FP6-PLT-506317

SAFETOW

Strategic Aid for Escort Tugs at Work

Specific Targeted Research Project STRP

Sustainable Development, Global Change and Ecosystems

Publishable Activity Report

Period covered: from 01/03/04 to 30/09/07 Date of preparation: 30/09/07

Start date of project:01/03/04 Duration:43 Months

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1 Publishable Activity Report

1.1 Introduction

SAFETOW will provide masters of disabled vessels and masters of salvage and escort tugs with support tools which will enable them to take decisions in real-time with the best available information regarding the consequence of their actions. The project will encompass an experimental programme which will collect the manoeuvring data, including manoeuvring with more than one tug. The analysed data will be used as a basis for software modelling. The software will be integrated with the vessels' bridge systems to provide real-time help and decision support, training capability and monitoring.

The consortium is made up of 7 partners from 6 countries. British Maritime Technology Ltd (BMT) an international contract research and technology organisation is responsible for the overall co-ordination of the project and is working on the technical aspects of the Suggestion, Data Fusion Correction, Configurator and the Adaptation Modules and will assemble the on-board Manoeuvring and Towing Simulators.

SMIT Salvage BV one of the world's largest salvage companies brings their vast hands-on experience in salvage operations and an expansive know-how in the operations of tugboats in a variety of operations.

The Port of Gijón an industrial port situated in the North of Spain and brings to the project the expertise and experience of a Port Authority significantly one which is still having to cope with the aftermath of the PRESTIGE incident.

SAM Electronics GmbH (SAM) a leading electronic system supplier for shipping and marine is creating the HMI features of the system, the real-time data communication infrastructure and the lines monitor module. It will also lead the integration of the sub-systems into the Manoeuvring and Towing Aids and the Exploitation of SAFETOW.

Bureau Veritas an international service company dedicated to preventing risk and improving quality and safety. As a renowned classification society BV lead the definition of the Accident Scenario.

University of Glasgow & Strathclyde, Department of Naval Architecture and Marine Engineering lead the laboratory Experimental Programme in SAFETOW and created the Manoeuvring Models.

CONS A.R. The Italian Shipowners Consortium, bring to the project their expertise as tanker owners. As such they have an important role in the Accident Scenario Definition, and in the definition of requirements and specifications. They also provide the tankers which will be used in the system's sea trials.

1.2 Work performed

During the SAFETOW Project work has been complete on the following.

- Workpackage 1: Accident Scenario Definition
  - ~ Task 1.1: Identification of hazards
  - ~ Task 1.2: Generic risks and definition of scenarios
- Workpackage 2: Data Collection & Analysis
  - ~ Task 2.1: Experiments
  - ~ Task 2.2: Simulation
- Workpackage 3: System Requirements
  - ~ Task 3.1: Human Interface Requirements
  - ~ Task 3.2: Real-time data requirements
- Workpackage 4: Prototype Specification
  - ~ Task 4.1: Human Interface Specification
  - ~ Task 4.2: Manoeuvre Model Specification
  - ~ Task 4.3: Suggestion Module Specification
  - ~ Task 4.4: Real-time Data Communication Specification
  - ~ Task 4.5: Systems Specification
- Workpackage 5: Prototype Implementation
  - ~ Task 5.1: Prototype Manoeuvring Aid Implementation
  - ~ Task 5.2: Prototype Towing Aid Implementation
  - ~ Task 5.3: Prototype Lines Monitor Implementation
  - ~ Task 5.4: Prototype On-board Manoeuvring Simulation Implementation
  - ~ Task 5.5: Prototype On-board Towing Simulation Implementation
- Workpackage 6: System Installation & Field Test
  - ~ Task 6.1: Laboratory Test of Prototypes
  - ~ Task 6.2: Install Prototypes on -board Vessel
  - ~ Task 6.3: Field Test Prototypes
  - ~ Task 6.4: Prototype Evaluation
- Workpackage 7: Revised Specifications
  - ~ Task 7.1: Revised Human Interface Specification
  - ~ Task 7.2: Revised Collaborative Manoeuvre Model Specification
  - ~ Task 7.3: Revised Suggestion Module Specification
  - ~ Task 7.4: Revised Real-time Data Communication Specification
  - ~ Task 7.5: Revised Systems Specifications

- Workpackage 8: Final Implementation
    - ~ Task 8.1: Final Manoeuvring Aid Implementation
    - ~ Task 8.2: Final Towing Aid Implementation
    - ~ Task 8.3: Final lines monitor implementation
    - ~ Task 8.4: Final On-board Manoeuvring Simulation implementation
    - ~ Task 8.5: Final On-board Towing Simulation implementation
- Workpackage 9: Final System Installation & Test
    - ~ Task 9.1: Laboratory Test of Final Manoevring & Towing Aids
    - ~ Task 9.2: Install Final Manoevring & Towing Aids on Vessel and Tug
    - ~ Task 9.3: Field Trial Final Manoeuvring and Towing Aid
    - ~ Task 9.4: Final System Evaluation
- Workpackage 10: Project Management
    - ~ Task 10.1: Overall Project Management
    - ~ Task 10.2: Exploitation & Dissemination

1.3 Results achieved

- Definition of a full set of requirements for SAFETOW systems.
- Definition of a full set of specifications for SAFETOW systems
- Implementation of a first set of prototypes
- Evaluation of a first set of prototypes.
- Revised set of specifications for SAFETOW system
- Final implementation of the revised SAFETOW system
- End User Evaluations of the final prototypes

1.4 Intentions for use and impact.

It is the objective of SAFETOW to create a solution for effective and safe towing and manoeuvring solutions. The exploitation of such solutions will be approached through direct exploitation of results by the end-users and of the consortium of the system created in SAFETOW. Details of the plan for using and disseminating the knowledge can be found in the report of the same name submitted with this Activity Report.

1.5 Co-ordinators contact details

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Project Logo

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