ITEA2

INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT
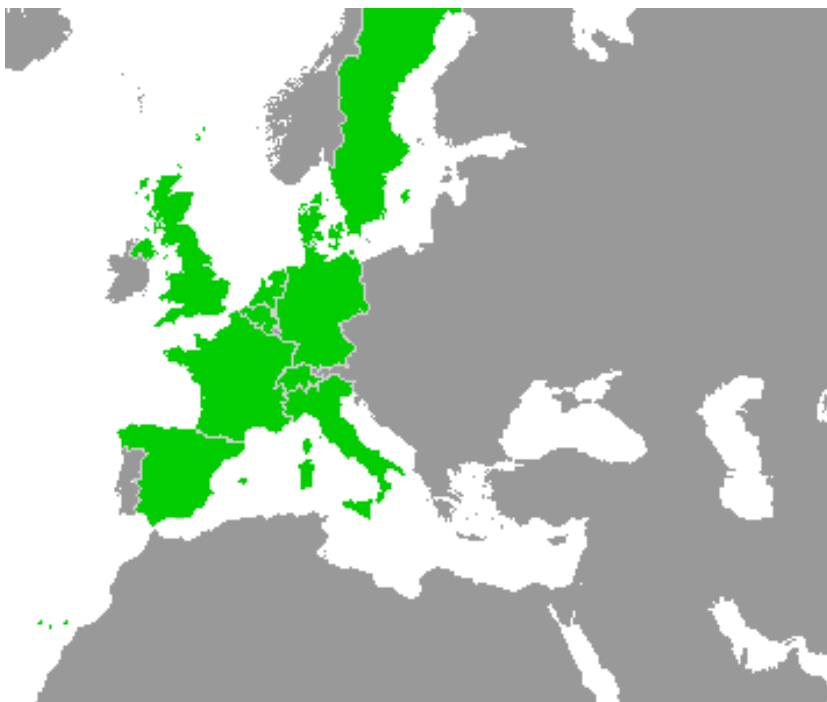
**ITEA2 Project
2012 – 2015**

Work-Package 6: "Dissemination, Exploitation and Standardization"

# Dissemination Plan and Report

**First version of the project Dissemination Plan (D6.1)**

Sebastian Hudert
Stefan Rieger

December 2012

This page is intentionally left blank

# Dissemination Plan and Report

**First version of the project Dissemination Plan (D6.1)**

Sebastian Hudert
Stefan Rieger

TWT GmbH
Science & Innovation
Bernhäuser Straße 40-42
D-73765 Neuhausen
Germany

Deliverable

Prepared for   ITEA2 openETCS consortium
               Europa

*openETCS*

**Abstract:**

# Table of Contents

Figures and Tables **Figures**

**Tables**

# 1 Introduction

# 2 Exhibitions

## 2.1 ITEA2/Artemis Symposium

## 2.2 Exhibitions and Trade Shows

**PLANNED** **INNOTRANS**

| | |
|---|---|
| Date: | 2014 |
| Location: | Berlin, Germany |
| Interested Partners: | Alstom, Deutsche Bahn, ERSA, ERTMS-Solutions, General Electric, Siemens, SNCF |

INNOTRANS will provide an opportunity to present key results, e.g. modelling tools and simulators. INNOTRANS, the world's largest trade fair for railways and public transit, addressing the entire railway industry, will take place in combination with an international conference at one of the participation universities (e.g., TU Braunschweig) covering scientific aspects and project results, addressing more the academic world. Since several openETCS partners like Alstom, Deutsche Bahn, ERSA, ERTMS-Solutions, General Electric, Siemens, SNCF, etc. are regularly represented at that industrial fair, the openETCS subject could featured specifically at their particular exhibition having a best possible outreach to make the approach well known.

**PLANNED** **BICCnet Innovation Forum Embedded Systems**

| | |
|---|---|
| Frequency: | annual |
| Next Event: | April 2013 (Munich, Germany) |
| Website: | `http://bicc-net.de/termine/termin/innovation-forum-embedded-systems/` |
| Interested Partners: | Fraunhofer ESK |

Presentation of openETCS partner results on booth

**PLANNED** **Embedded World Conference**

| | |
|---|---|
| Frequency: | annual |
| Next Event: | March 2013 (Nuremberg, Germany) |
| Website: | `http://www.embedded-world.eu/` |
| Interested Partners: | Fraunhofer ESK |

Presentation of openETCS partner results on booth

**PLANNED** **Rencontre du numérique de l'ANR**

| | |
|---|---|
| Frequency: | annual |
| Next Event: | April 2013 (Paris, France) |
| Interested Partners: | CEA LIST |

Presentation of (French) projects related to OpenETCS; CEA LIST plans to present the Frama-C tool.

## 3    External Conferences

### 3.1    Railway, Vehicular and Transportation

PAST    **12th International SIGNAL+DRAHT-Congress 2012**

Type of Contribution:        Talk

Title:                      openETCS: Von der Idee zur Praxis

Speaker:                    Klaus-Rüdiger Hase (DB)

Date:                       08-09/12/2012

Location:                   Fulda, Germany

Description to follow

PLANNED    **ERTMS World Conference**

Frequency:                  bi-annual

Next Event:                 2014 (Istanbul, Turkey)

Website:                    `http://www.ertms-conference2014.com`

As the ETCS standard is one part of the European Rail Traffic Management System (ERTMS) this conference is highly recommended to present openETCS.

PLANNED    **Moderne Schienenfahrzeuge**

Location:                   Graz, Austria

Organisator:                TU Graz

Website:                    `http://www.schienenfahrzeugtagung.at/homeE.htm`

PLANNED    **SIGNAL+DRAHT-Congress**

Frequency:                  annual

Website:                    `http://www.eurailpress.de/events/`
                            `eurailpress-events.html`

PLANNED    **IEEE Vehicular Technology Conference**

Frequency:                  semi-annual

Next Events:                June 2013 (Dresden, Germany), Sept. 2013 (Las Vegas, USA)

Website:                    `http://www.ieeevtc.org/vtc2013spring`

This semi-annual flagship conference of the IEEE Vehicular Technology Society will bring together individuals from academia, government, and industry to discuss and exchange ideals in the fields of wireless, mobile, and vehicular technology. The conference will feature world-class plenary speakers, tutorials, and technical as well as application sessions.

**PLANNED** **International Conference on Design and Operation in Railway Engineering (Comprail)**

Frequency:                          bi-annual

Next Event:                         2014

Interested Partners:                Fraunhofer ESK (Session: Computer techniques and simulations)

The aim of the conference is to review the latest developments in railway engineering and update the use of advanced systems, promoting general awareness throughout the business management, design, manufacture and operation of railways.

**PLANNED** **International Railway Safety Conference (IRSC)**

Frequency:                          bi-annual

Next Event:                         2014

**PLANNED** **Conference on Railway Engineering (CORE)**

Frequency:                          bi-annual

Next Event:                         2014

**PLANNED** **Fachtagung Technische Zuverlässigkeit (TTZ)**

Frequency:                          bi-annual

Next Event:                         April 2013 (Leonberg, Germany)

Website:                            `http://www.vdi-wissensforum.de/de/nc/angebot/`
                                    `detailseite/event/02TA502013`

## 3.2  Verification and Validation

**PAST** **FORMS/FORMAT 2012**

Type of Contribution:               Conference Paper and Talk

Title:                              Using ERTMSFormalSpecs to model ERTMS braking curves

Authors:                            L. Ferier, S. Lukicheva and S. Pinte (ERTMS Solutions)

Date:                               11-13/12/2012

Location:                           Braunschweig, Germany

Website:                            `http://www.forms-format.de`

Abstract to follow

**PAST** **10th International Conference on Software Engineering and Formal Methods (SEFM)**

| | |
|---|---|
| Type of Contribution: | Conference Paper and Talk |
| Title: | Frama-C: a Software Analysis Perspective |
| Author: | Virgile Prevosto (CEA LIST) |
| Date: | 01-05/10/2012 |
| Location: | Thessaloniki (Greece) |
| Publisher: | Springer (LNCS) |
| Website: | `http://sefm2012.city.academic.gr/` |

Abstract to follow

**PAST** **14th IEEE International High Assurance Systems Engineering Symposium (HASE)**

| | |
|---|---|
| Type of Contribution: | Conference Paper and Talk |
| Title: | Incremental symbolic conformance testing from UML MARTE sequence diagrams: railway use case |
| Author: | Christophe Gaston (CEA LIST) |
| Date: | 25-27/10/2012 |
| Location: | Omaha (USA) |
| Publisher: | IEEE |
| Website: | `http://hase2012.ist.unomaha.edu/` |

Abstract to follow

**PAST** **24th IFIP International Conference on Testing Software and Systems (ICTSS)**

| | |
|---|---|
| Type of Contribution: | Conference Paper and Talk |
| Title: | Off-line test case generation for timed symbolic model-based conformance testing |
| Author: | Christophe Gaston (CEA LIST) |
| Date: | 19-21/11/2012 |
| Location: | Aalborg (Denmark) |
| Publisher: | Springer (LNCS) |
| Website: | `http://ictss2012.aau.dk/` |

Abstract to follow

**PLANNED** **IFIP International Conference on Testing Software and Systems (ICTSS)**

| | |
|---|---|
| Frequency: | annual |
| Interested Partners: | CEA LIST |

The well-established ICTSS series of international conferences addresses the conceptual, theoretic, and practical challenges of testing software systems, including communication protocols, services, distributed platforms, middleware, embedded systems, and security infrastructures.

`PLANNED` **European Safety and Reliability Conference (ESREL)**

Frequency:                    annual

Next Event:                Sept. 2013 (Amsterdam, Netherlands)

Website:                   `http://www.esrel2013.org/`

Safety, reliability and risk management become more and more important in an always more challenging and competitive environment, in every industry and human activity: multidisciplinary approaches to safety and reliability engineering and risk management become more and more necessary and attractive.
This annual conference will provide a forum for presentation and discussion of scientific works covering theories and methods in the field of risk, safety and reliability, and their application to a wide range of industrial, civil and social sectors and problem areas. ESREL 2011 will also be an opportunity for researchers and practitioners, academics and engineers to meet, exchange ideas and gain insight from each other.

`PLANNED` **λμ Symposium**

Frequency:                    bi-annual

Next Event:                2014 (France)

Website:                   `http://www.imdr.fr/en/sommaire/index.php`

Interested Partners:      ALL4TEC

French safety and reliability conference

`PLANNED` **Nasa Formal Methods Symposium (NFM)**

Frequency:                    annual

Next Event:                May 2013 (Moffet Field, USA)

Website:                   `http://ti.arc.nasa.gov/events/nfm-2013/`

Interested Partners:      CEA LIST

The NASA Formal Methods Symposium is a forum for theoreticians and practitioners from academia, industry, and government, with the goals of identifying challenges and providing solutions to achieving assurance in mission- and safety-critical systems.

`PLANNED` **Integrated Formal Methods (iFM)**

Frequency:                    annual

Next Event:                June 2013 (Turku, Finland)

Website:                   `http://www.it.abo.fi/iFM2013/`

Interested Partners:      CEA LIST

The iFM conference series seeks to further research into hybrid approaches to formal modeling and analysis; i.e., the combination of (formal and semi-formal) methods for system development, regarding modeling and analysis, and covering all aspects from language design through verification and analysis techniques to tools and their integration into software engineering practice.

`PLANNED` **IFIP International Conference on Formal Techniques for Distributed Systems**

Interested Partners:      Institut Telecom

`PLANNED` **International Conference on Testing Software and Systems**

Interested Partners: Institut Telecom

`PLANNED` **International Conference on Software Engineering and Formal Methods**

Interested Partners: Institut Telecom

`PLANNED` **IEEE International Conference on Software Testing**

Interested Partners: Institut Telecom

## 3.3  Software Engineering and Methodologies

`PLANNED`  **Workshop on Certification and Model-Driven Development of Safety Critical Software (ZeMoSS)**

Date: 27/02/2013

Location: Aachen, Germany

Website: `http://zemoss.in.tu-clausthal.de/`

Interested Partners: DLR

The requirements for software quality of safety critical systems are very high, especially for the aspects of functional safety and information security. This German workshop covers among others the topics of model-driven development, integration of safety and security, and certification of open source software. Thus it is highly relevant for the project.

`PLANNED`  **Embedded Real Time Software and Systems (ERTS$^2$)**

Frequency: annual

Next Event: 2013 (France)

Website: `http://www.erts2012.org/`

Interested Partners: ALL4TEC

The ERTS$^2$ Congress is a unique European cross sector event on Embedded Software and Systems, a platform for top-level science with representatives from universities, research centers and industries.

`PLANNED`  **International Conference on Model Driven Engineering Languages & Systems (MODELS)**

Frequency: annual

Next Event: Sep., Oct. 2013 (Miami, USA)

Website: `http://www.modelsconference.org/`

Interested Partners: Fraunhofer ESK

**PLANNED** **IEEE International Conference on Software Engineering (ICSE)**

Frequency:                   annual

Next Event:                  May 2013 (San Francisco, USA)

Website:                     `http://2013.icse-conferences.org/`

Interested Partners:         Fraunhofer ESK, Institut Telecom

The International Conference on Software Engineering (ICSE) is the premier software engineering conference, providing a forum for researchers, practitioners and educators to present and discuss the most recent innovations, trends, experiences and concerns in the field of software engineering.

**PLANNED** **Embedded World Conference**

Frequency:                   annual

Next Event:                  March 2013 (Nuremberg, Germany)

Website:                     `http://www.embedded-world.eu/`

Interested Partners:         Fraunhofer ESK

**PLANNED** **BICCnet Innovation Forum Embedded Systems**

Frequency:                   annual

Next Event:                  April 2013 (Munich, Germany)

Website:                     `http://bicc-net.de/termine/termin/`
                             `innovation-forum-embedded-systems/`

Interested Partners:         Fraunhofer ESK

**PLANNED** **IEEE/ACM International Conference on Automated Software Engineering**

Next Event:                  Sept. 2013 (Essen, Germany)

Website:                     http://ase2012.paluno.uni-due.de/

Interested Partners:         Institut Telecom

**PLANNED** **International Conference on Quality Software**

Interested Partners:         Institut Telecom

**PLANNED** **ACM Symposium on Applied Computing (SAC)**

Frequency:                   annual

Next Event:                  Feb. 2013 (Coimbra, Portugal)

Website:                     `http://acm.org/conferences/sac/`

Interested Partners:         CEA LIST, Institut Telecom

Over the past years, the ACM Symposium on Applied Computing (SAC), the primary SIGAPP Annual Conference, has become a primary forum for applied computer scientists, computer engineers, software engineers, and application developers from around the world to interact and present their work.

**PLANNED** **Joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering**

Interested Partners:         Institut Telecom

`PLANNED` **IEEE International Symposium on High Assurance Systems Engineering**

Interested Partners:          Institut Telecom

`PLANNED` **International Conference on Software Engineering and Knowledge Engineering**

Interested Partners:          Institut Telecom

`PLANNED` **Asia-Pacific Software Engineering Conference**

Interested Partners:          Institut Telecom

## 3.4  Open Source

`PLANNED` **EclipseCon Europe**

Frequency:                    annual

Next Event:                   Oct. 2013 (Ludwigsburg, Germany)

Website:                      `http://www.eclipsecon.org`

Interested Partners:          EclipseSource

EclipseCon is one of the largest open source conferences of the world. Several consortia such as the Automotive Group and the OPEES group are presenting their results and are looking for potential collaboration partners.

## 3.5  General Computer Engineering and Computer Science

`PLANNED` **International Conference on Information Systems Security**

Interested Partners:          Institut Telecom

# 4    Events Organised by openETCS Project Partners

`PAST` **CENELEC Course**

Date:                         10/12/2012

Location:                     Paris, France

Organisator:                  ALL4TEC

Participants:                 openETCS consortium

Introduction to the CENELEC standard (EN 50128) which is highly relevant to openETCS.

`PAST` **ERTMSFormalSpecs Workshop**

Date:                         17-18/12/2012

Location:                     Brussels, Belgium

Organisator:                  ERTMS Solutions

Participants:                 openETCS consortium, ERA, RFF, DVIS

WP3a/b tasks contributions

`PLANNED` **Workshop on Advances in Model Based Testing**

Organisator:                  Institut Telecom

`PLANNED` **International Summer School on Training And Research On Testing**

Date:                              July 2013

Location:                          Volterra, Italy

Organisator:                       Institut Telecom


`PLANNED` **Workshop on Formal Methods in the Development of Software**

Organisator:                       Institut Telecom


`PLANNED` **International Workshop on Security Testing**

Organisator:                       Institut Telecom


`PLANNED` **openETCS Conference 2013**

Date:                              Q4 2013

Participants:                      openETCS consortium

Approximately by the End of 2013 a mid-term conference under the patronage of the UIC (Union Internationale des Chemins de Fer, engl.: International Union of Railways) in Paris is planned. It will be attracting potential users, which are railway companies world wide.


`PLANNED` **openETCS Conference 2015**

Date:                              2015

Participants:                      openETCS consortium

After finishing the project in 2015 a second conference on the openETCS subject is planned to present the final results and most likely first marketable products at an adjacent product exhibition.


# 5        Journals and Magazines

`PLANNED` **Networking Sciences**

Interested Partners:               Institut Telecom


`PLANNED` **Annals of Telecommunications**

Interested Partners:               Institut Telecom


`PLANNED` **Computer Networks**

Interested Partners:               Institut Telecom


`PLANNED` **Journal of Statistical Software**

Website:                           http://www.jstatsoft.org/

Interested Partners:               Institut Telecom


`PLANNED` **Software Tools for Technology Transfer (STTT)**

Website:                           http://sttt.cs.uni-dortmund.de/

Interested Partners:               CEA LIST

**PLANNED** **SIGNAL+DRAHT**

Website: http://www.eurailpress.de/verlag/zeitschriften/
signal-draht/profil.html

**PLANNED** **International Railway Journal (IRJ)**

Website: http://www.railjournal.com

**PLANNED** **Eisenbahntechnische Rundschau (ETR)**

Website: http://www.eurailpress.de/verlag/zeitschriften/
eisenbahntechnische-rundschau/profil.html

**PLANNED** **ZEV Rail**

Website: http://www.zevrail.de

## 6 Standardisation

Standardisation activities will ensure that the project results will feedback to the relevant standardisation bodies such as ERA, CENELEC, thus ensuring that the project results are aligned with recent advancements in the standardisation committees and that standardisation benefits from public funded knowledge and experience.

As the open source software and open proof philosophy is very innovative in railway control and protection applications, a significant impact from the openETCS project on the existing standards is expected. By providing impact analyses, the project results will be embedded in the CENELEC standards setting process as well as in the development of the ETCS specifications by the ERA, in particular of the system requirements specification. Several partners of this ITEA2 Project (railway operators as well as manufacturers) are actively working in related standardisation committees.

### 6.1 ETCS

The system requirements specification (SRS) of ETCS has been published as an official document by the European Railway Agency (ERA), a governmental organization implemented by the European Commission. The purpose of the SRS is to specify the future unified standard European Train Control System ETCS from a technical point of view.

### 6.2 CENELEC

The European Standard EN 50128 from the "European Committee for Electrotechnical Standardization" (CENELEC) specifies procedures and technical requirements for the development of programmable electronic systems for use in railway control and protection applications. It is aimed for use in any area where there are safety implications.

## 7 Open Source Activities

### 7.1 Establishing the Infrastructure

#### 7.1.1 Github

#### 7.1.2 Sharepoint

## References

[1] Leslie Lamport, *LATEX: A Document Preparation System*. Addison Wesley, Massachusetts, 2nd Edition, 1994.