

**INDUSTRIAL CRANES**

NUCLEAR CRANES

PORT CRANES

HEAVY-DUTY LIFT TRUCKS

SERVICE

MACHINE TOOL SERVICE

**POWER INDUSTRY**

**KONECRANES®**

Lifting Businesses™

**Power industry**

**PROVEN AND RELIABLE  
LIFTING SOLUTIONS**



# MEETING AND EXCEEDING INDUSTRY DEMANDS

## Serving the industry-specific needs

Konecranes serves the special needs of the power industry, providing material handling solutions for every type of power plant – from industrial cranes for workshops to explosion-proof cranes for hazardous environments. These solutions are supported by our global maintenance service organization, ensuring reliable crane installations, modernizations and replacements.

Our responsive and proactive problem-solving approach builds long-term, trusted partnerships. We provide a full-service one stop shop offering that delivers upon your full range of needs through one source.

## Leading power industry expertise

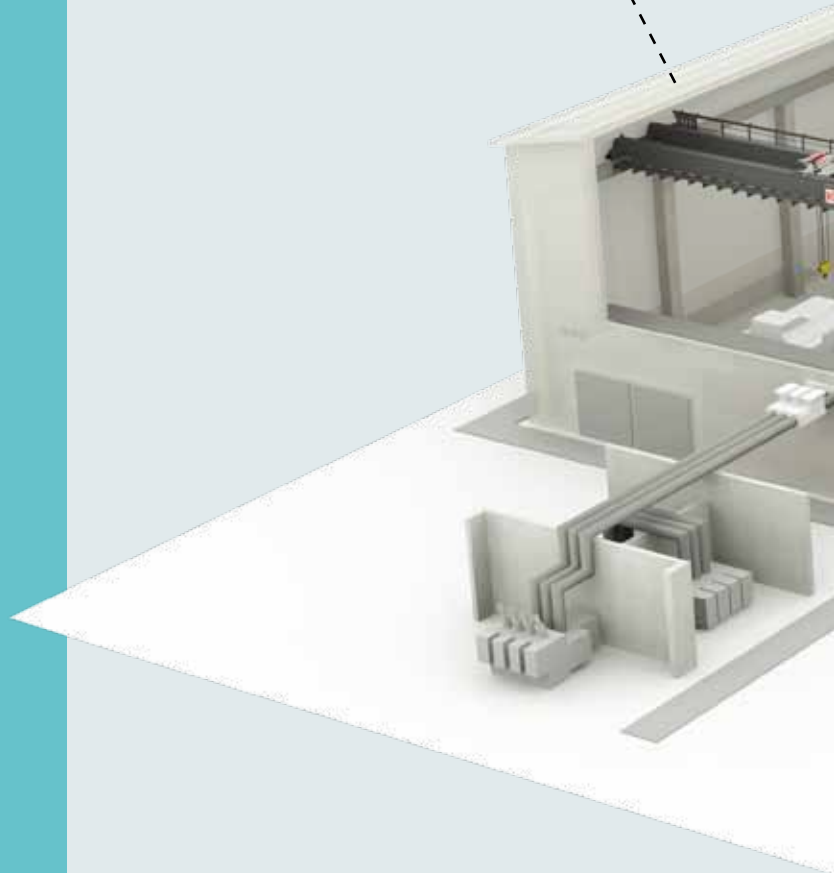
Konecranes has gained its knowledge and expertise through years of experience and accordingly has a wide ranging list of references. Having been generating solutions for the power industry since the 1930s, we have developed a deep understanding of the power industry's characteristics and challenges, processes, product and service needs, as well as the technical requirements.

## More than just excellent cranes – solutions that save costs

Konecranes has always been committed to supplying customers with lifting equipment that excels in performance, reliability and safety. But that's not enough; we also want to help you save on your overall costs. With advanced technology, we are able to make cranes that are lighter and smaller in size while still achieving the same high performance. Optimized crane design allows more compact building structures and reduced ceiling height, which both reduce construction and maintenance costs.

### The right dimensions

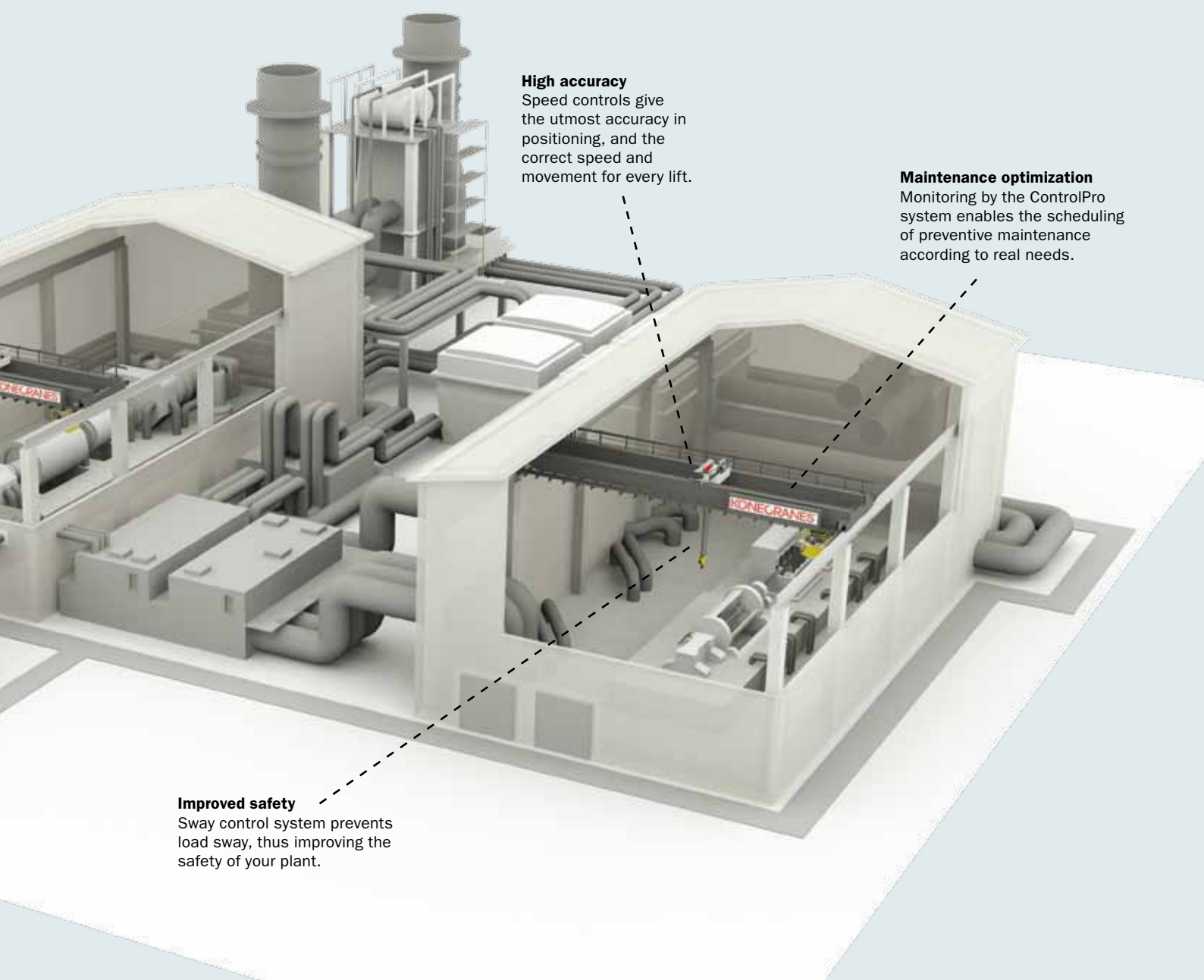
Lifting equipment that provides the right dimensions for power industry requirements.



## NOT JUST LIFTING THINGS, BUT ENTIRE BUSINESSES

Konecranes is an industry-leading group of lifting businesses that offers a complete range of advanced lifting solutions to many different industries worldwide. We are committed to providing you with specialized lifting equipment and services that increase the value and effectiveness of your business.

When you choose Konecranes, you acquire a unique source of global experience and knowledge combined with local know-how to empower your lifting solution.



**High accuracy**  
Speed controls give the utmost accuracy in positioning, and the correct speed and movement for every lift.

**Maintenance optimization**  
Monitoring by the ControlPro system enables the scheduling of preventive maintenance according to real needs.

**Improved safety**  
Sway control system prevents load sway, thus improving the safety of your plant.

## THE RIGHT SOLUTION FOR YOUR NEEDS

Konecranes provides high-quality solutions with proven results. Understanding your processes enables us to design cranes to meet the specific requirements of each application. With tailor-made equipment you can concentrate exclusively on your core business. Quick and reliable delivery according to contractual time schedules is our top priority.



## Konecranes' Long-Term Relationship with Siemens:

# JUST THE RIGHT SOLUTION

Konecranes has supplied several projects for Siemens Energy Sector within the UK, Benelux, India and areas in the Middle East. Every crane project has also included a service contract for the duration of the construction period.

### SEVERN POWER CCGT POWER STATION IN USKMOUTH, UK

#### The challenges of lifting equipment in power plants

In the power industry, the focus of the lifting equipment lies on the turbine building cranes. They are a key component during the erection stage of the plant and further on in the maintenance of the turbines and generator over the whole lifetime of the power plant. The operation of these types of cranes is completely different from that of an industrial environment. For industrial cranes, high performance and often shift operation is required, whereas the lifting equipment in power plants is used intensely in the erection stage, but is then idle for long periods, which are broken by short phases of use during major plant overhaul.

#### Solutions derived from our experience

Konecranes has a well-suited solution for this power station application, one that has been used in every power plant delivered for Siemens with cranes of 300t capacity and above. Our experience with this crane type at many power stations on behalf of Siemens gave us an understanding of the project from its earliest days, and we offered a solution based on our past designs and deliveries, with proven yet modern technology that exceeded the specification requirements.

The main turbine hall cranes were rated at 370t over a fixed area of the span to be able to handle the turbines and generator from the loading dock to the assembly bases. After the main heavy lifts were done, the cranes were then rated back to 140t for their day-to-day work, until there is a need to lift out a turbine or generator.

The cranes are equipped with Konecranes inverter controls on every motion, radio, limit switch and other accessory to make a smoothly operating crane. The extended speed range allows speed variations to suit the process when the load changes from 140t to 370t.

#### Smoothly run project from start to finish

As in every project, cost efficiency is very important and our excellent delivery record and our renowned installation team within the UK were also well-established reasons for Siemens choosing Konecranes.

The Konecranes solution, using a Spacemaker winch and the ability to adapt a standard CXT hoist to take the special bottom block, means effective delivery times. Our lifting equipment also has dimensional advantages and the loadings are always within the permissible.

Due to our long relationship with the customer the contract ran very well from concept to delivery and the schedules were met as planned.





## OVER 1,000 POWER PLANT CRANES DELIVERED WORLDWIDE

2010	Austria	Verbund Austrian Hydro Power
2010	India	Siemens AG
2010	Switzerland	Axpo AG
2010	UK	Severn Power CCGT
2010	Norway	Voith Hydro AS
2010	Chile	Morris Chile Ltda
2010	Turkey	Dogus Insaat ve Ticaret AS
2010	Singapore	Hitachi Asia Ltd
2009	Hungary	Siemens AG
2009	USA	Duke Energy Indiana Inc
2009	UAE	S2 Ruwais Power Company
2009	Norway	Eidsiva vannkraft AS
2009	France	EDF Centre d'Ingéniérie Thermique
2009	Russia	E4 Group, OJSC
2009	Netherlands	Siemens AG Österreich
2009	Netherlands	Hitachi Power Europe GmbH
2009	Bahrain	Bahrain Power Authority
2009	Thailand	Mitsubishi Heavy Industry Ltd
2009	Belgium	Siemens NV/SA
2009	Germany	Alstom Power Nederland B.V.
2009	Netherlands	BKB Aktiengesellschaft
2009	Indonesia	Indonesia Power Authority
2009	USA	PPL Generation LLC
2009	Turkey	SANKO HOLDING
2008	USA	Boldt Construction / City Utilities
2008	USA	O & G
2008	Costa Rica	VATECH HYDRO
2008	USA	Virginia Electric & Power Co.
2008	Denmark	Vestas Wind System A/S
2008	USA	Tennessee Valley Authority
2008	Costa Rica	VATECH HYDRO
2008	Canada	Hitachi
2008	USA	Prairie State Generating Company LL.
2008	New Zealand	Hawkins
2008	China	Asia Pacific Resources International Limited
2008	Portugal	PORTUCEL



# ADVANCED TECHNOLOGY FOR SAFE OPERATION

**Power industry cranes are required to have exceptionally responsive controls because they handle extremely heavy and valuable loads. Konecranes has developed a wide range of innovative technology solutions for achieving improved accuracy, speed control and safety – top priorities at all power stations.**

## When there's no room for error

There is no margin for positioning errors when installing heavy turbines and generators in a power plant. Closed-loop speed controls provide a responsive operator-crane interface that enables the utmost accuracy and correct speed for every lift.

## Raising safety to a new level

The sway control system automatically prevents load sway caused by crane travel motions. For you it means improved safety, a longer lifetime for equipment, less damage when handling material, and an easy-to-operate crane.

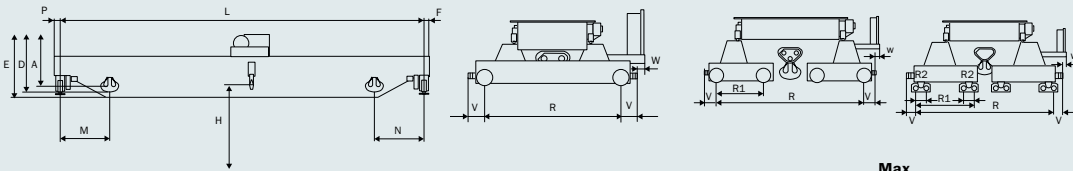
## Synchronized together

Cranes operating in tandem must synchronize their movements. For the ultimate in monitoring hoist speeds between two hooks, closed-loop controls keep the lifting beam balanced.

## Calculating equipment performance

ControlPro – in addition to functioning as overload control – is a device for calculating the remaining design working period of machinery units. The monitoring of machinery performance allows us scheduling preventive maintenance according to real needs.

## KONECRANES DIMENSIONS 12,5–400 TONS FOR POWER SOLUTIONS



LOAD	L	A	D	E	M	N	V	W	P	H	R	R1	R2	Max. static wheel load kN	Total weight of crane t	Rail DIN 536
Hoisting speed range	m	mm	mm	mm	mm	mm	mm	mm	mm	m	mm	mm	mm			
12,5t, M5 0-30 m/min	15		2240	1680	750	1330	380	550	150		5000			120	13	A55
	25	1970	2250	1930	750	1330	340	560	155	30	5450	1600		70	22	A55
	35		2520	2280	750	1730	340	630	155		5580	1600		100	39	A55
25t, M5 0-15 m/min	15		2360	1800	800	1270	380	630	150		5000			180	15	A55
	25	1850	2520	2280	800	1270	340	540	155	20	5500	1800		110	24	A55
	35		2900	2530	800	1770	420	630	170		5420	1600		130	41	A55
50t, M5 0-7,5 m/min	15		2320	1840	870	1210	380	690	165		4860	1300		160	20	A75
	25	2060	2930	2550	870	1210	380	690	165	15	5100	1300		200	31	A75
	35		3520	2870	870	1600	510	530	210		5540	1600		230	52	A75
80t, M5 0-7,1 m/min	15		2640	2090	1050	1450	420	600	175		5050	1600		250	26	A75
	25	2380	3350	2680	1050	1450	550	510	200	15	5250	1600		280	44	A75
	35		3580	2980	1050	1450	510	460	210		5850	2000		320	64	A75
125t, M5 0-4,5 m/min	15		2550	2640	1050	1460	570	490	225		6100	1800		370	40	A100
	25	2900	3380	3400	1050	1460	620	440	225	19	6100	1800		430	60	A100
	35		3650	3645	1050	1460	690	300	280		6750	2200		470	97	A100
200t, M5 0-4,8 m/min	15		3450	3440	1170	1610	680	210	280		6450	2200		600	59	A120
	25	3430	3950	3920	1170	1610	830	0	335	18	6900	2500		640	91	A120
	35		4240	4190	1170	1610	830	50	335		6950	2500		690	126	A120
400t, M5 0-4,8 m/min	15		3130	3130	3000	2690	1080	140	345		9380	2850	800	500	125	A120
	25	5430	3770	3670	3000	2690	1080	140	345	18	10100	3450	800	580	167	A120
	35		4170	4370	3000	2690	1080	140	345		10100	3450	800	630	220	A120



## **KONECRANES SERVICE – ON A LEVEL SUITED TO YOU**

Our five service levels define the relationship and cooperation with you and they all aim at raising total life cycle value. From first CONTACT, to our professional evaluation of the CONDITION of your equipment, to preventive maintenance and consultation services for optimal CARE, Konecranes will tailor a program to lift your business.

When a mutual COMMITMENT to performance-based maintenance or COMPLETE material handling outsourcing is required, Konecranes has the experience and resources to help you meet your business objectives.

### **Care**

A selection of inspection and preventive maintenance services.

### **Commitment**

Full-scale maintenance operations with set common targets.

### **Complete**

Full responsibility of crane operations, with equipment, maintenance and personnel.

## **THE FUTURE OF MAINTENANCE IS HERE TODAY WITH TRUCONNECT® REMOTE SERVICES**

**TRUCONNECT®** Remote Monitoring and Reporting service monitors the real usage of your equipment through a remote connection. Using the available usage data we provide you with information that can help you increase the safety of your crane usage, optimize your maintenance spending, and plan and budget your crane fleet's modernization needs in advance.







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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 11,500 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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