

# Maximizing Benefits of Online Monitoring

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Fiber manufacturers often approach on-line systems as a means to catch bad fiber as it is being produced. The ability to catch bad yarn is an important criteria as it has financial benefits in reducing laboratory testing and in reducing the potential for bad yarn to be released to downstream customers. At the same time, the information derived from a capable on-line system has benefits that extend well beyond that of a bad yarn catcher.

## INNOVATIVE AND PROVEN

The Attalus Fiber System supplies never-before-seen, real-time, on-line product and process information used

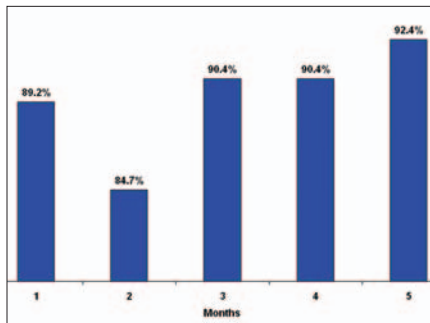
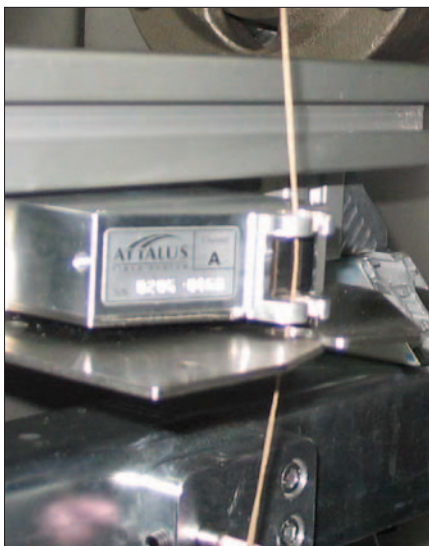


Figure 1. Machine uptime improvements



Information from the Attalus Fiber System has benefits that extend well beyond that of a bad-yarn catcher.

to maximize the manufacturer's competitive advantage through improved quality, yield, efficiency and customer satisfaction. The Attalus system has been installed in fiber production facilities globally. Using a unique and proven radio frequency, electromagnetic-based sensor technology, the Attalus system provides real-time quality information on the fiber such as dtex, node count, node quality, spin finish and bulk. At the same time, the Attalus system also provides information on the performance of the spinning process such as the performance of the winder, interlace jets and quench air.

The scope of the Attalus information extends from the fiber, to the machine, to the manufacturing process. This provides manufacturers with new information on the quality of the product, as well as valuable process metrics on the performance of the machine and operators. With consolidated, meaningful, real-time data, management can act decisively to affect change that results in increased productivity, revenue, quality and reduced costs.

## MAXIMIZING MACHINE UPTIME

In addition to increasing top-grade yield, manufacturers are using the Attalus information to improve machine uptime. Using the Attalus information, manufacturers are able to make machine adjustments to optimize performance and conduct real time versus preventative maintenance to increase machine uptime. Machine uptime is a key performance metric that measures the percentage of time the spinning machine is making fiber while the spin pump is on. Maximizing uptime increases top line revenue by increasing machine yield while reducing costs by decreasing aspirated waste.


## MACHINE UPTIME STUDY

A study was conducted to determine the uptime improvement of facilities uti-

lizing the Attalus system. This analysis was conducted at three carpet facilities over a 5-month period and involved a total of 15 machines with 88 positions. The 5-month timeframe for this analysis was chosen to allow time for alarms to be set and for operators to incorporate the information from the Attalus system into their daily routine.

Operators began using the Attalus information to diagnose and fix the root causes of out-of-specification product, make appropriate machine adjustments and conduct proper maintenance. This in turn resulted in more uniform processing conditions with fewer line breaks, downtime and product being aspirated to waste. In the first month of the installation, the Attalus system was used to record a baseline machine process performance. In the second month, alarms were established and set to catch non-uniform situations.

As shown in Figure 1, the dip in uptime in the second month is attributed to the introduction and the refinement of these alarms. Overall, the machine uptime increased from a median of 89.2% to 92.4%, an improvement of 3.2%, over the 5-month period. Calculating for the reduction in the cost of aspirated waste, as well as for the improvement in yield, it becomes easy to see the financial impact of an improvement in machine uptime.

With ever increasing raw material costs, factors such as maximizing machine uptime are critical to a manufacturer's bottom line. Manufacturers are moving beyond using on-line monitoring as just a bad yarn catcher. Information from the Attalus system is being used to continuously increase the manufacturer's competitive advantage by improving top line revenue and reducing bottom line costs. 

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