INDUSTRIAL CRANE MODERNIZATION

THE SMART WAY TO EXTEND OVERHEAD CRANE SERVICE LIFE
Common modernizations:
Replacement of hoists, controls, trolleys and operator cabins to achieve increased capacity, speed, duty, ergonomics and/or load control.

As businesses evolve and grow, the technology they depend on must adapt to support new and increased demands or be replaced with new equipment altogether.

Depending on your crane application, you may need to increase your crane’s speed and lifting capacity, enhance ergonomics and operator comfort, apply new safety features and positioning capabilities, or simply replace high-maintenance, obsolete components with newer technology. Or, perhaps you need to modify or relocate your crane to support an entirely new application or location.

Whatever your need, a modernization may be your best option when it comes to achieving the benefits of new technology, without the cost of purchasing a new crane.

Konecranes professionals are skilled and experienced in modernizations, large and small. With complete customization options available, Konecranes can help turn your aging overhead crane into a specialized tool designed to meet your exact production needs.

Konecranes will work with you to provide a detailed analysis of your crane in relationship to its application. We’ll evaluate the structural integrity of the crane and the condition of all mechanical and electrical components. We’ll also study load and duty requirements and maintenance records. After analyzing all these factors against the required performance needs, we will identify the most appropriate system upgrade and corresponding modernization plan.

Regaining top performance could mean nothing more than installing a more efficient motor and self-adjusting brake. Perhaps a new remote control system is necessary. Or, a back-up limit switch for added safety. Many modernization options are available, but we’ll recommend only those you need. You’ll end up with a fully integrated system that is perfectly tailored to meet the needs of your operation.

If your needs for crane modernization extend beyond basic upgrades to improve safety, reliability and performance, we can virtually rebuild your old crane to meet your new demands and today’s high technology standards, all at a fraction of the cost of a new crane.

You can depend on Konecranes well beyond installation. Upon completion of your modernization, we’ll provide complete parts and maintenance manuals. Upon request, our network of expert technicians can also provide comprehensive maintenance and repair services designed to achieve optimal safety and productivity with minimal downtime.

When the purchase of new lifting equipment becomes too costly, crane modernization services by Konecranes can bring state-of-the-art crane technology and performance within reach.
Konecranes is a leading provider of overhead crane modernizations with over 100 years of experience. As the world’s largest manufacturer of process modernizations, Konecranes has the scale, expertise, technology and resources to repair any make or model of overhead crane.

**ELECTRICAL UPGRADES**

1. **NOTORS**
   - Air and AC trolley motore are designed and built for nest reviving and juggling service. AC motore options are available including AC square, square AC, external brake motor and DC AC index.
2. **CONTROL SYSTEM UPGRADE**
   - If your overhead crane uses an antiquated control system, upgrade to a more advanced control system, such as a variable frequency drive. When severe applications demand it, we can offer an advanced drive with separate hoisting, trolley, and DC control.
3. **BRIDGE DRIVES**
   - Drives can be upgraded with heavy duty AC motor and DC motor. Shaft mounted motor reducer can also be replaced to eliminate shaft maintenance and aligning issues.
4. **FESTOON SYSTEM**
   - SK ENERGY CHAIN
   - Carbon systems increase safety by replacing wear-prone open conductors and collectors. Energy Chain is an alternative option that protects the power cables from mechanical wear and reduces the risk of external damage.
5. **RADIO CONTROL**
   - Floor operated controls allow the operator to actuate crane at ground control and automation.
6. **LIMIT SWITCHES**
   - Provide limit switches for limit protection to prevent the trolley from bumping and striking objects. The limit switches are interlocked into the trolley, which enables easy access to the limit switches for maintenance and change of application.

**MECHANICAL UPGRADES**

7. **ENGINE CASE AND ARM CHAIR**
   - An arm case on crane is enclosed, insulated and air conditioned. A Drive control also offers optimum comfort to the operator.
8. **END TOOLS AND WHEEL ASSEMBLIES**
   - Modernization help meet increasing productivity demands. Konecranes high capacity end trucks are designed to lengthen wheel life and improve crane tracking.
9. **SELF-ADJUSTING, RENDER NON-WEAR-BRAKES**
   - Self-adjusting, render non-wear brakes. Includes electric brake, hydraulic brake, or DC spring set, electric release disc brake (OSHA, ASME or CMAA).
10. **ELECTRICAL UPGRADE**
    - Brake for cab/floor operation. Includes electric brake, hydraulic brake, or DC spring set, electric release disc brake (OSHA, ASME or CMAA).
11. **WEIGHT GEAR CASE**
    - Spares reliefs on sprocket wheel. Includes electric brake, hydraulic brake, or DC spring set, electric release disc brake (OSHA, ASME or CMAA).
12. **PLATFOMS**
    - Increase safety and maintenance accessibility by adding or improving platforms, making them ASME/CMAA/FEM compliant.
13. **BOTTOM BLOCKS**
    - Konecranes offers bottom blocks in a wide variety of sizes and configurations, including rotator blocks or specially designed blocks for extreme-duty applications. We also offer common wear items such as hooks, frames, pins, sheaves, bearings and safety clutches.

**COMPLETE TROLLEY UPGRADE**

14. **UNITON TROLLEY**
   - The UNITON™ trolley is available with multiple configurations and a wide range of hoisting speeds, load capacities, and platforms. The UNITON™ trolley is CE-certified (Class A-F, up to FEM/ISO:M8). With lifting capacity of up to 360 tons, a single UNITON™ trolley can also be applied to eliminate cross shaft maintenance and realignment issues.
15. **SMARTON TROLLEY**
   - The SMARTON™ trolley is designed for Class D or E use in industrial applications. Its greatest attribute is its modular design and construction make maintenance and part replacement easy.
16. **CJ TROLLEY**
   - The CJ trolley is designed for Class D or E use in industrial applications. Its greatest attribute is its modular design and construction make maintenance and part replacement easy.
17. **ENGINE CASE AND ARM CHAIR**
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Since your overhead crane was first built, safety regulations and production requirements have probably changed. Konecranes can update your crane to help you meet production demands. 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.

SAFE ENERGY, AND POWER
With regenerative braking, power is sent back to the power grid during every deceleration or descent, instead of being dissipated by resistors. With more energy returned to the grid, less energy needs to be produced—leading to increased cost savings.

SMART FEATURES
Konecranes’ cranes are available with software-based Smart Features that improve safety and productivity. With SMART FEATURES, Konecranes can customize the system to meet your site-specific needs. SMART FEATURES include Easy Control, Colored Safe Range, Hook Drifting, Angle Protection, Assist Load Towing, Follow Me, Shock Load Protection, Stack Rape Protection, reversing Symmetrically, inching, Microspeed, Target Positioning, End Positioning, Working Limits and Protected Areas. For example, we can add a GPS positioning system for outreach assistance with exit stops, crane or line failures. You can apply this system with Smart Monitoring and Reporting, or as part of a modernization.

AUTOMATION TECHNOLOGY
Automated features improve efficiency and precision while allowing crane operators to pay increased attention to the surrounding environment, promoting safer and more productive operation. Konecranes has engineered the right application-specific, fully automated cranes, including coker and mill cranes designed with traveling hoppers that deliver coke to the grid, less energy needs to be produced—leading to increased cost savings.

CHANGE MANAGEMENT
Safe, efficient and productive operations require change management for successful implementation. Konecranes can provide a consultative, planning and review process to drive continuous improvement in safety and productivity.

SAFETY FIRST, LAST AND ALWAYS
When it comes to safety, we believe that any accident is one too many. Our commitment to safety starts with safety training. Our leading-edge software-based SMART FEATURES improve safety and productivity. Maintenance done right is not an expense. It is an investment that pays a measurable return. We have more than $100,000 of experience under maintenance contracts and more than 60 years of experience behind us. If you would like to keep your crane working reliably with regular preventive maintenance, please get in touch.

SPARE PARTS
With a global spare parts network and a parts organization that is the OEM for more than 40 brands of cranes and hoists, we offer quick delivery of spare parts for your crane, anywhere. If you don’t have what you need and can’t get it through our own parts organizations, our engineers can quickly design parts to your exact specifications. And when we can’t manufacture original spare parts, we can manufacture original spare parts.

TRAINING
All of our experienced Training Institute, we train crane operators and technicians from around the world. This training includes crane operation and safety training, emergency procedures, CIRCOK and ASME regulations, and other relevant information that operators need to promote a safe and productive work environment.

LIFECYCLE CARE
Konecranes provides the highest lifecycle value for your lifting equipment—maximizing the productivity of your crane and minimizing the cost of ownership. Our crane experts apply a systematic Risk and Recommendation Method and a consultative, planning and review process to drive continuous improvement in safety and productivity.

Inspections and Preventive Maintenance identify certain areas of risk and improve safety and productivity. Corrective Maintenance and Retrofits address specific safety and productivity issues and capsize on improvement opportunities.

Consultation Services provide diagnosis, uncover critical issues and maximize your return on investment. Maintenance economically prolongs the service life of your lifting equipment.

New Lifting Equipment for new facilities or to replace old lifting equipment.
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 OMX Helsinki Ltd (symbol: KCR1V). With over 12,000 employees at more than 600 locations in almost 50 countries we have the resources, technology and determination to deliver on the promise of Lifting Businesses™.

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