



Fact sheet – why SAFEDOR is relevant for equipment manufacturers

About SAFEDOR

SAFEDOR is an integrated project in the 6th framework programme of the European Commission (CEC). The topic of SAFEDOR is risk-based ship design and approval. The project started in Feb. 2005 and is planned to run for 4 years. The project volume is €20m with €12m funding by the European Commission. Under the coordination of Germanischer Lloyd, 52 organisations - representing all stakeholders of the maritime industry - participate.

What is risk-based ship design and approval?

The motivation to use risk-based approaches is mainly twofold: implement a design which cannot be approved today and / or optimise an existing design with respect to safety. Risk-based ship design is a new methodology that integrates probabilistic / risk-based approaches in the design process of individual ship designs and systems. Safety is considered as one additional design objective during the design process (alongside traditional objectives such as speed and cargo capacity). Risk is used as a measure to evaluate effectiveness of design changes (safety becomes measurable). Approving risk-based designed ships and their intended operation is called risk-based approval.

What is the relation to goal-based standards (GBS)?

SAFEDOR today is often associated with GBS although key differences exist. The IMO debate on GBS will result in a new regulatory framework which is then applicable to rule makers. GBS will be rules for rules. SAFEDOR focuses on individual ship design and the necessary regulatory framework to approve risk-based ships and systems. However, knowledge gained in SAFEDOR can also be used to create risk-based rules for ships and ship systems and to support the development of a safety-level approach to GBS.

What are the expected benefits for equipment manufacturers?

Marine equipment manufacturers will substantially benefit from the introduction of risk-based approaches through enabling new and optimised systems incorporating new functions and materials. Many systems onboard ship today are regulated by IMO or classification societies imposing strict guidance on system design and functionality. Innovative systems offering superior functionality but challenging current rules or regulations are penalised through difficult and unpredictable approval processes. SAFEDOR will propose a modernised regulatory framework to implement innovative and rule-challenging systems efficiently with a higher level of planning security. Within SAFEDOR, three sample systems are developed to demonstrate the practicability of the new risk-based approach. It can be taken as granted, that with the successful finalisation of SAFEDOR the theoretical basis will be available to perform risk-based ship system design. Nevertheless, these results have to be complemented and adapted within further development actions. The establishment of a regulatory framework covering risk-based ship system design and approval will be a longer term process.

To facilitate the above, marine equipment manufacturers are expected to expand their expertise related to risk-based approaches. In particular, knowledge on risk assessment procedures is needed and modern software tools to support this. Furthermore, cost-benefit analyses will be required as standard in early design. The above only works if sufficiently accurate data on component reliability and costs will be available for the designer.

Outlook, contact and more information

SAFEDOR has presented results of the first two years during the mid-term conference in early May. To find more information on SAFEDOR as well as a selection of public documents, please visit www.safedor.org. For direct contact, please email to the Chairman of the Steering Committee Pierre.Sames@gl-group.com.