

A wide-angle photograph of a large industrial factory interior. The ceiling is high with a complex network of steel beams and numerous hanging lights. Two prominent yellow overhead cranes are visible, with the text 'KONECRANES 63/20t' printed on their beams. The floor is filled with stacks of metal parts, primarily in green and blue, arranged in neat rows. In the foreground, there are yellow pallets and some equipment covered with white plastic. The overall atmosphere is one of a busy, organized manufacturing environment.

KONECRANES 63/20t KONECRANES®

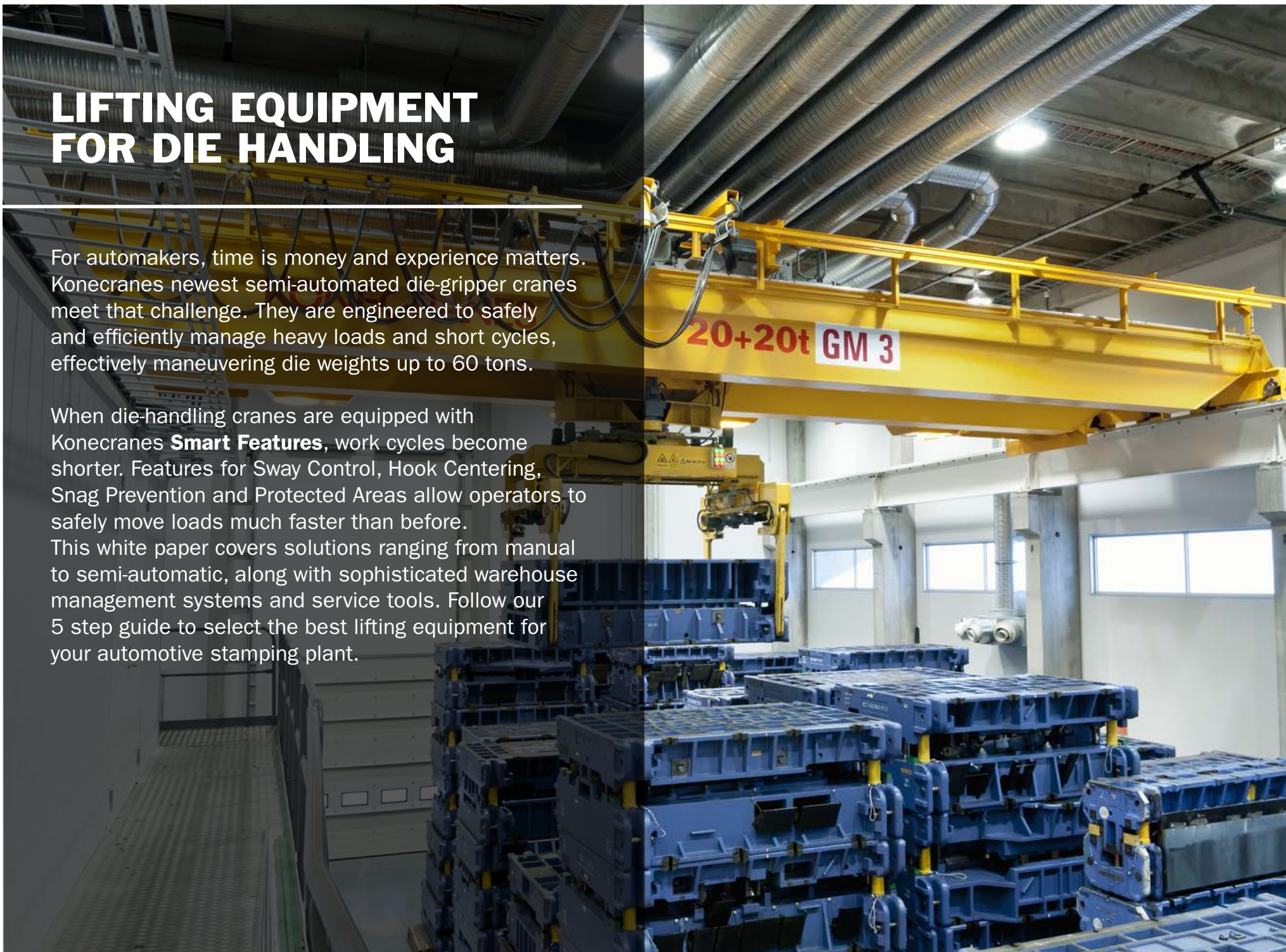
**5 STEPS
SELECTING RIGHT
CRANE FOR DIE
HANDLING**

LIFTING EQUIPMENT FOR DIE HANDLING

For automakers, time is money and experience matters. Konecranes newest semi-automated die-gripper cranes meet that challenge. They are engineered to safely and efficiently manage heavy loads and short cycles, effectively maneuvering die weights up to 60 tons.

When die-handling cranes are equipped with Konecranes **Smart Features**, work cycles become shorter. Features for Sway Control, Hook Centering, Snag Prevention and Protected Areas allow operators to safely move loads much faster than before. This white paper covers solutions ranging from manual to semi-automatic, along with sophisticated warehouse management systems and service tools. Follow our 5 step guide to select the best lifting equipment for your automotive stamping plant.

20+20t GM 3





1. ASSESS YOUR LIFTING NEEDS

As you look at your options for lifting equipment in your facility, you may already have an idea of what you want. The first step in researching cranes is to study what your needs are today, as well as what your business might look like years from now:

- What type of crane do you need for current production processes?
- Will changes in your operation impact the type of crane you need in the future?
- Are you planning to implement automation or multilayer die warehousing?

EXAMINE YOUR OPERATIONS

To uncover the answers to these questions, study what goes on at every step of your operation. Start by examining your process. Knowing your process inside and out helps determine the crane components that will be used most. Analyze your daily operation and track the following data:

- How many die sets are you changing per shift/day and what is your external die change target time?
- How are you currently changing out die sets? (Slings and chains, or die-gripper technology?)
- Are dies configured with doorknobs or Detroit pins?
- How heavy are the dies that you are handling?
- How many dies will be stacked on each other?
- How far will the dies travel and how high will they be lifted?



1. ASSESS YOUR LIFTING NEEDS

LOOK AT YOUR ENVIRONMENT

To optimize your operation, review your plant's environment thoroughly and note the following information:

- What is the temperature range at your facility?
- What are your building dimensions?
- Is the floor of your facility strong enough to stack multiple dies?
- Is a manual crane enough or do you need a crane with semi-auto and Warehouse Management System?

Evaluating your process and environment and asking questions that we have listed to support you will help you target the equipment that is the best fit for your facility.

2. DETERMINE YOUR DUTY CLASSIFICATION

All overhead cranes are classified according to the intensity of the load and the number of cycles the equipment completes in a given period of time. A crane's classification will range from infrequent service to continuous severe service. Determining your duty classification is essential to select lifting equipment that will meet the specific needs of your facility.

Load and cycle data will be used to determine duty class based on the classification systems of the Crane Manufacturers Association of America (CMAA), International Organization for Standardization (ISO), European Federation Standard (FEM), or Hoist Manufacturers Institute (HMI).



3. EXPLORE YOUR TECHNOLOGY OPTIONS

A variety of technological advancements can be added to your die handling cranes to increase safety and productivity.

SMART FEATURES

Smart Features are proprietary Konecranes 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. These features assist the operator in controlling the crane by performing certain repetitive actions automatically – or in semi-automated mode,

by compensating for misalignment and erratic movements.

Smart Features improve precision and accuracy and can reduce the risk of impact with people or equipment. Additionally, their smooth operation generally slows wear and tear on the steel structure and crane components. Smart Features help stamping plants change die sets more quickly, reducing downtime and damage while improving safety and throughput.



SWAY CONTROL

Removes load swing by controlling bridge and trolley movement.



ACTIVE SWAY CONTROL

Removes existing load swing not created by crane movement.



TARGET POSITIONING

Takes the load to 8 home and 120 target positions by pushing one button.



PROTECTED AREAS

Carves out no-go areas for the crane to protect people and equipment.



HOOK CENTERING

Eliminates side pull by centering the hook over the load before lifting is allowed.



SNAG PREVENTION

Stops crane movement if a hook, sling or load becomes caught.



MICROSPEED

Converts large joystick movements into slow and exact load movements.

3. EXPLORE YOUR TECHNOLOGY OPTIONS

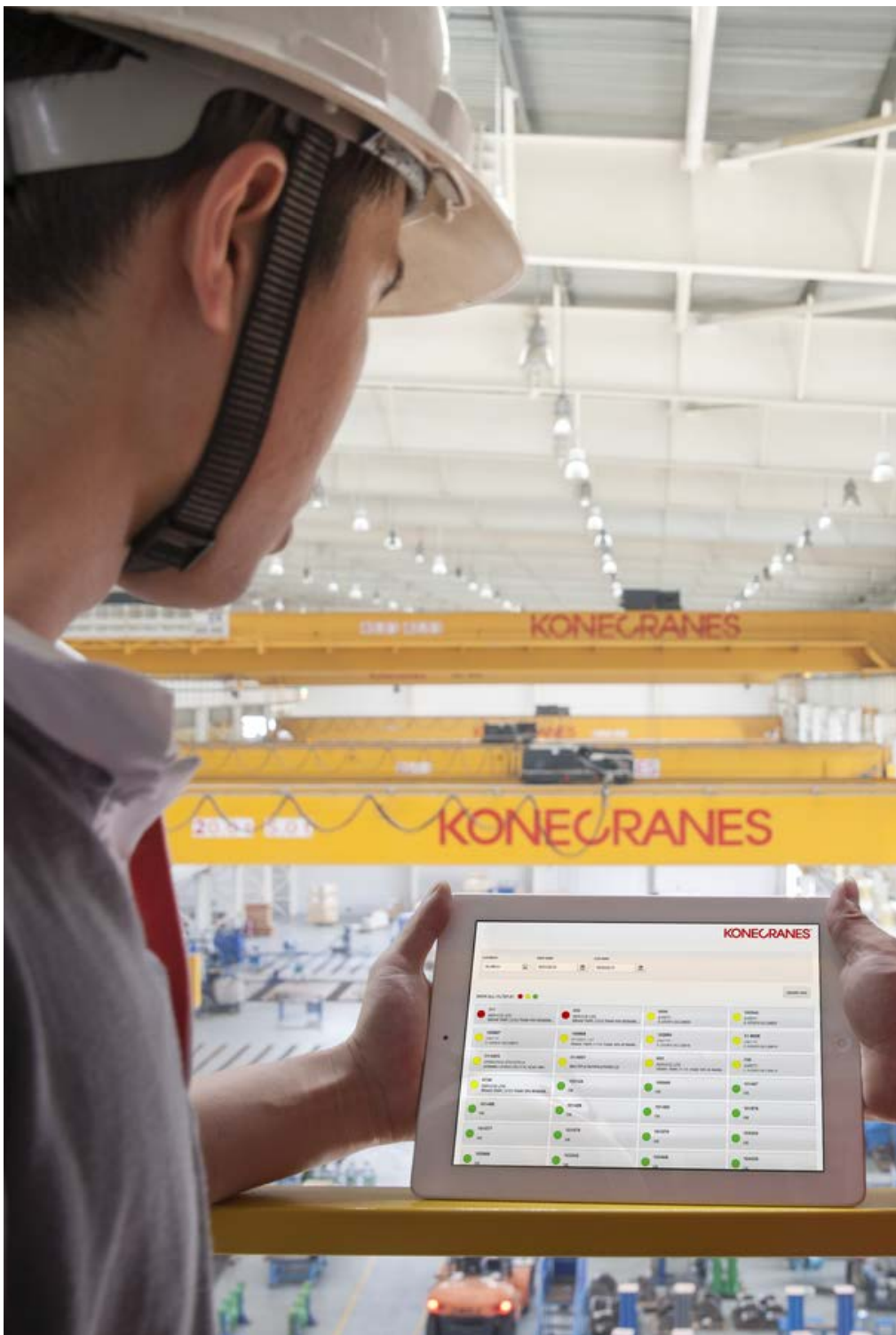
AUTOMATION FOR DIE HANDLING

With automation, crane operations can be carried out faster with fewer errors, less labor and even less wear and tear for structures and machineries. While ordinary manually operated cranes need an operator plus a rigging crew, a semi-automated Konecranes die gripper crane allows one operator to do the job alone more safely picking dies from warehouse and delivering them with ease to press bolsters using automated movements. At the same time a gripper crane enables multi-layer die storing saving you floor space for more dies. Could a semi-auto die gripper crane combined with a warehouse management system be your next step further for faster die set changes?

COMPACT WAREHOUSE MANAGER (CWM) AND WAREHOUSE MANAGEMENT SYSTEM (WMS): WHICH IS RIGHT FOR YOU?

The basic task of a semi-automatic crane in a stamping plant is to move dies between the warehouse and press line. The process is simplified by CWM, whose data store and control are located in an onboard computer designed for a one-crane operation, or WMS, where server, data storage and control are located in a centralized area on floor level, enabling control of multiple cranes. Konecranes CWM/WMS warehouse management systems can quickly find an item in storage and instruct the semi-automated crane to go to its location without positioning the crane manually.





3. EXPLORE YOUR TECHNOLOGY OPTIONS

TRUCONNECT® – REAL INFORMATION LEADS TO REAL RESULTS

TRUCONNECT is a suite of remote service products and applications to support maintenance operations and drive improvements in safety and productivity.

TRUCONNECT Remote Monitoring gives visibility to crane usage and operating data, and makes it available to you wherever you are, including running time, motor starts, work cycles and emergency stops. It also monitors brakes and inverters. The data is transmitted to the Remote Data Center, where it is compiled and made available on the yourKONECRANES.com customer portal.

Remote Monitoring can help you make even critical decisions about when to perform maintenance, change out parts, and how to boost productivity and increase safety.

What can TRUCONNECT Remote Monitoring do for you? Provide you with information to assess crane condition, keep you notified of some safety related occurrences, and give you an estimation of the remaining design working period of selected components. This can lead to improved crane operator safety, lower maintenance costs and less wear and tear on crane components. Where is the greatest need in your operation?

4. DECIDE ON HOOK ATTACHMENTS

Most overhead cranes can accommodate a number of lifting attachments. For optimal performance, hook attachments need to fit the crane correctly, as imperfect attachment and load pairings can cause dangerous errors.

Be sure your hook attachment matches the load you're lifting. What do you need below the hook?

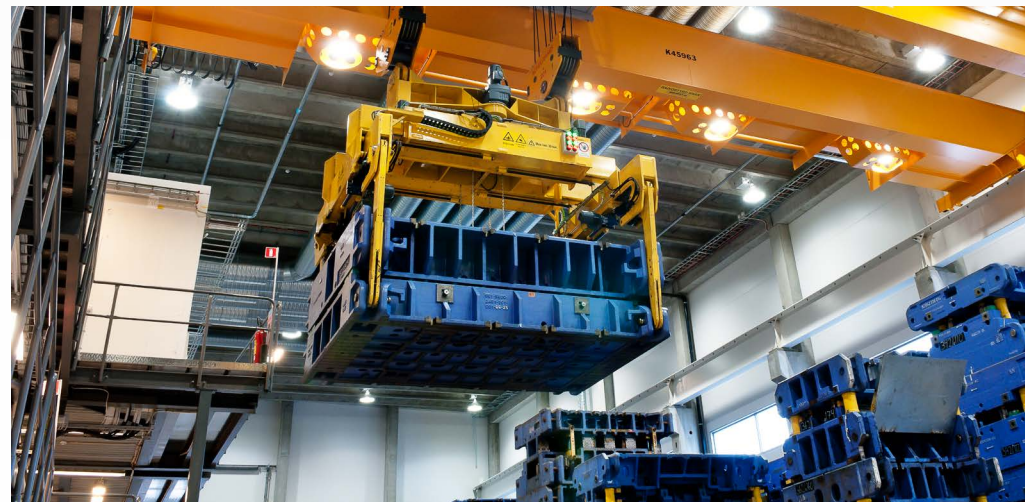
UNREELING AND BLANK CUTTING:

- Dies and Coils: Slings
- Coils: C-hook, Coil magnet or Coil grab

PRESS AREA:

- Slings/ Chains
- Lifting beam with slings/chains on corner
- Die Gripper

At Konecranes, we offer training specifically designed for lifting attachment optimization and safety.

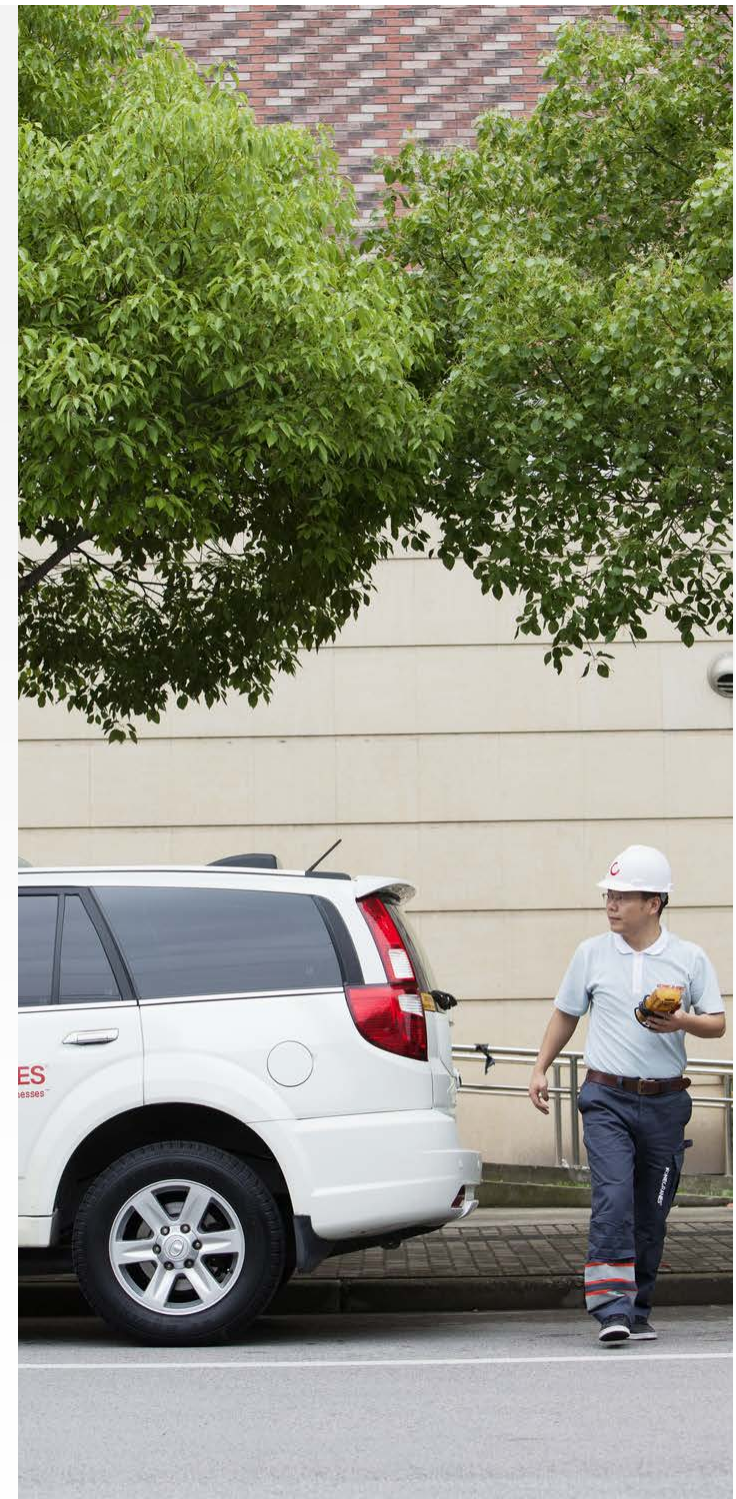


5. LOOK BEYOND THE CRANE

When considering lifting equipment for your automotive facility, what's not on the crane matters too. An effective preventive maintenance and parts program can significantly address potential maintenance and safety issues before they become critical and threaten employee safety, productivity and revenue. It also can have a positive impact on the performance and reliability of the cranes.

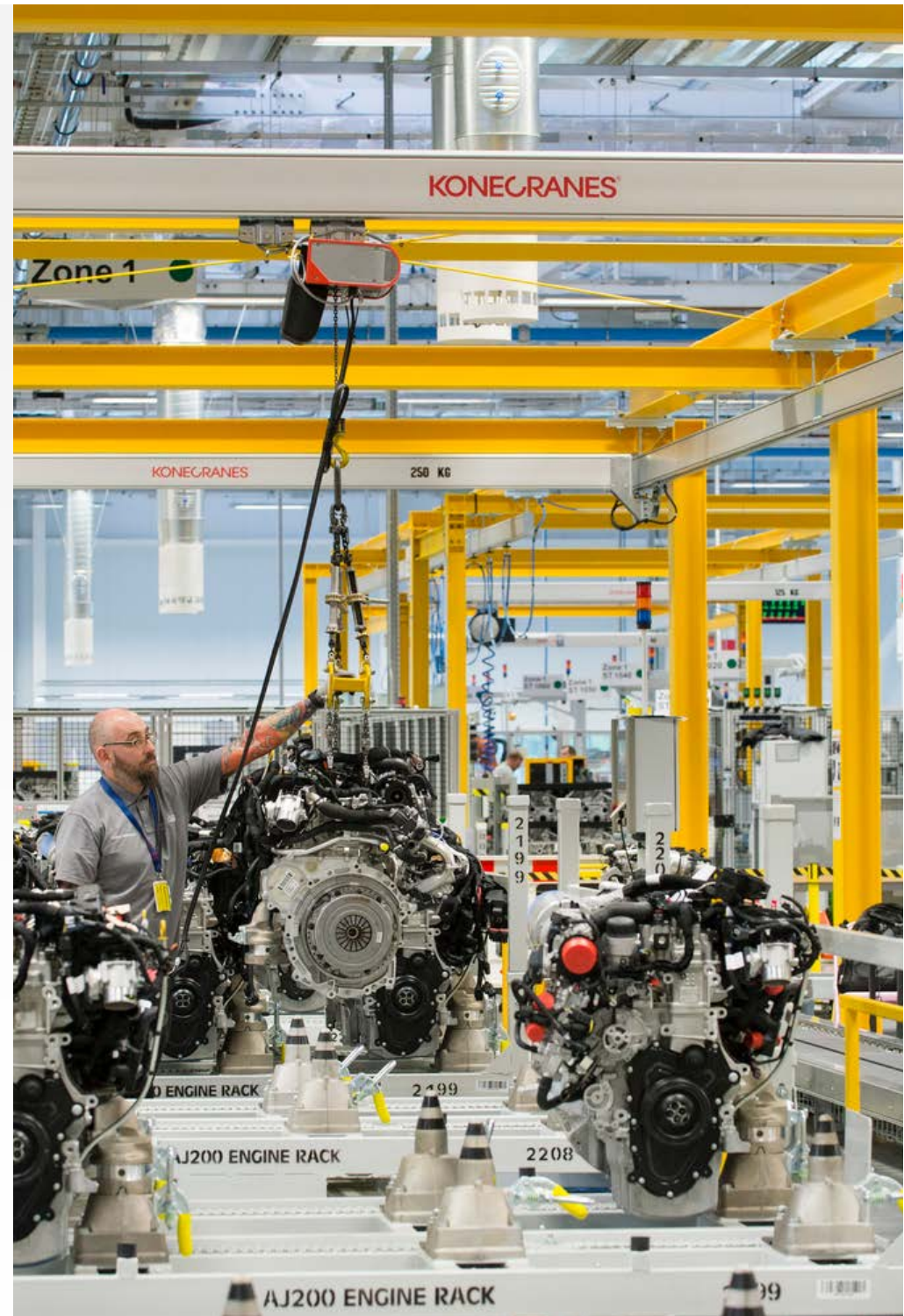
To minimize downtime, ask for example these questions in relation to servicing your crane:

- How easy is it to procure and store spare parts for the equipment you choose?
- Are inspections based on applicable regulations? Are inspectors and technicians trained, and where applicable, certified?
- Is routine maintenance performed at regularly scheduled intervals? Is the maintenance plan customized to your operation? Does your maintenance provider document risks and provide recommendations?
- Are service visits reviewed with you? Do you get a thorough annual review of all maintenance activities?
- Are your maintenance records, service history and other important maintenance information available online?
- What type of training will your operators receive? Will your employees have to travel for training, or is on-site training an option?



THE RIGHT EQUIPMENT FOR AUTOMOTIVE APPLICATIONS


The processes in automaking are some of the most demanding material handling applications for cranes. When productivity is a top priority, the right crane and the right solutions makes all the difference. But cranes are not one-size-fits-all – businesses must evaluate their process, environment and long-term goals to determine the best crane for them. With customized solutions and state-of-the-art control systems, you can increase safety and efficiency, and minimize downtime – all while increasing the value and effectiveness of your businesses.





LEARN ABOUT THE KONECRANES OFFERING FOR THE AUTOMOTIVE INDUSTRY

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 2016, Group (comparable combined company) sales totaled EUR 3,278 million. The Group has 17,000 employees at 600 locations in 50 countries. Konecranes class A shares are listed on the Nasdaq Helsinki (symbol: KCR).

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