

Editorial

Port terminals are logistic intersections. Efficient commodity flow remains the top priority.

Expensive machine downtimes and breakdowns must be avoided



Theo Diehl

at all costs. This can quickly become expensive for the terminal operator e.g. when he needs to pay the ship owner for downtimes caused by a crane being out of order due to technical problems, for example.

Terminal operators are reducing costs to a greater extent, not only since the "year of crisis 2009". Technologies for automation and interlinking the manifold harbour logistic become more and more important. But subjects like operational safety and noise development at work are playing a mayor role, too. A crane system needs to run without malfunctions even under extreme weather conditions. It also cannot produce an eccessive amount of noise and needs to be low maintenance.

This is where igus® as a long-standing partner of crane builders and terminal operators comes into play: the quality and the productivity of a port only increases if all components and systems – the energy supply and cable feed too – are running without problems. Energy chain systems from igus® are the so-called umbilical cord of automation here. They are ideal for mobile crane applications.

Enjoy our leaflet.

Sincerely

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Cover story

Low-noise container handling of cargo in the port of Duisburg

Worldwide 450 ship-to-shore cranes and 3,500 RTGs/RMGs are equipped with igus® roller energy chain systems. The latest milestone is the fast- and quiet-running P4 system, which can handle high fill weights and long travels up to 1,000 m. In the photo below, it is installed on an RMG crane in the inland port Duisburg, Logport II.



Silent and fast energy chain system "P4" from igus®. Newly installed on a RMG crane from Künz in the inland port, Duisburg, Logport II.

The plastic profile rolls roll on a generally wide surface, which increases the lifetime of the energy chain system even more.

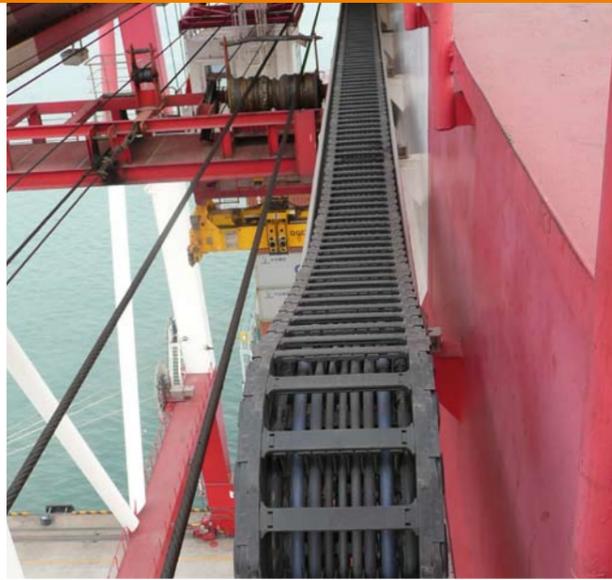
Upper and lower run are rolling offset to each other. The plastic profile rolls on a wide surface, which increases the lifetime of the cable carrier. In addition, the division of the chain link is equal with and without roll, so the energy chain runs silently and without vibration in the radius.



Operator and igus® together.

One and a half years ago the new system was installed in the port of Duisburg, together with terminal operator and crane builder Künz. Thanks to the especially smooth and silent run of "P4", the noise level of the RMG crane has been greatly reduced.

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The "P4" system is also installed on this ship-to-shore crane in China (240 m/min, 126 m travel).

... continued from page 1

This means easier operation for crane drivers and less environmental noise inside and around the port.

The container portal crane has a tonnage of 41 t. The travel is 113 m, the trolley speed is about 15 m/min. The igus® energy chain system is filled with motor, control and optical waveguide cables from the Chainflex® program. "P4" already runs on several other cranes worldwide, as for example in China on a ship-to-shore crane in the container handling.



System "P4" can be used on the largest cranes, anywhere around the world.

System "P4" Faster, quieter, lighter

"P4" Energy Chains are readily available for use on the largest crane applications, all over the world.

Now there are two new sizes. "P4.42" with 42 mm inner height in the heavy-duty design is suitable for demanding crane applications: high travels speeds up to 10 m/sec, long travels up to 1,000 m, high filling weights up to 10 kg/m. In contrast "P4.32" has been developed in a new design: lighter and slimmer.

This new compact design is ideal for applications with limited installation space.



New: "P4.32" allows high dynamics when the installation space is narrow.

New: "P4.42" for high travels speeds up to 10 m/sec, long travels up to 1,000 m, high filling weights up to 10 kg/m.

Accessories Floating moving arms and condition monitoring

igus® offers floating moving arms for large and heavy energy chains and the latest development, a cost-optimized "light" version for smaller and less strained/demanding energy guiding. This follower makes it possible to balance the lateral tolerances between the completed energy chain systems® and the trolley respectively the crane carriageway. They are available with electronic tension and shear monitoring for condition monitoring as required.



Floating moving arms – here the new "light version" for balancing lateral tolerances.



Resists -40° C: flexible at low temperatures, the TPE fiber optic cable "Chainflex® CFLG.6G for for continuous-flex applications.

Fiber optic cables For arctic temperatures

The TPE fiber optic cable family Chainflex® CFLG.G supplies cranes and conveying systems with data all over the world. The two cables "CFLG.6G. TC" and "CFLG.12G. TC" for permanently moved energy chains even work at arctic temperatures of - 40° C.

Other technical features of the low-temperature flexible gradient fiber optic cables are: bending radius 15x, halogen and PVC-free, maximum EMC safety with glass-technical high transmission qualities for free-supporting and gliding travels up to 500 m.



Cable tests in the low temperature chamber in the igus® Technikum.

Energy chain system with fiber optic cables on an STS crane from Kalmar at the Finnsteva terminal in Helsinki.

Polymer plain bearings Swing and turn maintenance-free

Lightweight, wear-resistant and lubrication-free: these are the advantages of tribo-optimized plastic bearings from igus®. Two materials are especially suitable for swinging crane movements.

iglidur® G is a maintenance-free, cost-effective bearing. They are ideal for high loads, low to intermediate gliding speeds and for simple swivel and turn movements.

For both edge and shock loads, iglidur® Z plain bearings are a good choice. These robust high load specialists distinguish themselves – combined with soft shafts – through high pressure resistance and high elasticity. In addition, they are suitable for temperatures up to 250° C and especially for high gliding speeds.



Ceiling sliding gate for crane cabin entrance: maintenance-free with iglidur® plastic plain bearings from igus®.

Robust high load specialist iglidur® Z ...

... high-performance "all-round" plain bearing iglidur® G.



Ready-made Energy chain system for scrap handling

At the Rhine port Kehl a bulk material crane for scrap handling has been equipped with a ready-made igus® energy chain system. "The portal crane is working at full capacity. It works permanently under tough environmental conditions", says technical plant manager Uli Stichler.

The choice was made in favour of a roller energy chain "4040RHD" that can be opened from both sides for tough outdoor use. It is filled with the robust and shielded Chainflex® TPE special cables which resist temperatures of -35° to +100°C. Corrosion-free stainless steel guiding troughs, a tailor-made housing and a floating moving arm are included in the scope of delivery.



Ready-made ReadyChain® energy chain system with integrated rolls for portal crane.



View from below on the roller energy chain "4040RHD".



Scrap handling with a magnet: tearing leads to lateral accelerations, the entire crane including igus® energy chain and guiding trough resists.



80,000 products ex stock: the 60% expansion (right from the dashed line) of the igus® facility is finished.

Factory enlarged Ex stock within 24 hours or today

igus® has expanded its factory at the headquarters in Cologne about 60%. We deliver more than 80,000 articles ex stock or on the same day, no minimum quantity without additional costs.

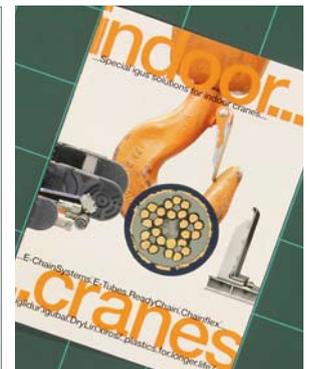
The factory grounds has been enlarged to about 29,000 m², there are an additional 7,000 m² of other buildings for production, technical education and a large logistic centre.

Information Supply hall cranes

Indoor, cranes are indispensable for the material flow. Energy chain systems, Chainflex® special cables, guiding troughs, plugs and other attachments contribute to an malfunction-free supply. Ask for our new flyer. Visit our branch homepage www.igus.eu/materialhandling.



www.igus.eu/materialhandling



New hall crane flyer.