

INTEGRATING IMDG AND LOADING AND STABILITY SOFTWARE

Quite some safety-related aspects are traditionally included in ship loading software, such as stability, damage stability, longitudinal strength and line of sight. In 2004, this set was extended with provisions for the carriage of dangerous goods in packaged form in the International Maritime Dangerous Goods (IMDG) Code. For the verification of a loading condition with containers carrying dangerous substances against this Code, usually separate tools are applied, such as stand-alone software or paper-based procedures. Two manufacturers of dedicated software packages have worked together to create an integrated tool that covers all mentioned aspects.

One partner is Exis Technologies, a UK-based global supplier of systems for the management of dangerous goods in sea transport. A key product of Exis is the Hazcheck system, which includes the full IMDG database with all requirements concerning packaging, stowage and segregation. Such an externally supplied database offers the advantage of being filled and scrutinised by professionals, with a strong commitment to keeping the database up to date. This is demonstrated by the fact that the most recent IMDG 40-20 amendment, which becomes mandatory in June 2022, is now already available at Exis. A nice feature of Hazcheck is its ability to act as a background server, which enables seamless integration with on-board loading and stability software.

Locopias is a state-of-the-art loading computer, manufactured by SARC, Bussum, the Netherlands. Since its conception in the mid 1990s, it has been installed on more than 1500 ships of various types, such as container, RoRo, naval, dry cargo, tanker, inland waterway, pipe laying and offshore construction and crane vessels. Locopias has always been equipped with a dedicated container graphical user interface (GUI) with support for a wide range of standard container types. However, corresponding container slot positions needed to be pre-defined for all container types, which was quite a task to do. Recently, a completely redesigned and rewritten container module was released, equipped with enhanced logic for the positioning of containers of varying sizes. This new module requires only a minimal amount of predefined data, while still supporting all ISO container types, even those not foreseen in the design stage of the ship.

The redesign of this module also offered the opportunity to extend the vessel's geometric data set with IMDG-related items, such as the locations of living quarters and ventilation inlets. In collaboration with the Hazcheck database, this allows for an automated verification of a container load against the IMDG Code, including



Container loading module in Locopias.

checks on individual container placement and segregations between multiple containers.

Locopias can be installed as a shipborne software program, where relevant connected to the tank gauging system. In addition, Locopias copies are allowed to be used in shore offices as well, with the ability to transfer loading conditions, including IMDG particulars, to and from the ship. Data exchange with other computer systems is supported by the Electronic Data Interchange file (EDI/Baplie) importer and exporter.



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