

# Engineered for excellence

Press shops require frequent die changes to accommodate the various body parts needed for multiple car models. Efficient storage and retrieval of dies is crucial to productivity and a Konecranes die gripper crane and Warehouse Management System can streamline operations.

## Die gripper crane

### 01 INTELLIGENT LOAD SWAY CONTROL SYSTEMS

Rotational sway control, redundant sensors, rope-life-optimised reeving and optionally available rope drum brakes help minimize load sway for more efficient operations.

### 03 INTELLIGENT SENSORS

Sensors recognize safe load pick-up and detect the surrounding area of the gripper to avoid collisions.

### 02 ADVANCED GRIPPER

Stable four point suspension and optimized reeving with a minimum of rope sheaves helps maximize rope service lifetime.

### 04 INTEGRATED SMART FEATURES

Smart Features such as Active Sway Control, Hook Centering, Target Positioning and Protected Areas help improve safety, cycle time and load positioning.



# Konecranes Warehouse Management System

The Konecranes Warehouse Management System (WMS) is designed as an automated solution for the management of a press die warehouse utilizing automatic die gripper cranes in automatic, semi-automatic or manual mode. The WMS consists of a base module plus extension modules for Smart Features, production management and material flow.

## Warehouse Management System

- Helps achieve high throughput and low die exchange times combined with high storage capacity and operational safety.
- Crane operating data can be analyzed to help maximize performance.



### Smart Features

- Streamlined daily operations help increase safety and minimize the risk of errors.
- Operators are provided with support for efficient and reliable die storage management for enhanced reliability.
- The WMS Smart Features are easy to use, making operators' work more efficient.



### Production Management Module

- The WMS production optimization algorithm provides increased efficiency of die exchanges.
- The mobile Production Management Module helps make operators more efficient with visibility to transport orders and crane positions.



### Material Flow Module

- Fully automatic die exchanges provide a safe and efficient transfer of dies from the DSA to AGVs and conveyors.
- Integration of AGV and conveyor systems into the WMS optimizes material flow and improves operational efficiency.

## WMS planning

### Visualization using a digital twin

Cutting-edge simulation technology replicates the entire warehouse system—focusing on emulating crane movements. It enables real-time visualization and analysis of material flow inside the storage, allowing for the optimization of storage and retrieval strategies.

### Detailed view using simulation

Conceptual planning with simulation and cost analysis aids in the development of a system that meets future demands in terms of throughput, storage and handling capacity in the most cost-efficient way.

## Control concepts

**Full automation:** The operator defines the settings and the crane functions without further human input.

- Can reduce costs by optimizing available space with shorter travel paths.
- Minimizes the potential for human error and improves safety of equipment, loads and personnel.
- Gives you more reliable and predictable processes and a larger volume of throughput.
- Increases accuracy and efficiency of stacking and retrieving items.

**Semi automation:** The operator maintains manual control with various features assisting.



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