



USTER® Fabric Inspection

The quality analysis systems

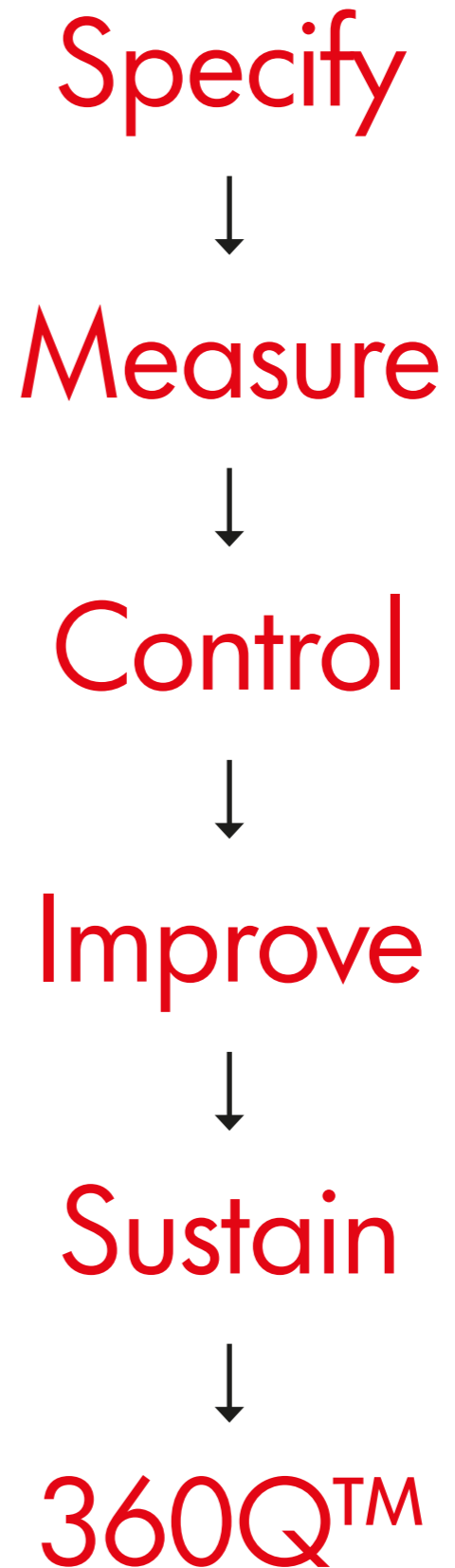
Managing a textile mill with quality in mind

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® Fabric Inspection: Business growth and quality assurance

Producing the right quality every time – the challenge
in the textile industry for fabric producers

Uster Fabric Inspection delivers major
benefits for fabric producers.

The automated solutions support quality
assurance and optimization of fabric yield
in the final product. Automated inspection
technology means fabric producers depend
less on human judgment and produce
consistent, reliable quality.

Uster provides inspection systems for all
production stages:
from the fabric manufacturing process up
to final inspection after finishing

- Uster Q-Bar 2
- Uster Fabriq Vision 2
- Uster EVS Fabriq Shade

At every stage of textile production, it is
essential to prevent defects as early as
possible, as well as controlling the finished
product. First quality production to customer
specifications is the goal – especially
important in demanding applications such
as technical textiles and nonwovens. In
apparel and home textiles it is vital to avoid
seconds and minimize waste fabric. Using
the right equipment, producers can also
extend their flexibility by reacting to
changing markets.





THINK QUALITY NEXT LEVEL



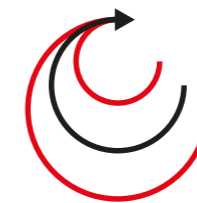
Think Quality at the next level Solutions and services for fabric manufacturers

Imagine a textile mill and Uster working together to make a real impact on quality... Think about the possibility of investing flexibly in state-of-the-art Uster equipment – combined with intelligent digital tools that transform test results into practical decisions... And imagine Uster textile experts working with mill staff to achieve the right quality levels every time, at optimal cost!



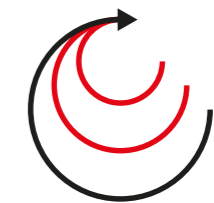
Cutting-edge hardware

- Uster Fabric Inspection Systems
- Automatic real-time quality inspection
 - Seamless integration in production lines at full operating speeds
 - Powerful on-camera processing technology



Data-enabled software

- Uster Fabriq Assistant
- One central data platform for quality information
 - Automated data collection, visualization and analysis
 - Automated data processing and reporting functions supported by Artificial Intelligence (AI)



Textile Expertise

- Uster Adoption & Outcome Services
- Continuous collaboration for optimized business outcomes
 - Advanced guidance by textile experts with deep domain know-how

Making complex tasks simpler, for consistent and reliable fabric quality control

Rising quality demands and an increasingly competitive environment result in a growing need for automation in the field of quality control for greige and finished fabrics.

Automated fabric inspection systems offer consistent inspection, enabling accurate evaluation of final fabric quality, as well as delivering productivity increases from higher processing speeds. Creating an initial setting, and fine-tuning the different parameters to meet requirements, are essential for manufacturers to achieve a clean and coded inspection result to make conscious quality decisions.

Automated fabric inspection systems have been available for years, but manufacturers still rely on human operators for intermediate and final fabric quality control. Even though these employees are highly trained, their attention levels can fluctuate, leading to inconsistent inspection results, over time and between different inspectors.

Missed detections and marking of defects in the fabric can lead to off quality in the next processes and subsequently to expensive claims for the fabric manufacturer.

Creating and adjusting the correct settings is vital for users of fabric inspection systems to achieve the results they need to make quality-conscious decisions about their fabric production. But establishing the correct parameter setup is a complex task. It often leads to users relying on supplier technicians for optimization – or the application of too-sensitive settings which cause over-detection and time-consuming review processes.

Fabric manufacturers need to have the right tools to set up their inspection systems in an understandable and transparent manner. This is the only way to achieve control over their quality inspection results.

The Uster fabric inspection systems support customers with:

Simplified AI-supported style creation and inspection setup process

Visual, true color image-based tools for conscious setting adjustment

Machine Learning (ML) classification for transparent rule-based defect coding

Super inspection feature for increased process and quality control

Finally, conscious quality decisions to eliminate costly claims

USTER® Q-BAR 2

The formation monitoring system

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.

Fast, early-stage detection
to prevent material loss

Attractive and functional design

User-friendly visualization
and classifying



Fast, early-stage detection to prevent material loss

Its inspection position in the fabric formation area allows the Uster Q-Bar 2 to respond quickly when a defect appears and avoid long-running or repeating defects. The alarm and stop signals enable the operator to correct problems immediately. This early detection reduces second quality and material loss.

The system design allows for simple integration on existing weaving machines. For specified machine types, an interface for communication with the loom is available.

Attractive and functional design

The slim and light housing enables the operator to work on the weaving machine without hindrance. The front can be opened, for easy access to the hardware for maintenance. Integrated LEDs in the side cap of the Uster Q-Bar 2 indicate system status. The operator is guided to the exact position of a defect by a red light on the Q-Bar 2, which is visible at both front and back. The system contains no moving parts. Which reduces costs for spare parts and maintenance effort.



User-friendly visualization and classifying

The system displays the fault image and position in front of the operator, in real time via the user interface. Defects are detected, categorized, saved and displayed on an intuitive touchscreen. A quality defect map is created for each roll and this can be reviewed in the additional album software. Uster Q-Bar 2 offers different classification and grading possibilities and allows rolls to be categorized according to number, size and position of defects, as well as customer criteria, reducing the demand for manual post-weaving inspection.

USTER® FABRIQ VISION 2

The simplicity of fabric quality assurance

Powerful on-camera processing technology, user-friendly AI-supported tools for style creation, and transparent easily-adopted workflows are the key elements of Uster's latest in-line fabric inspection systems.

Welcome to the Uster Fabriq Vision 2 and Fabriq Vision 2 N.

The Fabriq Vision 2 system combines Uster's proven long-term defect detection reliability with the latest AI techniques. This unique approach leads to workflows that are user-focused, transparent and easy to understand, breaking down complex tasks and reducing system adoption times for new users.

As a result, customers can easily evaluate fabric quality and make conscious data-based decisions about their production.

This next-generation platform and solution is the key success factor for today's fabric producers to achieve increased quality consistency and increase their yield.

Uster Fabriq Vision 2 supports customers with,

- AI-supported style tuning, based on textile parameters to enable startup of new articles in less than 10 minutes
- Visual parameter tuning, based on true color images to enable confident decision-making while setting adjustments
- ML classification to enable transparent rule-based reductions in over-detection, with real-time defect coding
- Super Inspection feature for enhanced process and quality assurance by allowing higher sensitivity background detection

All focused on optimized user workflows, practical support and reduced system adoption time.



USTER® FABRIQ VISION 2

The simplicity of fabric quality assurance

Fabric producers need to guarantee reliable quality. This requires a consistently high rate of defect detection. Uster Fabriq Vision 2 ensures this is achieved by using automated control during intermediate and final inspection, removing the need for costly manual inspection. The system's ability to capture any visible defects allows fabric yield to be optimized and prevents claims.

Reliable performance in challenging environments

Enhanced detection capabilities

Real-time process monitoring and quality inspection



Reliable performance in challenging environments

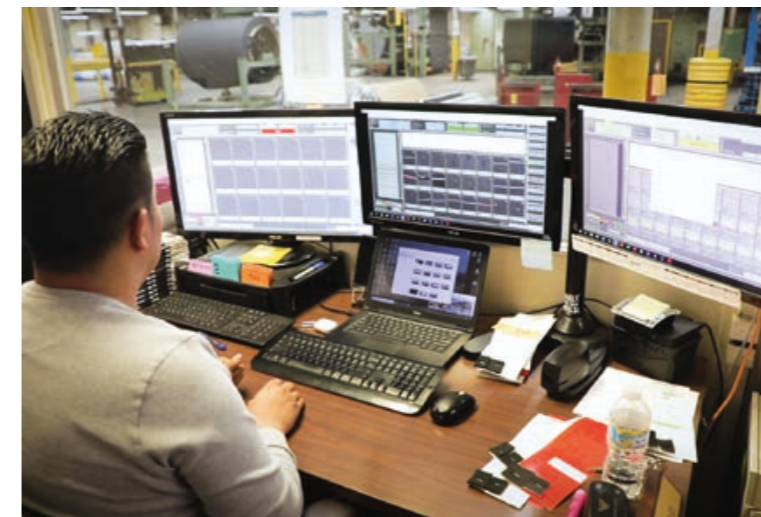
Uster Fabriq Vision 2 provides robust hardware to operate in the most challenging textile environments. All components are built to last and perform under real textile industry conditions.

Self-diagnostic tools help to monitor the system state and trigger alarms for quick reaction times.

Enhanced detection capabilities

Detecting irregularities and defects on textile surfaces is a very challenging task, and one which should not be left to a human machine operator. Automated fabric inspection with the technology of Uster Fabriq Vision 2 will enhance the reliability of defect detection and free up resources for the machine operator to focus on other duties.

Various detection angles, state-of-the-art camera technology and sophisticated illumination will make defects visible and increase the detection performance to a maximum.



Real-time process monitoring and quality inspection

Uster Fabriq Vision 2 provides real-time alerts for operatives, showing all defects and automatically creating roll inspection charts. All detected faults are collected in a dataset and transferred to Uster Fabriq Assistant. Here the operator can quickly mark faults and select which can be deleted. Users can set their own quality standards for different types of fabric and increase the efficiency of the inspection process.

USTER® FABRIQ VISION 2 N

For seamless integration into production

If space is limited, or the process does not allow a frame with rollers to be installed – for example in nonwovens or tire cord production – Uster Fabriq Vision 2 N is the solution.



Seamless integration in space-critical processes

With its minimal space requirements, Uster Fabriq Vision 2 N can be integrated into existing production lines by fabric and nonwoven manufacturers, without compromising on performance.

Using Uster's Smart Vision Cameras, customers will benefit from highly reliable and precise defect detection, enhanced by the various illumination types that can be applied.

Protection of sensitive fabrics

For sensitive fabrics, each additional re-rolling process carries the risk of damaging the fabric, and therefore must be avoided. By integrating Uster Fabriq Vision 2 N into the production line, there is no need for an additional rolling process which would risk damaging the fabric. Integration into a tire cord dipping line is an excellent example, enabling the producer to avoid post-production inspection and react to running problems immediately.



Seamless integration in space-critical processes

Protection of sensitive fabrics

Real-time process monitoring and quality inspection



Real-time process monitoring and quality inspection

With Uster Fabriq Vision 2 N, production lines are continuously monitored, providing real-time insights into the quality of the product. This enables proactive measures to minimize waste, reduce downtime and optimize production efficiency.

USTER® EVS FABRIQ SHADE

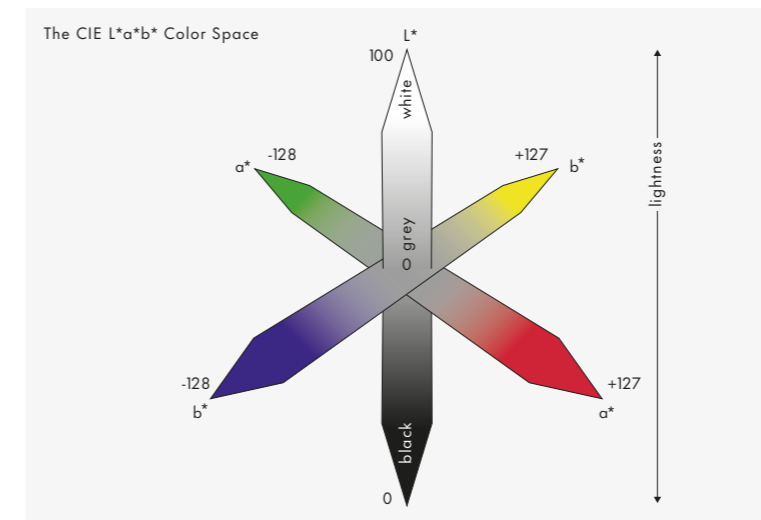
The fabric shade optimization system

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 provides standard shade measurements with high accuracy. It supports fabric producers to deliver a constant shade in end-products, preventing claims and keeping customers satisfied.

Elimination of manual shade sampling

Yield optimized based on customer requirements

Combined solution for maximum efficiency

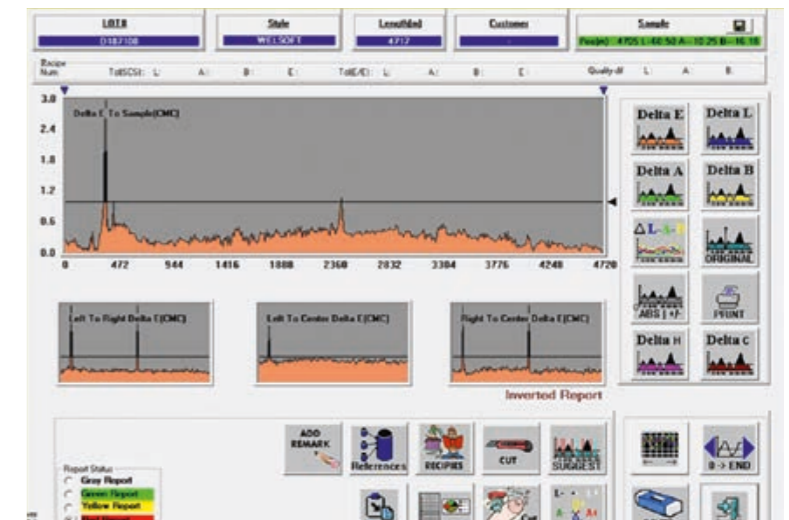


Elimination of manual shade sampling

Uster EVS Fabriq Shade combines the power of a traversing spectrophotometer with sophisticated information processing. Monitoring is done directly in production, without the need to cut the fabric. This reduces cost and effort for sampling.

Yield optimized based on customer requirements

The system continuously qualifies shade variation, based on a set reference point, and includes an automatic planning and sorting feature. Uster EVS Fabriq Shade offers several sorting options, which can be displayed on the monitor. To ensure that lots have optimal color uniformity, the system offers grouping options according to shade. This allows fabric producers to optimize fabric yield and meet the requirements of major retailers.



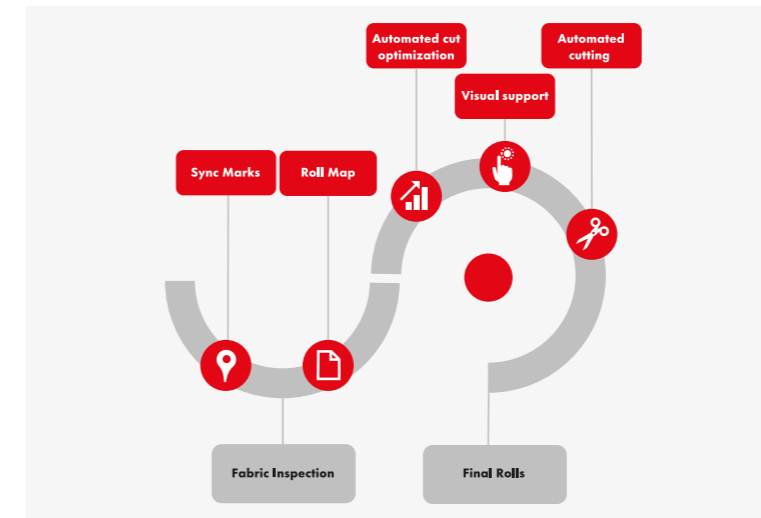
Combined solution for maximum efficiency

By combining Uster Fabriq Vision 2 and Uster EVS Fabriq Shade in one process step, the efficiency of fabric inspection will be greatly increased. Additional space requirements and process steps can be avoided, and all relevant quality data will be provided in one operation.

Optimized Cut Control (OCC)

Increased fabric yield after inspection

After final inspection, fabric will often be cut into smaller rolls, which will then be delivered to various customers. The OCC system provides a software tool for automated cut optimization, as well as additional components which can be installed on any existing debatching or cutting line. With these components, process efficiency can be increased.



Upgraded process efficiency
The cut optimization software automatically identifies the correct cutting position to achieve maximum fabric yield according to quality requirements. This makes the cutting process highly efficient. Invisible synchronization marks indicate the position of defects and cut positions in a roll, so these are always under control, allowing the cutting table to run at maximum possible speed.

Maximized fabric yield

The cut optimization software calculates the optimum cutting position according to the quality requirements of the end-customers. By adding individual cutting rules, it is possible to meet different specifications and achieve the maximum possible fabric yield.



Upgraded process efficiency

Maximized fabric yield

Easy operation



Easy operation

All cutting tables can be extended with a laser pointer, which supports operators to find defect positions quickly and securely, when mending or marking is required. In addition to the defect map on the screen, these visualization tools help operators to work smoothly and efficiently.

USTER® FABRIQ ASSISTANT

The central fabric quality platform

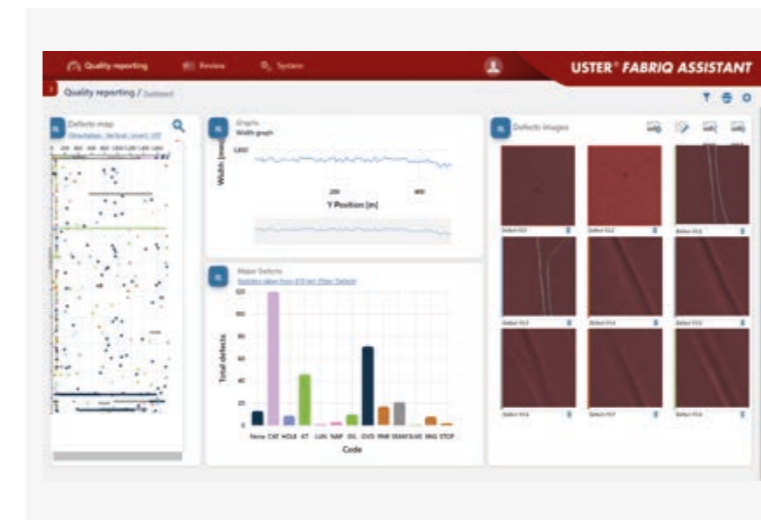
With its automated features, this Uster Fabriq Assistant acts as a virtual assistant, assisting any data stakeholder in their daily work, enabling them to be more efficient and productive. It offers a reliable and tailored solution for processing, analyzing, and visualizing quality data, allowing decision-makers to concentrate on their core tasks.

Uster Fabriq Assistant will enable quality managers and process engineers to make impactful decisions based on their quality data. The key challenges of continuously improving quality and achieving operational excellence are delivered through Uster Fabriq Assistant with Quality Reporting.

Intuitive quality understanding

Efficient data processing

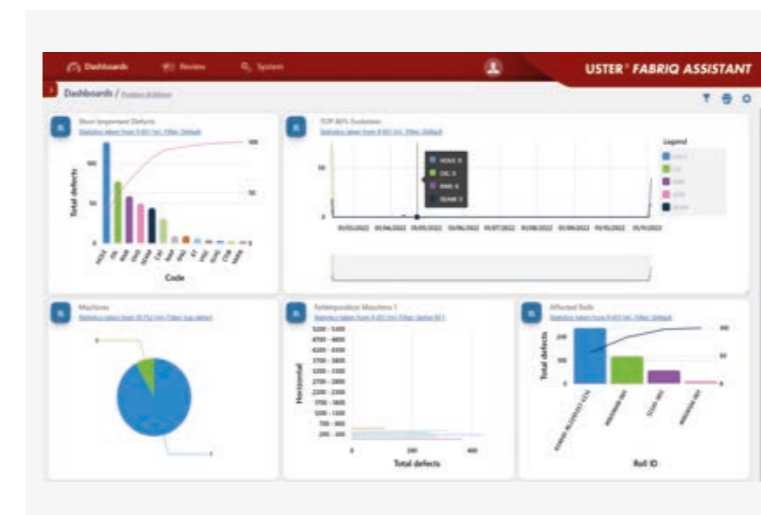
Flexible data analytics



Intuitive quality understanding
Quality Reporting offers a range of features enabling clear and straightforward data visualization and statistics – whether for a single roll or for all available data. Flexible filtering and data aggregation options allow users to efficiently highlight relevant information, while removing any unnecessary data, to gain valuable insights quickly and efficiently.

Efficient data processing

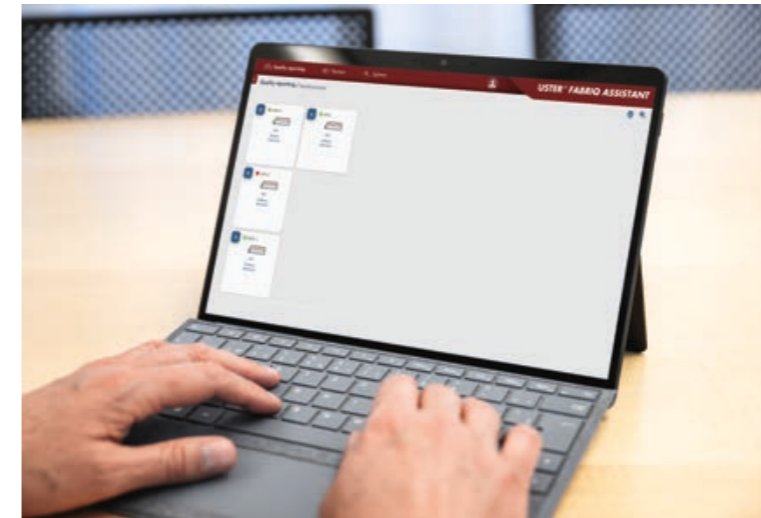
The Quality Reporting module offers fully-automated data processing and analysis that makes traditional statistics software obsolete. Manual data processing becomes a thing of the past, and the quality status information is automatically updated to ensure up-to-date results.



Flexible data analytics
The Quality Reporting module is designed to adapt to a user's individual preferences and working style. During development, flexibility was already built into the system to ensure that it can accommodate the unique needs of any user. The Quality Reporting module offers a range of data visualization and presentation options, and the dashboards can be easily adapted with responsive design for maximum usability.

USTER® FABRIQ ASSISTANT – Central Management for real-time remote quality information

The Central Management module allows for real-time monitoring of connected fabric inspection systems, enabling remote access to current product and process quality information. This feature empowers managers and process engineers to stay informed and make timely decisions, regardless of their location.

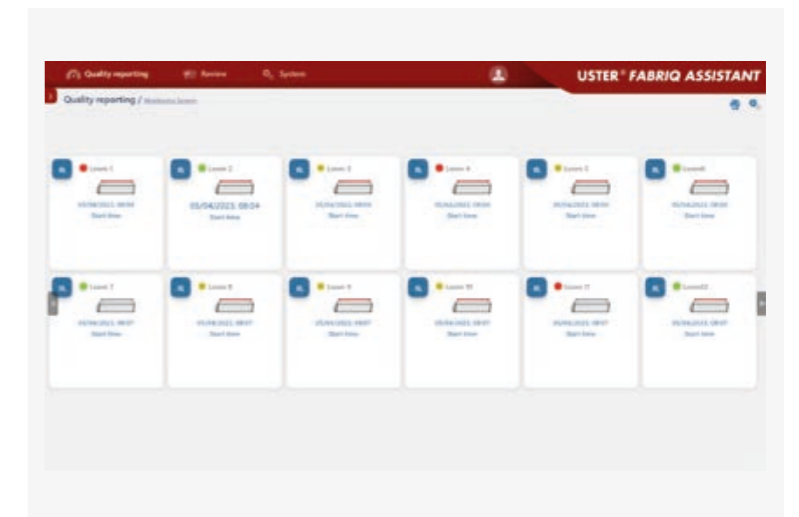


Quick time-to-action

When issues arise, quick response is critical to avoid further damage to the machine, or second quality production. Central Management offers continuous, real-time production and process monitoring. It provides insights into machine status, such as the number of detected defects, and any alarms or warnings. With this information, prompt action can be taken to prevent any negative impacts on the production process.

Increased accessibility

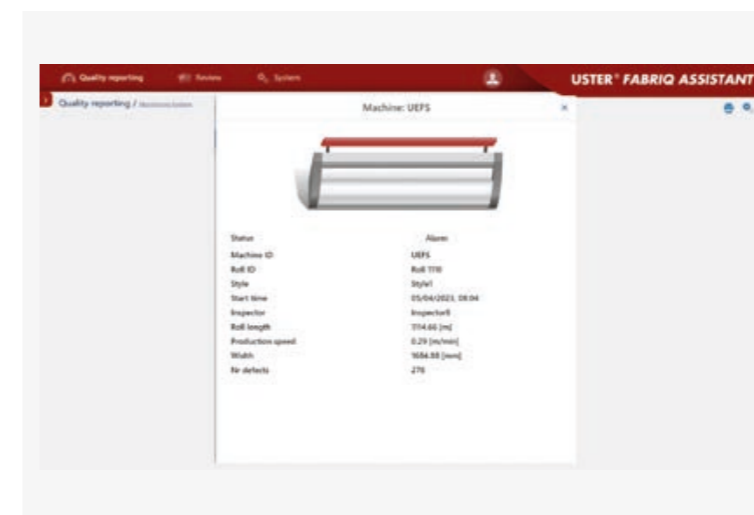
The Central Management module allows managers to free up time and resources for other tasks in their busy schedule. With this feature, they can stay in touch with product and process quality, make informed decisions, and manage their workload more efficiently.



Quick time-to-action

Increased accessibility

Enhanced efficiency



Enhanced efficiency

With real-time monitoring capabilities and access to relevant context information, issues can be identified and addressed promptly, preventing delays. This results in a more streamlined production process, allowing managers and process engineers to focus on other tasks while maintaining high quality standards.

Why choose Uster?

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. Certified service engineers worldwide ensure 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.

Uster worldwide

With headquarters in Switzerland, Uster has a global network of 7 subsidiaries, with 50 sales agents and local service stations around the world, so we are always sure of delivering only the best to our customers.

Last but not least

At Uster, we empower our people to create a better future for the textile industry. This is how we develop high-quality, innovative solutions. Excellence is sustained by solution-focused dialogues and a strong commitment to conscientiousness, passion, and respect. The Uster corporate culture is at the heart of everything we do, focusing on unity and encouraging everyone to contribute equally to finding the best solutions.



**We empower people
to create a better future for
the textile industry
through quality and innovative
end-to-end solutions.**



Uster Technologies AG

Sonnenbergstrasse 10
8610 Uster
Switzerland
+ 41 43 366 36 36
info@uster.com
www.uster.com