

Face-to-face: We met our customers at many international trade fairs again.

TRÜTZSCHLER

### **Editorial**

### Dear Customers, dear Business Partners,

While the textile market has seen an incredible upswing since last year, the industry is still confronted by significant challenges related to prices and logistics. Within this context, our employees around the globe are working with true dedication to keep providing you with optimal solutions.

In this issue of *it's true* magazine, sustainability is a key topic – in terms of technology and social responsibility. Trützschler Spinning, for example, reports on a successful recycling project in cooperation with the Portuguese company Valérius 360, and the Trützschler Foundation celebrates its one-year anniversary by reflecting on some of its biggest milestones so far. Trützschler Nonwovens is delighted to share insights into its cooperation with the Italian company Texnology to re-enter the needling market. As one highlight, we present the customized production lines for this market segment that will be offered under the name T-SUPREMA in the future. As usual, this issue of *it's true* also contains a colorful mix of content from all of our business units.

We are absolutely thrilled that we can meet you all in person at international trade fairs again, and we are looking forward to seeing you at ITMA 2023 in Milan. The return to "normal" trade events has clearly shown that personal meetings and face-to-face discussions with our customers and partners is irreplaceable – so please put a reminder in your calendar to visit the Trützschler booth C101 in Hall 3 next June. We are looking forward to welcoming you there!

We wish you a successful end of this year and a fantastic start to 2023, and would like to thank you very much for placing your trust in Trützschler. Stay healthy!

Yours,

Dr. Dirk Burger,

Co-CEO Trützschler Group SE

Dr.-Ing. Ulrich Schwenken, CEO Trützschler Group SE







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## Valérius 360 and Trützschler: A breakthrough for recycled yarn

Author: Eva Trenz

Valérius 360 wanted to make a sustainable, circular approach possible in the fashion industry. But it needed a partner with the power to make this green dream a reality. Working together with Trützschler, a pioneering collaborative project has now achieved high-quality recycled yarn – opening up massive potential to drive measurable progress toward a circular and sustainable textile industry.

Valérius 360 was founded in Portugal in 2017. It produces yarn by recycling waste from its own spinning and knitting processes – which keeps more material in the economic cycle for longer, cutting down waste and making an important contribution to sustainability. Recently, its experts launched a new project with the ambitious aim of increasing the quality of yarn made from recycled waste fiber. But processing recycled fibers is tricky in many ways. Reopening textiles down to the tuft, for example, leads to a reduction in the fiber quality.

Trützschler has innovative technologies and significant experience that support spinners with applications that involve recycled waste fibers. Our experts have a deep understanding of the decisive role that fiber and spinning preparation stages play in the quality of the final yarn. In partnership with Valérius 360, we explored the possibilities to make their project a success.





### **Testing at the Trützschler Technical Center**

The team from Valérius 360 wanted to find ways of improving the processes for yarns made from 50 percent recycled and 50 percent virgin cotton (Ne30). In particular, it was seeking ways to reduce thick and thin spots, which disturb the appearance of the textile surface. At the Trützschler Technical Center in Mönchengladbach, we conducted special trials that showed that using a direct spinning process for this application delivers much better results than a process with a draw frame passage for rotor yarns. In direct spinning, the sliver from the card is directly drawn in the draw frame which is integrated in the can stock (see figure 2, test 2). This involves one less process step than using an autoleveller draw frame, while also saving space and giving staff more time for other operations. Direct spinning showed a clear capacity to reduce the number of faults in the yarn. As a result, the yarn breaks were 30 percent lower and the total IPI were 38 percent lower (see figure 1).

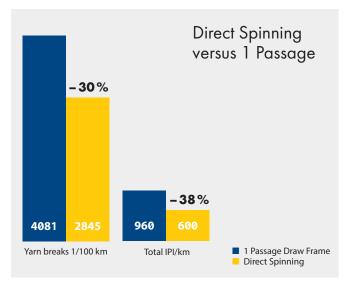


Figure 1



Figure 2: Process steps / 1 Passage vs. Direct Spinning

### **Energy efficiency and cost savings**

The direct spinning process also has a positive effect on energy consumption. When compared to a process with a draw frame passage – for a medium plant size – a potential saving of 5 percent can be achieved with direct spinning. At an energy price of  $0.2 \in /kW$ , this adds up a saving of more than  $\in 5,000$  per year.

### **On-site support from Trützschler Customer Service**

The team from Valérius 360 also received in-house training from the Trützschler Customer Service department. Together, they analyzed and significantly improved the process at the Valérius 360 production site.

This helped to bring yarns made from recycled raw materials up to the required level of the 50 percent Usterstatistics.

This is the reference level for yarns made from virgin raw materials. Accordingly, 50 percent of all yarn producers with raw cotton for rotor yarns and comparable yarn counts produce a poorer quality.



Patrícia Ferreira, CEO of Valérius Hub (left) and Miklós Pál Nagy, Manager at Valérius 360 (right)

Trützschler is deeply committed to supporting its customers on the journey to a more sustainable textile industry. This case study shows how customers can improve the processing of recycled materials by using preparation systems from Trützschler. This includes plant concepts for fiber preparation, such as T-Blend or the TC 19iR. It also includes concepts for spinning preparation and direct spinning with the unique IDF from Trützschler.

These innovative systems help customers to maximize the full potential of the material they are processing – because quality is decided in the preparation stage!

"We believe that right now the fashion industry is in a position to actively play a pioneering role in restoring the environment and thus restoring humanity, and we want to make our contribution to that," said Patrícia Ferreira, CEO of Valérius Hub.

"We are very grateful for the great support that Trützschler has given and continues to give us at all levels – from machine configuration through to product development, assembly and customer service", adds Miklós Pál Nagy, Manager at Valérius 360.



## No other bale opener can process up to six bales at once

Author: Martin Dovern

Differences in trash content, color and packing density of bales repeatedly lead to quality fluctuations in the spinning mill. So do elementary fiber properties like length, fineness or degree of maturity. In times of rising raw material prices, bales from different origins and quality grades are increasingly combined into one bale feed – and they must be blended well to ensure consistent yarn quality.

The portal bale opener (BO-P) is the answer to these challenges. Three years after its launch, there are more than 150 BO-Ps helping to meet the increased requirements for blending and fiber opening for customers worldwide.

### Optimum blending right from the start

"Trützschler's BO-P has revolutionized bale opening. With the new opening rollers, even the hardest bale layers can be opened gently", says Mr. S. S. Reddy, Business Head Yarn Division at Trident Group in India, which produces 100 percent cotton, Ne10 to Ne42, for woven and knitted fabrics using the BO-P. "Overall, the BO-P is a user-friendly, maintenance-free and trouble-free bale opener that takes blow room technology to a new level of quality."

The BO-P can process up to six bales at the same time. As a result, fluctuations in quality or color in the bale feed are already almost non-existent before the next process step. In comparison, bale openers that can only process three or four bales in parallel already have a blending gap of 50 percent at this stage (for three bales versus six bales), or 33 percent (for four bales versus six bales).



The BO-P in a recycling installation



The BO-P has revolutionized bale opening.

Mr. S. S. Reddy, Business Head Yarn Division at Trident Group (left) and Mr. Himanshu Tagra, Unit Head (Operations Yarn) at Trident Group (right)

### Gentle opening, smaller fiber tufts

"The BO-P meets the requirements that we expect from a bale opener," says Mr. Hakan Karagöl, General Manager Iskur Textile, which produces 130 tons of OE and 58 tons of ring yarn in various material combinations every day. "The advantages of fiber blending and opening that are possible for subsequent process steps when using the BO-P have clearly exceeded our expectations."

Alongside the fiber blend, tuft size is another indicator of the quality of the fiber opening. The BO-P again benefits from its working width in this regard. For the same production quantity, the theoretical tuft size of the BO-P with a working width of 3500 mm is only half that of a bale opener with a working width of 1750 mm. The BO-P detaches the same amount of fiber material from twice the number of bales to achieve much finer tufts. In addition, the tooth density of the opening rollers is 25 percent higher compared to other bale openers. This makes detaching and cleaning the fiber tufts in the subsequent process steps considerably more efficient, so fewer good fibers are rejected.

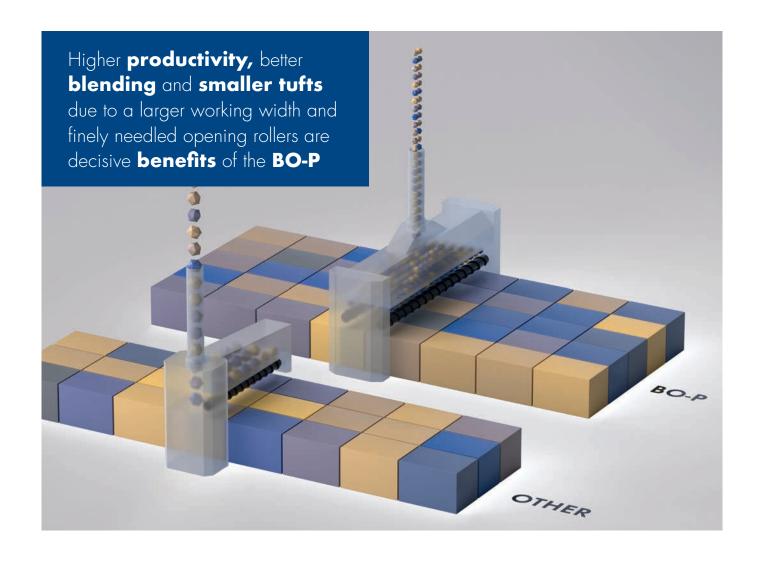
### Less space required

Today, spinning mills are faced with logistical challenges that require space-efficient solutions. In this context, the portal design of the BO-P offers a big advantage over other bale openers because less floor space is required for the same bale feed or production quantity.

The BO-P is also the right option for customers that want to process different materials with one bale opener. The number and length of different bale groups can be selected and programmed flexibly, up to 75 meters.

### **Higher productivity**

The BO-P also sets new standards for productivity. It enables the production of 3000 kg/h (at 3500 mm working width) or 2500 kg/h (at 2900 mm working width).



Mr. Hakan Karagöl, General Manager Iskur Textile

Optimally mixed and gently opened fibers from the very beginning, combined with a consistently high production output, convince day after day.



### Further benefits of the BO-P:







**Less space requirement** and better accessability due to compact bale work-off and flexible working areas

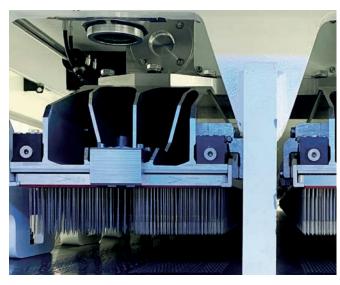
## T-SUPREMA— needle-punching easier than ever

Author: Jutta Stehr



Needled felts are the oldest nonwoven fabrics in the world. Thousands of years ago, people entangled animal hair with needles to create functional textiles. Woolen felts were used for clothing to keep warm and dry, as well as for shoes, blankets, tents and decoration. Today, needle-punched nonwovens are indispensable in many technical applications. The biggest areas include construction (e.g. geotextiles), air and liquid filtration, and automotive engineering (e.g. dampening and insulation covers). Other durable products like carpets, furniture and shoes also use felts.

The high adaptability of the needling and finishing processes, as well as the broad material base, result in a high number of different end products. Needle-punching lines are able to process natural fibers (e.g. jute, hemp, cotton or wool), man-made fibers (e.g. PP or PET), performance fibers (e.g. PPS or Aramide), and mineral fibers (e.g. glass or basalt).



Essential in any needle-punching line: needle boards in a needle loom



Needle-punching is a fairly simple technology. The first step is to form a carded or carded/crosslapped web. In a second step, thousands of hooked steel needles entangle the single fibers to form a strong, thick or thin nonwoven. In most cases, a finishing process follows – such as heatsetting, calibration or surface smoothening. Finally, the nonwoven is wound into the finished roll. The corresponding needle-punching lines are either inline configurations or offline solutions to decouple the fiber preparation and web forming from the needling, finishing and winding processes.

Trützschler Nonwovens contributes its many years of experience in fiber preparation and web forming to this cooperation with Texnology. The team at Texnology is mainly responsible for the needle-punching process. It is a powerful example of how collaborative innovation projects are able to bring together uniquely broad application expertise.

"With Texnology, we have an innovative and reliable partner at our side. The company already sets an important course in the field of needle-punching machines through excellent and patented solutions," says Oliver Döring, Sales Director of Trützschler Nonwovens. "Trützschler Nonwovens is returning to needle-punching solutions. In the partnership, we are able to serve this interesting market segment with precisely fitting production lines. With T-SUPREMA needle-punching becomes as easy as never before."

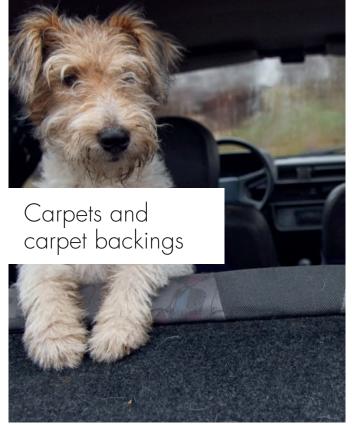
Nicola and Paolo Olivo, owners of Texnology S.r.l., also see the joint activities as an opportunity: "Texnology has developed its own needling technology with patents and profound know-how. Collaborating with a well-known, globalized company like Trützschler Nonwovens will significantly increase our target group."

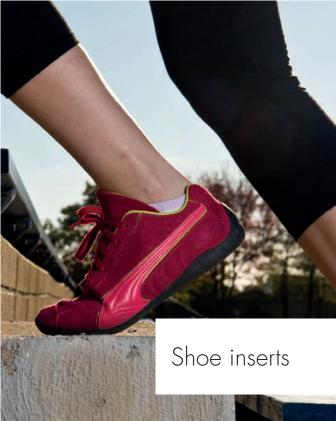
A first joint project has already been successfully completed, implemented and put into operation. Now, these two partners are building on this initial success to open up attractive opportunities for companies that manufacture needle-punched nonwovens worldwide.

### Some of the main applications of needle-punched felts:









### Success with SUPERTIP

Authors: Ahmet Öztürkmen, Fatih Okuyucu



Saf Group was established in 1994 and operates in the steel industry with brands including Saf-Lon and Saf-Ten – and it is active in the textile industry too. Saf Group's Saf Mensucat business employs 260 people and produces 70 tons of weaving and knitwear yarn from Ne4/1 to Ne40/1 each day. The group also launched HRN during the pandemic, which produces 45 tons of compact ring yarn per day.

In 2022, Saf Group achieved turnover of 110,000,000 dollars in the field of textiles with its Saf Mensucat and HRN brands. Both textile businesses use state-of-the-art machines from Trützschler, as well as our new SUPERTIP wires for carding that increase the utilization time of the wires to reduce maintenance needs.

How are these technologies performing in the real world? We contacted Kazım Vurur for answers. As Technical Manager for Saf Mensucat and HRN, he has direct insights into exactly how Trützschler is supporting the company's production activities. Kazim began working in the textile sector in 1992 and has been employed in his current role for almost 25 years. Here's what he had to say...



Saf Mensucat uses SUPERTIP wires in combination with state-of-the-art machines from Trützschler



### Please tell us about Saf Mensucat and its customers?

» About 60 percent of our products are used in knitting, while around 30 percent are used in weaving. The remaining 10 percent is for technical textiles like brush cloth, vehicle upholstery and materials for the medical sector.

### How did the pandemic affect Saf Mensucat?

» Before the pandemic, most of our products were exported. Now, around half of our products are provided to the domestic market and the other half is exported. During the pandemic, we carried out the construction, installation and assembly processes of HRN. At the same time, we continued our production on a full-time basis while taking all necessary precautions. We started our compact ring business, which we planned in line with customer demands – including a preparation group containing 39 TC 19i Trützschler cards. Our new facility now produces compact ring yarn in the range of Ne16 - Ne80, generating 45 tons per day with 63,360 spindles.

### And what is your opinion about X2 SUPERTIP wires?

» We're using the X2 SUPERTIP at our Saf Mensucat facility and it has a lot of benefits. The biggest advantage is that it achieves stable performance levels throughout the life of the wire. On top of that, the X2 SUPERTIP has a much longer wire life – about 30 percent longer than a NOVOSTAR X1 wire. The X2 SUPERTIP also achieves a wire life expectation of up to 1800 tons, while the NOVOSTAR X1 offers just 1350 tons. In fact, we're now experimenting with 2000 tons on one of our lines. Wire costs are also lower because of the longer service life and reduced maintenance needs. Quality is another big advantage. We're seeing a much smaller quality variation between cards when using the X2 SUPERTIP wire compared to the NOVOSTAR X1. In addition, MAGNOTOP 52 flats, which we started to use with X2 SUPERTIP wire, provide great benefits in yarn quality. A significant improvement of up to 50 percent has been achieved in total IPI values in all of the Ne ranges that we produce. In neps specifically, the improvement is 280 percent. I think Trützschler Turkey's constantly increasing customer-oriented service quality is also generating the success of the X2 SUPERTIP wire. On the occasion of this Interview I would like to thank the entire Trützschler team for supporting us in every way.





# The new management team of the Trützschler Group SE

Author: Kleo Knippertz

In July 2022, the management team of the Trützschler Group SE was expanded by two new members. Since then, Dr. Ulrich Schwenken, CEO, and Heinrich Krull, COO, have joined Alexander Stampfer, CSO, and Dr. Dirk Burger, Co-CEO, on the Board of Directors of the Trützschler Group.

The central task of the new top management team is to strategically align the company with the changed market conditions that have been triggered by geopolitical upheavals worldwide. Against this background, the consistent focus on the customer will remain unchanged for all decisions.





Dr. Ulrich Schwenken, CEO, Heinrich Krull, COO, Alexander Stampfer, CSO, Dr. Dirk Burger, Co-CEO (f.l.t.r.)

The responsibilities of the Executive Board are as follows: Dr. Ulrich Schwenken (CEO) is responsible for Development, Digitalization, IT and Corporate Communications; Heinrich Krull (COO) is responsible for Production, Purchasing and Logistics, Quality and Supply Chain Management; Alexander Stampfer (CSO) is responsible for Sales, Marketing and Service; Dr. Dirk Burger will act as Co-CEO to Dr. Schwenken until his planned retirement at the end of 2022 and will continue as Senior Advisor.

### United by optimism for the future

Despite massive challenges within the industry, caused by factors such as the Coronavirus pandemic, the Trützschler Board is optimistic about the future:

"Of course, we are currently experiencing an exceptional situation, but I am convinced that we are in the best possible position in the management team to sustainably secure our leading position in the market," said CEO Dr. Ulrich Schwenken. "We are doing everything we can to continue to pioneer the latest innovations and best service, and to be a reliable partner for our customers."

Co-CEO Dr. Dirk Burger adds: "As an independent and globally operating family business, Trützschler has always shown staying power and has successfully overcome several crises, such as the global economic or financial crisis. Our worldwide presence and the great customer proximity of our owners, our Board and our employees are more valuable than ever in such unusual times."



We are delighted with the composition of the new management team. With its diverse know-how, the Board will strengthen the development of our company with a focus on future growth.

We wish them every success in this endeavor.

Dr. Roland Münch, Chairman of the Supervisory Board of Trützschler Group SE

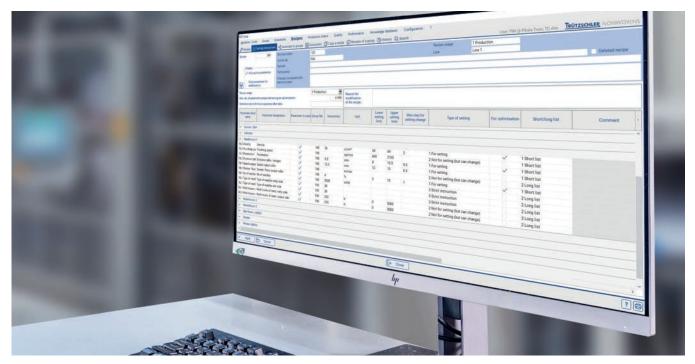


## Digital tech takes nonwoven production to the next level

Author: Jutta Stehr

What will be the next step forward for nonwoven production? Revolutionary web forming or web bonding processes? A fantastic new machine?
Or a sustainable raw material that is cost effective and easily processable for mass production?
No. Digitalization is going to take nonwoven production to the next level by massively reducing conversion costs. And it's already happening...

T-ONE is a digital working environment that supports all production employees with their daily work – from plant operators and quality control staff through to process supervisors, product engineers and the management team. It is programmed as a client-server program, with a database installed on a server that the customer controls. It can be used on Windows-based computers.



T-ONE: An essential tool to support your journey to operational excellence

## Addressing common efficiency problems. Below are three specific examples.

T-ONE tackles the biggest challenges for efficiency and product quality in production, and offers exciting potential to significantly boost performance.

No central base to store data about products and production

Spending time searching for documents or information brings efficiency down. If there is no central place to store data, everybody creates their own data set. As a result, multiple versions of the same data exist and it takes longer to search for the up-to-date version. Errors and mistakes can also happen when working with an outdated version. A central database with a clear timeline eliminates these problems.

Data-driven tasks that can be digitalized – but are not (yet!)

Performing the same task manually again and again frustrates employees and leads to errors. Recipes are a strong example: If a recipe with more than two hundred proven line settings is not digitally transferred to machines, errors can occur when typing in the values manually.

Inexperienced or insufficiently trained staff

New employees tend to work more slowly – and make more errors. Digital guidance can help to ensure quality and efficiency. In addition, new workers react less quickly and less effectively than experienced operators when production line performance or product quality deteriorates, or when something unexpected happens. Software can suggest optimal line settings to reduce waste and support consistent performance.

### **Functions for better operations**

When it is fully implemented, T-ONE provides benefits including:

- Collecting relevant production-related data in one place, and providing access to current and historical data.
- Implementing best practice and routine work processes.
- Helping to analyze inefficiencies and implementing a continuous improvement process.
- Visualizing current and historic product and process quality.
- Simulating line behavior before line settings are changed in the machine.
- Suggesting new line settings for optimized process efficiency.

The functions described above are implemented via several modules (see figure 1). Each module supports a specific task, and adds or uses data from the central database. The Quality Management module, for example, manages customers' product specifications and a roll's quality data.

It describes routines for testing every parameter required by the specification, and creates any necessary certificates. The module also collects testing values from laboratory instruments, stores them in the central database, and visualizes them for every roll produced.

### Easy integration into your production environment

T-ONE is not one great big block. Users can choose between basic and extended packages, so the specific investment depends on the unique machines in your line and your preferred choice of T-ONE modules. The standard implementation procedure involves consulting, customization, installation and training. Experience with installations show that the investment pays off in less than one year.

To maximize the positive impact of T-ONE, the software should be customized to your individual requirements and IT environment. T-ONE is an open software package, so interfaces with existing solutions can be programmed if the software allows it. This has already been done in relation to existing SCADA-based programs, and even with Enterprise Resource Planning (ERP) systems.

### T-ONE in a nutshell

T-ONE is a complete digital environment built around a central database. It supports quality control, recipe management, process documentation, KPI/continuous improvement and process optimization. When a new function is required, it can be added as a new module. T-ONE can be customized to address your exact requirements and to fit into your existing IT landscape seamlessly. These features make T-ONE an essential tool to support your journey to operational excellence.

Figure 1: T-ONE modules

# T-ONE Interfacing & Historization Quality Control & SPC Process Documentation Management of Recipes Monitoring & Energy Management KPI & Continuous Improvement Process Optimization

## New OPTIMA extrusion systems for BCF and IDY in China

Author: Jutta Stehr



A typical OPTIMA for BCF installation

Guangdong Modern High-tech Fiber Co., Ltd. has ordered 12 OPTIMA Bulk Continuous Filament (BCF) extrusion systems and one OPTIMA for IDY industrial yarn extrusion system from Trützschler Man-Made Fibers. This increases its annual production capacity to 10,000 tons of BCF carpet yarn and 1,000 tons of IDY.

In the past, Guangdong Modern specialized in the market segment for polypropylene (PP) filament yarns. Since the company was established in 1993, it has developed steadily to become the largest PP filament producer in China. It now operates Fully Drawn Yarn (FDY), Partially Oriented Yarn / Drawn Textured Yarn (POY/DTY) and BCF lines for standard and differentiated PP yarns.

The company is now expanding its existing PP production setup by adding 12 OPTIMA systems for BCF. This investment is in line with Guangdong Modern's strategy of continuous growth. The flexible OPTIMA systems make it possible to process a variety of polymers. Some lines are suitable for producing both polyamide (PA) and PP carpet yarns, while others are also equipped to process polyester (PET) and PA 66.

Guangdong Modern is also now entering an additional and very exciting market segment. The company's new OPTIMA for IDY system targets high-end PA 66 markets that serve end products such as airbags.

The new equipment from Trützschler will significantly boost Guangdong Modern's carpet yarn supply and open up opportunities to expand into high-end markets. With four ends per spinning position, the OPTIMA system for BCF delivers the highest level of throughput and also the highest level of yarn quality – especially in the high-end PA yarn segments. The PA 66 industrial yarn system enhances the company's market competitiveness and industry position.

By investing in OPTIMA extrusion systems from Trützschler, Guangdong Modern is taking an important step forward in its ambitious plans for growth and expansion. Higher productivity, better quality and new products will take its production activities to the next level – and empower the company to embrace attractive new opportunities.

# A year full of milestones for the Trützschler Foundation

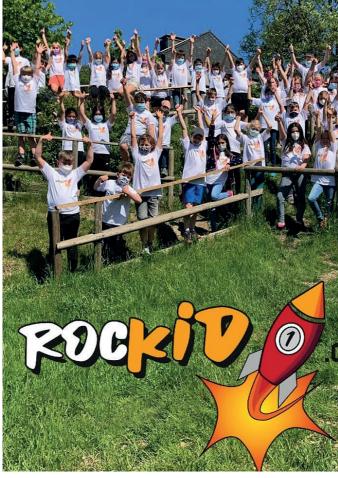
Author: Kleo Knippertz

The Trützschler Foundation was established in 2021 by members of the fourth and fifth Trützschler generation. It supports children and young people in the areas of sports, education and science.

On its one-year anniversary, the Foundation looks back on its biggest achievements from the last 12 months.



"TuWaS! Rheinland" focuses on explorative learning Copyright: TuWaS! Rheinland/M. Claushallmann



"Azubis an Schulen" teaches school-age children digital skills

We established this Foundation because of our deep commitment to supporting young people on their path to a great future.

We are proud that we have already won many partners and successfully supported various projects within our first year.

Caroline Lange, Chairwoman of the Board of Directors of the Trützschler Foundation

### Focus on local education and sports projects

The Foundation's goal is to support local educational and sports projects around Mönchengladbach. The first project was the construction of a 150-square-meter children's playground at the Odenkirchen 05/07 sports club. Caroline Lange, Chairworman of the Board of Directors of the Trützschler Foundation, launched this construction project at a special groundbreaking ceremony – an important step forward in the sports association's ambition to offer even more family-friendly facilities. In addition to the funding for this playground, the sports club is looking forward to further financial support from the Trützschler Foundation over the next five years.

During its first year of operation, the Trützschler Foundation has also established itself as a partner for several educational projects. For example, it is now a sponsor of the "Azubis an Schulen" initiative from the non-profit organization Rockid.One. This initiative provides teachers with support related to media literacy, digitalization and sustainability. Young trainees deliver weekly "media lessons" that use playful methods to teach the school-age children digital skills such as word processing or recognizing fake news. The Trützschler Foundation supports the acquisition of special learning robots and teaching materials – also as part of the "TuWaS! Rheinland" initiative.

This initiative is implemented by the Cologne, Bonn/Rhein-Sieg and Mittlerer Niederrhein Chamber of Industry and Commerce. Its goal is to promote the interests of children in grades 1 to 6 in a playful and sustainable way, with a clear focus on the MINT subjects (Mathematics, Information Technology, Natural Sciences, Technology). The Trützschler Foundation is supporting this project at several schools in Mönchengladbach, including the Franz Meyers School in Giesenkirchen.

### Many more projects in the pipeline

For the year ahead, the Trützschler Foundation has more exciting projects in the pipeline. "Seeing the change in the lives of children and young people confirms the positive impact we make with our commitment," says Caroline Lange. "We are looking forward to further successes in the future."



In spring 2022, Caroline Lange, Chairwoman of the Board of Directors of the Trützschler Foundation, opened the new children's playground at the Odenkirchen 05/07 sportsclub

### Trützschler Card Clothing: Service at its best!

Author: Konrad Beeck

Outstanding service is a core part of Trützschler's philosophy – and we're is now taking our service range to the next level. More services are available.

Special workshops on our service equipment are welcoming participants. A new service station is open in Uzbekistan. And we're providing a quick overview of our services with a modern new video!

At Trützschler, we believe machines and components can only achieve optimal performance if they are serviced by expert technicians. Every day, our global team brings this belief to life by providing a comprehensive range of services to support Trützschler customers and partners worldwide. Now, we're expanding that range of services – and we're taking exciting steps to spread the word too.

A new service video from Trützschler Card Clothing is now available on YouTube. It features quick and easy-to-understand clips of 15 procedures – from unwinding wires through to grinding, changing flats or using the FBC app. In this way, we give customers and partners specific insights into the services we offer around the globe. Convince yourself by scanning the QR code.

Video: Learn more about our service portfolio.

In addition to this video, Trützschler Card Clothing is also hosting special workshops that offer step-by-step insights into how to get perfect service results. Customers and partners are encouraged to register and participate by contacting our service specialist Mr. Konrad Beeck: konrad.beeck@truetzschler.de.

### New service station in Uzbekistan

Uzbekistan is one of the world's leading producers of cotton, and the material is the country's main agricultural export. In this context, it's no surprise that Uzbekistan has been a key market for Trützschler for many years. As part of our deep commitment to this country, we are now strengthening our presence in Uzbekistan by opening a new service station in Tashkent.

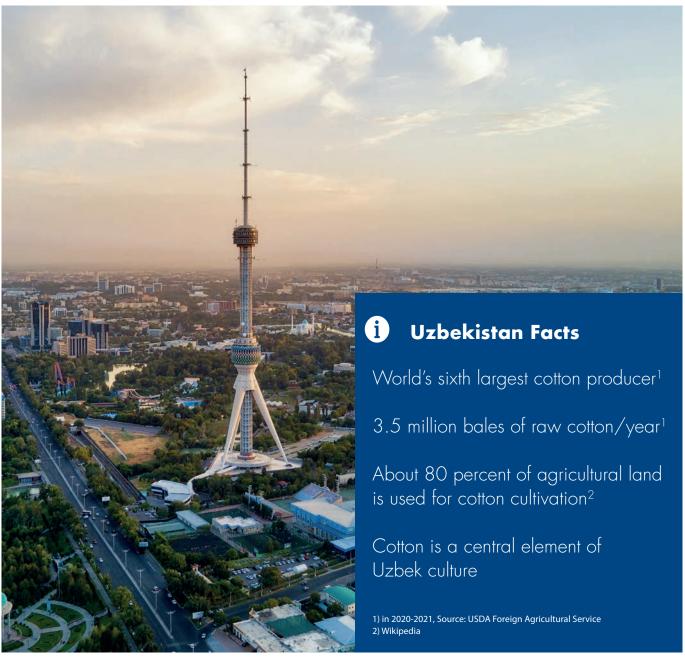
The new station replaces our old workshop and is in a more convenient location for customers to visit, while the site is also larger. This means we can now offer a full range of services for Trützschler cards at this facility. Customers can approach our team in Tashkent for unclipping, clipping and grinding of used flat tops. This makes it possible to achieve outstanding quality levels with a maximum 2/1000" height difference within one set. We can now also offer 40", 60" and 51" flat top servicing at this facility. "Our new workshop has more space for loading and unloading," says Witali Schulz, Subsidiary Manager. "That makes it possible to adjust electronic and mechanical equipment, and to use it more comfortably."

All Trützschler service stations are fully certified – including this new site in Tashkent. As a result, customers can always rely on the highest standard of service from trained experts at every Trützschler location worldwide.

### Service at its best - and getting even better

Our company places a strong focus on delivering great service. These additional offers, workshops and facilities are empowering partners around the globe to achieve excellent results. That's just the latest step in our long tradition of providing service at its best – and making that service even better every day.





### Trützschler Worldwide

### Trützschler India

Author: S.K. Joshi

In our "Trützschler worldwide" series, we regularly provide impressions of our global locations. In this edition, Managing Director Joseph Thomson and Vice President Kashyap Bhavsar give insights into our subsidiary in Ahmedabad.

They talk about the factory, which was founded in 1977, and also share perspectives about our technological innovations – and Trützschler India's core competencies and corporate citizenship activities.

"In 1981, we started manufacturing blow room machines. Some of those first blow room machines are still running in the Indian market, and the customers are very happy with them. As demand for cards started growing, we began manufacturing the one-meter card. Today, we produce the one-meter card and wider cards, as well as draw frames, combers and lap formers. Trützschler also manufactures a wide range of card clothing products in India," says Mr. Thomson.

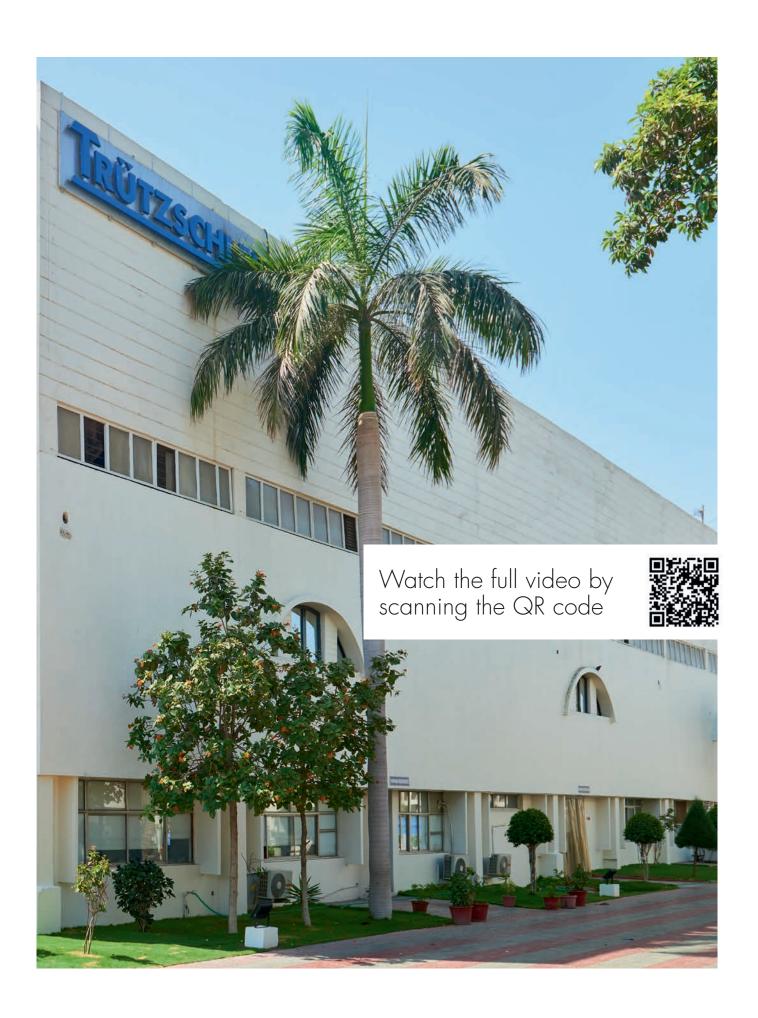
After reflecting on the site's portfolio development, Mr. Thomson adds important details about the factory itself. "Trützschler India has a state-of-the-art manufacturing plant, and some of the world's best technologies are used inside the factory. It is also certified in line with the energy management system ISO 50001 2018."

Trützschler India has also been strongly committed to social engagement and corporate citizenship activities for years, for example by setting up its own Trützschler Training Academy in November 2017. Since then, external students who are interested in developing their skills have had the opportunity to complete an additional one-year industrial training at the site in Ahmedabad.

"The Academy offers three courses: CNC machine operation, welding and fitting," says Mr. Bhavsar. "It aims to provide students with advanced industrial training as well as employability and life skills such as strategies for learning and quality management."

Trützschler India has a state-of-the-art manufacturing plant, and some of the world's best technologies are used inside the factory.

Joseph Thomson Managing Director Trützschler India, Ahmedabad



## Opening up infinite possibilities for Industrial Yarn

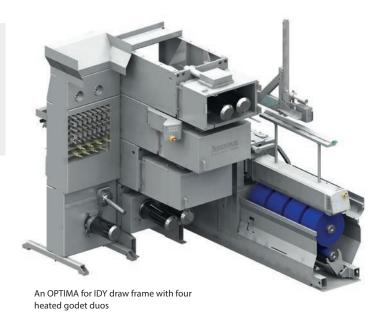
Author: Jutta Stehr

End products from industrial yarns



Trützschler Man-Made Fibers is expanding its successful range of OPTIMA extrusion systems to serve the Industrial Yarn (IDY) sector. In addition to the OPTIMA systems for carpet yarns, OPTIMA for IDY variants now also enable the manufacture of industrial and semi-industrial multifilament yarns.

Since 2012, Trützschler has been developing and building high-performance extrusion lines for Bulk Continuous Filament (BCF) carpet yarns (our MO40-C, MO40-E and TO40 machines). Trützschler launched the OPTIMA concept for BCF in 2019 and has firmly established a strong market position since then. At the same time, we started work on innovative solutions for industrial/technical yarns made of polyester, polyamide and polypropylene.











### Modular design

OPTIMA was designed as a modular platform that uses proven components. It now features two new solutions for manufacturing industrial yarn - the TEC-O40 and the TEC-O80.

Both OPTIMA for IDY systems offer impressive flexibility and can meet the needs of a diverse range of applications and throughput requirements.

These modular-build draw frames allow for the integration of three to five duos of heated godets:

- Semi-industrial yarns for durable products such as bags, backpacks or shoelaces are produced on a three-duo system.
- The concept with four godet duos delivers high and super-high tenacity yarns for belts, nets and ropes.
- Five duos are used when producing low and super-low shrinkage yarns. Typical applications include coated broad-woven fabrics (tarpaulins, billboards or airbags) and tire cords.

### **TEC-O40**

Two TEC-O40 systems cover the entire industrial and semi-industrial yarn market. They target high and/or super-high tenacity products, as well as super-low shrinkage yarns.

Titer range [dtex]	500¹ – 4,000 (plied)	
Tenacity range [g / den]	<b>6 – 10</b> (depending on polymer, final application, color intensity, additives etc.)	
Ends/position	4 / 2 (plied)	4 / 2 (plied)
Possible winder configurations		
Number of winders/position	1 (FW81)	2 (FW51)

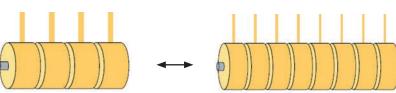
1) Lower dtex on request

### **TEC-080**

TEC-O80 systems serve the low-to-medium denier yarn market. To add flexibility, an easily adaptable conversion kit can turn a TEC-O80 draw frame into a TEC-O40

	system. This opens up the product range to include higher dtex yarn qualities.	
Titer range [dtex]	235 – 2,000 (plied)	
Tenacity range [g / den]	<b>6 – 10</b> (depending on polymer, final application, color intensity, additives etc.)	
Ends/position	8 / 4 (plied + conversion kit)	
Possible winder configurations		
Number of winders/position	1 (FW81)	
Conversion kit:		

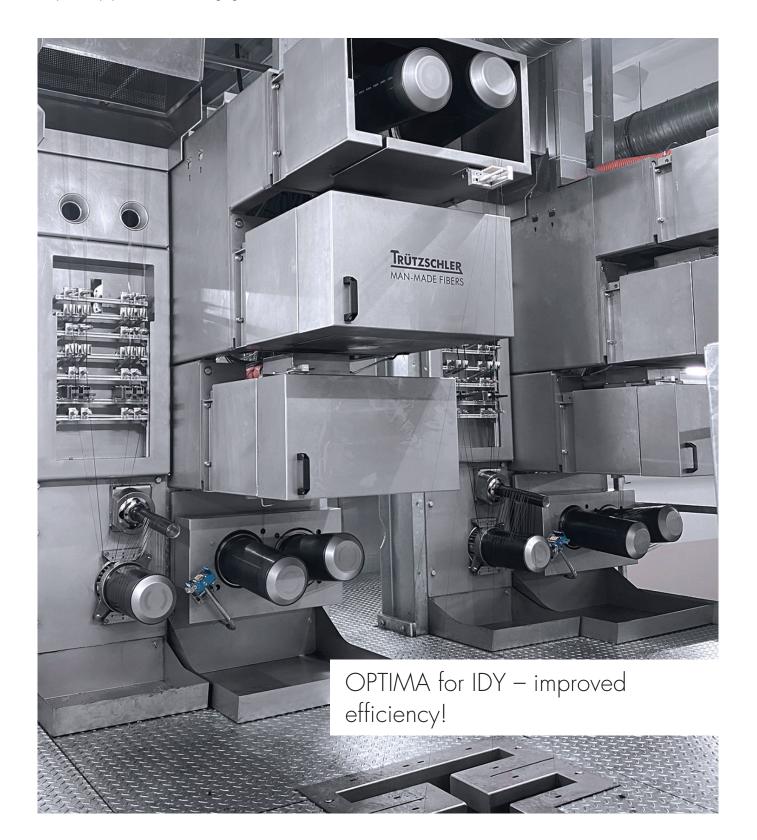
An easy-to-apply conversion kit turns the four-end winder into an eight-end winder for finer yarns (and vice versa)



### **Excellent extrusion**

Customers in the man-made fibers market are now benefitting from these two additional OPTIMA extrusion systems. The TEC-O40 and the TEC-O80 offer outstanding flexibility through their modular construction, which enables manufacturers to adapt the equipment to serve changing needs and demands.

The innovative systems are another clear indication of Trützschler's constant focus on developing solutions that deliver better quality, improved efficiency and a valuable competitive advantage.





The Trützschler Group really enjoyed meeting up with customers for in-person discussions about smart and sustainable innovations at trade fairs worldwide this year. And if a picture is worth a thousand words, let our trade fair photos from 2022 speak for themselves:



