INDUSTRIAL CRANE MODERNIZATION

THE SMART WAY TO EXTEND OVERHEAD CRANE SERVICE LIFE
Modernizations can provide a complete transformation of your existing crane as an alternative to replacing it. As your business evolves, you may find you need to increase the speed and lifting capacity of your crane, enhance ergonomics and operator comfort, apply new safety features and positioning capabilities, or simply replace high-maintenance, obsolete components with newer technology. Whatever your need, a modernization may be a viable option to protect and extend your original investment.

**REBUILDING PRODUCTIVITY**
A decision to modernize is often based on a need to achieve greater performance and throughput, and sometimes to support an entirely new process. We can rebuild your old crane to meet the demands of today’s high-technology standards, typically at a substantially lower cost than for a new crane.

Common Modernizations
Replacement of hoists, trolleys, operator cabs and controls to achieve increased capacity, speed, duty, ergonomics and/or load control.

Konecranes professionals are skilled and experienced in modernizations, large and small. We have the scale, expertise, technology and resources to modernize any make or model of overhead crane.

If you’re considering whether a modernization is a valid option, you need a tool to help make decisions about the future use of your cranes. A Crane Reliability Study is an engineering assessment that evaluates the current condition of your crane and provides a theoretical estimate of its remaining design life. The study looks at structures, mechanical components and electrical systems, and highlights possible maintenance and modernization needs.

We’ll evaluate the overall condition of your crane structures and components in detail with a focus on safety, productivity, reliability, usability and remaining design life. We’ll also provide a detailed report and further consultation with advice on maintenance, modernizations and future investments.

NEW LIFE FOR VINTAGE CRANES
“Konecranes provided us with a much safer way to run our cranes. We have gained in productivity, safety, and we’ve had no inspection or detection problems since we’ve done this work. There have also been no repairs whatsoever. In the long run, this modernization is going to save us a lot of money. And when it comes to safety, we can’t put a price on it. That’s priceless.”

Jerome Mead
Operations and Quality Manager, AM Castle Metals
PROLONG THE ECONOMIC SERVICE LIFE OF YOUR CRANE

If you have an older crane, safety regulations and production requirements may have changed since it was built. Konecranes can update your crane to help you maintain safety and productivity, even as production demands increase. A modernization will also help you stay in compliance with current safety requirements and may reduce the risk of failure, helping you avoid costly downtime, injuries or damage to facilities, materials or products.

**ELECTRICAL UPGRADES**

1. **MOTORS**
   DC and AC long-life motors are designed and built for hard reversing and plugging. Many options are available including AC squirrel cage motor, external blower motor and DC mill motor.

2. **CONTROL SYSTEM UPGRADE**
   Upgrade to a variable frequency drive. Air conditioned & hoist with variable frequency controls, static stepless and DC controls are available for severe applications.

3. **BRIDGE DRIVES**
   Drives can be upgraded with heavy duty foot-mounted gearboxes. Shaft-mounted motor reducers can also be applied to eliminate cross shaft maintenance and alignment issues.

4. **FESTOON SYSTEM OR ENERGY CHAIN**
   Festoon systems increase safety by replacing wear-prone open conductors and collectors. Energy Chain protects the power and control cables from mechanical wear and reduces the risk of external damage.

5. **RADIO CONTROL**
   Floor-operated controls allow the operator ease of mobility and a good view of the load. The controls can be equipped with real-time load data.

6. **LIMIT SWITCHES**
   Prevent the hook block from damaging the drum. Bridge and trolley travel limit switch protection. Collision avoidance systems, zone control and automation.

**MECHANICAL UPGRADES**

7. **ERGONOMIC CAB AND ARM CHAIR**
   An open cab on the crane or enclosed insulated, air conditioned cab help provide maximum visibility. A deluxe console chair offers optimum comfort to the operator.

8. **END TRUCKS AND WHEEL ASSEMBLIES**
   Anti-friction bearings help meet increased productivity demands. Konecranes high-capacity end trucks are designed to lengthen wheel life and improve crane tracking.

9. **SELF-ADJUSTING, BONDED NON-ABESTOS, SELF-ALIGNING BRAKES**
   These brakes reduce maintenance by automatically compensating for lining wear. DC AISE spring set, electric release or AC impulse-actuated shoe brakes are available.

10. **HOIST GEAR CASE**
    Upgrading lift capacity. Shafts rotate on spherical bearings encapsulated in machined retainers. Helical/spur gearing is precision machined and heat treated for long life.

11. **PLATFOMS**
    Increase safety and maintenance accessibility by adding or improving platforms.

12. **GIRDER MODIFICATIONS AND REINFORCEMENTS**
    We can increase or decrease the length of the girder span, which may be required during building expansions or when fitting a used crane into an existing building. We also provide structurally improved end fits and end tracks for severe applications to address fatigue and repair issues.

13. **BRIDGE BUMPERS**
    Protect the crane and the building by installing a spring, hydraulic or rubber bridge bumper.

14. **BRIDGE BRAKES**
    Brakes for cab/floor operation. Includes electric shoe, electric/hydraulic shoe, DC spring set, or electric release disc brake.

15. **HOIST DRUMS**
    Redesign drums for upgraded capacity and performance.

16. **HOOK BLOCKS**
    We offer hook blocks in a wide variety of sizes and configurations, including rotating blocks or specially-designed blocks for severe duty applications. We also offer common wear items such as hooks, frames, pins, sheaves, bearings and safety latches.

17. **TRUCONNECT REMOTE MONITORING**
    The TRUCONNECT Remote Upgrade has been designed to equate a crane with a modern for TRUCONNECT Remote Monitoring. TRUCONNECT Remote Monitoring uses sensors to collect data, such as running time, motor starts, work cycles and emergency stops, providing visibility to crane usage.

18. **SMART FEATURES**
    Smart Features are Konecranes-designed add-ons that work together or individually to improve safety, cycle time and load positioning. They add intelligence to your crane with purpose-built software and hardware. Smart Features include Sway Control, Assisted Load Turning, End Positioning and more.

**TECHNOLOGY UPGRADES**

19. **SMART TROLLEY**
    The SMART® trolley is built for heavy process industries and applications. The motor, gearbox and control unit are designed and manufactured in-house for excellent lifting performance and long life. The flange-mounted motors have integrated brakes, which support the proper alignment of the machinery.

**COMPLETE TROLLEY UPGRADE**

- **UNITON® TROLLEY**
  The UNITON® trolley is available with multiple configurations and a wide range of hoisting speeds, load control features, and load and duty class options. With a lifting capacity of up to 160 tons on a single trolley (320 tons with two trolleys), UNITON® can be built to meet project-specific requirements in almost any application. Its modular design and construction make maintenance and part replacement easy.

- **CJ TROLLEY**
  The CJ trolley is designed for heavy use in industrial applications. Its greatest attribute is its ease of maintenance. The foot-mounted gear case is integrated into the trolley, which enables easy access to the gears, shafts and pinions without needing to remove the entire trolley.
Lifecycle Care is our comprehensive and systematic approach to maintenance, supported by world-class tools and processes. In order to deliver Lifecycle Care in Real Time, we use the Industrial Internet, connecting data, machines and people. We bring together usage and maintenance data and combine it with our knowledge and experience, providing insights that allow our customers to optimize their maintenance operations and activities.

**TRUCONNECT REMOTE SERVICE**

TRUCONNECT® is our suite of remote service products and applications that support maintenance operations and drive improvements in safety and productivity. It is an important building block in delivering Lifecycle Care in Real Time.

Adding TRUCONNECT Remote Monitoring to your crane will provide you with asset usage and operating information, text message alerts and estimations of the remaining design working period of selected components. This data will help you make informed maintenance decisions and improve the safety and productivity of your operations.

**CUSTOMER PORTAL**

When you have a maintenance agreement with Konecranes or TRUCONNECT Remote Monitoring, you get access to yourKONECRANES.com, our cloud-based customer portal. Usage data, maintenance data and asset details are linked, giving a transparent view of events and activities over any selected time interval.

Aggregated data can be viewed, analyzed and shared quickly, for a single asset or an entire fleet. Insights can be drawn by observing anomalies, patterns and trends, helping you make informed maintenance decisions.

**A SERVICE-MINDED TEAM**

You can depend on Konecranes well beyond installation. Upon completion of your modernization, we’ll provide complete parts and maintenance manuals. We can also provide comprehensive maintenance and repair services to keep your crane performing for years to come.

**INSPECTIONS AND PREVENTIVE MAINTENANCE**

We can provide you with compliance and preventive maintenance inspections to satisfy your local requirements. Preventive maintenance is essential to the health of your equipment. It can include visual checks and routine maintenance work, such as adjusting and lubricating, and replacement of wearing parts.

**SPARE PARTS**

When it comes to parts and service, it doesn’t matter who made your crane. We offer genuine Konecranes spare parts as well as replacement parts for all other makes and models.
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. The Group has 18,000 employees at 600 locations in 50 countries. Konecranes class A shares are listed on the Nasdaq Helsinki (symbol: KCR).

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