

RIETER

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Redefining the Spinning Mill

In 2027, three operators with 10 000 spindles
will produce 1.9 tons of yarn per shift



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Dear readers,

We are all feeling the challenges of these times. This makes it all the more important to have reliable partners and well-planned solutions at your side. This is precisely where we at Rieter come in – with products and services that not only offer impressive quality, but also provide targeted support for economical and flexible production.

As a system provider, we don't think small. We think big and see the overall picture. Our goal for 2027 is to achieve a fully automated spinning mill. To do this, we need to advance automation and digitization and implement these technologies.

Our current solutions are taking us step-by-step toward implementing this goal. We will be presenting them at ITMA + CITME 2025 in Singapore and providing more details about them in this customer magazine. The highlights include automatic bale and can transport, as well as automation solutions for packaging.

In the area of digitization, we offer various ESSENTIAL modules for different requirements. These modules give the entire spinning mill staff – from management to machine operators – a solid basis for making decisions to optimize yarn production.

Our new products, such as the combing preparation OMEGAlap E 40 and the precision winding machine NEO-BD from SSM, deliver impressive output and high quality at the same time. These products cut conversion costs and strengthen your position in this challenging market environment.

When you visit ITMA + CITME 2025 in Singapore at the end of October 2025, be sure to visit us at Booth A201 in Hall 3. I look forward to welcoming you there and presenting our latest innovations. Otherwise, you can always contact your Rieter representative to find out everything about our new products. Because your competitive edge is important to us.

Let's master the challenges of this time together – with focus, confidence, and a clear vision for the future.

Sincerely,

Thomas Oetterli
CEO

Redefining the Spinning Mill

In 2027, three operators with 10 000 spindles will produce 1.9 tons of yarn per shift

The future is within reach: In 2027, fully automated Rieter spinning mills with only three operators for every 10 000 spindles will become a reality. This means maximum efficiency with minimum personnel costs. Smart automation solutions are paving the way, such as the new bale and can transport system and a fully automated packaging line.

Short-staple spinning mills are under increasing pressure due to rising production costs, a growing shortage of skilled workers, and increasing traceability requirements. As a result, the current spinning mill model is hardly economically viable anymore. A major change is necessary.

Full automation becomes a reality

A new generation of spinning mills is showing what will be possible in the future – just three skilled workers for every 10 000 spindles and shift to produce 1.9 tons of yarn. This is equivalent to automating two-thirds of the work that was previously done manually. This increases efficiency massively, but also makes yarn production as a whole competitive again. Automation is therefore no longer a futuristic dream – it is a prerequisite for realigning the industry (Fig. 1).

Implementation in stages

At ITMA in Singapore, Rieter will be showcasing new automation solutions that pave the way step-by-step to fully automated production from 2027 onwards. With the following portfolio, customers can already make their processes more productive today:

- efficient bale transport by means of a driverless transport system,
- flexible transport of the corresponding size cans between machines by means of a driverless transport system, and
- packaging solutions, including steaming, palletizing, and labeling.

Can transport is a significant improvement, as it takes over physically demanding tasks and thus noticeably reduces the strain on operating personnel (Fig. 2). At the same time, it increases process reliability and efficiency throughout the entire production process. The automated packaging line, from packing the yarn packages to palletizing and labeling, is also raising the bar. It replaces numerous manual tasks with high-precision, fully automated processes. These new automation solutions make it possible to start using full



Fig. 1: Step-by-step to a fully automated Rieter spinning mill with only three operators for every 10 000 spindles and 1.9 tons of yarn per shift (based on: 100% combed cotton, yarn count Ne 30, weaving yarn).



Fig. 2: Automatic can transport takes over monotonous and physically demanding tasks.

automation and to boost its acceptance in spinning mills. At the same time, they provide valuable experience for further changes.

Vision 2027: fully automated production process

The year 2027 will see a milestone in textile automation: the unveiling of a fully automated reference line. The vision goes far beyond conventional approaches. The heart of this line is a fully automated, integrated production process enabled by intelligent, digitally networked systems. Automation already comes into play with the raw material: the complex and potentially dangerous manual removal of steel straps from bales is being replaced by robot-assisted solutions. And it ends with the packed yarn package leaving the spinning mill ready for shipment.

A seamless connection: automation and digitization

There is no automation without digitization. Using the digital platform ESSENTIAL ensures full control of automation solutions and makes it possible to track all process steps from start to finish. The platform collects all the relevant data, which is then available in real time. This transparency is a decisive competitive advantage, especially in terms of the traceability of textile products.

Profitable investment with foresight

No matter how fascinating state-of-the-art robotics, digital networking, and autonomous systems are, in the end, one question matters: Is the investment worthwhile? The answer is clear: Yes! Introducing fully automated systems is much more than a short-term cost experiment. It is a strategic investment in efficiency, quality assurance, and future viability. The operating costs – especially personnel costs, error costs, waste, and downtimes – account for a significantly higher share over the life cycle of a system than the initial investment in technology. Automation reduces dependence on human resources, ensures reproducible quality, and enables stable, predictable production processes – independent of shift or location. Those who invest in this technology today are laying the foundation for tomorrow's success.

Smart automation solutions pave the way to fully automated spinning mills. Get inspired.

<https://l.ead.me/Automatedmill2025>



The Best Way to Produce Laps

33% more output and 30% less energy consumption with OMEGAlap E 40

The new combing preparation machine OMEGAlap E 40 produces 800 kg/h, which is over 33% more than the previous model. At the same time, it offers 30% lower energy consumption and 63% lower compressed-air requirements. It is also considerably easier to maintain and clean, as there is no longer a longitudinal section and all important components are centrally located in the winding head.

Proven technology optimized: That is what the new combing preparation OMEGAlap E 40 stands for (Fig. 1). It combines proven belt technology with a fundamentally re-engineered machine design without a longitudinal section – for faster lap changes and noticeably greater ease of use. With a production volume of up to 800 kg/h, the E 40 is 33% more productive than the previous model, thereby raising the bar in lap production (Fig. 2).

Faster lap changes

Introduced 20 years ago, the unique belt technology for winding the batt onto the tube is and always will be a technological highlight. But even proven technology can be optimized. This is evidenced by the considerable improvements. The lap now changes in a third of the time, making it 66%

faster than before. Production of eight laps now takes just under 14 minutes, which is a 24% increase in speed.

Thanks to proven belt technology, the lap is produced at a consistently high speed of up to 230 m/min – from the first to the last meter. This speed can only be reached with the belt, which wraps almost completely around the lap. The technology also ensures homogeneous and flawless lap formation, which results in excellent unwinding behavior on the comb. Further benefits include uniform batt weight and optimal fiber orientation, which are the basis for consistent noil extraction and a very good fiber yield on the comb. This makes the E 40, when used with the current comb E 90, a perfectly coordinated set, providing the basis for outstanding yarn quality.

Save energy and resources sustainably

The E 40 represents not only powerful performance, but also resource-efficient energy consumption. The engineers at Rieter have thus succeeded in reducing energy consumption by around 30% and compressed-air consumption by over 63% compared to the previous model (Fig. 2). A well-planned machine concept with energy-efficient components and drives is what makes these impressive savings possible.



Fig. 1: The new combing preparation machine OMEGAlap E 40 scores with fast lap changes and easy maintenance.

Production and energy consumption during lap production

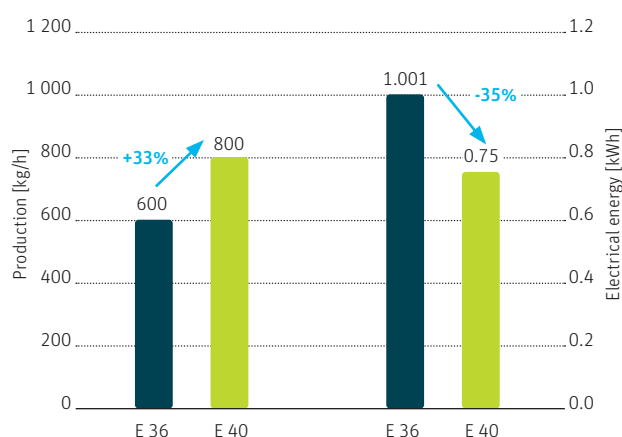


Fig. 2: OMEGAlap E 40 delivers impressively high production and low energy consumption.

This concept not only has a positive impact on the environment, but also on operating costs.

Significantly improved handling and accessibility

Another focus of the fundamental redesign of the machine was on ergonomics. For example, the E 40 no longer has a longitudinal section. The drafting systems located on it are now integrated into the winding head. As a result, all important components are centrally located in one place, the machine is more accessible all around, and it is possible to move the cans on the creel freely from one side to the other. "This has made routine maintenance and cleaning much easier and faster for our employees," says Alp Karakayali, Spinning Mill Manager at Burteks Tekstil, Türkiye.

"Compared to the previous model E 36, we now produce 33% more laps thanks to significantly faster lap changes."

Alp Karakayali,
Spinning Mill Manager at Burteks Tekstil, Türkiye

The enlarged machine display, intuitive icons, and graphical representations also enhance the ergonomics of the machine and make navigation easier for operators. This gives them the ability to set production data quickly and monitor it easily.

Reliable sliver feeding

For sliver feeding, the E 40 uses the proven and robust creel from the draw frame. Actively driven feed rollers ensure a consistently high quality of the incoming slivers.

Ready for digitization and automation

The E 40 can be combined with the automated SERVOlapp transport system. In interaction with combers equipped with ROBOLap, Rieter's automated lap change and batt piecing system, it is possible to achieve considerable savings in personnel in the combing section.



Fig. 3: Alp Karakayali, Spinning Mill Manager at Burteks Tekstil, Türkiye, is very satisfied with the new OMEGAlap E 40.

The digital platform ESSENTIAL provides central access to the OMEGAlap's data on production, energy, quality, and maintenance. It's the perfect solution for monitoring and optimizing the production process and detecting faults at an early stage.

The current combing set with one E 40 and six combers E 90 is a perfectly coordinated system with low energy consumption, high fiber utilization, and maximum profitability.

Experience the OMEGAlap E 40
in action – at Burteks Tekstil.

<https://l.ead.me/E40BurteksTekstil>



Carded Cotton Goes Air-jet

Spinning with J 70 opens up new possibilities thanks to record raw material utilization

The air-jet spinning machine J 70 achieves what had long seemed impossible – it can spin even carded yarn economically. This ability is thanks to a newly developed twist element: it raises production speed to a new level and ensures peak performance in terms of raw material utilization. Spinning mills also benefit from this innovation in other raw material applications.

For a long time, air-jet spinning machines were primarily used for processing viscose. After all, this process has always been able to fully flex its strengths when working with man-made fibers: high speed, low energy consumption, and the special yarn structure that results from air-jet spinning.

At the same time, the process had its limitations – namely, when spinning cotton and cotton blends. Compared to other spinning processes, the high level of fiber waste prevented economical processing on a broad scale.

More speed, greater profitability

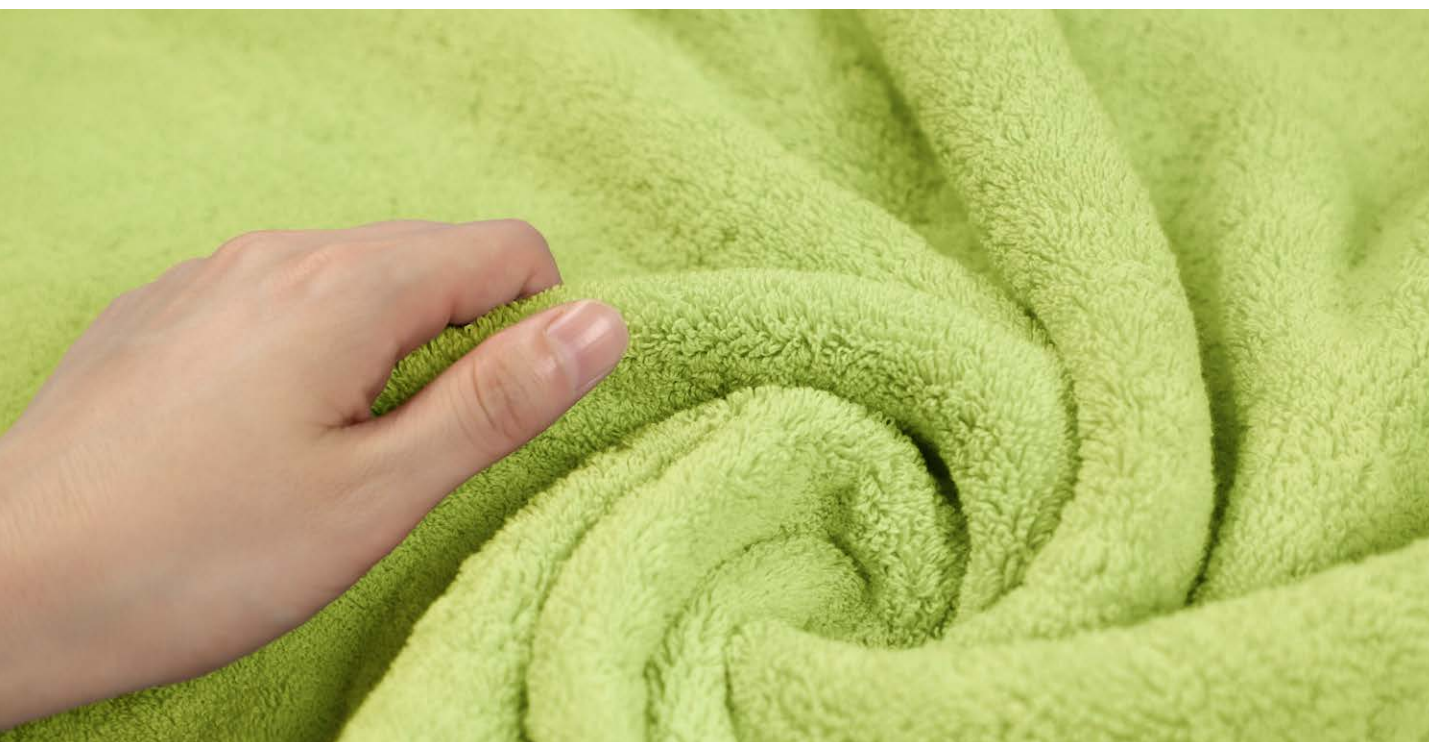
To push the boundaries of what is possible, Rieter engineers redesigned the concept of the air-jet spinning machine J 70

and developed a key component from scratch: the twist element. It is responsible for the yarn formation and binding the fiber ends into the yarn body. Although the component is only about two centimeters long, it has an enormous effect on yarn production. It now binds the fibers more efficiently, increases yarn tenacity, and thus ensures 10% more speed and excellent yarn quality.

Combined with the autonomous spinning position concept of the J 70, it is now possible to achieve tremendous production speeds (Fig. 1). Even a power cut has only a slight impact on the machine's efficiency. The J 70 can repair yarn breaks at 20 spinning positions simultaneously and fully automatically. A J 70 with 200 spinning positions can thus return to over 92% production efficiency in under eight minutes.

Higher fiber yield enables carded applications

The new twist element not only enables higher production speeds but also reduces fiber loss to a level that makes air-jet spinning attractive for new applications. In particular, processing carded cotton was completely uneconomical until now. This is because fiber waste on conventional air-jet



Customers confirm the particularly soft feel of the fabric – this is a fabric made from 100% cotton yarn from the J 70.

spinning machines is 10 to 11% for a yarn with a yarn count of Ne 34 at a maximum delivery speed of 350 m/min. The value is too high for economical production.

Thanks to the new twist element, the J 70 significantly beats this value. The Rieter machine has a fiber waste of 8 to 9% for a carded yarn of the same yarn count (Fig. 2) – all at a significantly higher delivery speed of 390 m/min instead of 350 m/min. Such outstanding values make it possible to use air-jet spinning to produce carded cotton economically for the first time ever.

As a result, it is also possible to produce yarns from combed cotton and cotton blends with lyocell or polyester in various yarn counts. These yarns are widely appreciated in downstream processing.

A perfect balance between yarn quality and fabric feel

Field tests have shown that the higher production speed does not impair the quality of the carded yarn, but rather improves it – proven over a longer production period of six months. The air-jet yarn from the J 70 also has excellent running characteristics in downstream processing.

High profitability for combed cotton

All kinds of air-jet spinning applications benefit from the increased productivity of the air-jet spinning machine. For ex-

Fiber waste for various raw materials

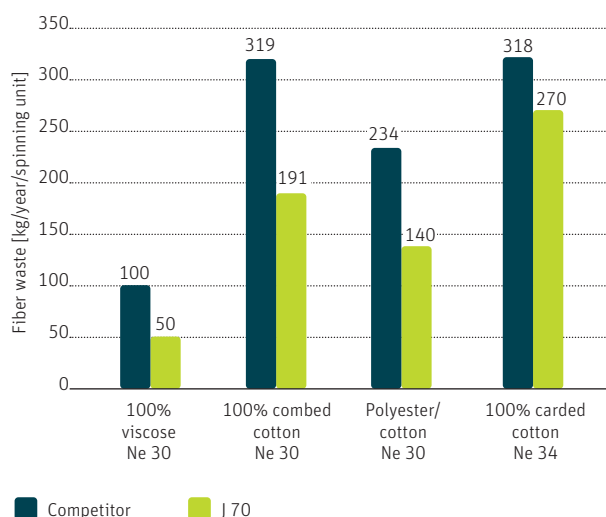


Fig. 2: The J 70 achieves a significantly more efficient fiber yield.

ample, the J 70 achieves delivery speeds of 490 m/min for combed cotton in yarn counts Ne 20, Ne 30, and Ne 40. Fiber waste remains at a low level of 4 to 5% and production efficiency was increased even more thanks to the individual automation of the spinning positions.

Another key point is that customers immediately noticed the fabric's soft feel – even with the J 70's higher production speed – when evaluating textiles made from 100% combed cotton yarn. Rieter engineers have clearly found the perfect balance between comfortable wear and yarn quality.

Soft feel even with lyocell and viscose

The J 70 has already been used to gain extensive experience with lyocell, viscose, and blends with polyester. Textile manufacturers also praised the soft feel and appearance of the textile surface compared to the competitor's product.

Delivery speeds for various raw materials

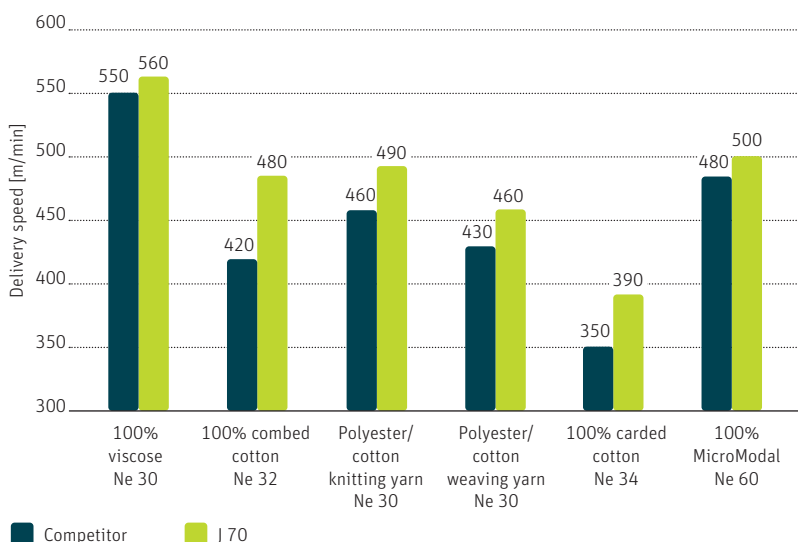


Fig. 1: The J 70 ensures the highest possible production speeds.

The Smart Path Into the Digital Future

How ESSENTIAL increases transparency and efficiency in spinning mills

For spinning mills, ESSENTIAL means a better fiber yield and noticeably optimized production. The digital platform provides a solid basis for decision-making at all levels – from management to machine operation. It is the foundation for future-proof and fully automated yarn production.

Hundreds of spinning mills worldwide already rely on Rieter's digital solution. Anyone who takes a look at ESSENTIAL, Rieter's mill management system, will immediately see the added value. The platform connects machines and organizes, compares, and visualizes data, thus enabling maximum transparency in the production process.

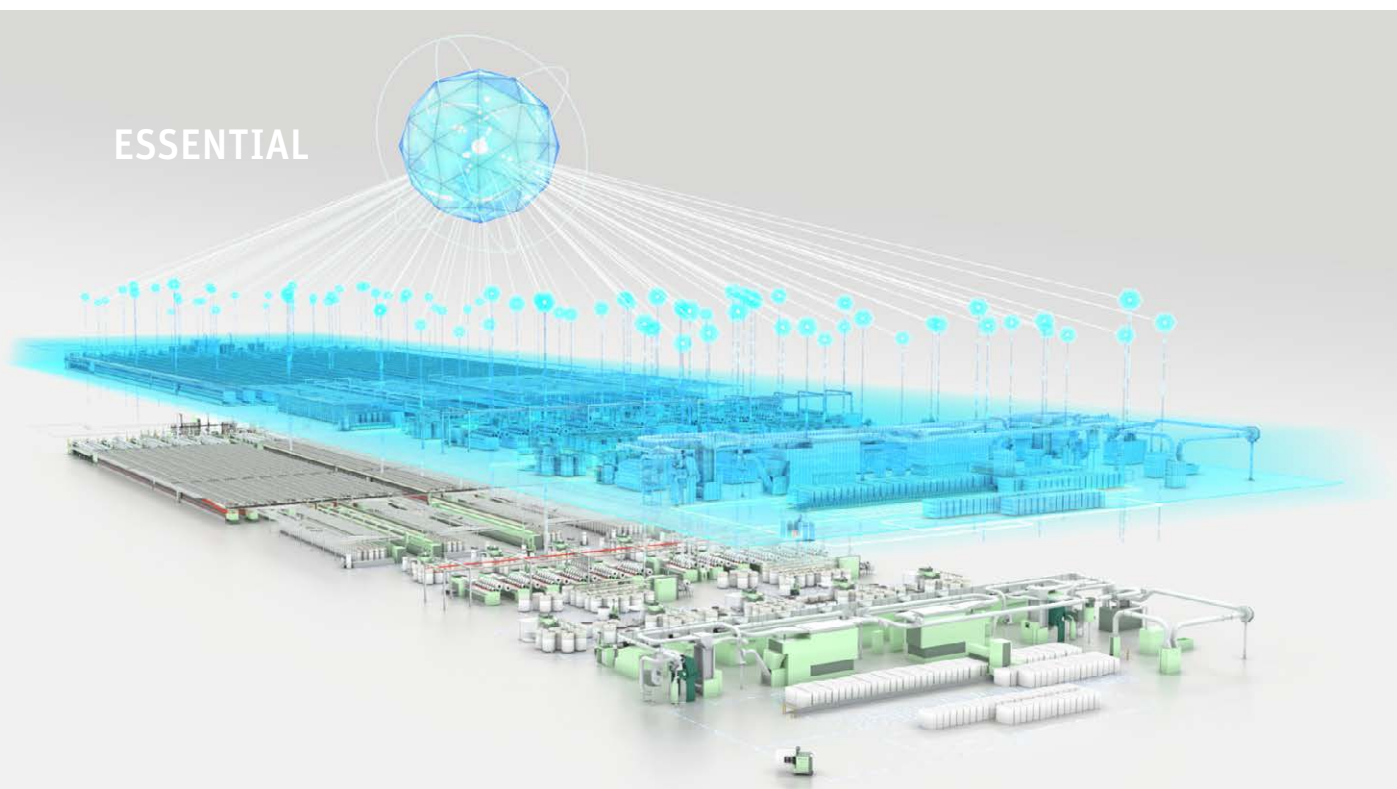
In real time, ESSENTIAL shows how efficiently the spinning mill is running and how much yarn is currently being produced. Whether production, efficiency, energy consumption, or quality – all relevant key figures are always in sight. If deviations from the target value occur, the system immediately provides specific recommendations for action. This informa-

tion helps to identify potential for optimization during the current shift and enables immediate implementation. This makes spinning mills fit for the future.

Different modules for different requirements

The digital platform ESSENTIAL consists of three modules:

- **ESSENTIALbasic** provides basic functions for a more efficient work routine, such as access to the web shop, operating instructions, and Rieter expertise.
- **ESSENTIALmonitor** monitors production in real time and detects weak points. It tracks data such as energy consumption, quality, productivity, and maintenance.
- **ESSENTIALoptimize** goes one step further. The module uses artificial intelligence (AI) for data analysis and derives concrete solutions from it. Mill managers receive specific recommendations for action to further optimize their yarn production.



ESSENTIAL ensures transparency and efficiency – paving the way for fully automated spinning mills.

With the next generation of machines, all Rieter machines will be geared toward digital spinning mills as the standard. This means even more transparency, higher efficiency, and improved profitability thanks to comprehensive digital process monitoring and control. Retrofitting with ESSENTIAL is an effective solution that is customized and tailored to the existing machines in the spinning mill.

Unlock the full potential with ESSENTIALoptimize

ESSENTIALoptimize brings the digital technologist to the spinning mill. The software combines AI methods with Rieter's textile technology expertise to find faults more quickly and suggest possible solutions. With ESSENTIAL, the supervisor can pass these suggestions on to the operating personnel directly as a work order.

For example, if yarn cuts occur on the winding machine more frequently, this often indicates hidden quality problems in the upstream process stages. A typical example is thick places in the sliver. Based on measurements taken by the Rieter Quality Monitor, ESSENTIALoptimize visualizes these thick places simultaneously for the card, comber, and draw frame – over an impressive period of nine production shifts. Working on the basis of clear rules, defined limit values, and the evaluation of historical machine data, ESSENTIALoptimize detects and reports these types of errors long before they appear in the yarn. This not only saves raw material but also optimizes control, improves safety, and increases the profitability of the spinning mill.

Quickly detect and correct malfunctioning spindles

ESSENTIALoptimize also visualizes the winder quality data collected by Ring-Winder Connect and precisely assigns it to the spinning position of the connected ring or compact-spinning machine. If the quality is not satisfactory, an LED signals to the operator that immediate action is required, thus enabling a prompt and focused response. An optional roving stop automatically interrupts the roving feed. The detection of alarm cops and off-standard cops is a unique feature on the market. Alarm cops have faulty yarn, so it is necessary to stop the spinning position immediately. Off-standard cops come from spinning positions that produce "tolerable quality yarn" but still have a below-average quality level.

Monitor energy consumption and quality

In addition to production data, energy consumption and quality data can be accessed in ESSENTIAL. For quality



Keeping an eye on yarn production provides security – at any time and from any location.

data, there are various sources, including the Rieter quality monitors for the card, draw frame, and combers, as well as the yarn clearers of rotor spinning and air-jet spinning machines. In addition, ESSENTIAL allows for central viewing and evaluation of data from the piecing robot ROBOSpin on ring and compact-spinning machines, as well as from the robots on rotor spinning and air-jet spinning machines.

Basis for the future

Rieter is continuously developing further solutions to optimize the spinning process and ease the workload for spinning mill employees. ESSENTIAL makes spinning mills not only more transparent and efficient, but also fit for the future.

Place an order in just a few clicks

For information about the new Rieter Webshop – one component of ESSENTIAL – see the next page.

Discover more information on our
ESSENTIAL website.

<https://l.ead.me/bbAD1M>



Smarter, Faster, and Simpler Parts Ordering

Powerful new Rieter Webshop

Rieter has taken a bold step into the future of digital customer service with the launch of its new webshop. The cutting-edge self-service platform empowers customers with smart sourcing of spinning and winding spare parts, upgrades, and retrofit solutions.

This dynamic digital platform offers more than just a new look; it redefines the customer experience. By combining intelligent tools, real-time data, and seamless usability, the webshop brings a new standard of efficiency and transparency to customers' procurement processes.

Spare parts ordering made easy

Designed with users in mind, the new webshop makes it easier than ever to identify, select, and order the right components. Upon popular request from end users, the new webshop includes product images for focus parts, technical specifications, and key benefits, designed to support procurement teams and machine operators alike.

"We order approximately 96% of our spares through Rieter Webshop. It has completely changed how we manage our spare parts. It is reliable, quick, and accurate. The platform has significantly improved our efficiency and reliability, and it gives us the confidence to keep our operations running smoothly," says Rajat Mehra, HOD Purchase, Nitin Group.

Tailored to customer needs: holistic, visual and personal

Customers can browse personalized catalogs based on their installed machine base, making searches faster and more relevant. With structured categories and advanced filters, locating the right part is both quick and precise.

24/7 access to inventory and pricing

Built on a robust cloud-based infrastructure, the new webshop delivers round-the-clock access to real-time pricing, inventory availability, and shipping timelines. Manual inquiries are now a thing of the past. With increased system reliability and performance, the platform is designed to make the entire after-sales experience smoother, faster, and more intuitive.

Quotes and orders can be created at any time, from anywhere. Real-time email notifications keep procurement teams and mill management aligned and informed, with all relevant documents accessible instantly. The offer or order dashboard brings full transparency and reduces follow-up work.

"The Rieter Webshop has become an integral part of our daily operations. The platform is intuitive, making it easy for our team to quickly find the right parts with precise information and transparent pricing. We no longer waste time searching through emails or catalogs; everything we need is just a few clicks away," says Aman Kushwaha, President Commercial, Sintex Industries Ltd.

Ready for the future

With this powerful new platform, Rieter empowers its customers to take control of their procurement like never before – faster decisions, smarter tools, and complete visibility at every step.



Customers confirmed: everything is just a few clicks away.

Experience the new Rieter Webshop and how it brings a new level of efficiency and transparency to your procurement process.

<https://l.ead.me/RieterWebshop2025>



One Step Closer to Autonomous Winding

Automated cop handling with the new Cop Exchanger

The winding machine Autoconer X6 is now equipped with a Cop Exchanger that automatically rejects defective cops. This ensures fewer interruptions, reduces the workload for personnel, and keeps quality and performance at a consistently high level. The new, compact machine design simplifies both operation and integration into existing buildings.



Fig. 1: The Autoconer X6 with the new automatic Cop Exchanger reduces the workload for personnel and increases process reliability.

Customers with a high degree of automation rely on the Autoconer X6 Type V with its direct connection to the ring spinning machine. The current version now offers a Cop Exchanger that automates manual rejection of defective cops (Fig. 1). This feature increases process reliability and improves quality.

Automated rejection

The Cop Exchanger works on the basis of the SPID spindle identification system. It detects faulty yarn, known as alarm cops, and cops that are still tolerated but of below-average quality, which are known as off-standard cops.

In addition, sensors in the automation modules detect the processing status of the cops and identify those that cannot be processed, for example. SmartTrays and RFID technology

help to move all the cops through the material flow with systematic precision. According to the recorded data, the Cop Exchanger automatically removes the affected cops from the process and sorts them into two separate containers. It then attaches an empty tube.

Maximum process reliability

Further advantages of the Cop Exchanger are its ease of use and flexibility. It has a high empty tube capacity and allows for two batches with the same tube length to be processed in parallel. Its containers are very easy to change. Customers also benefit from maximum process reliability. For example, the familiar decentralized material flow concept allows for combination with tube cleaning and a color check in order to monitor the tube color and ensure correct assignment to the corresponding SmartTray.

Space-saving design and improved ergonomics

The new, more compact machine design improves space efficiency in the spinning mill for all machine lengths – right up to the longest versions with 96 winding positions. This feature is particularly important when integrating the machine into an existing building. This means that the more compact energy unit saves space. It also means that a section now consists of six or ten winding positions instead of four or six as before. This fact reduces the machine length by 350 to 818 millimeters.

As part of the redesign, the developers also optimized the machine's ergonomics and ease of use: the operating height at the winding unit is now 80 millimeters lower. This makes the operator's work safer and significantly more comfortable. With its new color scheme, the Autoconer now matches the Rieter ring and compact-spinning systems perfectly.

Discover the new features of the Autoconer X6. The Cop Exchanger in action.

<https://l.ead.me/bgJ9i5>



Doubling Speed, Elevating Quality

The impact of precision assembly winder NEO-BD

At the heart of modern textile production lies a fundamental challenge: how to wind yarn packages with absolute precision while maintaining the highest production speeds. The NEO-BD precision assembly winder addresses this challenge with modern, complementary technologies that expand the boundaries in this industry.

The textile industry's relentless pursuit of higher speeds, better quality, and lower costs in assembly winding has found its answer in Swiss precision engineering. The NEO-BD precision package winder from SSM Schärer Schweizer Mettler – a Rieter subsidiary – represents a meaningful step forward, offering enhanced control and notable improvements in operational efficiency.

Gentle yet powerful processing

The NEO-BD's excellent performance is based on its proven counter-rotating blade system, the most yarn-friendly technology available. This virtually wear-free traverse mechanism enables production speeds of up to 1 600 m/min with minimal yarn stress and low operating costs while ensuring superior yarn quality.

Revolutionary density control

Another highlight of the NEO-BD is its groundbreaking *preciforce* system, the first to continuously regulate back-pressure force during winding. This patented technology enables precise control of package density with remarkable accuracy down to ± 1 g/l, ensuring a consistent final diameter across the entire machine. When combined with closed precision winding, where yarn is laid closely with minimal spacing, it creates a compact package with less air inside. This is ideal for twisting applications, where smaller twisting pots and reduced yarn balloon size contribute to significantly lower energy consumption.

The *digitens* online tension control system adds to this by keeping yarn tension steady. This improves consistency in both yarn tension and density for uniform package quality across all winding positions and batches.

The NEO-BD also offers precise length measurement – achieving an accuracy of $\pm 0.3\%$ in cylindrical applications. This helps control package weight more effectively, which is essential for block doffing operations and better performance of downstream twisting machines.



Fig. 1: The NEO-BD precision assembly winder: advanced textile manufacturing technology for superior assembly winding

Proven success in China

Hebei Jingze Textile Co., Ltd, a leading Chinese sewing thread manufacturer, provides compelling evidence of the NEO-BD's capabilities in action. The company manages 220 000 spindles and produces 35 000 tons of sewing thread annually. Under growing pressure from customers to reduce hairiness, offer flexible package weights, and eliminate defects – all while doubling production speed – Hebei Jingze turned to SSM's NEO-BD technology for a solution.

After installing five NEO-BD machines, each with 72 spindles, the results surpassed expectations: production speeds doubled from 500 to 1 000 m/min, overall quality levels improved by 5 to 10%, and package weight variation dropped from 25 to 30 grams to under 10 grams per package.

“After trials and comprehensive demonstrations, we believe that SSM's assembly winders can perfectly meet all our demands for product upgrades,” explains Mr. Liu Ruigang, Owner of Hebei Jingze Textile Co., Ltd.

Comprehensive operational benefits

Beyond faster production speed, Hebei Jingze achieved a 5% efficiency gain in their entire twisting process thanks to package weights that increased by up to 33%. These heavier, more consistent packages allowed for longer production runs with fewer stops, while the precise length measurement helped cut down on material waste.



Fig. 2: Counter-rotating blade system: the heart of the NEO-BD's yarn-friendly winding technology, enabling high speeds with minimal yarn stress



Fig. 3: Liu Ruigang, Owner of Hebei Jingze Textile Co., Ltd. achieved 5% efficiency gain in their entire twisting process.

The quality improvements were equally impressive. Issues like braided yarn defects and split yarn were eliminated, and yarn hairiness was reduced, enabling Hebei Jingze to meet their customers' increasingly stringent requirements while staying cost-efficient.

Most importantly, the company could now produce flexible package weights – 1.25 kg, 1.40 kg, and even 1.667 kg with 138 mm diameter – something that local machinery simply could not match. Encouraged by this success, the company added five more machines.

Watch the NEO-BD in action

See how the NEO-BD precision assembly winder transforms yarn winding with innovation and accuracy.

<https://l.ead.me/bgMYMt>



Yarn Quality That Drives Profit

The rotor spinning machine R 70 in use worldwide

The fully automatic rotor spinning machine R 70 combines advanced technology and innovative features. Customers confirm superior yarn quality, giving them the ability to adapt production speed or raw material. Along with energy-efficient solutions, they have benefited from lower operating costs and higher production performance.

What sets the R 70 apart is the innovative spinning unit and its components, which ensure superior yarn quality. The yarns are characterized by excellent properties, in particular high yarn strength and minimized IPI imperfections. Spinning mills can therefore optimize their production economically, for example by increasing the production speed or adapting the raw material (Fig. 1).

Innovative rotor cleaning

The stable yarn quality is further protected and assured by the integration of pneumatic rotor cleaning at each piecing. Complementing this, the patented self-adjusting mechanical rotor cleaning system, operated by the robot, ensures precise and effective removal of persistent deposits. This combination of innovative rotor cleaning solutions guarantees consistent performance.

Outstanding yarn quality advantages

The superior yarn quality enables lower twist levels, which in turn allows for higher production speeds and more cost-

effective yarn manufacturing. The quality advantage can alternatively be exploited by adding a greater proportion of non-virgin raw material, such as recycled fibers, noil, or waste directly into the blends. This significantly reduces raw material costs. For example, in the case of a fine yarn count of Ne 30, the addition of non-virgin raw material can easily amount to 50%.

Unique trash extraction

Thanks to the unique function for trash extraction, called BYpass, unwanted waste is eliminated while preserving valuable spinnable fibers. It offers four adjustable levels to control the waste in terms of both the amount and the type of waste. This flexibility ensures optimal fiber yield suited to specific applications, enhancing both efficiency and quality in the production process.

Economic benefits with low energy consumption

Individual drives at each spinning position and reduced main suction requirements enhance production economy. The optional suction system ECOrized allows suction to be switched off when the spinning box is not spinning or deactivated. Automatic filter cleaning further contributes to an energy-saving suction system. Also, the compressed air volume used with the R 70 is lower: it is only one-third compared to the competition. Collectively, these innovative features help customers reduce overall electrical energy consumption, resulting in more cost-effective and sustainable production.

Yarn quality of R 70 compared to competition

Ne 30, 100% cotton, weaving, delivery speed 141 m/min

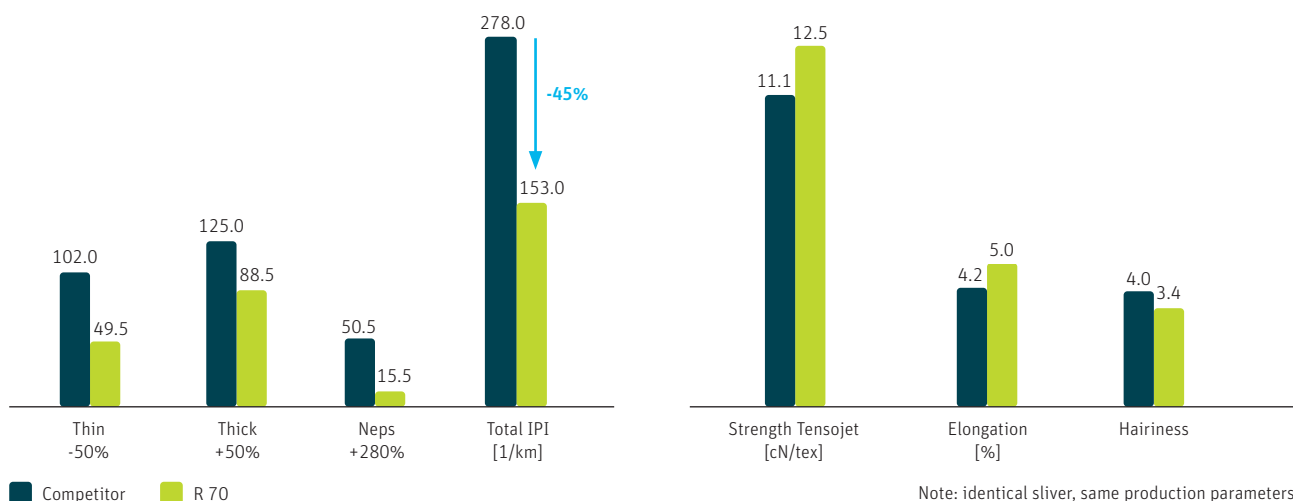


Fig. 1: Customers confirm superior yarn quality, which enables faster production or raw material adjustments.



Salomon Alfie, General Manager, American Cotton, Mexico

“With the fully automatic rotor spinning machine R 70, we benefit from stable high-speed production that allows for machine efficiencies of over 97% as standard. The high yarn quality allows us to export our knitting yarn to demanding customers. The fact that we have a complete Rieter system from bale to package supports the high yarn quality and performance of the R 70. Experienced Rieter experts supported us in setting up the spinning mill and optimizing it according to our needs.”

Flexibility to produce small lots

The R 70 is equipped with flexible features designed to adapt to changing production needs and to produce small lots. Standard machine equipment includes the function VARIOlot, which supports up to four lots on one machine. Selected units can be designated for independent sampling tests. Individual spinning unit automation enables multiple piecing at up to 36 spinning positions as part of the standard configuration. This allows for a quick machine restart when, for example, a continuous lot change is not possible. For added creative possibilities, the product range can be expanded with the optional feature VARIOspin, which enables the production of effect yarns.



Bülent Duran, Chairman, Yakut Iplik San Tic Ltd Sti, Türkiye

“The spinning unit technology of the R 70 ensures the production of high-quality yarn. Innovative technological components retrofitted to the machines help us to increase production speed in viscose spinning and further improve yarn quality. A special fiber guiding element increases the yarn strength in fine cotton yarns.”

With these innovative features and a strong emphasis on yarn quality and productivity, the fully automatic rotor spinning machine R 70 provides customers with significant advantages in terms of performance.

Innovative Graf Components for Cards

Customers confirm less wear and no maintenance, no grinding

With the flexible card flat HYPERTOP and the carding wire TUCAN, the Rieter subsidiary Graf has two new card components in its portfolio that guarantee optimum, consistent yarn quality, ensure greater efficiency, and reduce maintenance. Two spinning mills have tested the products.

Carding is a crucial process in yarn production. The card is where the final yarn quality is determined. That is why the primary goal of Rieter subsidiary Graf & Cie AG is to develop card wires that guarantee optimal and, above all, consistent quality in the final product.

Save good fibers with Graf HYPERTOP

The flexible HYPERTOP card flat, introduced in 2024, promises significantly better fiber utilization compared to similar products. The Indian textile company Pee Vee Textiles Limited (PVTL) therefore decided to equip its Rieter C 60 cards with HYPERTOP on a trial basis. The company wanted to find out whether the Graf component is capable of reducing fiber waste and lowering production costs.



Fig. 1: For Pankaj Mahajan, Maintenance Manager at Pee Vee Textiles Limited, the significantly higher fiber yield and consistent yarn quality with HYPERTOP are important.

“The fiber yield has improved significantly, and yarn quality remains consistently high,” says Pankaj Mahajan, Maintenance Manager at PVTL (Fig. 1). Thanks to the new card flat, PVTL saves up to 0.5% of good fibers. “This solution fits perfectly with our goals for efficiency, quality, and sustain-



Fig. 2: Aziz Nohutlu, General Manager/Member of the Board, Nipaş Tekstil, appreciates the significantly lower operating costs with TUCAN.

ability,” explains Pankaj Mahajan. Now there are plans to use HYPERTOP on all machines.

No more grinding thanks to TUCAN

The new TUCAN carding wire also has a lot to offer. It requires no maintenance and the advanced tooth design ensures superior fiber guidance. Turkish yarn manufacturer Nipaş Tekstil wanted to know how the TUCAN concept performs in practice.

“This technology has significantly reduced our downtime and operating costs while increasing efficiency at the same time,” says Aziz Nohutlu, General Manager of Nipaş Tekstil (Fig. 2). “Even after processing 1 000 tons of fibers, we have achieved consistently excellent yarn quality without grinding.” Because TUCAN is compatible with all common cards and is suitable for carding cotton and blends up to yarn count Ne 60, Graf’s newest carding wire is likely to quickly become an industry favorite.

What our customers say –
find out more here.

<https://qrco.de/GrafSuccessNews>



The Spindle That Saves Energy

Novibra's eNASA reduces energy consumption by 2 to 4%

The new Novibra spindle eNASA shows its full strength at high speeds, reducing the power consumption of the spinning machine by 2 to 4% compared to conventional spindles. This makes eNASA the first choice for spinning mills that want to improve their energy efficiency in ring and compact-spinning – without compromising the production output.

Ring spinning is the most widely used spinning process worldwide – but also the most energy-intensive. That is why every percent of electricity that can be saved has a significant impact on yarn production costs.

Consistent further development of the NASA spindle

As the name suggests, eNASA is a further development of the NASA spindle. This proven Novibra product has been valued by spinning mills around the world for decades – and eNASA has the same strengths. These include minimal vibrations, the low noise level, and the ability to run at very high speeds of up to 30 000 rpm.

The big difference to its predecessor is that the eNASA spindle is significantly more energy-efficient. Initial measurements show energy savings of 2 to 4% compared to the familiar model. High-precision technology, double damping, and a reduction in the wharve diameter to 17.5 mm are the factors that have made this success possible. The savings are particularly noticeable at speeds of 20 000 to 30 000 rpm (Fig. 1).

Energy consumption in relation to spindle speed
Internal comparison of NASA and eNASA spindles

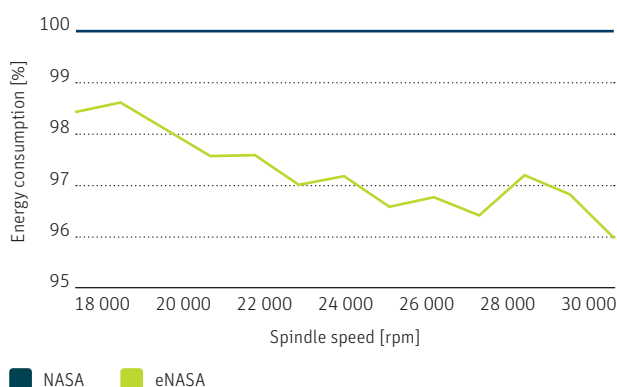


Fig. 1: Initial measurements show energy savings of 2 to 4% with eNASA.



Fig. 2: The energy-efficient eNASA spindle is compatible with all Novibra clamping crowns.

Compatible with existing systems

The new spindle is compatible with all Novibra clamping crowns (Fig. 2). The oil filling is the same as for existing spindles – no new equipment is required. The spindle can be used to process all raw materials with a yarn count of Ne 20 and finer, as well as for tube lengths up to 210 mm.

Committed to sustainability

Like its parent company, Rieter, the Czech subsidiary Novibra also aims to develop sustainable products that contribute to resource- and energy-efficient yarn production. The product range is impressive not only because of its high performance, but also because of its high energy efficiency, long service life, and low maintenance requirements. Thanks to this consistent focus, Novibra is now the world's leading supplier of high-speed spindles for ring and compact-spinning machines.

Modernizing the Smart Way

Upgrading ageing compact-spinning machines to increase flexibility

Converting timeworn Rieter compact-spinning machines to conventional ring spinning machines – optionally with compacting devices – is a viable solution when a machine has reached the end of its service life. This upgrade provides spinning mills with greater flexibility, boosts productivity by up to 10%, reduces imperfections and classimat values by up to 15%, and saves energy.

As a compact-spinning machine approaches the end of its operational life, typically after a decade or more of high-quality performance, certain key technology components may require replacement. At this point, many customers begin evaluating options such as refurbishment, conversion, or new machine investment, a decision that involves both technical and financial considerations.

Smart and sustainable modernization

When investing in a new machine is not a preferred option, converting ageing compact-spinning machines into conventional ring spinning machines – optionally equipped with compacting devices – can be a practical and cost-effective

solution. This conversion provides flexibility, allowing mills to produce ring yarn one day and compact yarn the next, enabling quick responses to changing market and customer demands. The process involves targeted modifications in the drives and drafting zones without altering the core structure of the machine. Spinning mills can choose one of the latest generation compacting devices, like COMPACTapron, to meet specific quality and performance goals.

Increased productivity, enhanced quality, improved flexibility

The benefits of this smart upgrade are clearly visible in real-world applications. In a recent case, a Rieter compact-spinning machine K 43 was successfully converted to G 33 with COMPACTapron for processing Ne 60 cotton combed compact yarn. The results compared to the timeworn compact-spinning machine were impressive: the yarn quality matched the original quality with the sieve drum system in terms of hairiness and strength (RKM) at an increased productivity of up to 10%. There is a substantial reduction in yarn imperfection and classimat values of up to 15%.

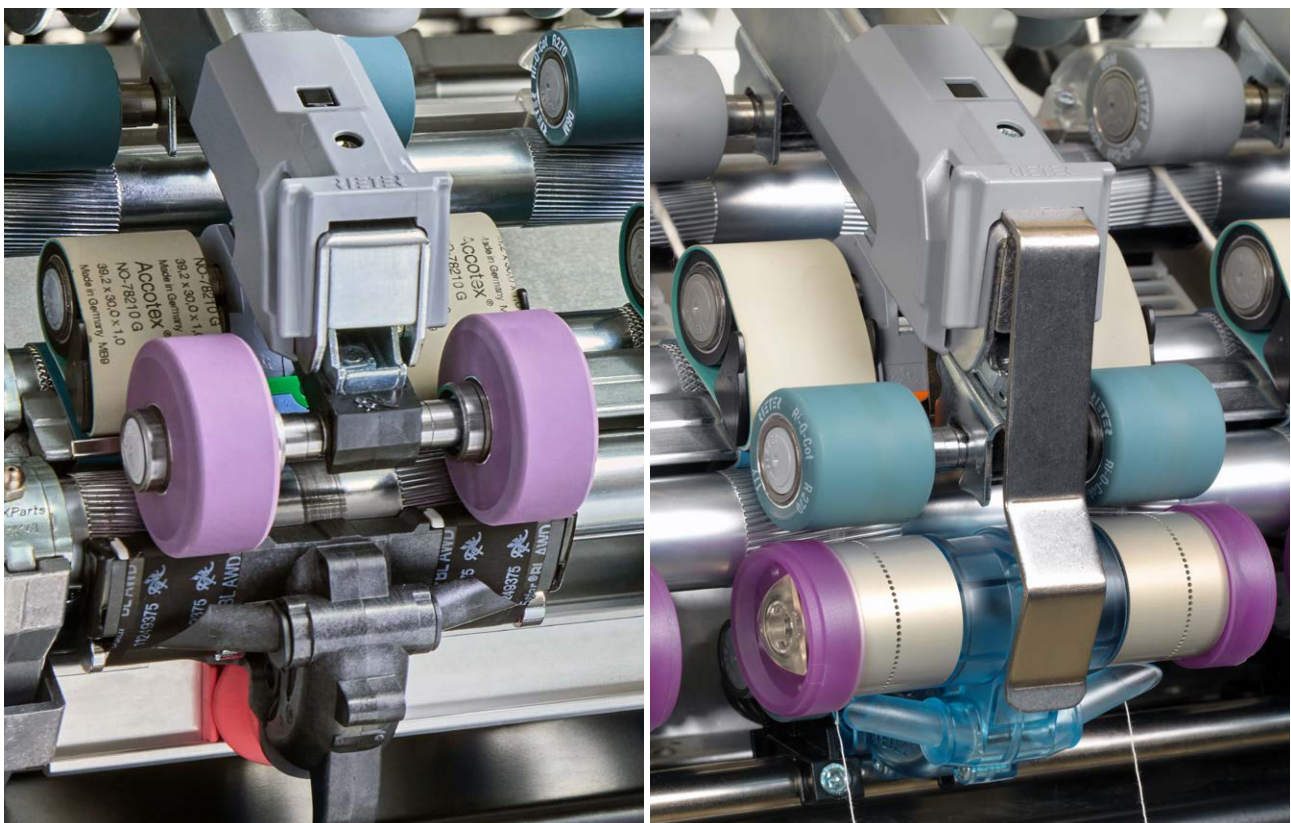


Fig. 1: A smart solution: converting timeworn Rieter compact-spinning machines to conventional ring spinning machines – with optional compacting devices

In addition, the latest compacting devices consume less energy due to reduced suction demand, leading to noticeable energy savings. The plug-in and plug-out design of the compacting devices allows for quick changeovers between compact and conventional ring spinning, supporting mills with increased flexibility to adapt swiftly to market demands.

Offering a smart alternative to full replacement, this upgrade combines trusted machine performance with cutting-edge compacting technology.

Doubling the Proportion of Recycled Fibers in Yarn

More sustainable products with regenerated cellulose fibers

The production of recycled textiles is becoming increasingly important. A key challenge in spinning recycled cotton is the high proportion of short fibers and neps. A promising solution is blending it with sustainably produced cellulose fibers. Collaboration with industry partners offered valuable insights throughout the entire process, right through to the final product.

Growing environmental awareness and regulatory guidelines are strengthening the demand for textiles made from sustainable fibers. Whether recycled cotton, sustainably produced cellulose fibers, or blends of these materials – combining different sustainable raw materials opens up new possibilities for responsible textile production that conserves resources.

Short-fiber content is crucial

In the production of ring yarn, the focus is on achieving the highest possible proportion of recycled cotton fibers in the yarn with the lowest possible loss of quality. The biggest challenges when spinning a blend of recycled and “fresh” cotton fibers (raw cotton) are the high proportion of short fibers and neps. The higher these are, the more difficult it is to spin them on the ring spinning machine.

New approaches thanks to cooperation

An extensive trial was conducted in cooperation Birla Cellulose, an Indian fiber manufacturer, and Recover, a Spanish manufacturer of recycled cotton fibers. The goal was to produce a sustainable, recyclable yarn with a high proportion of recycled cotton fibers. The idea was to replace the raw cotton, which naturally contains short fibers and neps, with the sustainable cellulose fiber produced by Birla, called Excel.

A blend with many advantages

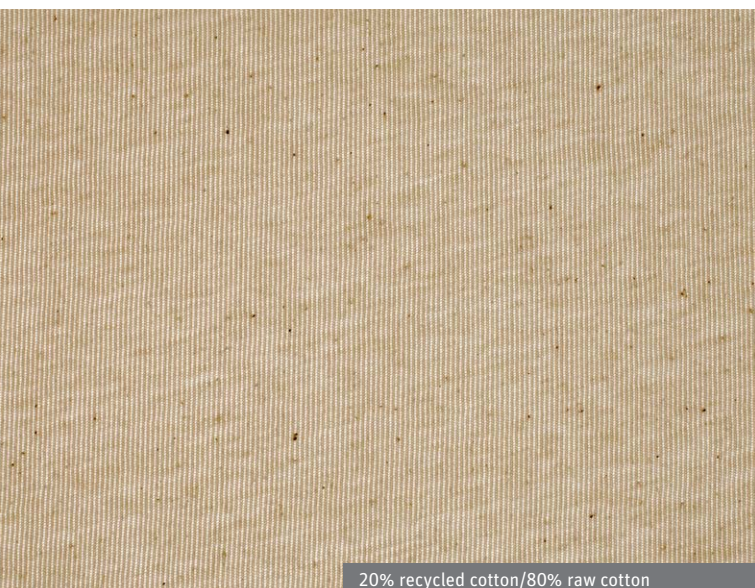
A major advantage of synthetic cellulose fibers is that they have a consistent fiber length. When blended with recycled cotton, the average fiber length increases while the proportion of short fibers decreases – improving the spinnability on the ring spinning machine. Another advantage is that the yarns are made entirely of cellulose fibers, which preserves the typical cotton characteristics and allows for further recycling.



RECYCLING

Recycled content doubled, quality improved

The standard yarn used in practice, consisting of 20% recycled cotton and 80% raw cotton, was used as a reference. In all other test positions, the raw cotton was replaced by various Birla Excel fibers, blended with varying proportions of recycled cotton, and then spun and processed into the final product.



20% recycled cotton/80% raw cotton

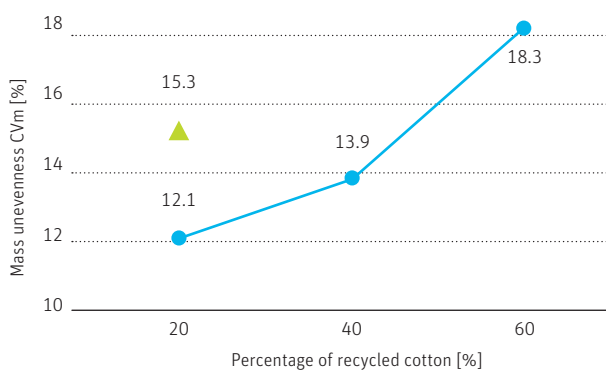


40% recycled cotton/60% Birla Excel fiber

Fig. 2: The final product with 40% recycled cotton is also visually appealing.

Yarn unevenness for various blends

Ring yarn, Ne 30, blend of recycled cotton with raw cotton and with Birla Excel fibers



- ▲ Reference: 20% recycled cotton/80% raw cotton
- Recycled cotton with Birla Excel fiber (34 mm, 1.0 dtex)

Fig. 1: The Birla Excel fiber blend with 40% recycled cotton shows a very good yarn unevenness.

The yarn with twice the recycled content was particularly impressive: 40% recycled cotton and 60% Birla Excel fibers (fiber length 34 mm, fiber count 1.0 dtex). The blend achieved superior results:

- significantly better yarn unevenness (Fig. 1),
- much more even fabric (Fig. 2),
- better hairiness, and
- better pilling behavior.

Sustainable alternative for customers

Replacing raw cotton with sustainably produced cellulose fibers significantly improves the yarn quality, spinning performance, downstream processing, and the final product. It is one possible way to create more sustainable products with new fibers.

Find out all the details in the technology publication “Advancing Circularity: Blending Man-Made Cellulosic Fibers with Recycled Cotton”

<https://l.ead.me/bgJ9jq>



230 Years of Innovation at Rieter

From a pioneer of the textile industry to a global technology leader



For 230 years, Rieter has always stood for groundbreaking innovations in textile technology. What began in 1795 as a small trading company is now a global technology leader – with a clear focus on working with customers to boost automation, digitization, and sustainability in the spinning mill.

The Rieter success story began on April 15, 1795, when Johann Jacob Rieter founded the company J. J. Rieter & Cie. in Winterthur, Switzerland. Rieter started as a trading company for exotic spices and cotton, but the business quickly expanded: the company invested in spinning mills, produced its own textiles, and soon focused entirely on building manufacturing machinery.

A pioneering spirit with a system

In 1891, Rieter became a joint-stock company – a milestone that has been followed by many others to this day. As the first machine factory in Switzerland to use electronic data processing, Rieter demonstrated its digital vision early on. Its own laboratories, prototype workshops, and test spinning mills also drove its culture of innovation forward.

Along with its subsidiaries Accotex, Bräcker, Graf, Novibra, Suessen, SSM, and Temco, today Rieter is well-known worldwide for its state-of-the-art machines, systems, and components that contribute to sustainability in the value chain of textile technology.

A clear vision

What's more, the company has a clear vision of what the future of spinning is supposed to look like: automated, digital, and intelligent. It is a vision that is linked to an ambitious goal. By 2027, the entire value chain of spinning mills is to be fully automated – with the help of solutions such as the ESSENTIAL digital platform, autonomous transport systems, and collaborative robotics.

“We extend our thanks to all our customers for their trust, loyalty, and constructive cooperation – in some cases across generations. Together, we’re shaping the future of spinning mills.”

Thomas Oetterli, CEO Rieter Group

A shared success story

Experience, technological expertise, and being close to customers – this combination has made Rieter successful for 230 years. Many developments that are now industry standards were conceived, tested, and brought to market maturity together with customers. What customers want and think is what sets the course.

At ITMA + CITME 2025
in Singapore, Rieter will
be presenting pioneering
technologies that pave the
way for fully automated
yarn production. We look
forward to seeing you there.



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