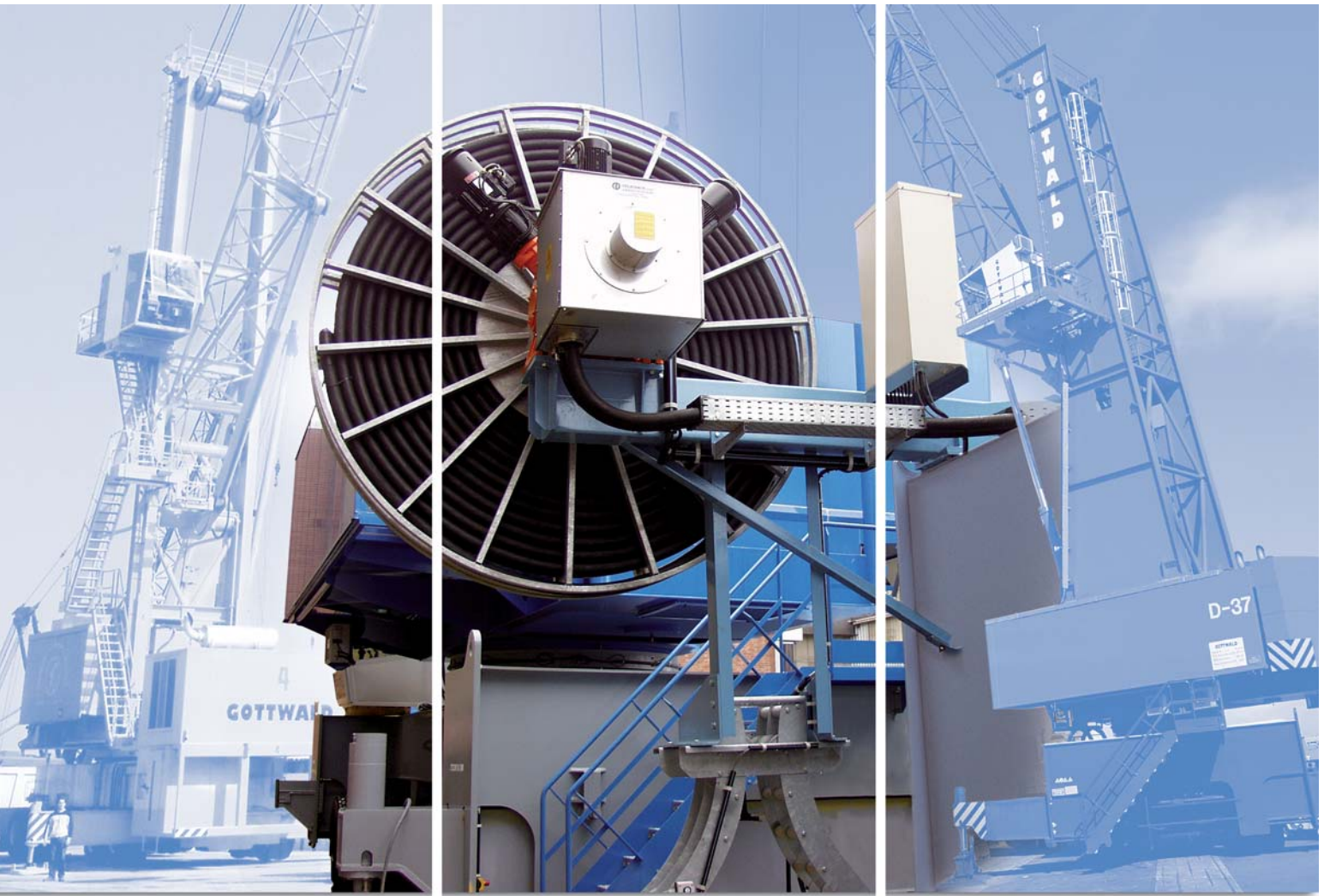


HMK Upgrades



Cut Your Operating Costs Long-Term
External Power Supply for Mobile Harbour Cranes

Systematic Upgrades

External Power Supply Equipment

Upgrades are a Key Aspect of our Service Portfolio

Having sold some 1,300 crane units, we are the world's No.1 in the field of Mobile Harbour Cranes. In operation for many decades, Gottwald cranes have proved to be reliable and economical.

To ensure that these features are guaranteed throughout the crane's service life and to adapt it to meet current and future technical and commercial demands, more and more customers are applying upgrades.

External Power Supply Upgrade

Gottwald Port Technology is the only supplier worldwide of diesel-electric Mobile Harbour Cranes, which provides customers with the benefits of low operating and maintenance costs. To enable terminal operators to achieve even greater savings in running costs, Gottwald Mobile Harbour Cranes can be connected to the shore power supply and run on this external source.

In this way, the electric drives used to operate crane movements are fed directly from the shore supply, bypassing the diesel-powered generator. For the external power feed, the crane has to be equipped with an additional cable reel and is then connected to an appropriate power outlet, several of which are located around the terminal.

Order our External Power Supply Upgrade and you will receive:

- In-depth advice and planning
- Refitting and test-run
- Full warranty for 12 months

Depending on the size of the crane and the power required, the cable reels – themselves powered by electric motors – are fitted with either one or two cables. The cable reel and its ancillary equipment are simply bolted to the crane chassis.

Customers with access to an on-site shore supply who wish to benefit from the sustained cost-reductions offered by this technology can upgrade their existing cranes with a retrofit package consisting of the following:

- Motor-driven cable reel including cable
- Steel construction for mounting the cable reel and ancillary equipment
- Switch cabinet and main circuit-breaker
- Cable deflection funnel
- Slip ring assembly (optional)

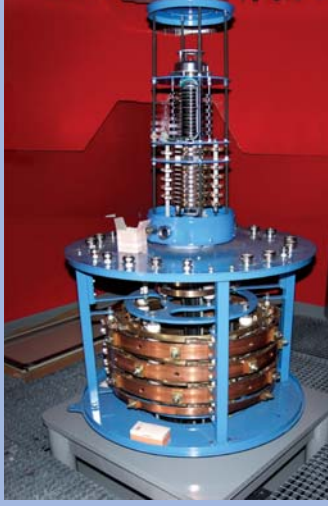
If desired, this upgrade package is adapted to the specific customer requirements. The cable reel is dispensed with if the on-shore supply system is equipped with the appropriate lines.

The cable deflection funnel ensures the cable is neatly coiled



Motor-driven cable reels with one or two cables





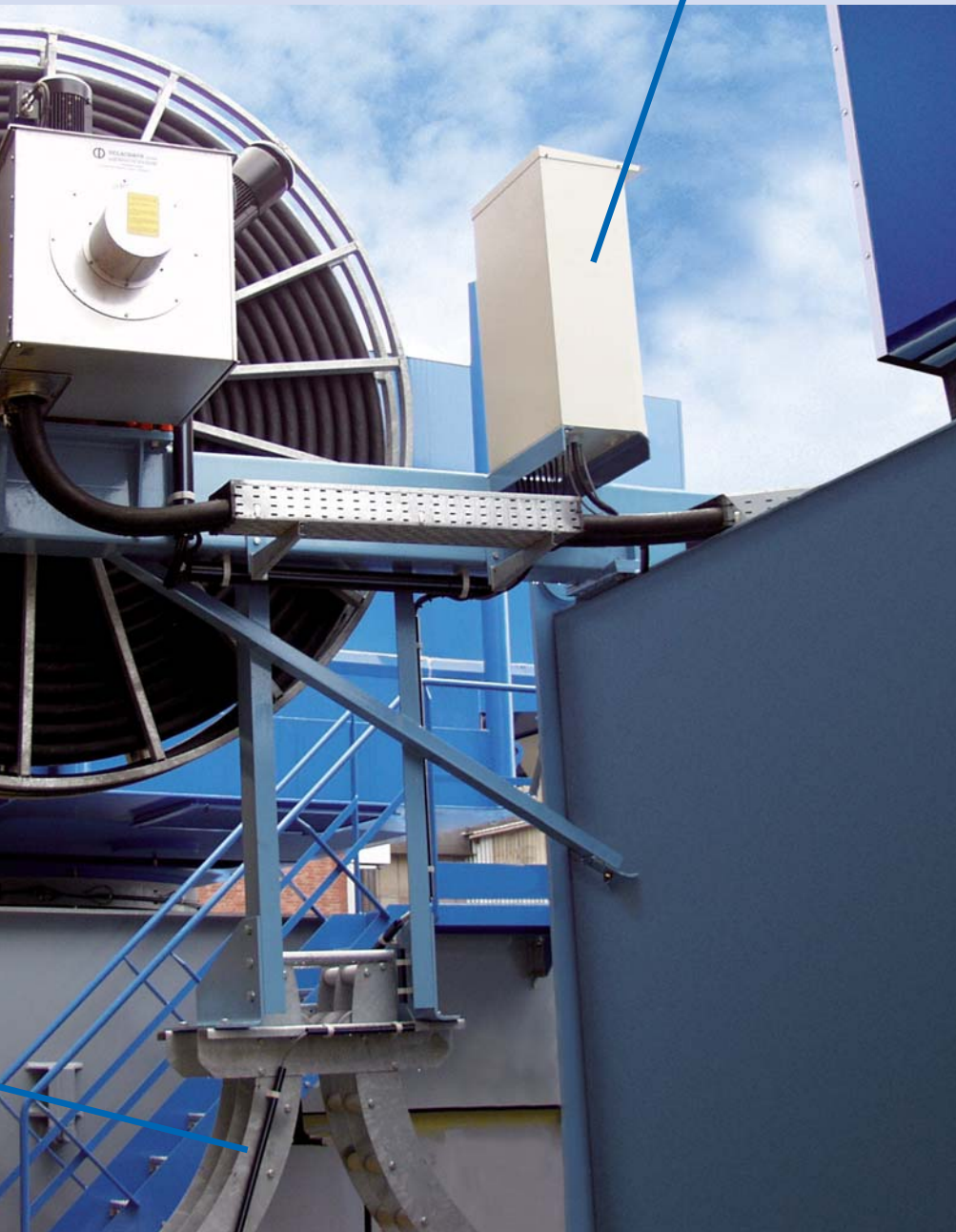
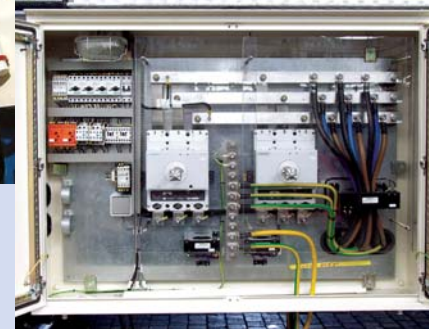
Slip Ring Assembly

Slip Ring Assembly

If required, we will fit an additional slip ring assembly to convey the power which is fed into the chassis of the crane up to the superstructure.



Included with the electric cabinet is the power circuit-breaker



An External Power Supply Provides Numerous Benefits

Retrofitting your Mobile Harbour Cranes with the equipment for an external power supply gives you these benefits:

- Improved efficiency
- Greater flexibility through the option of on-board power generation or external feed. Also compensates for the difference in life-expectancy of the diesel engine and electrical equipment
- Greater crane availability since you have access to two completely separate sources of power.

By-passing the diesel-driven generator also adds these benefits:

- Noticeably longer service intervals and service life
- Further reduction of operating, maintenance and repair costs
- Environmental benefits due to reduced noise and exhaust gases in the port area

Comprehensive Service from Gottwald

Rich in Ideas, Innovative, Responsive and Flexible

As the world's leading manufacturer of Mobile Harbour Cranes, providing our customers with the full range of skilled and capable services is a matter of pride. These services are not merely based on a comprehensive range of existing services, but are constantly reviewed to ensure currency and compliance with customer needs.

Our service portfolio currently includes field service, troubleshooting, spare parts, service agreements, 24-hour call-up, crane personnel instruction and documentation.

We are supported by a worldwide network of Service Representatives who possess excellent technical skills and have a good command of the respective local language, paving the way for smooth communication.

Within the context of our highly customer-driven service strategy, we have developed a wide range of upgrades.

Upgrades for Mobile Harbour Cranes

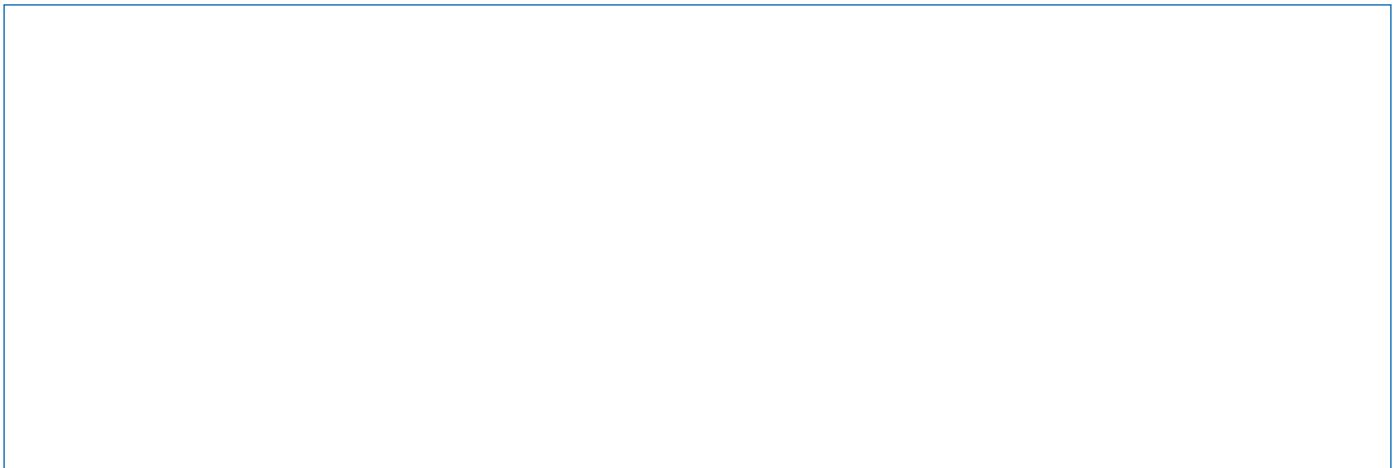
- Diesel engine
- Diesel generator unit (Powerpack)
- Controller system from S5 to S7
- External power supply
- Slot PLC
- Radio remote control system



Retrofitting a new diesel generator unit provides reduced fuel consumption and exhaust emissions and longer service intervals, among other benefits

service@gottwald.com

Regional Service Station



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