

INDUSTRIAL CRANES  
NUCLEAR CRANES  
**PORT CRANES**  
HEAVY-DUTY LIFT TRUCKS  
SERVICE  
MACHINE TOOL SERVICE

**CONTAINER HANDLING**

**KONECRANES®**  
Lifting Businesses™

## Konecranes straddle carriers **A LIFETIME OF HIGH PERFORMANCE**



## Konecranes straddle carriers **EXPAND YOUR BUSINESS HORIZON**

The ambitious operator of straddle carriers will find the right machine for his business in the family of Konecranes straddle carriers. We offer two models for general yard duty and two models for the quayside-to-yard “boxrunning” role—the latter are of particular interest to container terminal operators adopting automation. A Konecranes straddle carrier represents the ultimate package for a stradd-based container business: high performance, safety and high lifecycle value ensured by a service set tailored for your needs.





“ Konecranes had the best design, a good financial offer and a solid maintenance contract. Just what we were looking for. ”

Johan Gemels  
General Manager, IFB Terminals

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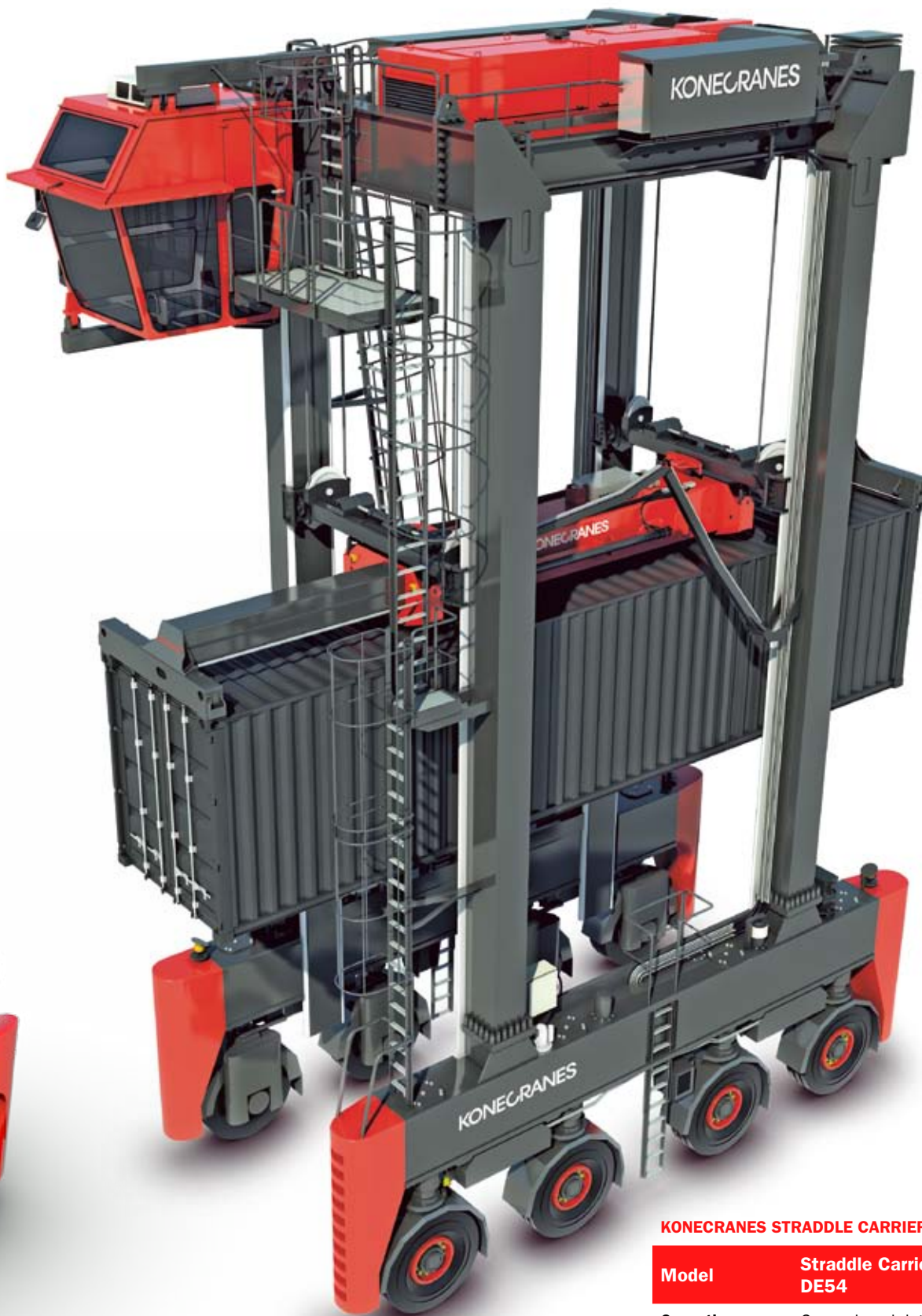
# HIGH QUALITY IN EVERY DETAIL

If we had to choose the one word that best describes our straddle carriers, it would be *reliable*. Our straddle carriers provide a reliable drive experience, meaning a stable and safe drive experience. And they provide reliable performance, meaning high uptime. And, finally, they represent a reliable investment, meaning an investment that pays itself back predictably over its lifetime.

## KONECRANES BOXRUNNER DE52/DE42

Model	BOXRUNNER DE52	BOXRUNNER DE42
Operation	Quayside to yard container carrying	Quayside to yard container carrying
Wheels	6	6
Stacking height	1 over 1	1 over 1
Spreader	Twin	Single





**KONECRANES STRADDLE CARRIER DE54/DE53**

<b>Model</b>	<b>Straddle Carrier DE54</b>	<b>Straddle Carrier DE53</b>
<b>Operation</b>	General yard duty	General yard duty
<b>Wheels</b>	8	8
<b>Stacking height</b>	1 over 3	1 over 2
<b>Spreader</b>	Single and twin	Single and twin

## ASK YOUR DRIVER

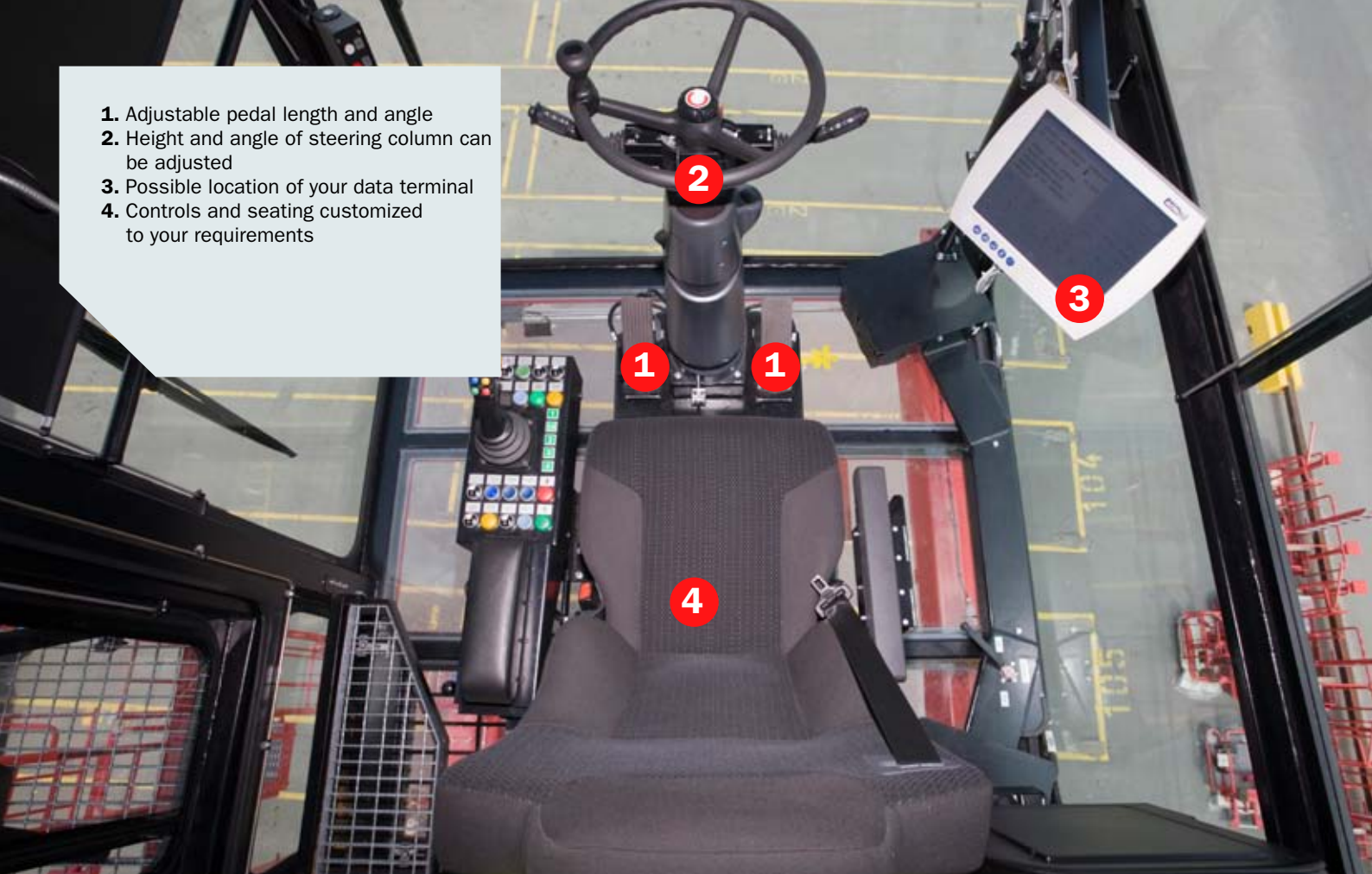
Your driver's productivity and job satisfaction are greatly affected by the safety and comfort of his machine and his ability to control it. The cabin of a Konecranes straddle carrier gives excellent visibility in all directions, reducing the risk of blind spots. The machine is built around a uniquely rigid steel structure which provides a very stable and safe drive experience. Your driver can control the machine precisely, aided by simple controls and intelligent displays that are ergonomically arranged according to your requirements.

In straight driving, the machine's multi-axle steering system provides a particularly stable feel. When driving straight at high speed or when turning, the steering system shifts to Truck Steering Mode—now only the front wheels are used for steering.

Vibration to the driver's body is minimized by the combination of effective vehicle and seat suspension. The drive system and cab are thoroughly sound-proofed to minimize noise. Last but not least, the driver can precisely control the cab climate in all weather.



- 1. Adjustable pedal length and angle
- 2. Height and angle of steering column can be adjusted
- 3. Possible location of your data terminal
- 4. Controls and seating customized to your requirements



## Steering system

# A STRONG SENSE OF CONTROL

The electronic-hydraulic steering system of a Konecranes straddle carrier provides a strong sense of control over the machine in contact with the drive surface and the containers it handles. The steering system aligns the wheels precisely, ensuring directional stability and reducing tire wear. Each wheel is turned by a differential cylinder with an integrated stroke sensor, eliminating slackness and backlash.

The steering system has a low requirement for maintenance and spare parts. The steering cylinders and rods are well-protected against collision and contamination.

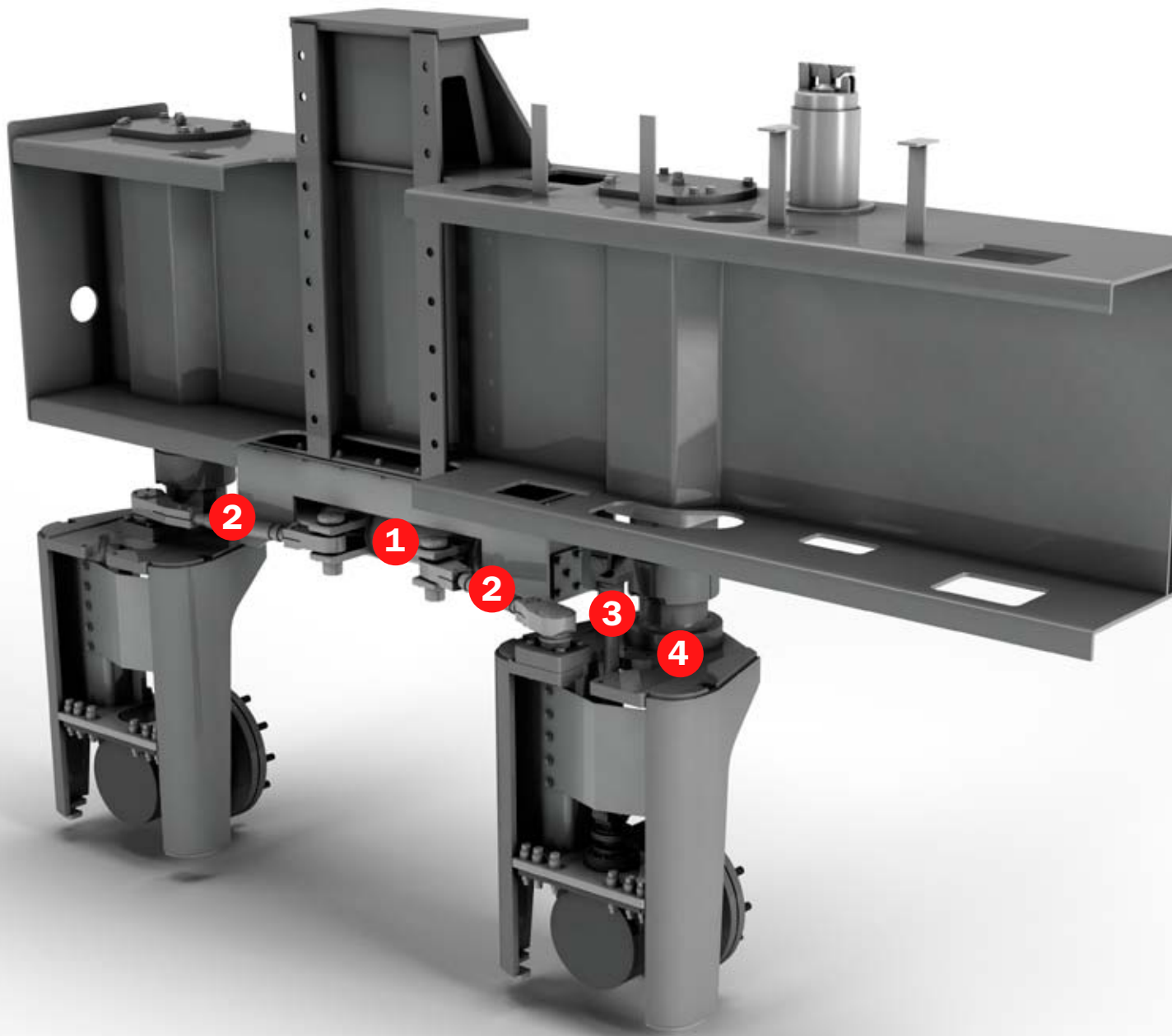
### SMARTER WHERE IT MATTERS

The steering system of a Konecranes straddle carrier is intelligent. When driving in tight curves and when moving slowly, the system moves all the axles to provide maximum agility. When driving at high speed and on straight-aways, the system shifts to “Truck Steering Mode”, in which only the front wheels are used for steering. This mode provides a very stable feel on straight tracks.





1. Steering cylinder (one at each corner)
2. Short, identical steering rods
3. Safety cover
4. Safety device: quick-change shear bolts in case of accident



**INGREDIENTS OF A  
WORLD-CLASS RIDE**

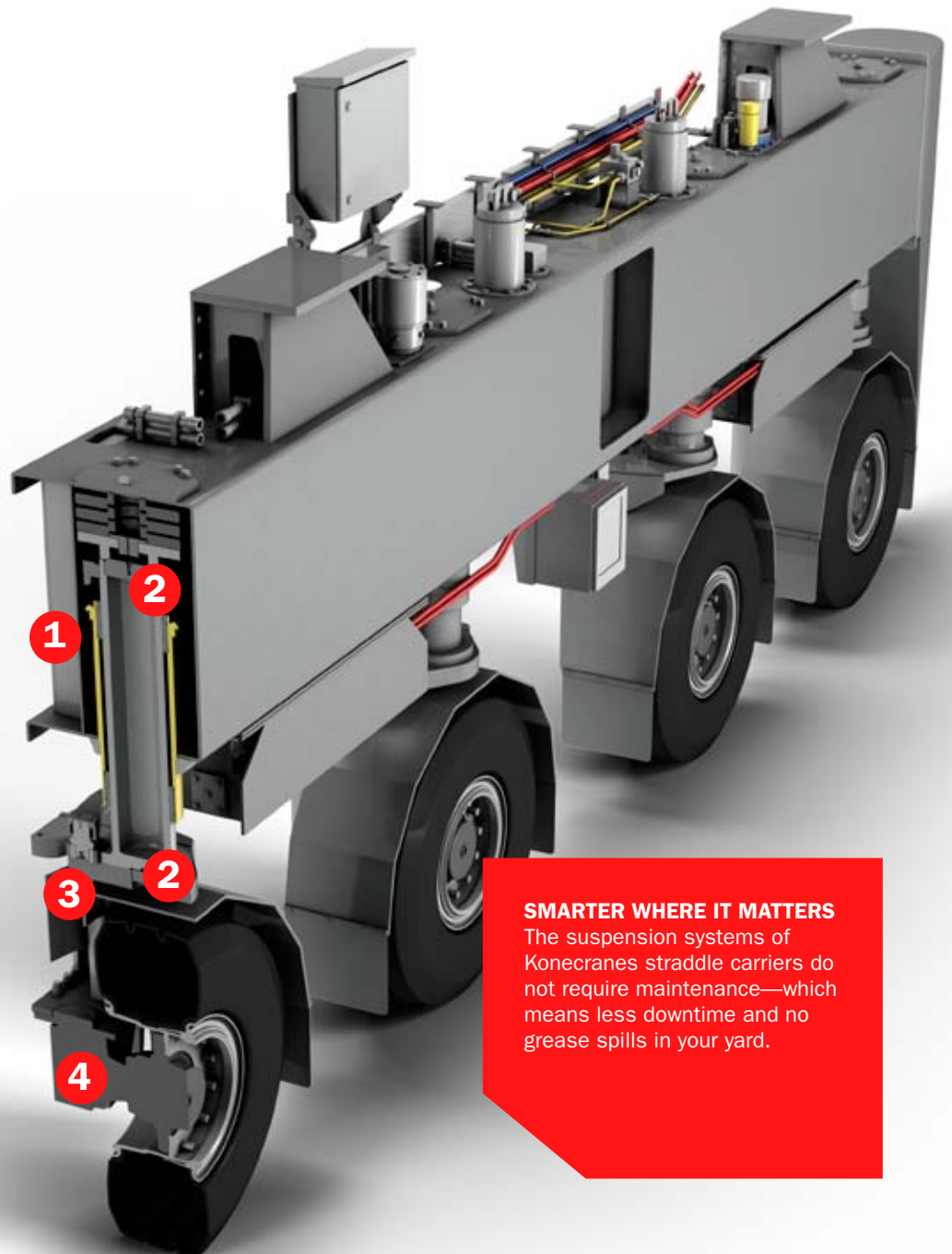
- Low-maintenance suspension system for each wheel
- Excellent stability and damping, even in the event of a flat tire
- Reduced wear thanks to an extremely hard surface coating
- KS hard coat with polymeric friction bearing



## Suspension system

# A WORLD-CLASS RIDE

The chassis of a Konecranes straddle carrier has either six or eight independently suspended wheels, each with its own maintenance-free suspension assembly. The design of the suspension assembly is based on a special alignment of spring elements and bearings that effectively controls rod movement during driving and braking, ensuring excellent stability in all driving situations.



1. Elastomer suspension and clamping units
2. Polymer compound bearing/  
Teflon bearing
3. Hard-coated pivot pin
4. Gear drive

### SMARTER WHERE IT MATTERS

The suspension systems of Konecranes straddle carriers do not require maintenance—which means less downtime and no grease spills in your yard.

# HOISTING SYSTEM

The hoist motors, rope drums and gear boxes of the hoisting system are designed and manufactured by Konecranes in-house. This is how we ensure they work together flawlessly, in true balance with the lifting work they do. Our straddle hoisting system is well-known and field-proven in Konecranes Rubber Tired Gantry (RTG) and Rail Mounted Gantry (RMG) cranes, used by the world's most demanding container terminal operators.

The Konecranes straddle hoisting system offers a reliable lifting capacity of 50 metric tons Safe Working Load under spreader. The yoke beam is very rigid. If a collision occurs, the force is transferred to special bolts that break in a controlled manner—reducing the extent of the damage and downtime.

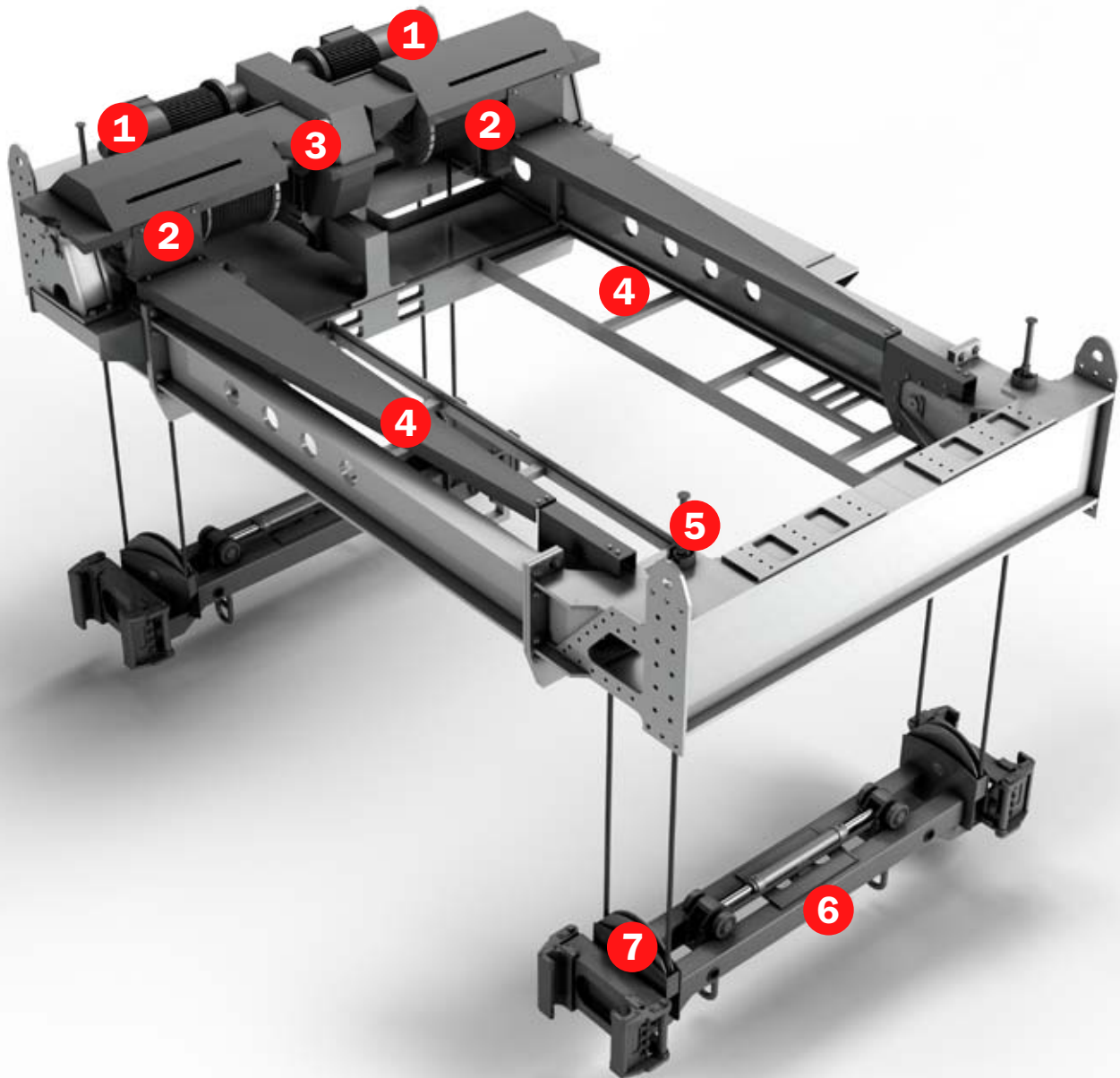
The rope pulleys are positioned at 90° to the yoke beam to give the driver a clear field of vision. Maintenance-friendly design features include how the hoisting system is positioned on the machinery platform for easy access, and how the main parts of the yoke beams slide for easy access.



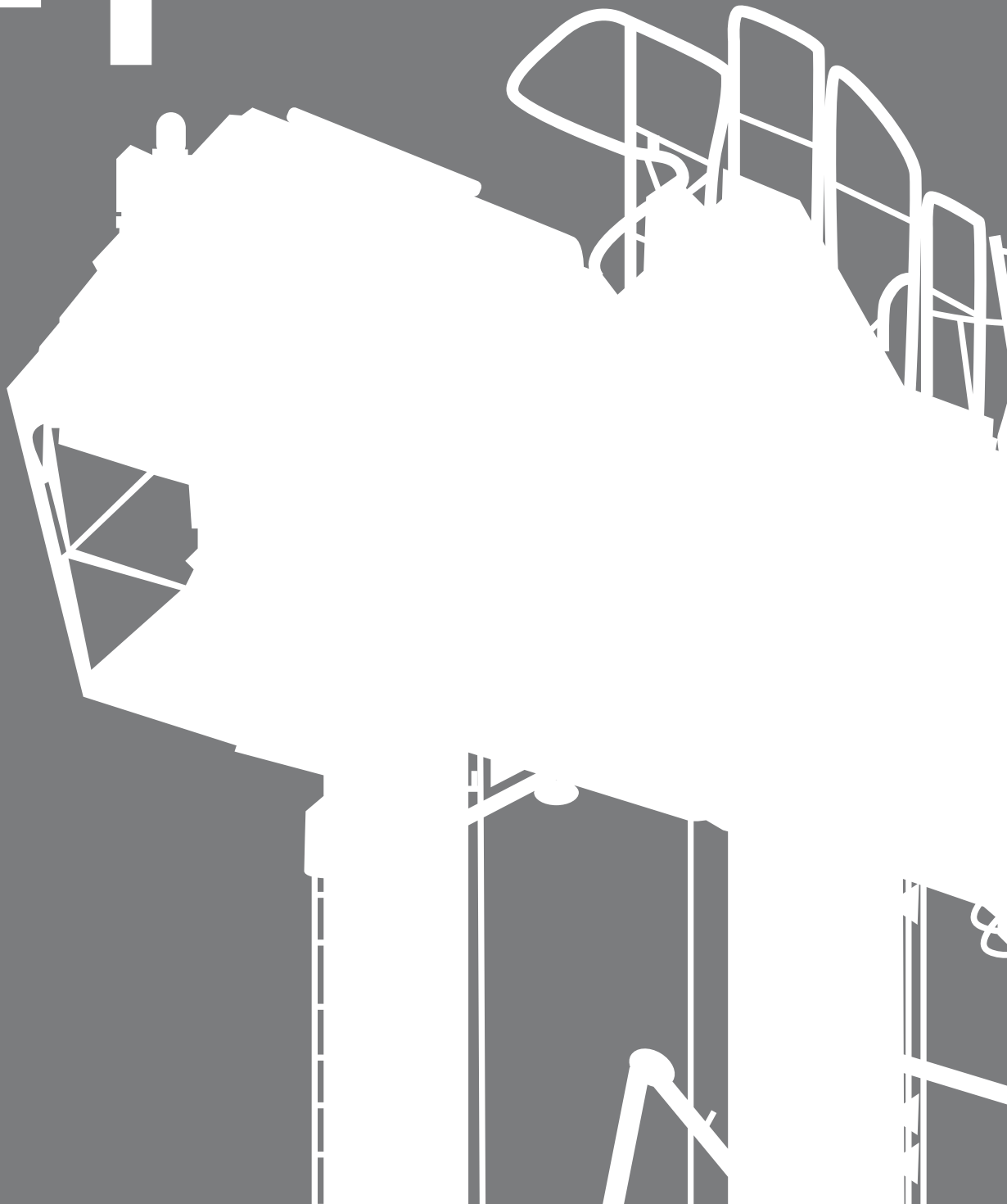


**SMARTER WHERE IT MATTERS**

1. Konecranes hoist motor
2. Konecranes hoist rope drum
3. Konecranes hoist gear box
4. Wire rope cover
5. Rope length adjuster
6. Yoke beam
7. Rope pulley, 90° to yoke beam



# BORN TO LIFT



**Customer:**  
**Inter Ferry Boats (IFB)**  
**SMART  
MACHINES  
AND FULL  
SERVICE**

In 2009, the Belgian multimodal cargo service provider Inter Ferry Boats (IFB) chose Konecranes straddle carriers for its main hub terminal in the port of Antwerp. The deal clincher was the combination of smart machines and full service that Konecranes could provide.

Konecranes delivered nine DE54 straddle carriers that have proved to be up to the challenge of IFB's business. The DE54s have a lifting capacity of 50 metric tons. They can stack containers up to 4 high, and handle all sea transport ISO containers from 6 to 13.7 meters in length.

A Konecranes straddle carrier is designed to require less maintenance than conventional machines, but the proof is in the performance over time. A Konecranes site supervisor is dedicated to IFB to keep the machines running without unexpected downtime. Konecranes carries out regular preventive maintenance as part of a maintenance contract. The contract provides IFB with clear operating and financial benefits including lengthening of the machines' operating life and optimization of the service workflow.







# VITAL STATISTICS



## Konecranes Straddle Carrier DE54/DE53

Max. dimensions	Diesel-electric
Safe working load under spreader, tons: single/twin	40/50
Exceptional load under spreader, tons	60
Lifting height under spreader with load/min. pick-up height, mm	12000/200
Overall height unloaded, mm	15450
Frame overall width without rubbing bars, mm	4940
Frame inside clearance without rubbing bars, mm	3500
Turning radius inside/outside without bumpers, mm	3700/9600
Service weight, tons	70 (67 with 12.65 m height)
Wheel load, tons	15

Spreader	Single 20-40 ft & 45 ft in 40 ft castings
Special	Single, twin, long twin
Spreader side shift/swivel	±280 mm / ±6°

Max. speeds	
Traveling speed empty/with load, km/h	24/24 km/h (3+1 high) 30/26 km/h (2+1 high)
Lifting speed empty/40/50/ ton loads, m/min	24/20/18 m/min
Lowering speed empty/with load, m/min	22/18 m/min

Power unit	330 kW rated power output
Diesel engine displacement, liters	12
Variable speed control diesel engine, rpm	800 - 1800
Environmental specification	EURO 2/3a/3b respective Tier 2/3/4i available
Tank capacity, liters	2 x 750

Misc.	
Tires	8 x 16.00 R25 or optional 480/95 R25
Service brakes	4 x wet disc with oil cooling
Parking brakes	4 x spring-activated wet disc
PLC and bus systems	Siemens S 7 300 mobile/Profibus

## Konecranes BOXRUNNER DE52



Max. dimensions	Diesel-electric
Safe working load under spreader, tons: single/twin	40/50
Exceptional load under spreader, tons	60
Lifting height under spreader with load/min. pick-up height, mm	6200/300
Overall height unloaded, mm	10100
Frame overall width without rubbing bars, mm	4940
Frame inside clearance without rubbing bars, mm	3500
Turning radius inside/outside without bumpers, mm	3700/9600
Service weight, tons	57
Wheel load with 40-ton load	16.2

Spreader	Single 20-40 ft & 45 ft in 40 ft castings
Special	Single, twin, long twin
Spreader side shift/swivel	±280 mm / ±6°

Max. speeds	Diesel-electric
Traveling speed empty/with load, km/h	30/26 km/h
Lifting speed empty/40/50/ ton loads, m/min	24/20/18 m/min
Lowering speed empty/with load, m/min	22/18 m/min

Power unit	330 kW rated power output
Diesel engine displacement, liters	12
Variable speed control diesel engine, rpm	800 - 1800
Environmental specification	EURO 2/3a/3b respective Tier 2/3/4i available
Tank capacity, liters	2 x 875

Misc.	
Tires	6 x 480/95 R25 or optional 16.00 R25
Service brakes	4 x wet disc with oil cooling
Parking brakes	4 x spring-activated wet disc
PLC and bus systems	Siemens S 7 300 mobile/Profibus

## Minimize downtime cost

# MAXIMIZE UPTIME VALUE

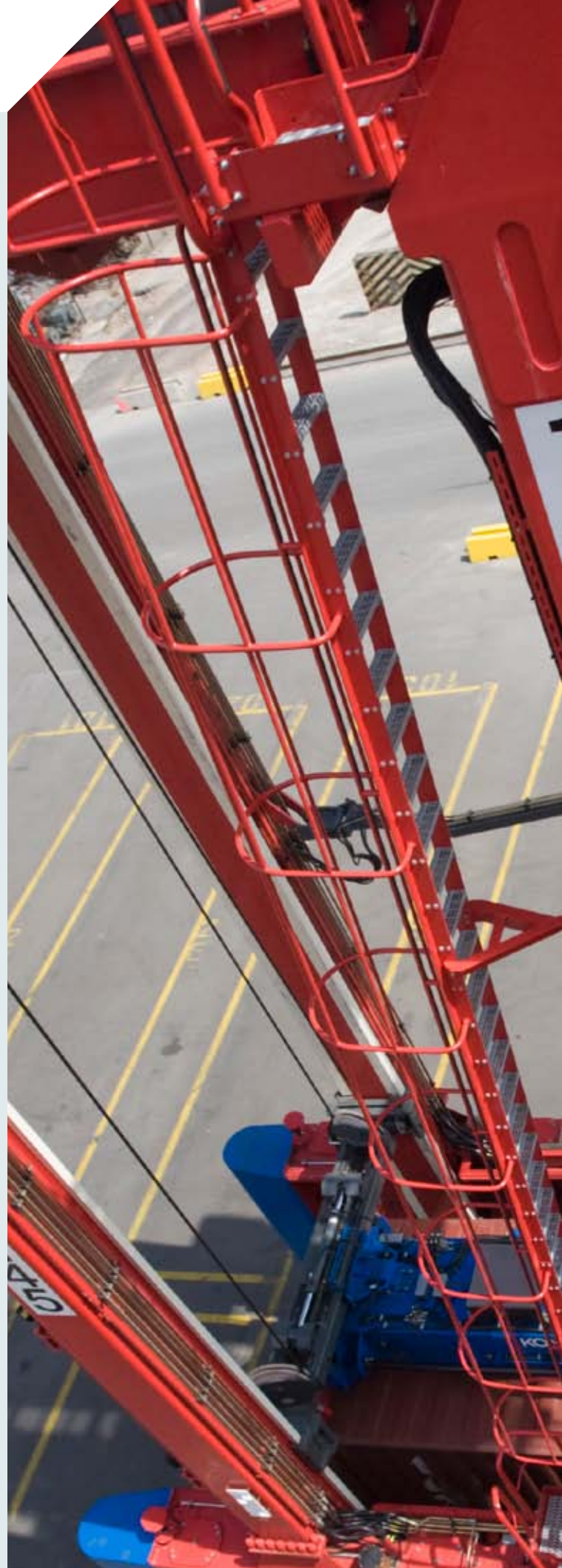
### What's the real cost of your equipment?

The original purchase price is just the tip of the cost iceberg over the lifetime of a straddle carrier. While some operational costs are quite fixed, costs related to scheduled and on-call maintenance, spare parts and modernization can be wisely controlled with Konecranes services. The result is a lower cost, spread over the lifetime of the straddle carrier.



### Just the service you need

Konecranes can provide you with the right package of services, from routine maintenance to a sophisticated preventive and predictive maintenance program, from occasional emergency repairs to an all-inclusive maintenance agreement with availability guarantees. Our mutual goal is a very efficient, highly profitable straddle carrier operation that provides plenty of scope for growth.



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**MAXIMIZING  
THE PRODUCTIVITY  
OF UPTIME**

**KONECRANES®**  
Lifting Businesses™

HIGHEST LIFECYCLE VALUE ←

CUSTOMER VALUE SPREAD

INDUSTRY  
SHARPER  
FOCUS

**MINIMIZING  
THE COST OF  
DOWNTIME**

GENERAL  
INDUSTRY  
FOCUS

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INDUSTRIAL  
CRANES



NUCLEAR  
CRANES



PORT  
CRANES



HEAVY-DUTY  
LIFT TRUCKS




SERVICE



MACHINE  
TOOL  
SERVICE



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 10,000 employees at more than 570 locations in almost 50 countries we have the resources, technology and determination to deliver on the promise of Lifting Businesses™.

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**Konecranes** P.O. BOX 661 Koneenkatu 8 FI-05801 Hyvinkää  
Tel +358-(0)20 427 2043 Fax +358-(0)20 427 2103 [www.konecranes.com](http://www.konecranes.com)