KONECRANES®

Five benefits to using remote monitoring with your overhead cranes

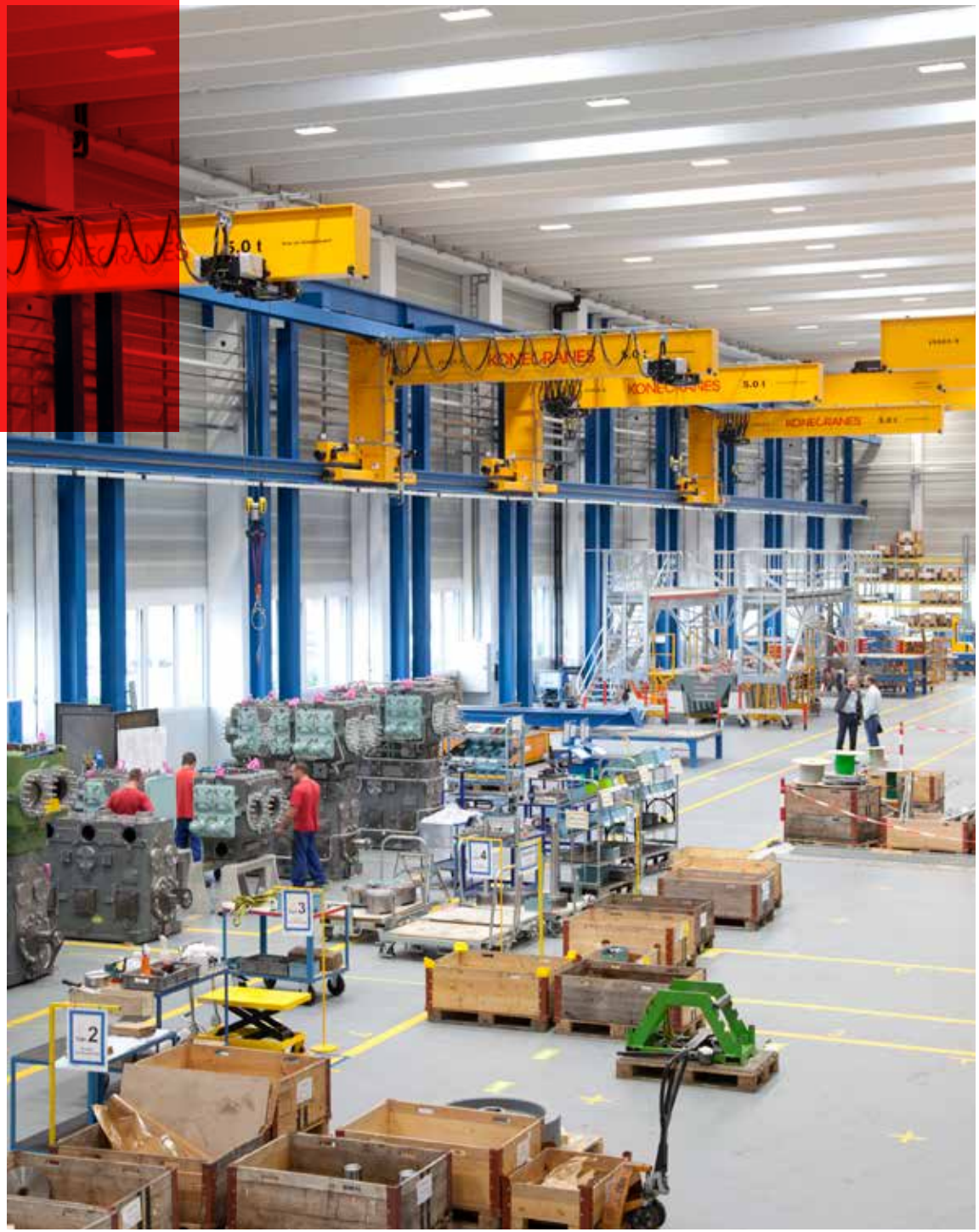
Better visibility into the use and performance of overhead cranes

The Industrial Internet – the integration of machines with network sensors and software to gather and analyze data for specific purposes – promises to help make equipment across industries more intelligent and enable efficiencies that were unimaginable just a short time ago.

This evolving technology is transforming industrial and manufacturing facilities with remote monitoring that provides visibility into the use and performance of overhead cranes.

With this technology, select crane data is visible through a centralized online portal that provides users with operating information in just a few keystrokes and safety alerts transmitted by email or text.

Here are five ways your lifting operations could benefit from remote monitoring technology.



1. Safer working environment

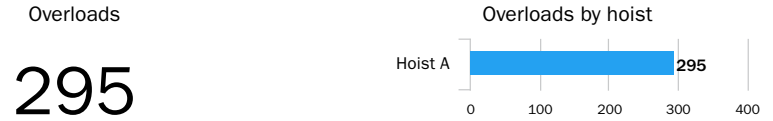
The most important function of a good remote monitoring service is gathering and delivering information on safety-related issues.

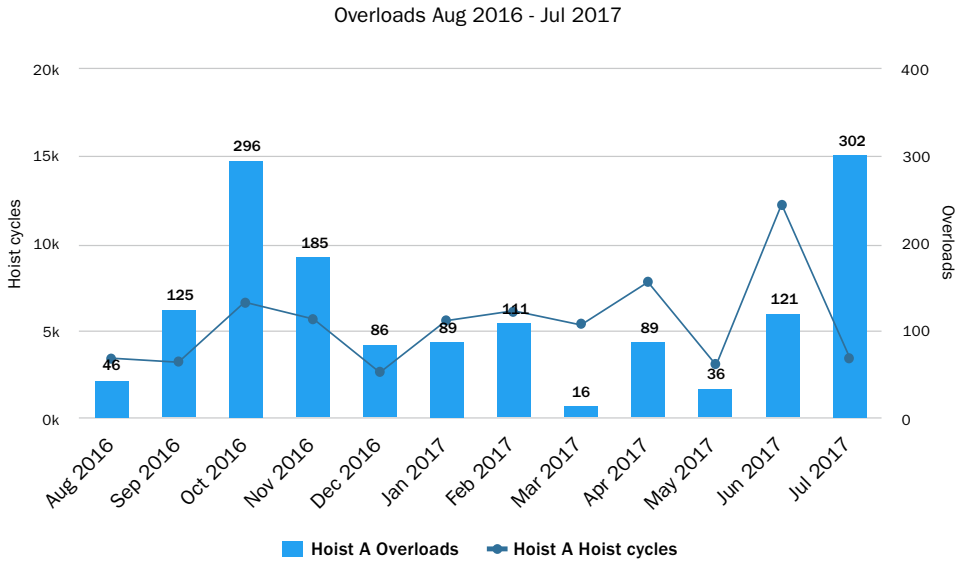
One way remote monitoring can do this is by helping identify abnormal crane use that, over time, can threaten efficient crane operation and pose serious safety risks. Overloads, over-temperatures and excessive emergency stops can adversely affect the condition of your equipment and lead to safety issues.

For instance, overloading the crane with too much weight or using unnecessary emergency stops wears components much more than regular use. Excessive use of emergency stops can reduce brake life significantly, potentially risking personnel injury or compromised crane control.

You can use remote monitoring to collect detailed data about abnormal usage situations; data that can help you identify problem issues and plan remediation. This information can also help give you a basis for operator training.

Overloads vs. Hoist Cycles





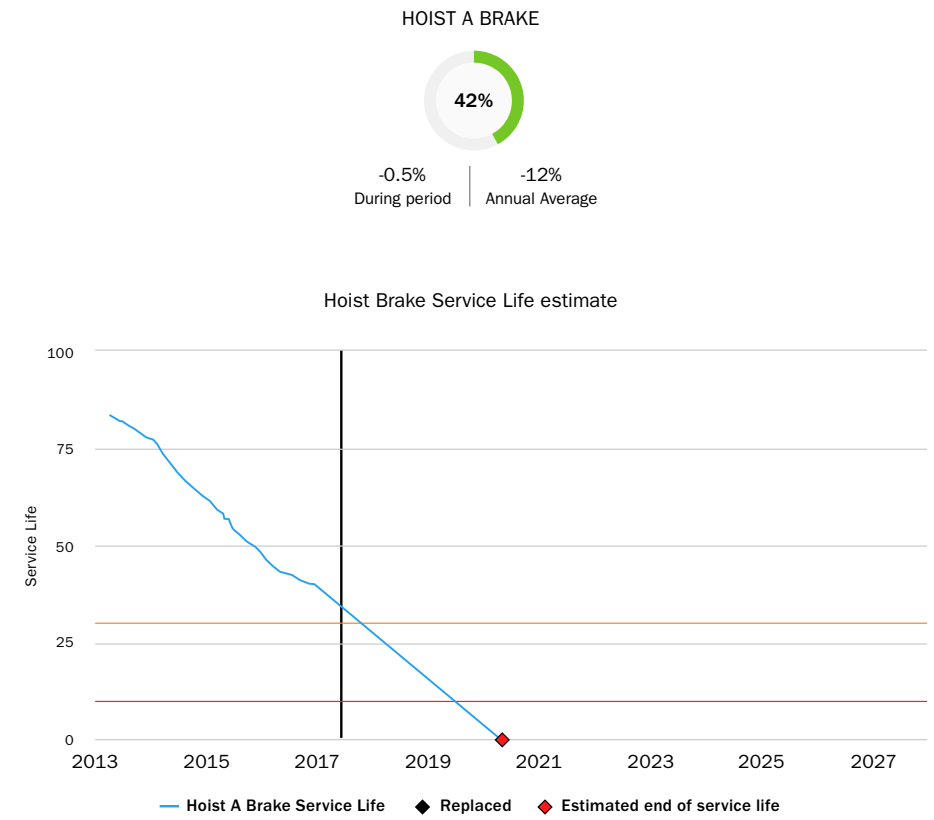
2. Better understanding of crane usage

Every crane is designed according to its anticipated use. However, actual usage often varies and changes through the lifetime of the crane, based on factors such as application, production cycles and operator capabilities. A good remote monitoring service, when used properly, can help you gain a better understanding of exactly how your cranes are being used.

By tracking hoist motor activity, running hours and production cycle times, remote monitoring can help you determine potential problem points in the use of your crane. This can help tell you if your crane is being used in the way it was intended and designed. For instance, the data can be compared to design limits of the crane to estimate the wearing levels of brakes and motors to identify instances where usage is causing excessive wear.

When you understand exactly how your cranes are being used, you also are able to better plan maintenance based on actual needs. This data can give you a better idea of the needs of your cranes before they give way to critical issues, helping you plan maintenance and leaving less room for surprises.

Hoist Brake



3. Data for training program enhancement

With real-time data collection, you can look at the whole history of your crane usage, including trends in, and frequency of, abnormal use. That information can be used to plan and execute operator and service training programs.

For crane operators:
Crane data can help you identify opportunities for improving safety and productivity through equipment operation training. New training programs can clarify operator responsibilities and refine operator capabilities, helping to improve work cycle times and reduce some crane use problems, such as excessive emergency stops, overloads and over-temperatures.

In-house maintenance teams:
Crane remote monitoring can help give your maintenance teams a more event-specific picture of crane use. This gathered data can help your technicians fine tune common inspection focuses, prepare maintenance, and record results of remedial measures against crane performance goals.

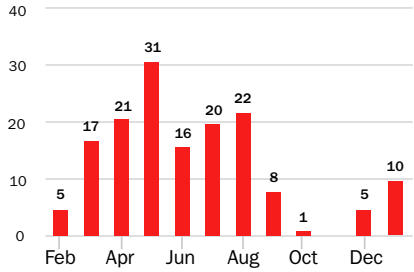
Safety Critical Alerts

Safety Critical Alerts

158

Daily Average 1.0
Safety Critical Alerts during period

Alert trend Feb 2017 - Jan 2018



Emergency or abnormal stop in hoisting motion

148

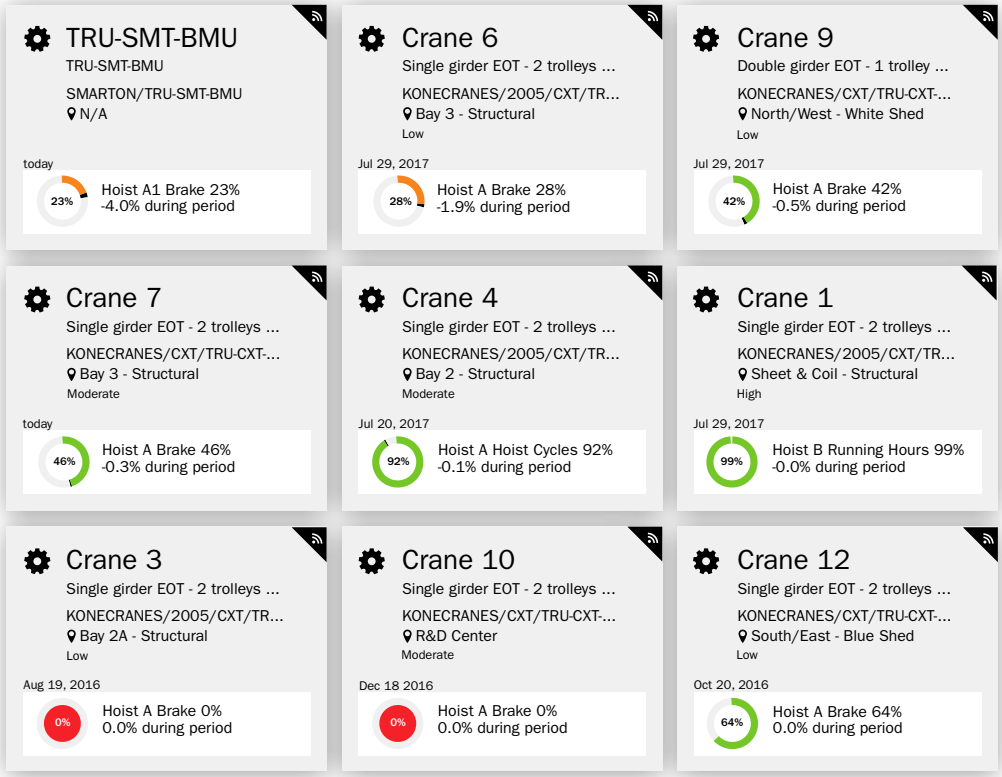
Emergency or abnormal stop in hoisting motion

10

4. Increased visibility into an entire fleet

Remote monitoring can expand your view of your lifting equipment, providing a complete timeline of all crane operation data, rather than a static look at one crane at a time. You get a clear picture of the status and performance of your entire fleet of cranes over any given time period, from standard cranes to heavy-duty process cranes. This comprehensive view can help keep you from missing a minor usage abnormality—or help you connect seemingly unrelated problem patterns—before it becomes or contributes to a larger problem.

Heavy-duty process cranes operate almost constantly and have a significant role in factory output, so they often get the most attention. A remote monitoring service that provides visibility into your entire fleet will allow you to easily identify which cranes need attention, regardless of crane type or application—and this visibility can give you information for analyzing crane performance trends and operator usage behaviors that can impair safety and performance.



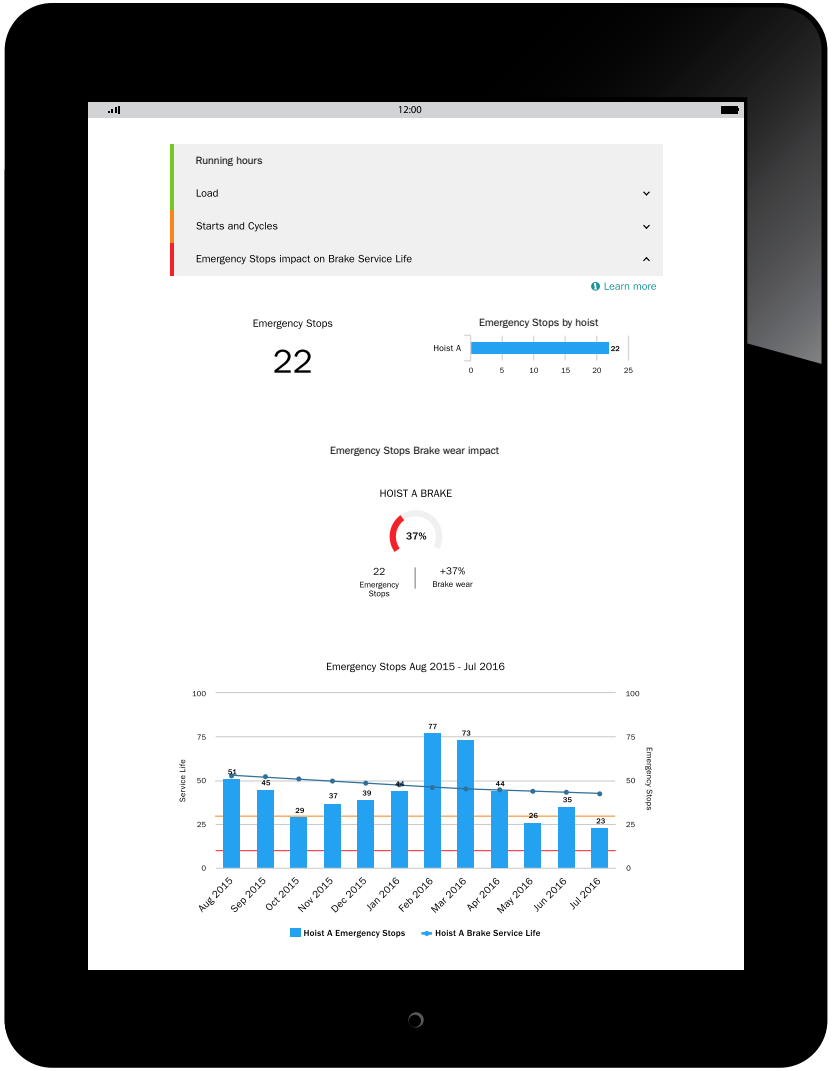
5. Greater systematic data analytics

When your cranes can automatically transmit usage information, this data can be collected and centralized for multiple uses. Besides helping guide maintenance and process improvements, this information can be analyzed by crane manufacturers to contribute to further advances in crane safety, performance and data communication technologies.

Information is a solid basis for decision-making

As a general rule, if you want to improve something, you first need to understand the current situation. Remote monitoring can provide the visibility you need to fully understand the day-to-day use of your cranes. The transparent collection of data can help you develop an operational baseline and identify opportunities for improvements.

Usage data gives you a new important data element that becomes the basis for strategic decision-making. Having as much transparent information as possible about the status and usage of your cranes helps inform decisions on maintenance, safety concerns, training, productivity and service and equipment investments.



Konecranes is a world-leading group of Lifting Businesses™, serving a broad range of customers, including manufacturing and process industries, shipyards, ports and terminals. Konecranes provides productivity enhancing lifting solutions as well as services for lifting equipment of all makes. In 2017, Group sales totaled EUR 3,136 million. The Group has over 16,000 employees at 600 locations in 50 countries. Konecranes shares are listed on the Nasdaq Helsinki (symbol: KCR).

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