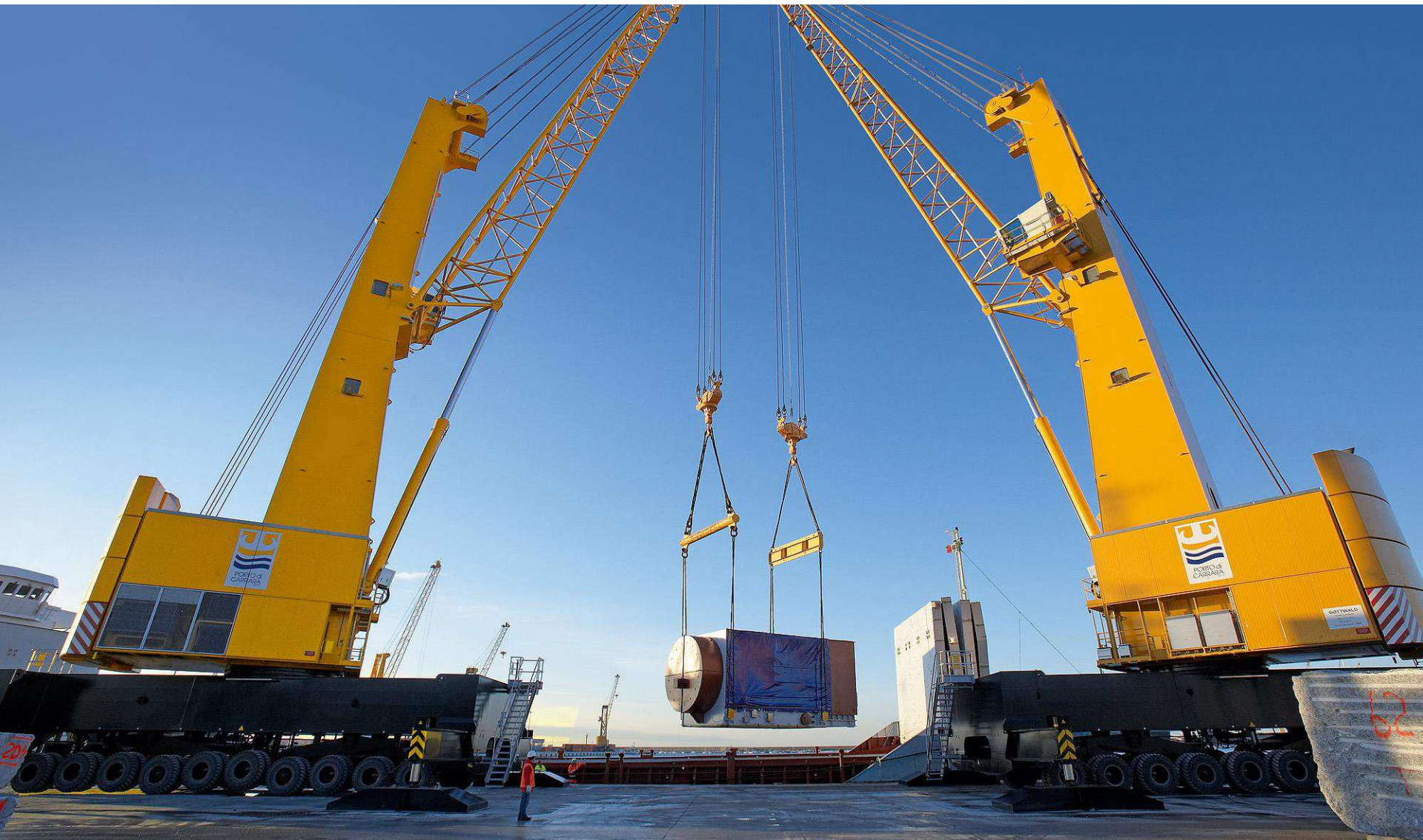




# Terex<sup>®</sup> Gottwald Model 8 Harbour Crane

Performance That Leads the Field

# Model 8 Harbour Crane





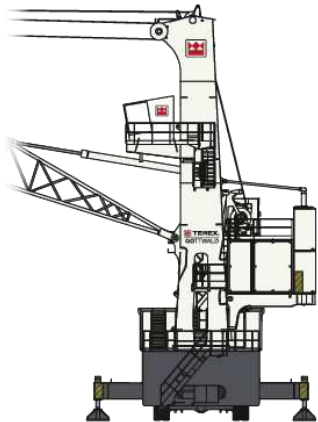
# Model 8 – At A Glance



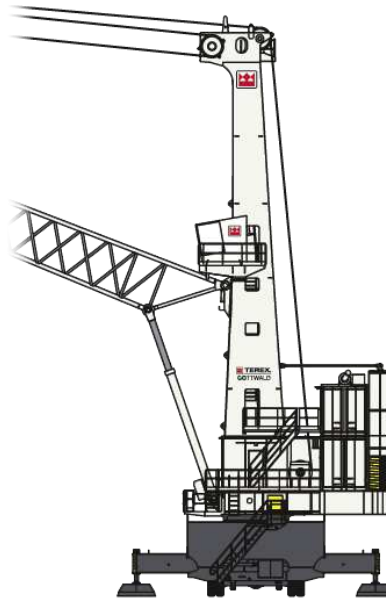
- ▶ High performance and handling rates
  - Lifting capacities up to 200 t
  - Maximum working radius 58 m
  - Maximum hoisting speed 140 m/min
- ▶ Suitable for:
  - Container ships up to Super post-Panamax size
  - Bulk carriers up to Capesize
- ▶ Perfect choice for universal terminals handling very heavy loads
- ▶ Long term bulk handling with handling rates of up to 1,850 tph depending on terminal and operating conditions
- ▶ Intensive, fast container handling including Twinlift operation

# Harbour Crane Families

Terex® Gottwald Generation 5 cranes –  
the right crane configuration for every situation



*Small crane family  
(Model 2)*

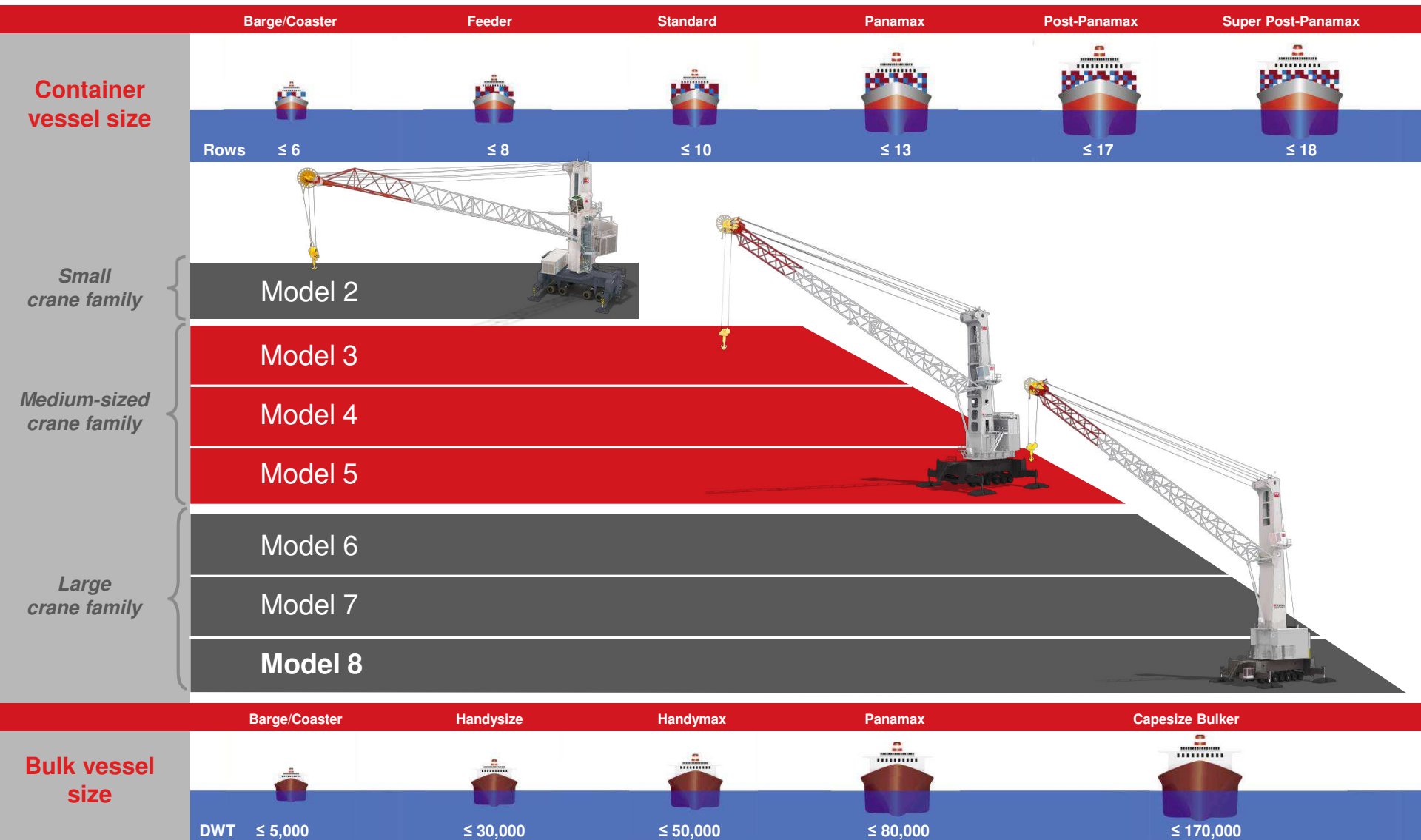


*Medium-sized crane family  
(Models 3, 4, 5)*



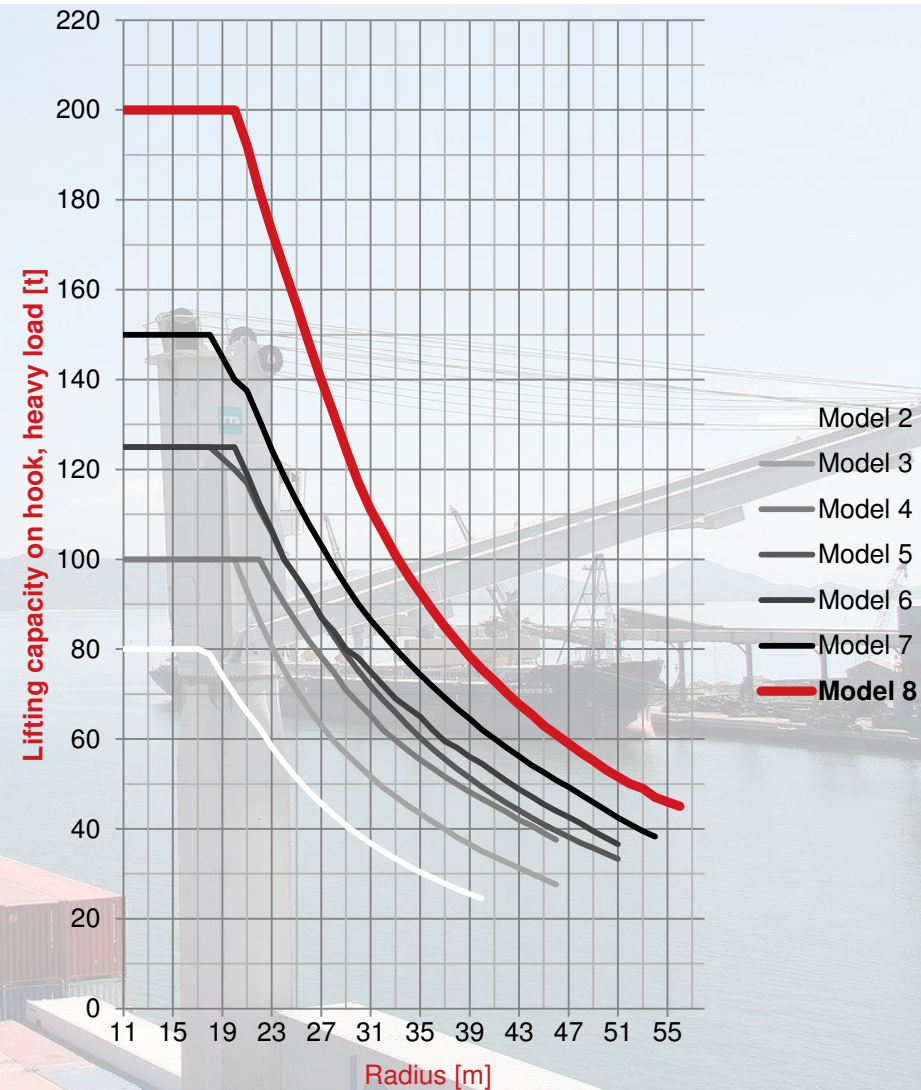
***Large crane family  
(Models 6, 7, 8)***

# Harbour Crane Range





# Lifting Capacity Curves



# Model 8 – Types and Variants

Crane type	Variant	Max. lifting capacities [t]				Max. hoisting speeds [m/min]				Max. radii [m]		
		100	150	200	100* 63**	90	100	120	140	50	56	58
G HMK (G HSK) (G HPK)	8410	●				●		●				●
	8610		●				●				●	
	8710			●				●			●	
	8410 B				●				●	●		

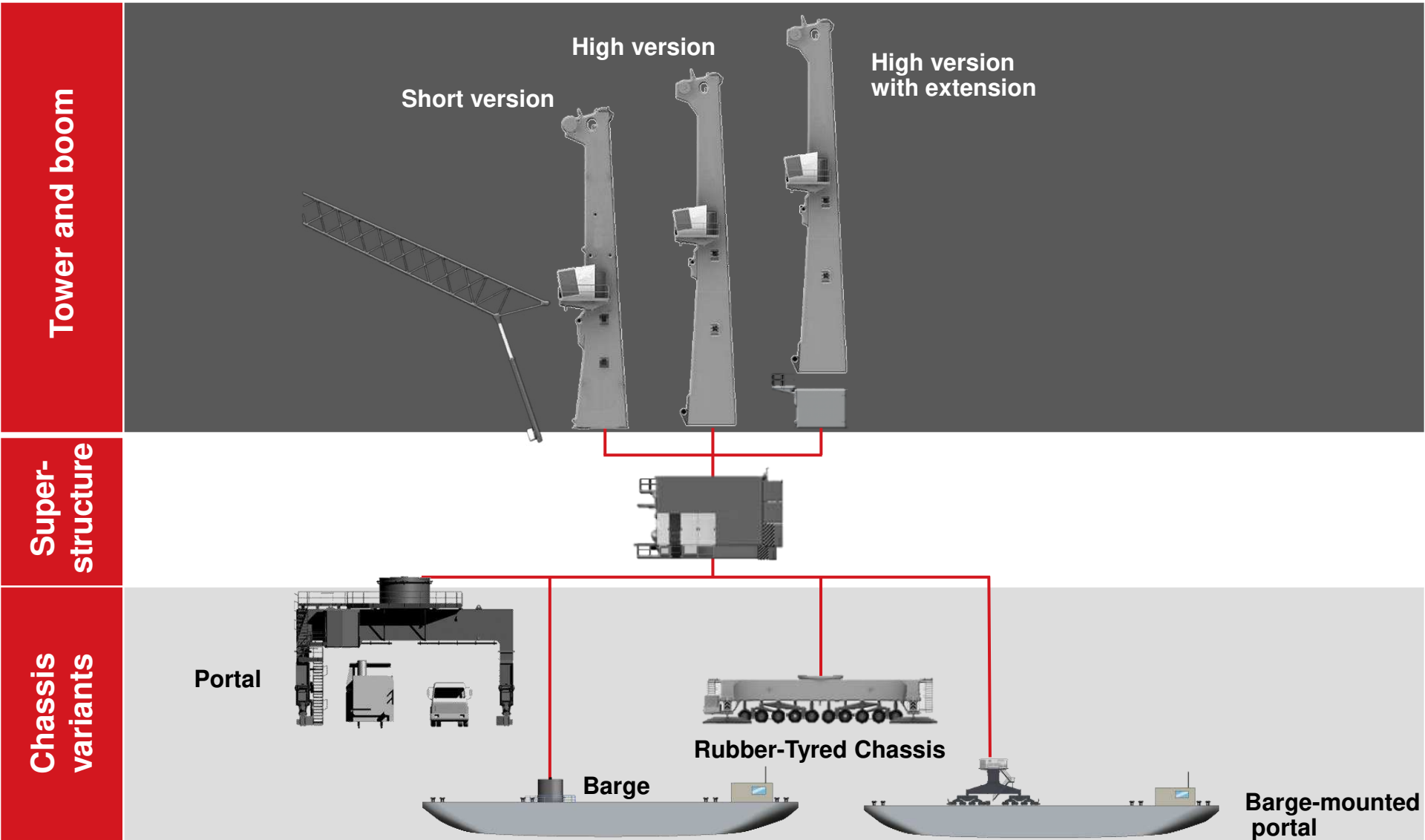
\* Heavy-load operation (top), 4-rope grab operation (bottom)

\*\* A7 classification, 50-t grab curve in A8 classification





# Modular Design Principle



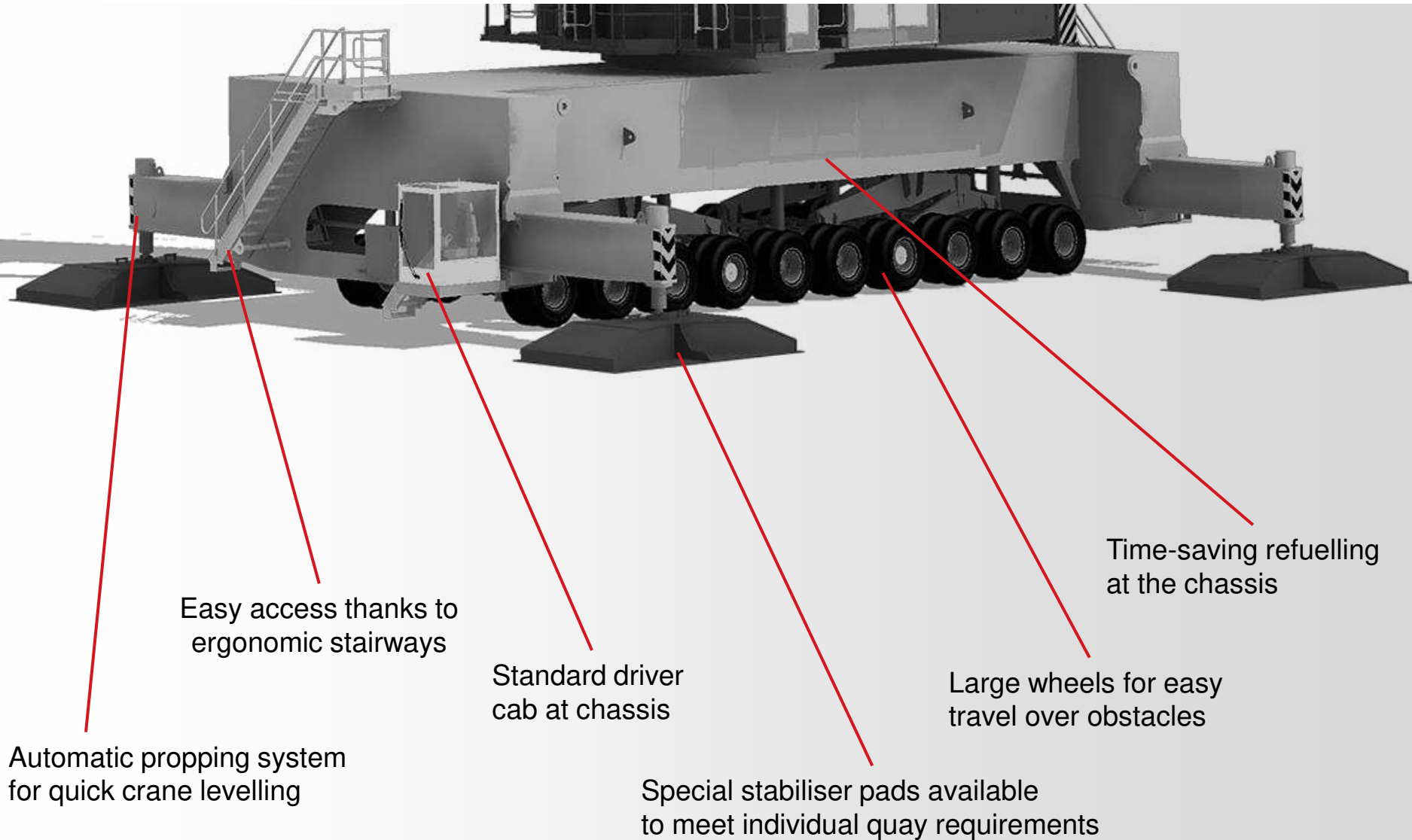




# A Closer Look at Our Innovative Technology

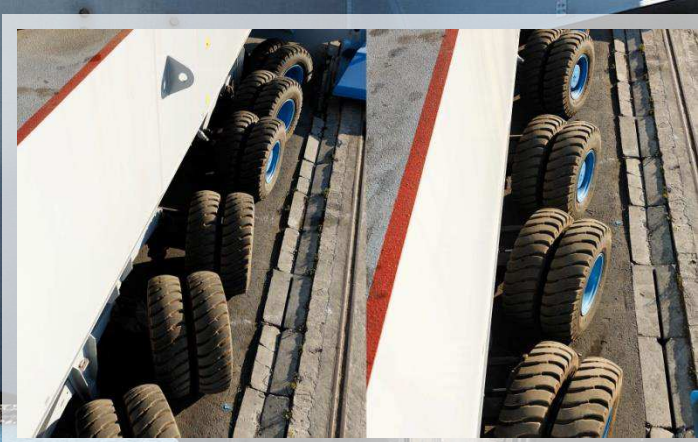


# Chassis – Overview





# Chassis – Excellent Maneuverability



- ▶ Individually steered axles
- ▶ Reduced curve radii
- ▶ Crab steering for easy positioning
- ▶ Maintenance-free equalizer beams for even load distribution



# Chassis – Optional Features

## Interlocking stabilizer beams

- ▶ Interlocking-type stabilizer beams reduce passage width by approx. 700 mm
- ▶ Stabilizer pads can be removed for minimum passage width
- ▶ Optionally, pads can be located on side of the chassis



## Customized propping pads

- ▶ For quays with restricted permissible contact pressure
- ▶ Adapt load to static requirements of quay
- ▶ Range of customized pads available
- ▶ Individual design possible for very specific requirements
- ▶ Pad design can also further reduce passage width of crane



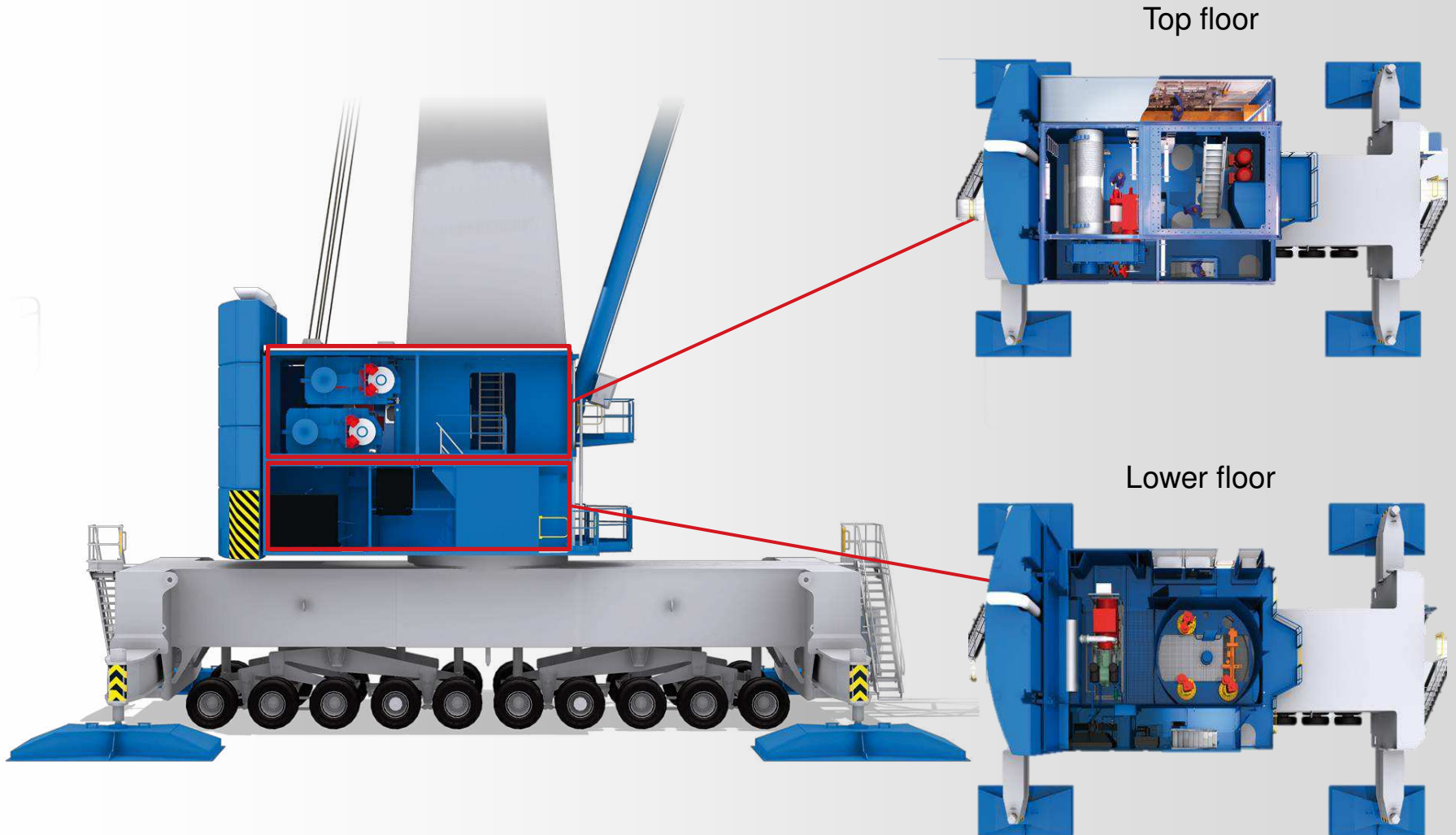
## Special chassis designs

- ▶ Meet individual customer requirements, e. g.
  - Low permissible quay loads
  - Specific quay structure
- ▶ Special features, e.g.
  - Type of axle set
  - Spacing of axle sets
  - Number of axle sets





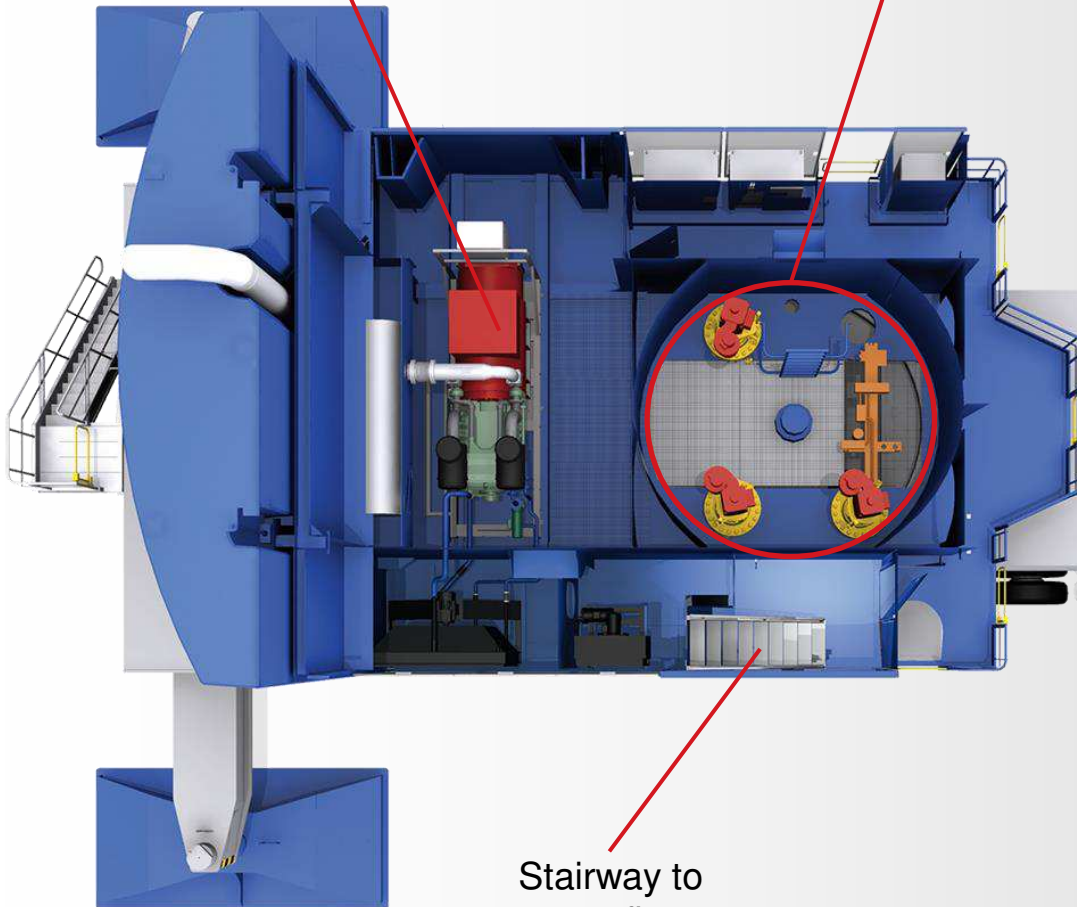
# Two Floor Superstructure



# Lower Floor – Overview

Diesel-generator set

Slewing gear drive units

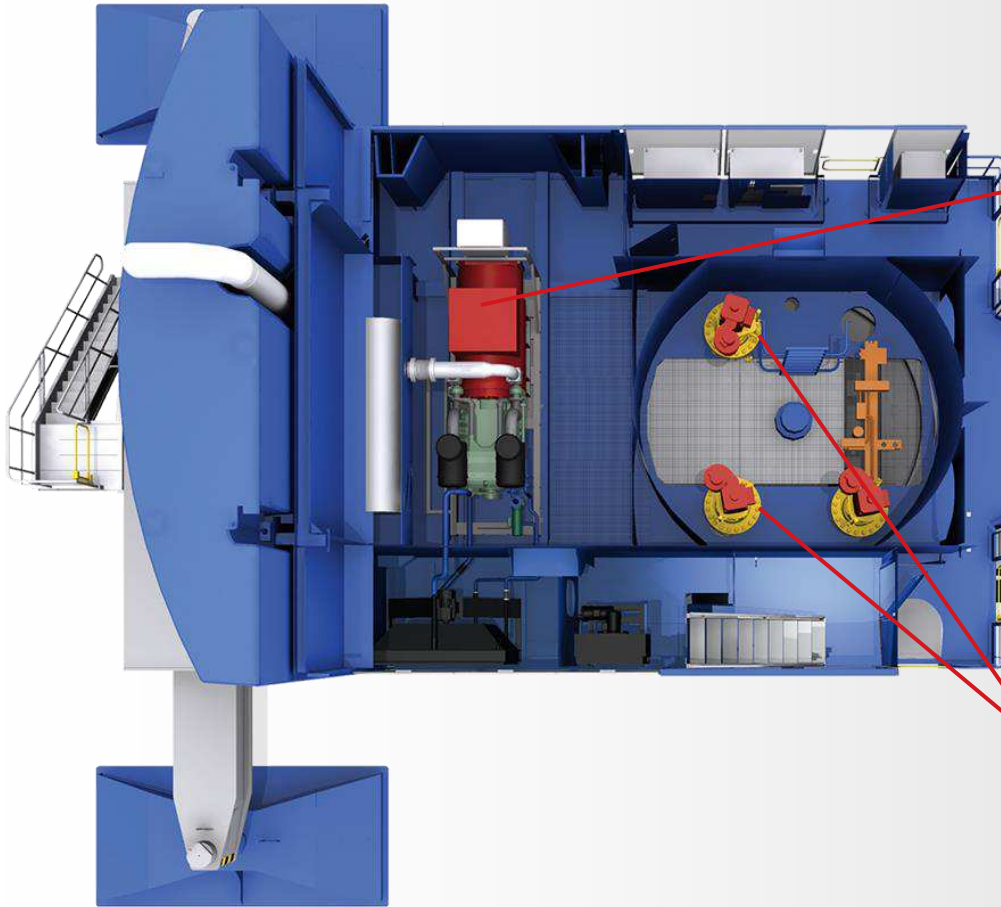


Stairway to upper floor

- ▶ 2.5 m clear headroom
- ▶ Separate, large rooms for:
  - diesel generator set
  - up to two slewing gear drive units
- ▶ Spacious stairway to the upper floor
- ▶ Diesel generator set located at rear to reduce crane weight



# Lower Floor – In Detail



## Diesel generator



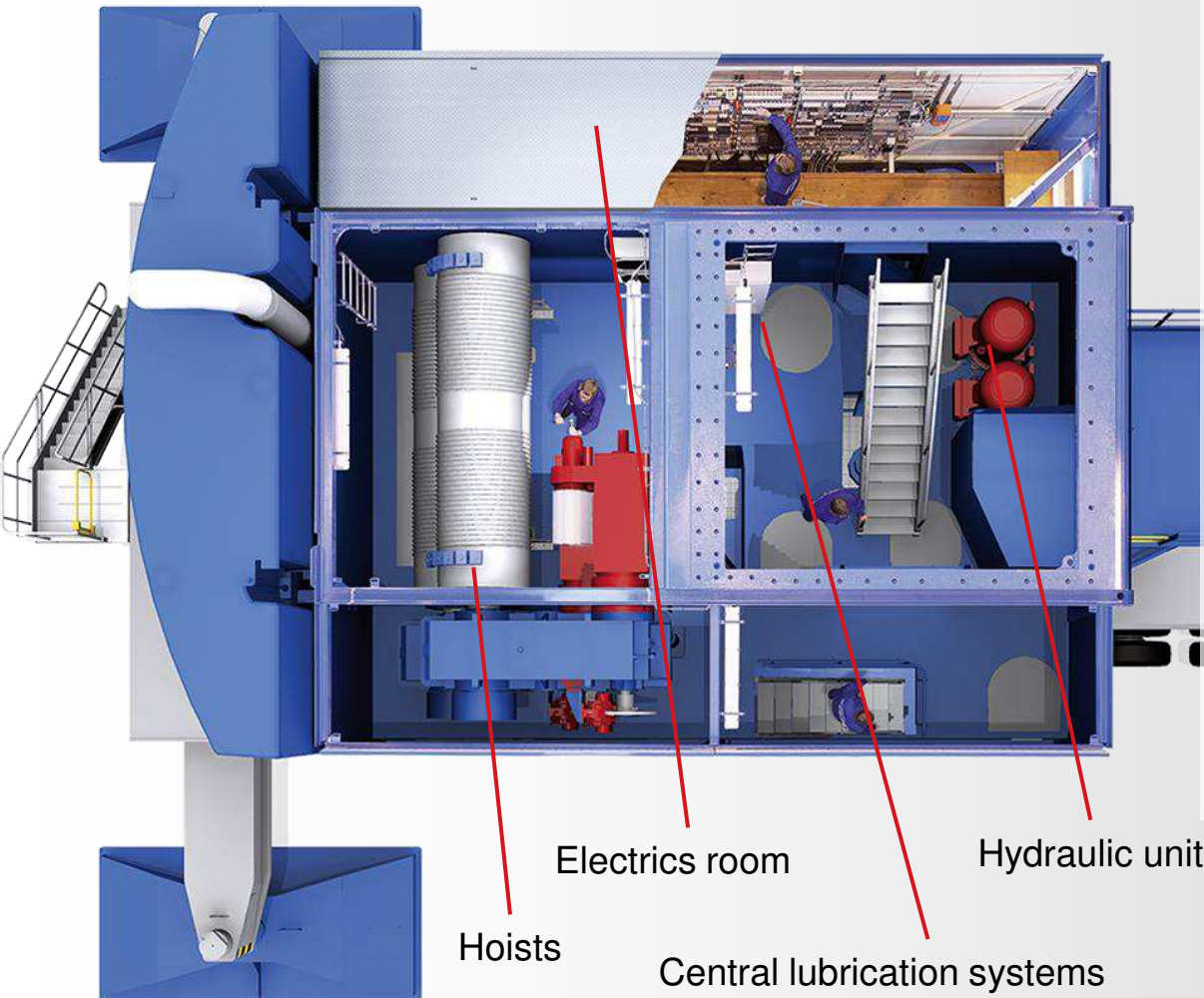
- ▶ Mounted on slide
- ▶ Day tank located next to generator; automatic refilling from main tank
- ▶ Power based on variant and application

## Slewing gear units



- ▶ Quantity as required for variant and application
- ▶ DC drive for smooth acceleration and deceleration

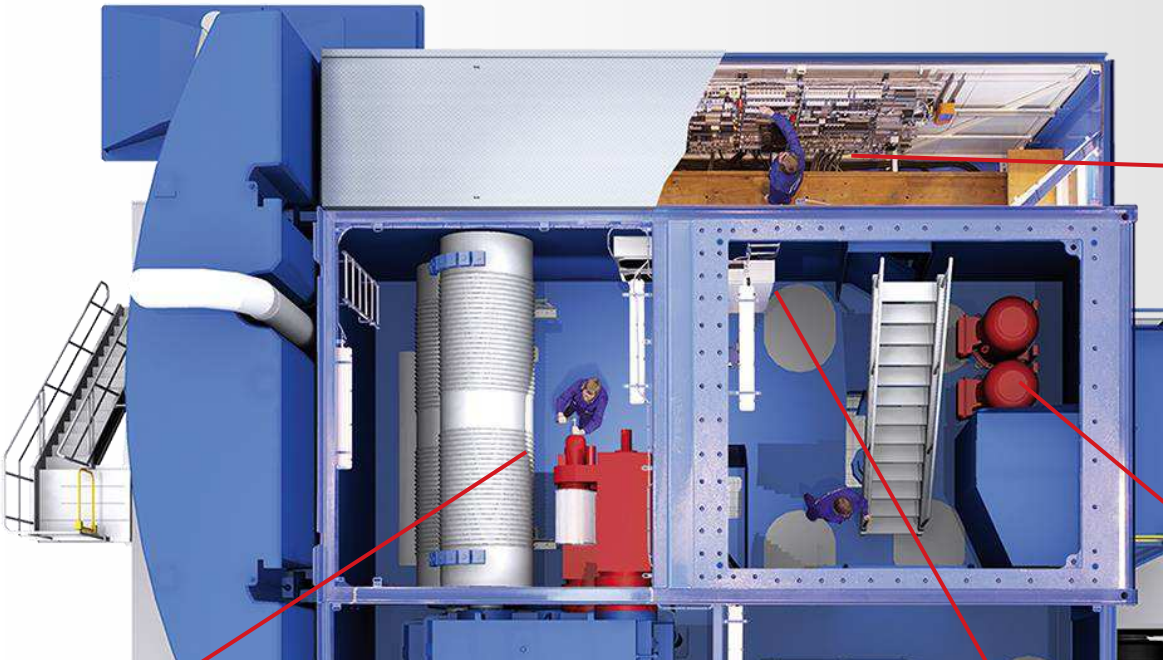
# Top Floor – Overview



- ▶ 2.5 m clear headroom
- ▶ Separate large rooms for:
  - up to two hoists
  - hydraulic unit including tank
  - electrical equipment
- ▶ Spacious stairway to tower
- ▶ Hoist located at the rear:
  - to provide best possible rope guidance outside the tower
  - to reduce crane weight



# Top Floor – In Detail

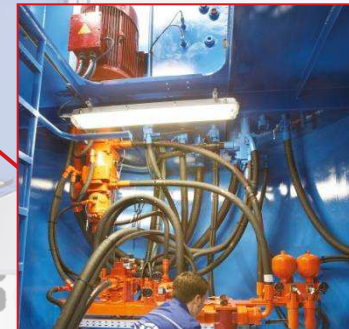


## Electrics room



- ▶ Spacious
- ▶ Rectifier for DC power conversion
- ▶ Heated and air-conditioned

## Hydraulic unit



- ▶ Supplies: luffing cylinder, travel gear, steering and brake systems

## Hoists

- ▶ 1 x 2 or 2 x 2
- ▶ DC drive for smooth acceleration and deceleration
- ▶ Single layer rope coiling for reduced wear
- ▶ Easy accessibility and excellent heat removal

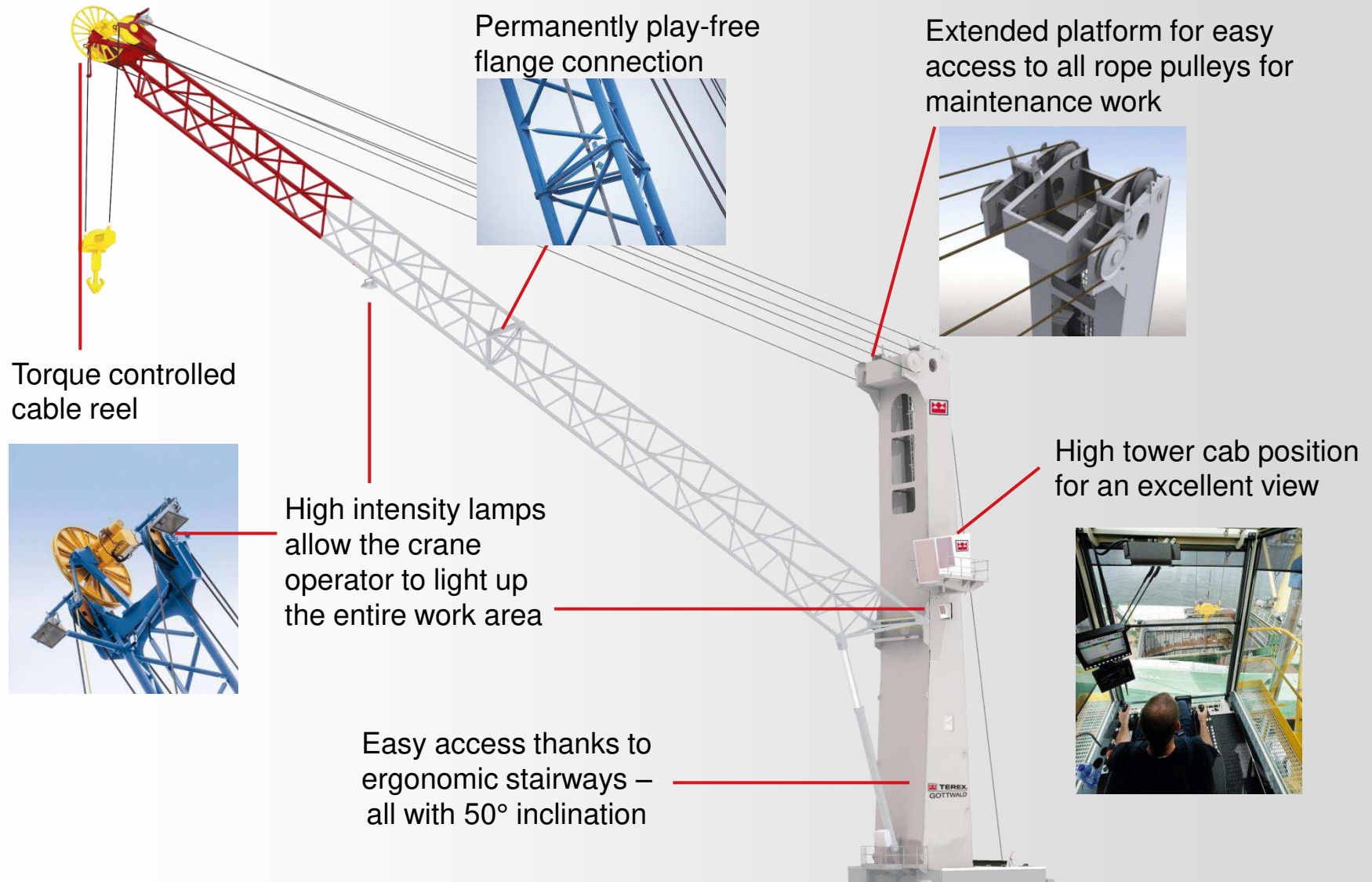


## Central lubrication

- ▶ Standard: slew ring, boom root, luffing cylinder bearings
- ▶ Option: chassis, rope pulleys



# Tower and Boom – Overview



Torque controlled cable reel



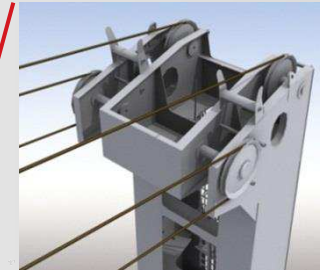
High intensity lamps allow the crane operator to light up the entire work area

Easy access thanks to ergonomic stairways – all with 50° inclination

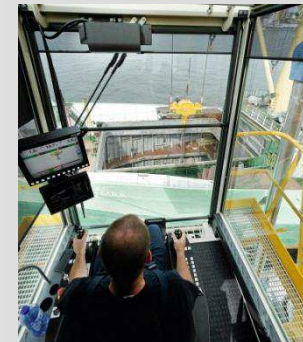
Permanently play-free flange connection



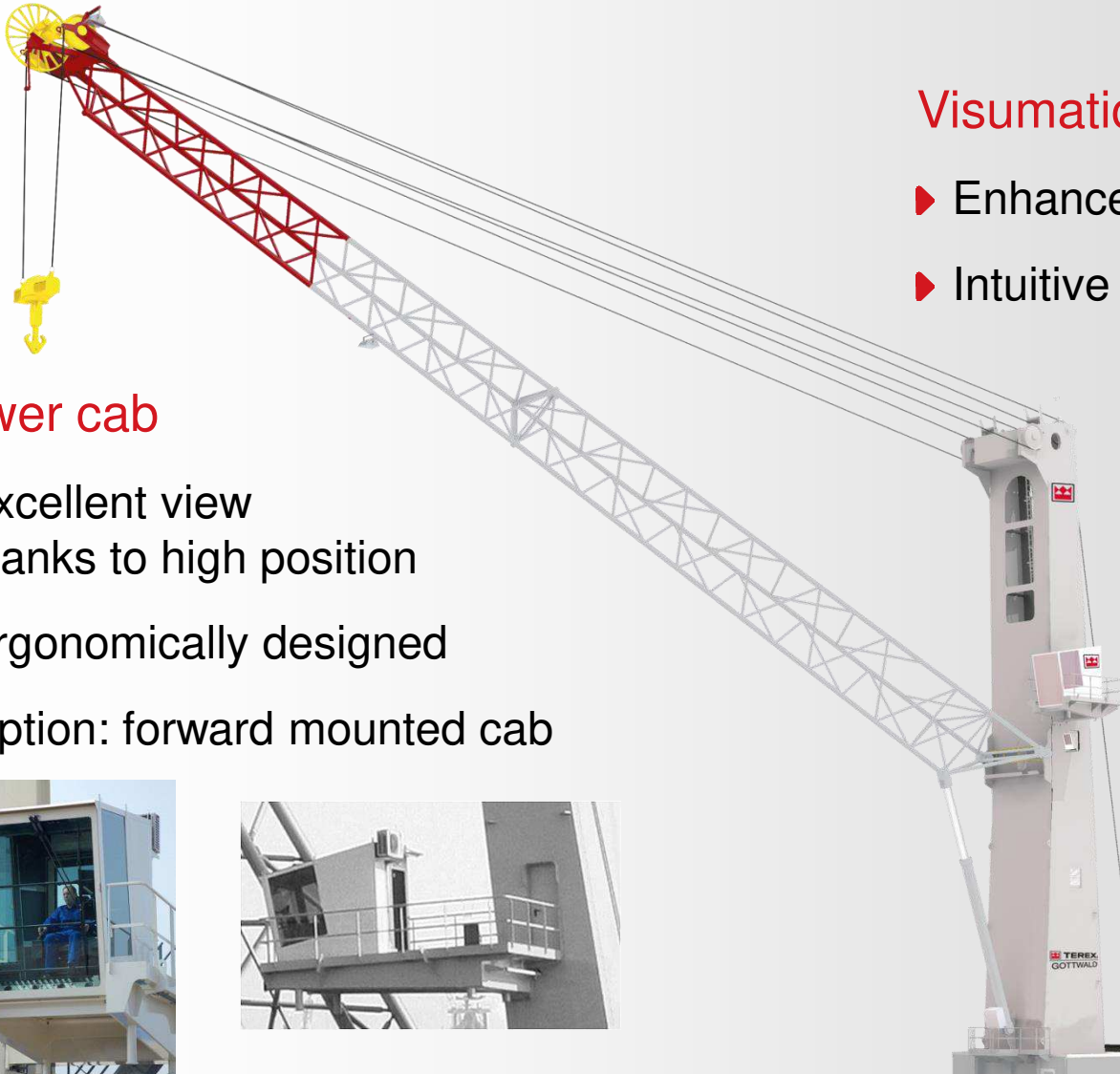
Extended platform for easy access to all rope pulleys for maintenance work



High tower cab position for an excellent view







## Tower cab

- ▶ Excellent view thanks to high position
- ▶ Ergonomically designed
- ▶ Option: forward mounted cab



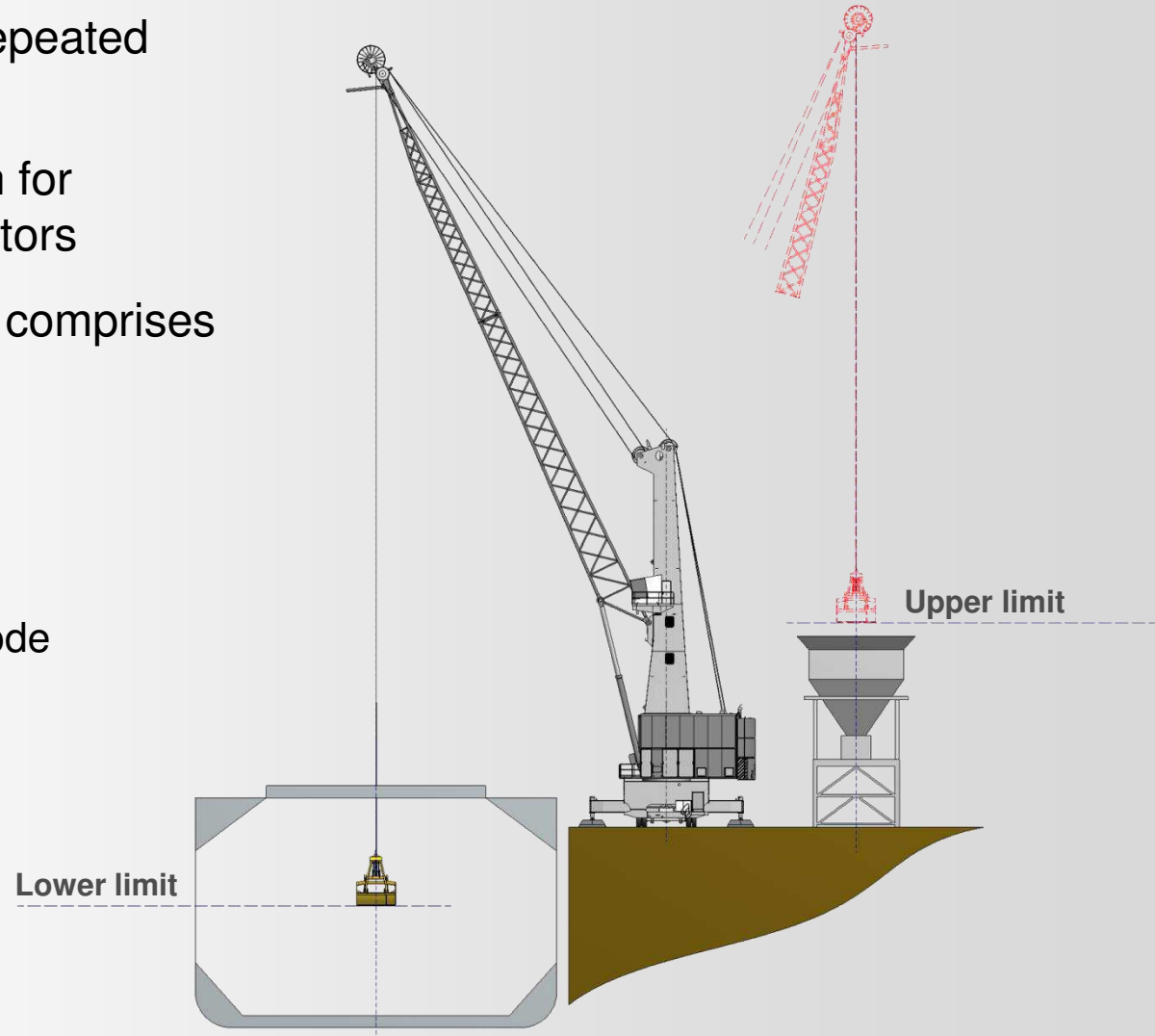
## Visumatic® crane management

- ▶ Enhanced diagnostic possibilities
- ▶ Intuitive operator guidance



# Model 8 – Load Guidance System

- ▶ Automation of frequently repeated crane motions
- ▶ Higher handling rates even for inexperienced crane operators
- ▶ The load guidance system comprises optional features:
  - Linear load motion
  - Hoisting height limiting
  - Load antisway
  - Point-to-point handling mode





# Smart Crane Features

## Tandem lift assistant

- ▶ Full capacity of both cranes can be exploited
- ▶ Remote control by only one crane driver
- ▶ Includes vertical lift assistant



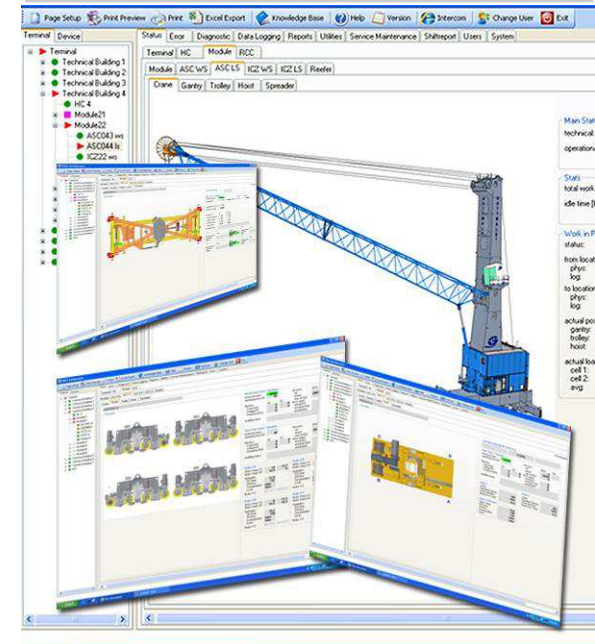
## Weighing system

- ▶ Mounted direct on the crane
- ▶ Fast and accurate
- ▶ Verifiable for commercial use (EU type approval)
- ▶ No additional process steps required



## FMDS

- ▶ FMDS Basic
  - Web reporting
  - Remote desktop
  - Remote assistance
- ▶ FMDS Advanced
  - Extensive diagnostic and analytic functions
  - Connection to other IT systems (e.g. TOS, ERP)





- ▶ Standard for all Terex® Gottwald products including harbour cranes
- ▶ Most common energy source in ports
- ▶ State-of-the-art diesel generator provides excellent efficiency
- ▶ Easy integration of energy efficiency technologies
- ▶ Dynamic brake resistors as standard: fuel savings of up to 15.2% depending on operating conditions and crane capacity
- ▶ Easy connection to terminal mains (external power supply)



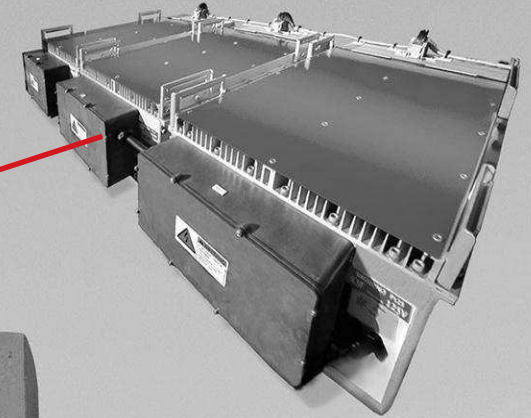


# Hybrid Drive

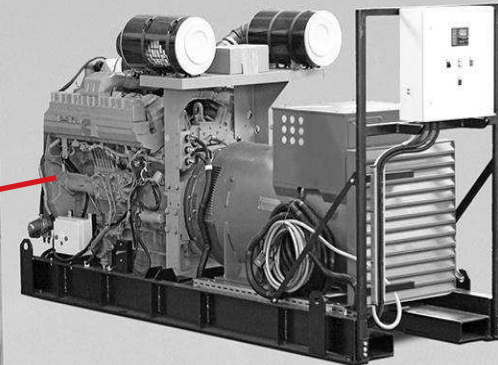
- ▶ Improved efficiency, smaller engine
- ▶ Fuel consumption reduced by an amount in the double-digit percentage range\*
- ▶ Exhaust emissions reduced
- ▶ Lower noise emissions as the diesel engine runs more quietly

Dynamic  
brake  
resistors

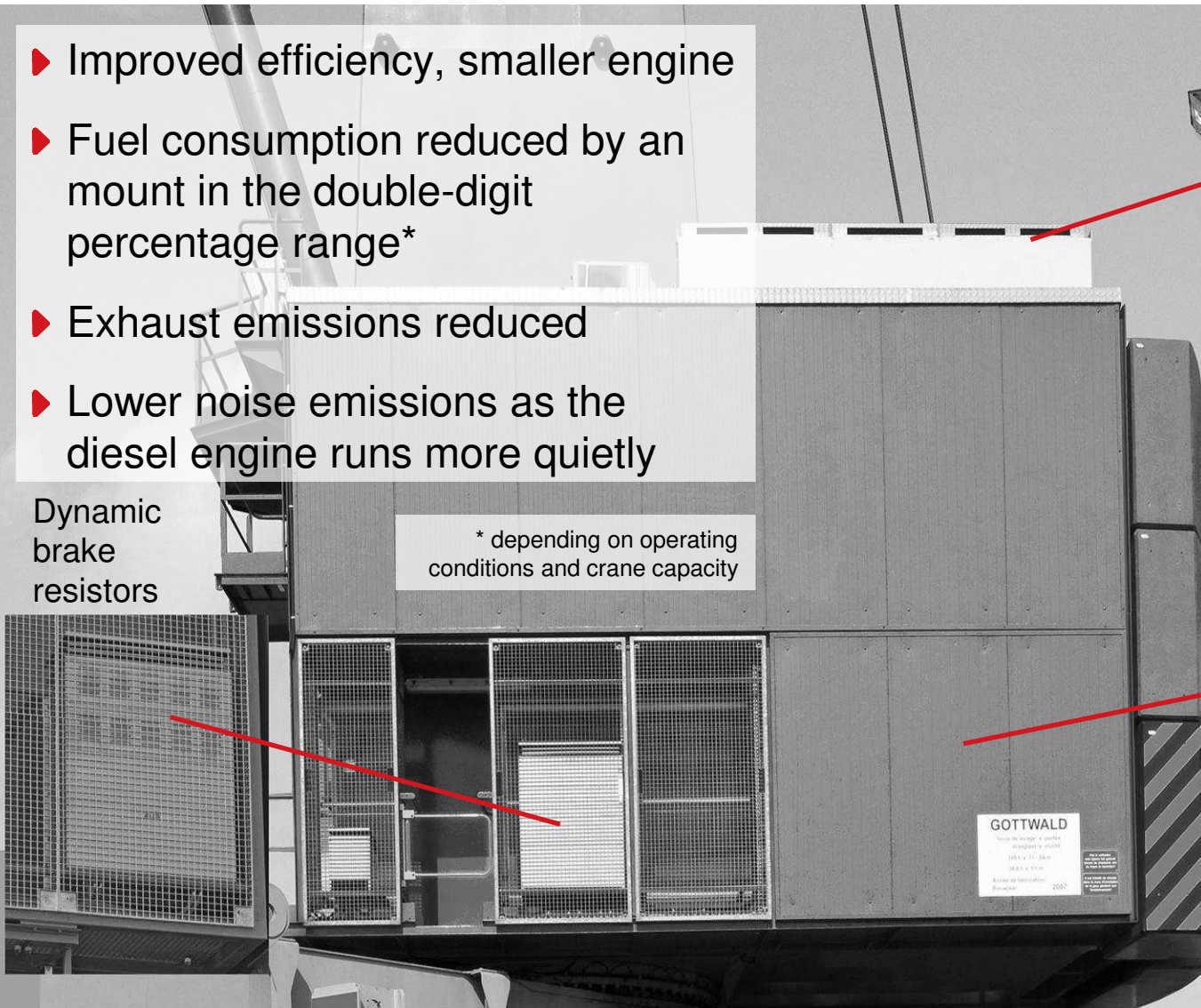
\* depending on operating  
conditions and crane capacity



Ultracaps

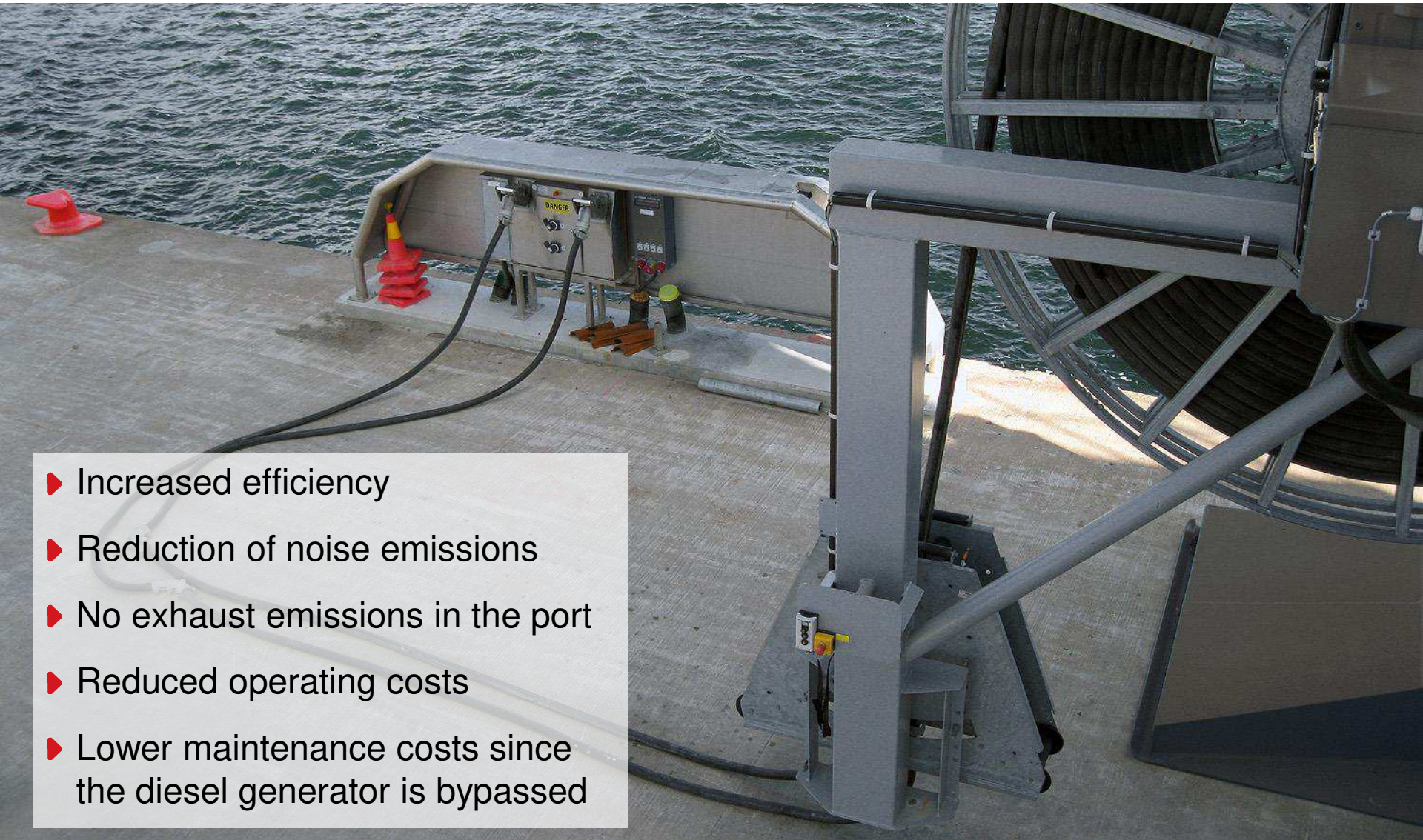


Diesel generator





# External Power Supply



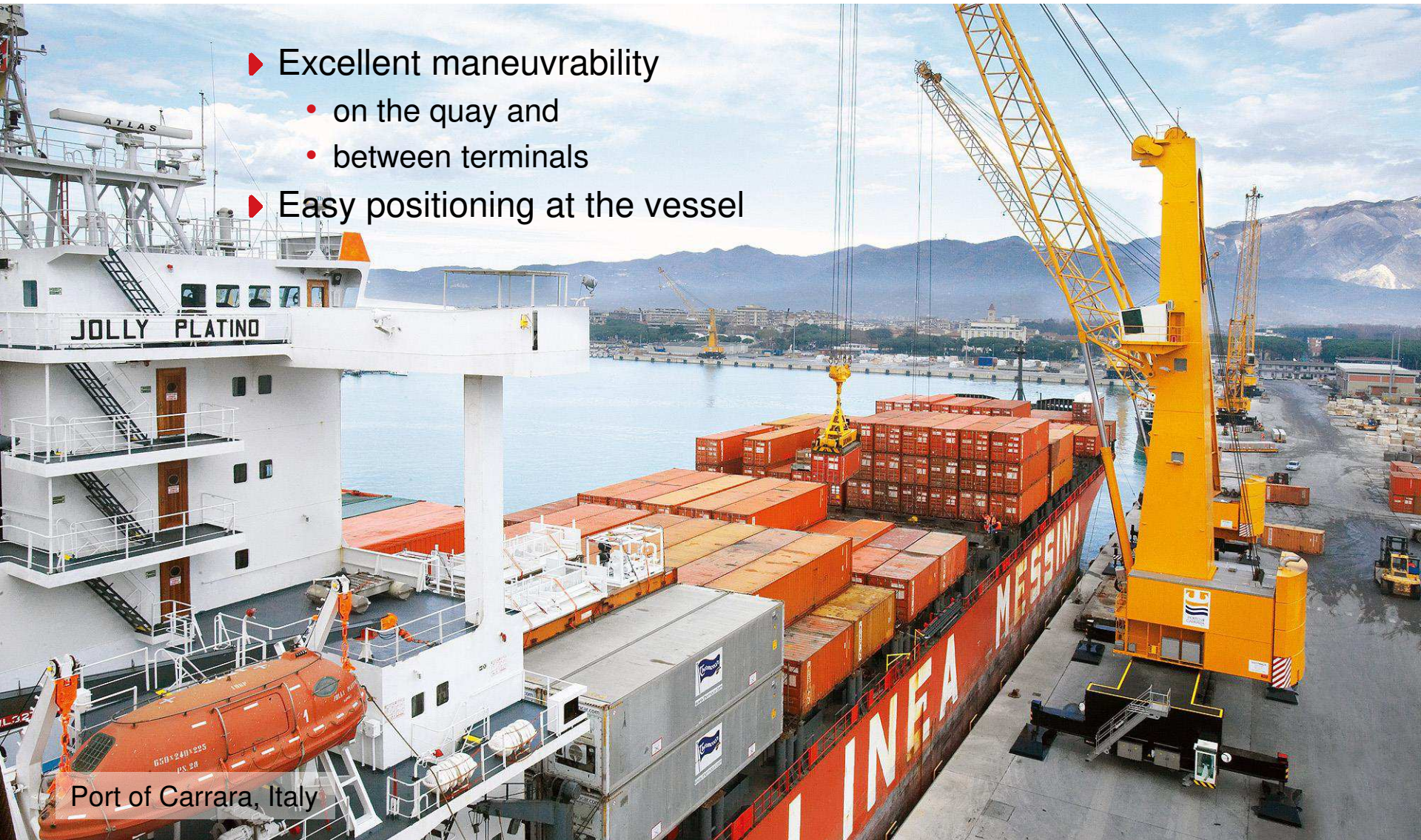
- ▶ Increased efficiency
- ▶ Reduction of noise emissions
- ▶ No exhaust emissions in the port
- ▶ Reduced operating costs
- ▶ Lower maintenance costs since the diesel generator is bypassed



# Mounted on a Rubber-Tyred Chassis



- ▶ Excellent maneuverability
  - on the quay and
  - between terminals
- ▶ Easy positioning at the vessel



Port of Carrara, Italy



## ► Portal harbour crane variants

- Can be integrated exceptionally well in bulk handling infrastructure
- Are designed for use on narrow and special-purpose quays



Port of Bekirli, Marmara Sea, Turkey



# Barge Solutions

- ▶ Available with crane-mounted weighing system
- ▶ Floating cranes can be delivered with or without barge



On the Mississippi in South Louisiana, USA



# High-Performance Container Handling



- ▶ Radius up to 58 m
- ▶ Container handling up to Super post-Panamax size

Port of Mejillones, Chile

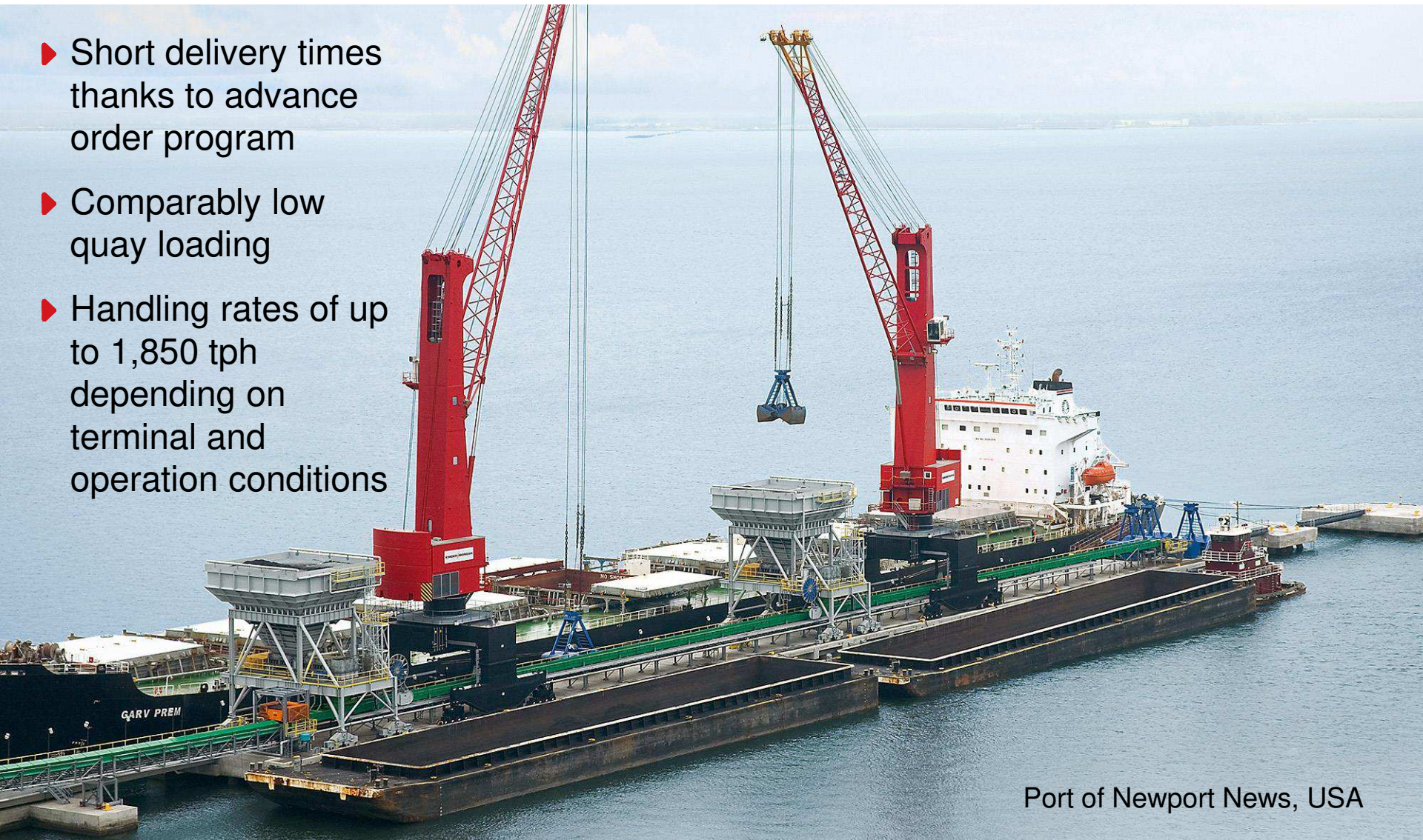




# Integrated Bulk Handling Solution



- ▶ Short delivery times thanks to advance order program
- ▶ Comparably low quay loading
- ▶ Handling rates of up to 1,850 tph depending on terminal and operation conditions



Port of Newport News, USA



# Bulk Handling on Open Sea

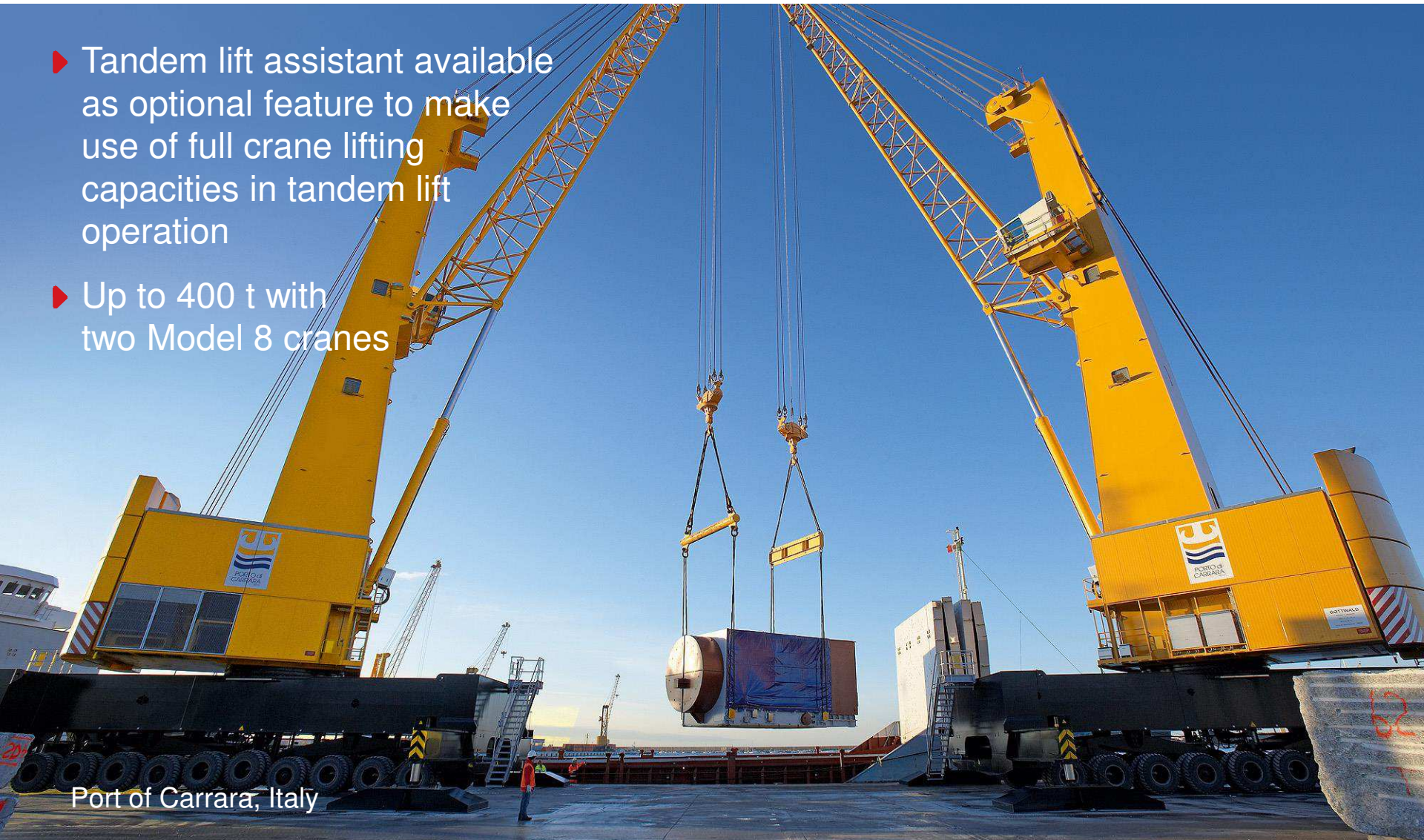


35 km off the coast of Kalimantan, Indonesia



# Handling of Project Cargo

- ▶ Tandem lift assistant available as optional feature to make use of full crane lifting capacities in tandem lift operation
- ▶ Up to 400 t with two Model 8 cranes



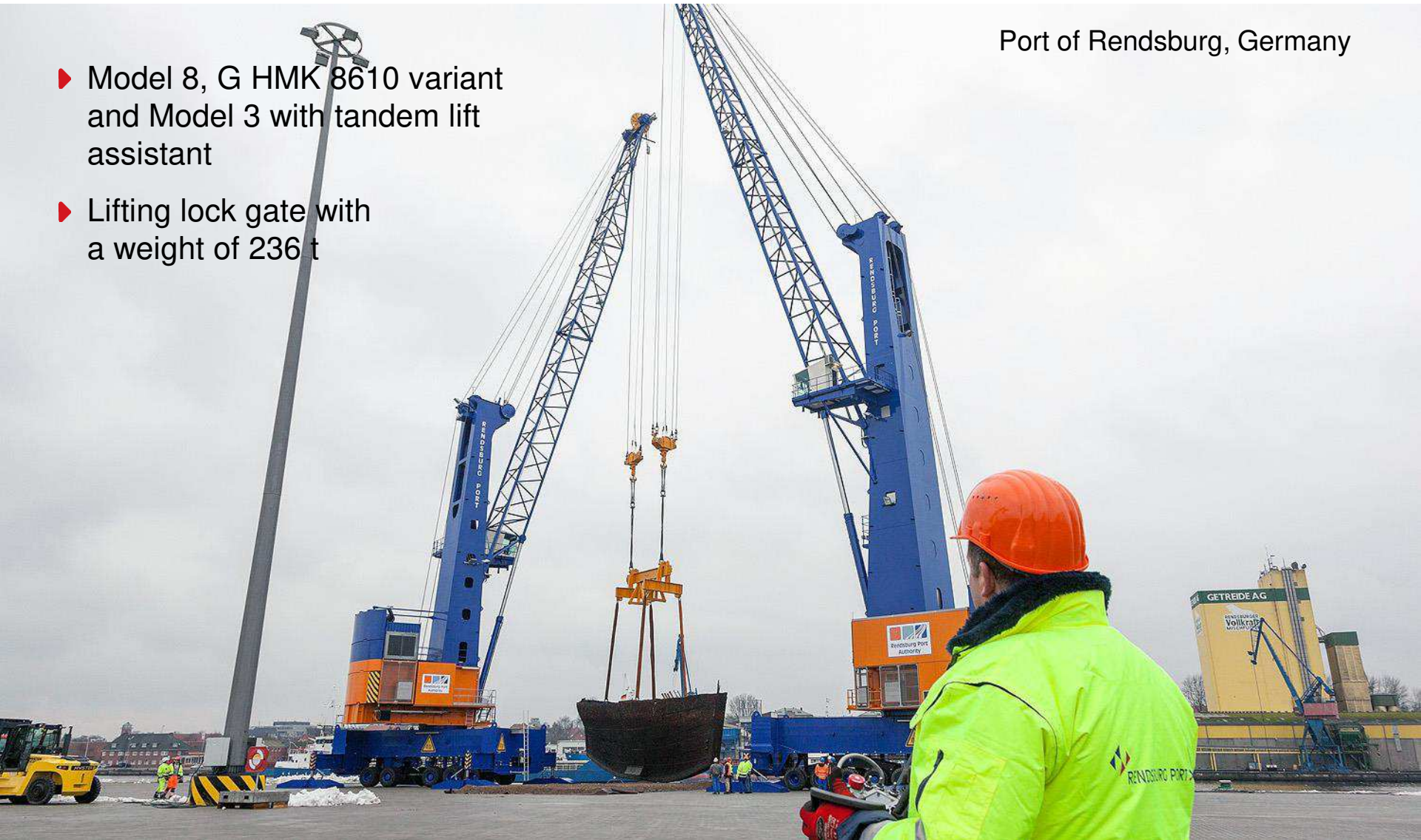
Port of Carrara, Italy



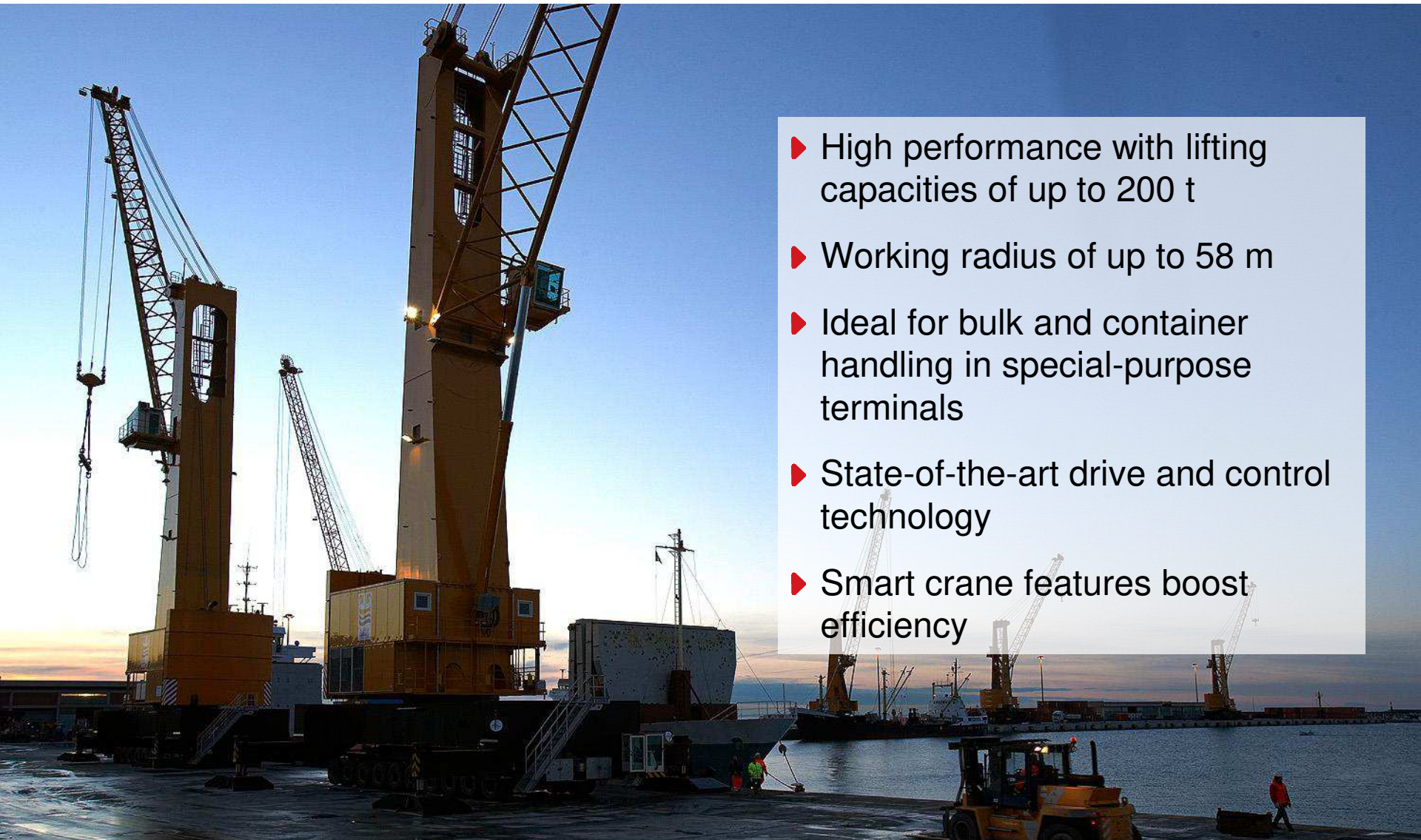
# Tandem Lift Operation

Port of Rendsburg, Germany

- ▶ Model 8, G HMK 8610 variant and Model 3 with tandem lift assistant
- ▶ Lifting lock gate with a weight of 236 t



# Model 8 – In A Nutshell



- ▶ High performance with lifting capacities of up to 200 t
- ▶ Working radius of up to 58 m
- ▶ Ideal for bulk and container handling in special-purpose terminals
- ▶ State-of-the-art drive and control technology
- ▶ Smart crane features boost efficiency





# Technical Data Terex® Gottwald Model 8



# Model 8 – Main Technical Data

## Dimensions and weights

Radius	G HMK 8410	12.0 m – 58.0 m
	G HMK 8610/ G HMK 8710	12.0 m – 56.0 m
	G HMK 8410 B	12.0 m – 50.0 m
Boom pivot point	High tower 29.3 m with extension 34.7 m Short tower 23.8 m	
Tower cab (crane operator eye level)	High tower 32.6 m with extension 38.0 m Short tower 27.0 m	
Propping base	18.3 m x 13.0 m	
Chassis in travel mode	22.0 m x 9.6 m optional : 22.0 m x 8.3 m	
Weight (approx.)	600 t	

## Hoisting heights

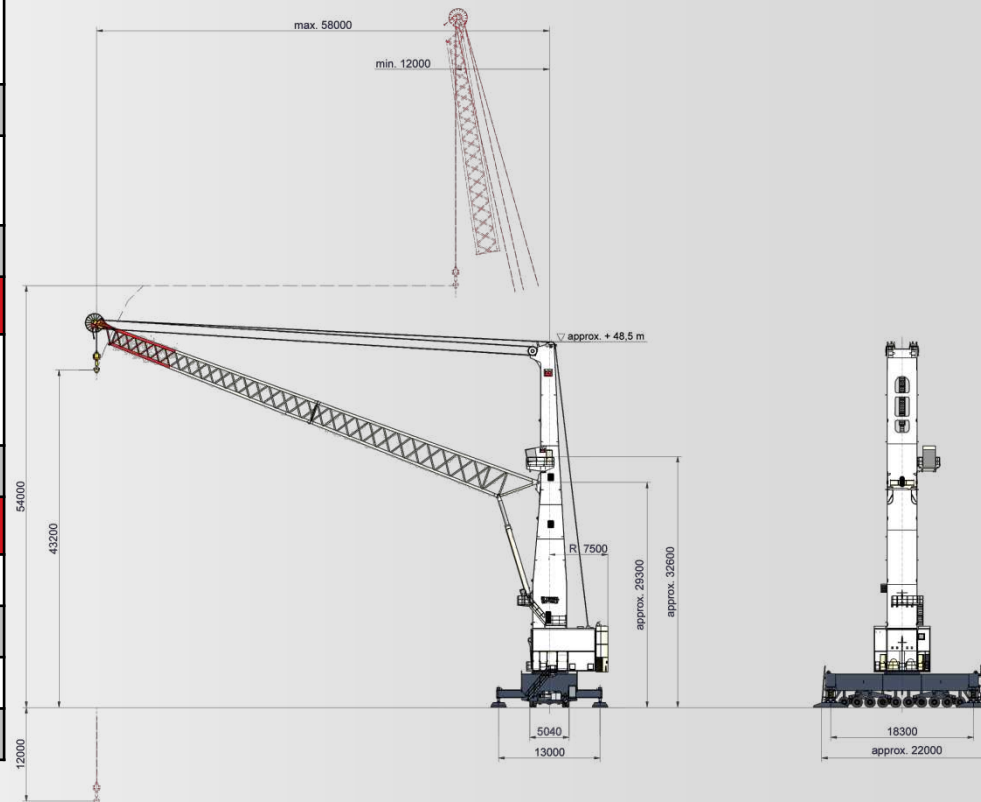
Above quay level	G HMK 8410	54.0 m
	G HMK 8710/ G HMK 8410 B	42.0 m
	G HMK 8610	37.5 m
Below quay level	12.0 m	

## Travel gear

Axles	10	
Steered axles	10	
Driven axles	2 (optional: 3)	
Crab steering	25°	

## Working speeds and drive power

Slewing	0 – 1.6 rpm	
Luffing	0 – 107 m/min	
	G HMK 8410 B	0 – 101 m/min
Travelling	0 – 80 m/min	





# Model 8 – Lifting Capacity in Tonnes



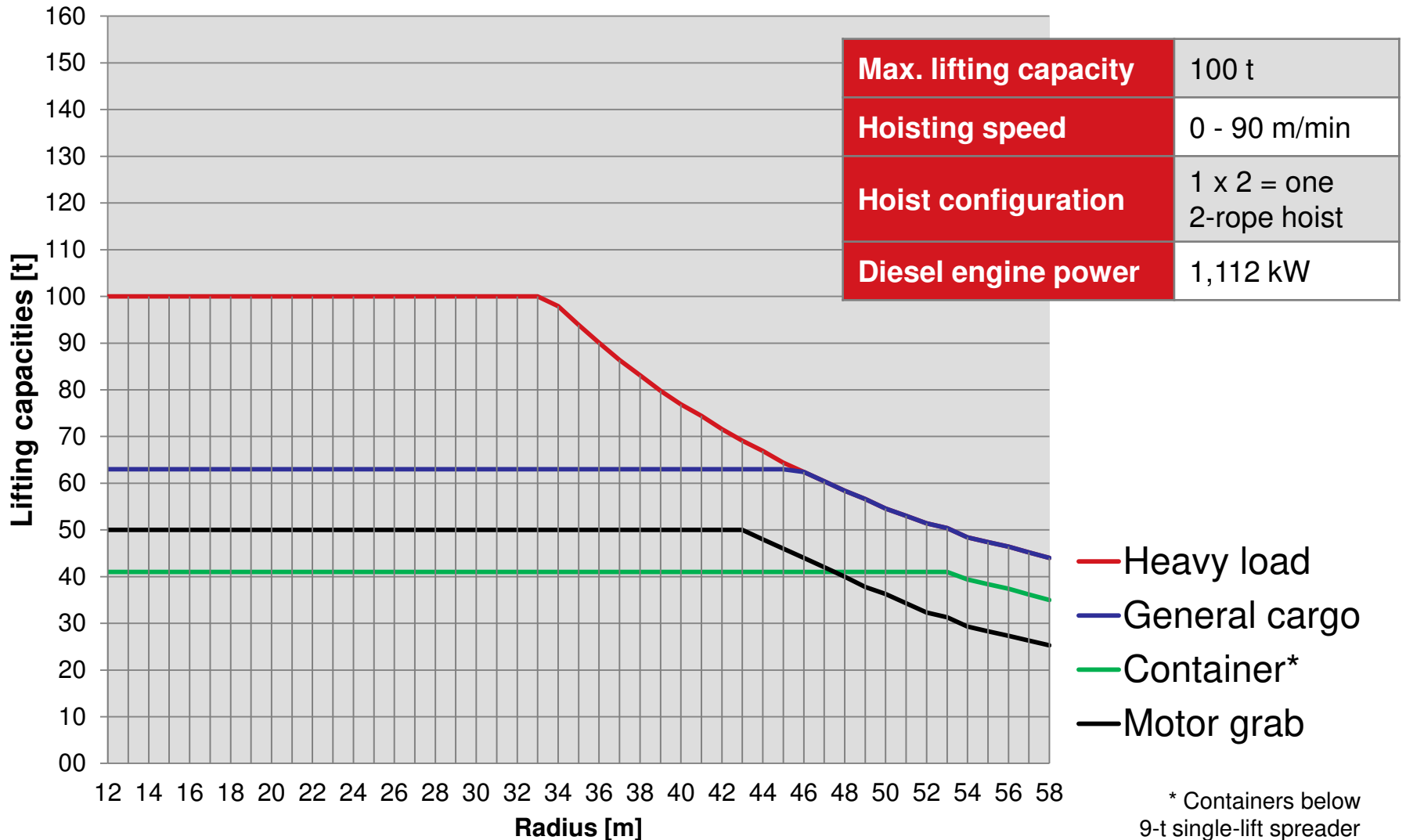
Port Solutions

Operating modes	Heavy load				General cargo				Container*				Motor grab		4-rope grab A7	4-rope grab A8		
	Heavy load	Heavy load	Heavy load	Heavy load														
G HMK 8410 standard			•		•					•				•				
G HMK 8410 high-speed			•			•				(•)**	•					•		
G HMK 8610		•					•					•			•			
G HMK 8710	•							•					•		•			
G HMK 8410 B				•					•								•	•
<b>Radius [m]</b>																		
12 - 20	200.0	150.0	100.0	100.0	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
22	182.0	150.0	100.0	100.0	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
24	164.6	150.0	100.0	100.0	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
26	148.1	145.0	100.0	100.0	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
28	132.4	133.1	100.0	100.0	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
30	117.2	117.9	100.0	100.0	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
32	106.0	106.7	100.0	100.0	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
34	96.5	97.2	97.9	96.5	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
36	88.7	89.4	90.1	88.7	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
38	81.7	82.4	83.1	81.7	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
40	75.5	76.2	76.9	75.5	63.0	47.0	74.0	74.0	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	63.0	50.0
42	70.2	70.9	71.6	70.2	63.0	47.0	70.9	70.2	63.0	41.0	38.0	41.0	41.0	50.0	50.0	47.0	61.4	50.0
44	65.5	66.2	66.9	65.5	63.0	47.0	66.2	65.5	63.0	41.0	38.0	41.0	41.0	48.0	48.0	47.0	57.3	48.8
46	61.0	61.7	62.4	61.0	62.4	47.0	61.7	61.0	61.0	41.0	38.0	41.0	41.0	44.0	44.0	44.0	53.5	45.6
48	57.0	57.7	58.4	57.0	58.4	47.0	57.7	57.0	57.0	41.0	38.0	41.0	41.0	40.0	40.0	40.0	50.1	42.7
50	53.2	53.9	54.6	53.2	54.6	47.0	53.9	53.2	53.2	41.0	38.0	41.0	41.0	36.3	36.3	36.3	47.0	40.0
52	50.0	50.7	51.4	-	51.4	47.0	50.7	50.0	-	41.0	38.0	41.0	41.0	32.3	32.3	32.3	-	-
54	47.0	47.7	48.4	-	48.4	47.0	47.7	47.0	-	39.4	38.0	38.7	38.0	29.3	29.3	29.3	-	-
56	45.0	45.7	46.4	-	46.4	46.4	45.7	45.0	-	37.4	37.4	36.7	36.0	27.3	27.3	27.3	-	-
58	-	-	44.0	-	44.0	44.0	-	-	-	35.0	35.0	-	-	25.3	-	25.3	-	-

\* Containers below 9-t single-lift spreader

\*\* Possible with restrictions

# G HMK 8410 – Standard Variant



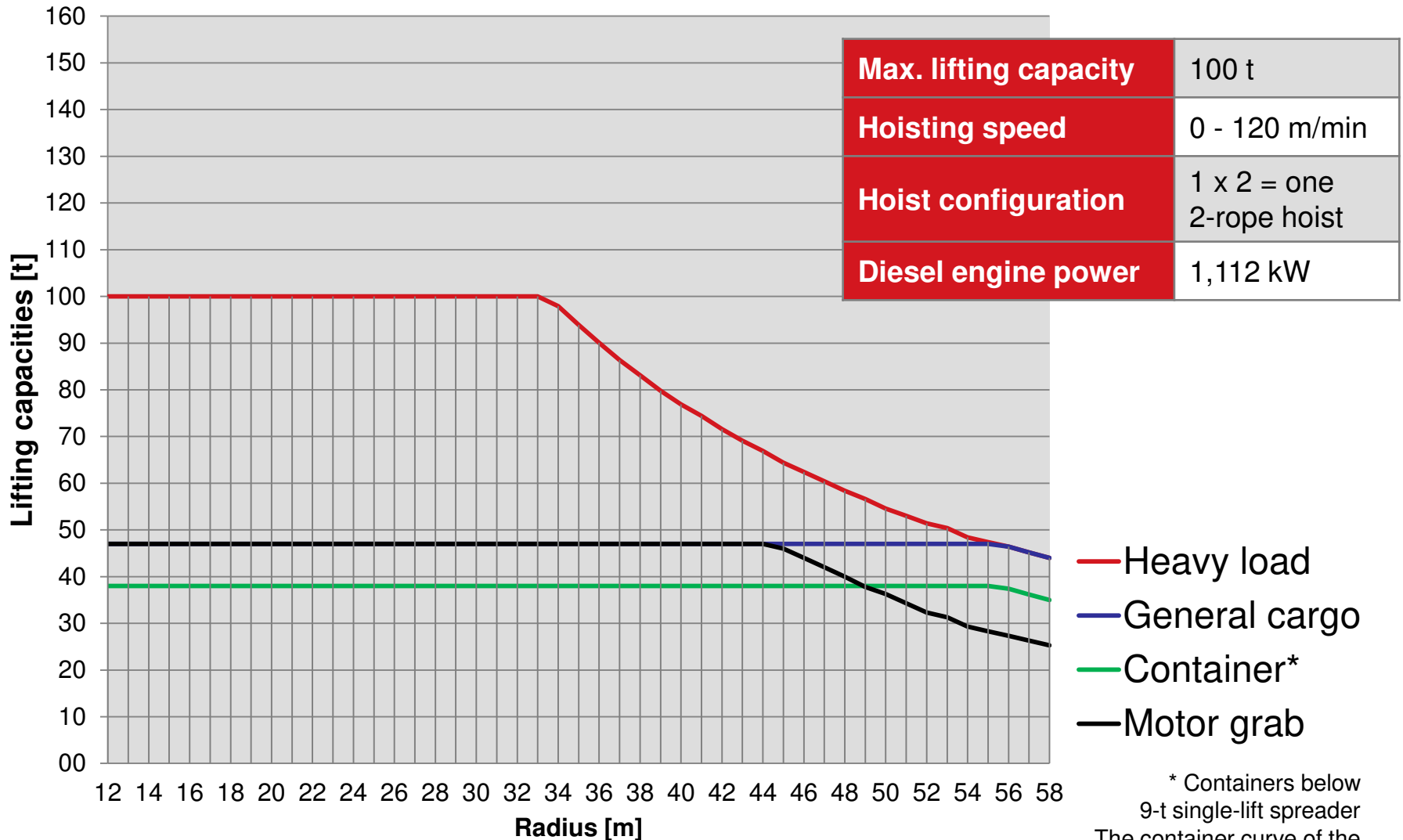
<b>Max. lifting capacity</b>	100 t
<b>Hoisting speed</b>	0 - 90 m/min
<b>Hoist configuration</b>	1 x 2 = one 2-rope hoist
<b>Diesel engine power</b>	1,112 kW

- Heavy load
- General cargo
- Container\*
- Motor grab

\* Containers below 9-t single-lift spreader



# G HMK 8410 – High-Speed Variant

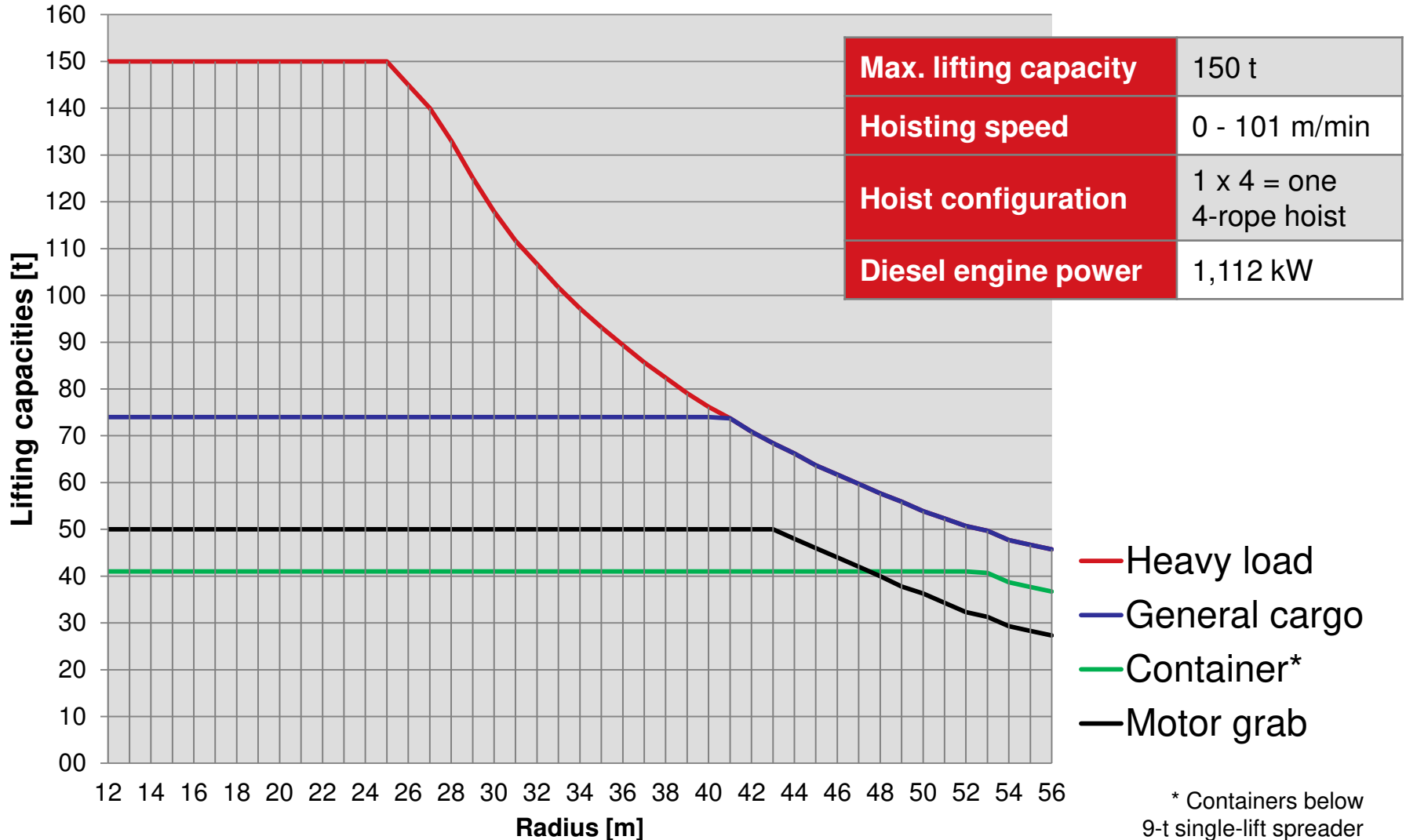


<b>Max. lifting capacity</b>	100 t
<b>Hoisting speed</b>	0 - 120 m/min
<b>Hoist configuration</b>	1 x 2 = one 2-rope hoist
<b>Diesel engine power</b>	1,112 kW

- Heavy load
- General cargo
- Container\*
- Motor grab

\* Containers below 9-t single-lift spreader  
The container curve of the standard variant is also available

# G HMK 8610



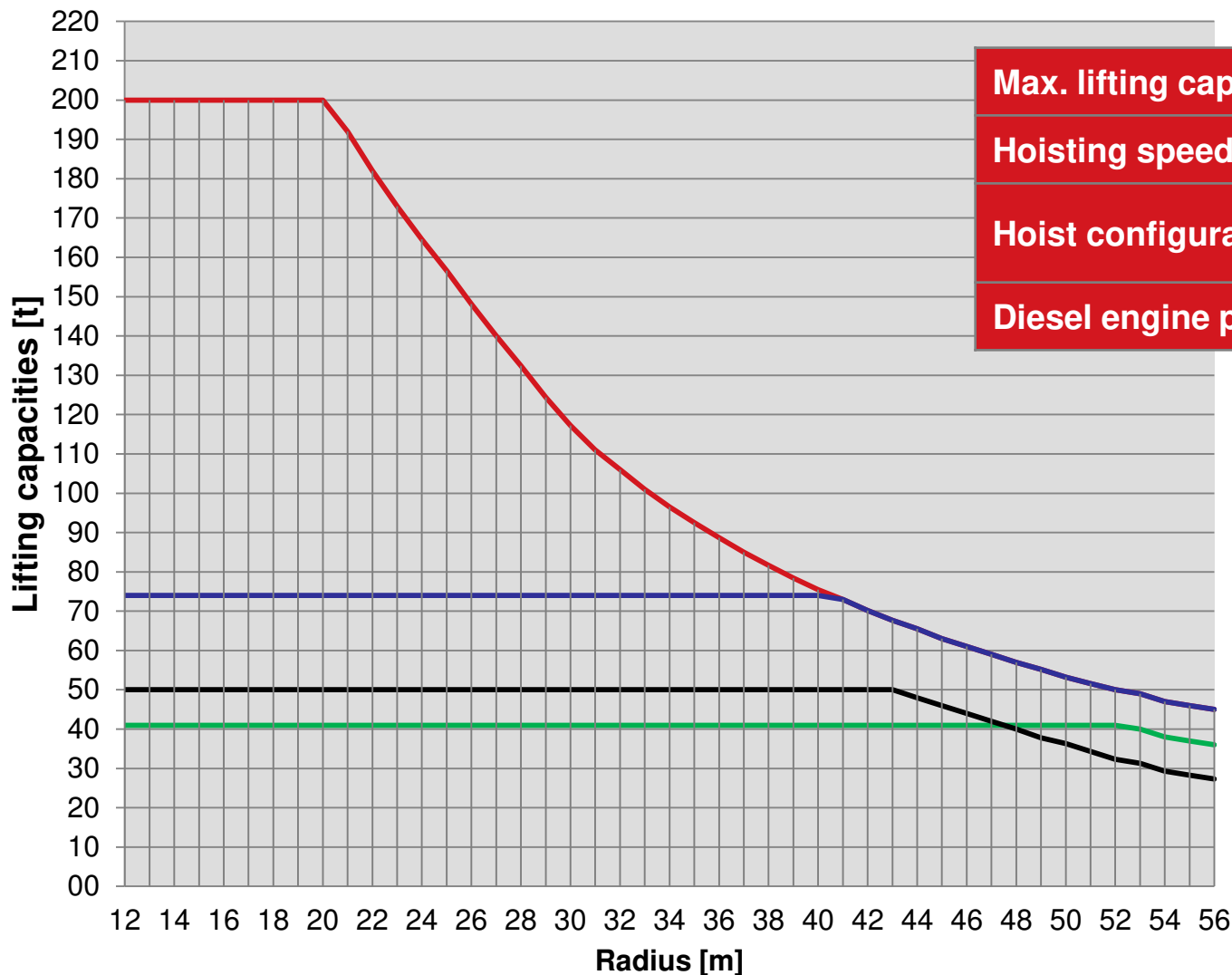
\* Containers below 9-t single-lift spreader



# G HMK 8710



Port Solutions



<b>Max. lifting capacity</b>	200 t
<b>Hoisting speed</b>	0 - 120 m/min
<b>Hoist configuration</b>	2 x 2 = two 2-rope hoist
<b>Diesel engine power</b>	1,112 kW

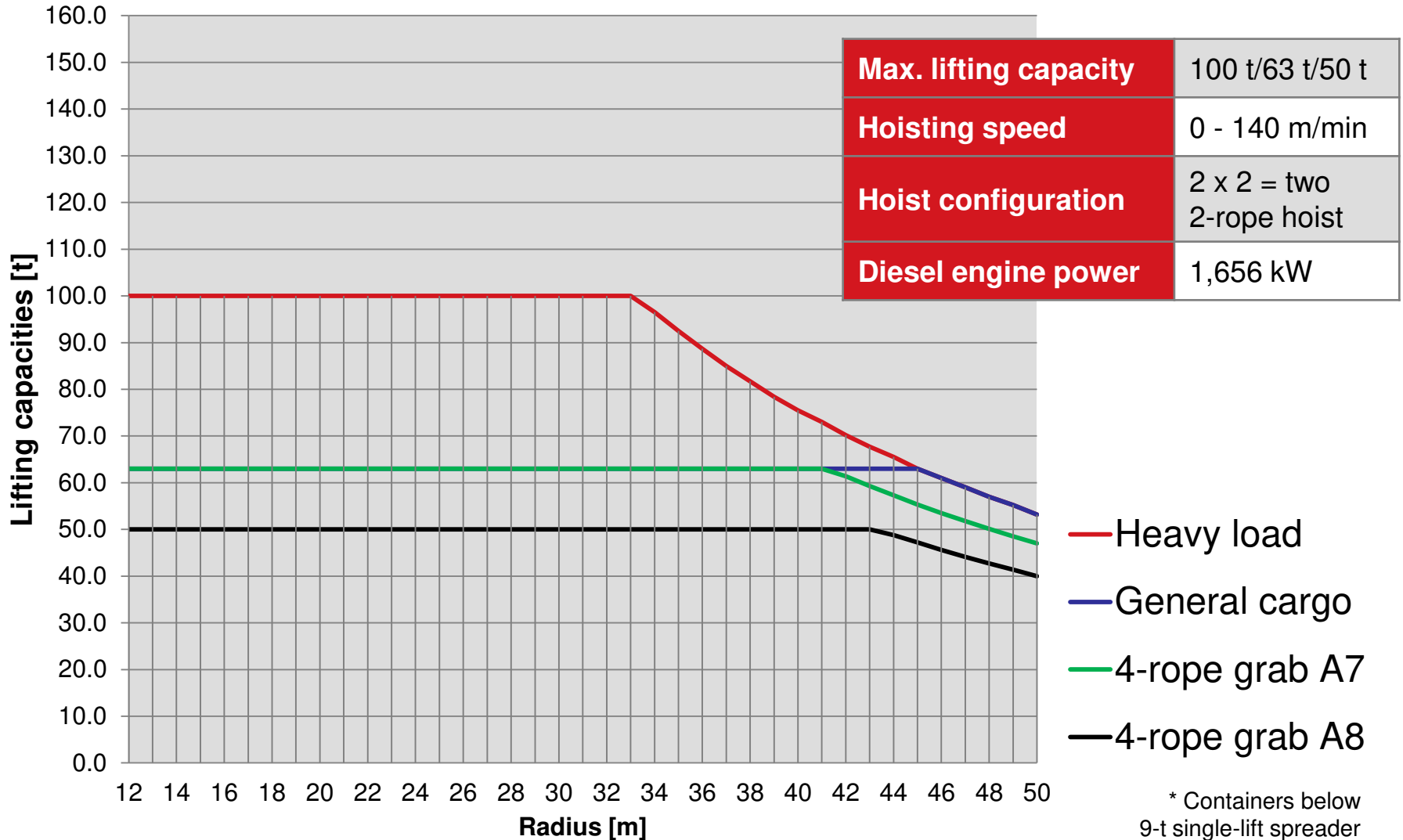
- Heavy load
- General cargo
- Container\*
- Motor grab

\* Containers below 9-t single-lift spreader

# G HMK 8410 B



Port Solutions



<b>Max. lifting capacity</b>	100 t/63 t/50 t
<b>Hoisting speed</b>	0 - 140 m/min
<b>Hoist configuration</b>	2 x 2 = two 2-rope hoist
<b>Diesel engine power</b>	1,656 kW

- Heavy load
- General cargo
- 4-rope grab A7
- 4-rope grab A8

\* Containers below 9-t single-lift spreader



# Standard and Optional Equipment



	Standard	Option
Visumatic® crane management system	●	
Radio remote control	●	
Load linear motion		●
Antisway system		●
Point-to-point handling mode		●
Hoisting height limiting system		●
Camera for reverse travel		●
Torque-controlled cable reel	●	
Additional seat in tower cab		●
Tower cab forward-mounted by 2.5 m		●
Active dust protection system	●	
Extended dust protection system		●
Preparation for external power supply		●

	Standard	Option
External power supply		●
Central lubrication system for slew ring, boom root and luffing cylinder bearings	●	
Central lubrication system for chassis and rope pulleys		●
Pinion lubrication using high-performance grease via separate central lubrication system	●	
Climate packages for extreme high or low ambient temperatures		●
Automatic stabiliser system	●	
Interlocking stabiliser beams for reduced passage width		●
Crab steering	●	
Chassis cab	●	
Air conditioner in chassis cab		●
Refuelling via the chassis	●	
Second stairway on chassis		●
Energy recovery system		●



Do you have any questions?  
Feel free to ask

