THE POWER BEHIND POWER.

Mobile shore power supply for emission-free ports – powered by MR

reinhausen.com

Ports around the world are facing the challenge to reduce emissions while ensuring a sufficient energy supply for ships in port operations. According to EU regulations, ports must offer shore power on a large scale by 2030. Shipowners of cargo and cruise ships are increasingly switching to shore-side power supply, and port operators will have to provide the necessary infrastructure in a timely and cost-effective manner.

With its shore-to-ship ecosystem of solutions „made by Reinhausen" and products from system partners, MR offers a future-proof answer to these demands.

Challenge

Ships are largely powered by electricity while staying in a port. Until now, this has usually been generated by diesel, resulting in considerable emissions in the ports. For some time now, and increasingly in the coming years, legislators and customers are calling for a shift towards low-emission alternatives.

These stricter requirements to reduce emissions in ports require intelligent and short-term alternatives to diesel operation by port operators, both during the loading and unloading of cargo ships or when cruise ships are moored. However, fixed shore power connections are not available at all docks – especially with several hundred kilometers of quay facilities in large overseas ports.

Mobile shore power supplies can be a quick and cost-effective alternative here, allowing a flexible response to the demand for electricity. This can partially replace the lengthy and costly expansion of infrastructure at ports and give operators more time flexibility for an optimal transition to the future.

MR develops tailor-made solutions for these challenges: from inverters and system control, including load management and integration of battery systems, to system engineering. However stationary battery storage systems with MR are popular in port infrastructure, for instance for peak-shaving or for Power Quality purposes in the local grid. And thus enable the energy transition in ports as well.

Technical highlights

- Supply of ships with international network characteristics of 60 Hz / 440 V or 50 Hz / 400 V
- Modularly connected container solutions in low voltage with high scalability for seaports and inland ports of all sizes
- Self-sufficient island network – independent of the local power grid
- Storage with grid-forming MR technology – mobile or stationary operation
- Battery applications with MR technology – load peak-shaving and clean networks in stationary operation, thanks in part to the proven MR Power Quality functions

Challenge and solution

- **Decarbonization of ports**
  Shore power solutions enable ship engines to be switched off in port – reducing CO_2, NOx, and noise
- **MR technology in use**
  Mobile or stationary shore-to-ship systems provide ships with a flexible and safe power supply
- **Pilot project in the Port of Rotterdam**
  Successful pilot with mobile shore power supply for ocean-going ships in Europe 's biggest oversea port, the Port of Rotterdam.

Relevant applications of MR in the marine market

→ Pilot project in Rotterdam

→ Stable power for the German coast guard

For more information on MR's shore-to-ship solutions, please contact:
Kim Urbanke I PCS
K.Urbanke@reinhausen.com
+49 30 33091516

Maschinenfabrik Reinhausen GmbH, Falkensteinstr. 8, 93059 Regensburg, Germany, Phone: +49 941 4090-0
IN12343130/00 EN, F0433500, PC-Energy-Shore-to-Ship, uw, 11/25, @Maschinenfabrik Reinhausen GmbH 2025, reinhausen.com