

Crew, vessel and cargo, are assumed ready for the perils of the sea when they have met the industry standards and regulations but the game changes constantly with the introduction of bigger ships, optimised hull structures and new cargo securing systems. Technology makes all of these developments possible but technology itself, always has an Achilles heel – it only accounts for what it is designed for.



Courtesy www.cargolaw.com

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Lashing@Sea focuses on cargo securing loads

The Achilles heel of sea transport

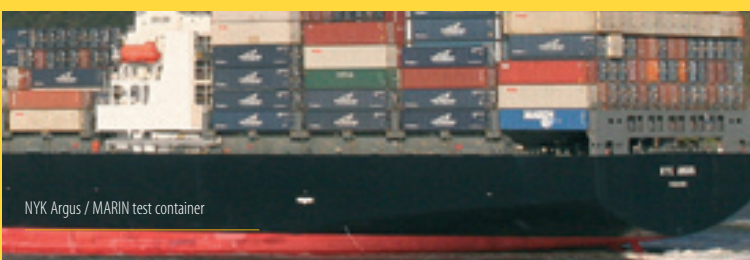


NYK Argus / instrumented lashing rods

So to avoid unexpected incidents and allow for new innovations it is imperative to know the limitations of our knowledge and make sure this Achilles heel does not let the industry down. The Lashing@Sea project is highlighted.

This project is en route to obtain a clear picture of the cargo securing loads and responses in the ro-ro, heavylift and container transport sectors. With the acquired knowledge, the existing rules and standards will be evaluated to assure that they meet the actual challenges imposed by every day operations. Practical knowledge from crews and other experts will be combined with numerical calculations and full-scale monitoring campaigns on board 5 ships.

One of the monitoring campaigns is being conducted on the post-panamax container carrier NYK Argus. In cooperation with NYK Monohakobi Technological Institute, extensive instrumentation is installed to record the



NYK Argus / MARIN test container

effects of wind and waves on ship motions (e.g. parametric roll), dynamic flexible response (whipping) and particularly, the effect on the cargo and cargo-securing system.

Specially-fitted container

A specially designed measurement container, together with instrumented lashing rods, was loaded on to the 6,500 teu container vessel NYK Argus. The container gives a direct insight into stack, racking loads, lashing and twist-lock loads. Given that the NYK Argus is operating in the North Pacific, the vessel encounters heavy weather conditions regularly. Measurements already show the effects of the various mentioned phenomena. Crew logs are compared to actual measured data to identify loading and response mechanisms that then help to improve cargo securing practice.

Lashing@Sea is a Joint Industry Project led by MARIN and supported by the Dutch Maritime Innovation board. Participants are BigLift/Splithoff, CMA-CGM, Danaos Shipping, Norfolk Line, NYK, Maersk Ship Management, Royal Wagenborg, Wallenius Wilhelmsen, ABS, BV, DNV, GL, LR, German Lashing, Mac Gregor Group, SEC, Dutch Shipping Inspectorate, Swedish Maritime Authorities, Amarcon, Mariterm and SIRI Marine.

This industry-wide group of participants provides a broad platform for an exchange of experience, discussing results, implementing the findings and submitting recommendations to the relevant institutions. The project will be completed at the end of 2008.

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