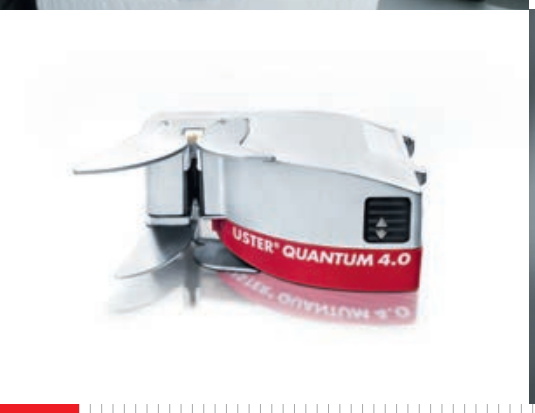
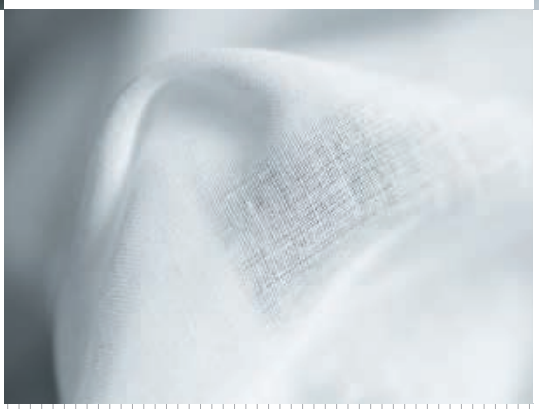













Think Quality™

USTER®
Think quality

Managing a textile mill with quality in mind
Today's textile markets are highly competitive, throughout the entire value chain from fiber to fabric. Customers expect unique products, at the right quality and free from unacceptable defects, every time. Mills need to manufacture economically, with best-possible use of resources – especially raw materials and labor. These are major challenges, requiring comprehensive mill management strategies.

Discerning consumers push quality standards
Ultimately, consumer demand is what drives textile quality. Today's consumers are more sophisticated and more discerning than ever. Manufacturers along the textile chain must rise to the challenge, producing the right yarns, fabrics and end products to satisfy the consumer.

Quality is a must, as failures cost reputation, damage profitability and lose competitive advantages. The target is clear: getting quality right, every time, satisfying expectations and making customers happy. Quality must definitely be under control.

Uster know-how puts you in control
There are many external business aspects that spinners can't control. Market trends, raw material prices and the general economic climate, for example. But some of those questions which give spinners sleepless nights – how to optimize raw material costs without compromising yarn quality, how to control contamination while still maintaining profit levels, or how to apply machine settings for optimum results – actually do have solutions. Uster has the know-how to enable spinners to take full control of their own mills, with quality at the forefront.

Read on to find out how Uster can help 'manage a textile mill with quality in mind'...

Are you in control of your quality – or is your quality in control of you?

What is Think Quality?

It is the way to 'manage your textile mill with quality in mind'.

The unique Think Quality concept brings together Uster's world-class products and services to ensure that quality is right, first time and every time. The principles are simple: a clear specification, the right measuring systems, a 'fast response' control of production, with a clear understanding of how to make improvements and optimize processes for business sustainability. By tapping into the potential of connecting data from different Uster systems in the mill, poor quality can be prevented at source – and the highest level of mill management achieved.

Take control of your quality – Think Quality

Take control of your quality for business success

Quality – for us it's a way of life. Think Quality the Uster way means helping textile producers to improve their control of quality, with the ultimate aim of turning quality into profitability: to achieve predictable profits for long-term business sustainability.

1 Specify

Clear and objective product specifications are essential to producing the right quality. Agreed specifications give a precise focus for measurement and control of processes. This is the basis for textile mills to optimize raw material use and production settings, to deliver the required yarn quality as cost-effectively as possible.

Agreed specifications give a clear focus for measurement and process control based on Uster Statistics and Uster Yarn Profiles.

2 Measure

Uster recommends regular, systematic lab testing in the spinning mill, combined with 100% in-line quality control. Quality profiles set out clearly which test parameters and levels are important for each application, with all the information transparent and easily understandable.

Quality management systems from Uster provide reliable and trustworthy values. Uster provides a complete range of quality tools, covering the entire production process.

3 Control

Look out for quality exceptions! Let Uster laboratory and in-line control systems do it for you, working together, with the same quality parameters and levels. Quickly analyze data and react with corrective action. Time means money: the faster the reaction, the less off-quality yarn is produced.

Produce the right quality every time with the Uster Quality Expert combining in-line data and laboratory data for total quality control.

4 Improve

Quality improvement is an ongoing process. Using in-depth application understanding from Uster experts, and feedback from your own customers, leads to the best way to use raw material, optimize manufacturing and enhance the yarn quality improvement process.

Rely on Swiss accuracy, unrivaled know-how and support from Uster, based on over 70 years of experience.

5 Sustain

Quality control is a long-term objective. Consistency over time is vital to identify quality exceptions and prevent claims. It's the way to build and sustain a good reputation in the market, and take care of your own mill's profitability. 'Managing your textile mill with quality in mind' means making the right decisions every time.

Think Quality for sustainability initiatives. Recognize Key Performance or Key Quality Indicators for best practices in mill management and the production process.

QUALITY MANAGEMENT

‘Managing a textile mill with quality in mind’ is the way to ensure sustainable business success.

Fast and effective data analysis, related to specific mill processes, can make a massive difference to the current prosperity and future sustainability of a business.

Understanding and managing quality is now accepted as an essential prerequisite for successful management of a textile mill. The Quality Management Platform for advanced process optimization across yarn manufacturing processes, Uster Quality Expert, brings together all relevant quality data in one single system for control, securing fiber, yarn and fabric quality.

Only insightful analytics from connected instruments, merged with textile application know-how, can lead to systematic and data-driven management success in an increasingly complex environment. Unique partnerships anchored in the Quality Management Platform add up to excellence in automated fault prevention.

USTER® *QUALITY EXPERT*

Advanced process optimization with data-based decisions

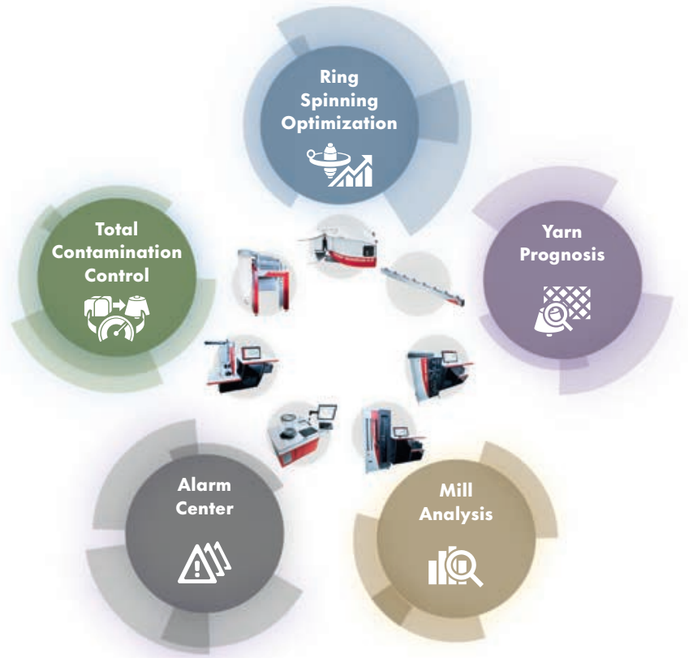
Uster Quality Expert is more than a data system: it is a Quality Management Platform in which fiber, sliver, roving and yarn measurements are consolidated and combined with in-line testing data. Using Uster's Application Intelligence for profound textile know-how, insightful analytics are available. This breakthrough innovation begins a new era, supporting quality management in textile mills with the goal of achieving profitable operations sustainably and zero quality claims.

Uster Quality Expert
Quality and production data from laboratory and in-line systems is stored centrally, but reports are available for multiple users from different departments. The benefits multiply as new information sources are added via intelligently connected instruments and new partners join the Quality Management Platform. Ultimately, new possibilities for quality analysis are unlocked. Uster Quality Expert is available either as a standalone solution via a dedicated client-server – or hosted within Uster Tester 6.

Uster Mobile Alerts
Practical quality know-how brought to every stage of the textile yarn spinning process – and directly delivered in one application to your mobile device. Combined data from in-line and laboratory instruments, continuously analyzed by Assistant Q, helps operators to be aware of quality issues in production, allowing immediate countermeasures.

Mill Dashboard
Automated quality data collection is essential. But the next stage – analysis of that data – must be transparent and in a simple format, so operators can trigger action on the shopfloor. That's where the Uster Mill Dashboard option comes in: it displays customized and relevant data at exactly the right point in production.

Assistant Q: a new 'employee' with 70 years' know-how...
Spinning mills choosing the Quality Management Platform will automatically be taking on a valuable new 'employee'. One with the Think Quality genes and 70 years of textile know-how, based on Application Intelligence.



Uster Quality Expert Value Modules
Uster Quality Expert, the Quality Management Platform includes distinctive Value Modules (based on the relative instruments) to enable data-based decisions. The reliable support of Assistant Q predicts potential faults and prevents claims, enabling entire process optimization.

- **Alarm center** – creates awareness and triggers action
- **Mill analysis** – insightful analytics for data-based decisions
- **Yarn prognosis** – increases credibility between spinners and yarn users
- **Total Contamination Control** – for managing remaining contaminants in yarns at minimum possible cost
- **Ring Spinning Optimization** – the link to productivity and quality

QUALITY MANAGEMENT

LABORATORY SYSTEMS

Successful mill management is closely linked with active and effective management of quality. It's a logical sequence, starting with a specification for yarn quality that is translated into raw material and process parameters. Each machine, from laydown to winding, must then be set up, based on key parameters which will guarantee the required yarn quality at lowest cost.

Measurements from laboratory equipment enable the spinner to:

- Define specifications for ideal raw material sourcing and fiber laydown, to produce the yarn required by the customer as cost-effectively as possible
- Understand current quality levels across all process stages
- Find the optimum machine and productivity settings for the required quality
- Check the final yarn packages, to control quality and record the details for future reference

USTER® *HVI 1000*

FIBER TESTING

Raw material is the biggest single expense for spinners – swallowing up as much as 70% of total cotton yarn production costs in many cases. Management of this precious resource is therefore a priority, and spinning mills worldwide must organize their sourcing and processing of cotton systematically, to focus on several key aspects:

- Sourcing and delivery: the mill must receive exactly the fiber it has ordered and paid for, nothing less
- Testing and classifying cotton into quality groups – to ensure its use is appropriate to yarn requirements and to exploit the spinning limits of the available cotton
- Organizing bale laydowns – with strict rules to ensure consistent yarn quality, preventing major problems such as the barré effect
- Optimizing quality without wasting fiber in spinning preparation – to keep the yield high, while always meeting customer expectations

A well-planned system to specify, measure, verify and control raw material quality is the only way to protect a mill against quality complaints from yarn users and cost overruns affecting profitability.

Accurate fiber parameters: the basis for trading and optimized yield

Uster HVI 1000 is the worldwide standard for cotton classification and trading. It measures all important quality parameters currently used in the cotton trade: micronaire, fiber length, length uniformity, strength, color and trash. It also analyzes short fibers, elongation, cotton maturity and sample moisture content. Parameters are measured with the highest degree of accuracy and precision, suitable for contract specifications.

Assistant Q

"To estimate the fiber yield, mills can use parameters such as short fiber content, length uniformity and trash content. With low short fiber content, fewer fibers are wasted and the spinning mill's costs are reduced."

Uster HVI 1000 M1000
Uster HVI 1000 M1000 is designed to meet the high-throughput requirements of cotton classing organizations and large spinning mills worldwide, where time is critical for determining market-quality contract specifications.

Uster HVI 1000 M700
Uster HVI 1000 M700 is designed to meet the needs of spinning mills that need to know all the important quality parameters used in the cotton trade but do not need the very highest throughput. Using proper sample management procedures, Uster HVI 1000 M700 provides critical quality information at a higher throughput than previous-generation HVI systems.

LABORATORY SYSTEMS

USTER® *LVI*

The cost-effective alternative

Success or failure in yarn production depends largely on the quality, price, and availability of raw cotton. The fact that raw material is by far the largest cost factor in the spinning mill should be motive enough to test incoming cotton bales accurately and reproducibly. For these reasons, Uster LVI Low-Volume Instruments are the perfect low-cost solution.

Uster LVI 920
Neps in yarn and fabric are among the most common defects in cotton textiles. Neps can be created as early as the harvesting of cotton, and can persist throughout spinning mill processing. Knowing the nep level in raw cotton and during processing allows these defects to be minimized.

Uster LVI 930
Cotton fiber length was one of the first parameters to be tested with modern instruments. It helps determine the value of a cotton bale, as well as its application in a spinning mill.

Uster LVI 940
The software package for the LVI family has a user-friendly interface for set-up, operating, and consolidating data from every test, for each of the LVI test units. Each unit can be connected to one host computer with the Uster LVI 940 software installed.

Uster LVI 960
The color of cotton fiber and the trash content in a cotton bale are important measures of the value of a cotton bale and the processability of the cotton.

Uster LVI 975
Micronaire control of every cotton bale is essential to the homogeneity of the blend. Using micronaire values to establish bale laydowns will eliminate or reduce costly rejects from fabric barré faults. Low micronaire may also cause neps, resulting in defects in yarn and fabric.

USTER® *AFIS PRO 2*

Analysis at every stage of the process

From bale to yarn, fiber properties can change at any stage of the mill process. That's why it's vital to measure all the key parameters continually. Damage caused in the blowroom or card is difficult and expensive to remedy. Problems with fiber quality or treatment can lead to a high nep content, producing an irregular surface in finished fabric.

Assistant Q

"Experience suggests a waste reduction level of 0.5% to 2% is feasible without quality deterioration when full fiber information is utilized. For example, fiber damage in the blowroom can be minimized, so there is less waste that needs to be removed later. Measuring neps, short fibers and trash is the way to control these factors."

Uster AFIS Pro 2
The Uster AFIS Pro 2 is the standard system for nep measurement (ASTM), recognized worldwide, and used from cotton ginning to yarn manufacturing. It measures various fiber characteristics, such as fiber length, maturity, trash and nep content. With the Uster AFIS Pro 2 analyzing the entire spinning process – opening, cleaning, carding, drawing and roving – is possible with unrivaled precision.

USTER® *AUTOSORTER 6*

STAPLE YARN TESTING

Yarn testing at the laboratory provides the power to control quality and ensures it meets customer requirements continuously. Measurement results for key parameters are required to get it right. Constantly delivering the right quality is essential, so strict testing routines are required. Minimizing the risk of claims is another reason why laboratory testing should be an important part of a quality-oriented process management.

Benchmarking the quality of single parameters with Uster Statistics pinpoints global market opportunities – and Uster Statistics Percentiles (USP) serve as part of a system for continuous improvement.

Laboratory measurement is a vital starting-point of yarn engineering. Yarn design – whether for fashion or advanced technical applications – depends on quality parameters to define its specifications.

Testing of pre-products and yarns, using world-standard instruments under controlled laboratory conditions and benchmarks, is a critical element of effective mill management and strengthens the competitive position of the mill.

Precise count determination

Precise determination of the count in staple fiber yarns and rovings is a fundamental prerequisite of the entire spinning process. For this, a totally reliable instrumentation package is required. This is provided by the classic Uster Autosorter 6.

Uster Autosorter 6
Count determination of staple fiber slivers, rovings and yarns is at the core of the entire textile spinning process. The Uster Autosorter 6 determines the count and count variation of pre-products and yarns. The user interface correlates with the operation of Uster Tester 6. The live view of measurement results, pre-defined table reports, analysis functions and limit settings support the operator for an easy and efficient workflow.

LABORATORY SYSTEMS

USTER® *TESTER 6* – The Total Testing Center™

The ultimate in-mill control: from laboratory to Total Testing

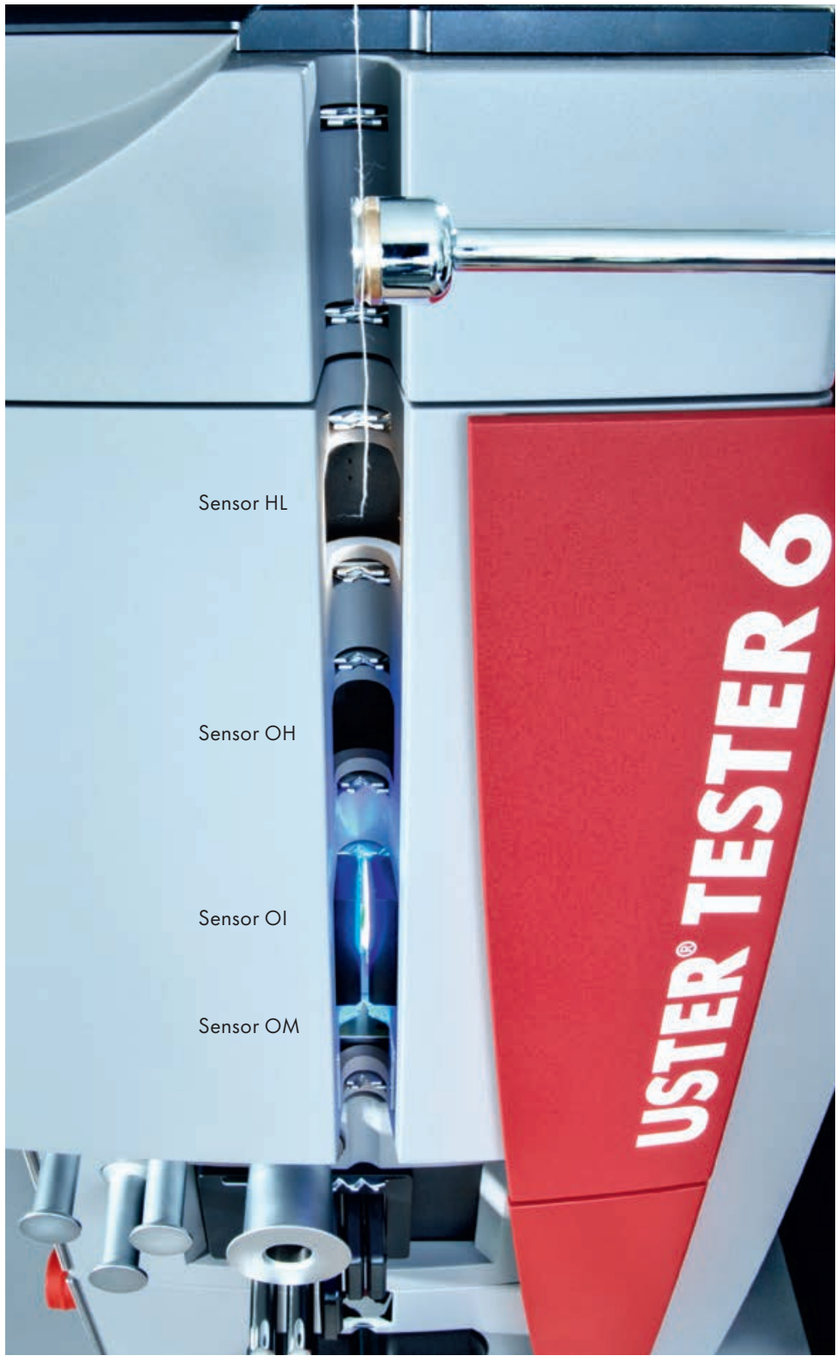
The Uster Tester is the heart of the laboratory in most mills around the world and is acknowledged as the global standard. It provides the key to Uster's unique Think Quality approach. The ground-breaking Uster Tester 6 hosts Uster Quality Expert, linking accurate laboratory testing with data from in-line systems such as Uster Quantum 4.0. It offers the ultimate in control of the spinning mill, presenting vital information for comparisons and management options. The combination of precise results from Uster Tester 6 and Assistant Q with Uster's Application Intelligence supports spinners in their goal of 'managing a textile mill with quality in mind'. In this way, optimization potential in textile mills is revealed.

Assistant Q

"I am actively monitoring information coming in from all Uster systems across the mill. Detecting exceptions early, and addressing them, has prevented quality claims in several cases."

Uster Tester 6-S800

With the very latest sensor technology, the Uster Tester 6 sets new standards in yarn, roving and sliver testing. With a new Capacitive Sensor and integration of the Hairiness Length Classification Sensor, it has all the answers in quality measurement. Uster Tester 6 is available as semi-automatic and automatic models, with upgrade possibilities for all sensor options, as well as for the automatic function. Integration of laboratory test results with in-line data creates the Total Testing Center.



LABORATORY SYSTEMS

USTER® *TENSOJET 5*
USTER® *TENSORAPID 5*

Predictable Uster Weavability – optimized productivity

The Uster Weavability of yarn can be predicted by determining strength and elongation outliers in staple fiber yarns. Optimal quality means the necessary specifications are adhered to exactly.

Assistant Q

"From the standpoint of downstream processing behavior – i.e. end-breaks and efficiency – it is important to direct attention towards the number of isolated weak places."

Uster Tensojet 5

The Uster Tensojet 5 is a unique tensile measuring system. It is the standard for prediction of Uster Weavability by accurately forecasting yarn behavior in subsequent processes, especially high-performance weaving. The high speed of 400 m/min of the Uster Tensojet 5 actually simulates the dynamic stress on the yarn during weaving. Integration of results with Uster Tester 6 allows users to profit from smart alarms from Assistant Q. Additionally, with the Uster Quantum 4.0 yarn clearers, weaving performance grades are available. These allow spinners to identify batches with a high risk of yarn breaks during weaving.

Uster Tensorapid 5

Traditional tensile tests require a whole series of testing possibilities, variable test speeds and measuring lengths. The Uster Tensorapid 5 is the most versatile instrument in the market – able to meet all requirements for both staple and filament yarns. The wide range of force and elongation testing options covers all known tensile test procedures and tensile values. Integrating Uster Tester 6 results by connecting to Uster Quality Expert allows users to profit from smart alarms. Analysis – including yarn evenness and hairiness – allows comparisons with yarn profiles, to deliver the right quality to minimize claims.

LABORATORY SYSTEMS

USTER® *CLASSIMAT 5*

Quality classification – the full spectrum

Laboratory and in-line systems from Uster work together to cover the full spectrum of quality control options. While the Uster Tester 6 details frequent yarn faults such as imperfections, Uster Classimat parameters cover less-frequent yarn faults. Uster Classimat values are important for yarn trading – and for optimizing yarn clearing at the winding stage.

Assistant Q

"Experience points to overall Uster Classimat values as an indicator of fabric quality, while outliers are closely related to fabric defects, as well as breaks in knitting and weaving."

Uster Classimat 5

Classification of thick and thin places remains fundamental. But high-quality demands call for coverage of other critical quality parameters, such as foreign matter. Uster Classimat 5 delivers all the traditional classification standards, as well as broadening its focus to measure outliers for all quality parameters – such as periodic faults, evenness, imperfections and hairiness. Its powerful foreign matter tools can classify colored foreign fibers, vegetable matter and, for the first time, polypropylene content. Combined with Uster Statistics parameters, including outliers, Uster Classimat 5 is the key to achieving and assuring consistent quality.

FILAMENT YARN TESTING

The most important parameters for filament yarn quality are mass variation and yarn strength/elongation. A combined package that includes an Evenness Tester and a Tensile Tester provides the data that is needed. Results from both these instruments can be combined and integrated to offer significant advantages in the monitoring of filament yarn quality at the production stage, as well as assessing how the yarns will perform in subsequent manufacturing processes.

LABORATORY SYSTEMS

USTER® *TESTER 6-C800*
USTER® *TENSORAPID 5-C*

Specialized solutions for filament yarn

Accurate testing of filament yarn is a complex and specialized process. Mass variation, as well as strength and elongation, are the critical quality parameters. Uster Tester 6-C800 and Uster Tensorapid 5-C are the indispensable testing instruments, destined for a central role in the laboratory of every quality-driven producer.

Uster Tester 6-C800

The Uster Tester 6-C800 sets the new global standard for evenness testing of filament yarn. A new digital Capacitive Sensor further improves the already excellent accuracy and precision of this instrument family. In filament yarns, even the smallest fluctuation in evenness is critical for profitability. A breakthrough with Uster Tester 6-C800 is the measurement of intermingling. An optical sensor counts interminglings per meter at a testing speed up to 800 m/min. Precision, time savings and effective quality control with assurance against complaints and claims downstream are the results.

Uster Tensorapid 5-C

The Uster Tensorapid 5-C is equipped for testing the new yarn variants continually being developed, with specific results focused on filament yarns. The trend to finer yarns makes it essential to measure force and elongation at the first filament breaks. Measurements for various modulus values, yield points and natural draw ratios complete the options available to minimize potential complaints. The ability to load 40 test samples brings enormous time savings – essential for POY yarns. Test parameters can be adapted for test length, test speed and pre-tension to match the needs of filament producers.

LABORATORY SYSTEMS

IN-LINE PROCESS CONTROL

Problems can occur at any time and any process stage during production. A damaged or worn part, for example, can cause quality exceptions or outliers. In fact, many expensive claims for off-quality yarns are rooted in quality exceptions, rather than deviations from the average quality level. Time is money here, and fast reactions will reduce the amount of below-par yarn produced. This is where in-line monitoring instruments are invaluable.

- In-line systems mounted on production machines monitor the quality of 100% of the production, in real time, triggering alerts and action to limit damage

- Monitoring instruments produce a large amount of valuable data, allowing optimization of the entire process, from running speeds and personnel workloads to maintenance intervals

- Yarn clearers during winding are critical in contamination control. This is the last chance to take out disturbing contamination before it gets to customers

USTER® *JOSSI VISION SHIELD*
USTER® *JOSSI MAGIC EYE 2*

Contamination removal starts in the blowroom

Automatic fiber cleaning at the blowroom stage saves manpower, and is extremely reliable. It checks 100% of production, even at high throughput rates. Uster Jossi Vision Shield has sophisticated technology to handle all foreign matter – even the smallest particles – in both natural and synthetic material. Removing the bulk of foreign matter from the fiber at this point also boosts productivity in ring spinning and winding. Uster Vision Shield Expert provides KPIs for fiber cleaning, as well as trend charts and visualizations of effects over time. This affirms management success and also signals further process improvement potential.

Assistant Q

"The role of the fiber cleaning system is to reduce contamination substantially, while subsequent yarn clearing removes single disturbing defects. Combining these two systems is the most effective approach, given the unpredictable nature of cotton contamination and varying end-user demands."

Uster Jossi Vision Shield
The Uster Jossi Vision Shield combines multiple detection principles, so virtually no colored or white synthetics pass the fiber cleaning stage. High-end spectroscopes detect colored and white contaminants, while the VTECT sensors use LED sources to identify optically-brightened material.

The Uster Jossi Vision Shield is available in two models. The Uster Jossi Vision Shield T is the proven system for contamination control for all types of mills. The Uster Jossi Vision Shield 2 is for mills requiring the highest possible removal efficiency. It features sophisticated spectroscopes and powerful image recognition technology. Even the finest colored foreign matter can be removed, as well as significantly enhancing detection of white contaminants.

Uster Jossi Magic Eye 2
The Uster Jossi Magic Eye 2 improves still further the detection of finest white and transparent plastics. It ensures that all plastic contaminants – even polypropylene and polyester from bale packaging – can be identified and removed.

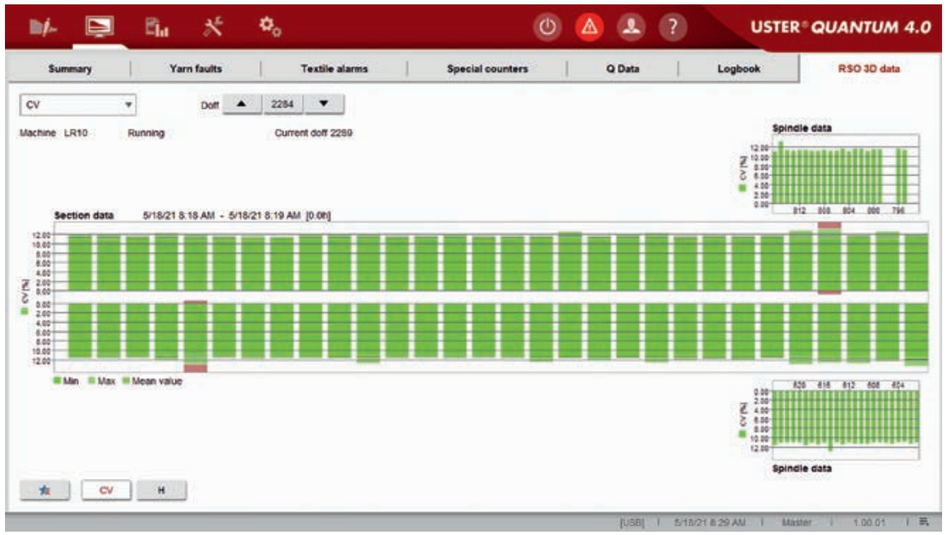
Total Contamination Control
The proven technology of Uster Jossi Vision Shield and Uster Quantum 4.0 eliminates foreign matter at both ends of the yarn production process. Total Contamination Control means precisely controlled contamination levels in yarns, with minimum waste, enabled through smart connections to the Quality Management Platform.

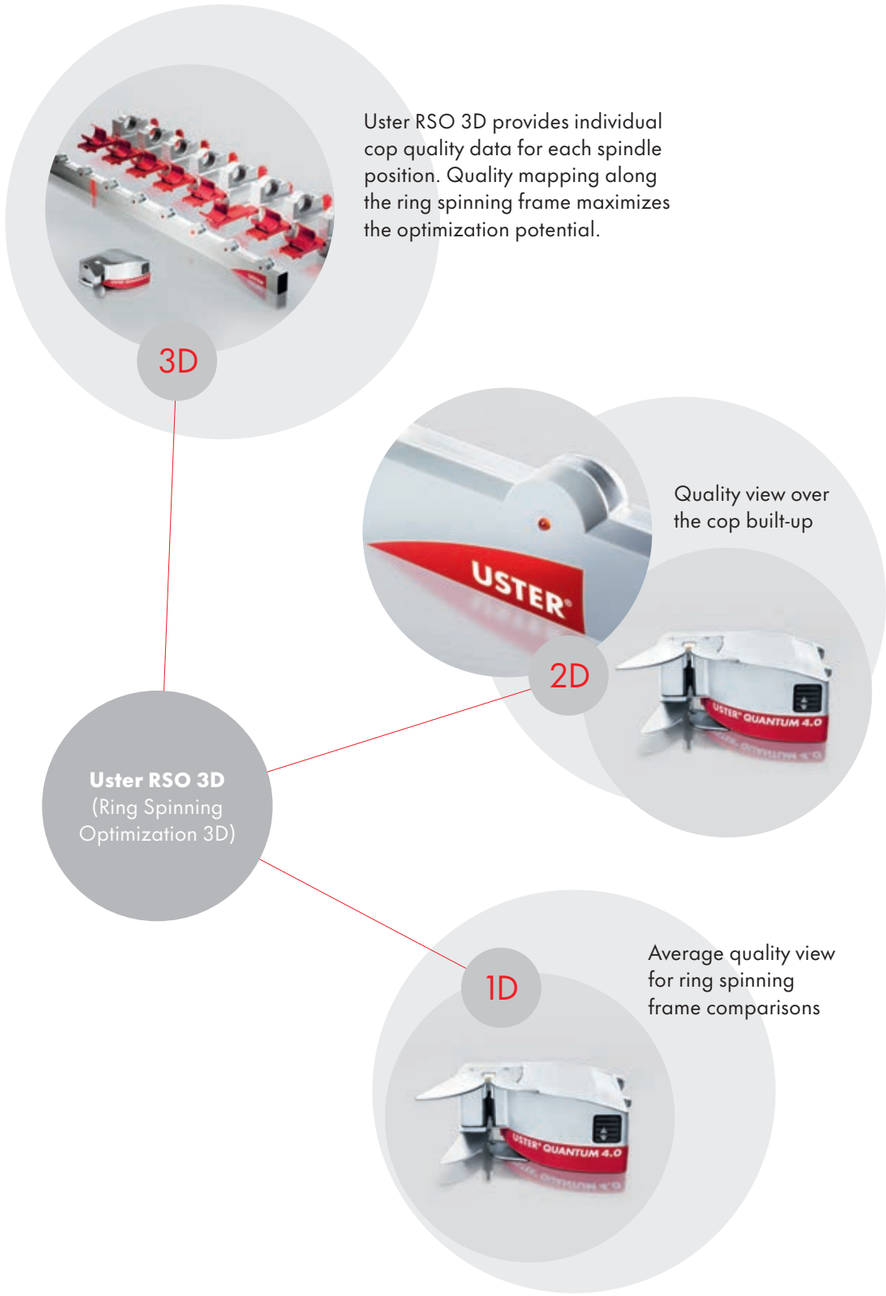
IN-LINE PROCESS CONTROL

USTER® *RSO 3D*

Quality mapping of individual spindles

In the third dimension of quality, Uster Sentinel informs winding machines about outlier cops, which are then ejected through direct machine intervention before winding. Individual quality data for each spindle position enables quality mapping across the ring spinning machine.





Uster RSO 3D

For the first time, mills can intelligently correlate ring quality data and winding quality data in a single system, for significant profitability increases. The even more powerful Uster RSO 3D goes further, with quality mapping and automated machine interaction.

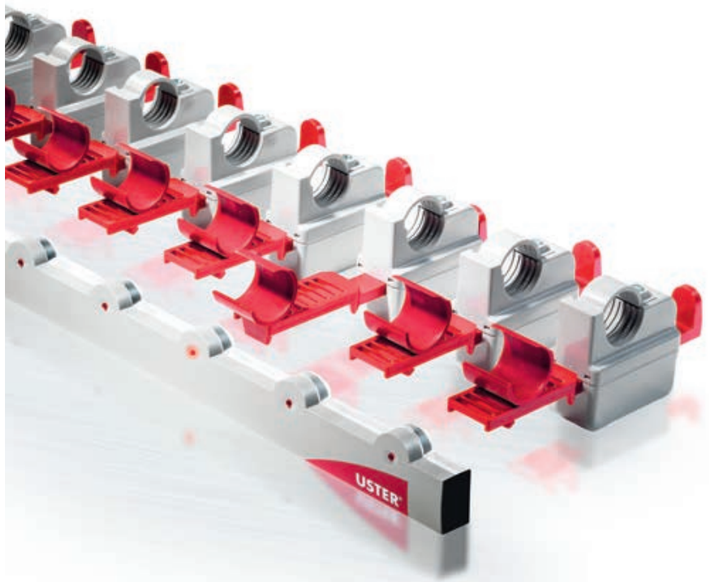
Collaborating seamlessly with Muratec QPRO EX/FPRO EX spindle identification and Uster Quantum 4.0, Uster Sentinel stops affected ring spindle positions, for proactive prevention of poor quality.

IN-LINE PROCESS CONTROL

USTER® *SENTINEL*

Monitoring of ring spinning is vital

Ring spinning is perhaps the most critical stage in mill operations. Lost productivity here cannot be recovered and the ring spinning machine can be the source of quality issues causing stoppages in winding or downstream processes. It is also the most cost-intensive process with highest personnel and energy costs. A clear oversight of the ring spinning installation is therefore crucial in managing profitability and quality. A monitoring system can make a real difference, supporting mill managers to get the most out of their ring spinning machines, for quality, productivity and personnel efficiency.



Assistant Q

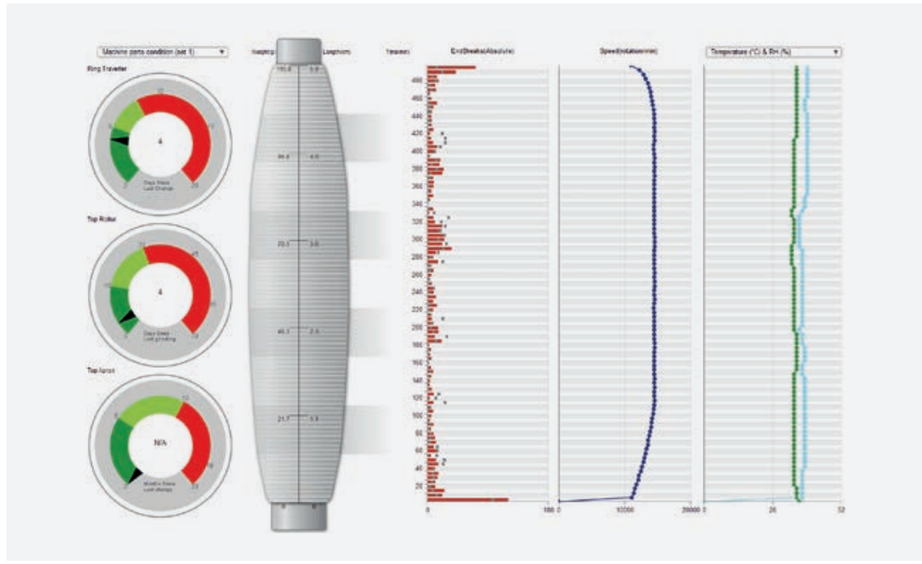
"In a typical mill, about 60% of the conversion costs from fiber to yarn are from ring spinning. It is critical to maximize productivity – but always with full understanding of the yarn quality and running conditions, including climate."

Uster Sentinel

The speed with which mill personnel can react to potential quality issues is critical. Faster responses lead to higher yields and fewer quality problems. Uster Sentinel provides clear and simple guidance to spinning machine operatives, pinpointing spindle breaks and indicating potential causes. A new 'chain break' alarm quickly identifies lapping problems likely to cause breaks in adjacent spindles, potentially leading to roller damage and quality deterioration. Uster Sentinel also reports on slippage and poor performance by individual spindles or sections. Operatives receive alerts when mill climatic conditions fluctuate or exceed tolerances for a machine or zone.

Beyond end-break detection

With the introduction of Uster Ringdata, the first ring monitoring system in 1979, Uster set the standard for ring-monitoring systems. Today Uster Sentinel raises the standard with new ways to optimize performance in ring spinning. Uster Sentinel monitors end-breaks and analyzes all the parameters influencing them. With its optional Roving Stop device, pneumafil waste is reduced and thereby yields from roving to yarn are increased. Customer expectations are surpassed with the smart connection to Uster Quality Expert's Value Module, Ring Spinning Optimization.



Bobbin build-up report

End-break levels are a key indicator of ring spinning performance. Uster Sentinel provides an intuitive report on every parameter influencing end-breaks. Clear visuals point to exact reasons for breaks, making optimization easy.

Ring Spinning Optimization

Connected to Uster Quality Expert, Uster Quantum 4.0 cooperates with Uster Sentinel to enable detection of deviations on ring spinning machines, in unique correlation with the winding performance of yarns. Quality and productivity is covered in one single system.

IN-LINE PROCESS CONTROL

USTER® QUANTUM 4.0

The connected yarn quality assurance system

A new era of the connected yarn clearer begins – embodying Security, Prevention and Flexibility. It is the beautifully-designed ensemble of powerful new features, intelligent instrument connections and a simplicity-embracing user interface, building on the globally-established Quantum. And now Uster Quantum 4.0 combines capacitive and optical clearing in one solution. The Uster Smart Duo solution provides new customer values.

Assistant Q

"Selection of the right clearer can be very critical. Optimized yarn clearing can save hundreds of thousands of dollars over the lifespan of a winding machine, compared to conventional clearing. The bulk of the saving comes from reducing the number of splices to achieve the required quality."

Uster Quantum 4.0

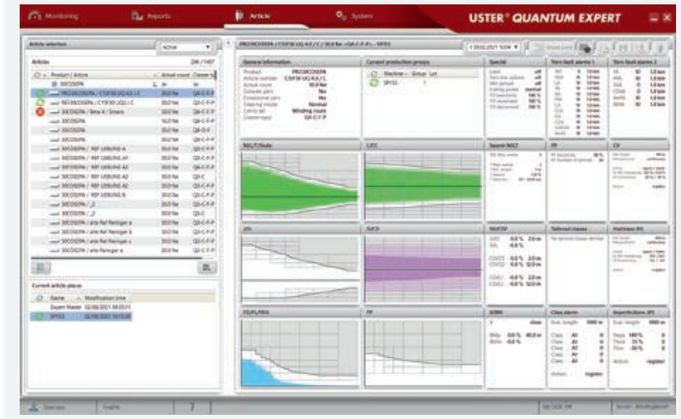
The challenges of Industry 4.0 demand flexibility, rapid innovation and customer-centricity. Quantum 4.0 fulfils the vision of an all-in-one solution for connected yarn quality. Combining capacitive and optical sensors in one clearer, it prepares mills for a Quantum leap in value through any future uncertainties.

IN-LINE PROCESS CONTROL

USTER® QUANTUM EXPERT

Automated data handling for insightful analysis

Spinning mills without monitoring systems are likely to be at a disadvantage when dealing with key productivity and quality data. Chances to improve profitability are missed, as it is difficult to make sense of the mass of information. To simplify things for the mills, and make the most of the valuable yarn clearing information, Uster Quantum Expert is included as part of the product.



Uster Quantum Expert

Troubleshooting with expensive clearer cuts is outdated, thanks to preventive yarn clearing. The intelligent connections open up enhanced optimization potential for spinning mills.

Total Contamination Control

The connected and proven technology of Uster Quantum 4.0 and Uster Jossi Vision Shield eliminates foreign matter at both ends of the yarn production process, balancing ejections in the blowroom and cuts in winding in the most advanced way. Total Contamination Control stands for managing remaining contaminants in yarns at lowest possible cost and with minimum waste. Uster is the only single-source provider of this integrated solution.

Ring Spinning Optimization

Uster Quantum 4.0 cooperates with Uster Sentinel to enable the detection of deviations on ring spinning machines, in unique correlation with the winding performance of yarns. Quality issues trigger alerts at ring spinning and winding. For higher performance, spindle speeds can be optimized, while ensuring best-possible cop build-up. Quality and productivity are covered in one single system.

IN-LINE PROCESS CONTROL

FABRIC INSPECTION SYSTEMS

The goal of every fabric producer is to deliver first quality, according to customer specifications. This is especially important in demanding applications like automotive, nonwovens, technical textiles and composites. In apparel and home textiles, it is also vital to avoid second quality and minimize wasted fabric. Another challenge is to attract and retain the talented staff needed to ensure consistency and quality in fabric production.

Therefore, textile mills must:
- Guarantee reliable inspection at all times
- Increase efficiency in every process step, to optimize fabric yield
- Detect long-running defects as early as possible
- Make the working environment attractive

For all these requirements, automation of fabric inspection is the best solution. Automation makes producers less dependent on varying levels of operative ability and experience, while also offering a more interesting working environment to younger – and high-tech savvy – staff.

The combined technology of Uster and EVS offers customers more potential for further automation and reconfiguration of processes, from fiber to fabric. This leads to increased efficiency and sustainable performance.

USTER® Q-BAR 2
USTER® EVS FABRIQ VISION/FABRIQ SHADE

Automated fabric inspection for quality assurance and business growth

Uster Fabric Inspection delivers major benefits for fabric production. The three automated solutions are: Uster Q-Bar 2 with Uster Fabriq Expert, Uster EVS Fabriq Vision and Uster EVS Fabriq Shade. These systems support quality assurance and optimization of fabric yield in the final product. With automated inspection, fabric producers depend less on human judgment to produce consistent, reliable quality. Thanks to the Optimized Cut Control, advantages go as far as the fabric cutting process, where accuracy and efficiency are increased by the cutting table control option.

Uster Q-Bar 2
The best way to avoid off-quality is simply not to make it. Uster Q-Bar 2 operates directly in the fabric formation area. Inspecting the fabric at this point reduces material losses and the need for manual inspection after production. This enables delivery of constant and reliable quality and helps fabric producers stay competitive in the market. Weaving defects can have various root causes, so Uster Q-Bar 2 provides different algorithms to identify specific defects and their causes. With this knowledge, it is possible to prevent defects during the actual weaving process.

Uster EVS Fabriq Vision
Fabric producers need to guarantee reliable quality. This requires a consistently high rate of defect detection and optimized efficiency in grading. Uster EVS Fabriq Vision achieves this by using automated control during intermediate and final inspection and by creating roll inspection charts. This removes the need for slow, costly and unreliable manual inspection, and upgrades operators to higher-skilled jobs. The system's ability to capture any visible defects allows users to optimize fabric yield and prevents costly claims in various applications, including nonwovens production.

Uster EVS Fabriq Shade
With dyed fabrics, the main challenge is color consistency from beginning to end and from side to side of a roll, as well as between rolls of the same lot. Uster EVS Fabriq Shade monitors shade variation in almost any process where color is critical, directly on the system, without the need to cut the fabric. For this, it combines a traversing spectrophotometer with sophisticated information processing. It offers several sorting options and ensures color uniformity by grouping lots according to the 5-5-5 color matching method. This enables fabric producers to deliver a constant shade, preventing claims and ensuring customer satisfaction.

Optimization and cut control (OCC)
The cut optimization software module of Uster EVS Fabriq Vision and Uster EVS Fabriq Shade optimizes the fabric yield per class, according to the settings. During the inspection process, infrared ink is applied on the fabric. After album review, the defect position is synchronized with OCC. Thanks to the infrared ink marking, the inspection table will stop at exactly the right position of the defect, minimizing the risk of incorrect defect treatment. OCC can distinguish between defects to be flagged (by the table slowing down) and defects which call for operator intervention. This increases the efficiency of the fabric yield.

Uster Fabriq Expert
Uster Fabriq Expert collects quality maps centrally. This data is processed into detailed quality analysis of each defect by position, clearly visualized as comprehensive interpretations of current quality status, with context information. For every personnel level, fully-customizable quality reports and statistics – including trends for all produced rolls – can be generated and displayed at the on-screen dashboard.

FABRIC INSPECTION SYSTEMS

NONWOVENS

The nonwovens industry today faces constantly increasing quality requirements. Trends such as sustainability (for example the 'flushability' regulations) and the greater focus on product quality by end-users are driving demands for more comprehensive control over both faults and contamination.

This, however, runs contrary to the need to be more cost-competitive, especially by minimizing raw material costs (the main expenditure component in nonwovens production). This may be achieved by finding alternative supplies from lower-cost countries and by reducing material waste during the production process.

The main issues causing quality defects and material waste can be summed up in two key words: contamination and faults.

Thanks to its product portfolio, Uster can provide the appropriate solution for each type of problem.

USTER® *JOSSI VISION SHIELD N*
USTER® *EVS FABRIQ VISION N*

Automated solutions for quality monitoring

Thanks to its complete product portfolio, Uster can offer a range of solutions to all nonwovens producers. The Uster Jossi Vision Shield N brings contamination control technology to the nonwovens industry, to ensure contamination-free fibers. Uster EVS Fabriq Vision N automates the inspection and grading process for the product, ensuring total control over your desired quality level.

Uster Jossi Vision Shield N
Uster Jossi Vision Shield N ensures the best possible initial inspection and removal of contamination, at the fiber preparation stage. This improves the quality of the raw material and reduces waste, by eliminating contamination during fiber preparation, before the contamination is shredded into smaller pieces by further processing.

Uster EVS Fabriq Vision N
Uster EVS Fabriq Vision N, is located at the end of the production sequence, allowing automated detection and marking of all the main defects arising from the process – and of any remaining contamination.

NONWOVENS

VALUE-ADDED SERVICES

Uster is not only a synonym for innovative products, but also a supplier of comprehensive services. These cover the entire range of Uster textile know-how, which is at the disposal of customers, helping them to become more efficient in their processes, and their final products superior – as well as quickly rectifying any issues.

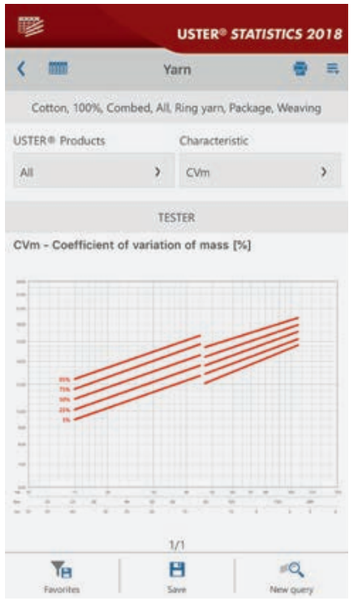
Customers appreciate the various ways of benefiting from Uster services:

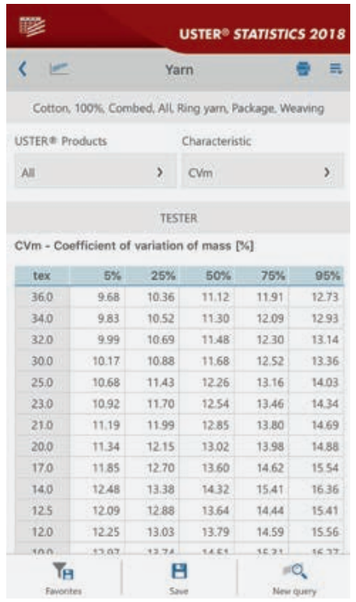
- For many decades, Uster has been publishing the unique Uster Statistics – now acknowledged as the basis for trading textile products at assured levels of quality across global markets
- The various services, as well as literature – some in digital formats – are founded on the unrivaled proven expertise of Uster staff
- Services are provided in several languages, making knowledge as widely-accessible as possible
- The full range of after-sales services deliver customer care which is both individual and comprehensive

USTER® *STATISTICS 2018*

The common quality language for the textile industry – defining global standards

Uster Statistics 2018 support quality management throughout the entire textile industry. They provide a global language of quality for yarn producers and users – the basis for trading and the foundation for industry-wide quality improvement. Manufacturers at every stage of the textile chain can be confident a yarn will meet their needs exactly with Uster Statistics as the authoritative and objective reference point for assessing and classifying quality.





Benchmarks from fiber to yarn
Uster Statistics 2018 serve as the only globally-accepted quality benchmarks for fiber, sliver, roving and yarn. Based on reliable data from Uster laboratory instruments, they cover cotton, polyester, viscose and wool – as well as other raw materials, blends and distinctive yarn count ranges, spun by the major yarn production processes. Quality data is regularly updated, essential for continuing progress in the increasingly globalized textile marketplace.

Application Literature

Sources of quality know-how

Uster's passion for quality is unique. The company's ambition is that the textile world recognizes quality as a vital success factor. For everyone, the starting point to quality consciousness is knowledge of the many different ways it can be beneficial. Uster makes it easy to adopt quality management, with a range of different tools and know-how sources to make the first step on this road.

Uster Insights
The mobile app delivers Uster news, product information as well as textile and application knowledge anytime and anywhere. Special features are the Practical Cases, with pure know-how shared by Uster textile technologists, based on field experience, and described in an easy-to-understand format.

Uster YouTube channel
Videos cover topics such as Uster products, application know-how, and testimonials, aimed at textile professionals. For newcomers to the Uster Statistics community, there are special tutorial videos.

Uster News Bulletins
An effective way to access Uster experience and knowledge is through the Uster News Bulletins – almost like technical textbooks – which have been circulating valuable information for many decades.

Training and consulting

Tap into unmatched expertise in quality management for textile manufacturing

Uster Technologies has a whole world of experience in problem-solving to meet customers' quality challenges. Innovating and developing testing technology for decades has continuously driven quality management to higher levels. Uster has become the first name in application know-how for the entire textile industry. Now, customers can access that wealth of practical knowledge for themselves.

Meet the Uster experts
Standard and tailor-made training courses are available at Uster premises, with access to the company's fully-equipped laboratories, or at customers' own plants. Training and consultancy are offered in English, Chinese, German, Turkish, Spanish and French.

Benefiting from combined knowledge and experience
Uster experts guide mills to optimize manufacturing operations, with know-how on developing new yarns and operating the various processes such as blowroom, carding, and winding.

After-Sales Services USTERIZED®

Optimal service – customer satisfaction

With four regional and more than 29 local service centers worldwide, Uster support is never far away. A total of 215 dedicated Uster certified service engineers worldwide provide fast and reliable technical assistance. Customers benefit from local know-how transfer and enjoy reliable and friendly service contacts.

After-Sales Services
Uster products are known for best quality and reliability, with robust construction. Uster tailor-made services help customers achieve and maintain top performance from their instruments throughout their life cycle. Locally and remotely, Uster provides support with software updates as well as with practical advice in the customer's own language. Key principles are confidentiality, quick response and maintaining product value.

Usterized – The brand for trusted yarn quality

In textile quality, the Uster name makes a real difference – and the Usterized brand is a coveted seal of quality. Certified mills producing under the Usterized brand must test and clear yarns with Uster instruments and have state-of-the-art quality management in place – all amounting to a guarantee of superior quality assurance in the manufacturing process.

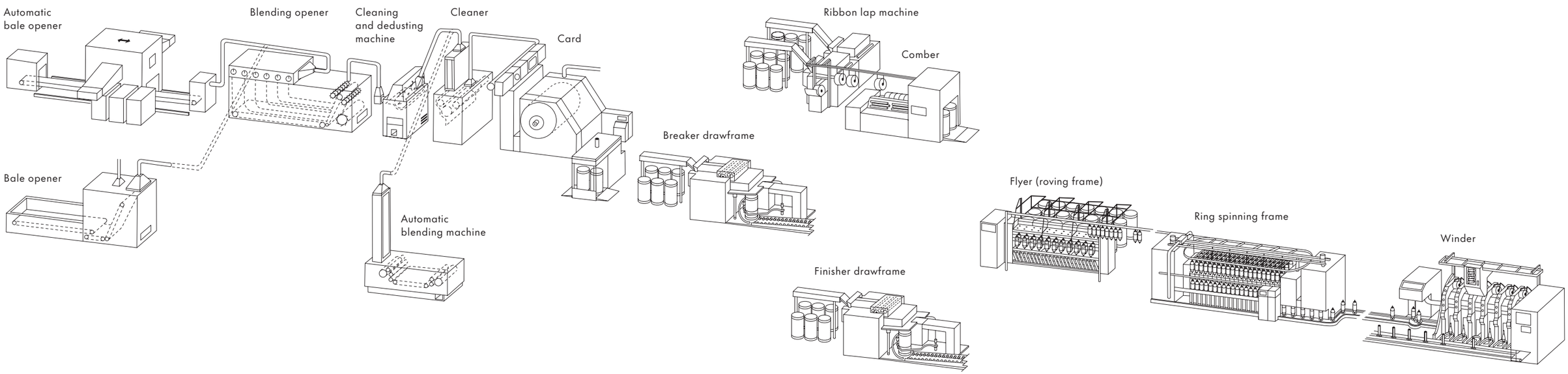
Excellence in quality management
The Usterized branding program started almost 40 years ago, and was expanded with quality certification being awarded to outstanding spinning mills in 2006. Companies seeking Usterized certification must pass a stringent audit. Experts from Uster scrutinize their quality management systems and processes on a regular basis. The Usterized brand unites around 80 spinning mills worldwide with a strong quality commitment.

Ring spinning for combed yarn

Blowroom

Spinning preparatory processes

Ring spinning



Uster products and process applications

USTER® *JOSSI VISION SHIELD*

USTER® *JOSSI MAGIC EYE 2*

USTER® *VISION SHIELD EXPERT*

USTER® *SENTINEL*

USTER® *QUANTUM 4.0*

USTER® *QUANTUM EXPERT*

USTER® *CLASSIMAT 5*

USTER® *HVI 1000*

USTER® *TESTER 6*

USTER® *LVI*

USTER® *AUTOSORTER 6*

USTER® *AFIS PRO 2*

USTER® *TENSOJET 5*

USTER® *TENSORAPID 5*

USTER® *RSO 3D*

USTER® *QUALITY EXPERT*

USTER® *STATISTICS 2018*

Edition 2021

The standard from fiber to fabric

Uster is the world's leading supplier of total quality solutions from fiber to fabric. Uster standards and precise measurement provide unparalleled advantages for producing best quality at minimum cost.

Think Quality

Our commitment to state-of-the-art technology ensures the comfort and feel of the finished product – satisfying the demands of a sophisticated market. We help our customers to benefit from our applied knowledge and experience – to think quality, think Uster.

Broad range of products

Uster occupies a unique position in the textile industry. With our broad range of products, we have a wide reach across the textile chain that is unmatched by any other supplier in the market.

Optimal service

Know-how transfer and instant help – we are where our customers are. A total of 215 certified service engineers worldwide grants fast and reliable technical support. Benefit from local know-how transfer in your specific markets and enjoy our service à la carte.

Uster Statistics – the textile industry standards

We set the standards for quality control in the global textile industry. With Uster Statistics, we provide the benchmarks that are the basis for the trading of textile products at assured levels of quality across global markets.

Usterized – brand your products with quality

Usterized stands for 'defined quality assured' within the textile chain. We invite selected customers to join the Usterized Member Program. More information at www.usterized.com.

Uster worldwide

With four technology centers, four regional service centers and 50 representative offices around the world, Uster is always sure of delivering only the best to its customers. Uster – committed to excellence, committed to quality. And that will never change.

Uster Technologies AG
Sonnenbergstrasse 10
8610 Uster
Switzerland
T. +41 43 366 36 36
F. +41 43 366 36 37
sales@uster.com
www.uster.com