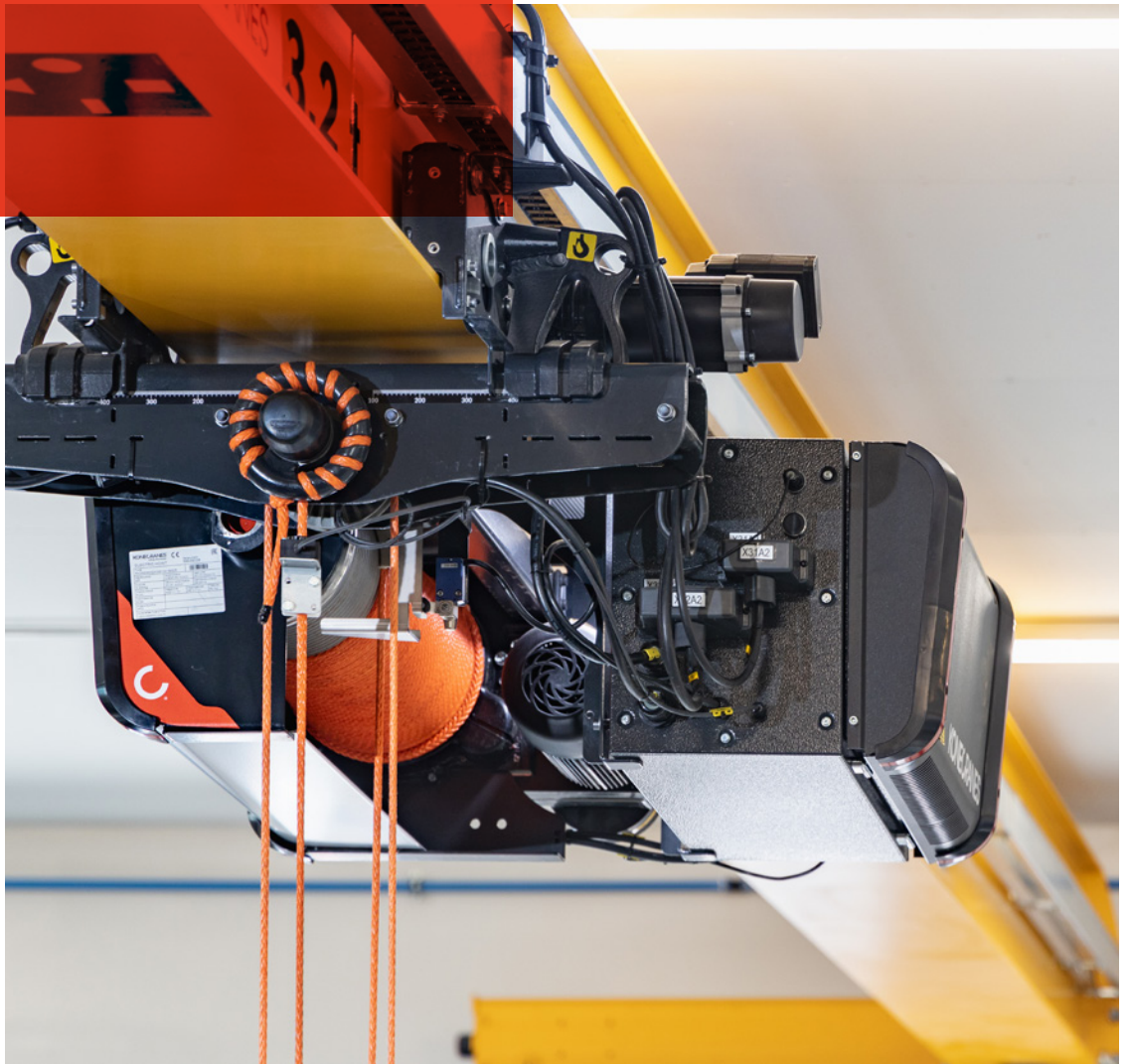


SERVICE

Retrofits for cranes and hoists



Improve safety and productivity by applying the latest crane technology

Retrofits are an efficient option to replace components or add current technology to your existing overhead crane. Common retrofits include replacement of hoists, components, electrics and/or controls, the addition of new features, and/or technology upgrades and updates. Retrofits typically require minimal downtime, engineering and pre-planning.

Benefits of a retrofit

- Can bring aged equipment up to date to match current or changing production demands.
- Can be an alternative to repairing an aged or worn out component.
- Swapping out repair-prone hoists and other components can reduce maintenance spending.
- A relatively easy and economical way to add current features and technologies to a crane.
- Upgrade older equipment for a fraction of the cost of complete replacement.
- Can improve crane safety and ease-of-use with improved control interface options and safety components.
- Helps improve availability and ease of installation of replacement components and parts.

Hoist replacement

When a hoist has reached the end of its productive design life, it can be more efficient and cost-effective to replace the entire hoist instead of just replacing components or making repetitive repairs of the unit. A new hoist also allows you to take advantage of the latest technologies and improves spare part availability. Replacing a hoist at the right time and with the right product can bring significant improvement to the reliability of the equipment as well as the safety and productivity of the operation.

S-SERIES ROPE HOIST

Designed for usability, eco-efficiency and safety

- Can extend the lifetime of an existing crane.
 - Supports compliance with current safety regulations and standards.
 - Allows for optimal speed and enhanced safety when handling heavier loads.
 - Can improve productivity and
- production efficiency.
 - Can improve spare part availability.
 - Can increase capacity to accommodate changes in process.
 - Allows for the addition of the latest technology such as modems or Smart Features.



Learn more about the S-series



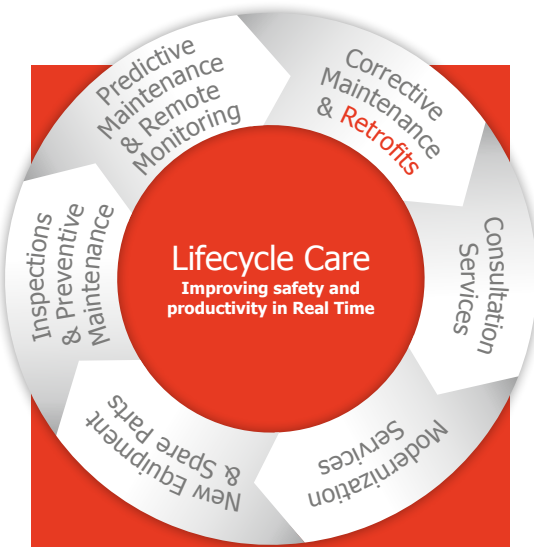
C-SERIES ELECTRIC CHAIN HOIST

Modern, durable, lightweight lifting

- Can extend the lifetime of an existing crane.
- Supports compliance with current safety regulations and standards.
- Can improve productivity and production efficiency.
- Can improve spare part availability.



Learn more about the C-series



Improving safety and productivity in real time

Lifecycle Care is our comprehensive and systematic approach to managing customer assets; connecting data, machines and people to deliver a digitally-enabled customer experience in real time. Lifecycle Care is designed to maximize the productivity of uptime and minimize the cost of downtime, thereby achieving the highest lifecycle value for our customers’ equipment.

A consultative approach to help guide decision making

Our consultative approach can help guide your decision making. We share our findings and provide recommendations based on our industry-leading expertise.

Our proprietary Risk and Recommendation Method is the basis of our inspection and preventive maintenance processes. No matter what service is being performed, Konecranes Risk and Recommendation Method drives our evaluations and consultative approach, giving you a safety and production advantage.

Retrofits to improve safety and productivity

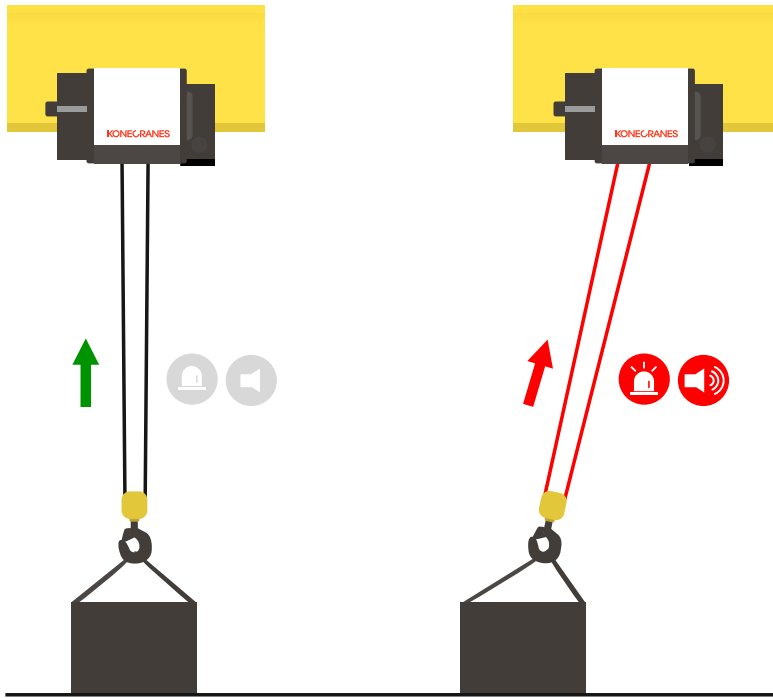
At Konecranes, safety is our highest priority. We offer different retrofit packages designed to help improve the safety of your crane and your operations.

Side Pull Prevention

Overhead cranes are designed to lift objects vertically. A side pull occurs when the hoist lifts something that has not been placed directly beneath it.

Side pull can cause hazardous load swing and in the worst case – load drops. Side pull can also cause damage to the drum, rope and rope guides and is a common cause of breakdowns.

Konecranes Side Pull Prevention has been designed to stop hoisting motion when side pulling is detected. It uses an inclinometer to measure rope angle during load lifting. If the angle goes over four degrees, the system stops hoisting, sounds a horn and gives a light signal. When the rope angle is back to less than four degrees, hoisting continues normally.



Side Pull Prevention stops hoisting motion and gives horn and light signals when it detects side pull.



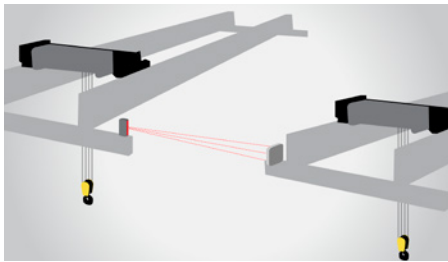
LED lighting

Safety advantage: Because light distribution in LED lights is more focused, the crane operator is less likely to get blinded by the light when looking at the load. Plus, the light is directed where it is needed: on the load and on the workstation or facility.



Warning and/or protective devices

Safety advantage: Effective warning signaling and protective devices such as horns, limit switches, holding devices, rail clamps, rail-stops and indicators can help prevent accidents.



Collision avoidance

Safety advantage: These systems are designed to help prevent collisions between cranes or their loads by either slowing down or stopping crane movements when the crane or its load comes within a pre-determined distance of another moving or fixed object.

Variable Frequency Drives

Replacing outdated motor controls with a new Konecranes variable frequency drive (VFD) allows you to take advantage of technology that is designed to address requirements for safety in lifting.

Equipping your crane with the latest technology helps it run more smoothly, endure stress and last longer. VFDs not only improve operator safety, maximize crane reliability and saves energy costs, but they also minimize mechanical stress on components.

VFD control offers smoother travelling motion which means better load control compared to contactor controls. VFDs also give you smooth programmable acceleration and deceleration rates resulting in easier load positioning.

The precise and infinitely variable speed selection reduces jerking and load swing for enhanced operator efficiency and productivity.



Radio controls

Safety advantage: Replacing pendant controls with radio controls provides free movement for the operator and allows them to choose the safest place to operate the crane and gives them better visibility of the load.



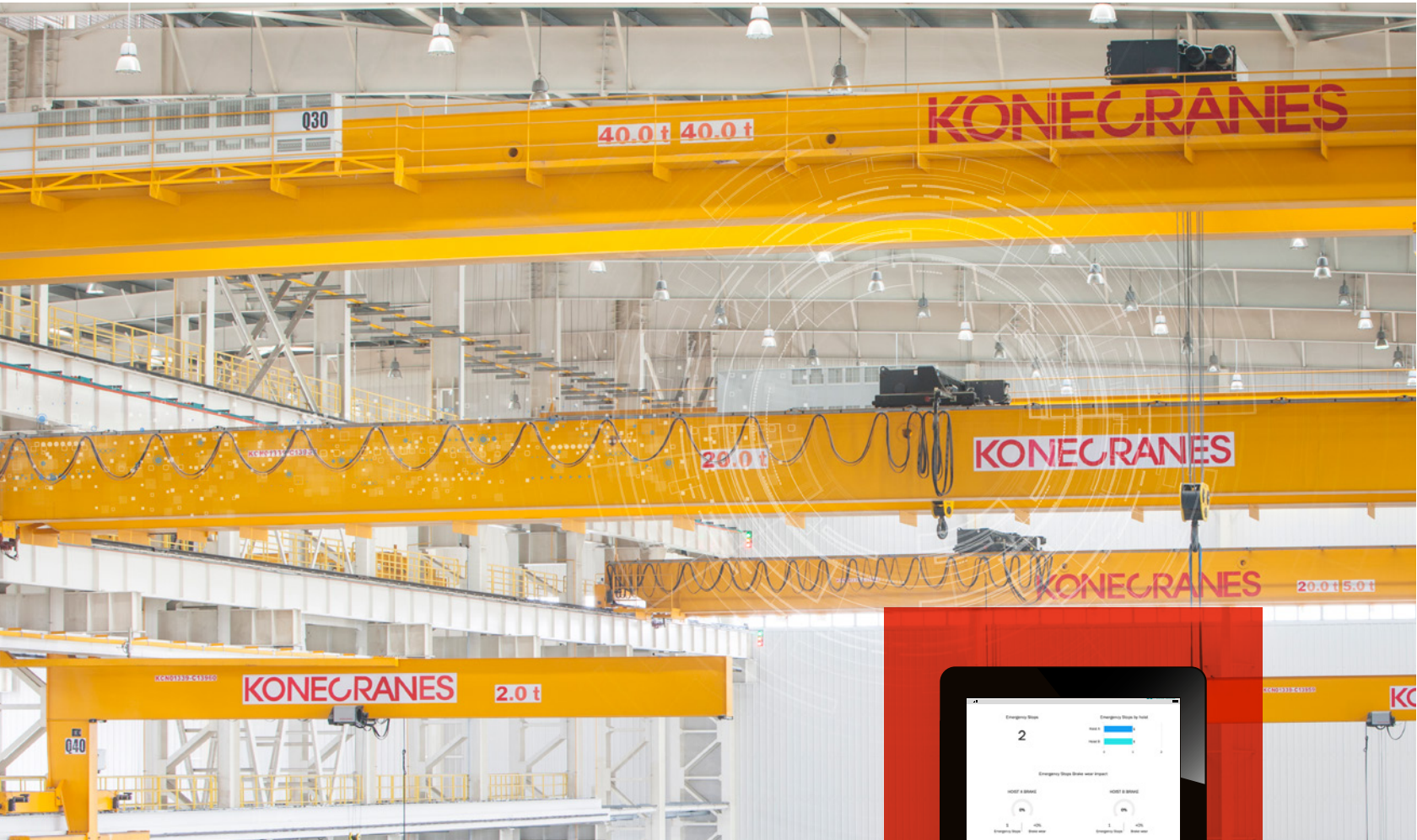
Production advantage: Improved user ergonomics reduces strain for the operator helping to increase productivity in your process. Radio controls can also save the operator time eliminating the need to walk from a pendant to the load to rig countless times in a shift.

Load display

Safety advantage: A load display provides visual confirmation of the load to help prevent overloads. Lifting loads beyond the rated capacity can cause damage to the crane or hoist components which increased the risk of accidents.



Production advantage: Having a load display can give quick indication that you are lifting what you intended to lift. For example, lifting a mold from a press, if the load is heavier than expected it can indicate that the mold didn't release from the press.



Retrofits to enable predictive maintenance

Konecranes offers a variety of retrofit packages to enable the latest technology for remotely monitoring your crane. Konecranes TRUCONNECT Remote Monitoring will also give you access to our digital customer portal yourKONECRANES.com.

Upgrading your crane with TRUCONNECT Remote Monitoring provides condition, usage and operating information that can be used in maintenance planning and in predicting possible component or equipment failure. It also provides alerts of certain anomalies and enables predictive maintenance.

Collected data varies depending on asset make and model but typically covers condition and expected service life of critical components, running time, lifted loads, motor starts, work cycles and emergency stops.

TRUCONNECT Remote Monitoring with alerts based on the equipment/application is required in order to effectively implement predictive maintenance. Remote Monitoring data combined with inspection and maintenance data provided by the maintenance program gives a comprehensive view of equipment maintenance needs and performance.



yourKONECRANES.com

TRUCONNECT data is viewable at any time on our cloud-based customer portal – yourKONECRANES.com.

TRUCONNECT data is presented in easy-to-read graphs with thorough explanations including common or likely causes, what you should be concerned about and recommended actions.

TRUCONNECT Brake Monitoring

TRUCONNECT Brake Monitoring uses a condition monitoring device to collect the status of brake air gap, mechanical and electrical faults from the electromagnetic disc brakes. The service provides visibility into current brake condition, estimates remaining service life and indicates brake faults. Brake Monitoring information is used in predictive maintenance and can also be used for brake maintenance planning.



TRUCONNECT Wire Rope Monitoring

TRUCONNECT Wire Rope Monitoring is designed to provide real-time insight into the condition of a wire rope. It reveals both visible exterior defects as well as internal defects that are not detectable with a visual inspection. Specialized and patented sensors continuously monitor the wire rope while the crane is in normal operation and alerts via text or email occur when rope condition deteriorates below set limits. Wire rope condition information helps you plan for maintenance and repair, or wire rope replacement.

Connect your entire fleet

Control Unit

The Control Unit allows for the addition of features such as overload protection and TRUCONNECT Remote Monitoring. This package is available as a retrofit for most cranes, regardless of type, brand or age.

TRUCONNECT modem

A TRUCONNECT modem can be installed on cranes with ControlPro or PLC controls to provide connection capability for TRUCONNECT Remote Monitoring.

Cranes not manufactured by Konecranes

A TRUCONNECT Retrofit Kit is available to equip a crane not manufactured by Konecranes with the hardware required for TRUCONNECT Remote Monitoring.

Demag cranes

The TRUCONNECT Retrofit for Demag Cranes allows Demag SafeControl controlled cranes to be equipped with the necessary hardware needed for TRUCONNECT Remote Monitoring.



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 2020, Group sales totaled EUR 3.2 billion. The Group has around 16,600 employees in 50 countries. Konecranes shares are listed on the Nasdaq Helsinki (symbol: KCR).

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**Contact us to take advantage
of a retrofit for your equipment**

konecranes.com/contact-us