European Reference Network for Critical Infrastructure Protection (ERNCIP)

Workshop: CIP and Disaster Resilience in Horizon 2020
Vienna, 22 February 2016

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Joint Research Centre
the European Commission’s in-house science service
JRC Role - Facts & Figures

- **In-house science service** of the European Commission
- Independent, evidence-based **scientific and technical support** for many EU policies
- Established **1957**
- **7 institutes** in 6 locations
- **Around 3000 staff**, including PhDs and visiting scientists
- **1370 publications** in 2014
Contents

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• Association of ERNCIP with EU calls
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What is ERNCIP?

A JRC-facilitated network of security related experts volunteering to address issues of pre-standardisation at EU-level towards fostering the development of innovative and competitive security solutions.
CIP & Disaster Resilience Calls: ERNCIP involvement

Under EU FP7-SECURITY/ Call SEC-2012.7.4-2; Networking of researchers for a high level multi-organisational and cross-border collaboration - Network of Excellence

• ERNCIP is a partner in the CIPRNET project, which aims to form the foundation for a European Infrastructures Simulation & Analysis Centre (EISAC).

Under EU H2020 Secure Societies/ Call: DRS-07-2014 - Crisis management topic 7: Crises and disaster resilience – operationalizing resilience concepts

• ERNCIP is a partner in the IMPROVER project, which aims to improve European critical infrastructure resilience to crises and disasters.
# CIPRNet Facts

## Critical Infrastructures Preparedness and Resilience Research Network

<table>
<thead>
<tr>
<th>Scientific domain:</th>
<th>Critical Infrastructure (CI) Protection (CIP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-funded by:</td>
<td>EU FP7</td>
</tr>
<tr>
<td>Instrument:</td>
<td>Network of Excellence (NoE)</td>
</tr>
<tr>
<td>Objective:</td>
<td>CIPRNet builds a long-lasting virtual centre of shared and integrated knowledge and expertise in CIP</td>
</tr>
<tr>
<td>Start date / duration:</td>
<td>March 1, 2013 / 48 months</td>
</tr>
<tr>
<td>Participants:</td>
<td>12</td>
</tr>
<tr>
<td>Lead partner:</td>
<td>Fraunhofer IAIS</td>
</tr>
<tr>
<td>JRC role:</td>
<td>JRC as a full partner but not with a major role (i.e. not being a WP leader but participating in all but WP1)</td>
</tr>
<tr>
<td>Websites:</td>
<td><a href="http://www.ciprnet.eu">www.ciprnet.eu</a></td>
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CIPRNet Objectives

- Providing new capabilities to end users for better preparedness for CI-related emergencies:
  - Advanced decision support
  - ‘what, if …’ analysis
  - Support of secure design of next generation infrastructures
  - ‘Ask the expert’ service
- Building required capacities by educating and training experts and researchers (reaching a critical mass)
- Providing knowledge and technology to end users for improving their understanding of the role of CI in crises and emergencies.
  - CIPedia, training, simulators, middleware, models, ...
- Provide long-lasting end user support by establishing a Virtual Centre of Competence and Expertise in CIP (VCCC).
### IMPROVER Facts

**Improved risk evaluation and implementation of resilience concepts to critical infrastructure**

<table>
<thead>
<tr>
<th>Scientific domain:</th>
<th>Critical Infrastructure (CI) Protection (CIP)</th>
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<tbody>
<tr>
<td>Co-funded by:</td>
<td>H2020</td>
</tr>
<tr>
<td>Instrument:</td>
<td>H2020-DRS-2014</td>
</tr>
<tr>
<td><strong>Objective:</strong></td>
<td>IMPROVER improves European critical infrastructure resilience to crises and disasters through the implementation of combinations of societal, organisational and technological resilience concepts to real life examples of pan-European significance.</td>
</tr>
<tr>
<td>Start date / duration:</td>
<td>June 1, 2015/ 35 months</td>
</tr>
<tr>
<td>Participants:</td>
<td>10</td>
</tr>
<tr>
<td>Lead partner:</td>
<td>SP SVERIGES TEKNISKA FORSKNINGSINSTITUT AB</td>
</tr>
<tr>
<td>JRC role:</td>
<td>JRC as a full partner but not with a major role</td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://improverproject.eu/">http://improverproject.eu/</a></td>
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IMPROVER: Overall Aim

To improve European critical infrastructure resilience to crises and disasters through the implementation of combinations of societal, organisational and technological resilience in real-life examples of infrastructure of pan-European significance, including cross-border examples.

This implementation will be enabled through the development of a methodology based on risk evaluation techniques, and informed by a review of the positive impact of different resilience concepts on critical infrastructures.
**IMPROVER: JRC involvement**

**Methodology**

Stage 1. Review of existing methodologies (resilience concepts)

Stage 2. Development of an improved methodology

Stage 3. Pilot implementation

**JRC tasks**

- Resilience Lexicon (CIPedia)
- Contribution to the proposed methodology
- Link to policy and provide guidelines
- Liaison with ERNCIP, CIPRNet, JRC’s CIP cluster and other projects
- Liaison with operators: 3 (annual) workshops
ERNCIP core activities

I. Initiate and supervise Thematic Areas

- 200+ experts from 120+ organisations in 18 Member States have participated in ERNCIP Thematic Areas

II. Develop and Operate the ERNCIP Inventory

- 124 experimental facilities from 21 Member States are registered in the ERNCIP Inventory
## ERNCIP Active Thematic Groups 2016

<table>
<thead>
<tr>
<th>ERNCIP Thematic Group</th>
<th>Coordinator</th>
</tr>
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<tbody>
<tr>
<td>Radiological &amp; Nuclear Threats to Critical Infrastructure</td>
<td>HT Nuclear Oy, Finland</td>
</tr>
<tr>
<td>Resistance of Structures to Explosion effects</td>
<td>Fraunhofer-EMI, Germany</td>
</tr>
<tr>
<td>Chemical &amp; Biological Risks to Drinking Water</td>
<td>Environment Agency, Austria</td>
</tr>
<tr>
<td>Detection of Explosives and Weapons at Secure Locations</td>
<td>Iconal Technology, UK</td>
</tr>
<tr>
<td>Video Surveillance for security of Critical Infrastructure</td>
<td>CAST, UK &amp; TNO, Netherlands</td>
</tr>
<tr>
<td>Applied Biometrics for security of Critical Infrastructure</td>
<td>IBM, UK</td>
</tr>
<tr>
<td>Industrial Automation and Control Systems: Cyber-security Compliance and Certification</td>
<td>Thales, France</td>
</tr>
<tr>
<td>Detection of indoor airborne chemical &amp; biological agents</td>
<td>Aristotle University of Thessaloniki, Greece</td>
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</table>
ERNCIP Inventory of Labs

What is it?
The ERNCIP Inventory is a free-to-use Web search tool for delivering open-source information on European security experimental and testing facilities.

What can I find?
The Inventory holds profiles of 124 CIP-related experimental and testing facilities from across the EU, containing:

- Basic information about the facility;
- Services offered/Experience/Competencies/Accreditations;
- Available experimental/testing equipment;
- Contact points for potential customers.
ERNCIP Inventory of Labs – Search users

**Search Users** are organisations which need information about CIP-related experimental or testing facilities, with 250 organisations now registered.

**Why search?**

To identify CIP-related labs, for:
- Specific knowledge or expertise on CIP security-related problems
- Certified testing solutions to CIP security-related problems
- Research partners (e.g. to conduct CIP-related experiments, or to form partnerships to bid for EU funded projects)

Now includes a repository of standards and guidelines, linked to relevant labs, making their testing capabilities more accessible and transparent. This is intended to open up new business opportunities for testing labs by better connecting them to organisations needing their testing services.
ERNCIP Inventory of Labs

Screenshots

Demo Video available on ERNCIP Project website
https://erncip-project.jrc.ec.europa.eu/inventory
ERNCIP Achievements: Standardisation activities

• Proposals for a European IACS Components Cyber-security Compliance and Certification Scheme

• Recommendations for EU-level standardisation activities on explosives and weapons detection at secure locations, with low to medium throughput, was validated at a stakeholder workshop in Brussels on 15 December 2015

• The new work item proposal for the development of a standard for list-mode data format for radiation detection was approved by IEC/TC45 in January 2016.

• Contribution to the new work item (multipart standard ISO/IEC 30137 on use of biometrics in Video surveillance systems) progressing through ISO/IEC JTC 1/SC 17 Technical Committee for Biometric Standards

• Contribution to the new work item for CEN Technical Committee 224 WG 18 – Biometrics for standards on biometric physical access control within a secure area

• Contribution to the Global Information Assurance Certification (GIAC) initiative that led to the launching of the vendor-neutral Global Industrial Cyber Security Professional (GICSP) Certification scheme.
ERNCIP Achievements: Reports

ERNCIP Thematic Groups:

- 22 reports published by the Thematic Groups with 10 more under review to be published soon. Examples of published reports include:
  - Methods for the rapid identification of pathogens in water samples
  - State-of-the-art of unmanned systems for radiation measurement
  - Testing using high explosives or blast simulators (shock tubes);
  - Derivation of common test procedures for the resistance of windows under blast-loaded conditions
  - Recommendations for experimental and simulation testing standards
  - Experiences from Large Scale Testing of Systems using Biometric Technologies
  - Detection Requirements and Testing Methodologies for Aviation Security Screening Devices.
ERNCIP Thematic Groups: Downloads of all published reports

Statistics recorded from May 2015 to Dec 2015
* Includes classified reports not available for download
Other ERNCIP Activities

Organised at EU-level:

- Two ERNCIP conferences (2012 & 2015)
- Two infrastructure operators workshops (2013 & 2014)
- A water utility operator consultation workshop (2014)
Dissemination of ERNCIP outputs

- 32 Final reports
- 124 Members
- 8 active TGs
- 15 issues to 850 recipients
- 2 workshops & 2 conferences
Thank you for your attention.
Keep in touch:

https://erncip-project.jrc.ec.europa.eu
or by e-mail at erncip-office@jrc.ec.europa.eu

JRC Science Hub: ec.europa.eu/jrc
Twitter and Facebook: @EU_ScienceHub
LinkedIn: european-commission-joint-research-centre

YouTube: JRC Audiovisuals
Vimeo: Science@EC