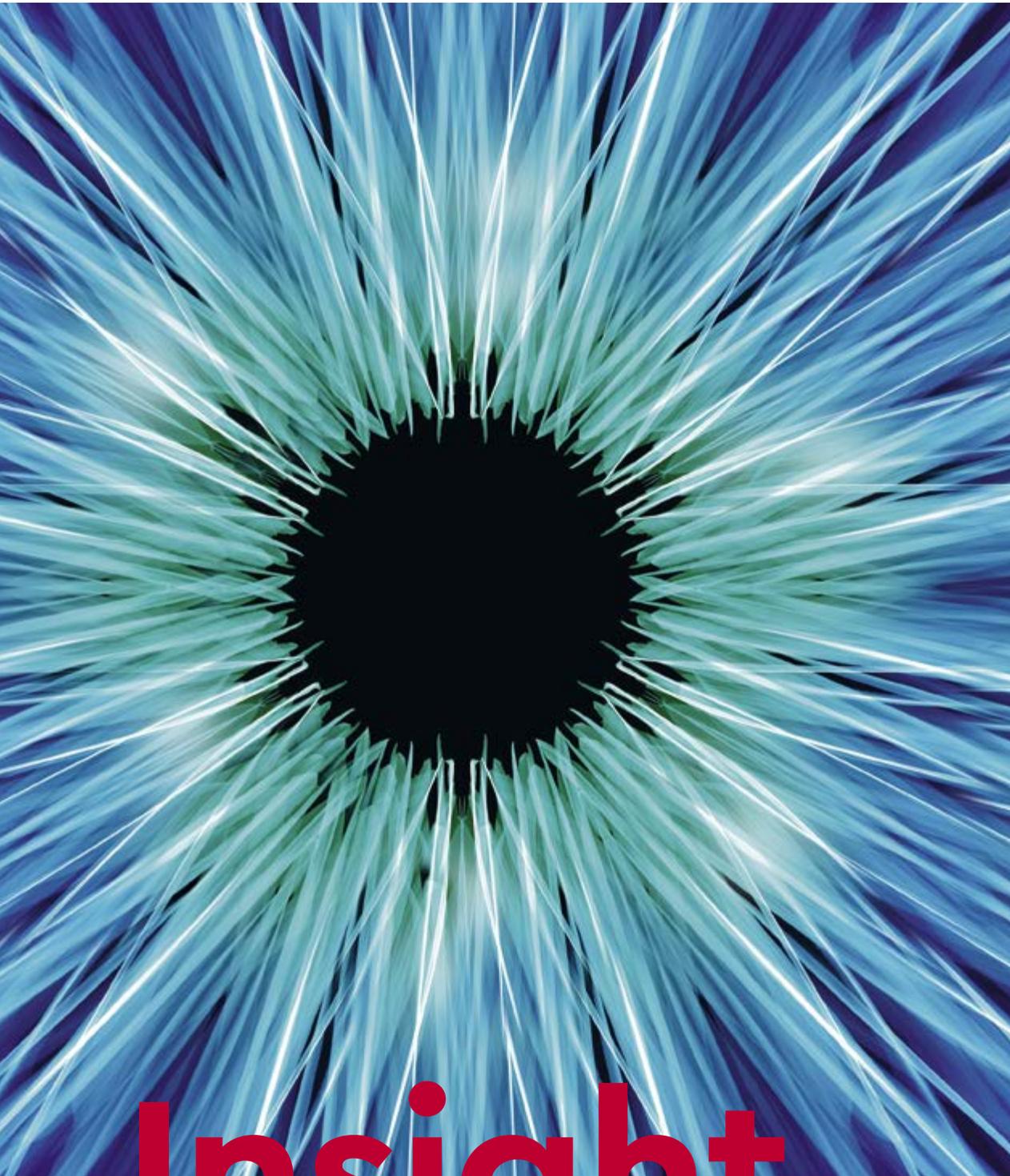


**SAURER.**

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# Editorial

## Powering your creation: our approach to innovation

Welcome to the inaugural edition of our new customer magazine. "Insight" replaces our previous publication "Express" and will now cover all aspects of our activities for the textile industry. "Insight" will not just provide you with a deeper understanding of our products and services, but we will also take a closer look at relevant developments in our industry. This fresh approach reflects a company that is dynamic, innovative and forward thinking to offer smart fit-for-purpose solutions.

While Saurer has been in the business of textile machinery for well over one-and-a-half centuries, we are attuned to the requirements of the modern customer. It is clear to us that we must provide bespoke solutions that match your needs. No matter what your goals or the challenges your business faces, we will work in partnership to make your aspirations a reality.

With this in mind, we have created new processes internally to listen to and put customer feedback at the centre of our decision-making process. When we innovate, we focus on your needs. As an example, we responded to your many requests for an air-spinning machine, innovating based on your input!

In the following pages, you will find out more about the many exciting

products and services we showed at ITMA 2019. The Autoairo for air spinning in particular deserves a special mention. Our long-term commitment to the development of core technologies has allowed us to bring this solution to market within a relatively short time. We optimised this technology for ergonomics and scalability, enabling you to create your own unique products. With its state-of-the-art features, I have no doubt that this newcomer will prove itself in your business as it powers creation.

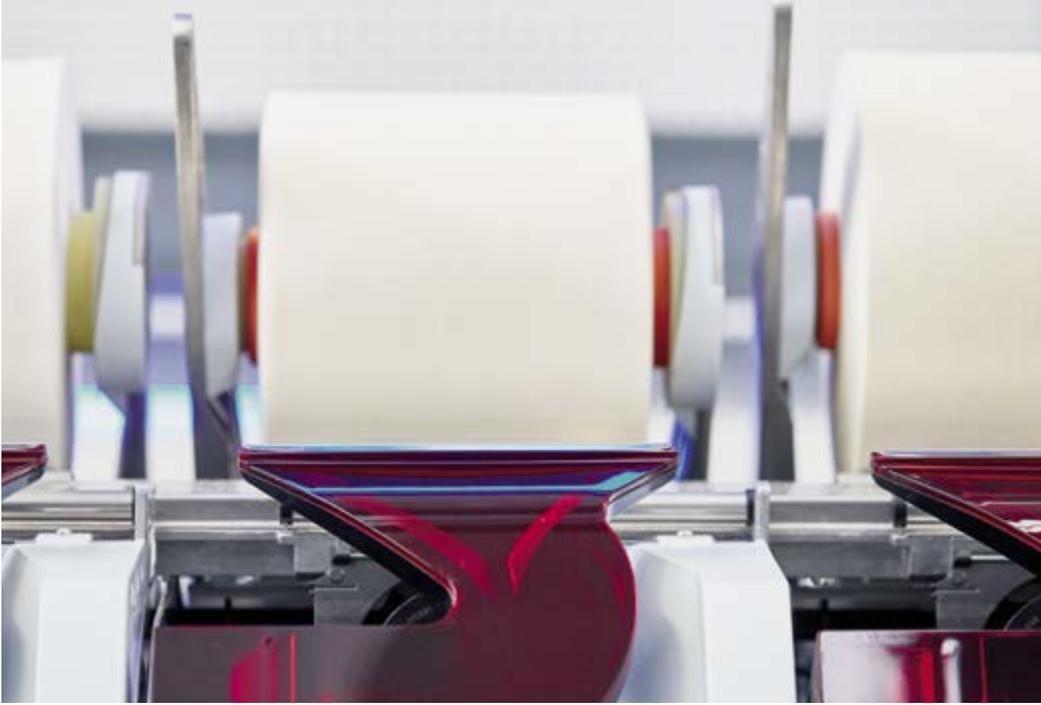
Of course, we also shine the spotlight on some of your peers around the world, from Turkey to Uzbekistan and Indonesia. In addition, we show you what other products we have been working on: find out about our improved machines, many incorporating smart technology, our enhanced service offering and several new apps. Keeping you abreast of the latest trends, we have also included some infographics with fascinating insights into our industry.

Thank you for opening your doors to us so that we could learn about your challenges and innovate to improve our industry. We look forward to taking your organisation to new heights. Come and join us as we embark on an exciting journey together.

I wish you an absorbing read.



**Clement Woon**  
CEO Saurer Group



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# From quality to innovation

At Saurer, we take pride in being at the start of many creations. From our uncompromising commitment to quality to our continuous drive to find new solutions, we are determined to deliver superior value for clients.

# Saurer. The solution provider. Solutions from a single source.

**In everyday life, we are constantly surrounded by products and textiles made possible by various Saurer technologies.**

Whether a simple T-shirt, bed linen, a suit made of fine twisted yarn, an embroidered evening dress, car tires or our everyday sidekick the smartphone – yarns are all around us.

#### **Finding a solution means understanding**

Our customers' goals are as diverse as their areas of application. Every textile company has its own strategy for success. Whatever your intentions may be, we will work our way back step by step from your goal and analyse your processes.

The best solution is precisely the one you use to achieve your goals. It could be an automation system that increases the efficiency of your existing machines, such as MultiLink for ring spinning. It could be an original part, ordered via the Secos 2.0 customer portal, or a training course by Saurer's training academy, or even a completely new mill on a greenfield site with everything that goes with it. Saurer's small and large solutions are much more than just machines. Financing, digitalisation and services are just as much a matter of course as comprehensive advice on choosing the right production process.

#### **From T-shirts to wedding dresses**

An example from the staple fibre sector shows how versatile Saurer's solutions can be. A T-shirt manufacturer planning a new mill can process yarns from ring-, rotor- or air-spinning processes with its knitting machines.

**"The quality of our goals determines the quality of our future."**

Saurer recommends the appropriate spinning process on the basis of the properties that the T-shirt should have, and helps customers to plan a production system tailored to their needs, including a spinning mill.

With five spinning processes, Saurer offers a broad portfolio of spinning machines for almost every conceivable application. At ITMA 2019 in Barcelona, the new Autoairo air-spinning machine will be presented for the first time. For rotor yarns, Saurer is offering the new AutoBD and the further developed Autocoro. The modular Z 72XL enables ring-spinning customers to react flexibly to market requirements.

Even in haute couture, the pinnacle of the fashion industry, it is important to react quickly to changing wishes. The demands placed on fabrics and embroidery for evening or wedding dresses by well-known fashion designers are rising, production volumes are falling and cycles are becoming ever shorter. The high art of embroidery technology lies in enabling the greatest possible flexibility with a reasonable price-performance ratio, so that even the smallest quantities (a few metres) can be produced profitably. The innovations in the Epoca 7 open up unlimited design possibilities while increasing productivity.

**"Doing something old in a new way – that is innovation."**

Joseph Alois Schumpeter

#### **Smartly networked**

Senses, the digital mill management system, provides the crucial information to improve efficiency in the process chain. The tool analyses and monitors the productivity of your systems and the quality of the products around the clock. Senses networks all Saurer machines and can be extended to other machines in your production process on request.

The machines presented at ITMA have continued to gain in intelligence. Light signals on the machines and automation units optimise production sustainably. In the Secos 2.0 portal,



the latest information for your suite of machines is available around the clock. The genuine parts required for your suite of machines can be ordered online at any time.

**The right solution**

The targeted analysis of the textile production chain from cotton to the finished product makes it possible to work out the individually optimal solution for each of our customers – completely and comprehensively from a single source. This saves time, provides flexibility and increases resource efficiency throughout the entire production process. With your package of

services, resources are freed up and can be used where they are most urgently needed for the success of the company.

At Saurer there is not just "one" solution, there is a variety of solutions. As many as there are challenges. Together, we will find the right solution for you, so that you can master the challenges of today and tomorrow.

Find out more on the following pages – allow yourself to be inspired!



# Doing things better is more profitable

**The Autoairo is better. The first air-spinning machine from Saurer significantly increases efficiency, thus revolutionising the process.**

They sometimes happen, these magical moments, when all elements suddenly interact perfectly: autonomous, fully automated individual spinning positions, double-sided, space-saving design and highly modern digital technologies. Suddenly it is before us: the ideal solution, proven technology revitalised and rethought.

The Autoairo air-spinning machine, which the innovation pioneer Saurer launched at the ITMA 2019 trade exhibition, is such a eureka moment. The Autoairo is different: it is a small sensation, because it defines new benchmarks for productivity and efficiency in lucrative air spinning.

"We have rethought air spinning, in a better way," says Mathias Burchert, Senior Vice President Business Programs, R&D Technology, Saurer Spinning Solutions. "Our solution will be more economical and more profitable. The breakthrough came when we were able to provide an efficient, highly productive and fully automated production frame with autonomous, intelligent spinning positions for the familiar air-spinning process."

The Autoairo has autonomous spinning positions with individual drives, integrated intelligence and a digital piecing unit. This frame gives the Autoairo a huge advantage across all important metrics: it is more productive, more flexible

and guarantees the desired quality for all applications.

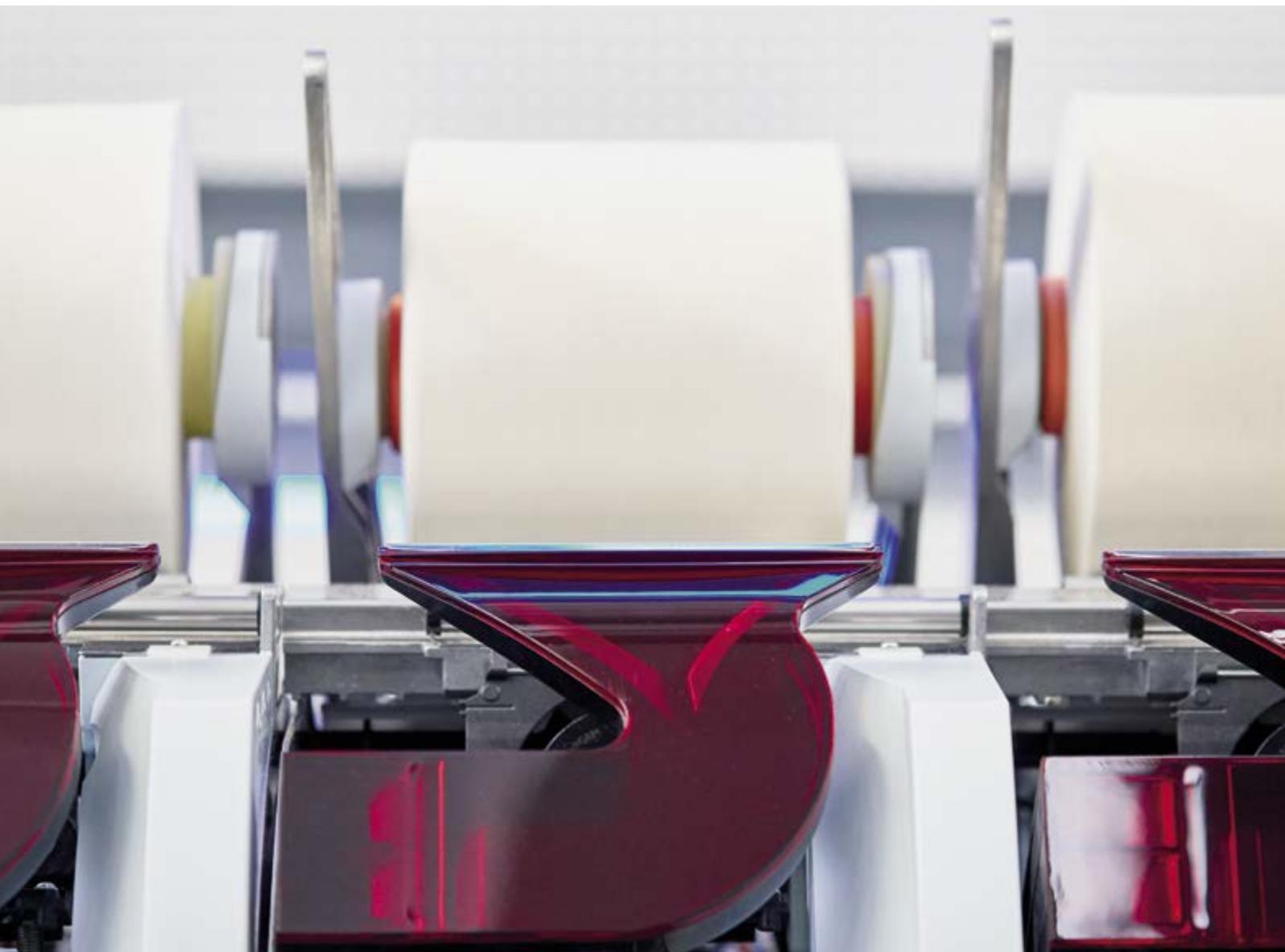
#### **The productivity advantage in numbers**

Each individual spinning position in the Autoairo can independently carry out piecing. Cumbersome central automation units are passé. This gives a powerful productivity advantage.

Twenty-four piecing operations can be carried out simultaneously with SynchroPiecing 24. Compared to other machines on the market with their central units, the piecing capacity of the Autoairo is thus twice as high. The high take-off speeds for air spinning are therefore no longer slowed down by waiting times for piecing. This increases efficiency and opens up new technological possibilities.

The advantage also takes effect when starting up the machine: with Turbostart, the Autoairo reaches its productive speed 30% faster than standard air-spinning machines.

Its compact, double-sided design is another productivity plus. The Autoairo requires 40% less space than air-spinning machines with a one-sided design for the same annual yarn quantity. The higher productivity per square metre of production area decreases investment and subsequent costs. Spinning mills can be



1

smaller in size, which reduces construction and air conditioning costs. In this way, the return on investment is also accelerated.

#### **Outstanding yarn quality**

With Autoairo, digital technologies ensure the desired yarn quality. The DigiPiecing digital piecing technology, which has been tried and tested millions of times with the Autocoro rotor-spinning machine, guarantees faultless piecing. The Airolab digital yarn clearer, which has been optimised for air spinning, detects every deviation from the required quality and removes it from the yarn. And the DigiWinding FX digitally controlled winding unit, also originally developed for the Autocoro, produces packages of unsurpassed quality.

Another factor for outstanding yarn quality is the Autoairo's drafting system. It benefits from the unmatched drafting system expertise that Saurer has demonstrated in the area of ring spinning for decades.

Yarns spun on the Autoairo can receive the Belairo seal of quality due to their special quality. This opens up new marketing opportunities for spinning mills in the future when selling their air-spun yarns.

1

**The new air-spinning machine Autoairo: fully automatic and highly productive.**

**"We have rethought air spinning, in a better way."**

### New flexibility that pays

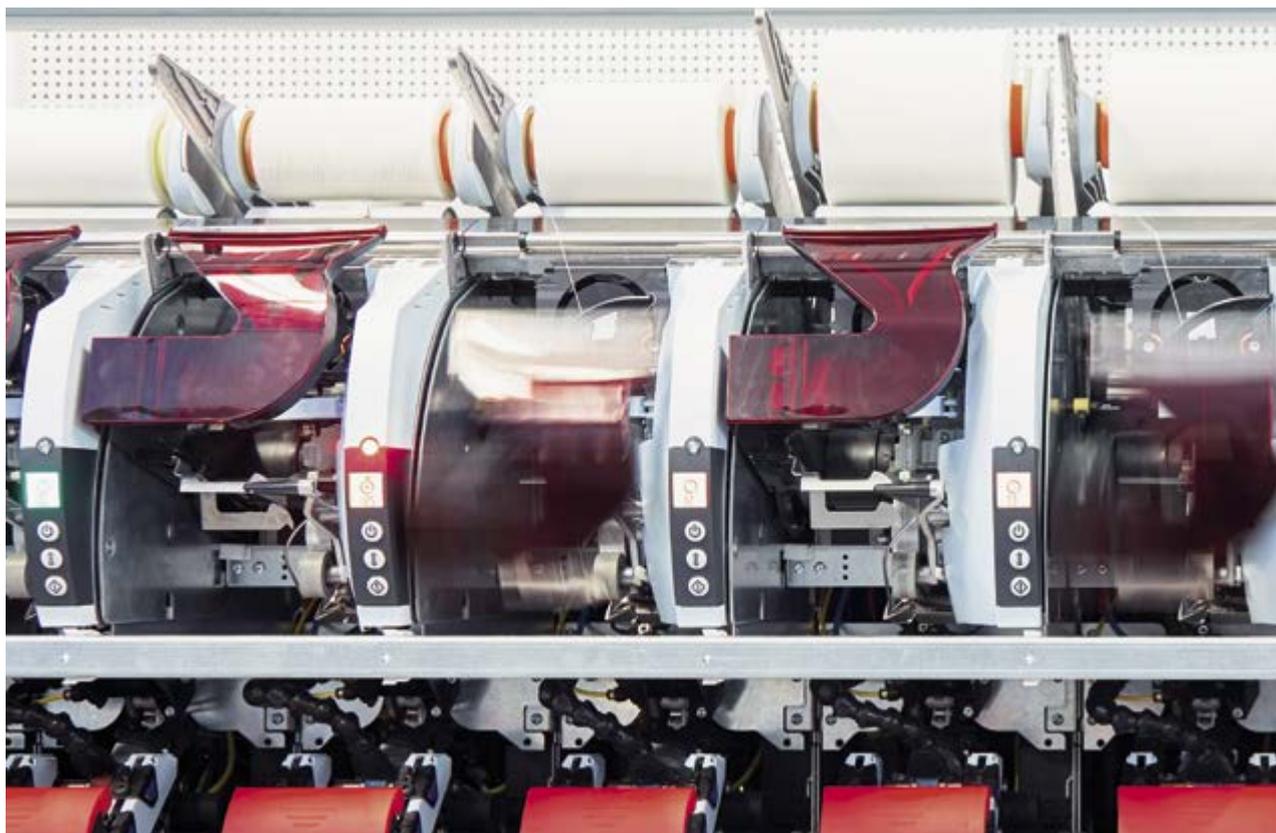
The automation of air spinning, which has been consistently thought through to its conclusion, also of course increases the flexibility of operational management. This affects above all the economic processing of smaller orders. With MultiLot, up to four lots can be spun on the Autoairo at the same time. This means that spinning mills are in a position to manufacture lots in quick succession under particularly competitive conditions. In addition, seamless lot changes during ongoing production are possible with the Autoairo. Even test packages can be manufactured on 12 spinning positions, while the other spinning positions simply continue with normal spinning production.

### Modern operator support

The operation of the Autoairo is made easier with a memorable colour concept. Striking LED strips at each spinning position signal, for example, that cans are about to become empty or that spinning positions are not running properly. The positioning of the cans directly below the drafting systems guarantees rapid transport to the belt with maximum quality. This all guarantees rapid intervention by personnel without cumbersome inspection walkways.

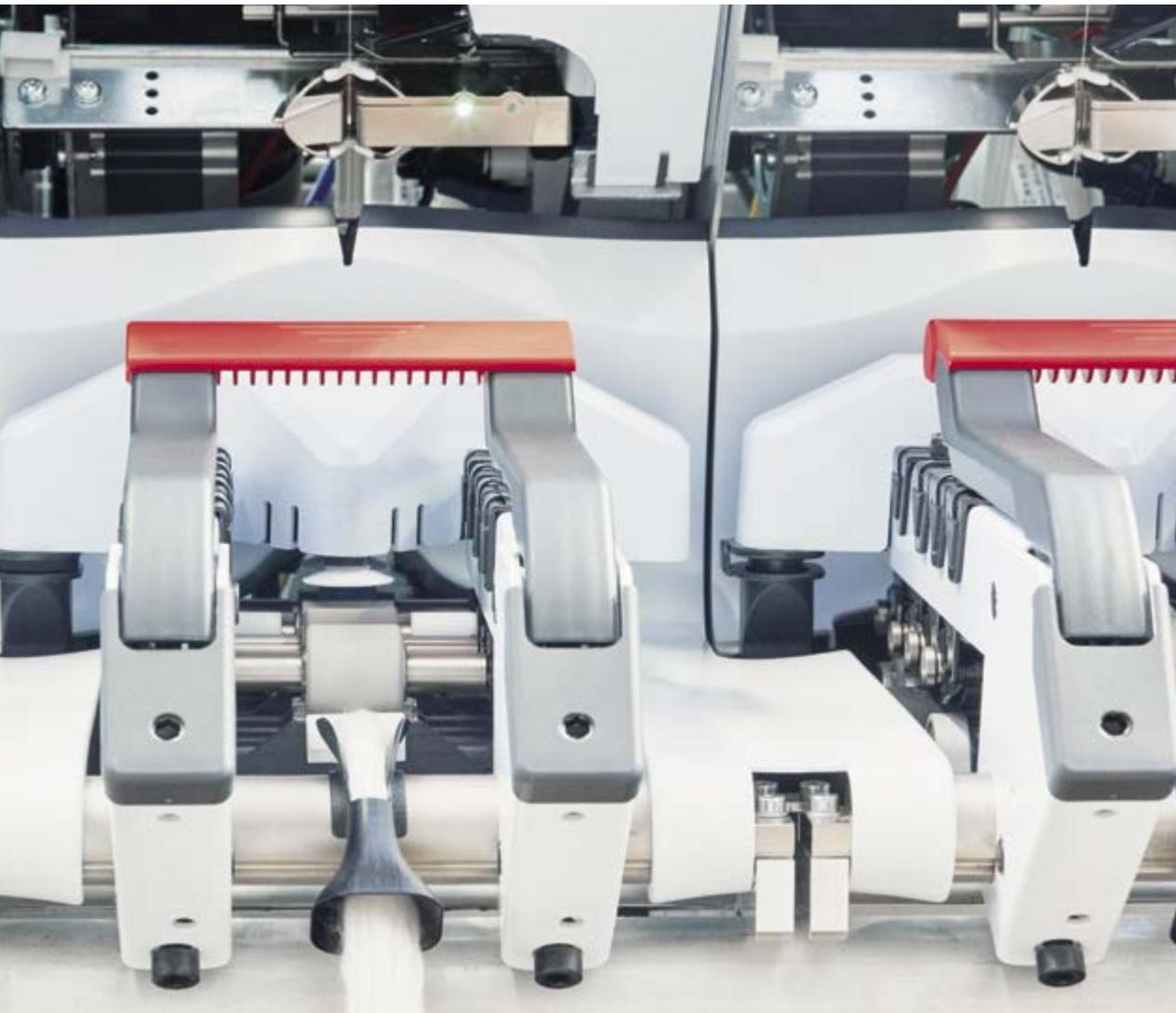
With the Autoairo, Saurer is making an air-spinning machine that offers spinning mills measurably higher efficiency available to its customers. With the Autoairo, they can produce the qualities required by the market more quickly, more cost-effectively and more flexibly. These are decisive competitive advantages in the lucrative market for sought-after air-spun yarns.

2



2

Autoairo with SynchroPiecing or Turbostart - high efficiency is guaranteed.



3  
New high performance drafting unit for Autoairo.

3



#### Autoairo. Think progress.

- Highly profitable air spinning
- Piecing capacity twice as high
- 40% lower space requirement
- 30% faster start-up
- Pioneering automation and digitalisation
- SynchroPiecing 24
- Turbostart
- In-line DigiPiecing
- DigiWinding FX
- Airolab yarn clearer
- MultiLot, simultaneous production of up to 4 lots
- Seamless lot changes
- PilotSpin
- High-quality Belairo yarn



Discover more

# **Autocard and Autodraw extend Saurer's product portfolio**



## Saurer pre-spinning is the foundation of the Zinser and Schlafhorst systems.

1  
**Autocard with brand-new industrial appearance.**

The flexible portfolio offers the right solutions for preparation of all kinds of fibres for the subsequent processes. The right combination of blow room, carding and draw frame ensures excellent fibre utilisation and sliver quality for high efficiency and yarn quality in spinning.

The draw frame is now an integral part of the process chain and therefore optimized regarding productivity, sliver quality, operation and investment.

2  
**Autodraw DL – Double head autolevelling draw frame.**

The new Autocard is developed to create further value in the fibre preparation chain. It enables up to 18% higher productivity while carefully processing the fibres at a carding area larger than 4m<sup>2</sup>. The "seamless can changer" ensures long-term uninterrupted carding processes resulting in constant sliver quality. Since machine's main dimension are unchanged, the productivity per m<sup>2</sup> of occupied floor space is significantly increased. The utilisation of highly efficient drive and control systems enable a considerably reduction in power consumption.

The compact design as well as the front-in/out sliver can changer lead to a very high production per m<sup>2</sup>. The well-known Uster autolevelling system ensures the required sliver quality for a broad variety of natural and manmade fibres as well as their blends.

3  
**Autocard-Prime components.**

Both Autocard and Autodraw are linked to Senses, Saurer's own mill management system. Senses collects and analyses online and off-line process data from fibre to package. Production data from the carding and drawing process are essential for the entire process monitoring since critical deviation need to be revealed as early as possible. In combination with the off-line data from the Autolab equipment, a comprehensive data set can be provided for a continuous monitoring and optimisation of the production process.

4  
**Autocard Micro-short Term Autolevelling system.**

Another highlight is the MTA option, which integrates a sliver autolevelling function directly into the carding process. This option allows to reduce the number of draw frame passages or to eliminate the draw frames, for instance when processing regenerate fibres for rotor spinning or carded fibres for air spinning.

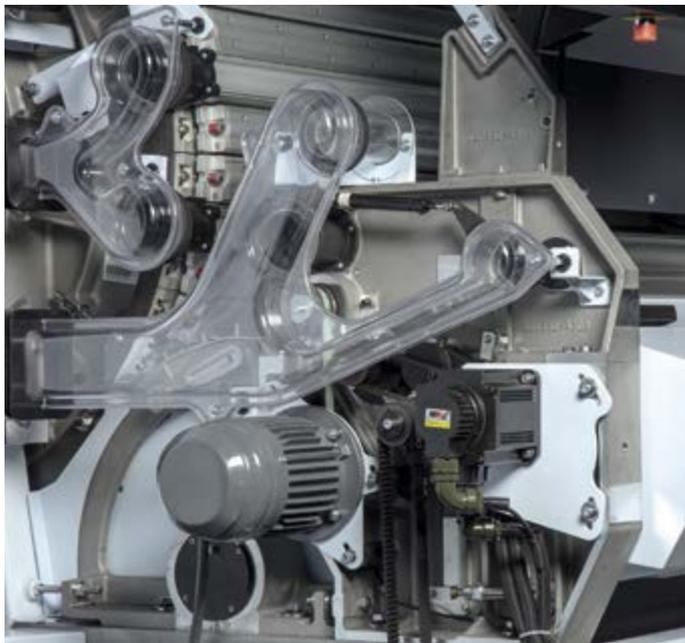
The Saurer pre-spinning line offers an excellently matched preparation for the subsequent processing of sliver to yarn.

5  
**Autodraw DL-Scanning system.**

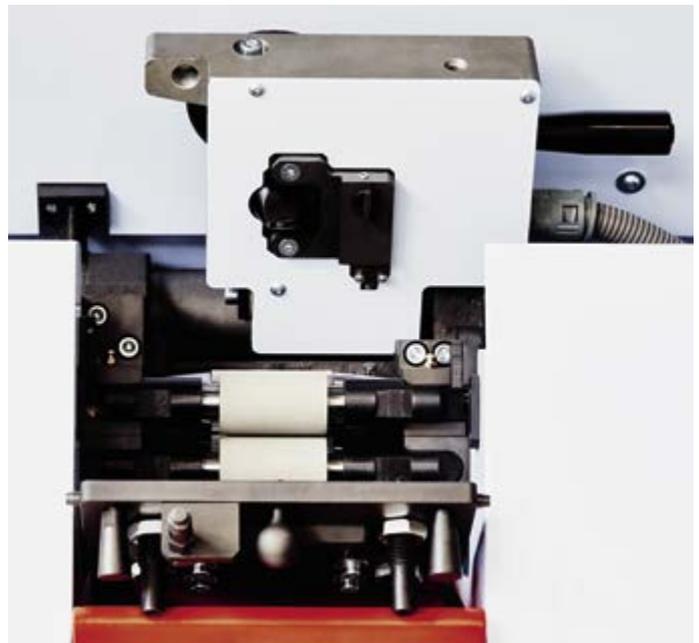
New ergonomic features of the Autocard support the work of the operators. An LED status display shows the can fullness and running status and enables a faster response guiding the operator to the right machine. The new Saurer touchscreen HMI makes more technology parameters transparent, easing the operation of the machine.

6  
**Autodraw DL-Draft system.**

The following process in the value chain of preparation introduces the new Saurer Autodraw. The double-head draw frame is available as breaker- and autoleveling draw frame. It completes Saurer's product portfolio for the processing from fibre to package.



3



4



5



6

### Autocard

- Higher productivity
- Larger carding area
- Seamless can change
- Sliver detecting
- Auto-forming system
- LED display
- Micro Short Term Autolevelling
- Integrated in Senses



Discover  
more

### Autodraw DL

- Economic pre-draw frame and autolevelling draw frame as package line
- Two independently autolevelling heads"
- front-in/out sliver can changer
- Separate control of regulation via touchscreens
- Compact design
- Uster autolevelling system
- Integrated in Senses



Discover  
more

# A smart investment

**The new AutoBD is an innovatively developed rotor-spinning machine that can optionally be fitted with intelligent automation. This is genuine smart thinking.**

1

**AutoBD –  
More productivity  
through flexible  
automation.**

Semi-automatic or fully automatic?

Rotor-spinning mills will no longer have to make this fundamental decision in future. This is because, with the AutoBD, Saurer is bringing a rotor-spinning machine that is based on a new concept and which can be fitted with the automation solutions of the legendary Autocoro, to the market. This solution can also be retrofitted. Spinning mills thus gain more flexibility and can invest more smartly.

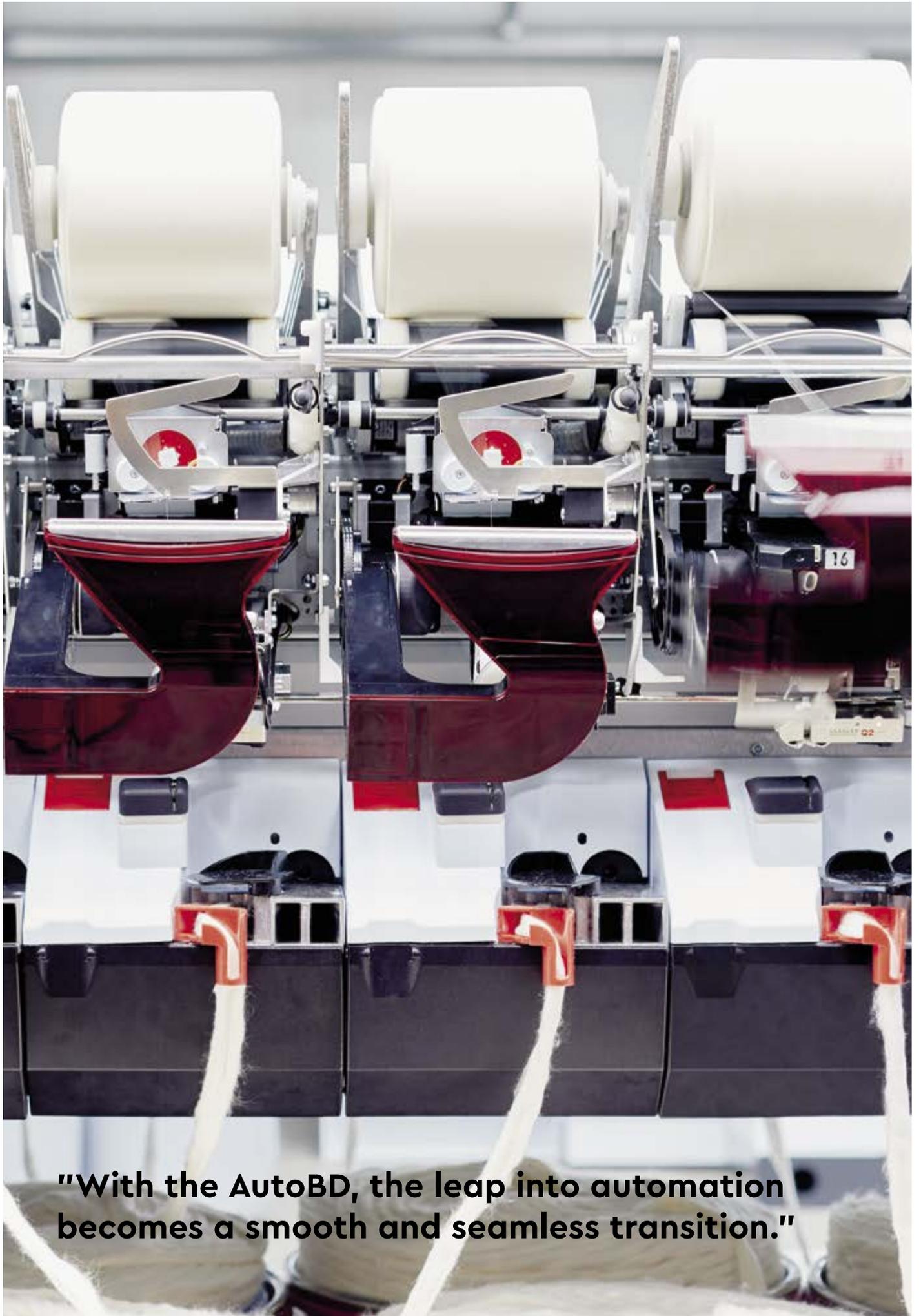
For spinning mills that have been comfortable working with semi-automatic machines for years, the switch to a fully automatic solution such as the Autocoro is associated with high investment costs and the comprehensive reorganisation of their processes. With the AutoBD, the leap into automation becomes a smooth and seamless transition. In addition, thanks to the automation technologies and newly developed rotor bearing, dynamic production speeds can be ensured to meet productivity demands. With the AutoBD, Saurer, the innovation pioneer for automation and digitalisation, is particularly helping companies that must make plans to achieve new competitiveness on the international textile markets despite their decreasing personnel resources.

**SynchroPiecing opens up completely new perspectives**

SynchroPiecing, the piecing automation solution that has been tried and tested millions of times over the past eight years, eliminates human influencing factors during the piecing process. This reduces personnel requirements and ensures completely consistent and incomparably high piecing quality at each individual spinning position. This is because the yarn to be pieced up no longer needs to be prepared by hand.

SynchroPiecing also opens up new perspectives for the selection of raw materials. If piecing can be carried out at numerous spinning positions simultaneously, yarn breaks have less of a negative impact on productivity. The tolerance of raw material quality becomes greater. In order to achieve greater sustainability, spinning mills can, for example, increase the proportion of recycled materials without decreasing productivity and quality.

The technological room for manoeuvre also increases. Thanks to the high piecing-up capacity, softer, less tightly twisted yarns can be spun economically. And in cases where high rotor speeds and take-off speeds previously had to be throttled, with the AutoBD spinning mills can now really go at full tilt.



**"With the AutoBD, the leap into automation becomes a smooth and seamless transition."**



2

3

2

**SynchroPiecing,**  
the pioneer for  
more productivity  
and quality.

3

**Automatic Synchro  
Package Remover** for  
maximum personnel  
independence.

### Ramp-up with Turbostart

Automation also provides for greater speeds during start-up. Turbostart brings the AutoBD up to full speed in less than 15 minutes and ensures outstanding SynchroPiecing quality for piecing up. This ability is advantageous in many situations. For example, if spinning mills have to contend with power cuts, they can restart more quickly, rapidly make up for productivity losses and also achieve perfect piecing with DigiPiecing.

### Synchro Package Remover relieves personnel

The automation of the package removal process relieves personnel from physically strenuous activities. The Synchro Package Remover simultaneously lifts several finished packages automatically and carefully transports them to the conveyor belt. Personnel need only insert empty tubes and wind the yarn.

As all packages always become full with the Synchro Package Remover, the winding together of residual packages is no longer necessary – a significant plus for quality and productivity.

### Lubrication-free, energy-optimised rotor bearing

The AutoBD can optionally be fitted with the new, lubrication-free rotor bearing. With the new rotor bearing, no lubrication is required over its entire lifetime. It is more robust and is therefore designed for higher rotor speeds, and was also optimised as regards energy. As a result, the maintenance effort that needs to be exerted by the operator is dramatically reduced.

### Clearly visible productivity gauge

An LED display at each spinning position provides the operators with information on its status and any interventions that are necessary. The Efficiency Equalizer gauge is located at the front end of the machine, and displays the current efficiency in a clearly visible way. The higher the gauge level, the greater the efficiency.

The AutoBD gives the tried-and-tested, high-performance BD Series, with automation on demand, an unmatched flexibility. Saurer is opening up lucrative economic opportunities for spinning mills, in a smart way without a high level of risk and high investment costs.

#### AutoBD

- More productivity
- DigiPiecing
- SynchroPiecing
- Turbostart
- Synchro Package Remover
- Lubrication-free rotor bearing
- Productivity gauge



Discover  
more

# Clever calculation

**The Saurer Textile Calculator is the app for textile calculations. It is an indispensable tool for daily operations at the spinning mill.**

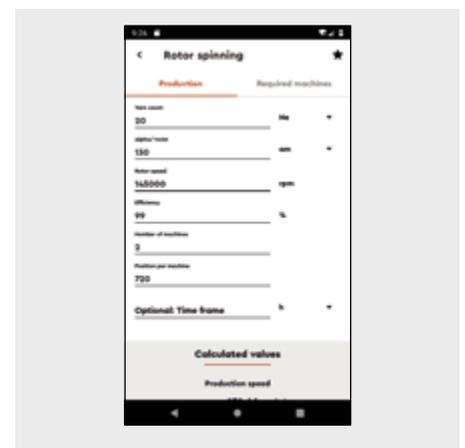
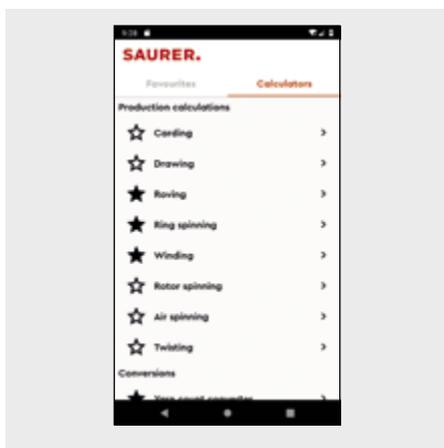
This free app is versatile and easy to operate. It converts textile units in an instant, for example yarn count or yarn twist. In addition, production calculations for the textile process chain can be carried out with the Textile Calculator. Either possible production quantities or required machine capacity can be determined in this way.

The app has all of the calculation units and formulae necessary for this.

The Saurer Textile Calculator provides practical support to managers, production planners, technologists, machine operators and other textile specialists.

The app can be installed for Android from the Google Play Store immediately and free of charge.

1



1

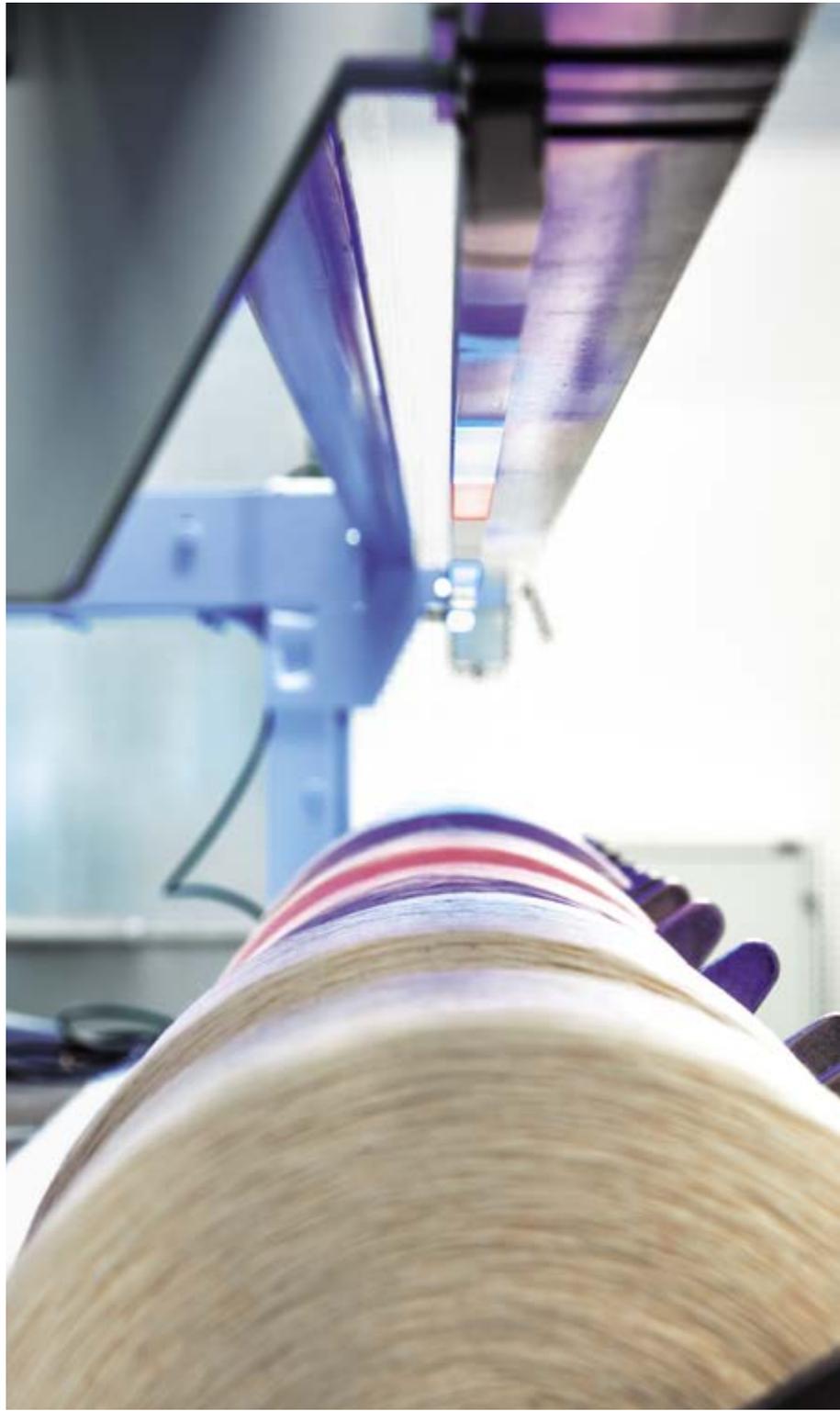
**Clever calculation: the new Saurer Calculator App is a free and practical tool for converting textile units.**

## Saurer Textile Calculator

- Saurer Textile Calculator App as an indispensable tool
- Textile conversions and production conversions available at any time
- Available immediately free of charge in the Android Play Store



Discover more



# The foundation for Industry 4.0

**With the new Autocoro, Saurer is already launching the third generation of its pioneering rotor-spinning technology onto the market. With its advanced automation, it has been perfected for future applications in the digital age.**

"Everyone is talking about Industry 4.0, which although it has not yet arrived in many spinning mills," says Dr Tai Mac, Business Line Director Open-End Spinning, "it is already on the doorstep. With the new Autocoro we have laid the foundation for the digital age in rotor spinning. Its fully digitised automation is the stepping stone to the future."

## **Perfecting the tried and tested**

The new Autocoro is already the third machine generation to be equipped with the revolutionary single spinning position technology. One million installed spinning positions are impressive proof of the superiority of this innovation. With the Autocoro, the way has been cleared for intelligent automation solutions that have proven their effectiveness. The digital piecing automation solution, DigiPiecing, has been installed almost a million times, the digital winding technology, DigiWinding, more than 100 000 times.

When developing the new Autocoro, Saurer engineers therefore concentrated on perfecting what was already tried and tested. "Industry 4.0 will become possible if we can fully trust the automation. That is why we are integrating the intelligent spinning position into comprehensive, perfected automation solutions. In this way, productivity is sustainably increased by optimising logistics processes and consistently eliminating causes of error," says Dr Tai Mac. "This secure platform is where we implement our Industry 4.0 strategy."

## **50% higher piecing capacity**

The desire to utilise the valuable raw material optimally on all quality levels is becoming more and more urgent. The trend towards greater sustainability requires more piecing capacity, especially for long machines. Saurer has therefore increased the piecing capacity of the new Autocoro by 50%: 36 piecing processes can now be carried out simultaneously with SynchroPiecing 36.

## **Automatic faster start-up**

Not every spinning mill requires as much piecing capacity during operation as SynchroPiecing 36 offers. However, shortening the start-up time by having more piecings in the starting phase always increases productivity. With TurboStart, the new Autocoro achieves the desired production speed in less than 10 minutes with any machine length.

## **Higher performance doffer automation**

The Autocoro can be equipped with up to eight doffers (DCUs). In long machines combined with short package running times, such as when spinning coarse yarns, productivity can be increased by up to 5% with eight DCUs.

1

**The new Autocoro with up to 36 simultaneous piecings.**

2

**Intelligent light concept above the spinning position.**

3

**New, flexible spinning box with exchangeable fibre beard supports.**

## "With the new Autocoro, we have laid the foundation for Industry 4.0 in rotor spinning."

25% more doffer capacity – this also simplifies operational planning. Those mills that used to optimise their efficiency with clever machine assignment and by combining fast-running with long-running batches now stand to benefit from the high productivity of the Autocoro with up to eight doffers and no complex planning.

### Automatic sliver piecing-up point

Empty spinning positions waiting for a new sliver to be inserted cannot spin yarn during this time. The new automatic sliver creeling point ensures replenishment without operator intervention. The operating requirements for the can change are drastically reduced.

### Better utilisation of raw materials due to flexible spinning boxes

The new pin box has fibre guide elements that can be easily adapted: the fibre beard support are extended or shortened without tools by simply clipping on or unclipping them. In this way, the cleaning effect can be adapted quickly, flexibly and very precisely to the requirements of the raw material used.

### Signal concept for 3% higher efficiency

The new Autocoro saves personnel long inspection rounds thanks to a clearly understandable signal concept. Coloured LED strips above each spinning position provide a timely warning of empty cans or reduced productivity. Operation becomes more efficient and the efficiency increases by up to 3%.

At each spinning position, a new symbol display with bright colours provides information on machine statuses and faults. When several lots are being produced, different colours signal which lot the spinning position is working on. This means that all information essential for operation is available at every spinning position. This perfect overview of all parameters makes it possible to monitor production with efficient use of personnel and without having to walk long distances.

### Highly efficient cleaning by VTC

Cleaning automation has been noticeably improved by the Vacuum Trash Cleaner (VTC) installed in the middle of the machine. Dust and fibre residues are reliably removed from the machine halfway along its length. Since the VTC thus protects the underside of the spinning box from dust deposits, the improved cleaning process has a positive effect on spinning stability – especially with long machines and when the waste content in the raw material is high.

### Industry 4.0 and self-optimising production

With its ground-breaking automation and intelligent digitisation, the new Autocoro opens up new perspectives for rotor spinning. Fascinating targets are coming within reach: Industry 4.0 and self-optimising production.

#### Think ahead. Autocoro

- Industry 4.0-ready through digitised automation
- Higher piecing capacity through SynchroPiecing 36 and TurboStart
- Automatic sliver piecing-up point
- Up to 8 doffers
- Efficient personnel deployment thanks to innovative light concept and new symbol display
- Spinning box with adjustable fibre fringe supports
- Improved cleaning automation by VTC



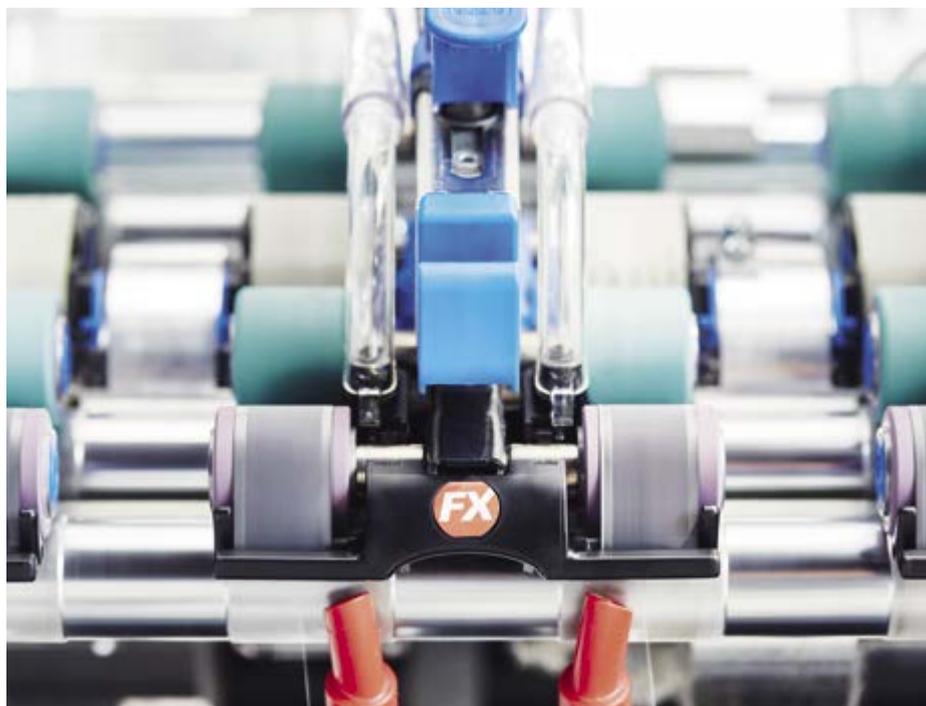
Discover more

# Z 72XL: The platform for modular solutions



## The Z 72XL modular machine platform can be flexibly configured for all short-staple applications.

2



1

**Z 72XL modular machine platform for enhanced application flexibility.**

2

**New Impact FX pro compact unit for fine yarns.**

3

**New underwinding-free doffing with Texparts Spinnfinity.**

4

**Individual spindle monitoring (ISM) for maximum machine efficiency.**

At ITMA 2019, Saurer will be presenting a ring-spinning machine platform with extended flexibility for machines with up to 2 016 spinning positions. It serves as a universally configurable basis for offering customers from all markets a tailor-made and highly efficient solution specifically optimised for their applications. The concept simplifies any investment project, both for the replacement of spinning machines and for the construction of new spinning mills.

The machine platform is available as ZR 72XL for conventional ring spinning or as ZI 72XL for compact spinning. The customer has the choice between a mechanical and an electronically controlled drafting system. Almost all options such as the OptiSuction and TwinSuction energy-saving modules are available for both drafting systems.

With the Z 72XL, ring yarns, compact yarns, fancy yarns, core yarns, SiroSpun yarns and DuoCore yarns can be produced more efficiently and economically than ever before.

The new machines are making Saurer's customers even more competitive and their products always stand out from the rest: from coarse denim yarn to the finest compact yarn for high-quality shirt fabrics.

### **Second compact unit to choose from**

In addition to the proven Impact FX, the new Impact FX pro provides customers with a second compact unit. Saurer recommends the self-cleaning Impact FX for coarser yarns in the fineness range up to Ne 40. The new Impact FX pro, on the other hand, is used in the fine yarn count range and produces impressively compact yarns with reduced hairiness, fewer imperfections, higher strength and optimum evenness.

With Impact FX pro, the fibres are guided with a mesh apron over an inclined slot where the negative pressure is applied. Both systems have their own controlled vacuum unit for full compact power and excellent yarn values.

### **Encapsulated, low-maintenance drafting system drive**

The new electronically controlled DraftBox drafting system drive makes yarn production simpler and more efficient. Its gear unit is completely encapsulated and cleaning and lubrication of the gears is no longer necessary. Since the pre-draft and total draft are set via EasySpin, there is no need to replace gears when changing batches. Therefore no gear sets have to be stored any more.

The workload for the personnel is reduced and lot changes are accelerated. Overall, DraftBox

## "That means more efficiency for everyone."

3



increases production efficiency, as modern control sensors ensure constant yarn quality and extremely low yarn break rates.

### Optimised for high-speed spinning

Every single element of the Z 72XL is tuned for speed. The 110 kW main drive accelerates the 2 016 smooth running CS 1S high-performance spindles from Texparts to 26 000 rpm. The new Texparts ring and the new Zero Underwinding Spinnfinity with its low moment of inertia support spinning at high speeds.

The intelligent OptiSpeed speed maximisation system automatically and independently determines the optimum speed at the technological spinning limit together with the integrated individual spindle monitoring (ISM) according to a specified yarn break limit, thus ensuring maximum efficiency.

Nowadays, modern spinning mills face individual challenges depending on their market and its requirements.

The modularity of the Z 72XL promises a high degree of flexibility for the machine specification and thus boosts efficiency in every application. It thus proves to be a forward-looking solution platform for the entire short-staple spinning mill.

4



### Be modular. ZR 72XL/ZI 72XL

- Modular machine concept for maximum flexibility
- Up to 2 016 spinning positions with 26 000 rpm for maximum productivity
- New compact Impact FX pro system for high-quality yarns
- DraftBox, the encapsulated electronic drafting system drive, for the shortest batch change times
- Intelligent speed maximisation with OptiSpeed for high efficiency



Discover more

# Autoconer – Be original.

**The Autoconer is celebrating its anniversary: 60 years! It is the original and has become synonymous with automatic package winding. Its innovations pave the way for the success of our customers.**

1  
**The Autoconer – 60 years of success in the market.**

The Autoconer presents creative solutions and innovations in automation, digitalisation and in winding and splicing technology. They increase profitability and flexibility for investments in spinning technology, and improve the quality of the cross-wound package, bringing efficiency to the further steps in the textile process chain.

2  
**Energy-saving potential with different MultiLink installations.**

#### **MultiLink: flexible, space-saving spinning mill layouts**

Up to four ring-spinning machines can be linked to one Autoconer via MultiLink. This makes automation possible in situations where it was previously not economical. This applies, for example, to conditions where space is cramped or limited, typical of the replacement segment. Spinning mill layouts with relatively small machine spacings, e.g. from 1.80 m distance centre to centre of the ring-spinning machines, are possible. Thanks to MultiLink, spinning mills that still work manually today can now also be economically automated. This is because assigning up to four ring-spinning machines also enables a profitable combination with shorter spinning machines. MultiLink can be implemented as a direct or underfloor link. Since the interface

and the positioning of the machines are variable, there is a high degree of flexibility in the design of the spinning mill layout.

#### **MultiLink: Investment costs are reduced by up to 15% – Energy costs are reduced by up to 20%**

The flexibility and the small space requirement also open up economic perspectives in the construction of new spinning mills, especially if they are designed for small lot sizes. The maximum possible throughput rates are decisive for the design of such linked systems, and here the Autoconer has a unique advantage: the patented optical infrared tube inspector. It allows throughput rates of up to 100 tubes per minute. Therefore, more ring-spinning positions can be assigned to an Autoconer than to other winding machines. Overall, investment costs are reduced by up to 15%, as the costs for one-off units can be spread over more winding units. Since energy consumption, for example in suction systems or machine cleaning, only occurs once instead of 2-4 times, MultiLink saves up to 20% on energy costs compared to conventionally linked solutions, depending on the configuration.

3  
**Flexible layout design for MultiLink installations.**

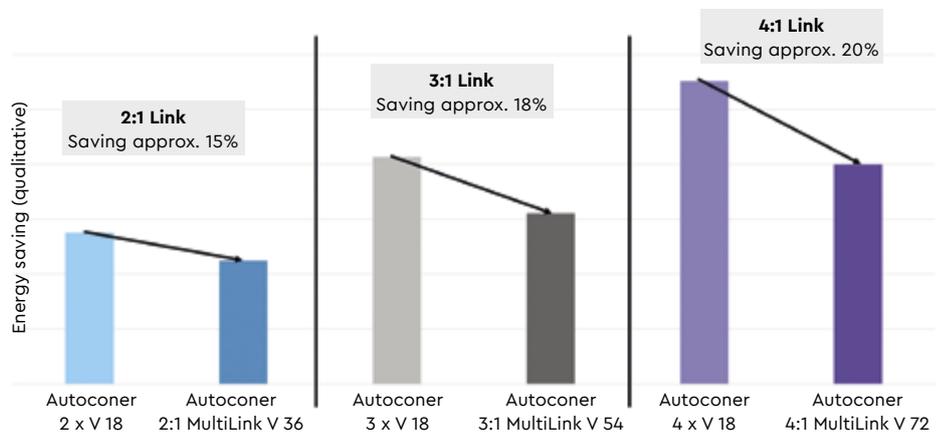


**MultiLink: Guaranteed quality monitoring with SPID**

The guaranteed and patented online quality control offers additional benefits in the Saurer solution thanks to integrated SPID (Spindle Identification System). This allows the yarn quality to be monitored at each individual ring-spinning position, even when an Autoconer is flexibly linked to up to four ring-spinning machines.

**2**

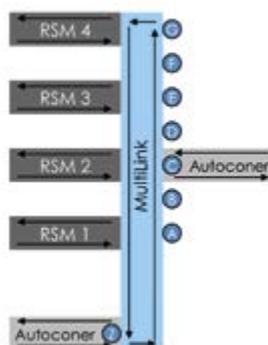
**Comparison of possible energy savings thanks to MultiLink**



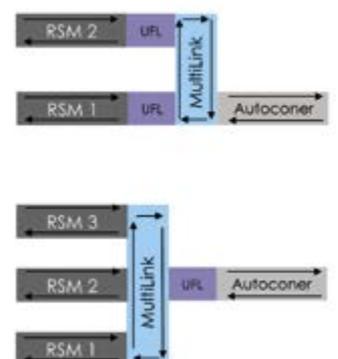
**3**

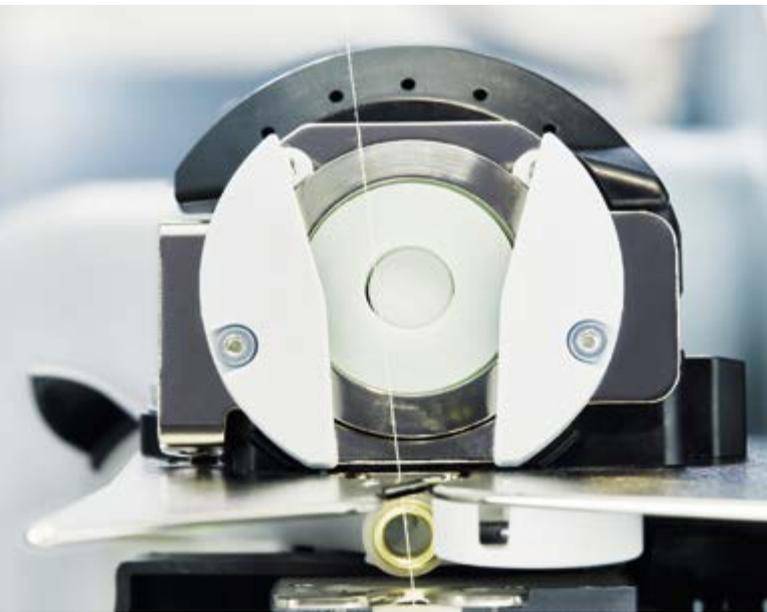
**Examples for MultiLink**

Examples of MultiLink installations with direct link (A-Z possible positions)



Examples of MultiLink installations with underfloor link





4

#### **SPID in Senses, the mill management system: long-term analyses and immediate measures**

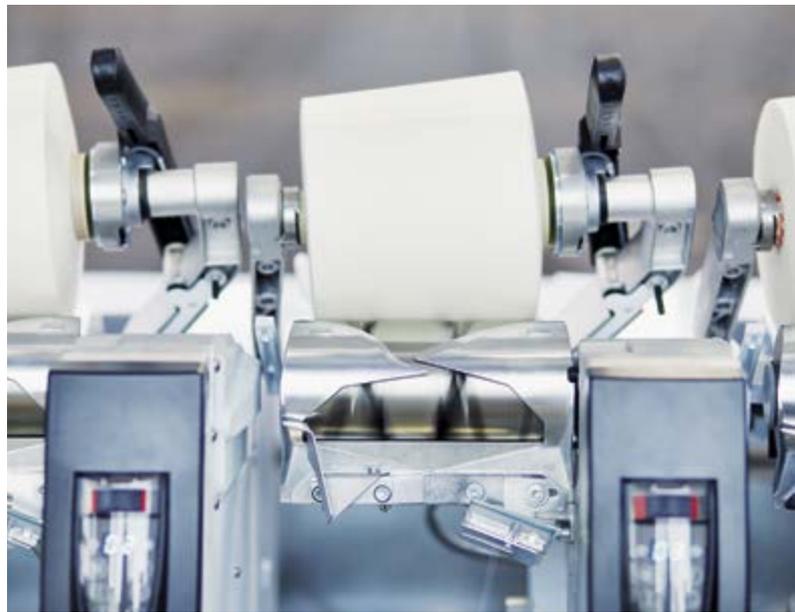
In linked systems, the data from the Online Spindle Identification System can be fed into the Saurer mill management system via the optional Senses Element SPID for further evaluation. Senses bundles the production, quality and machine data and prepares it for long-term analyses. Thanks to online data transmission, immediate measures can also be initiated by the operating personnel in the event of quality infringements. Meaningful reports with data visualised in the form of graphics and tables help management to increase profitability in a targeted manner and to push ahead with the digitalisation of quality monitoring in the spinning mill.

8



8

**Installation of a MultiLink system in the customer's mill.**



5

#### **Innovations in winding technology**

Thanks to its universal design, the new waxing device does not need any hardware variants. Manual settings are no longer necessary, and neither are configurations on the Informator. This makes the waxing device much easier to handle. Waxing takes place in the optimum range of the friction coefficient curves for the respective yarns, with low paraffin consumption. This results in less soiling and thus a reduced amount of cleaning is needed.

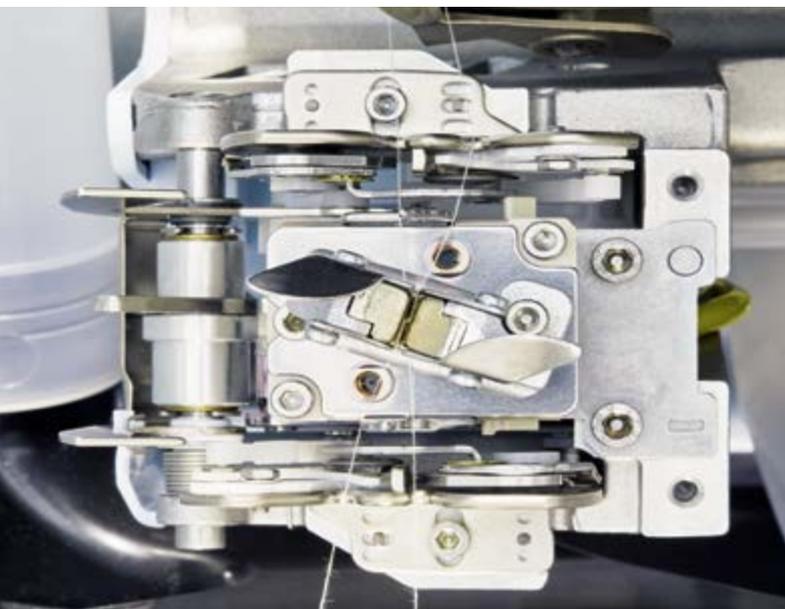
New developments in the field of yarn guide drums promise greater customer benefits in various areas. For processing highly abrasive PET recycling yarns, the new drums with their special coating achieve a convincingly long service life

4

**New waxing device in universal design for easy handling.**

5

**New drum for larger package capacity, delivering logistical advantages.**



6



7

despite the extreme loadings. A new addition to the portfolio is a drum with a larger traverse width: it guarantees a higher package content with the same diameter for logistical advantages. In addition, new approaches with regard to material/drive design of the drums, depending on the winding parameters and package format, will offer noticeable potential for productivity increases in the future.

**Splicing technology innovations for higher splicing quality**

Saurer splicing technology promises numerous innovations in the coming years. The new, open prism is only a foretaste of the improved splicing quality and simplified operation. A wide range of applications for the splicing of cotton yarns is

covered, in the fineness range from Ne 20 to Ne 120. With the prism, the spliced joints are shorter and less visually conspicuous. The splicing strength is on average higher than before. With the same yarn feed and the same winding and splicing parameters, the variations in splicing quality are significantly lower. This effect is confirmed by Classimat tests, both in comparison with the Autoconer splicing components used to date and with competing applications.

6  
**New prism for improved spliced joints.**

7  
**Optically inconspicuous – the spliced joints deliver convincing results.**

**Autoconer – Be original.**

- Flexible, space-saving spinning mill layouts with new MultiLink
- Digitisation of quality monitoring in the spinning mill thanks to SPID and Senses
- Waxing with simplified handling
- Splicing technology innovations for higher splicing quality



 Discover more

# New: CarpetCabler/ CarpetTwister 1.10

## Flexibility meets longevity

With its E<sup>3</sup> initiative, Saurer is consistently improving customer benefits. The new machine series of the CarpetCabler/CarpetTwister 1.10 offers numerous improvements in the areas of energy, economics and ergonomics.

### Energy optimisation

The drive power of the machine can be adjusted in fine steps to match the materials being processed. Suitable cooling systems for the drive units ensure high operational reliability even under extreme climatic conditions.

### Ergonomics, productivity and quality solutions in harmony

Easy operation increases both operational reliability and efficiency. This means that the twisting position can be loaded quickly and easily, as the operator has easy access to the spindle. The flexible height adjustment

of the new creel with ergonomically optimised loading height provides additional clearance.

Central settings, such as the roller thread brake of the creel yarn and the height of the balloon thread guide can be stored in the recipe management system. All quality factors can be reproducibly called up and set.

The CarpetCabler/CarpetTwister 1.10 permanently monitors important yarn and production parameters. Performance data as well as target and actual values are displayed in real time, controlled by sensors. This enables the operating personnel to intervene in good time.

Senses, the innovative mill management system, takes the evaluation of your key production figures to a new

level. Monitoring and the transparency of the production process opens up new potential for optimisation.

### Automation for success – Focus on material transport

As a solution provider, we keep an eye on the logistics environment and offer individual automation solutions for the material flow of your entire production plant. We offer you tailor-made solutions to master the requirements of a dynamic market.

The new CarpetCabler/CarpetTwister 1.10  
is a winner!



### Carpet:

- Innovative control
- Central settings
- Sensor monitoring
- Automation
- Senses, the mill management system



Discover  
more

# CableCorder success story

## The CableCorder CC5 is a winning further development.

Saurer can celebrate the 30th anniversary of its CableCorder with impressive figures. With more than 1 900 CableCorders sold, around 270 000 spindles have been put into operation in the last 30 years. The CableCorder for production of high-quality tire cord is a permanent fixture in the tire industry. The fifth generation of the CableCorder will appeal to customers with numerous innovations. It provides Saurer's customers with decisive competitive advantages: they benefit from higher efficiency, lower energy consumption, a smart spindle concept, modern quality monitoring, improved ergonomics, flexible automation solutions and the integration of the CableCorder into Senses, the Saurer mill management system.

### Energy, productivity, quality

Saurer has further improved the patented energy-saving technology of the latest machine generation with new hardware and optimised software. The CableCorder CC5 is therefore more economical than ever.

The optimised thread balloon diameter and reduced spindle gauge cut down space requirements and increase productivity.

Online monitoring of the quality parameters reliably ensures the required quality of the tire cord.

### User-friendly and intelligently automated

New machine components and an optimum thread path enable extremely straightforward operation and process reliability. Intelligent automation solutions increase the efficiency of package transport.

In addition to the basic CC5 version, the new CableCorder is also available in the CC5-TFO version for production of yarns in the two-for-one twisting process and as the CC5-3PLY version for production of symmetrical 3-ply tire cord.



**CableCorder CC5 for production of high-quality tire cord.**

### CableCorder CC5:

- Reduced spindle gauge due to optimised thread balloon diameter
- Further energy savings due to adapted spindle pot geometry
- Sensor-based control system for compliance with quality parameters
- Senses, the mill management system, for monitoring and evaluating production data
- Servo-assisted creel, new thread guide elements and new Cord Regulator for greater user-friendliness
- CC5-TFO variant for production of yarns in the two-for-one twisting process and CC5-3PLY variant for production of symmetrical triple tire cord



Discover  
more

# The CompactTwister sets new standards

## Nearly 5 million installed spindles attest to its leading position.

The CompactTwister flexibly processes an extremely wide variety of materials and feed formats. Countless innovations have continuously increased efficiency and productivity. With the new machine generation, Saurer is focusing on automation and yarn quality.

### Sensory production monitoring

For example, quality-relevant parameters are monitored by sensors during production. Intelligent evaluation algorithms enable the quality of the twisting process to be optimised. The collected data can also be fed into Senses, the new digital mill management system. It makes the value-added processes in the entire

spinning mill transparent and unlocks the door to previously unknown optimisation potential.

### Ball thread brake that is kind to the yarn

Gentle processing of the yarn in the spindle area is a decisive factor for twisting quality. In addition to the high-quality thread-guiding elements, the ball thread brake of the CompactTwister plays a central role here: it is coated with a low-wear ceramic, covers a very large adjustment range and, at the same time, ensures it higher availability of the machine because long changeover times are eliminated.

### Coil quality and material flow solutions

A second important criterion in addition to the twisting quality is the structure of the cross-wound package. The servo traversing of the CompactTwister produces high-quality twisted cross-wound packages in the desired density and with a perfect edge shape.

The CompactTwister can be integrated into innovative material flow solutions. Automation units, such as the travelling cleaner, significantly reduce personnel costs.

CompactTwister sets new standards again.



### Compact:

- Ball thread brake that is kind to the yarn
- Servo traversing
- Automation
- Senses, the mill management system



Discover more

# Spinnfinity Zero Underwinding

**With Spinnfinity, Saurer is the first manufacturer to bring dirt-resistant Zero Underwinding to the market.**

Texparts has developed a new, innovative solution for its Zero Underwinding, which is resistant to dust and also reduces energy consumption.

Increasing automation in spinning mills places ever greater demands on all components. Spinnfinity scores well in this context, both as regards function and through the reduction of yarn waste. With traditional ball guides, even the smallest deposits of dust increase the static frictional resistance to such an extent that functioning is disrupted. These systems were therefore thoroughly sealed, but still had to be frequently serviced.

**Spinnfinity – the new machine-independent Zero Underwinding system from Texparts.**

The new Spinnfinity function switches at the corresponding speeds and thus implements opening and closing of the Zero Underwinding. Dust accumulation can no longer negatively affect the trigger function.

#### **Energy saving through weight reduction**

Spinnfinity only requires simple encapsulation, and due to this design it is the lightest solution on the market. The inertia moment of the spindles is reduced, which leads to energy savings.

#### **Additional function: practical cleaning position**

As part of regular machine cleaning, Spinnfinity can be opened further and fixed in this cleaning position. This means that personnel can have both hands free to quickly and carefully clean the spindle and surrounding areas.

Dirt-resistant, durable and light-weight – these are the qualities that mean Spinnfinity reduces costs, increases productivity and improves benefits to the customer.



#### **Zero Underwinding with spring function**

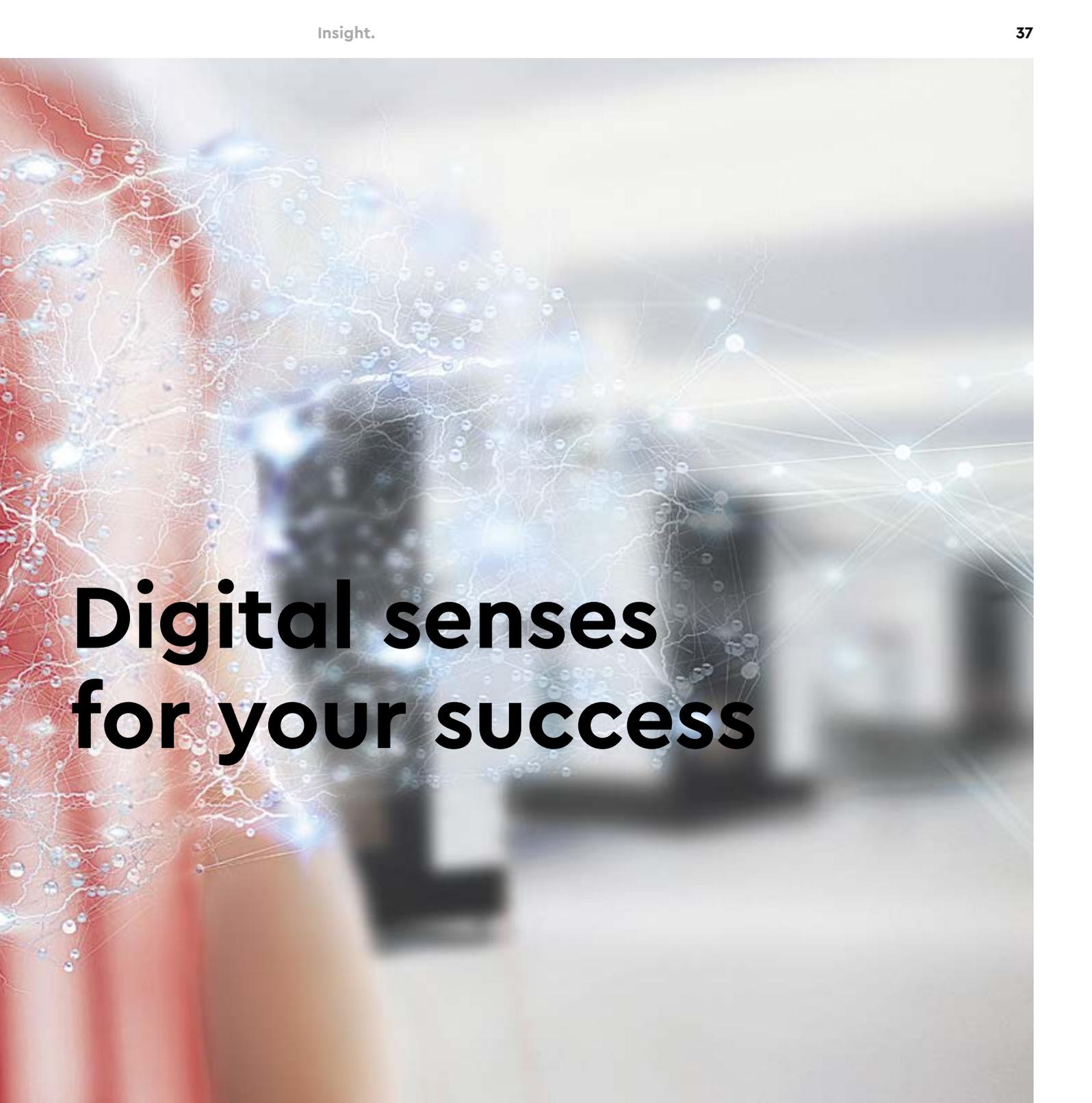
- Suitable for all standard tube lengths
- For yarn counts from Ne 7 to Ne 150
- For spindle types CS1, CS1s, CS 1 12, CS 21 12\*  
(\* only for Zinser spindles, depending on tube format)
- Opening speed: 7 300 rpm
- Closing speed: 2 500 rpm



Discover more



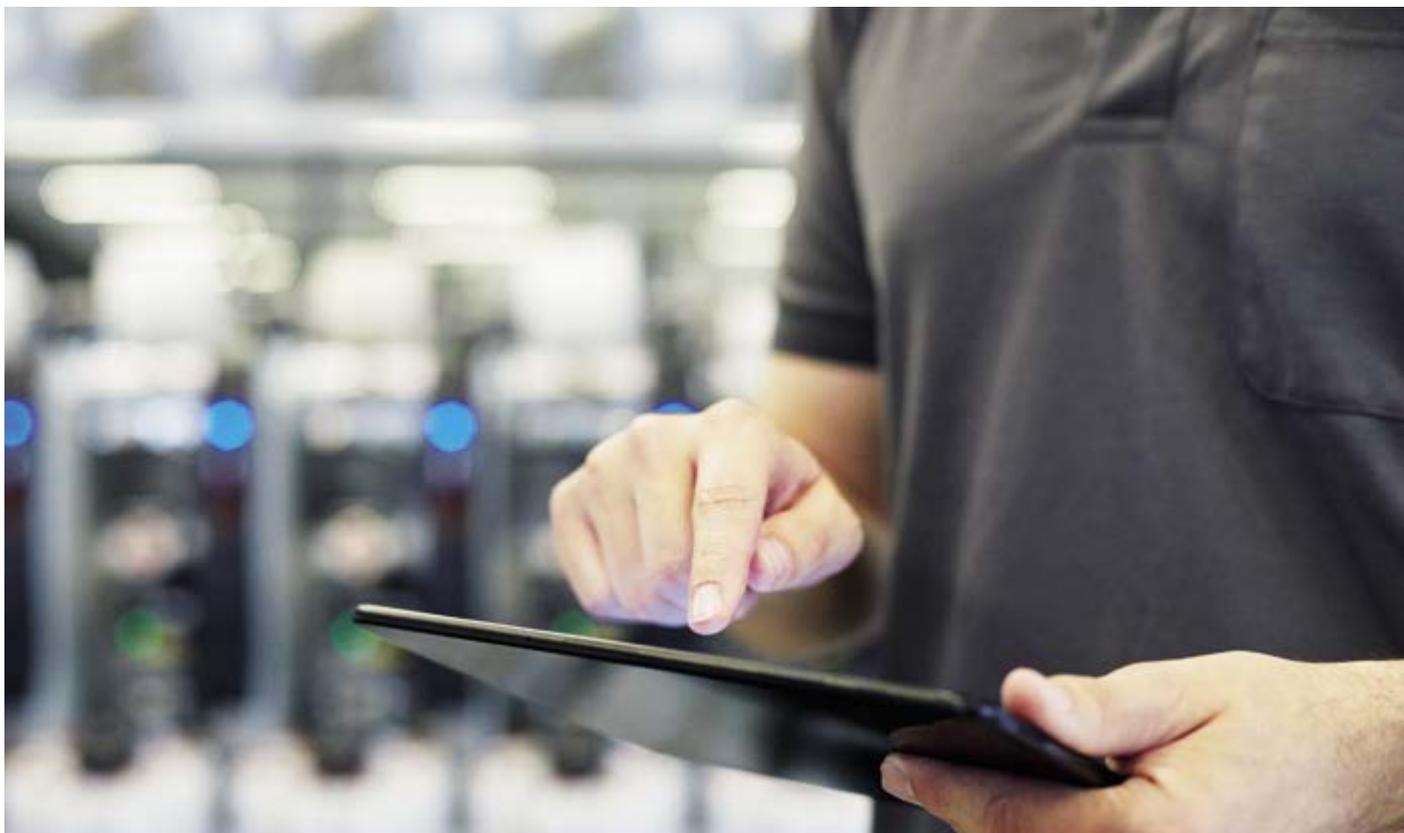
**The Senses mill management system provides textile companies with digital senses – full transparency for lightning-fast reactions and greater returns.**



# Digital senses for your success

The Senses mill management system collects, aggregates and analyses the production, quality and performance data of your spinning mill across different areas. Senses uses sophisticated algorithms to make textile value creation processes in the company transparent from the fibre to the yarn and provides operational management, executive management and machine operators with valid data in order to deploy raw materials, processed materials, time, staff, energy and capital efficiently and profitably.

"There is a multitude of data in textile production: production figures, measurement values for quality, performance indicators for machines and data on personnel deployment," says Michael Nikolic, the Product Manager responsible for Senses. "Senses uses this data to create a valuable resource. The software equips companies with digital senses and helps them to increase their profitability intelligently and with a view to the future."



1

The mill management system works with standardised interfaces so that it can record data from machines from all manufacturers.

**Customer-oriented price model and a high level of data security**

The price model for Senses is flexible and customer-focused. It can be used with a one-time purchase or annual licences. A high level of data security can be gained by installing Senses

## "Increase your productivity with digital senses."

locally on your own server. You can thus enjoy the full control of and be assured of the safety of your data, as it is stored securely on your system and not in the cloud.

**Order Elements in the Software Shop**

The mill management system has a modular design which saves on costs for textile companies, as they can order only the Senses Elements that they really need in the Software Shop. This modularity means that Senses can be flexibly expanded. The system can therefore be adjusted to future requirements without problems.

The software solution from Saurer does not require a large investment. The company starts with the Elements that it needs most urgently at the beginning. If the need for agile control and data-based management grows, further Senses Elements can be ordered at any time. The licence terms, at one year, are conveniently short for customers. For Elements that are no longer required, the company simply lets the licence expire. Temporary interruption of usage is also possible without problems. If the licence ends, all data is frozen and is available again immediately following a later licence extension.

**Senses Workforce**

With the Senses Workforce Element, textile companies can effectively minimise their personnel deployment. They can conveniently and quickly specify the personnel required per machine and shift and can optimise this in a targeted way. The system automatically informs the employees at which time and in which location they will be required to work.

Comprehensive analysis options make personnel deployment transparent. Senses determines key figures for production performance, yarn break rate, doffer performance or many other process steps and parameters. The production performance and quality standard of individual operators can be traced and forecast for operational planning.

**Senses Maintenance**

With the Senses Maintenance Element, you can digitalise the maintenance process for your machines. In doing so, not only Saurer machines, but also machines from third-party providers can be managed.

Senses Maintenance structures and simplifies all maintenance processes and increases their efficiency. Maintenance plans, instructions and checklists are clearly visible to technicians on mobile devices directly in front of the machines. A practical ticket system for mechanics and a digital log book increase the quality and traceability of maintenance processes. Meaningful KPIs make maintenance efficiency transparent so that it can be increased in a targeted way.

Senses Maintenance is the prerequisite for preventive maintenance and thereby helps to increase machine availability. In addition to Senses Maintenance, there is also a solution for customers without machine networking to optimise their maintenance.

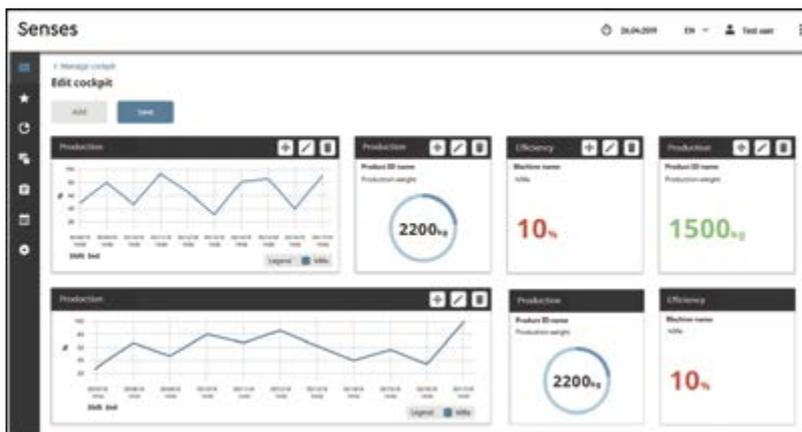
**The future is data-driven**

Saurer software makes intelligent and data-driven mill management possible. Given the increasing complexity of operational processes, more transparency has become a decisive factor for success. Senses sustainably increases competitiveness by incorporating large quantities of data into value creation, creating transparency and developing foundations on which to make decisions. The efficiency of all processes is increased and previously unknown opportunities for optimisation can be identified.

The development of Senses continues. Saurer is continuously developing more Elements in close cooperation with its customers and the textile industry, and releases them in the Software Shop.



2



3

- 1 **Digitalise your maintenance processes with the Senses Maintenance Element.**
- 2 **The Senses Workforce Element ensures optimisation of your personnel planning.**
- 3 **The customisable Senses Cockpit shows you all of the KPIs that are important for you at a glance.**

**Senses – Sensibly connected.**

- Modular mill management with Senses Elements
- Manufacturer-independent, works across areas and locations
- Senses Software Shop
- Maintenance Element
- Workforce Element



Discover more

**Senses – Sensibly connected.**  
 - Modular mill management with Senses Elements  
 - Manufacturer-independent, works across areas and locations  
 - Senses Software Shop  
 - Maintenance Element  
 - Workforce Element  
 Discover more

# Secos 2.0 becomes an active service assistant

**The latest version of Secos 2.0 contains numerous improvements and innovative assistance functions: Photo catalogues of the most common wear parts in the e-shop, an automatic display of all machine-related customer data and simple order tracking.**

The Secos 2.0 customer portal is an important element of Sun – Service Unlimited. The new version of Secos 2.0, which was launched at ITMA 2019 in Barcelona, contains numerous improvements and innovative functions, for example:

**Practical: all information at a glance**

Secos makes every customer's personal customer data available to them in the Portal and automatically loads a customer-specific overview of all of their installed Saurer machines, including manuals, original spare parts catalogues, updates and upgrades and current offers. This saves an enormous amount of time! In addition, each customer sees their order history with all commercial transactions going back five years. This facilitates convenient order management.

**Finding instead of searching**

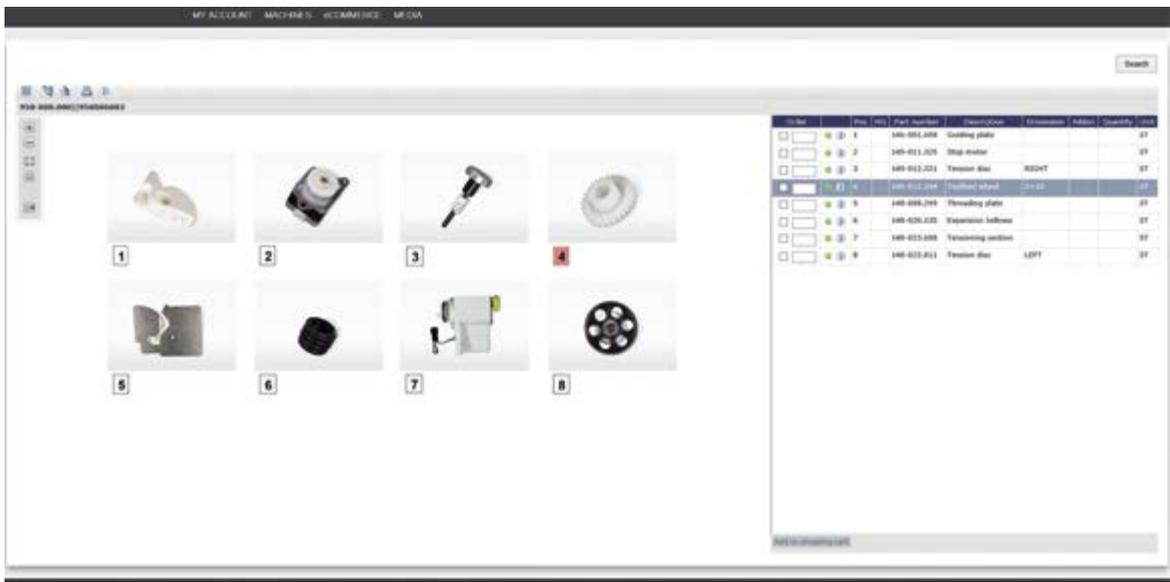
With an innovative assistance function, Secos 2.0 replaces the search for the right original spare part with quick finding: the customer can very easily upload a photo of the required machine

part. Saurer identifies the item, sends the customer an offer with all necessary information and delivers the correct original part at the click of a button. In lieu of a photo, other data can also be uploaded that can help identify an unknown original part or provide a response to queries.

Clearly laid-out photo catalogues with the most common wear parts for each machine type can be called up through direct links, so that frequently required parts can be ordered directly without lengthy searches. Secos 2.0 presents all customer-specific original parts with current prices and the relevant availability status in a complete original parts catalogue for the machinery park.

**Assistance function saves time during day-to-day business**

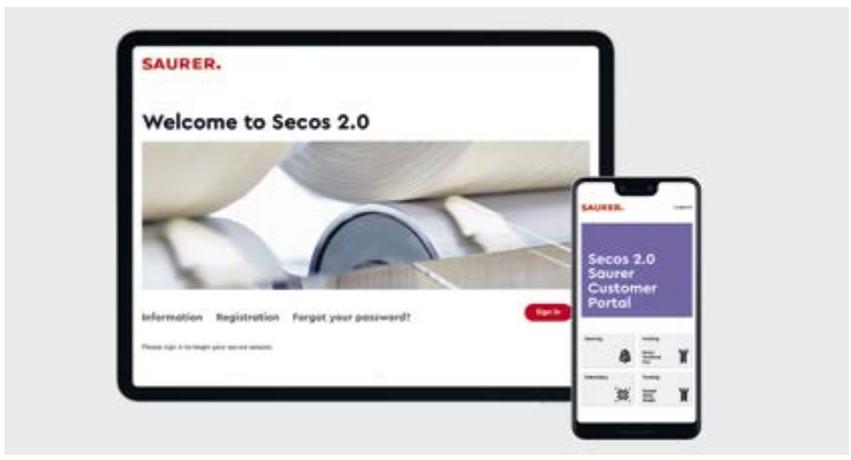
Secos 2.0 helps get the greatest possible value creation out of Saurer machines, for example through faster procurement of original parts in



1  
**Finding instead of searching:** photo catalogues illustrated with the most common wear parts for frequently required parts without lengthy searches.

2  
**Be informed.** Secos – Saurer Customer Portal.

1



**"Photograph an original part, upload it and Saurer will find it for you."**

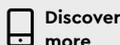
2

the online shop. Photo uploads make the quick identification of the required original part possible. All machine-related manuals and technical documentation are already available in the customer account: for quick reference regarding questions around operation and maintenance.

**Be informed.**  
**Secos – Saurer Customer Portal**

The modular Secos 2.0 customer portal packages all important information about the customer's machinery park as well as the services available.

- Order Saurer original parts quickly through the Secos e-shop. The most common wear parts for each machine type can now be found more easily with photo catalogues.
- Find instead of searching: all your data, all your machines, all your original parts at a glance
- Convenient order management with order history going back 5 years
- Quick finder functions with one-click buttons for favourites and current Saurer offers

# Flexible, fast, Fancy. Upgrade for Autocoro

**The Fancynation upgrade offers limitless creativity in fancy yarn production: quick, highly flexible and reasonably priced.**

Saurer makes it possible for its Autocoro customers to participate in profitable fancy yarn production in a particularly cost-effective way with the Fancynation upgrade.

**"Fancy is on trend: 75% more exhibitors in the fancy yarn sector at the Yarn Expo Spring 2019 in Shanghai."**

Fancynation can now be retrofitted onto Autocoro 8 and 9 machines with MultiLot section by section. This reduces investment and retrofitting costs dramatically and shortens

the time until a return on investment is achieved. Commodities spinning mills can therefore quickly profit from current trends in the fashion world.

#### **Flexible utilisation planning**

With Fancynation and MultiLot, up to five different fancy yarns or fancy and smooth yarns can be spun simultaneously on one machine.

#### **Lucrative design freedom**

Fancynation allows for limitless creativity and makes mass increases of up to 800% possible. With these varied design options, rotor-spinning mills can create impressive effects in the shortest possible time and retrieve them so that they can be reproduced at any time. The yarn designs can be saved to the effect library.

At the same time, spinning mills profit from fast set-up times, maximum flexibility and the highest level of production reliability. Thanks to unhindered take-off speeds of up to 300 m/min, fancy yarns can be produced especially economically on the Autocoro 8 and 9 – for maximum returns.

1

With the innovative FancyDesigner software you can create impressive effects, which can be reproduced at any time thanks to the effect library, in the shortest time.

2

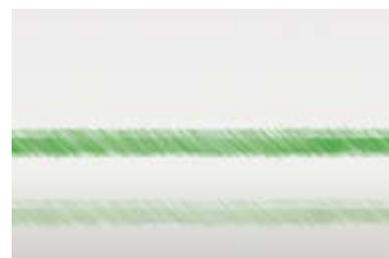
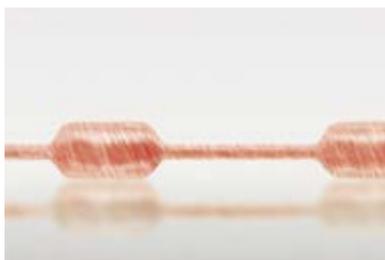
Examples for fancy yarns. It is possible to spin up to 5 different fancy yarns simultaneously, or fancy yarns and smooth yarns in parallel, on one machine.

Source quote:  
TexData Info Letter  
No. 9 – 2019.

1



2



**For sections with 24 spinning positions**

The Fancynation upgrade can be retrofitted section by section for 24 spinning positions each. The FancyDesigner design software can be downloaded via Secos 2.0.

The section-by-section upgrade is available for all Autocoro 8 and 9 machines.

The upgrade for the Autocoro 480, 360 and 312 is available only as a complete solution for the entire machine.

**Individual usage time with Fancy1000 or Fancy8000**

New: for experimentation or for the individualists among Autocoro 8 and 9 customers, there is an option to purchase Fancynation for the desired usage time only. With the Fancy1000 and Fancy8000 options, spinning mills can retrofit the Fancynation upgrade for 1 000 hours or 8 000 hours of usage time per 24 spinning positions. For Fancynation whenever and however long it is needed.

**Fancynation Upgrade für Autocoro 8 und 9**

- Flexible: with Fancynation and MultiLot, up to 5 different fancy yarns or fancy and smooth yarns can be spun simultaneously on one machine
- Cost-effective: can be retrofitted in sections (24 spinning positions each)
- Tests: with Fancy1000 or Fancy8000 for individual usage time
- Clever: FancyDesigner and effect library for limitless creativity



Discover more

# Discover the Saurer Academy

## Learn when and where it suits you.

1

Example of a drag & drop assessment at the end of a WBT on the subject of embroidery machines.

### Become an expert with the new Saurer Academy.

Motivated and optimally trained employees form the basis for the best possible operation of your installation – and thus for maximum profit.

2

Example of a textile technology WBT on the subject of splicing.

### Success factor training

For many years, Saurer has offered individual training sessions and seminars in the form of classroom training sessions, which are provided worldwide, directly at the machine location and in our Customer Technology Centres. Because we know that sending employees on external courses is not always possible, we bring the training to you. We are now offering all essential training sessions for your team via the Saurer Academy online training portal.

3

Example of a WBT on the CompactTwister with a section recap.

### Learn with the Saurer Academy

The Saurer Academy is a new online training platform. It offers all Saurer customers:

#### Classroom training bookings

All current training session offers are clearly displayed in the training catalogue and can be booked online.

### Online training

In the field of e-learning, the Academy offers training materials for all Saurer machines in the form of easy-to-understand digital media such as videos and animations. This way, even the more complicated processes are clearly explained. The customer can choose between individual sets of digital flash cards, web-based training (WBT) sessions or virtual classroom courses.

### Virtual classroom with interactive training and online feedback

The virtual classroom (VC) is a recreation of a real conference room: speakers and participants are grouped together in a presentation space. The programme offers structured audio communication and the distribution of roles. The participants are involved in the presentation interactively using a multi-user board with an action bar and speech bubbles.

# Do you know which assembly components belong to needle or the shuttle side, respectively?

Please drag the components to the correct machine side.



Needle side



Shuttle side



Thread delivery

Rear carriage

Needle

Thread Monitor

Driving bar

Shuttle

Solution ✓

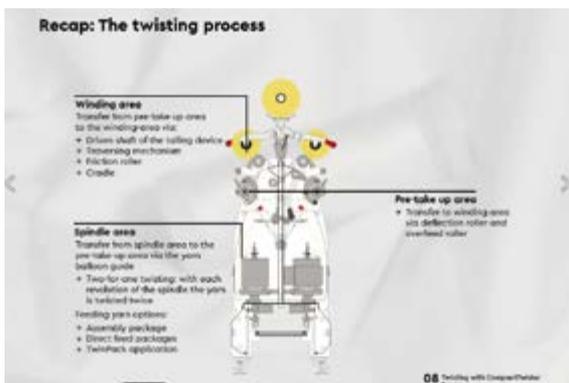
12 Embroidery with the Epoca 7 pro G Qulz

1

## 2 Machine aggregates of Autoconer X6 - How does splicing work?



## 3 Recap: The twisting process



### Become an expert. Saurer Academy

- Training sessions at the Saurer Academy
- help turn your employees into experts
  - impart a deeper understanding of the machines and their assembly groups
  - explain the links in the textile chain and create a deeper knowledge of textile technology
  - ensure faster error detection through acquired expertise.

- The Saurer Academy offers you
- Online bookings for classroom and web-based training sessions
  - e-learning with informative training materials such as animations, videos, flash cards, web-based training (WBT) sessions and courses in a virtual classroom (VC)



Discover more

# Bakan Tex: quality yarns from Uzbekistan



With its powerful machines and its comprehensive product and process expertise, Saurer is an in-demand partner for the implementation of investment projects for the production of quality yarns.

**Botir Muxitdinov,  
Commercial Manager at  
Bakan Tex, Uzbekistan.**

"Automation and strict quality controls from the fibre right up to the ready packed package – that is our recipe for success."

1

**Saurer's compact-spinning machines produce continuously high-quality compact yarns.**

2

**The Autoconer package winders then deliver process-optimised cross-wound packages produced to customer requirements.**

**Bakan Tex's success with  
Saurer machines**

The goal of the Uzbek textile industry is to process cotton grown within the country itself. In recent years this has sparked a great movement towards investment in the most modern spinning-mill systems.

The Bakan Tex sales spinning mill is typical of the young, emerging textile industry in Uzbekistan. Founded only in 2017, Bakan Tex has grown rapidly, as has the textile industry as a whole. With its Saurer compact-spinning mill, the company is a leading provider of cotton compact yarns in the yarn count range Ne 30–40.

**Clever management, the most  
modern automation**

Bakan Tex has managed to position itself among the top five spinning mills in the dynamic environment of the domestic textile industry. The yarns, which are in the area of the 5% line of the globally recognised Uster Statistics, impress customers both in Uzbekistan and abroad. "Our recipe for success consists of strict quality management – from cotton purchasing up to the packaging of the Autoconer packages – and the comprehensive automation of all production processes," explains Botir Muxitdinov, Commercial Manager of Bakan Tex.

**Highest raw material and personnel efficiency**

The decision to opt for the economical compact-spinning technology from Saurer and the high level of automation of the spinning mill were based on a forward-looking corporate strategy. The Saurer compact-spinning machines have the greatest possible range of applications and get the very best out of any raw material. Low spinning costs and high-quality yarns are the result.

Bakan Tex is facing rising labour costs in Uzbekistan, particularly in the capital Tashkent. "Due to the high level of automation, in the future we will be significantly less dependent on the availability of skilled labour," says Turan Albayrak, the Bakan Tex investor, of his reasons for investing. "In our spinning mill, the ZinserSpeed 5A automatically transports the roving bobbins via the FixFlow bobbin transport system to the compact-spinning machines, which are in turn directly connected to the Autoconer. This direct connection gives personnel the freedom to complete quality assurance tasks more intensively by eliminating manual activities."

**Going to the top with ambition**

Bakan Tex is a poster child for the fast-growing Uzbek textile industry. The company is determinedly increasing its technical and technological level in order to ensure maximum production efficiency. Saurer is supporting the company in doing this with pioneering technical innovations and technological support.



1



2

**Bakan Tex**



**Location**  
Tashkent, Uzbekistan  
**Year of foundation**  
2017  
**Staff**  
450  
**Production**  
41 tonnes of cotton compact yarn per day  
Ne 30 to Ne 40

**Machinery**  
ZinserSpeed 5A  
12 machines/1 920 spindles  
FixFlow  
ZinserImpact 72  
33 machines/63 360 spindles  
Autoconer 6  
33 machines/1 452 spindles  
[www.bakantex.com](http://www.bakantex.com)



Discover more

# Intelligent process automation

The highly regarded family company ARAL Tekstil from Kahramanmaraş operates one of the most modern ring-spinning linked systems from Saurer.

ARAL Tekstil was founded 30 years ago as a knitting mill and today employs around 600 employees in the Turkish textile district of Kahramanmaraş. ARAL Tekstil opened first OE spinning mills in 1994 and second one in 2006. In 2012 its first ring-spinning mill for carded and combed cotton compact yarns went into production with a machinery park from Saurer.

The ring-spinning mill produces around 11 000 tonnes of yarn per year in the count range from Ne 28 to Ne 30. The yarns are processed in the company's own spinning mill, but also sold on. ARAL Tekstil exports 30% of its annual production to the European Union, after India, Bangladesh, Pakistan and other countries.

**Modern Saurer machines for high profitability**  
ARAL Tekstil has a strong market position with its modern machinery park. Continuous investment ensures that its production facilities are always state-of-the-art. Most recently, the company expanded its ring-spinning mill with the latest generation of Saurer machines. The most modern

ZinserSpeed 5A roving frames, super-long ZinserImpact 72XL compact-spinning machines and the Autoconer X6 type V with intelligent material flow expand the ARAL Tekstil automatic ring-spinning mill to a total of 10 roving frames, 30 compact spinning machines and 27 winding machines.

"The new linked system ensures higher profitability in our ring-spinning mill," says Orhan Özer, General Manager of ARAL Tekstil. "Through the integration of the most modern material flow technology and intensive process automation, we are well equipped for the challenges of the modern textile industry."

The company invests not only in machines but also in the further education of its employees. In future they can access the Saurer Academy interactive e-learning programs. Success follows naturally. The company enjoys a high level of customer satisfaction, based on quality and reliability, speed and flexibility.

1

Orhan Özer, General Manager of ARAL Tekstil San. ve Tic.A.S. explains the advantages of ARAN Tekstil's yarns and cross-wound packages to Gamze Sevim (Saurer Spinning Solutions).

2

New linked system for maximum profitability in the ring-spinning mill.

3

ZinserImpact 72XL produces high quality compact yarns.



2

### Positive market outlook

ARAL Tekstil sees the future in a positive light, since Turkey is a hotspot for the international textile industry. "We benefit from the high level of education of our textile workforce and good availability of raw materials," says Abdullah Çinkay, the Managing Director of ARAL Tekstil. "We take this location advantage as an opportunity to grow with the most modern technology and to impress our customers with our performance, our varied offers and our products."

3

### ARAL Tekstil San. ve Tic.A.Ş.



#### Location

Kahramanmaraş, Turkey

#### Year of foundation

1989

#### Staff

600

#### Production

11 000 tonnes of ring yarn per year

14 000 tones of OE yarn per year

Ne 28 to Ne 30

#### Machinery

Zinser 670 roving frame

ZinserSpeed 5A

10 machines/1 824 spindles

Zinser 350

Zinser 351 Impact FX

ZinserImpact 72XL

30 machines/50 640 spindles

Autoconer X5

Autoconer 6

Autoconer X6

27 machines/1 302 spindles

[www.araltextile.com](http://www.araltextile.com)



Discover  
more

# PT Dasar Rukun – Knitting the future

The company was founded in 1986 and has been part of the Sritex Group since 2009. The company specialises in 100% polyester yarns and today exports these worldwide.

## **PT Dasar Rukun – a success story**

The company was founded in December 1986 and has its headquarters in Cibinong, Indonesia. Already from the beginning, they specialised in producing 100% ring-spun polyester yarn.

Initially only local customers were supplied with the yarns. After the merger with the Sritex Group in 2009, exports rose to 70%. The next big step forward was in 2011 when PT Dasar Rukun managed to double its production capacity.

Today the company employs 685 employees and runs four shifts, which comes to an average of 7 176 production hours annually. It produces 1 200 tonnes of yarn monthly for knitwear and woven fabrics, which are exported to Europe, the USA, Mexico and Turkey, among other destinations.

As the Sritex Group is also advancing its own product development, yarns for specific customer requirements are produced in-house.

## **Retrofitting means improved quality**

Currently spinning capacity is 75 ring frames with 62 640 spindles. In order to improve yarn quality, six machines with a total of 3 168 spindles were retrofitted with the Saurer PK 2630 SEH weighting arm. The conversion was completed in April 2018 and the success is visible and measurable.

Thick sections in the yarn were reduced significantly. The yarn values and therefore the yarn quality notably improved in terms of evenness, strength and elongation. The positive effects are clearly visible in the downstream process steps.

"Saurer's good service and the quality of the components is just better – this means that our quality increases too," says Mr Widjaja, General Manager of PT Dasar Rukun. "In contrast to other systems, performance is stable, the fixing screws do not become loose, which leads to incorrect settings of the weighting arm."

## **Cost savings through conversion**

"Thanks to the quality guarantee and the long service life of Saurer products, we also save on costs. It's very important that the energy consumption of the modified machines has been significantly reduced. In addition, we no longer need pressurised air, because the PK 2630 SEH weighting arm works mechanically – this too affects overall costs. It was also positive that the retrofitting was done very smoothly without problems, although we were dealing with ring-spinning machines produced by competitors," Putra Widjaja summarises.



1

**Knitting the future**

"Knitting the future" – this is PT Dasar Rukun's slogan. "By this we mean that we have set ourselves the goal of becoming one of the best yarn manufacturers for ring-spun polyester. We want to secure a greater market share bit by bit. We want to achieve this with suppliers whose products actively support these goals. We are striving to further expand production with a stable market position," explains Mr Widjaja. "This includes procuring additional machines, but also further the retrofitting of drafting systems, in order to continuously improve quality while reducing costs at the same time."

**Visitors welcome**

"Interested persons are welcome to visit us," says Mr Widjaja in closing, "so that they can see the successful modifications for themselves."



2

1  
**Factory manager**  
 Mr Djoko Sungkono  
 operating the Saurer  
 PK 2630 SEH  
 weighting arm.

2  
**General Manager**  
 Mr Putra Widjaja.



3

3  
 Whether by parcel,  
 pallet or container –  
 Dasar Rukun stands  
 for a professional,  
 transport-safe  
 dispatch of the  
 finished products.

4  
 Texparts PK 2630 SEH  
 weighting arm.



4

**PT Dasar Rukun**



**Location**  
 Cibinong Bogor, Indonesia  
**Year of foundation**  
 1986  
**Staff**  
 685  
**Production**  
 100% polyester  
 Yarns: Ne 10/1 to Ne 40/1 and TFO-yarns  
[www.dasar-rukun.com](http://www.dasar-rukun.com)



Discover more

# Sarar Battaniye – Ready for the future

**SARAR Battaniye Tekstil Sanayi ve Ticaret A.Ş.**, headquartered in Uşak/Turkey, was founded in 1996. In 2007 the product portfolio was expanded with the foundation of the company **Altınsar Tekstil Sanayi ve Ticaret A.Ş.**

1

Mahmut Çekçek,  
CEO of Sarar  
Battaniye (image  
above right) is proud  
of the variety of his  
products.



### From yarn to the final product

Sarar Battaniye is one of the most important yarn and blanket producers in Turkey. 40 tonnes of yarn and 5 000 woven blankets are produced daily in its production facilities. It also produces printed blankets from Altinsar Tekstil – the daily output for this product alone is 12 000 items. A large part of the yarns manufactured are sold for the manufacture of knitted goods, socks, shirts, upholstery fabrics and other home textiles.

### Sarar Battaniye – A pioneer with vision

The thinking at Sarar is visionary – the goal is to remain a pioneer in the segment with modern and high-quality products and services. "Being one of the leading companies in the market means constantly developing further. In our dynamic environment, we must react flexibly and quickly to market requirements. With all of our processes we take care to act consistently with our principles of quality, reliability and stability for our customers," says Mahmut Çekçek, CEO of Sarar Battaniye.

Certifications such as GRS (Global Recycling Standard) and TSE-Oekotex-ISO 9001 certify the fulfilment of the quality promise during the production process. Looking towards the future, some products are made using recycled fabric.

### High-performance machinery park

From the production facility for the raw materials to the final product – Sarar Battaniye brings all processes together under one roof. All of the yarn production is done with highly modern Autocoro and BD rotor-spinning machines.

The new Autocoro rotor-spinning machine has recently been commissioned. The extended machine with numerous new features such as the Vacuum Trash Cleaner, 36 simultaneously operable piecing tools and 8 DCUs promises an increase in productivity of up to 7%. The low energy consumption continues to set the benchmark for rotor spinning and the automation of the new Autocoro is blazing a trail towards the production of the future.

"We especially appreciate the quality and durability of the machines, but what is really decisive for our day-to-day production is the high productivity in combination with the perfect yarn quality. The variety of settings parameters of the machine allow for the highest level of flexibility. Nevertheless, operation is very simple and, thanks to automation, we can save on labour capacity and therefore costs", says Mahmut Çekçek.



2

### Customer satisfaction as the highest goal

"The collections that we offer our customers are adjusted to market requirements in a targeted way. The designs are developed according to current trends. Our product designers place great value on perfectly working out and implementing even the smallest details into the products. This distinguishes our products and makes them unique. In this way we can sustainably increase our level of recognition," explains Mahmut Çekçek. "Our main goal is to manufacture products that completely satisfy our customers. With the high-performance rotor-spinning machines from Saurer, we are best equipped to reach this goal. That is why we will be relying on Saurer products for our spinning process into the future", adds Mahmut Çekçek in closing.

2

**High-performance machinery park – Sarar is counting on rotor-spinning machines from Saurer.**

### Sarar Battaniye Tekst. San. Ve Tic. A.Ş.



#### Location

Uşak, Turkey

#### Year of foundation

1996

#### Staff

500

#### Production

Yarns and blankets made from recycled cotton, polyester, acrylic, viscose and blends from Ne 2 to Ne 30

Yarn and wool blankets

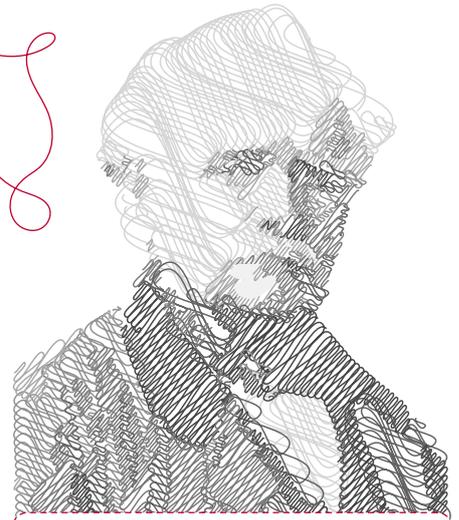
[www.sararbattaniye.com.tr](http://www.sararbattaniye.com.tr)



Discover more

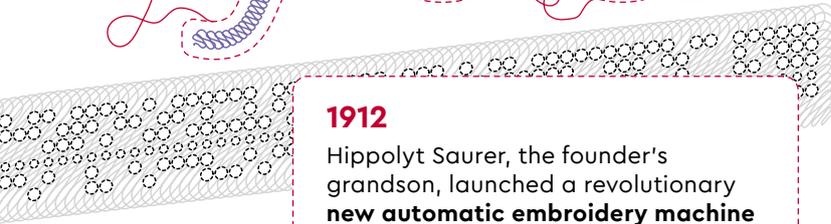
# Saurer Embroidery Machines

150  
years



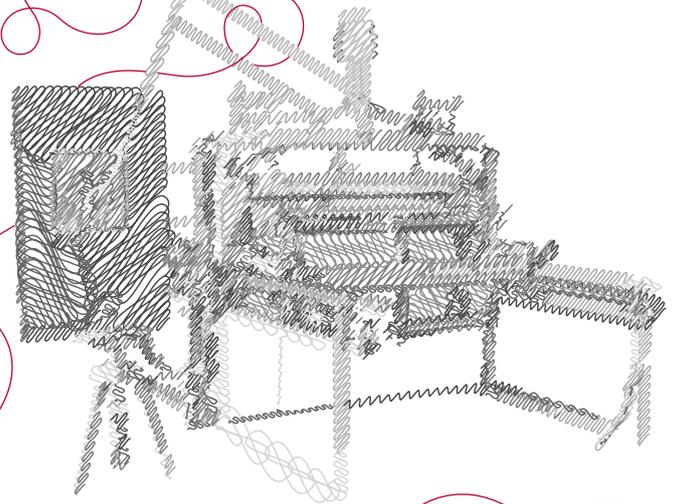
**1869**

Franz Saurer, pioneered the construction of the first **hand embroidery machine**, which was controlled by a pantograph.



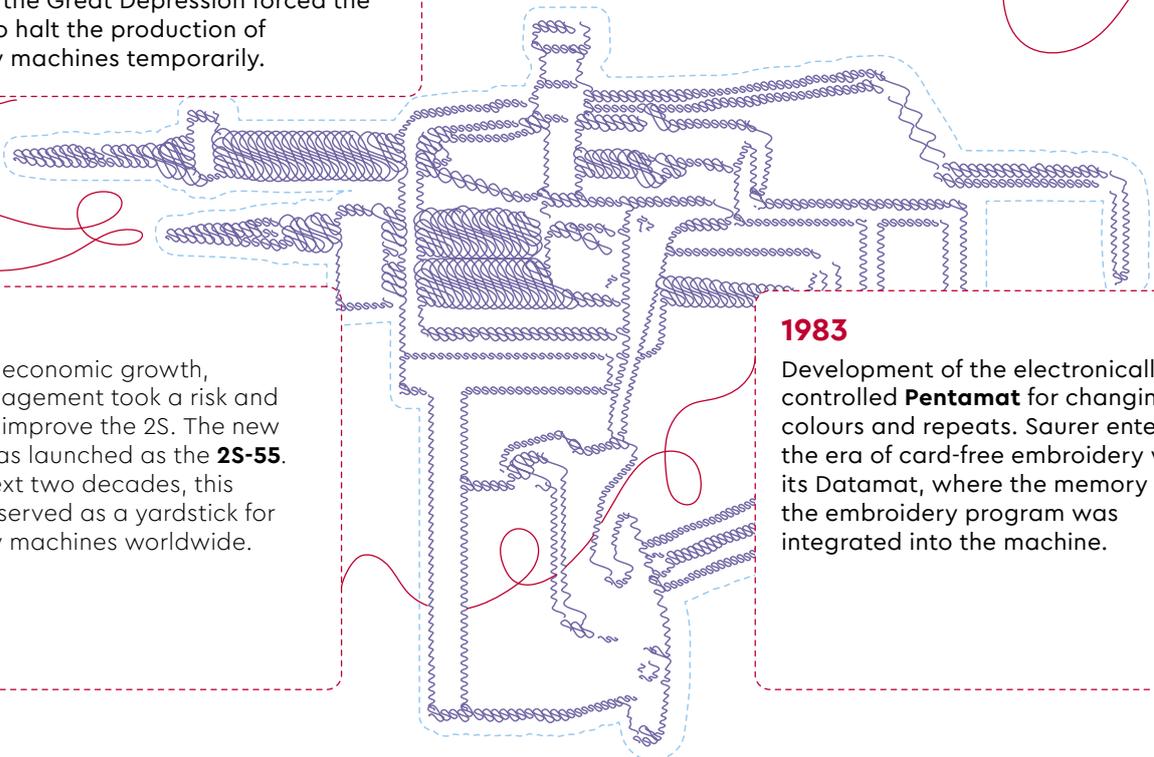
**1912**

Hippolyt Saurer, the founder's grandson, launched a revolutionary **new automatic embroidery machine** with a system based on a cogwheel drive to replace the pantograph. By 1914, the company had sold 600 of them.



**1931**

The first **2S** machines with embroidery lengths of 10 and 15 yards and an embroidery height of 60 cm were produced. Soon after, the Great Depression forced the company to halt the production of embroidery machines temporarily.

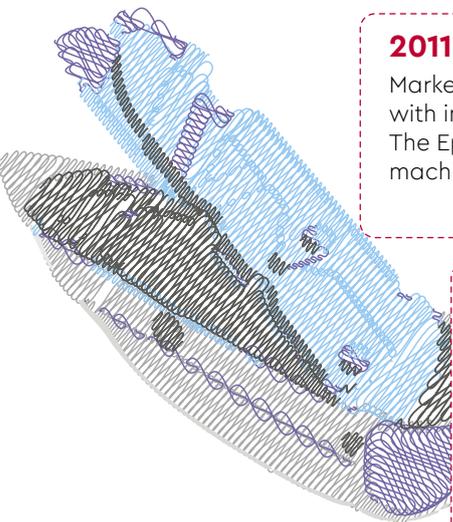


**1955**

Inspired by economic growth, Saurer management took a risk and decided to improve the 2S. The new machine was launched as the **2S-55**. Over the next two decades, this innovation served as a yardstick for embroidery machines worldwide.

**1983**

Development of the electronically controlled **Pentamat** for changing colours and repeats. Saurer entered the era of card-free embroidery with its Datamat, where the memory of the embroidery program was integrated into the machine.



**2011**

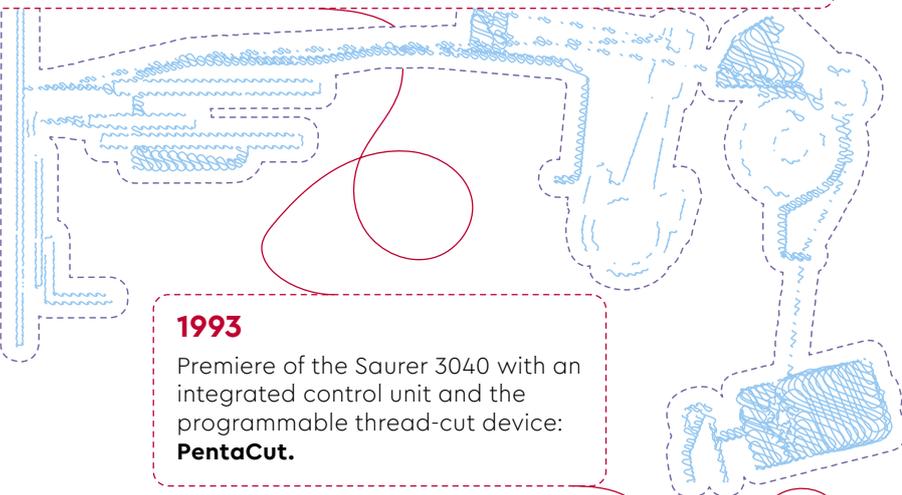
Market launch of the **Epoca 6** and **Epoca 6 pro** with innovative drive and novel control concepts. The Epoca 6 has become our best-selling embroidery machine generation – over 750 have been sold to date.

**2002**

The launch of a global first – a shuttle-preparation machine called **PitStop**. It performs bobbin changes, regulates yarn tension and prepares shuttles.

**1995**

This year sees the birth of Saurer's famed **Epoca** machine. This was the company's first single-level machine featuring the active thread delivery system **ActiFeed**. It reduced the strain on the fabric, resulting in a considerable increase in machine speed.



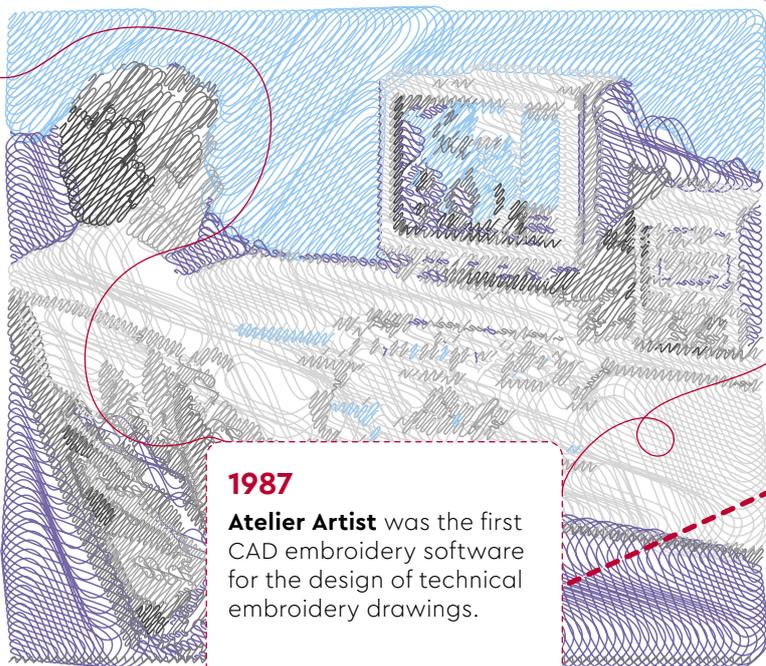
**1993**

Premiere of the Saurer 3040 with an integrated control unit and the programmable thread-cut device: **PentaCut**.



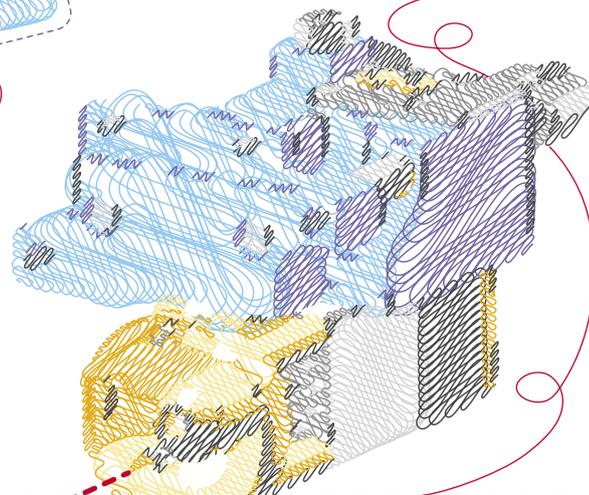
**2015**

At ITMA in Milan, Saurer launched a new embroidery machine generation **Epoca 7** and **Epoca 7 pro**. This coincided with the launch of further components of our **HeadLine system** for sequins, cords and ribbons.



**1987**

**Atelier Artist** was the first CAD embroidery software for the design of technical embroidery drawings.



**2019**

At ITMA 2019, the **new LaserHead** is introduced as part of the HeadLine System. Automation technologies monitor for thread and needle breaks. Saurer has further perfected the Epoca 7, which now features an **automatic rear carriage adjustment** and **automatic cleaning system**.

# Five trends in the textile industry

In a single overview, we explain five basic developments and forecasts in the industry.

## Sources:

### Trend 1-4:

The Business of Fashion and McKinsey & Company, "The State of Fashion 2019"

### Trend 3:

Textile Exchange, "Organic Cotton Market Report 2014"

### Trend 3:

Textile Exchange, "Organic Cotton Market Report 2018"

### Trend 5:

The Woolmark Company, "Beyond the Bale", 2019

## 1. Above-average growth in the textile industry

Low economic growth until 2020 is forecast. Accompanying this, industry growth will cool to 3.5%–4.5%, following growth of 4–5% in 2018. Nevertheless, this is considerably higher than the forecast global economic growth of 2.9% for 2019. Fashion industry managers cite "dealing with volatility, uncertainty and turmoil in the global economy" as their greatest worry for the coming year.

## 2. Asia is booming

India, with its growing middle class, will be able to record a sharp rise in purchasing power and holds increasing sales potential for the textile and fashion industries. The USA, until now the largest fashion market, will be overtaken by China for the first time. Global sales growth of around 5% is expected in the luxury product segment, due in part to the rapidly growing Asian markets. In the value segment, i.e. in price-conscious fashion consumption, the forecast growth is 5–6%. For all other segments, growth is expected to continue at the rate of previous years.

## 3. Going green

Social engagement and environmental protection are no longer niche trends. Companies must pursue sustainability with their products and production processes. In this regard, consumers are demanding more transparency and information.

## 4. Adaptability and digital know-how are key

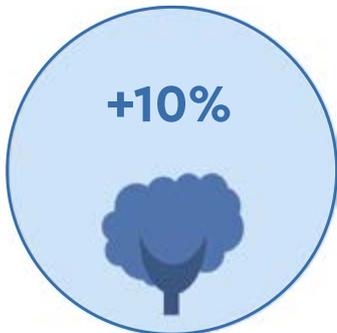
The fashion market is speeding up again. In 2018, surveyed managers used the key words "changing", "digital" and "fast" most often to describe the industry for 2019.

Companies must be able to make decisions quickly and to react with flexibility. Companies that can implement more just-in-time production will succeed. The use of automation and data analysis enables agile and tailored production cycles.

## 5. Wool is in demand

The price of wool, with an increase of almost 250% over the past 20 years, has experienced the sharpest rise by far. This is due in part to a shift in purchasing behaviour to more natural materials. Acrylic, as a wool-imitation raw material, comes in second place with a price increase of around 60%. The sports clothing segment has also experienced very high growth rates for years. In this segment, fabrics of man-made fibres, such as polyester, and Merino wool are often used.

Trend 3

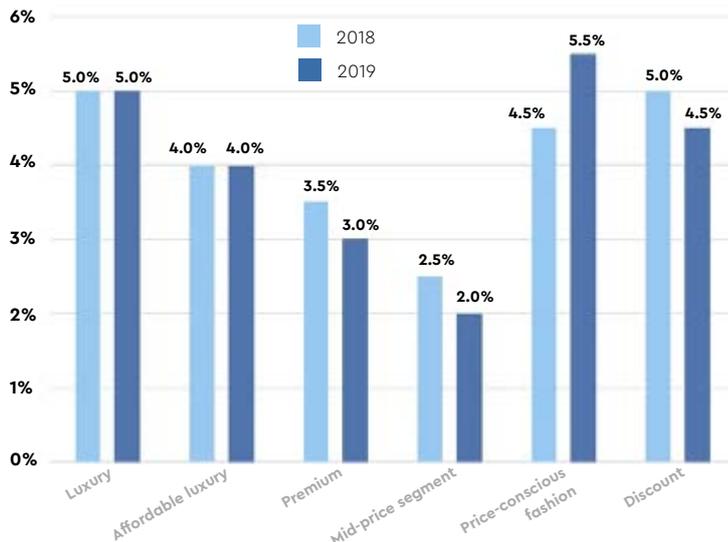


10% growth in the consumption of organic cotton since 2015/2016

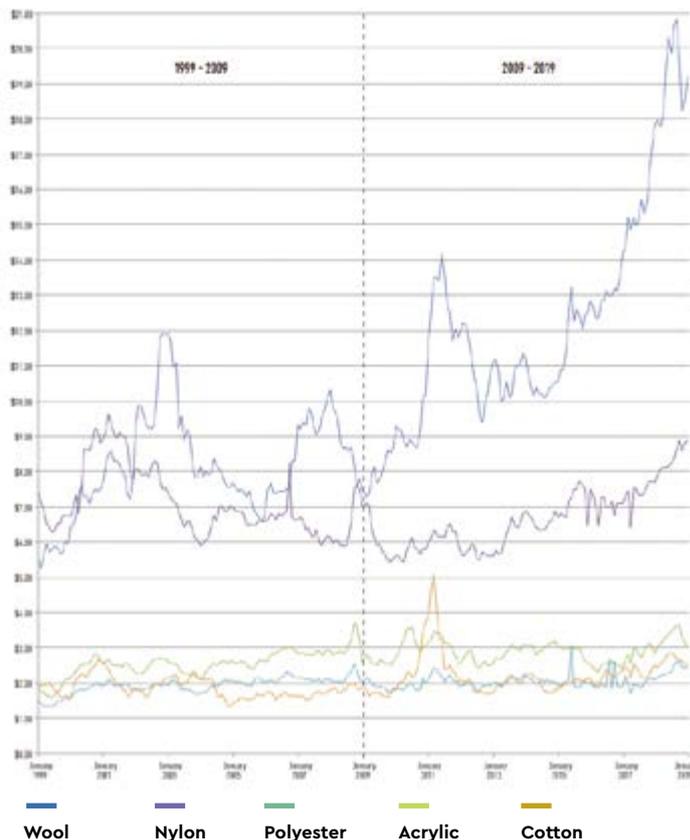
**"10% growth is significant, and it couldn't be possible without the significant industry efforts to create meaningful change. Across the board, the textile industry has increasingly responded to the growing demand for organic cotton as well as the need for focused innovations."**

La Rhea Pepper, Managing Director, Textile Exchange

Trend 2 Average sales growth per segment



Trend 5 Average price increase of fibre materials over the past 20 years



	1999–2009	2009–2019	Increase over 20 years
Wool	35.5%	157.2%	248.6%
Nylon	-4.5%	25.9%	20.3%
Polyester	34.6%	19.4%	60.8%
Acrylic	38.0%	16.2%	60.4%
Cotton	-2.9%	33.4%	29.6%

# Keeping a close eye on yarn quality



**Fabio Reghenzani is Head of the Business Line Sensors, which is part of the Saurer Technologies Segment.**

**Fabio Reghenzani started working for Saurer in October 2018. Under his leadership, the new Sensors Business Line (BL) develops technologies that play a vital role in yarn quality control. We asked him about the BL's activities.**

#### **What are you working on?**

Currently I am focusing on the organisational development of the business line. As our staff contingent consists of 60 people split across four countries (Switzerland, Germany, India and the UK), we are setting up structures and processes to facilitate communication and cooperation.

We are strengthening our clearer technology as well as developing the second generation of IrisFX [yarn clearer for winding units] and the new clearer Airolab for our new air-spinning machine.

Our innovation that we are presenting at ITMA 2019 measures tension and monitors yarn twist on our twisting machines. These are very important parameters in order to judge the quality of the yarn. This is a completely new development, and there is no other sensor on the market for this purpose.

#### **What customer concerns are we addressing with these technologies?**

With our solutions, we help our customers to enhance the quality of their yarn, meaning that they earn more from its sale. The higher the quality of the yarn, the faster and more productively it can be used in downstream processes. High-quality yarn is of a consistent thickness, lacks neps and has few foreign fibres.

#### **Into which technologies can these sensors be incorporated?**

Our sensors are used in our spinning, twisting and winding machinery, but are also incorporated in machines produced outside of Saurer.

#### **What sets our sensors apart?**

As we support all business lines across Saurer, we can work directly together with the R&D engineers developing the machines. This gives us a better understanding of their requirements, which results in the smarter integration

1

**This unique innovation measures tension and monitors yarn twist in industrial and carpet yarn as well as tire cord and staple fibre.**



1

of our sensors in the whole system. We also carry out field tests at customer sites.

**What do you have planned for the future?**

We intend to increase our product range so sensors are incorporated along the entire value chain from bale to yarn. As the sensors monitor the processes continuously and collect data, the machines as part of an interconnected system, can adjust process parameters autonomously. This means our customers will become less dependent on labour. Another important field, which incorporates artificial intelligence, is predictive maintenance.

**Snapshot**

**Describe your background.**

I hold an MBA from the University of St. Gallen, Switzerland, and a master's degree in mechanical engineering from Politecnico di Milano, Italy. I have over a decade's experience in the international automotive industry and worked for leading companies in the chemical and oil & gas industries. Over the course of my career, I developed my core competencies in business development, customer acquisition and retention, strategy definition and product development. I was looking for a chance to apply my experience in other fields and welcomed the opportunity to establish Saurer's new Sensors BL.

**What does your typical workday look like?**

As my team is spread out across several locations, I travel quite often in order to have face-to-face conversations when needed. Having such a diverse team is advantageous because

our different backgrounds allow us to see issues from different perspectives. I also go on customer visits and attend exhibitions – this is very important to me as it gives me a clear impression of the market we are serving.

When not travelling, I usually have fixed meetings with the management team in order to assess progress on various projects and to address and resolve issues as they appear.

**What do you enjoy most about your job?**

I really like working for an international company like Saurer, which is innovative and a market leader in many areas, business driven and continuously looking to improve its offering. This mindset offers opportunities for interesting development projects and personal growth for employees.

