



Safety at Sea

Safety Through Innovation

Consulting company **SafetyatSea** specialises in providing shipping companies with the tools to meet the new range of safety standards and amendments set by the IMO Maritime Safety Committee.

The IMO secretary general recently proclaimed that the future is 'risk based'. This was a precursor to the concerted global effort to make a smooth transition from deterministic to goal-based safety. More specifically, in May 2000, the IMO secretary general called for a critical review of the safety of large passenger ships noting that 'what merits due consideration is whether SOLAS requirements, several of which were drafted before some of these large ships were built, duly address all the safety aspects of their operation – in particular, in emergency situations'.

This statement prompted the IMO Maritime Safety Committee to adopt a new working approach for developing safety standards for passenger ships.

This approach expresses safety expectations as a set of specific objectives, addressing design (prevention), operation (mitigation) and decision making in emergency situations with an overarching safety goal: no loss of human life because of ship-related accidents.

The response to the new approach has been overwhelming. An unprecedented level of national and EC-funded research has led to a range of new tools and methodologies, fuelling innovation and nurturing the development of instruments as well as regulatory and design frameworks that define ship safety levels.

Maritime safety has never seen such a rate of development. Furthermore, shipowners are looking to make their ships more innovative. The strongest example of these developments is Royal Caribbean's Project Genesis, which after two years of development has resulted in two giants; the Oasis of the Seas, due to be launched later this year, and the Aurora of the Seas, due to be launched in 2010.

SafetyatSea, a consulting company based in Glasgow, Scotland, offers specialist services on all aspects of ship safety and advanced marine vehicles. It has been at the heart of implementing all the aforementioned developments in some of the largest, safest and most innovative cruise ships ever built.

The company offers a unique range of state-of-the-art tools and expertise for concept design development and evaluation to address safety cost-effectively through innovation.

Significant contributions to Project Genesis include:

- Subdivision and layout to SOLAS 2009 probabilistic rules for damage stability with an alternative, simulations-based approach leading to a higher level of survivability
- Evaluation of a total of 8,326 fire scenarios for fire risk screening to ensure the highest level of fire safety
- Enhanced functionality lifeboats – rescue vessels (18 lifeboats for 370 persons) based on safety equivalency
- The largest-ever passenger open deck comfort study for a superstructure design allowing for the success of several innovative outdoor areas
- Design and implementation of a decision support system for crisis management in emergencies

SafetyatSea continues to focus on the development of advanced products and services targeting cost-effective safety and is on track to develop its status as a major force in fuelling a safety-minded maritime industry.