







# SECRET

# SECurity of Railways against Electromagnetic aTtacks

Grant Agreement number: 285136
Funding Scheme: Collaborative project
Start date of the contract: 01/08/2012
Project website address: http://www.secret-project.eu

# Deliverable D 6.3
# Dissemination events

**Deliverable on Dissemination events**
**Date: 01/09/2014**
**Distribution: PU**
**Manager: UIC**

## Document details:

| | |
|---|---|
| Title | Dissemination events |
| Workpackage | WP6 |
| Date | 25/08/07/2014 |
| Author(s) | MH Bonneau |
| Responsible Partner | UIC |
| Document Code | SEC-D6.3-C-09 2014-Dissemination events-UIC-final |
| Version | C |
| Status | Final |

## Dissemination level:

*Project co-funded by the European Commission within the Seventh Framework Programme*

| | | |
|---|---|---|
| PU | Public | X |
| PP | Restricted to other programme participants (including the Commission Services) | |
| RE | Restricted to a group specified by the consortium (including the Commission) Services) | |
| CO | Confidential, only for members of the consortium (including the Commission Services) | |

## Document history:

| Revision | Date | Authors | Description |
|---|---|---|---|
| 1 | 28/07/2014 | MH Bonneau | Final Draft |
| 2 | 15/08/2014 | all | Review |

# Table of content

*1. Executive summary* ____ *4*

*2. Introduction* ____ *4*

2.1. Purpose of the document ____ 4

2.2. Definitions and acronyms ____ 5

*3. Workshop organisation* ____ *6*

*4. Participation in conferences and seminars* ____ *8*

*5. List of of Participation in Conferences/seminars* ____ *10*

# 1. Executive summary

Organization of workshops and participation in conferences is an important way to disseminate the project results and to distribute appropriate information to each type of identified target.

The purpose of the present document is to present the various workshops, seminars and conferences where the project was disseminated.

# 2. Introduction

## 2.1. Purpose of the document

The purpose of the Deliverable 6.3 is to present the dissemination events where dissemination of the project was done to inform the stakeholders on the progress of the project to get some feedback/input

## 2.2. Definitions and acronyms

| | Meaning |
|---|---|
| ANSSI | French Network and Information Security Agency |
| CEA | Commissariat à l'énergie atomique et aux énergies alternatives |
| CEN | European Committee for Standardisation |
| CENELEC | European Committee for Electrotechnical Standardization |
| CER | Community of European Railways |
| COLPOFER | Collaboration of railway police and security services |
| DG Move | Directorate-General for Mobility and Transport |
| EC | European Commission |
| EIM | European Rail Infrastructure Managers |
| EFTA | European Free Trade Association |
| EMC | Electro Magnetic Compatibility |
| ERA | European Railway Agency |
| ETSI | European Telecommunications Standards Institute |
| EU | European Union |
| IEC | International Electrotechnical Commission |
| IPR | Intellectual Property Right |
| IM | Infrastructure Manager |
| JPCR | CEN/CENELEC/ETSI Joint Programming Committee Rail |
| PTFE | Spanish Railway Technology Platform |
| RAILPOL | European network of Railway Police Forces |
| RZD | Russian Railways |
| UITP | International Association of Public Transport |

# 3. Workshop organisation

The dedicated workshops organized are the following:

- 02 September 2013, in Brugges, Belgium: workshop on EM attacks on critical infrastructures at *EMC Europe 2013* : Focus on the European projects SECRET and *STRUCTURES*
    - Target group : scientific community
    - Description: This workshop held on 2 September from 9.00 to 12.30 presented the scope of SECRET and STRUCTURES (Strategies for The impRovement of critical infrastrUCTUre Resilience to Electromagnetic attacks) projects, their respective approaches to assess the risks on critical infrastructure and the protection solutions studied. It was the opportunity to share knowledge and to cooperate with the Structure project team.
    - Participants: around 50.
    - Partner involved: IFSTTAR.
    - Presentations available in the Private workspace at https://ovidentia.uic.org/index.php?tg=fileman&idx=list&id=646&gr=Y&path=SECRET%2FSECRET+meetings%2F2014-04-01-First+advisory+board+meeting-Paris+UIC





- 02 April 2014, in Paris, UIC HQ, France: First workshop with the advisory board
    - Target group: experts in the domain of electromagnetic attacks (representatives from IEC SC 77C, CEA, RZD, ANSSI).
    - Description: Presentations and discussion from 10.00 to 17.00. Each workpackage leader presented the scope, results and next actions of their work package. A lot of time was dedicated to discussions with the members of the advisory board.
    - Participants: around 20.
    - Partners involved: IFSTTAR, FRAUNHOFER, POLITO, EHU, SNCF, TRIALOG, UIC, University of Liege, Zanasi.

- Feedbacks from the participants:
  - In general it was felt that significant progress had been made already on this project in the first period. The technical presentations were interesting and it is expected that the outcome of the project will raise the awareness of the IEMI threat to the Railways and provide incremental recommendations for the mitigation of the threat.
  - Industry, research organisation, operators, end-users and specialized SME seem to interact efficiently to conduct the project.
  - The achievements are already important after 1 year of activities
  - The work package structure is very appropriate and the links between the various workpackages very logic.
  - The rationale to concentrate the analysis on the ERTMS and its subsystem GSM-R as well as on TETRA and Eurobalise is appropriate to limit the research to the vital elements; consequently the selection of scenarios and threats at low power makes sense considering the operational aspects.
  - The tools and methods used in the project are state of the art tools and methods (risk analysis, coupling, laboratory tests, etc.) and some very innovative for critical infrastructures protection analysis (modelling and simulation of overall railway system)
  - Good balance between analysis, numerical simulation and experimental testing
  - The consortium should establish contacts with the following standards organisations to try to influence protection requirements for GSM-R for IEMI:
    - CENELEC TC9X – Electrical and electronic systems for Railways: http://www.cenelec.eu/dyn/www/f?p=104:7:0::::FSP_ORG_ID:74 – originators of the EN50121 Series of Railway EMC standards.
    - ETSI-RT: http://portal.etsi.org/tb.aspx?tbid=549&SubTB=549,771,736 - originators of the GSM-R standards.

    These organisations can request a liaison with IEC SC77C to work on a joint standard to protect GSM-R (and the wider ERTMS) from IEMI.
  - Dissemination of the activity could be done at the international EMC conferences (AMEREM, IEEE, APS..).
  - The work done in Sweden on the railway systems by Mats Bäckström and al considering high power threats could be considered

- Presentations available in the Private workspace at *https://ovidentia.uic.org/index.php?tg=fileman&idx=list&id=646&gr=Y&path=SECRET%2FSECRET+meetings%2F2014-04-01-First+advisory+board+meeting-Paris+UIC*




# 4. Participation in conferences and seminars

- 13-14 November 2013, in Paris UIC HQ, France: 9th UIC World Security Congress

    - Target group: End-users from Rail sector, EU representatives, public authorities
    - Description: presentation by IFSTTAR on "SECurity of Railways against Electromagnetic aTtacks introducing resilient communication architectures to face EM attacks – SECRET Project". The objective of the presentation was to raise awareness and to explain the challenges of the project.
    - Participants: around 200 security managers from rail operators, infrastructure managers and public authorities.
    - Partners involved: UIC, IFSTTAR.
    - Web-page: *http://www.uic.org/spip.php?article3115*






- 24-26 February 2014, in Amsterdam, The Netherlands : Smart Rail 2014 Congress & Expo (Amsterdam) :

    - Target group: Rail industry.
    - Description: presentation on "Introducing resilient communication architectures to face EM attacks – SECRET Project". The objective of the presentation was to show the principles of the resilient architecture (WP4/T4.1).
    - Participants: around 50 from Rail industry, rail operators, office of regulation.
    - Partner involved: EHU.
    - Feedback from the participants: The attendee was interested in the reaction of the resilient communication architecture against EMP attacks, which destroy electronic circuits. EHU-CP pointed out that in the beginning of the project the type of EM interfaces to consider were studied and EMP attacks were considered to be out of the scope of the project due to its low probability and because the equipment to launch them is only available to some governments and armies.
    - Web-page: *http://globaltransportforum.com/smart-rail-europe/*

- 15-17 March 2014, in Paris, La Défense : TRA2014 Transport Research Arena 2014:

  - Target group: scientific community, industry, transport operators, EU and authorities representatives.
  - Description:
    - Presentation “Towards a resilient railway communication network against electromagnetic attacks” by IFSTTAR
    - SECRET Poster and Brochures available on UIC and IFSTTAR stands
  - Partners involved: IFSTTAR, UIC.
  - Paper available in the private workspace at *https://ovidentia.uic.org/index.php?tg=fileman&idx=list&id=646&gr=Y&path=SECRET%2FSECRET+Dissemination+documents%2F2014-04-15+-+TRA+2014%2C+Paris%2C+La+Defense*







- 27 July- 01 August 2014 in Albuquerque, New-Mexico : AMEREM 2014 Symposium:

  - Target group: scientific and engineering community in High Power Electromagnetics.
  - Description: 2 presentations of the SECRET project:
    - Jamming Signal Immunity Tests on GSM-R Communications Compared to EMC Standards, V. Beauvois, M.Fontana, F. Canavero,V. Deniau.
    - Detection of railway signalling jamming signals using the EVM method, S. Mili, V. Deniau, D. Sodoyer, M. Heddebaut.
    - Animation by V. Deniau of the session “HPEM- Impacts/Protection on Critical Infrastructure in Europe”.
  - Partners involved: IFSTTAR, University of Liege.

- Web-page: *http://ece.unm.edu/amerem2014*



## 5. List of Participation in Conferences/seminars

The table below gives a list of different major rail or research events and UIC meetings where information on SECRET project was given through presentations, brochure or poster

| Title | Planned date | Countries addressed | Type of Audience | Type of event | Partner(s) involved | location |
|---|---|---|---|---|---|---|
| 2012 | | | | | | |
| PROTECTRAIL mid-Term Conference *http://www.protectrail.eu/PROTECTRAIL-Mid-Term-conference,29* | 24 October 2012 | 12 European countries | Railways + industry – security experts | PROTECT RAIL Meeting | UIC Security division (presentation of the secret project and link with PROTECTRAIL) | Paris, UIC |
| UIC Security platform - 8th annual congress *www.uic.org/spip.php?article2898* | 25-26 October 2012 | Worldwide | rail security sector | UIC Annual congress on Rail security | UIC Security division (presentation of the project) | Bratislava |
| COLPOFER *http://www.colpofer.org/content.php?id=20&lang=english* | 9 November 2012 | Europe | Railways – Security expert + rail police representatives | Bi-Annual conference | UIC Security division (presentation of the project) | Paris, UIC |

| Title | Planned date | Countries addressed | Type of Audience | Type of event | Partner(s) involved | location |
|---|---|---|---|---|---|---|
| 2013 | | | | | | |
| International Colloque TELECOM'2013 & 8. JFMMA *http://www.ensa.ac.ma/colloque-international-telecom-2013-&-8eme-jfmma-actisci4.php* | 13-15 March 2013 | Worldwide | Telecom experts | International Conference | IFSTTAR (presentation of the project) | Marrakech |
| Peter (Panel of telecom expert of railways) working group of the UIC Rail System Forum | 03 April 2013 | Europe | Railway – Infrastructure and telecom experts | UIC working group | UIC (presentation of the project) | Paris, UIC HQ |
| Nets4Cars/Nets4Trains 2013 *http://nets4cars-nets4trains.ifsttar.fr/pgm.php* | 14-15 May | Worldwide | Communication systems experts | International Conference | IFSTTAR, EHU : Presentation on "Multipath technology to handle mobility and increase resilience in next generation ERTMS" | Lille, France |
| COLPOFER *http://www.colpofer.org/content.php?id=20&lang=english* | 21-22 May | Europe | Railways + rail police | Bi-Annual conference | UIC Security division (presentation of the project) | Paris, UIC HQ |
| EU project Securemetro Final conference *http://securemetro.inrets.fr/* | 07 June | Europe | Public transport and security experts | Conference | IFSTTAR, SECRET presentation | Paris, UIC HQ |
| EMC Europe *http://www.emceurope.eu/previous_events.php* | 02-06 September | Europe | EMC experts | International Conference | IFSTTAR Organisation of a workshop | Brugges |
| UIC Security platform - 9th annual congress *http://www.uic.org/spip.php?article3115* | 13-15 November | Worldwide | Rail security sector | UIC Annual congress on Rail security | IFSTTAR : presentation of the project | Paris, UIC HQ |
| Milipol 2013 *http://www.milipol.com/* | 19-22 November | Worldwide | Defense sector | exhibition | UIC and Zanasi & Partners and ERT) Secret Brochure distributed | Villepinte, France |

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|---|---|---|---|---|---|---|
| SCADALAB workshop *https://www.scadalab.eu/index.php/mod.pags/mem.detalle/id.6/relcategoria.1004/relmenu.2* | 26 November 2013 | Europe | Cybercriminality experts | Workshop | Zanasi & Partners: SECRET presentation | Madrid, Spain |
| 2014 | | | | | | |
| Smart Rail 2014 Congress & Expo *http://globaltransportforum.com/smart-rail-europe/* | 24-26 February | Worldwide | Rail sector | Conference and exhibition | EHU: SECRET presentation | Amsterdam, The Netherlands |
| ARGUS UIC project first meeting *https://www.uic.org/com/article/argus-kick-off-meeting-paris-19?page=thickbox_enews* | 19 March | Europe | Rail end users – cyber criminality experts | Project meeting | UIC : SECRET Presentation | Paris, UIC, HQ |
| ERTMS World conference http://*ertms-conference2014*.com/ | 01-02 April | Worldwide | Rail and communication Industry | Conference and exhibition | UIC stand with SECRET Brochure | Istanbul, Turkey |
| TRA – Transport Research Area 2014 *http://www.traconference.eu/* | 14-17 April | Europe | Transport and research sector | Conference | IFSTTAR + UIC Presentation + stands | France |
| CEM 2014 - 17e Colloque International et Exposition sur la Compatibilité Electromagnetique *http://cem2014.univ-bpclermont.fr/* | 30 June-3 July | Europe | Electromagnetic Compatibility expert ( industrial and academic) | Conference and exhibition | IFSTTAR: 2 SECRET presentations | France |
| AMEREM 2014 Symposium http://ece.unm.edu/amerem2014/generalinfo.html | 27 July- 01 August | Worldwide | scientific and engineering community | Conference | IFSTTAR + University of Liege : 2 SECRET presentations | Albuquerque, New-Mexico |