Systema™

Safe Return to Port Compliance for Shipyards

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COMPANY PROFILE

Safety at Sea is a leading international software solutions and technical services provider serving the marine and energy sectors.

With innovation at our core, Safety at Sea leverages technology and expertise to offer modern, integrated, solutions to emerging maritime engineering problems and regulations.

EXECUTIVE SUMMARY

Systema™ provides a proven and complete SOLAS Safe Return to Port solution to support the design, verification, and approval of ship systems' redundancy and to provide evidence to Class and Flag. The software enables both an overall and detailed assessment on a casualty by casualty basis delivering effective compliance at design and through the life of the vessel.

The Systema™ software models systems and interdependencies between systems enabling the impact of a failure in one system to be propagated across all ship systems. Critical systems can be identified, and potential design improvements quickly tested and easily verified, helping to speed up the design process with a focus on compliance. Automatic reporting provides a full set of documentation to support the Class and Flag approval process from detailed system reports to crew manual actions for onboard documentation. The Systema™ model can evolve throughout the vessel's lifetime, updated to reflect changes following design iterations, refit and revitalisation. Necessary documentation is updated efficiently by the software, reducing the manual and logistic effort. Issues can be identified early and resolved before the refit modifications are made.

Systema™ enables Operators to:

► Reduce the cost of compliance against an FMEA approach to SRtP compliance.

► Validate the ship design against SRtP regulations efficiently and effectively on system by system and a casualty by casualty basis.

► Easily and quickly evaluate design or layout alterations and the impact on compliance.

► Provide confidence to the Ship Owner on the redundancy principles and compliance.

► Manage and reduce the documentation burden.

► Have a strong basis for technical discussions with the Owner, Class and Flag.

► Automatically create a comprehensive set of crew recovery actions on a casualty by casualty basis.

► Deliver added value to your clients through the delivery of SRtP Onboard™, an effective operational tool to manage crew manual actions during drills and casualties.
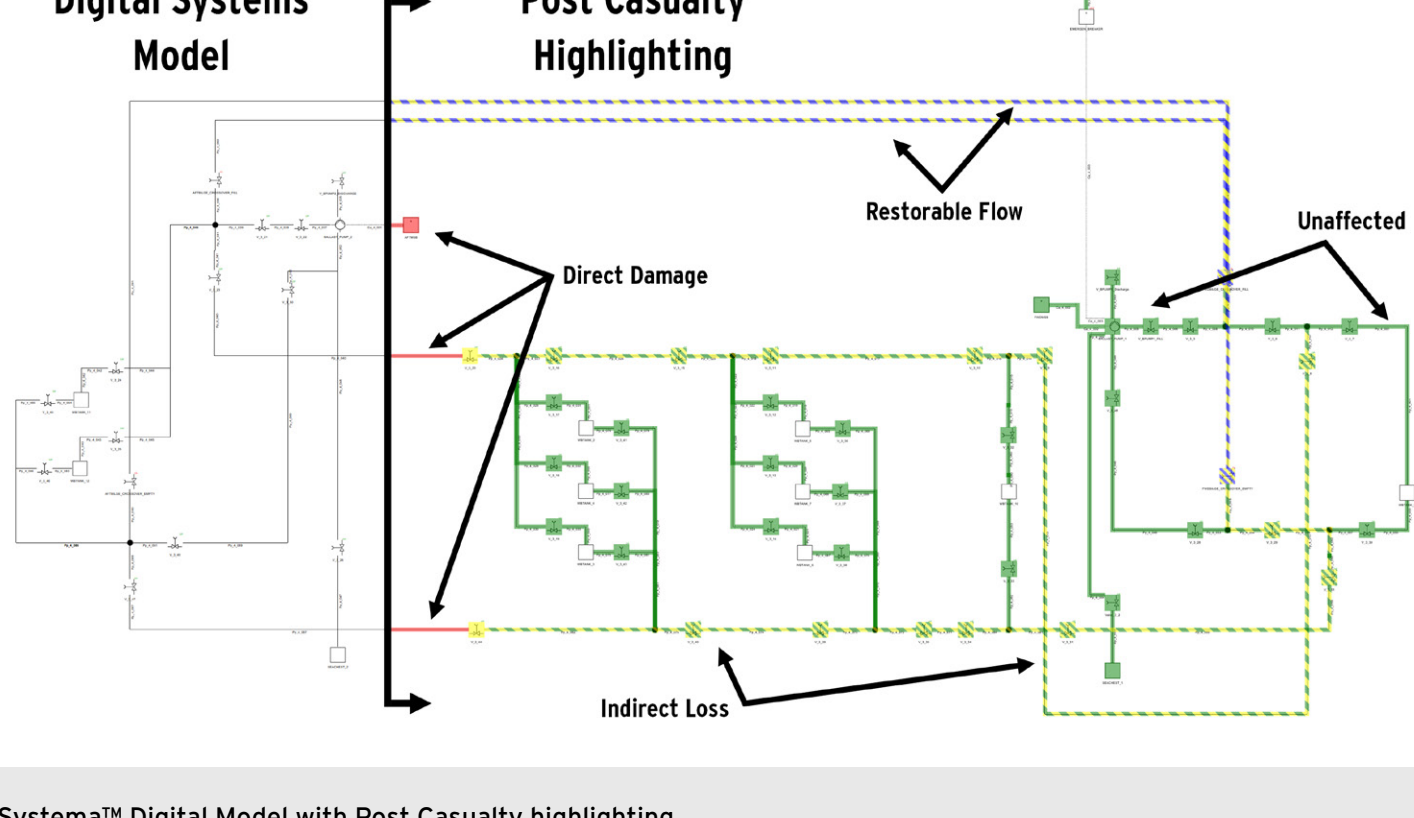
Systema™ Digital Model with Post Casualty highlighting

BENEFITS AND FEATURES

IMO SOLAS Compliant: designed to analyse ship system compliance against Safe Return to Port regulations and to provide evidence for Flag and Class Approval.

Overall and Detailed Assessment: as required by SOLAS, the initial overall system redundancy and availability can be analysed as well as the following detailed assessment of critical systems.

Verifiable and Repeatable output: the system model provides an auditable and repeatable record of a vessel's basis for Safe Return to Port compliance.

Simplifying Complexity: as ships grow in size, the inherent complexity of ensuring compliance against a large array of interdependent systems grows to a point where a manual FMEA approach is prone to omissions.

Exhaustive Methodology: allows users to define the full systems as designed ensuring the consideration of all potential system interdependencies and failure modes.

Sustainable Compliance: the system model can evolve as the design and build phase progresses, providing a cost-effective methodology for continuously ensuring compliance throughout the lifetime of the vessel.

'What if' and Criticality analysis: to inform the design process, the system model can be used to understand the impact of layout changes, of cable rerouting options and of the criticality of systems and sub-systems.

Automatic creation of Crew Manual Actions: the software automates the process of creating the hundreds of manual actions against every regulatory casualty, directly supporting the delivery of the vessel to the owner.

Easy to understand, easy to learn: designed with the user in mind, it provides an intuitive interface for engineers to pick up and deploy quickly.

Supported by subject matter experts: Safety at Sea is an expert in Safe Return to Port regulation and can support you as a user in your interactions with Flag or Class to obtain approval.

Data Exchange: Systema™ provides a methodology to import system information from third party software through XML in order to minimise the duplication of work.

THROUGH LIFE VALUE

| CONCEPT	DESIGN	OPERATION	REFURBISHMENT
○ Overall SRtP Philosophy designed	○ Detailed digital systems model for each SRtP system	○ Provides Casualty by Casualty crew manual actions	○ Modifications to the systems model quickly performed
○ High level system check	○ Verifiable against regulations on a System by System and a Casualty by Casualty basis	○ Able to support crew with system information	○ Reassessment of system redundancy model efficient
	○ Ability to fix redundancy issues and recompute verification	○ Able to look at Casualties beyond SRtP limits	○ Generates documentation for approval post refurbishment
	○ Generation of documentation for approval	○ Able to look at redundancy issues caused by system maintenance	

SAFE RETURN TO PORT ONBOARD

It is the Operators responsibility to show ongoing compliance through the vessel lifetime by demonstrating the crew's ability to respond to an SRtP casualty within the limited timeframe allowed in the regulation.

SRtP Onboard™ supports the management of the response to a casualty by providing the crew with all information relevant to the casualty. The software simplifies the logistical complexity through the management of crew actions by assigning actions to crew members and monitoring progress in real time. Action cards, either in paper form or via Wi-Fi connected tablets, give the crew the necessary information to locate and carry out their assigned actions. The added benefit of progress monitoring is the identification of problem areas, allowing the crew to assign additional resources as required.

Through regular drills, the crew not only gain experience of SRtP, but the system can also be updated with observations or more detailed information, so knowledge is not lost due to crew changeovers. With automatic drill reports, it is possible for operators to manage crew training while also creating proof of compliance.
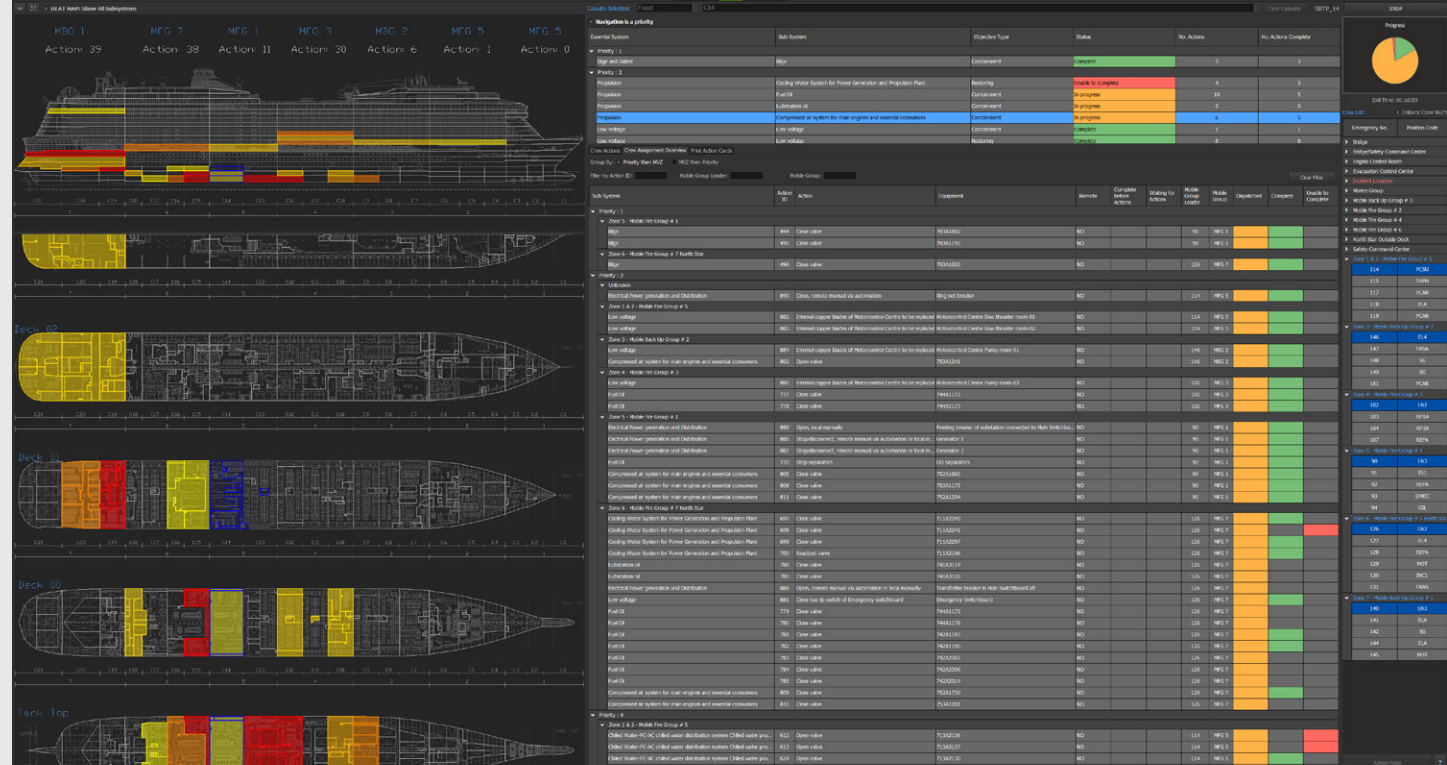
Example SRtP Onboard™ screenshot in Control Centre

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www.safetyatsea.uk