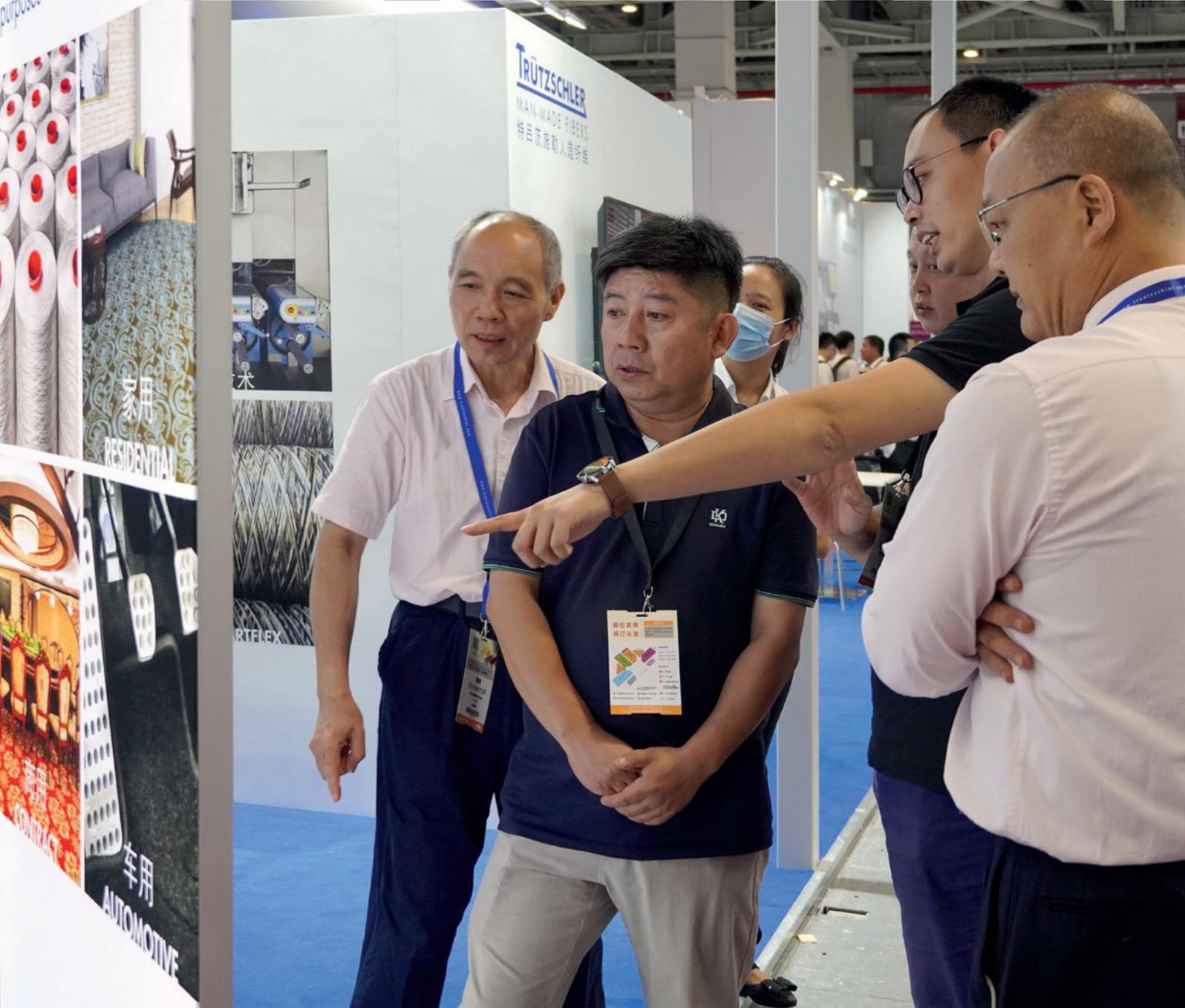


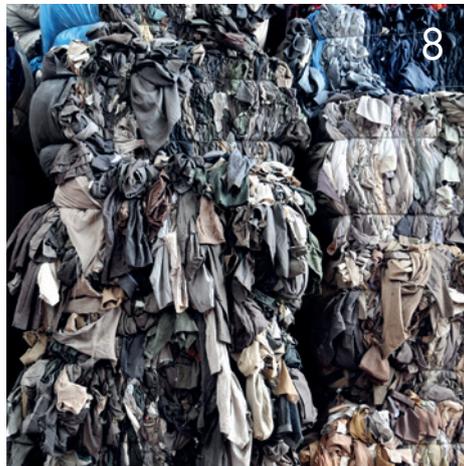
# it's true



**TRÜTZSCHLER**

# Content

Preface	3
TC19i: The new benchmark for man-made fiber processing	4
SUPERTIP: A game-changing new wire generation	6
Light in the recycling jungle	8
Gama Iplik – pioneer in textile recycling	12
IDF: Process shortening with technological advantages	14
American Truetzschler's UL-certified panel shop	18
Carpet yarn machine MO40 with four bobbins	20
TD 10 performance in India	22
Go Green initiative at TIPL India	24
Customer portrait Wang Jin	26
Trade shows in China	28
Truetzschler goes digital	30



Truetzschler GmbH & Co. KG  
Textilmaschinenfabrik

D-41241 Mönchengladbach  
Postfach 41 01 64  
[www.truetzschler.de](http://www.truetzschler.de)  
[info@truetzschler.de](mailto:info@truetzschler.de)

Editorial staff:  
Dr. Bettina Temath  
Michael van den Dolder  
Eva Trenz  
Laura Hartmann

Cover photo:  
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## Dear Customers, dear Business Partners,

The year 2020 posed a major challenge for the textile industry as well as for us. Due to the Corona pandemic, textile demand fell in many important markets. Spinning mills struggled with lock-downs and low capacity utilization, and major investments were postponed. Nevertheless, there were some rays of hope for us this year, allowing us to look forward to the next year with optimism:



The introduction of our intelligent Card TC 19i, for instance, was a complete success, leading to a significant increase in our market share, especially in Turkey. In combination with the high quality of our entire machine program and through intensive customer support we were able to secure numerous orders. We are also pleased with the excellent results of the TC 19i for man-made fibers in Asia, Europe and the Middle East. Thanks to the TC 19i, our customers achieved significant qualitative and productive improvements in the production of cotton and man-made fiber yarns. Our service employees, who supported our customers on site with full commitment despite Corona, played a major role in these successes. We would like to express our sincere thanks to our service team for this.

Greatest possible proximity to our customers remains our goal, even in these times. Together with our customers, we have succeeded in transferring part of our exchange to virtual space. In November, Truetzschler Nonwovens and Truetzschler Card Clothing extended an invitation to the first virtual Truetzschler fair. Customers and visitors from all over the world were able to experience news from the nonwovens technical centre live and enter into a digital exchange with experts from sales and technology. However, these formats cannot replace direct personal contact. In this respect, we are pleased about the many interested parties who Truetzschler Nonwovens and Truetzschler Man-Made Fibers were able to welcome personally at two trade fairs in Shanghai. The carpet yarn machine M040, which provides the Truetzschler Man-Made Fibers division with a unique feature, was presented at Domotex Asia. Truetzschler Nonwovens attracted the interest of numerous visitors at Cinte Techtexsil, especially with its solution for high-quality carded webs made of viscose and biodegradable nonwovens.

In 2020, Truetzschler experienced a year of unexpected developments. We are proud and grateful for the trust placed in us by our customers and employees, especially in times like these.

We wish you good health, a successful 2021 and much fun reading the "it's true" magazine.

Kind regards,

A handwritten signature in blue ink that reads "Dirk Burger". The signature is fluid and cursive.

Dr. Dirk Burger

# The TC 19i:

## A new benchmark for man-made fiber processing

Author: Dr. Bettina Temath

Man-made fibers: durable, versatile and cost-effective. That's why they have become indispensable in yarn production over the past decade and now account for more than 40 percent of staple fiber consumption. Truetzschler has supported this trend by developing highly specialized machines for man-made fibers that meet constantly rising expectations for quality and efficiency – and the TC 19i is now winning over customers worldwide.

The team at Acarsoy Tekstil in Turkey put the TC 19i to the test – and were delighted with the results. Pictured here (from left to right): Maintenance Manager Fedai Rahimoğlu and General Manager Bülent Değirmencioğlu from Acarsoy Tekstil, and Service Engineer Osman Kutlutürk from Truetzschler.



The intelligent card TC 19i for man-made fibers was launched in 2019 and is now the international benchmark for man-made fiber processing. The results from major textile markets across Asia, Europe and the Middle East speak for themselves: Customers were able to increase productivity by between 20 and 100 percent, while also improving quality (IPI) by between 20 and 55 percent.

### Turning skeptics into believers

Acarsoy Tekstil, a leading yarn manufacturer based in the Bursa province of Turkey, is a strong example of what can be achieved with the TC 19i for man-made fibers. The company has a daily production capacity of 65 tons of yarn across two production facilities, and manufactures a broad portfolio of cotton, linen, polyester, viscose, modal and lyocell yarns. Its processes include ring, compact, air jet, open end, core spun and siro spun technologies. Experts at Acarsoy Tekstil were initially skeptical when Truetzschler TC 19i cards were installed in the second air jet line for 100-percent viscose yarn (Ne 20 to 28). General manager Bülent Değirmencioğlu, as well as his team of operations and maintenance managers, were unsure whether the required level of quality could be maintained when the TC 19i operated at such high speed. However, they were able to produce 60 percent faster with the TC 19i, and clearer cut-off numbers were 50 percent lower than the first line. In light of these impressive results, Acarsoy is now considering modernizing its other machines too.

**“Cards are the beating heart of the spinning mill,” says Bülent Değirmencioğlu. “We know we’ve made the right choice with the TC 19i for man-made fibers because it’s taking our superior quality to the next level – while also cutting waste, reducing energy consumption and saving labor costs.”**

### Major improvements across all man-made fiber applications

Every single one of the manufacturers that tested the TC 19i for man-made fibers has been able to increase productivity and reduce yarn imperfections compared to predecessor machines. Of course, individual results vary depending on the customer’s specific application, raw material and process – but the TC 19i achieved success every time. This success is largely made possible by the T-GO gap optimizer, which has been specifically adapted to meet the requirements of man-made fiber applications.

“For cotton processing, a very narrow carding gap is often advantageous for the carding result – but this doesn’t apply to man-made fibers,” says Christoph Leinders, who was responsible for the design of the TC 19i.

“Our T-GO gap optimizer uses advanced, intelligent sensor technology to make sure the machine always maintains the best possible carding gap for the man-made fiber material, blend or application that is being processed. This gives the TC 19i a big advantage over machines from our competitors. We always know the exact carding gap and can adjust it during production using algorithms that we specifically developed for man-made fibers. This means changing environmental conditions or differences in the skill level of the individual operator no longer affect the carding gap setting – so quality levels remain constant.”

The T-GO gap optimizer for man-made fibers is as easy to operate as its counterpart for cotton. Only a few clicks on the display are required, and there’s no need for time-consuming flat setting work after each maintenance or re-clothing.

### A winning combination of new and proven features

The excellent performance of the TC 19i for man-made fibers is made possible by several new and proven features. The doffer clothing NovoDoff 32, for example, has been specifically developed for man-made fibers by Truetzschler Card Clothing, a subsidiary of Truetzschler that is located in the Black Forest region of Germany. Its engineers invented a new process technology that makes the clothing even more robust and durable, and further improves quality while reducing maintenance requirements.

Of course, the new card retains the outstanding features that have proven their performance in man-made fiber applications over many years. All metal sheets in the tuft feeder and the transfer section to the card are made of stainless steel to ensure an optimal flow of man-made fibers. All covering elements for the cylinder and doffer are made of high-precision, eloxated aluminum. A stainless-steel sliver coil tube and coiler plate ensure gentle sliver guidance during sliver coiling. And the pre-opener system of the TC 19i features one large roll with a special needling and surface treatment. This makes it possible to reduce yarn imperfections (IPI) by up to 30 percent compared to rolls with conventional wires, while the average lifetime of the needle roll is twenty times longer than that of a conventional roll.

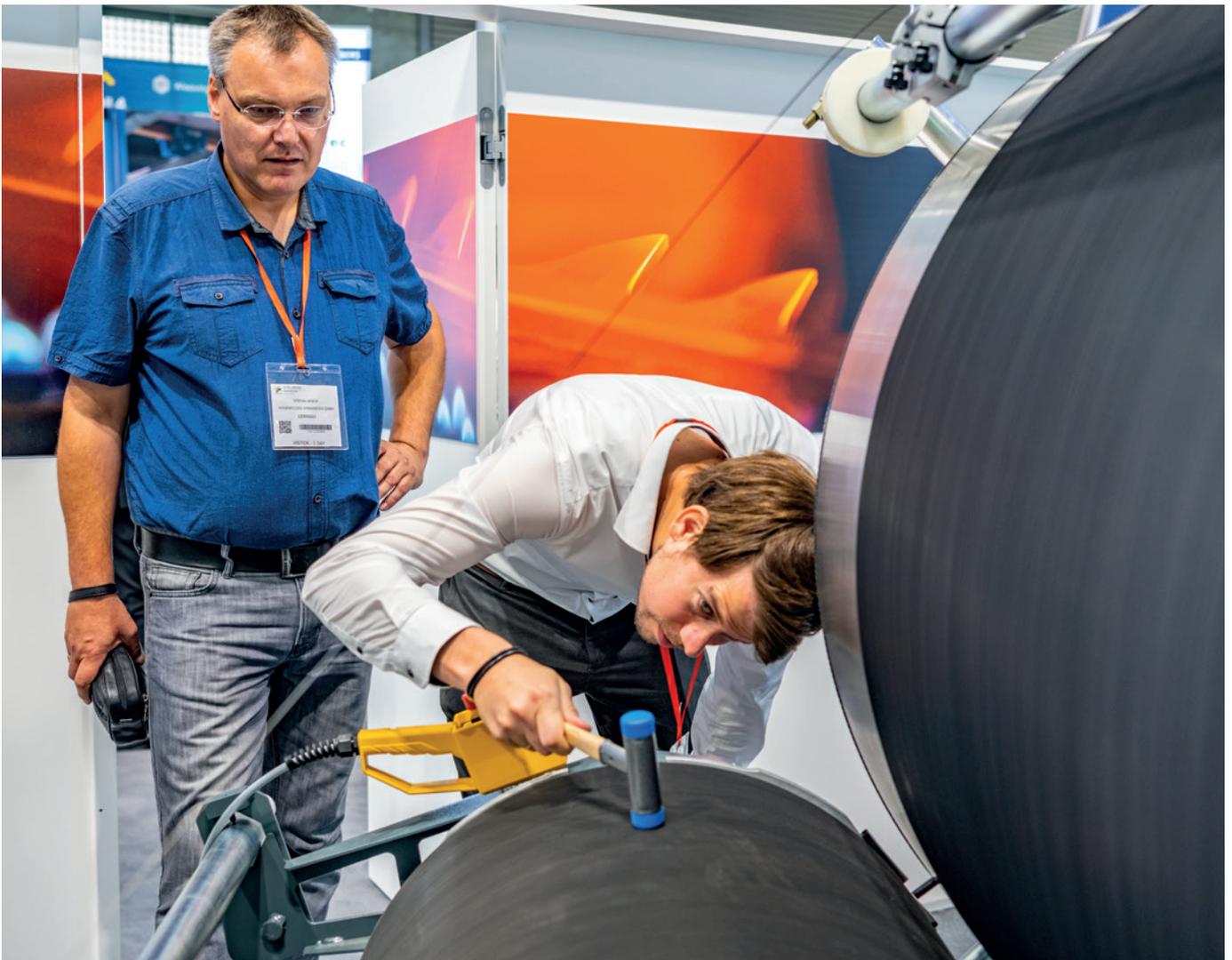
As man-made fibers gain importance for yarn production, the TC 19i is a powerful new card that delivers valuable performance across a wide range of applications. Customers at spinning mills around the world are taking advantage of this new benchmark for man-made fiber processing – and moving ahead of their competitors by increasing productivity, efficiency and quality.

# SUPERTIP

## A game-changing new wire generation

Author: Harald Schliepe

Testing the toughness of SUPERTIP at the ITMA 2019 trade fair.



Our customers in the card clothing market place a laser-sharp focus on utilization times, efficiency and profitability – while striving to meet the highest standards for quality. That’s why Truetzschler has developed a game-changing new clothing generation. It’s called SUPERTIP and is delivering impressive results for our TC 19i machines, as well as other cards and roller cards.

At Truetzschler, we’re always exploring new approaches to clothing that meet our customers’ constantly rising expectations. Our new SUPERTIP clothing generation is an exciting milestone in this never-ending process. It was designed as part of a development project that targeted technological and process-related innovations for licker-in wires. Pilot projects generated positive responses from the market – and convinced our teams to transfer this new development to other product groups, including the TC 19i.

By applying this technology together with our gap optimizer, we were able to increase utilization times for the TC 19i by up to 35 percent. On top of this, we increased the intervals between service and maintenance checks, and the related re-clothing requirements. When added together, this enables an estimated cost saving of up to 23 percent as shown in the image below.

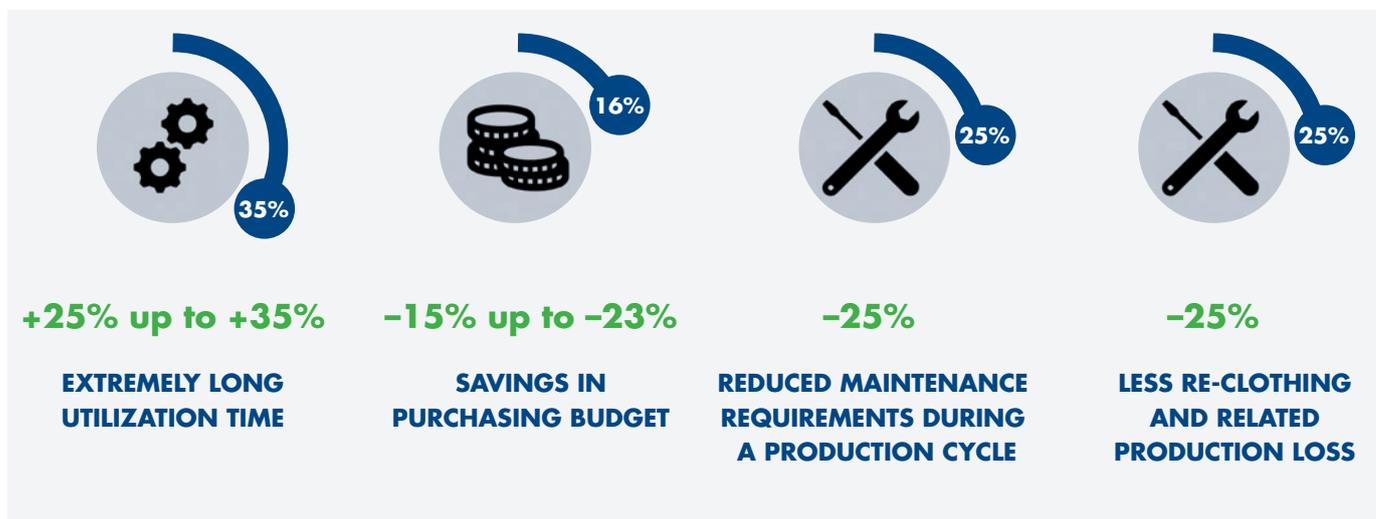
**Outstanding results for a wide range of models**

The advantages of SUPERTIP can also be achieved with other card models, depending on the potential of the card generation. It can be used for all types of raw material and in a wide range of applications, including open-end yarn, combed yarn et cetera. In fact, Truetzschler now offers the SUPERTIP clothing generation for all cylinder clothings and card generations.

SUPERTIP has achieved similar results for Nonwovens, where the increased stability of the teeth leads to significantly prolonged utilization times. This is particularly evident in high-speed roller cards, especially on the doffer, worker and main cylinder.

Our teams presented information about SUPERTIP at the ITMA 2019 in Barcelona, and gave existing and potential new customers the chance to put it to the test. The positive response confirmed that our new clothing generation is a major milestone for the card clothing business because SUPERTIP is superefficient, super reliable and super versatile – the name says it all.

The impact of the new SUPERTIP clothing generation compared to the NOVOSTAR clothing generation.



# We shed light on the recycling jungle

Author: Eva Trenz



Upcycling, downcycling, recycling and better use of raw materials are only a few terms for different efforts in the textile industry.

The subject is complex and can have many different characteristics.

On the one hand there is the secondary raw material PET bottles, i.e. former one-way water bottles, from which fleece fabrics or even carpets can be made in the second life cycle. Yesterday's fashion items, i.e. used textiles, can also become a sought-after raw material and play a role in yarn production. A further recycling option belongs to the area of optimized raw material utilization: Thanks to advanced machine technologies, high-quality yarns are nowadays produced from production waste or even from noils.

**Outdated trousers become a top fashion item?**

Unfortunately, textile recycling is not that simple. In Germany alone, over one million tonnes of old clothes are collected every year. But this huge mountain of material has to be sorted, classified and processed before it can be used as raw material. Some of it is marketed as used clothing. Another part is used as raw material and further processed, for example to make cleaning cloth, insulation material in cars or even bank notes. And a very large proportion is destined to end up in the incinerator because of its poor initial quality.

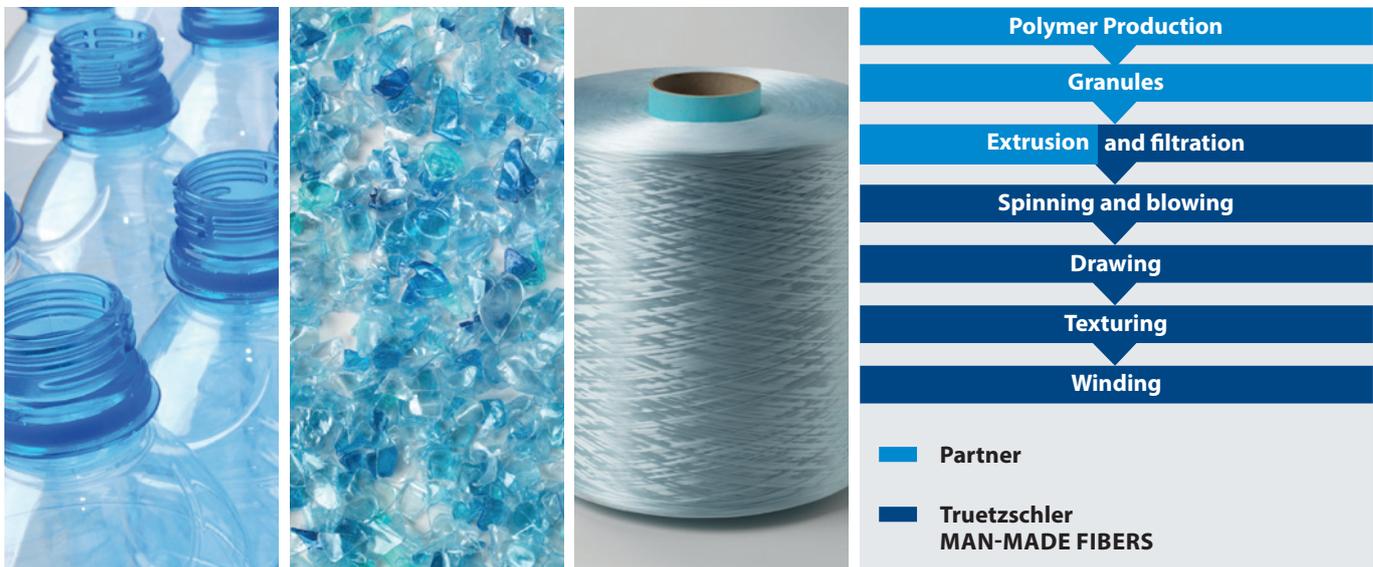
**The simplest recycling route: Water bottle with a future**

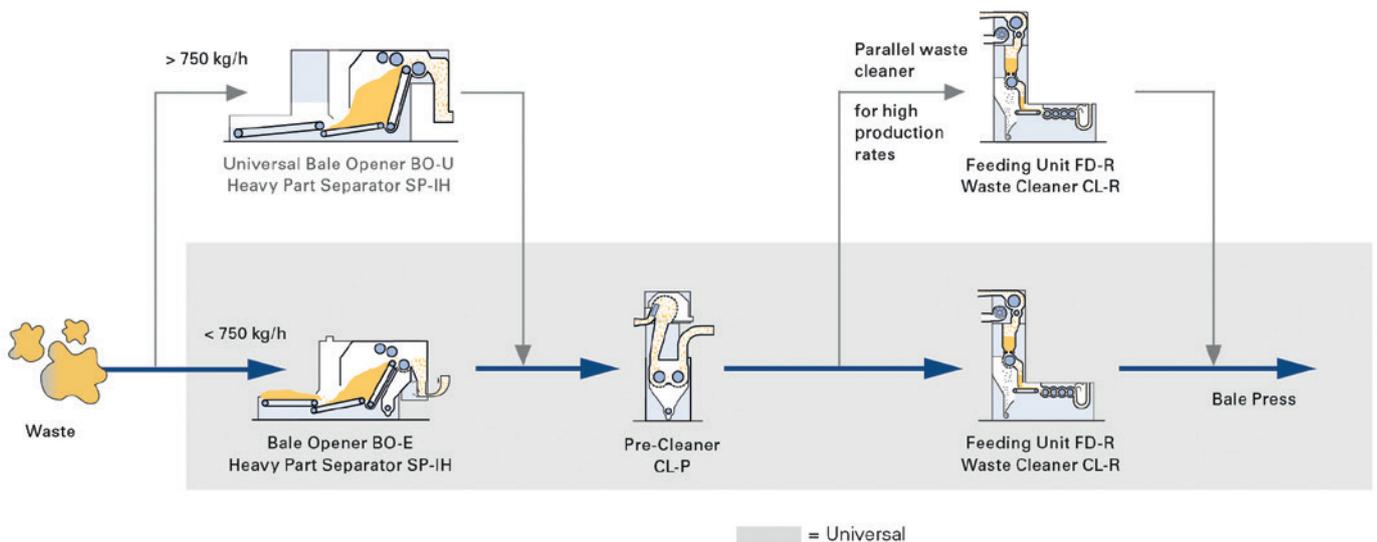
A basic distinction is made between chemical and mechanical recycling processes. The recovery of polyester granulate from PET bottles is assigned to the chemical side. The bottles are shredded into flakes, whose polymers are then melted. These melted polymers represent the spinning mass from which new fibers or directly a new nonwoven is produced.

For this process, Truetzschler Man-Made Fibers offers a line for producing high-quality carpet yarns, the so-called BCF yarns (Bulky Continuous Filaments), directly from PET flakes.

The process has three stages and consists of melting R-PET (recycled polyethylene terephthalate from PET bottles), spinning of a multifilament yarn via the spinneret, and subsequent drawing and texturing. Texturing refers to the permanent crimping of the filament.

However, fibers for short staple fiber yarns (Truetzschler Spinning) or for nonwovens (Truetzschler Nonwovens) can also be the target. For the Truetzschler installation concepts, it makes no difference whether the polyester fiber comes from a secondary raw material or a virgin raw material. From a purely chemical point of view, however, there are differences in the quality of the fibers.





Truetzschler Waste Recycling Line, for example for pre-cleaning of blow room or card waste.

Material transport components such as fans, condensers or material separators have not been mentioned individually.

### Mechanical recycling

The degree of difficulty of recycling processes always depends on the initial quality of the (secondary) raw materials. Blended fabrics, for example, represent a basic problem in the recycling of used clothing fiber materials - because sorting accuracy is really scarce on the used textiles market: cotton, viscose, polyester, silk, polyamide, polyacrylonitrile, wool, linen and other materials can be mixed together in one fabric. On the other hand, secondary raw materials can also be sorted by type: waste or noils directly produced in the spinning mill are of excellent quality and can be perfectly recycled.

### The path to a new beginning

The later the secondary raw material is obtained, the more complex the recycling process becomes. Waste from spinning preparation can be processed comparatively well. One example of this are the so-called noils, i.e. combed-out fibers and neps, which are undesirable especially where high-quality yarns are concerned. Since the material has already passed through the blow room and over the cards, it is high-quality "waste". This is a recyclable raw material that is used, for instance, in banknotes or hygiene products or is spun into yarn itself.

It is also possible to reclaim the share of good fibers from production waste, such as blow room and carding waste, and reintroduce it into the spinning preparation process. A separate Truetzschler waste recycling line with particularly intensive cleaning by the Waste Cleaner CL-R increases the degree of opening and enables recycling down to the last good fibers.

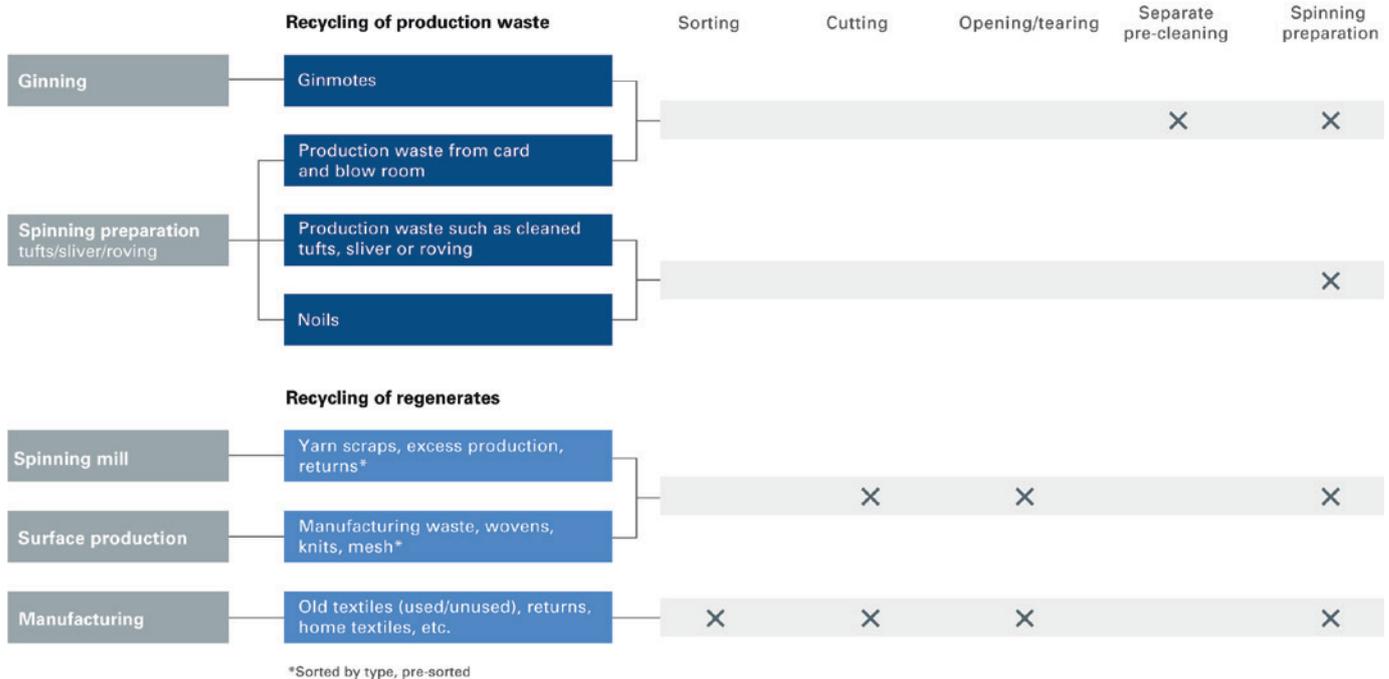
Used textiles require many intermediate steps before the resulting raw material can be turned into yarn in a spinning mill. Prior to running on Truetzschler machines, the material must first be sorted and cut, before it becomes a single fiber again. The result are bales which then can be made of opened and separated secondary fibers, which can then be fed again to the spinning preparation.

Bales made of 100% recycled fibers can be processed via a simplified Truetzschler spinning opening line. Additional intensive cleaning of the fibers is no longer necessary, as they have already been cleaned before being processed into textiles. When processing blends of recycled fibers and raw cotton or synthetic fibers, the use of a T-BLEND line is recommended. This can guarantee the accuracy of the desired blending ratio, even at the highest production levels. To avoid losing too many fibers in the preparation process, the recycled fibers are no longer exposed to a separate intensive pre-cleaning process, but are mixed with the raw material afterwards.

These bales of secondary raw materials are not only used to produce yarns, but also carded nonwovens on Truetzschler Nonwovens lines.

The classic method applied here is hydroentanglement. Thermobonding, after the addition of bicomponent fibers, and chemical bonding are also possible.

Assignment of secondary raw materials to the recycling process stages

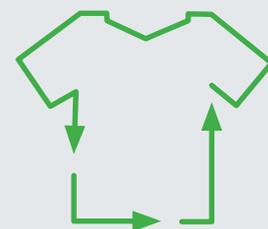


Example for production waste: Blow room waste



Example for regenerates: Fibers from torn jeans

## Sustainability and recycling: More than just a trend



**The textile industry has put sustainability on the agenda. Efforts focus on environmental and resource protection, the substitution of chemicals, the promotion of sustainable fibers and humane working conditions.**

From cultivation to recycling or disposal, however, there is a variety of approaches to achieve these goals.

As one of the leading textile machinery manufacturers, Truetzschler faces up to this responsibility. When designing our machines, we have been paying attention to shortened processes, optimised raw material utilization, durable machine components and machines that significantly improve the recycling process, and not just since yesterday.

Together with our customers we can thus make a contribution to a sustainable textile production chain.

# Gama Recycle in Gaziantep: the pioneer in textile recycling

Author: Eva Trenz

At Gama Iplik ve Dokuma Sanayi A.S. in Gaziantep, south-east Turkey, everything has revolved around spinning used textiles into regenerated yarns since 1997. 100 tons of yarn and 50 tons of polyester fibers are the daily output.



Applications of the yarns produced in three spinning mills range from upholstery, home textiles and socks to cleaning cloths and packaging. But the range also includes special yarns with flame-retardant or antibacterial finish and heavy-metal-free bleached yarns for the food industry.

All three plants are equipped with Truetzschler machines: Automatic bale openers BLENDOMAT and various generations of cards with integrated draw frames (IDF2) contribute to the particularly good yarn quality.

We talked to Zafer Kaplan, the owner of Gama Iplik.

*Gama Iplik is one of the world's greatest regenerate spinners. This implies a lot of empirical knowledge. What are the typical raw materials you are using?*

**Zafer Kaplan:** The bandwidth of the raw materials that we process ranges from textile production waste like rags, snippets or other textile waste to post-consumer material.

*Millions of tons of old textiles are collected every year, but qualities vary greatly. What do you pay attention to when purchasing 'good' textile waste?*

**Zafer Kaplan:** We prefer, and that is a great challenge, classified material sorted by color and type of material.

*A great environmental problem are ultra-cheap clothes. Did the quality of the raw material change within the last years? And where do you purchase your raw material?*

**Zafer Kaplan:** We mostly buy the rags and snippets in Turkey. PET bottles are mostly imported from all over the world. The quality of the snippets is indeed getting worse and worse in the last years in Turkey. We clearly note more contamination in the production process. The threads of the fancy items in clothing production are of a poor basic quality, unfortunately.

*The various basic qualities certainly require a special approach to the processing of the raw materials. How do you sort and cut the textile waste?*

**Zafer Kaplan:** There is no way around manual sorting. Our operators are very experienced in evaluating materials. Manual sorting is essential. Also we carry out precutting and shredding processes.

*From your point of view: The main challenges of the textile recycling process are....*

**Zafer Kaplan:** It's all about good people and the best machinery. We attach great importance to that constantly growing experience of our team, whether management or operator. Also the capability, technology and quality of the production machines are very significant.



Zafer Kaplan, Owner of Gama Iplik

*One of the hardest parts of your business is the production of constant quality. How do you manage it?*

**Zafer Kaplan:** We have a well-trained laboratory team in our company which guides the operators with constantly acquired knowledge and which controls the whole production process.

*What are the benefits of Truetzschler machines for your process and - of course - the yarn quality you achieve?*

**Zafer Kaplan:** In our plant we have TC 03, TC 07, TC 11, TC 15, TC 19i, so to say: all types of Truetzschler cards. And we are very satisfied with the quality and the capability of the whole Truetzschler equipment. I would say they are the key machines in the regenerated spinning process.

*How do you determine the mix of materials in your end product in view of the European Textile Labeling Act?*

**Zafer Kaplan:** Of course we have a chemical laboratory. All necessary tests regarding the material composition are carried out there.

*Sustainability is a big future issue for all of us. What challenges and developments do you expect for the future?*

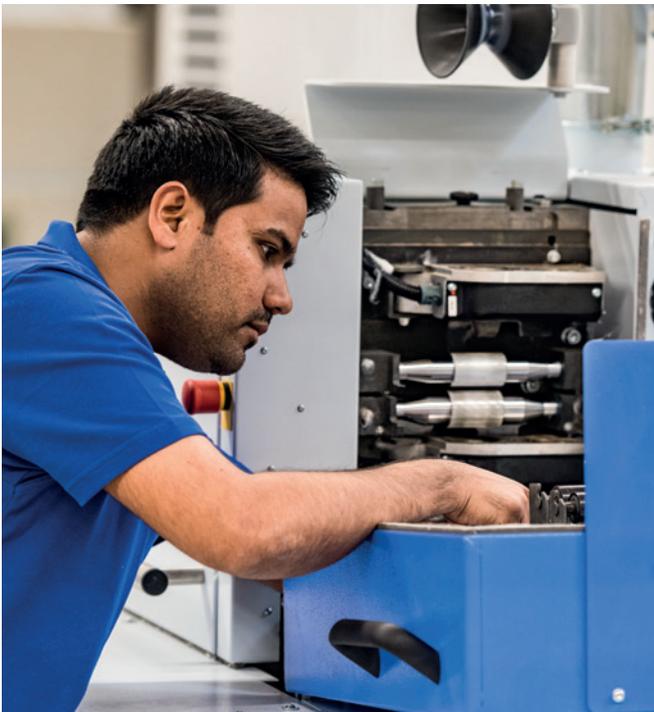
**Zafer Kaplan:** The competition is getting harder. There is a great demand for recycled yarn on the market, but what's missing are enough good raw materials.

*For which applications the produced yarn will be used?*

**Zafer Kaplan:** We produce yarns for almost all textiles, clothing, upholstery, socks, carpets and much more. 50 percent of the production remains in Turkey, the other half is exported to 16 different countries, including Germany, Belgium and North America.

# 21 years of experience in the field of IDF DIRECT SPINNING: Process shortening with technological advantages

Author: Eva Trenz



## Market insights

High yarn quality is becoming less and less dependent on the presence and experience of employees in a spinning mill. Nowadays, it is significantly influenced by futuristic plant solutions and intelligent machine systems. In the world of spinning, options for shortening processes, and thus reducing outlay in production, are becoming more and more relevant.

One example is the IDF integrated draw frame from Truetzschler which so far is superior to all competitor solutions. It can be used to combine two important aspects which currently heavily occupy the minds of our customers. For one, the shortening of processes means lower staff numbers are possible, whilst the IDF also provides a solution for tackling the increasing demand for spinning high-grade yarns from inferior raw material.

IDF - an important building block in the Truetzschler draw frame portfolio

1999

**Introduction of  
IDF 1 at the  
ITMA in Paris**

2013

**Upgrade of IDF 1 to IDF 2:  
from two to one  
drafting zone**

until now

**Continuous  
development of the IDF 2  
system**

For years, Truetzschler has been watching the trend that fiber lengths used in the rotor yarn sector in particular are becoming shorter and shorter. In 2003, the average fiber length for our customers' rotor yarn installations was 28.5 mm, today it is only 26 mm. This is a remarkable decline. The reasons for this can be manifold and may be related to cotton cultivation and harvesting methods. However, a crucial aspect is that the economic pressure on spinning mills and their production costs is increasing, leading to the use of ever shorter fibers.

### Development history of the IDF at Truetzschler

It takes time for optimised processes to establish themselves on the market. This is because process shortening initially presents a challenge in the spinning mill. It must be ensured that the same yarn quality is achieved in terms of processing parameters such as strength, elasticity or appearance. In the mid-nineties, at the beginning of the IDF development, it was unimaginable that yarn could be produced from 100 percent noils, but today this is certainly the case. This is also a way for large combing mills to include their own waste in the value chain and selling it with added value. Truetzschler has significantly advanced this development and implemented the IDF system in 1999, based on Spanish market requirements for the card TC 11. In the following years, it was continuously developed and improved.

In 2013 Truetzschler presented a fundamental revision: The Integrated Draw Frame IDF 2. The special feature was the reduction of two drafting zones to one.

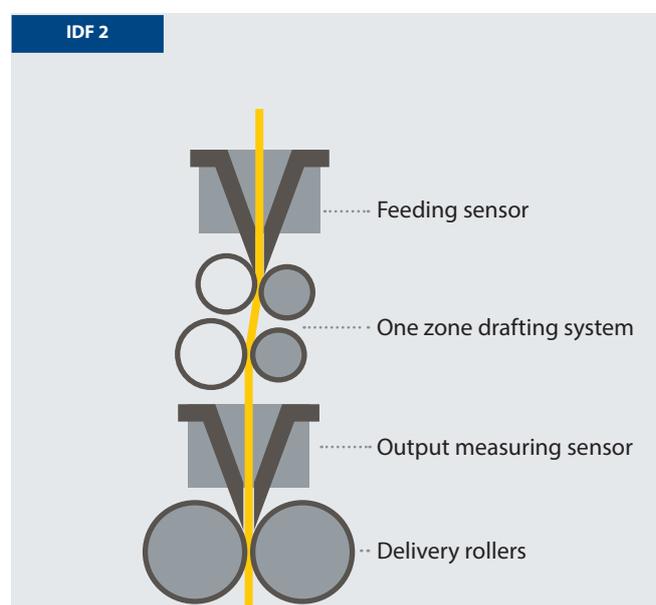
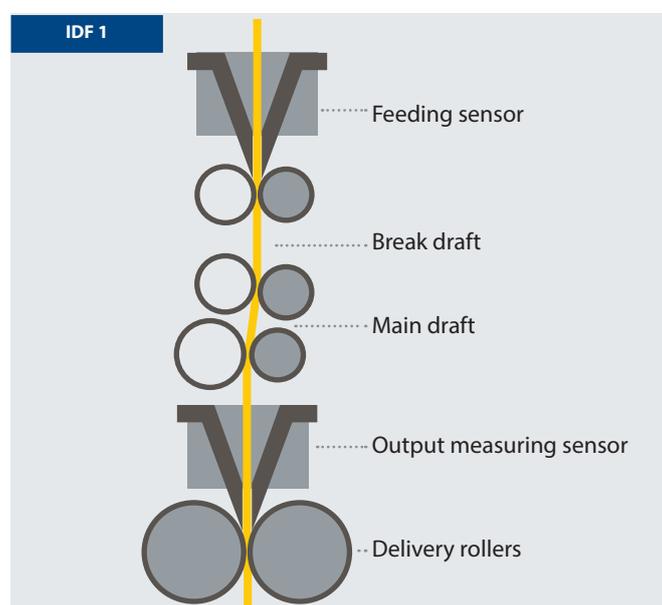
Thus, the IDF 2 responds to the increasingly urgent demands of our customers for production cost reduction on the one hand and a high quality standard despite poor raw material qualities on the other. This is because only the 1-zone drafting system allows particularly low drafts, which are the decisive guarantee of success for the processing of particularly short fibers.

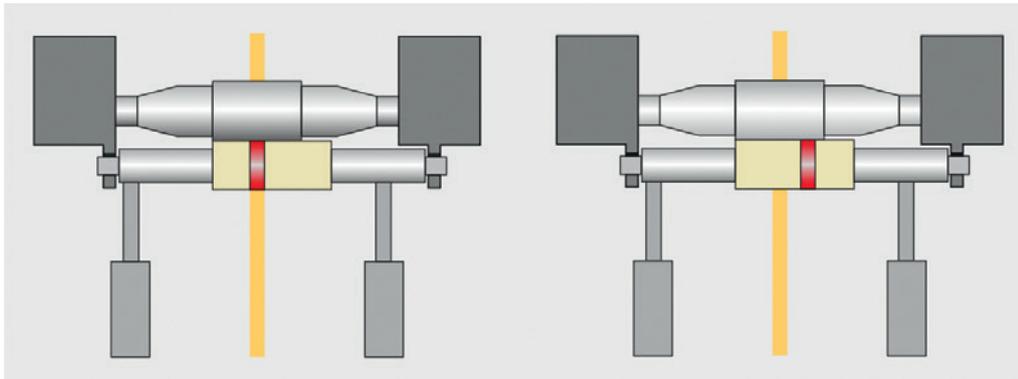
The main difference between IDF 1 and IDF 2 lies in the drafting system itself. Experience has shown that low total drafts are the key to success – especially with short-staple cotton, which is usually used in rotor spinning. However, dividing this small draft into break draft and main draft results in more disadvantages than advantages. For instance, if the goal is to achieve a 1.3-fold total draft using a break draft of 1.15, then only a draft of 1.13 remains for the main draft ( $1.15 \cdot 1.13 = 1.3$ ).

This means that the levelling dynamic is limited to 13 percent. This is much too low to respond to short-wave fluctuations. For comparison: With the autoleveller draw frame, the main draft and thus the levelling range often exceeds 400 percent.

By eliminating the break draft in the IDF 2, the entire drafting takes place in one drafting zone. Thus the levelling range is fully utilised. Fluctuations are ideally compensated this way. If two parameters must be optimised simultaneously, it is much more difficult to find the technologically better setting. This is because break draft and main draft must be varied and constantly adapted to material changes. The IDF 2 is thus not only the better technological solution, but also simplifies handling. This is a particular advantage, since nowadays many spinning mills have to deal with the problem of having hardly any qualified personnel available to technologically evaluate settings of this kind. ▶

Mechanical differences between IDF 1 and IDF 2





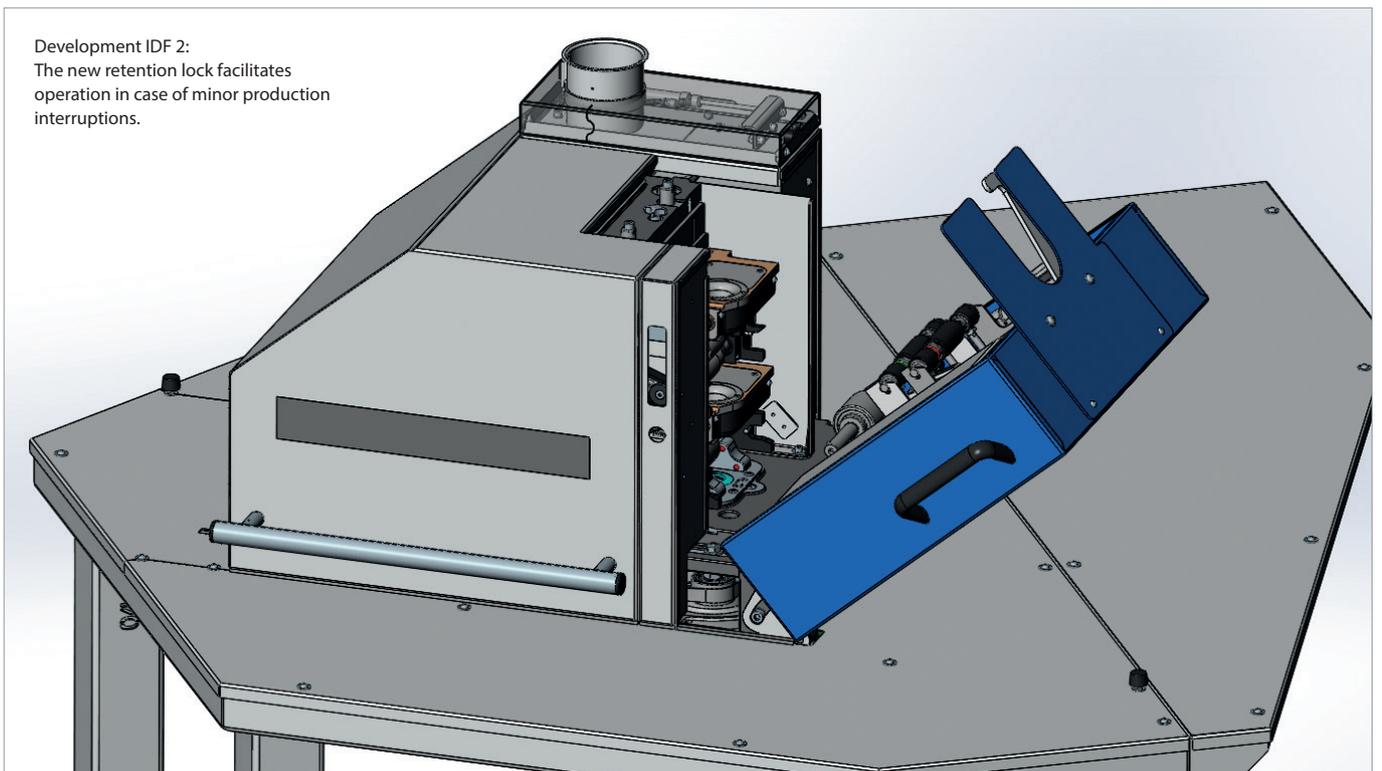
Drafting system rollers IDF 2:  
Rotatable top rollers double  
the service life.

When using a normal-width drafting system, larger masses are accelerated and decelerated again during levelling, which can lead to increased energy consumption. For this reason the width of the bottom and top rollers of the IDF 2 has been reduced to the width of a sliver. This also allowed the introduction of the clever solution of rotating top rollers, which has led to a doubling of the service life before grinding.

The IDF 2 also introduced the sliver loop storage. This driven deflection roller levels the sliver loop by means of an integrated light barrier, resulting in perfect synchronisation between card and IDF. The levelled loop permits high change speeds. This ensures a higher efficiency at the card, especially when using small rotor cans.

The combination of Truetzschler cards with IDF 2 gives customers an advantage, because they produce a thin, stable web which is perfectly suited to be drawn directly to the desired sliver count – at highest production rates and lowest drafts. If cards produce a heavier web, the use of low drafts is not possible at all, as, for example, from 12 ktex to 5 ktex a draft of 2.4 is applied.

Development IDF 2:  
The new retention lock facilitates  
operation in case of minor production  
interruptions.



### One versus two drafting zones – technological advantages

In order to show the influence of the distribution of drafts on main draft and break draft as opposed to only one draft zone, a yarn of 100 percent raw cotton (Mato Grosso) with Ne27 was spun in the direct spinning process with a card production of 170kg/h. With IDF 1, break drafts of 1.0, 1.05 and 1.16 with different main drafts were combined. The IDF 2 was run with drafts of 1.2 to 1.95. The tests showed the trend across all parameters that IDF 2 with its 1-zone drafting system has clear advantages over IDF 1.

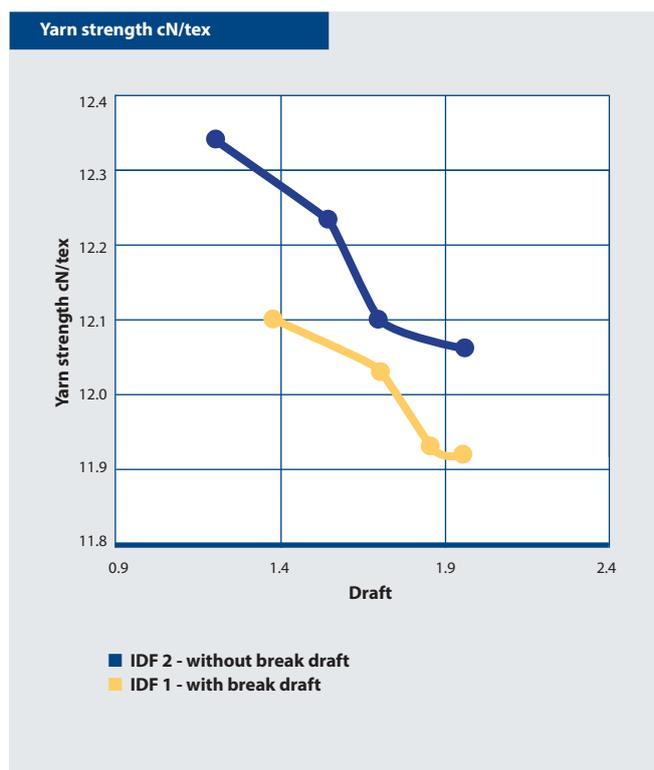
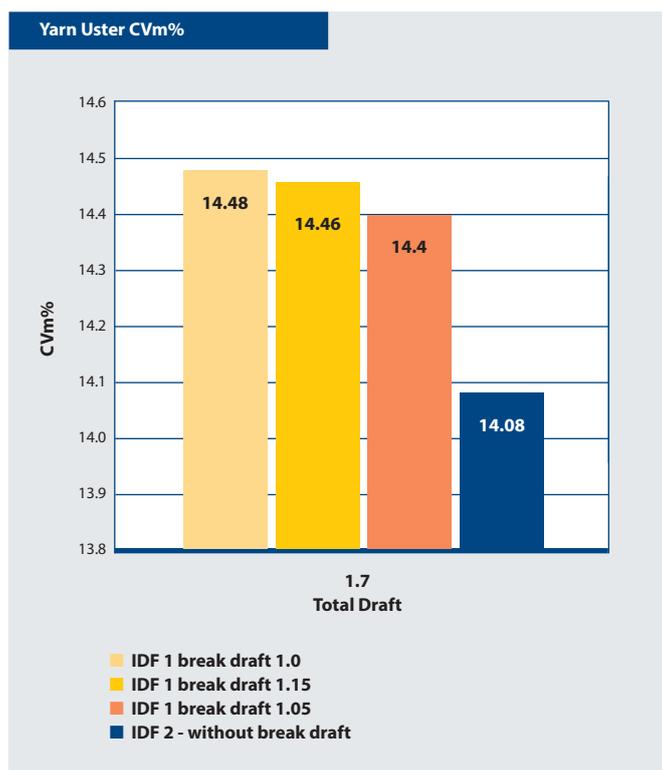
The first diagram shows the influence on yarn evenness for a total draft of 1.7. There is clear evidence that the break draft in the IDF has a negative influence on yarn parameters. It is noteworthy that for all quality parameters, the presence of the first drafting zone in the IDF 1 alone has a negative effect on the results, without any actual tension being applied. (IDF 1 break draft 1.0).

The second diagram illustrates that IDF 2 and IDF 1 both have the same trend, i.e. that the yarn strength decreases with increasing total draft. Compared to IDF 1, IDF 2 shows overall strength at a higher level. This confirms the statement that the use of only one drafting zone has a positive effect on the yarn properties.

### Development of the IDF 2

The IDF 2 has been established on the market for seven years. The advantages of the system are now recognised by the entire professional community, competitors and customers. Initially, the shortened process was only used with 100 percent cotton - preferably from the recycling sector - but today it is no longer limited to this. The system is successfully applied in the processing of 100 percent raw cotton and other materials. It thus offers an answer to the requirements of our customers with regard to increasing and necessary flexibility in the production process.

The handling of the IDF has also been improved. For example, there is now a retention lock that prevents the cover of the IDF from always having to be opened completely during the piecing process. Similarly, the use of maintenance-free deep groove ball bearings entirely eliminates the need for relubrication at the delivery rollers: The number of lubrication points is thus reduced to four. The self-adjusting lap monitoring of the top rollers, already known from the draw frames, has now also found its way to the IDF. There is no need to readjust after grinding intervals and changed settings.

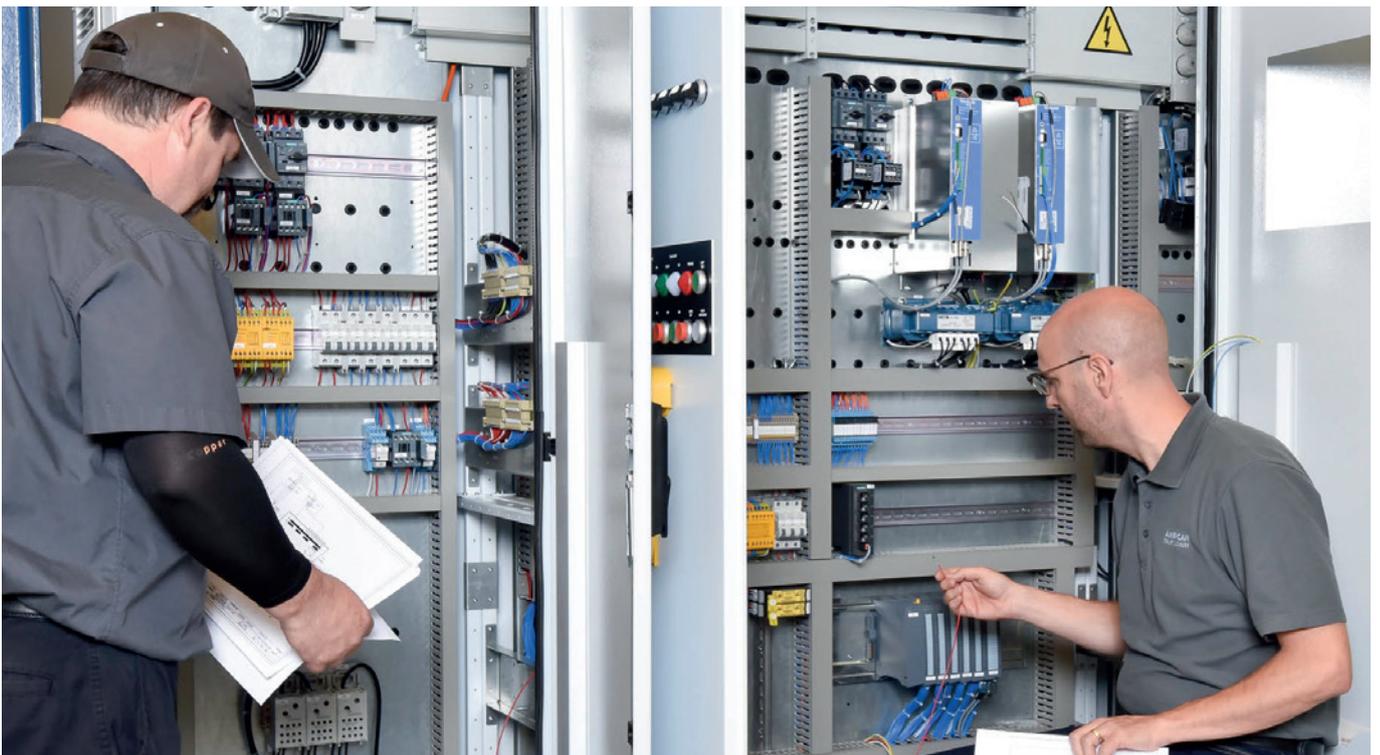


# American Truetzschler's UL-certified panel shop

## Consulting and contract manufacturing for the North American market

Author: Bernhard Heulmanns

Designing and building customized industrial control panels for (y)our US or Canadian customers can be very confusing once all the national regulations are taken into consideration. American Truetzschler's panel shop is a UL508A certified panel shop backed up by an experienced team of electrical engineers. We will advise, engineer, build and support you based on your control cabinet and certification needs (UL/cUL).



Department Manager Bernhard Heulmanns  
in front of the internal  
Electrical Control Department SharePoint:  
We understand that language and  
cultural differences are common sources  
of misunderstandings.



For small and medium-sized European machine builders, the ever-changing regulations and formalities in the US and Canadian market make it difficult to comply with all current control standards and needed certifications. A reliable and flexible domestic partner for those aspects allows you to focus on the marketing and successful introduction of the product within North America. At the same time, the US-built and UL508A certified control panel can be an important selling point.

#### **More than 40 years of experience in the field of machine and line controls in the US**

Truetzschler, founded in 1888, is headquartered in Germany. In 1969, American Truetzschler was the first subsidiary to be opened. Since the early 80's, American Truetzschler has designed, engineered and built electrical control panels for machines and lines, used in our fiber preparation business. Based on the knowledge gained over the years, we expanded our controls services to various other sectors, including optical glass fiber and cooling & refrigerating applications. Later our panel shop became UL508A listed (certified) in order to document our quality and satisfy increasing demand. We are extremely proud of our achievements, our long-time staff members, as well as our long-standing relationships with customers.

#### **Bilingual communication and cultural competence**

Misunderstandings and language barriers are the reason for more than 90 percent of all problems at a later stage. The translation and explanation of regulations, the clarification of details in regards to a specific project, and the simple understanding of the expectations of a North American customer are examples where our bilingualism and cultural background will help to save valuable time and money, on both sides of the Atlantic.

#### **Custom designs, extensive inventory and enhanced quality**

Due to our own production and service of controls and electrical cabinets for the entire range of Truetzschler products in North America, we have resources in electrical design and engineering at our disposal. In addition, we stock electrical control components of all major manufactures on a large scale. As a result, we can offer and execute serial production, as well as build custom and tailored projects, in which we can consistently showcase our creativity and flexibility.

During production, all processes and internal structures are documented by the practical and sustainable quality management system ISO 9001-2015. In combination with our continuing education of our employees, and the listing of our panel shop in UL's panel shop program UL 508A, we can comply with all required subject-specific regulations and meet the highest quality standards.

#### **Partial solutions or full range supplier**

American Truetzschler will seamlessly integrate into your production flow and meet your requirements by offering partial solutions, e.g. building "UL" control cabinets with provided components only; complete package including design and engineering of customized panels – or anywhere in between. We are able to offer project support, installation support, start-up support, and 24/7 service availability for your machine and line controls.

Four multifilaments after the spinneret

Carpet Yarn Machine

MO40E

Minimum space - maximum performance

Author: Jutta Stehr

Introduced at the ITMA 2019: The new carpet yarn machine MO40 with unique feature. It is the only machine with four bobbins on the market. It is already proving itself throughout the world.

“The main development goal was to minimise the space required. We have succeeded in this. On 2 x 2 metres, i.e. four square metres, four ends are extruded, stretched, crimped and wound on bobbins at the same time. This means that the MO40 has one bobbin more than the competition”, reports Michael Rapold, Head of R&D and Engineering of Truetzschler Switzerland AG.

The low space requirement is a decisive argument for many customers. Property and buildings are expensive, a high productivity per square metre lowers production costs. Several MO40 machines have already been sold to Europe and China.

#### **MO40E - E for expanded? E for Erfolg (success)**

The second phase of the development project started a few months ago. The team in Winterthur optimised the machine layout for the production of fine and ultra-fine carpet yarns. Changes to the melt distribution and cooling now make it possible to produce so-called low dpf yarns with less than 1.5 dpf just as efficiently and productively as standard qualities with much higher individual filament titres. In September the first extrusion systems from the MO40E series were delivered.

#### **Technical excursion: Low dpf yarns**

BCF yarns are multifilament yarns. One thread consists of dozens, or in the case of low dpf qualities, even hundreds and more individual filaments. Dpf is the abbreviation for “denier per filament” and indicates the weight of 9,000 metres of thread in grams. Nine kilometres of a 3 dpf filament therefore weigh a whole three grams!

When we talk about a thread in a BCF process, we always mean a multifilament. Thus, the MO40 produces 4 multifilaments.

The production of a yarn with many, very fine single filaments is tricky. High-quality yarn is characterised by the fact that all individual filaments are treated exactly the same during extrusion, drawing and crimping. Temperature fluctuations and air turbulence within the machine can, in the worst case, ruin an entire batch of yarn.

The effort is worth it: Low dpf yarns give the finished carpet a very special characteristic. They are mainly processed into velour carpets. The fine individual filaments produce a shimmering sheen and a velvety soft surface. The demand for these carpets and thus low dpf yarns is continuously increasing worldwide.

Four multifilaments after the spinneret



Velour carpets made of low dpf yarns are particularly soft.

# TD 10

## Powerful performance in India

Author: S.K. Joshi

We started delivering our new Truetzschler Draw Frame TD 10 to customers in India at the beginning of 2020 – and the response has been incredibly positive.

Since the market launch of the Truetzschler TD 10 in India, it has won approval from customers across this important market. The new model demonstrates superior performance when compared to competitors' machines because it offers a unique range of advanced features that make it easy for mill operators to use and maintain.

Its SMART CREEL, for example, features motion sensors that improve the machine's running performance and make it possible to detect missing slivers very quickly. On top of this, the independent SERVO CREEL offers precise adjustments for creel tension. The T-LED feature provides unique visualizations that help to keep machines running efficiently, while making it easier to monitor the operation.

### Proven advantages for spinning mills across India

The draw frame is widely considered to be the quality center of a spinning mill – and our model TD 10 has proven its ability to further strengthen quality across a variety of different raw materials and processes. It has gained high levels of customer satisfaction because it empowers mill operators to achieve faster delivery speeds, lower sliver U% and CV%, more reliable running behavior, and more stable and consistent performance. It also requires a lower parts inventory because it uses major electronics parts that are common in blow room and cards.

Our site in India is now delivering the Truetzschler draw frame TD 10 to spinning mills across the country, and giving them a powerful competitive advantage by improving productivity and yarn quality.

The Truetzschler TD 10 also has a bigger filter box, which enables our customers to reduce the frequency of cleaning cycles. It features an efficient heat management system that increases the lifetime of the lubricated bearings for top rollers, as well as an effective ventilation and cooling system for the drive panel. And its large touch screen display shows operating and process data in the form of graphics – so it can be operated intuitively and independent from language.

Check out the data on the next page for more detailed insights into how the Truetzschler TD 10 offers clear advantages over models from other providers.

Truetzschler Draw Frame TD 10 – the quality filter in the spinning mill



## 1 Performance on cotton application

This table shows the sliver quality parameters on the Truetzschler TD 10. In almost all cases shown, our machine offers a 25 to 30 percent higher delivery speed than earlier generations of draw frames from our competitors, while also achieving better yarn parameters.

Yarn Count	Raw Material	Delivery Speed m/min	1 m CV%	U%	Feed Hank Ne	Delivery Hank Ne	Doubling
30s C	S-6	500	0.39	1.9	0.115	0.115	6
41s K	Mech	450	0.50	2.1	0.11	0.11	6
64s C	MCU	350	0.45	2.2	0.16	0.158	8
91s C	MCU+DCH	400	0.53	2.1	0.161	0.161	6

## 2 Performance on 100 percent viscose application

The Erode-Pallipalayam area of Southern India is an important production hub for 100 percent viscose yarn on ring spinning and air jet spinning systems. Truetzschler has a large installation base for all of our machines in this area. Recently, we supplied our new TD 10 draw frames to some of the region's most widely respected mills – including Pallava Group, Arunachal Gounder, Mothi Spinning, and Kumaragiri Textiles. Pallava Group is using the TD10 in the new IDF VORTEX SPINNING process, the new process shortage with IDF for Airjet Spinning.

Yarn Count	Raw Material	Delivery Speed m/min	1 m CV%	U%	Feed Hank Ne	Delivery Hank Ne	Doubling
30s Ring	S-6	500	0.39	1.9	0.115	0.115	6
30s AirJet IDF	Viscose 1.2d x 38 mm	600	0.6	2.5	0.16	0.14	12

## 3 Performance on blend application

This table shows the sliver quality data when processing different blends.

Yarn Count	Raw Material	Delivery Speed m/min	1 m CV%	U%	Feed Hank Ne	Delivery Hank Ne	Doubling
48s	P-V Blend 70:30	600	0.5	2.1	0.12	0.13	6
64s	P-C Blend 70:30	650	0.4	2	0.14	0.14	6

# Truetzschler India's Go Green Initiatives

Author: Joseph Thomson

Going green is a personal choice that is embraced by individuals and corporates to contribute towards the improvement of the condition of the world's environment. Whereas people alone have been making small efforts to help, businesses have a much larger impact on the environment.

Their initiatives can make a big difference when it comes to saving the environment and creating a sustainable future. As a conscientious company, Truetzschler India has already taken several important steps in this direction.

We intend to support greener practices, support legislation that reduces carbon footprint, and discoveries in green energy.

**Typical wooden boxes used for packing. Unfortunately, 70 percent of the packing material turns out to be waste and used for domestic fuel purpose.**



**Woodless packing consists of wooden pallet and cardboard packing and these are either reused or recycled.**

**Woodless Packaging**

In 2015, Truetzschler India decided to switch from wooden to woodless packaging. Looking at the truck sizes available in India, a detailed study was carried out to find the right sizes and dimensions of each package and a way of proper stacking inside the truck. This helped to implement woodless packaging successfully for supplying all machines to domestic customers in an economic and secure way.

This important change in the packing itself has helped not only to reduce cutting down trees, but also to reduce CO2 emission to 310 tons from 2015 to 2019.

Period (Year)	CFT Wood saved	No. of trees saved	Initiative helped to reduce CO2 (Tons) emission
2015-2019	304,980	15,249	310



**Conversion of diesel to Piped Natural Gas (PNG) burner**

Earlier, Truetzschler India used diesel burners in the paint shop. However, the decision was taken to implement a change in the fuel system.

Necessary engineering modifications were carried out internally and we started using PNG fuel successfully. PNG is one of the cleanest burning fuels and supports improving the quality of air. This simple change helped us to reduce our carbon footprint by 483 tons/year and operating cost by at least 55 percent.

Period (Year)	Diesel consumption /Year	PNG Consumption /Year	Initiative helped to reduce CO2 (Tons) emission /Year
Before	417,648	-	1,103
Now	0	43,927	73
Reduce	417,648	-	1,030

**We continue to take our efforts further through other initiatives like:**

- Installation of an Integrated Solar Cooking System
- Change of lighting to LEDs, which helped to reduce power usage by as much as 80 percent
- Implementation of a cool roof technology in the production and assembly area to reduce the department temperature
- Rainwater harvesting to save 9 million liters of water per year
- Preparation for certification of Energy Management System ISO 50001:2018.

**1 l diesel produces 2.64 kg of CO<sub>2</sub>**

**1 kg PNG produces 1.66 kg of CO<sub>2</sub>**

Truetzschler India’s “Go Green” initiatives helped to reduce the company’s total carbon footprint by 545 T/year and we will continue our efforts to align each activity towards the environmental needs.

# True partnership

## Zhejiang Wangjin trusts in Truetzschler Nonwovens machinery

Author: Yu Zhenzhen

Zhejiang Wangjin Nonwovens Co., Ltd. has succeeded to rise to the top of the nonwovens industry within only five years. Established in 2015, the company now is a major player delivering WangJin brand nonwoven products to places all over the world.



The office building of Zhejiang Wangjin

The success story began five years ago in Changxin county near Taihu lake, an area known as a land of plenty, home of silk and a rich cultural heritage. On the other hand, lake Taihu is a favoured location for textile businesses because of its convenient location near China's East Coast and excellent transportation facilities within China and abroad.

One year after founding, Wangjin installed the first high-speed hydroentangling line from Truetzschler. All machinery including a bale opener, two inline cards, the AquaJet spunlacing machine, dryer and winder were delivered by Truetzschler Nonwovens.

A meteoric rise began. From 2016 to 2020, Wangjin signed the contracts for six spunlacing lines. Four nonwoven production lines are already in operation delivering an annual output of close to 40,000 tons. In March of this year, Wangjin placed the orders for their 5<sup>th</sup> and 6<sup>th</sup> spunlacing line.

The company's successful growth is the result of strategic vision, meticulous planning, foresighted management and efficient operation. The company chose Truetzschler as partner to realize its idea of a modern, high-class production. This decision has paid off: nowadays, Wangjin brand products like health products for women or babies, medical materials, disposable cleaning wipes, filter media, house decoration materials and others, are highly estimated by the consumer.

Truetzschler Nonwovens is proud to be a trusted partner to nonwoven producers such as Wangjin.

The close cooperation between the Truetzschler sites in Germany and China is a real asset in enabling customers to evolve and grow at their pace.

Machinery of excellent performance combined with world-class service proved to be a formula of success – not only for customers but for Truetzschler as well. Due to the success of nonwoven production lines and machinery in China, a new subsidiary has been established last year. Truetzschler Textile Machinery (Jiaxing) Co., Ltd. provides nearby manufacturing and service to Chinese customers.



One of Truetzschler Spunlace lines at Zhejiang Wangjin

On 11<sup>th</sup> July 2020, Zhejiang Wangjin Nonwovens Co., Ltd. successfully held the fifth anniversary celebration of the company and the launching ceremony of the 4<sup>th</sup> spunlace line provided by Truetzschler.



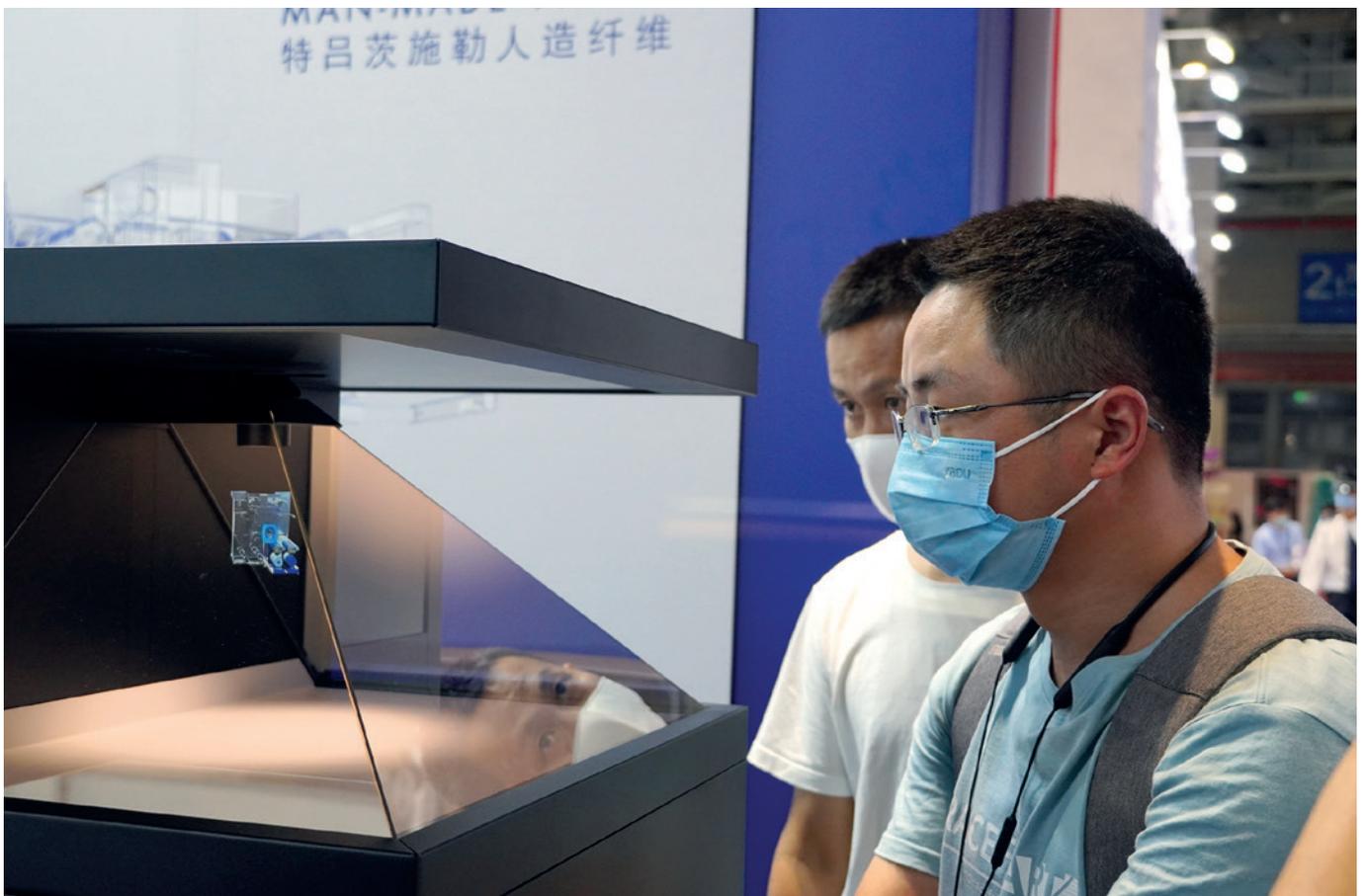
# China: First trade fairs since COVID-19

Author: Jutta Stehr

For the first time since the beginning of the Corona pandemic, Truetzschler participated again in major trade fairs in Shanghai, China. At Domotex Asia and Cinte Tectextil, Truetzschler Nonwovens and Truetzschler Man-Made Fibers were present with their own stands.

While demand in the carpet yarn industry is currently restrained, Truetzschler is registering strong interest in solutions for the nonwovens industry. This was also reflected in the number of visitors at the two trade fairs.

Domotex Asia: Virtual MO40



### Domotex Asia

Domotex Asia started on 31 August. Its focus was on everything important for the flooring of flats, houses, hotels and public buildings: carpets, parquet, tiles, linoleum and other floor coverings. Truetzschler Switzerland introduced the carpet yarn machine MO40.

With this machine, the Man-Made Fibers division has a unique feature, since four BCF (Bulked Continuous Filament) ends can be spun, crimped, and wound on bobbins simultaneously. Due to the current situation, the number of visitors – as anticipated – remained below the level expected under normal circumstances. However, the mere possibility of finally meeting customers in person again and exchanging ideas on site was seen by all those involved as very positive.

### Cinte Techtexsil

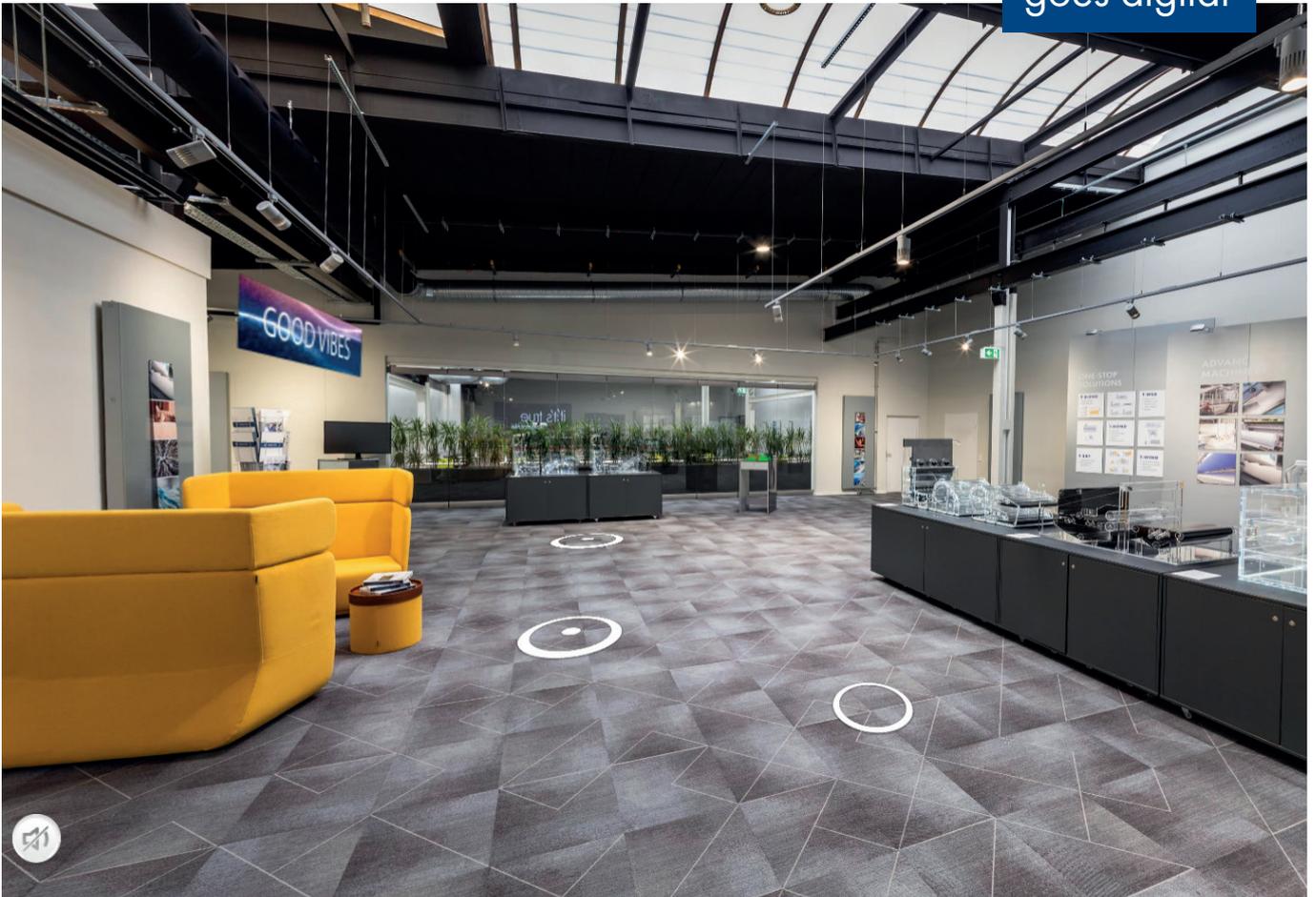
The Cinte Techtexsil, a specialist trade fair for technical textiles, was better attended. Nonwovens are in high demand and this was evident from 2 to 4 September.

Truetzschler Textile Machinery Jiaxing (TTMJ), the youngest subsidiary of Truetzschler, concentrates on the nonwovens machinery business in China and its innovations were met with high interest by the numerous visitors. While demand in the last investment cycle was mainly for light nonwovens for cosmetic wipes, interest is now shifting to heavier materials. Our solution for high-quality heavy carded viscose nonwovens and biodegradable wet laid WLS nonwovens were convincing in every respect.



Cinte Techtexsil: The interest in heavy materials has increased in recent years.





Showroom navigation: The white circles on the carpet are starting points to various attractions.

# Digital Trade Fair

Truetzschler Nonwovens and Truetzschler Card Clothing

Author: Jutta Stehr

COVID-19 has presented many companies with a major challenge this year. Trade fairs were cancelled or postponed and the exchange with the customer did not take place as usual. At the same time there is the opportunity to pursue new, digital ways.

After the first trade fairs and conferences took place online instead of on site in spring 2020 due to COVID-19, Truetzschler also developed the idea of offering its own digital solution – in the form of a virtual trade fair for the nonwovens and card clothing sectors. Our customers needed to be informed about innovations and solutions despite the current situation.

A “room” was created on the net with information covering all aspects of nonwovens production according to the “Good Vibes” motto. The digital exhibition with videos, reports and presentations was rounded off with an interactive level. Visitors were able to exchange information directly with our experts from sales or technology via text chats, telephone calls or videos.

What exactly did our virtual exhibition look like? The central point for visitors was the “Virtual Tour”, during which they were “beamed” into the showroom of the NCTC (Nonwoven Customer and Technology Center). Here, videos and presentations were waiting to be discovered and viewed. Similar to a computer game, the visitor had the opportunity to browse around and click on various icons.

More than two hours of material on various topics were waiting to be discovered – from an introduction to nonwovens, popular end products or nonwovens made of cellulose (pulp) to the possibilities of the NCTC.

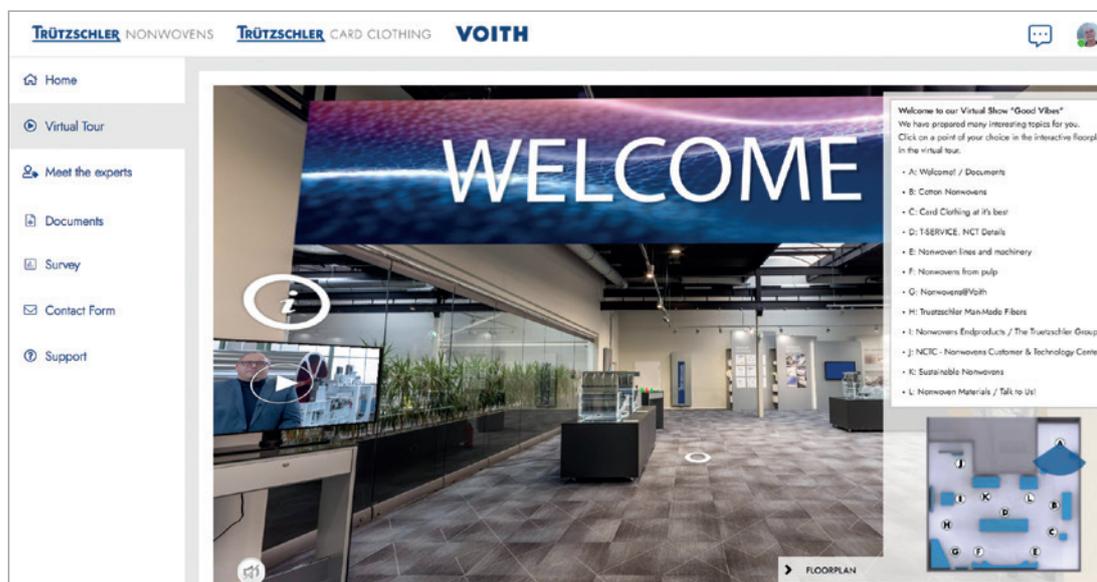
Visitors had the opportunity to get in touch with contacts and experts online, start chats or video sessions and discuss questions.



What can be discovered here? Oh, right, news from Truetzschler Card Clothing.

During the three days, more than 250 external visitors obtained information at the Good Vibes Show. The chats and video calls allowed for a number of interesting conversations and direct exchange. Especially digitally oriented visitors got their money’s worth. For others, the medium of the “virtual trade show” still seems too new and unfamiliar to actively establish contact with known and unknown people. In the long term, digital trade fairs will not be able to replace our local events, but they will offer a useful addition.

Have we made you curious? The virtual nonwovens showroom including a tour is integrated into the Truetzschler website. Experience it here: <https://virtual.truetzschler.com>



Welcome to the virtual showroom in Egelsbach!

# Remote Service

Author: Jutta Stehr



## How to create a jet lag without a jet

We are where our customers are – this is a firmly anchored value throughout the company. In times of COVID-19, however, traveling and being on site are a little more difficult than usual. Truetzschler Switzerland quickly found a solution and installed mobile and permanent cameras at Truetzschler Man-Made Fibers customers.

Remote support works perfectly with modern communication and video tools. But that's not all: the technicians also adapt their working hours to those of the customers. In order to guarantee the support of Asian producers, the colleagues in Winterthur sometimes start their work at 2 a.m. That causes a lot of jetlag, without a plane or travel.

Goodbye manual wire management...

# Nǐ hǎo My Wires

Chinese customers can say goodbye to writing wire management records per hand: My Wires is now available in one additional language – Chinese.

We are glad to provide our digital wire management app to another important spinning market in the world. Download it from the app stores and digitize your wires now in only a few minutes and for FREE!

The good old manual wire management is a thing of the past.

