



MANATEE

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*Maritime Advanced Network for Anticipating Information Technology
Needs for e-work Environment in Safety at Sea*

Executive Summary of Deliverable D4.1

Integrated environment requirements and specifications

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DELIVERABLE SUMMARY SHEET

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Short Description
<p>The objective of deliverable D4.1 is to define the requirements and describe the properties of a system for exchanging MSML (Maritime Safety Markup Language) instances between vessels, administrations, port authorities as well as other partners. MSML, as developed in WP2, have been implemented in different scenarios, primarily related to the domain of repair and maintenance. Demonstrations onboard have proved the functionality of the system, i.e. that user interfaces are user-friendly and relevant, communication links are stable, MSML is appropriate for marking up the safety-related information, the MSML instances are transmitted flawlessly and off-the-shelf components can be used for the layout of the system on board and on shore.</p>

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2.					

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EXECUTIVE SUMMARY

The goal of the MANATEE project is to create an open standard that can be used generally to facilitate safety in the maritime sector. To reach this goal MANATEE created the MSML (Maritime Safety Markup Language), which is an XML application for structuring information that is characteristic of safety-related work within the maritime sector. One objective is to support the information and communications technology platform of the European Maritime Safety Agency with an on-board remote interface for repair and maintenance supervision. The interface comprises of well-defined reporting procedures, access control functions, data types, and data formats. The final objective is to ensure remote supervision in terms of maintenance and repair of safety related equipment from the shore (operational status, latest updates, maintenance condition) and in terms of safety and crisis management.

The system for structuring safety-related information by means of MSML was developed and described in previous reports of the MANATEE project. In the present report this system has been further refined and applied to a number of scenarios. User interfaces have also been developed to facilitate the input and presentation of the data, and the functionality and performance of the MANATEE system has been tested and demonstrated, both onboard ships and at a stakeholder seminar.

The scenarios selected were the following, all in different ways related to repair and maintenance situations:

Emergency Repair

Requested Repair by Port State Control

Planned Maintenance

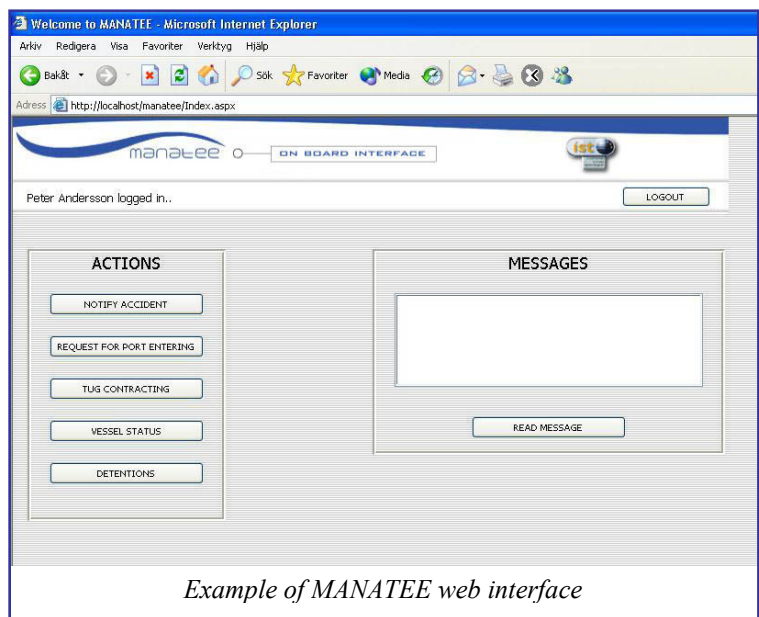
Accident Repair

For these scenarios *use cases* were elaborated to visualize the functional requirements and the interaction between an actor and the system.

In the actual demonstration on an icebreaker vessel certain sequences were defined and analyzed by diagrams (user connects to web server, notifies an accident, and sends a request for port entry; user reads a message, sends a request for vessel status...). The use of the web interface was analyzed and demonstrated.

For the exchange of MSML instances (documents) two web services with three operations each were developed. These web services and their operations could be called from the web servers to send an MSML instance to one or several recipients (port, EMSA, tug company etc.), or receive an MSML instance. No lost or faulty transmissions occurred in the tests. To reduce transmission times in ship-shore communication the system should be designed to accommodate the MSML Schema locally in the ship's web server.

The MSML application and the developed system are considered to be very helpful in organizing information processing and storage in safety-critical



applications. In particular, with the general acceptance and successful use of XML in mind, this should also be of interest to system developers and system integrators.