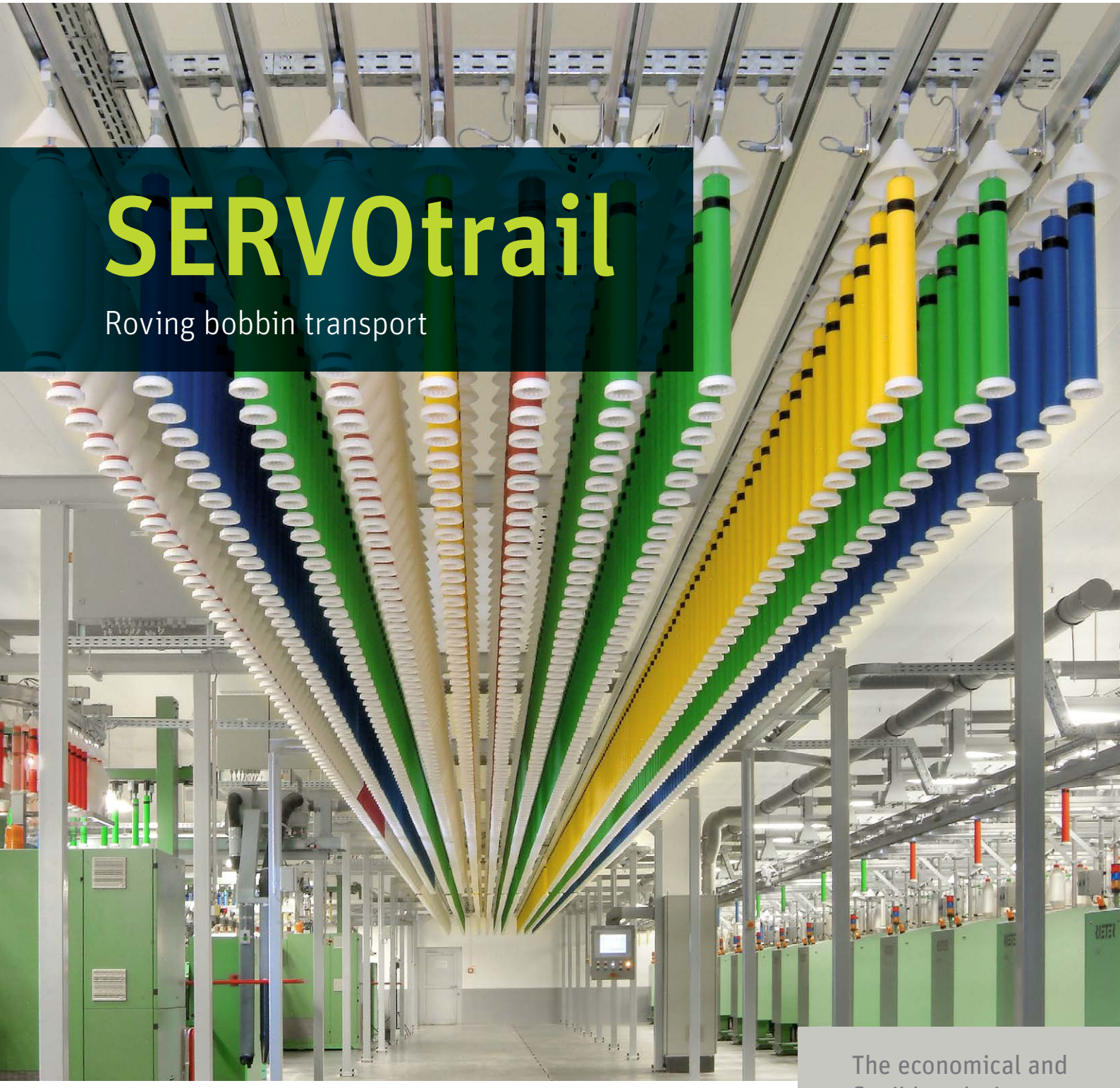
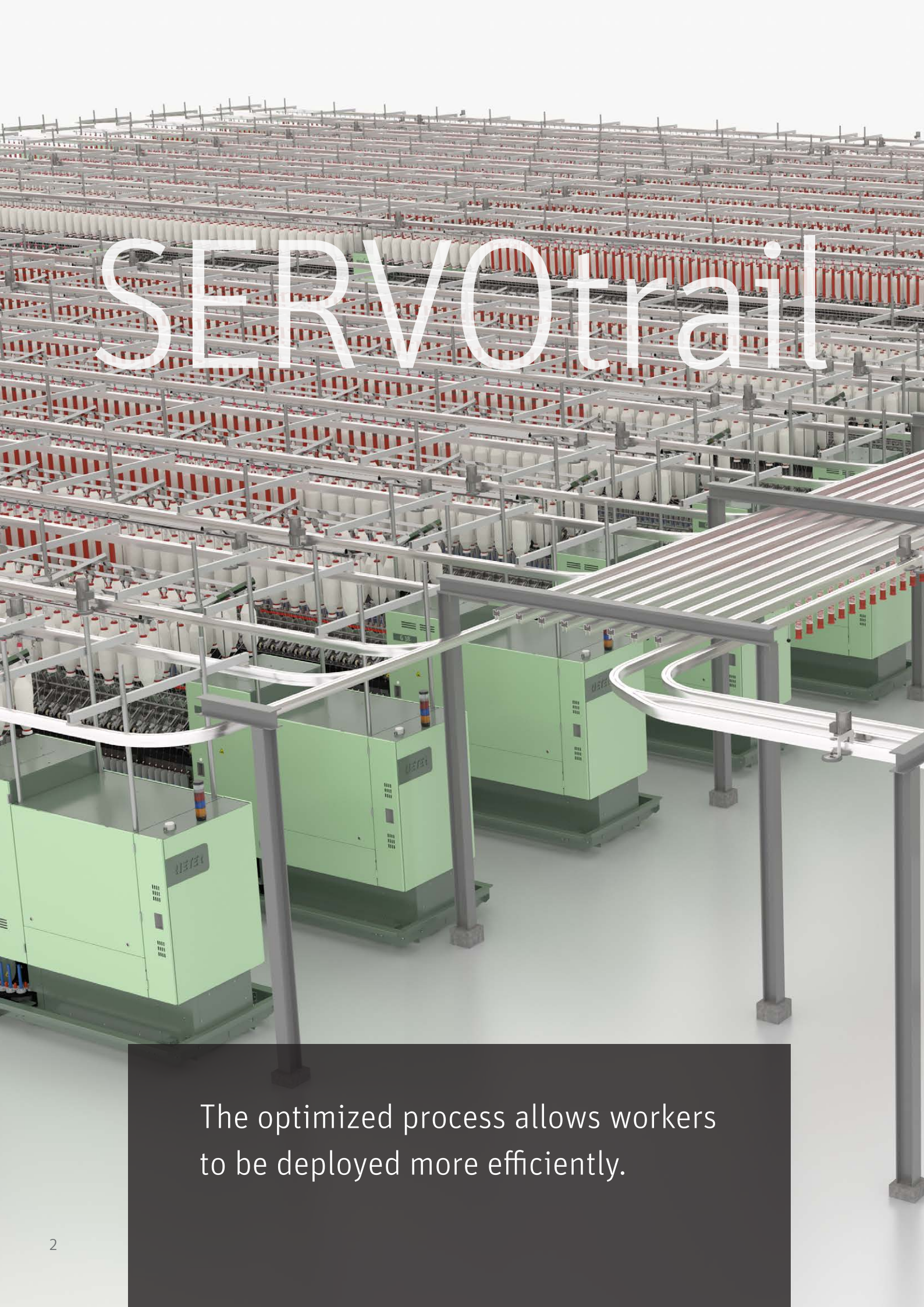
RIETER

SERVOtrail

Roving bobbin transport

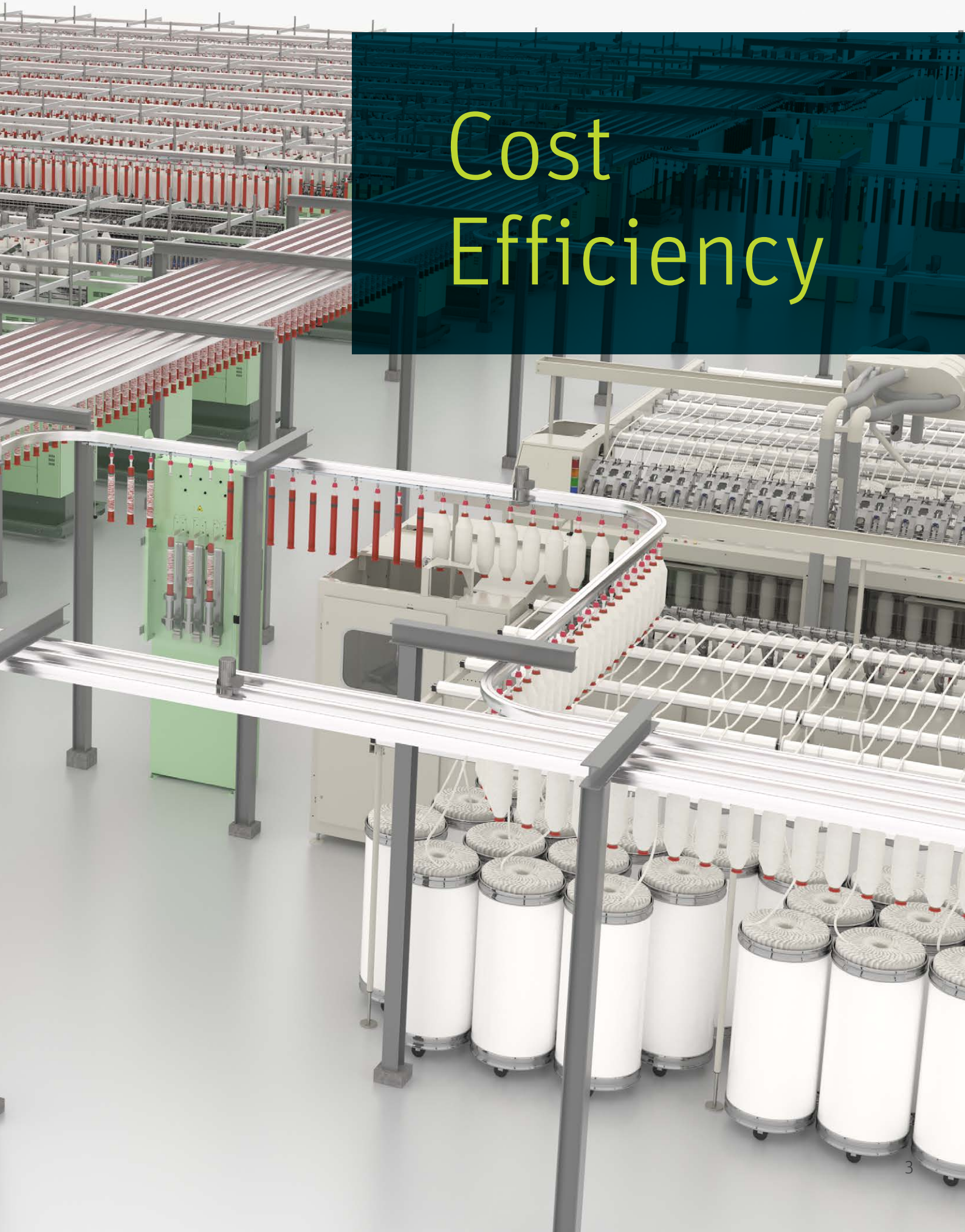


The economical and flexible solution



SERVOtrail

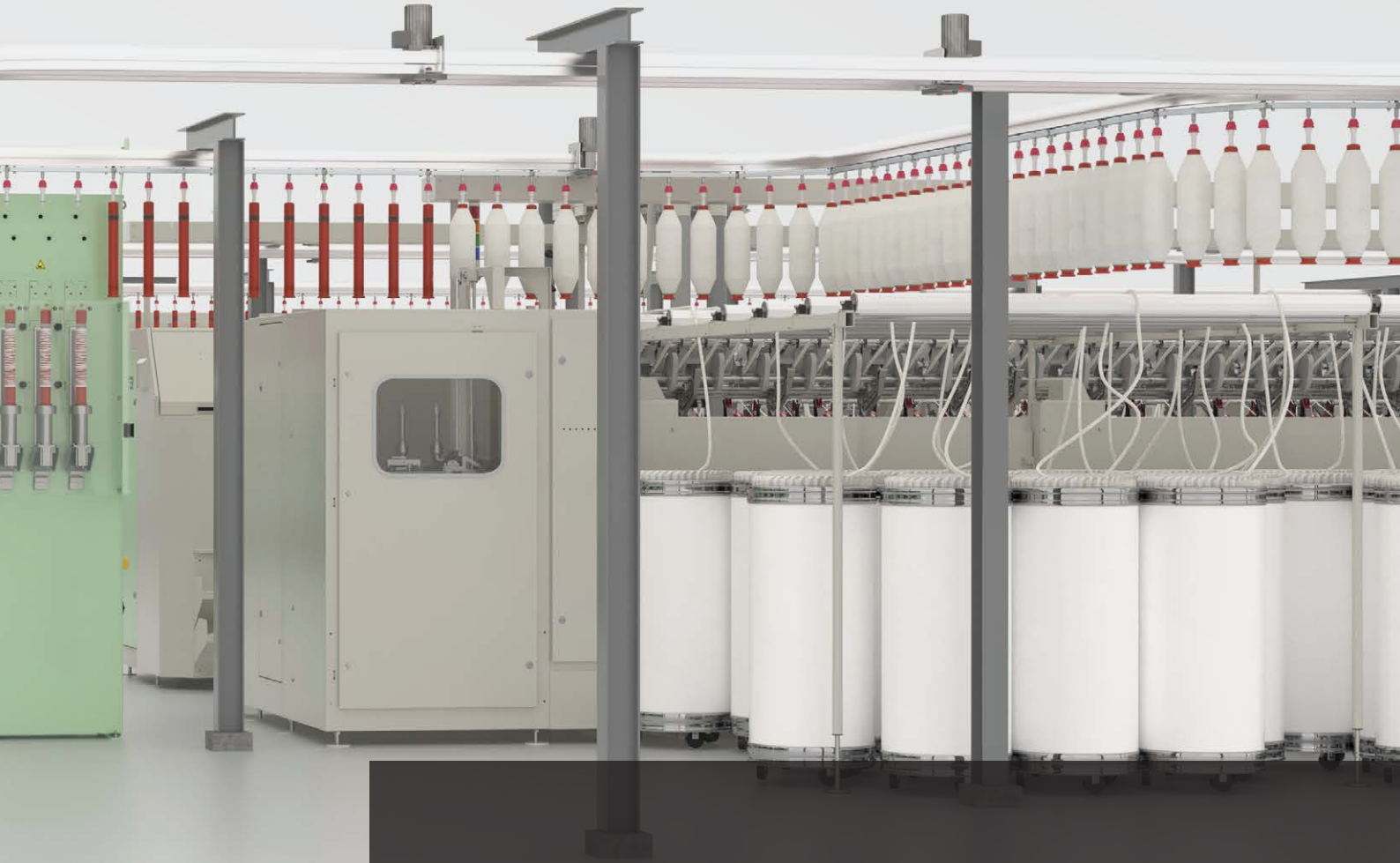
The optimized process allows workers to be deployed more efficiently.



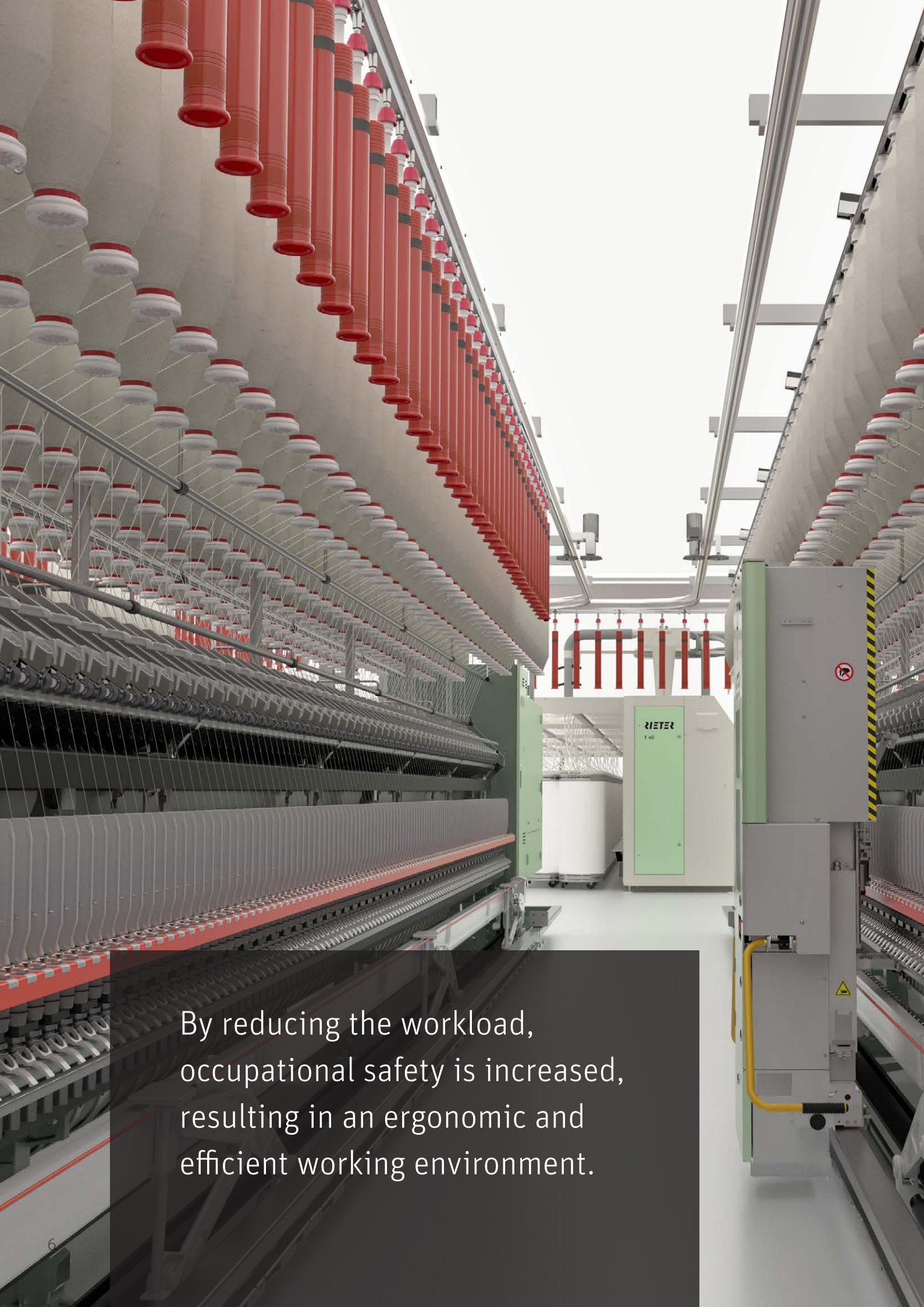
Cost Efficiency

Quality Assurance

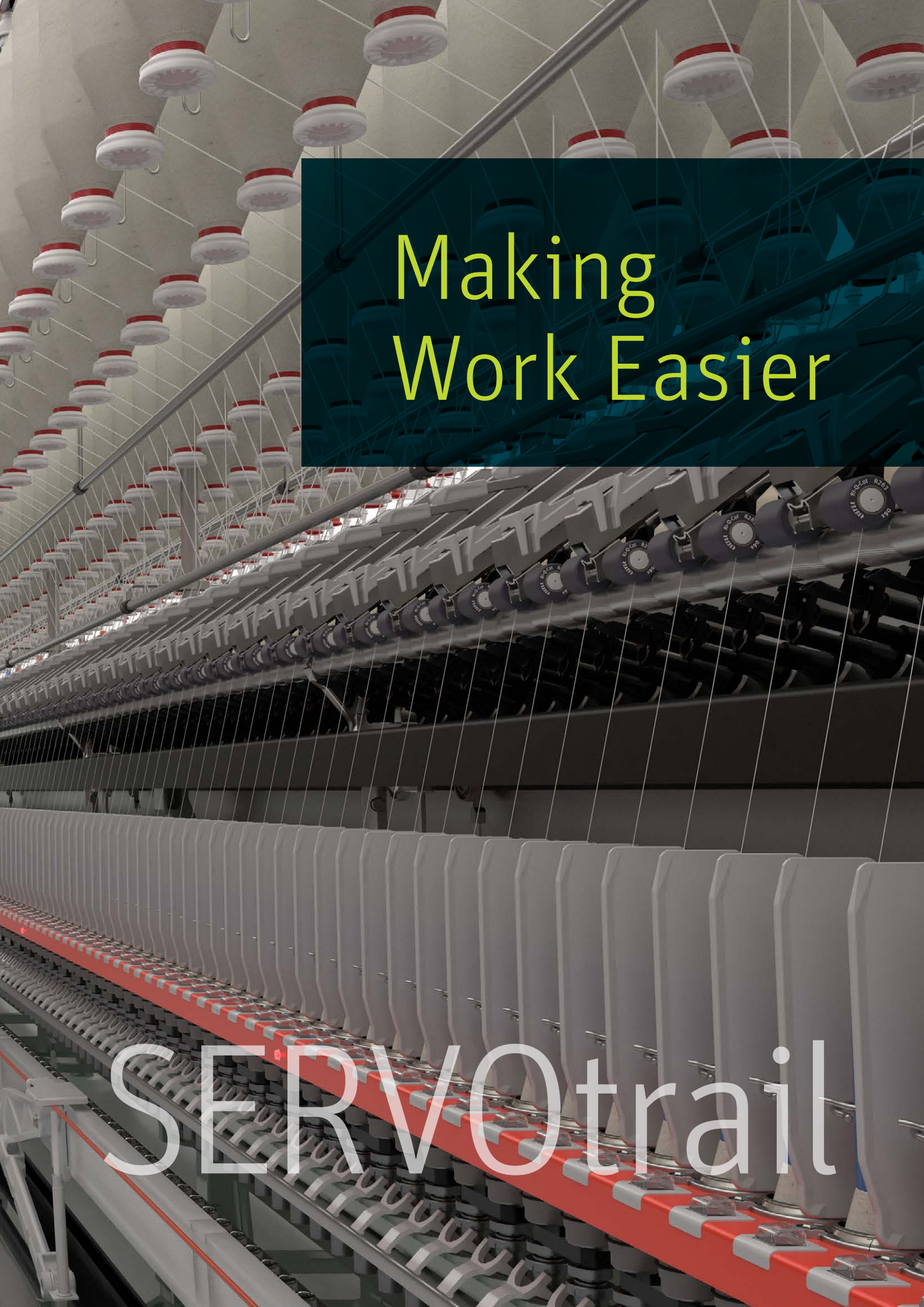
SERVOtrail



The gentle transportation prevents damage to the bobbins.



By reducing the workload, occupational safety is increased, resulting in an ergonomic and efficient working environment.


Making
Work Easier
SERVOtrail

SERVOtrail

OUTSTANDING ADVANTAGES

Reduced Personnel Requirement

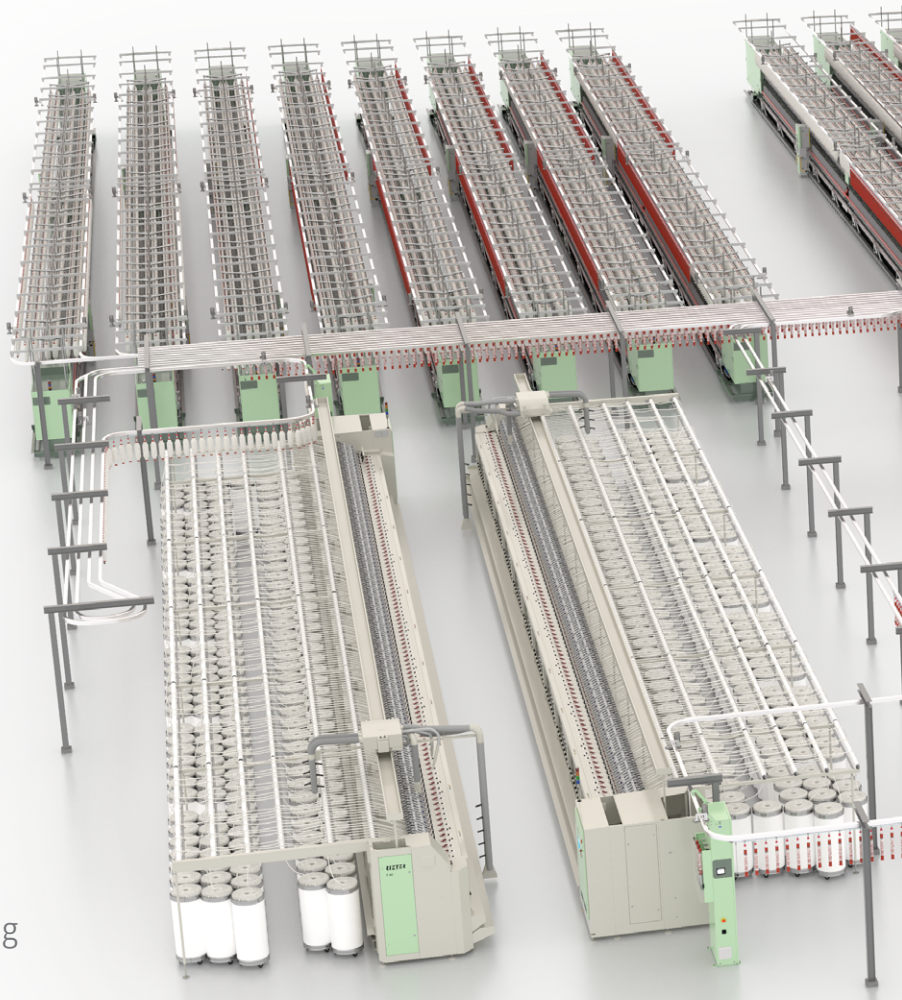
Automated roving bobbin transport and easy, ergonomic handling

High Machine Efficiency

Permanent availability of the full roving bobbins on the ring spinning machine

Guaranteed Roving Quality

Contact-free material transport from the roving frame to the ring spinning machine



Management of Different Assortments

Controlled allocation of several assortments

Modular

SERVOtrail adapts to the needs of the spinning mill

Controlled Intermediate Storage

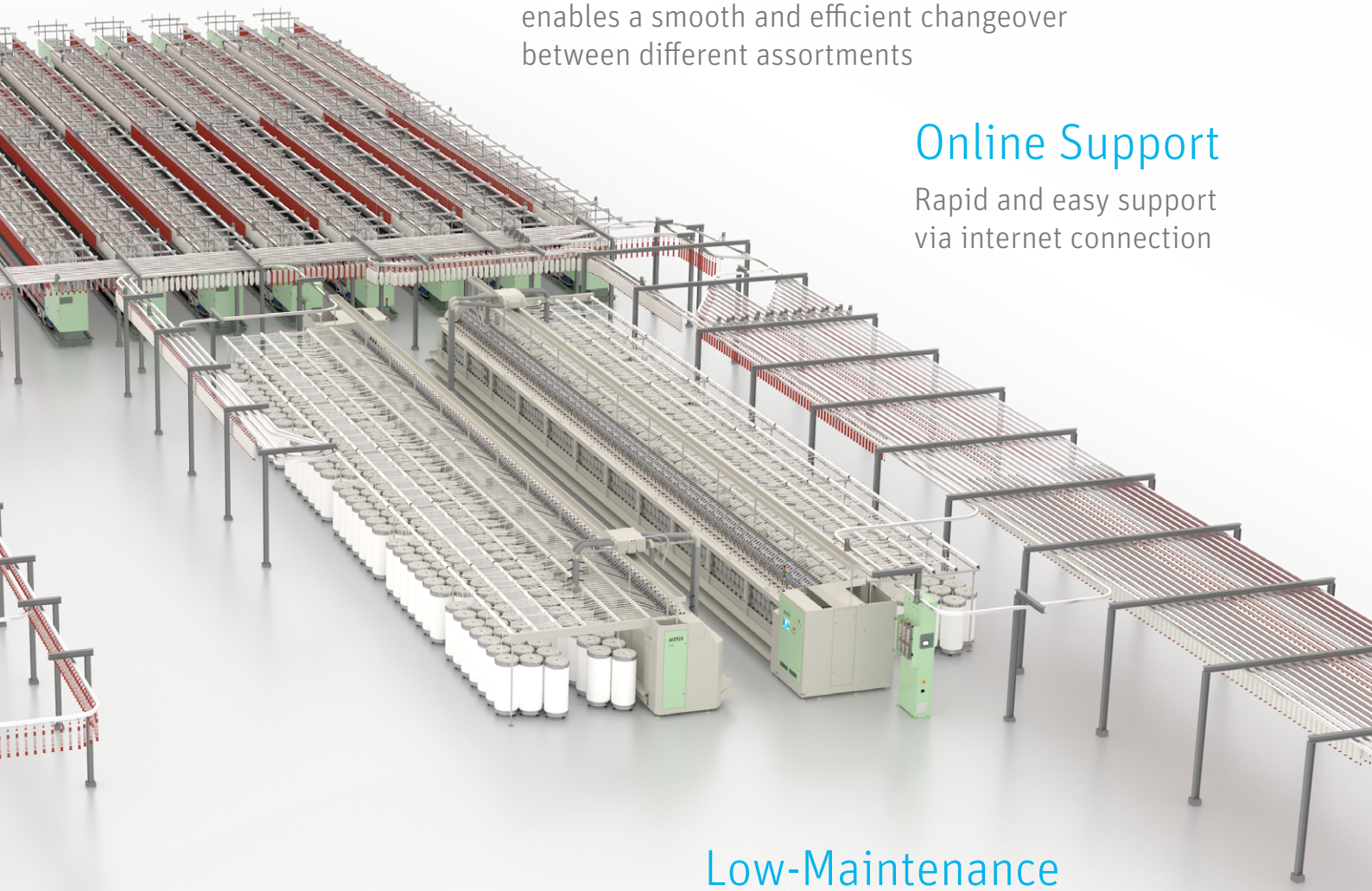
Absolute material control prevents ageing of bobbins

Article Change Buffer

The integrated article change buffer enables a smooth and efficient changeover between different assortments

Online Support

Rapid and easy support via internet connection



Automated Solutions

Automated flow of roving bobbins including bobbin stripping

Low-Maintenance and Long-Lasting System

Proven, stable components and simple design

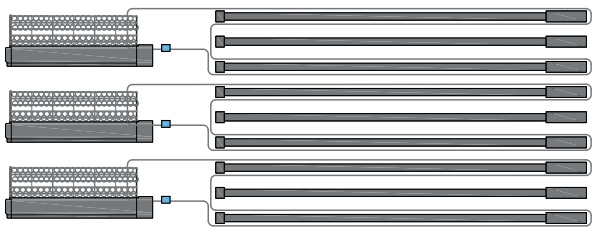
Customized systems for all needs

Different concepts of automation

The modular roving bobbin transport system SERVOtrail offers the optimal material flow between the roving frames and the ring or compact-spinning machines. It reduces personnel requirements, increases machine efficiency, and ensures excellent roving quality. Different assortments can be managed flexibly as the roving bobbins are assigned to the corresponding ring or compact-spinning machine in a targeted manner. SERVOtrail saves space, reduces the distance that operators are required to travel, and ensures that the spinning machines are freely accessible.

SERVOtrail Circuit

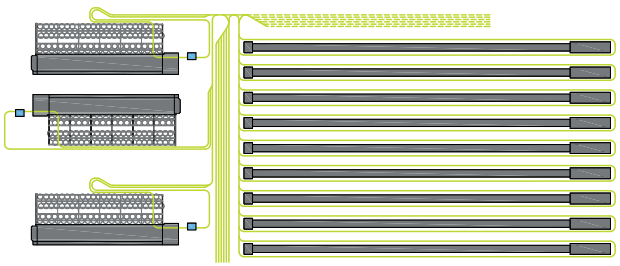
For spinning mills with a mainly unchanging assortment, the most cost-effective SERVOtrail Circuit is a suitable solution. Thanks to fixed circuits with one roving frame and three or four ring spinning machines, the Circuit systems offer very simple handling for spinning mills.



The SERVOtrail Circuit is the simple solution for unchanging assortments

SERVOtrail Flexible

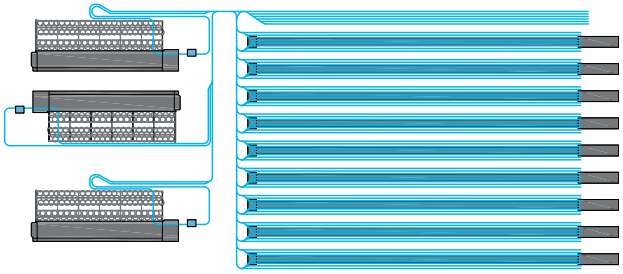
SERVOtrail Flex is primarily suitable for spinning mills that process various assortments. The system is designed in such a way that an unlimited number of roving frames and ring spinning machines can be integrated. In addition, every roving frame can also supply every ring spinning machine with roving bobbins.



The SERVOtrail Flexible system uses each roving frame to supply every ring or compact-spinning machine

SERVOtrail Direct

The fully automatic version – SERVOtrail Direct – fulfills the most stringent demands. The trains with the bobbins run from the fully automatic roving frame directly into the bobbin creel of the ring spinning machine and replace the conventional creel. They are automatically positioned above the ring spinning machine. Spinning takes place directly from the bobbin trains, which saves repositioning of the roving bobbins. With spinning of different assortments, transport of the roving bobbins to the correspondingly assigned ring spinning machines is guaranteed.



In the fully automatic and flexible SERVOtrail Direct system, the trains act as bobbin creels

Overview

Circuit
Unchanging assortment

Flexible
Assortment flexibility

Direct
Highest automation

Standard product offerings			
Roving bobbin holder	■	■	■
Roving bobbin	–	–	■
System buffer	■	■	■
Article change buffer (additional buffer)	–	●	■
Automated roving bobbin exchange	–	–	■
Easy maintenance station	■	■	■
Train cleaning station	■	■	■
Roving bobbin stripper	■	■	■
Remote support	–	■	■
Block change	–	–	■
Random change	■	■	–
Innovative user interface	–	■	■

■ Standard ● Option – not available

System buffer

The size of the system buffer is determined by the number of roving frames and ring spinning machines. Two trains are taken into account for each machine. The number of bobbins in the trains is matched to the number of spindles of the roving frames. The trains of the roving frames are parked in buffer rails between the roving frames and the ring spinning machines, while the trains of the ring spinning machines are parked in their own rails.

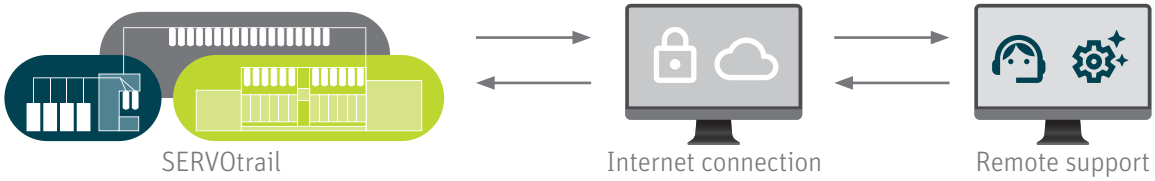
Article Change Buffer

This additional buffer is used for the smooth changeover of articles on the ring spinning machine. It allows the bobbins for the new article to be pre-produced, enabling a quick change-over on the ring spinning machine with minimal downtime. The article change buffer can also be used as intermediate storage or additional storage. However, this has a negative time impact if an article change is to be carried out at the same time.

The article change buffer is integrated as standard in the Direct system, while it is available as an option in the Flex system.

Remote support

Thanks to the online support, help can be obtained easily via an internet connection in case of a technical problem with the automatic system.



SERVOtrail

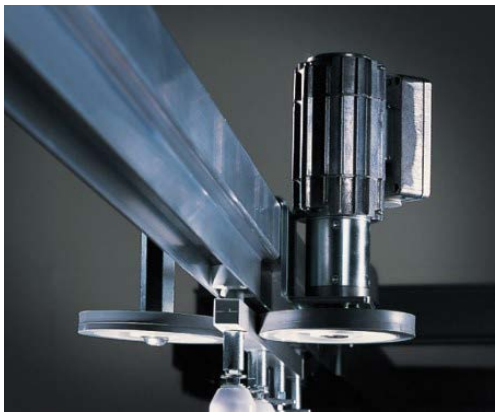
The modular roving bobbin transport

Simplified solutions

There are three standard products: The fully automatic SERVOtrail, the tried-and-tested SERVOtrail Flex and the user-friendly SERVOtrail Circuit system. If these standard options do not meet the customer's requirements, there is the option of configuring the transport system with the variant Customized. All systems are characterized by proven, simple and stable components.

Matching drives

All SERVOtrails are equipped with the tried-and-tested drive principle that has proven itself in numerous applications. The use of a proven drive principle offers numerous advantages. The consistent performance and functionality provide confidence and ease of use. This in turn leads to long-term cost savings through reduced repair requirements and lower total cost of ownership.



Bobbin Holder

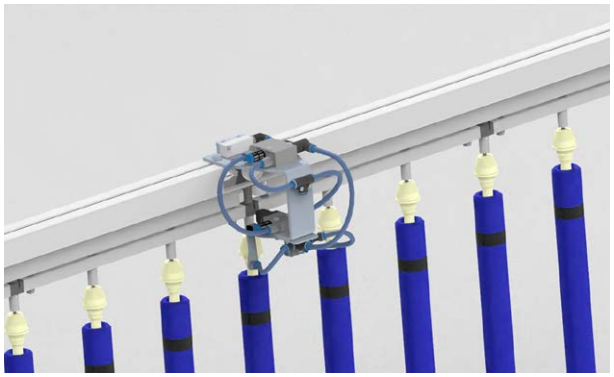
The durable Bobbin Holder is equipped with four fingers for holding bobbins to ensure safe and effortless transportation. Its sturdy construction ensures reliable handling and trouble-free use.

Easy Maintenance Station

In general, roving bobbin transport is a system with virtually maintenance-free operation. Nevertheless, a simple maintenance station has been integrated into the system so that maintenance work on the trains can be carried out in a particularly uncomplicated manner.

Train Cleaning Station

Thanks to the integrated train cleaning unit, the rollers of the bobbin trains always remain clean. This ensures a long service life for the rollers, as dirt and deposits are effectively removed.



Roving Bobbin Stripper

The roving bobbin stripper is used in front of the roving frame to clean the remaining roving from the run-out roving bobbins. The bobbin stripper impresses with their reliable performance and are integrated in front of every roving frame as standard. The number of cleaning points corresponds to the number of the changer spindles on the roving frame and the bobbin stripper works synchronously with this changer. On request, a central bobbin stripper can also be integrated into the flyer's transport system.

Block Change

Block change refers to exchanging the roving bobbins on the ring spinning machine. Only with the direct system, the entire set of empty roving bobbins is replaced with full roving bobbins on the ring spinning machine. All other roving bobbin transport systems use random change.

Train

The train in a roving bobbin transport system moves the roving bobbins from the roving frame to the ring spinning machine and back again.

In a SERVOtrail Direct, 16 trains are used per ring spinning machine and 2 trains per roving frame.

With a SERVOtrail Flex, 2 trains are used per roving frame and ring spinning machine.

Random Change

Random change refers to the replacement of the roving bobbins on the ring spinning machine. During Circuit and Flex Roving Bobbin Transport, the empty roving bobbins are individually and randomly replaced with full roving bobbins on the ring spinning machine. This is necessary because the roving bobbins run out at different times at various positions on the ring spinning machine.

Automated roving bobbin exchange

In all systems, the bobbins are automatically cleaned and changed on the roving frame. SERVOtrail Direct also eliminates the need to manually change the bobbins on the ring spinning machine.

User Interface

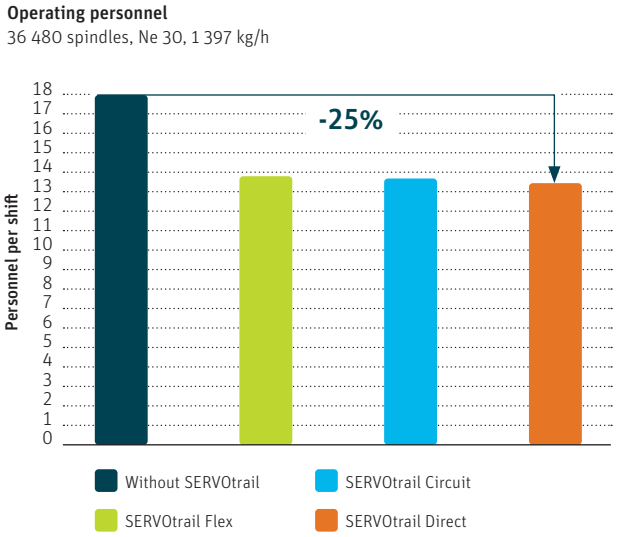
The specially developed user interface impresses with its clear and intuitive structure and user-friendly operation.

Simplified Handling of Roving Bobbins

Contact-free material transport

Reduced personnel requirement

Whether manual or fully automatic versions – the SERVOtrail transport system simplifies roving bobbin handling and therefore reduces the personnel requirement and the production costs. Especially with fully automatic solutions and the manufacture of coarse yarns, the savings are substantial. A plant with 36 480 spindles and Ne 30 yarns can save up to 25% ring spinning operating personnel as a result. At the same time, the workload of the operating personnel is reduced by the ergonomic roving bobbin handling.



Guaranteed roving quality

Roving produced on the roving frame is a sensitive intermediate product that is very vulnerable to external influences. If the roving is incorrectly treated or is kept too long in intermediate storage, damage and soiling will occur. Horizontal transport, uncontrolled intermediate storage and any kind of contact will damage the roving and cause quality deterioration. These materialize in a reduced machine efficiency and also negatively affect the yarn quality. The contact-free roving bobbin transport ensures high machine efficiency and a consistently good roving quality.

ESSENTIAL – Rieter Digital Spinning Suite

Rieter's all-in-one mill management system

ESSENTIAL leverages digital technology for the textile value creation. The Rieter Digital Spinning Suite analyzes data of the entire spinning mill in real-time and provides meaningful key performance indicators based on this.

With comprehensive and clearly arranged digital analysis, the system supports management in strengthening the expertise of mill staff, eliminating inefficiencies and optimizing processes across the entire system. Through its holistic approach, ESSENTIAL connects the dots in the spinning mill.

ESSENTIAL is a modular system, so the spinning mill can be gradually digitized.

Mill management platform

ESSENTIAL

E-order | E-consult | E-expertise

- Optimizing order stock levels
- Relevant operaion manuals
- Benefit from Rieter's expertise and know-how

Free access for customers

ESSENTIALmonitor

- Production overview
- Cop analysis/ maintenance parameter
- Reporting

Basic monitoring

ESSENTIALoptimize

- Quality dashboard
- Ring-Winder-Connect*
- Improvement suggestions

360° monitoring and optimization

*only for customers with ring spinning and winding machines

Fully Automated Piecing Robot ROBOspin

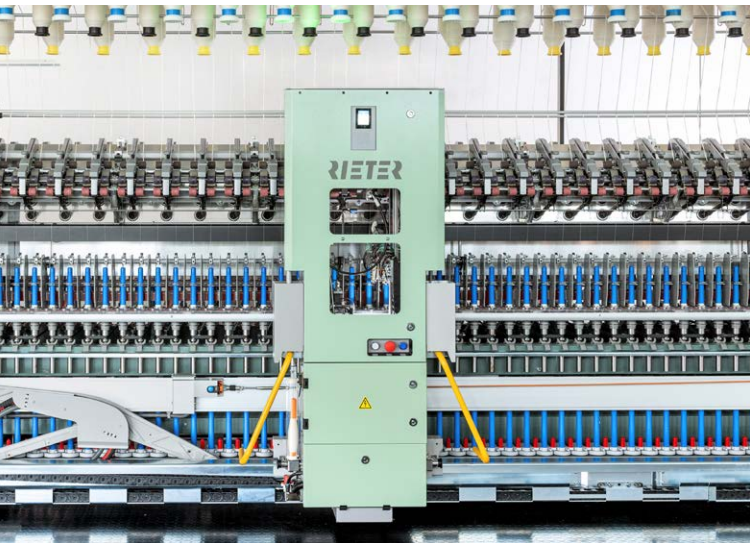
ROBOspin is the first fully automated piecing robot for ring spinning machines. One robot per machine side repairs ends down that occur during startup or while the machine is running.

The industry's first fully automated piecing robot in ring spinning

The robot travels directly to the affected spinning position and repairs the ends down in the shortest time possible. As a result, the complete piecing cycle runs fully automatically – from finding the yarn on the cop to threading the traveler and placing the yarn behind the delivery roller. The robot receives the required information from the integrated individual spindle monitoring system ISM.

Consistent quality, 24/7

The automated piecing process ensures consistent quality of the yarn piecing. Human contact with the cop is avoided during the cycle. The outer layer does not get contaminated and top quality yarn is produced.



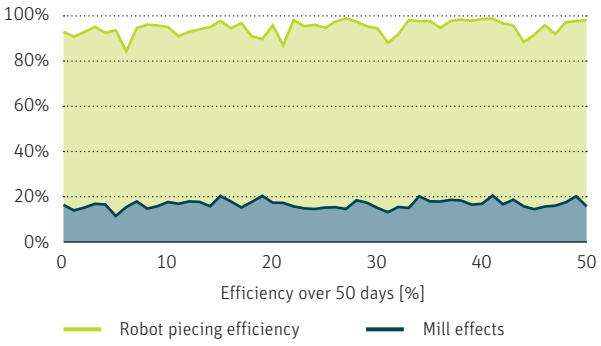
Maximum productivity with minimal personnel deployment

ROBOspin has a consistently high productivity level – 24 hours a day. It reduces personnel requirements in the ring spinning section by 50%, noticeably lowers personnel costs and helps overcome labor shortages. Human resource planning and spinning mill organization are made easier.

Consistent high performance proven in spinning mills

ROBOspin runs with consistent high performance in various spinning mills around the world. The piecer efficiency reaches over 80% in the first attempt. In the second attempt an auxiliary yarn is used which achieves additional 10% efficiency. Piecing with auxiliary yarn helps to protect the sensitive yarn layers and thus improves quality.

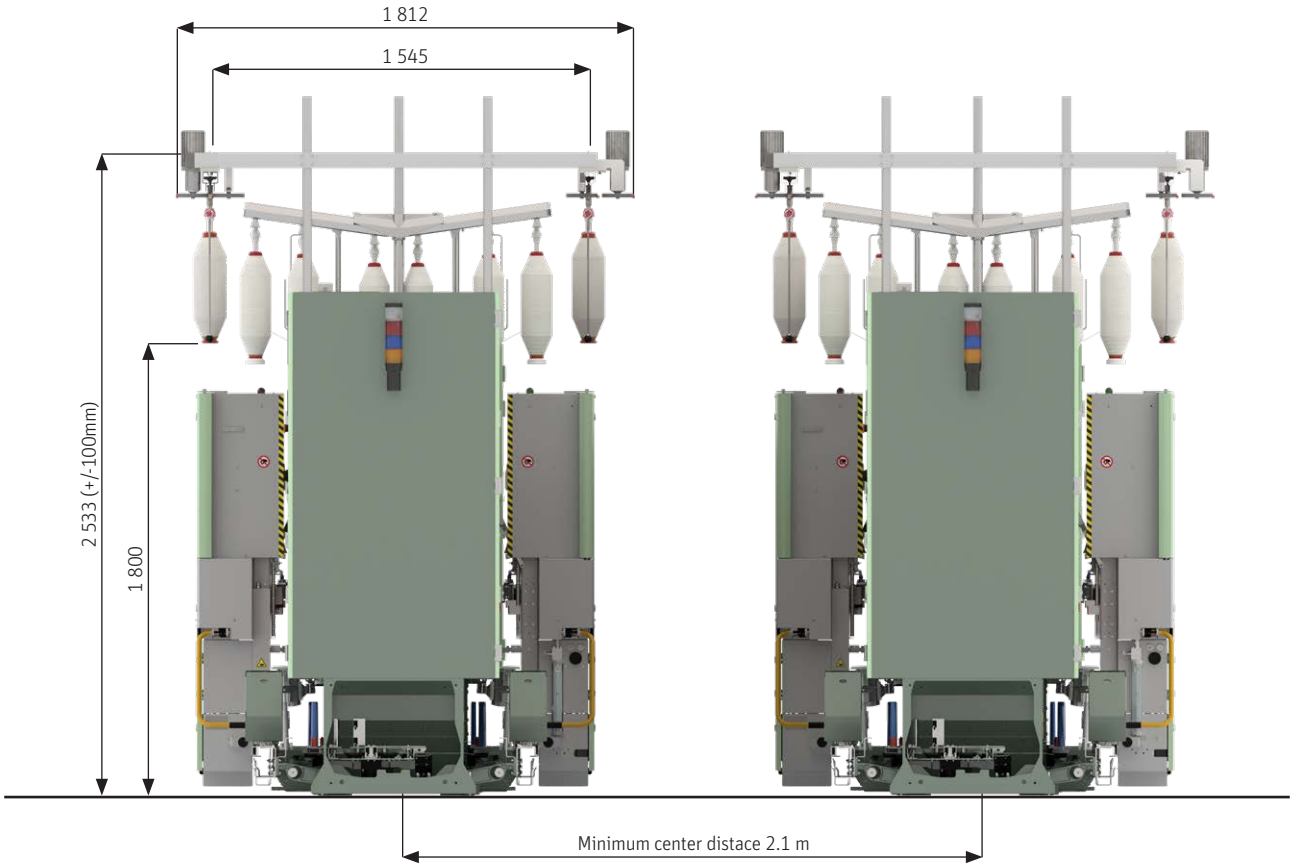
The robot reliably reaches up to 95% piecing efficiency
Ne 30, 100% cotton carded, ISM premium, 18 000 rpm, 1 824 spi/machine



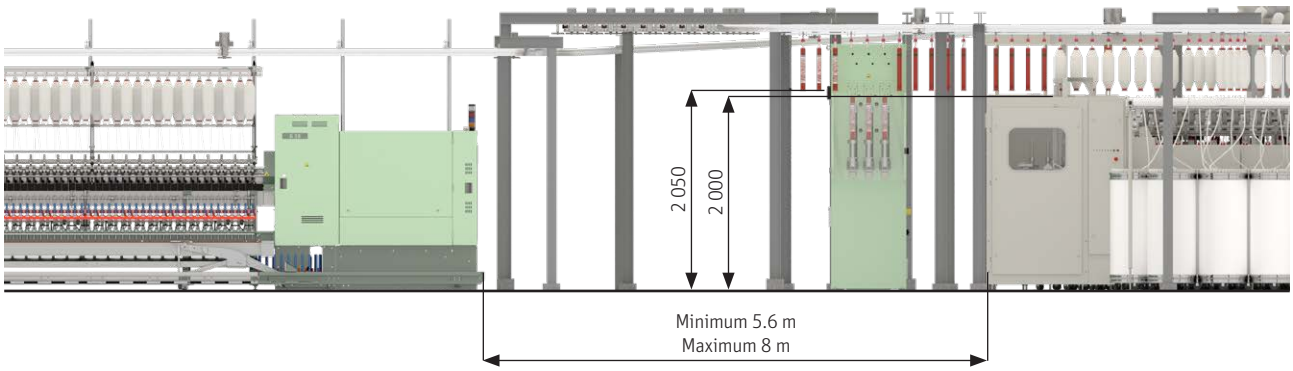
Machine data

SERVOtrail System dimensions

Ring spinning machine



Roving frame



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