



SECRET
PROJECT



SECURITY OF RAILWAYS AGAINST
ELECTROMAGNETIC ATTACKS

SECRET

SECurity of Railways against Electromagnetic aTtacks

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Dissemination events

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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

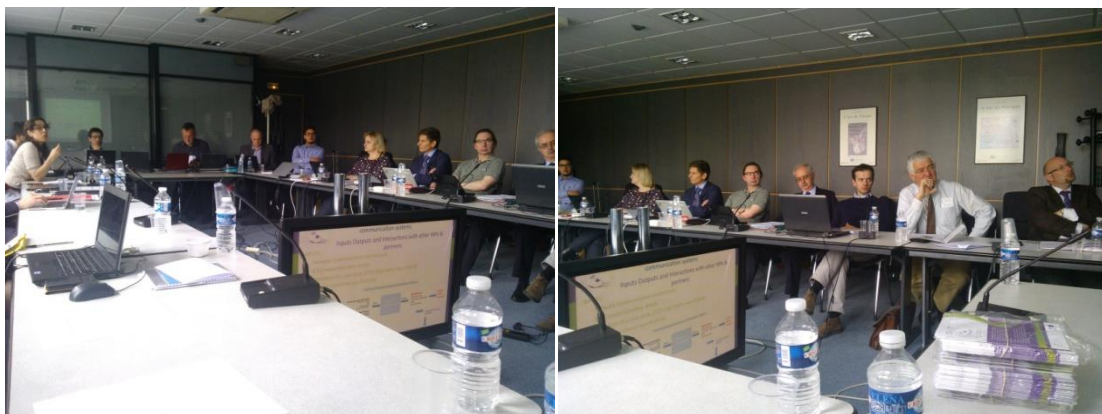
The dedicated workshops organized are the following:

- 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://oventia.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. Sodoeyer, 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

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_ewews	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

