

Modular Urban Transport Safety and Security Analysis

## MESSAGE FROM THE COORDINATOR



The MODSAFE project has successfully started in 2009 and the first deliverables are already in place in terms of state of the art surveys and initial evaluations and models. In 2010, a hazard analysis both for safety and security, safety requirements, a functional model, as well as the current life cycle and certification approaches were established - to mention the major technical results of the project so far.

As an outlook to 2011 / 2012, one can expect reasonable suggestions for the future, aiming to European wide harmonize and simplify the upgrade / modernization or new construction of urban guided transport systems. Cross-Acceptance is one of the key attempts to the benefit of all parties involved, be it the manufacturers and suppliers, the operators or the safety authorities.

As the Coordinator of the project, I am pleased to present the Second Newsletter, which provides a brief overview on the latest project highlights and deliverables. The newsletter comes along with the project's web page [www.modsafe.eu](http://www.modsafe.eu) as well as further publication and exploitation effort, aiming to promote the project and its beneficial results.

Should you have any comments or questions, please do not hesitate to contact the project coordinator at [mod-safe@de.tuv.com](mailto:mod-safe@de.tuv.com).

### IN THIS ISSUE

Message from the coordinator	Page 1
What's new?	Page 2
Methods for Safety Requirement Allocation (WP4)	Page 3
Survey of current safety life cycle approaches (WP6)	Page 3
The consensus building process (WP10)	Page 4
Any other business	Page 5



## WHAT'S NEW?

### Methods for Safety Requirement Allocation (WP4)

Work package 4 has finalised the first out of three deliverables on common safety requirements.

The first deliverable describes methods for the allocation of safety requirements on hazard control or safety measures applied in urban guided transport systems. It presents currently used approaches, outlines relevant standards and guidelines as well as actual methods used by railway operating companies.

Moreover, all methods have been compared in order to analyse different modes of application. Several criteria have been identified to have benefits for methods on safety requirement allocation:

- Conformity with European standards
- Straight forward applicability possible, e.g. clear sequence of steps
- Well described risk parameter
- Not yield too optimistic results (prefer conservative estimates in case of uncertainty)
- Repeatable, i.e. yield same results by different users

- Possibility to compare results with a risk acceptance criterion, i.e. to express safety requirements as rates or probabilities
- Level of detail should be clear (single low-level hazard vs. high-level generic hazard).

Regarding the overall findings so far, we can conclude that for functions working in a continuous mode of operation, all analysed methods yield the same results. But for safety functions with an on demand character, i.e. they are used only at rare occurrence, the results are not necessarily consistent. Therefore, special attention will be paid to this category of safety functions and it will be addressed in later deliverables by MODSafe.

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### Survey of current safety life cycle approaches (WP6)

There are currently no standardized procedures at the European level for bringing urban guided transport into service and no common standard procedures for safety evaluation (each country applies its own safety conformity assessment). Recent applications have been increasingly assessed by taking into account the existing European standards. The European Commission is encouraging a harmonization approach, notably through its support of major European research projects such as MODSAFE.

Work package (WP) 6 "Safety Life Cycle Responsibilities" deals with responsibilities and processes within the member states of the European Community. WP 6 focuses on Metros, Light Rail Systems, and Trams. Heavy rail urban commuter Trains like "S-Bahn" in Germany or SNCF/RATP "RER" in France are not within the scope.

The objective of task 6.1 "Survey of current safety life cycle approaches" is in particular to identify:

- The regulatory authorities responsible and competent for delivering the authorizations regarding safety regulations to put guided urban transport systems into service.
- Legal status of these authorizations and validity of duration of this authorisation.
- Regulation, if any (decrees, ministerial orders), governing the process necessary to obtain these authorizations, and the different safety files that must be provided to the authorities.
- Regulation governing the assessment process of safety files by notified independent bodies, organizing the competence sectors (rolling stock; signalisation, track...) and the different safety assessment levels, and defining the content of the safety assessment reports,

- Regulation governing the process for managing possible modifications concerning urban guided transport systems already in operation and the evidence and documentation that must be provided to justify that the modification will not weaken the system safety level.
- Regulation governing the periodic re-evaluation of the system safety, and in that case, periodicity to be taken into account.
- Juridical responsibilities following the legislation and regulations in force in the different countries, of the different participants (industrials, project managers, contracting and organizing authorities, owning and operating entities, independent safety assessors and notified bodies, technical departments of ministry etc).

Identification and analysis were performed by creating a questionnaire in form of an overview table format per country as part of the D6.1 deliverable, supplemented by case studies for selected countries and initial conclusions.

The resulting deliverable D 6.1 is close to be finished and will show that in Europe the systems of Light Rail, Metros, Tramways are characterized by a diversified landscape of safety requirements, safety models, roles and responsibilities, safety approval, acceptance and certification schemes; however, there are convergences between some architectures and systems.

The results of task 6.1 is the basis for task 6.2 (Identification of similarities within current safety life cycle approaches), specifying the general structure and principle content. The results of both tasks (deliverables D 6.1 and D6.2) will lead to the "Development of a common safety life cycle" to be proposed in D6.3.

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## The consensus building process (WP10)

The consensus building and the review of MODSAFE results have been put in place. It is a continuous process along the global MODSAFE project at the methodological and technical levels.

In order to allow MODSAFE project to progress efficiently and to ensure that all critical elements are dealt with, the WP10 regular consensus building meetings enable to:

- exchange ideas, compare points of view and explain reasons for differences,
- analyse each deliverable,
- draw a list of open/closed points,
- reach consensus and key decisions about them.

The methodology is to set up a list of Open Points giving notably their origin, their description, the deadline for finding a solution, a proposal of solution, the decision reached and the closure date.

At the first WP10 meeting it was decided to set up a MODSAFE glossary (deliverable D10.5) from the deliverables already produced. It was created from D1.1 the first deliverable produced. It has been updated with two other deliverables already approved: D1.2, D2.1. It will be updated when other deliverables are produced.

The purpose of this MODSAFE Glossary is:

- to gather all terms and abbreviations that are used by the different work packages of MODSAFE: it will therefore facilitate the common understanding of terms and abbreviations at a System level and allow to avoid the inconsistencies between definitions used in different deliverables,
- to simplify the content of the glossaries to be defined for each MODSAFE deliverable: hence, for a given deliverable, its glossary will only include terms and abbreviations that are specific to this deliverable.

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## ANY OTHER BUSINESS

### Support and User group: still open!

Want to receive updates on the projects results? Want to discuss them together with other European operators and share your experience? Then, the MODSafe Support and User Group (SUG) is for you.

The SUG gives an opportunity to operators who are not consortium members to endorse and utilise results of this project. Two workshops per year are planned to be held in order to update operators on the progress of the project, and to validate its results. Travel and accommodation of participants will be partly borne by the project budget.

So far two meetings have taken place and the next one is planned in Brussels in December 2010.

Interested metro, tram and light rail operators, as well as industry representatives (SMEs), are invited to contact Ms Caroline Hoogendoorn.

For more information  
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For more information, visit  
[www.modsafe.eu](http://www.modsafe.eu)



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## The MODSafe team



THALES



# BOMBARDIER



For more information please visit the project website:

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