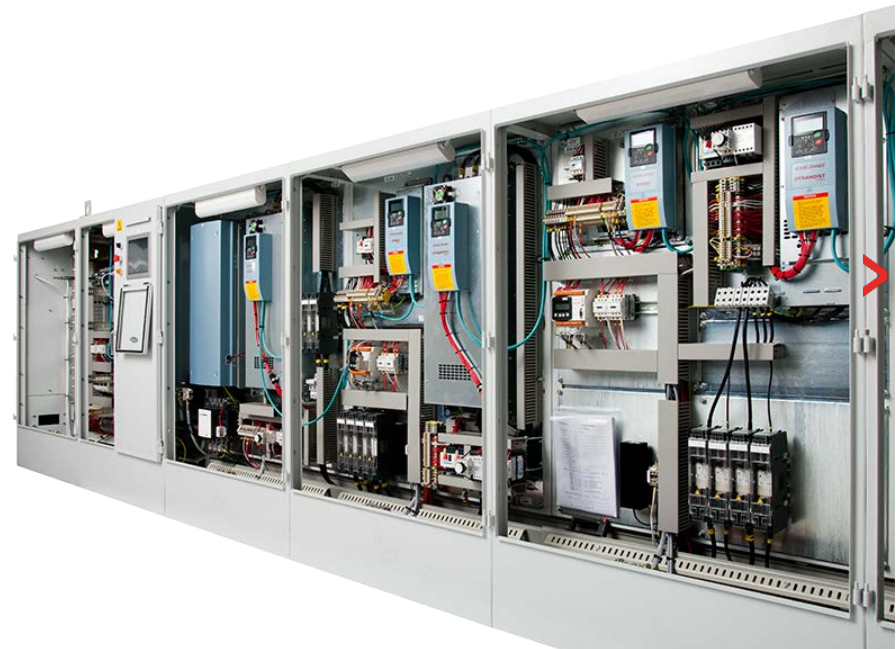


# CONTROLS

- Safety in every detail
- Well-designed controls mean a safer crane
- Excellent software makes an excellent crane
- Smart Features for more flexible lifting
- It gets even easier with automation
- Motor controls just for cranes
- Collecting, reading and understanding data



# SAFETY IN EVERY DETAIL

Konecranes equipment is renowned for excellent safety, reliability and ease of use. To make sure that every one of our cranes lives up to this reputation, the mechanics, software and electronics that control the crane are designed to work in unison.

Advances in technology make our lifting equipment more sophisticated, but our user interfaces are clear and straightforward, helping operators drive the crane efficiently and aiding technicians in maintenance tasks.



# WELL-DESIGNED CONTROLS MEAN A SAFER CRANE

We make our physical controls with both safety and simplicity in mind. A crane that is easy to use gives the operator full control over the load at all times. With controls carefully engineered and integrated into our cranes, load handling is safer and easier.

On basic model cranes, the control unit might only have buttons for stop-start motions like lifting and lowering loads. More advanced lifting equipment uses one or two joysticks, or even a detachable tablet computer to help use a wide range of Smart Features.



## Control unit options

- Pendant controller
- Radio controller
- Cabin
- Separate control room

Konecranes control units are **ergonomically** designed for **operator comfort and ease of use**.

We take a user-centric approach, so the design is based on an explicit **understanding of users, crane tasks and operating environments**.

Our control units are intuitive, **made for the way users think**. An example of this is the diamond-shaped button arrangement in the pendant controller.



# EXCELLENT SOFTWARE MAKES AN EXCELLENT CRANE

**Software controls and monitors the physical movements of the crane.**

The first thing to consider is safety, especially creating limits that restrict what the crane can do and where it can go. Crane software must be able to deal with any errors that might occur, and usage data and diagnostics must be reliable and secure.

## AT KONECRANES, WE WRITE ALL OUR OWN CRANE CONTROL SOFTWARE.

Our industry knowledge and programming acumen give us the ability to choose the right software according to customer need. The right software can ease the daily work of operators and maintenance personnel, and improve your processes.

For example, a special lifting need might require new software routines to control an unusual mechanical assembly.

## OUR SOFTWARE IS CAREFULLY TESTED BEFORE INSTALLATION.

We test our software on a simulator and a test crane with real hardware and live motors. All crane controls go through a full FAT test before delivery.



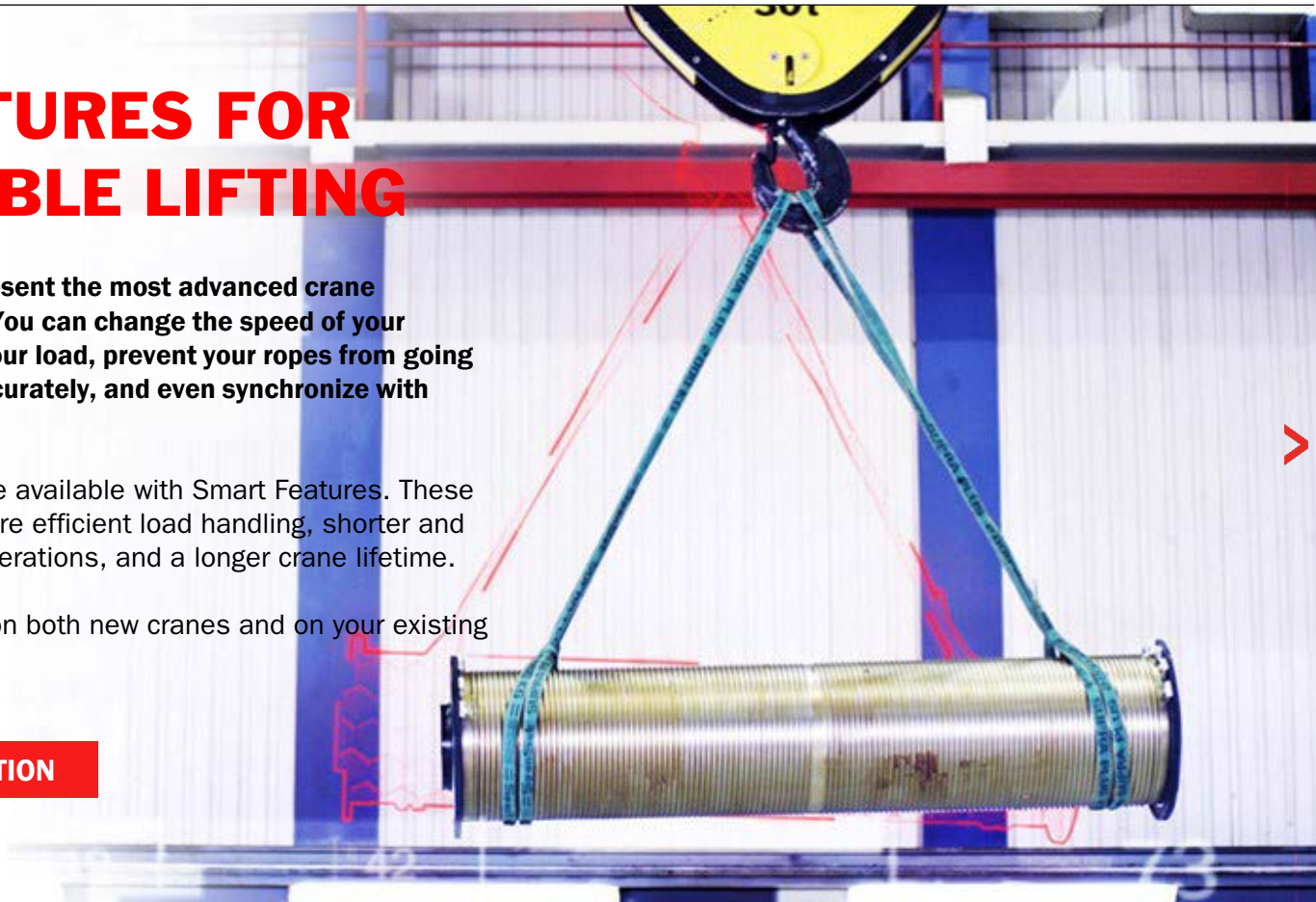
# SMART FEATURES FOR MORE FLEXIBLE LIFTING

**Konecranes Smart Features represent the most advanced crane technology on the market today. You can change the speed of your movement, control the sway on your load, prevent your ropes from going slack, position your load more accurately, and even synchronize with other hoists for a dual lift.**

These and many other options are available with Smart Features. These features can help you achieve more efficient load handling, shorter and faster work cycles, safer lifting operations, and a longer crane lifetime.

Smart Features can be installed on both new cranes and on your existing Konecranes lifting equipment.

**SEE SMART FEATURES IN ACTION**







# IT GETS EVEN EASIER WITH AUTOMATION

**With a lot of computer technology, the logical next step is automation. The more automated the crane, the easier the work of the operator.**

With fully automated processes, the crane can work without a human operator. From the earliest days of crane automation, we at Konecranes have been developing our own automated systems and driving the technology forward. This technology has been tested and field proven in thousands of applications with various customers.



General-purpose inverters optimized for use with pumps and fans just don't have the vigorous power and torque response needed for safe, reliable, and precise crane operations. We write our own crane application software, taking full advantage of our years of experience and knowledge of our customers and their applications.



Because we develop all of our key technology in-house, you can be sure of expert technical support throughout the lifetime your crane. We also have the tools for long-term software management.

# MOTOR CONTROLS JUST FOR CRANES

**Crane drive systems are facing ever-growing safety, productivity and availability demands. These demands cannot be met with general purpose inverters.**

That's why Konecranes has created DynA technology, with built-in safety and other crane-specific application features. We have years of experience with both light-duty cranes and heavy process crane applications. This gives us the know-how to build the customized drive technology needed for today's high performance, heavy-duty process cranes.



# SAFETY FIRST IN CRANE APPLICATIONS

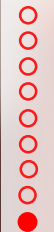
**Konecranes DynAHoist technology includes a safety device - the Speed Supervision Unit (SSU) - that constantly monitors the load speed and motor response. The SSU is integrated into the drive hardware as an option board, but runs independent of all other functions of the drive.**

The power range of the DynA Vector II covers drives from 2.2 kW, up to 1MW and above. With common DC-bus and load-sharing applications, the power range of DynA Vector II covers all crane applications. Modularity is key in the DynA family. Every drive, from the smallest cross-travel drive to the largest common DC-BUS hoist drive, includes the same easy-to-replace control unit. All option boards, located neatly inside the control unit, are also replaceable in every power class. This reduces the number of spares required and makes maintenance simpler.

We have taken modularity and redundancy one step further with our common DC-bus drives. The DynAReg Vector II, a regenerative network braking unit, can be connected in parallel to allow redundancy for the regenerative units. We use the same hardware in both network braking units and in motor bridges. Typically, this reduces the number of spare parts needed for common DC-bus applications.







# COLLECTING, READING AND UNDERSTANDING DATA

**Technology has revolutionized the way we capture, share and consume information. Konecranes Remote Service brings the benefits of the Industrial Internet to material handling by connecting data, machines and people.**

Konecranes TRUCONNECT Remote Monitoring uses sensors to collect data, such as running time, motor starts, work cycles and emergency stops, providing visibility to crane usage. It also provides brake and inverter monitoring. Your data is available at any time on our online customer portal.

TRUCONNECT Remote Support provides 24/7 access to a global network of crane experts and specialists, offering problem solving and troubleshooting to help reduce unplanned downtime.





Contact Konecranes to learn more.

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Konecranes is a world-leading group of Lifting Businesses™ offering lifting equipment and services that improve productivity in a wide variety of industries. The company is listed on Nasdaq Helsinki Ltd (symbol: KCR1V). With approximately 12,000 employees at 600 locations in nearly 50 countries we have the resources, technology and determination to deliver on the promise of Lifting Businesses™.

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