS. Direct contact with INDUS is essential for investors and other shareholders in making well-informed decisions – and INDUS appreciates the external input. To enable this dialogue, INDUS took part in six roadshows, six conferences and a number of investor forums in 2023. In total, the Board of Management and the Investor Relations team spoke with around 50 investors and numerous private shareholders in person. In addition there is of course the Annual Shareholders' Meeting, where the Group's shareholders come together to pass resolutions on important issues. The 2023 Annual Meeting of INDUS Shareholders was held in person again for the first time in three years. This was a good opportunity to share information, have discussions and make decisions – but most importantly of all to catch up with each other.



“ We’re really committed to holding our Annual Shareholders’ Meeting in person *and creating the opportunity for direct communication with our shareholders.* We will continue to aim for this format *in the future, too.*”

DR. JOHANNES SCHMIDT

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Another highlight in the event calendar in 2023 was the first INDUS Capital Markets Day (CMD) in the Cologne Sports Museum. The Board of Management informed investors, analysts and bank representatives of the company's performance. The INDUS Board of Management also took this chance to present the PARKOUR perform strategy update and answer any questions in an informal setting. This direct dialogue with the capital market is especially important in times of change, because only transparent communication can create trust. And that is vital if we want to start down new paths together.



JUST IN CASE: CYBERSECURITY IN THE INDUS GROUP



With the increase in interconnectivity and use of IT in work processes and production, the topic of cybersecurity has never been more important. IT security is as-

signed to risk management at INDUS and implemented throughout the Group with an extensive package of measures. This includes monitoring and penetration testing performed at regular intervals with external service providers, both in the portfolio companies and in the holding company. INDUS also offers employees online awareness training and workshops with external experts. These structured measures to ensure IT safety are important elements in creating a foundation for Group-wide cybersecurity. Our portfolio companies are covered by insurance protection because they are part of the INDUS Group. In light of the high requirements that the insurers have, this would otherwise be difficult for SMEs to obtain. A clear advantage in the competition for new orders.

INDUS TICKER 2023

Awards

The portfolio companies of the INDUS Group received awards for their commitment to various causes in 2023:

- The ASS MASCHINENBAU team of trainees won the "Circularity Scout" competition. A jury of experts from IHK Köln (Cologne Chamber of Commerce and Industry) awarded the ASS project "Circular Economy and Resource Efficiency" the first place, which came with prize money of EUR 1,000.
- BETEK was again named one of the "TOP 100" innovators in Germany and scored especially high in the TOP 100 assessment categories "Innovative processes and organization" and "External orientation/open innovation".
- HAUFF-TECHNIK MIDDLE EAST was honored by Dubai Electricity and Water Authority (DEWA) for its high quality standards and timely provision of products and services.
- The DIND (German Innovation Institute for Sustainability and Digitalization) named MIGUA an "Employer of the Future". MIGUA is turning to digitalization and, in some areas, the use of AI to find new solutions and make existing products fit for a sustainable future.

Anniversaries

- Established in 1893, TURMBAU STEFFENS & NÖLLE celebrates its 130-year anniversary in 2023.
- BETOMAX SYSTEMS with registered office in Neuss celebrates its 60-year anniversary.
- ASS Maschinenbau looks back on 40 years of corporate history.

Acquisitions

INDUS strengthened the Infrastructure segment with an acquisition at subsidiary level in 2023.

- BETOMAX acquired QUICK BAUPRODUKTE, a specialist for formwork and reinforcement accessories and bridge building equipment.

Board of Management

Gudrun Degenhart joined the Board of Management on October 1. She is responsible for the Materials segment at Board level. Ms. Degenhart has more than 20 years' experience in managing and developing portfolio companies in Europe, the United States and Asia Pacific.

Annual Shareholders' Meeting

Back in person: the 32nd INDUS Annual Shareholders' Meeting took place in Koelnmesse's Congress Center Nord on May 17, 2023.

Sustainability

INDUS published its third sustainability magazine in 2023. The focus was on green innovation and how INDUS portfolio companies are driving green innovation through R&D.



Scan the QR code or click on this text to go to our SUSTA[IN] sustainability magazine.

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