European Reference Network for Critical Infrastructure Protection (ERNCIP)

ERNCIP-IMPROVER Workshop
27-28 April 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
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.
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>
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<tbody>
<tr>
<td>Radiological &amp; Nuclear Threats to Critical Infrastructure</td>
<td>STUK, Finland</td>
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<tr>
<td>Resistance of Structures to Explosion effects</td>
<td>Fraunhofer-EMI, Germany</td>
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<tr>
<td>Chemical &amp; Biological Risks to drinking Water</td>
<td>Austrian Environmental Agency</td>
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<td>Detection of Explosives and Weapons at Secure Locations</td>
<td>Iconal Technology, UK</td>
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<td>Video Surveillance for security of CI</td>
<td>CAST, UK</td>
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<td>Applied Biometrics for security of CI</td>
<td>IBM, UK</td>
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<td>Industrial Automation and Control Systems</td>
<td>Thales, France</td>
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<tr>
<td>Detection of indoors airborne chemical &amp; biological agents</td>
<td>Aristotle University of Thessaloniki, Greece</td>
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ERNCIP Thematic Groups: Downloads of all published reports

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

**Statistics of access**

to ERNCIP website, by country as a percentage of total accesses

(As monitored August 2014 to Oct 2015)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
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<tr>
<td>United States</td>
<td>9.9%</td>
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<tr>
<td>Italy</td>
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<td>Spain</td>
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<td>France</td>
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<td>Great Britain</td>
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<td>Romania</td>
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<td>India</td>
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<td>Canada</td>
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<td>Switzerland</td>
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<td>China</td>
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<td>Japan</td>
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<td>Russian Federation</td>
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<tr>
<td>European Commission</td>
<td>17.1%</td>
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<tr>
<td>Unknown</td>
<td>4.9%</td>
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ERNCIP Achievements 2015
- Standardisation activities

Detection of Explosives and Weapons at Secure locations TG

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

Radiological & Nuclear Threats to Critical Infrastructure TG

• The new work item proposal for the development of a standard for list-mode data format for radiation detection, submitted in October 2015, was approved by IEC/TC45 in January 2016.
ERNCIP Thematic Group: Chemical and Biological Risks to Drinking Water

Active since April 2012; 15 Participants; 12 Organisations; 9 Countries

Reports produced in 2015

- Overview of current practices for vulnerability assessment of drinking water
- Synthesis of existing legislation, guidelines, standards, organisations and projects related to drinking water safety and monitoring
- Proposed outline of the elements of a Water Security Plan
- Review of methods for the rapid identification of pathogens in water samples.
Objectives proposed for 2016

1. Identification of requirements for harmonization of real-time monitoring systems
2. Scoping basic elements of real-time monitoring systems as part of water security plan. Probable technical parameters to take into account include:
   - Natural variations of blended water
   - Chemical parameters as surrogate for biological contamination
   - **Software requirements** (large amount of data to be processed)
   - Maintenance aspects
   - **Validation of systems** (both in the field, and in the laboratory).
ERNCIP Thematic Group:
Resistance of Structures to Explosive Effects

Active since March 2012; 10 participants; 7 countries;

Reports produced in 2015:

• Recommendations for European norms concerning numerical simulations of the resistance of windows and glazed facades to explosive effects
• Recommendations for the improvement of existing European norms for testing the resistance of windows and glazed facades to explosive effects
• Numerical simulations for classification of blast-loaded laminated glass
• Comparison of existing standards for testing blast-resistant glazing and windows.
ERNCIP Thematic Group: Resistance of Structures to Explosive Effects (cont.)

Started March 2012; 10 participants; 7 countries;

Objectives proposed for 2016:

1. **Feasibility assessment** of proposing **enhancements** to existing CEN experimental standards for testing the resistance of windows and glazed facades to explosive effects

2. To assess **existing standards** for **numerical simulation** for testing the resistance of windows and glazed facades to explosive effects - towards a **CEN-CENELEC Workshop Agreement**.
ERNCIP Thematic Group: Detection of Explosive Weapons in Secure Locations

Active since Jan 2015; 14 experts; 5 countries

Report produced in 2015

• Recommendations for standardisation activities based on the needs of security managers for the detection of explosives and weapons at secure locations with low to medium throughput

• Recommendations validated at the EU stakeholder consultation workshop in Brussels on 15 December 2015.
ERNCIP Thematic Group: Detection of Explosive Weapons in Secure Locations (cont.)

Objectives proposed for 2016:

1. Propose EU standardisation activities to mitigate the risk of explosives and weapons attacks at secure locations with low to medium throughput towards instigating the CEN Workshop Agreement process and/or harmonisation activities;

2. Investigate the opportunities for EU standardisation for mitigating the risk of explosives and weapons attacks at:
   
   i. secure locations with high throughput (e.g. large sporting and entertainment events) and
   
   ii. public places/mass transportations locations (with no secure perimeters).
ERNCIP Thematic Group: Radiological and Nuclear Threats to CI

Active since March 2013; 19 participating organisations; 10 countries;

Reports produced in 2015
• Possible scenarios for radiation measurements and sampling using unmanned systems
• State-of-the-art of unmanned systems with potential to be used for radiation measurements and sampling
• Remote Expert Support of Field Teams - Reachback Services for Nuclear Security
• Reachback State-of-the-art report
• Findings of the survey on the standardization of the list-mode data format
• Findings from the EU-wide consultation on reachback proposals
• Findings of the survey on use of unmanned systems for radiation detection.
Objectives proposed for 2016:

1. **List-mode:** To fully support the EMPIR Digital Standard project that will progress the development of a standard for list-mode data through IEC/TC45.

2. **Reachback:** To raise awareness within EU Member States on the benefits of information sharing nationally and internationally
   a) For detection of, or response to nuclear security events
   b) Identify the elements for harmonisation of a standard technological structure for spectrometric measurements.

3. **Robotics:** To support the development of European robotics/RN detection exercises, trials and/or competitions using the Group’s work on RN scenarios
ERNCIP Thematic Group: Detection of Indoor Airborne Chemical & Biological Agents

Latest ERNCIP Group, Kick-off meeting held on 16-17 September 2015

13 expert participants; 10 countries;

Summary of objectives:

1. To **define** relevant **scenarios** of **indoor airborne threats** (chemical and biological) in critical infrastructures.

2. To **perform a critical review** on the **existing sensors** available in the **EU** and used
   - (a) for **chemical agents** and
   - (b) for **biological agents**

3. To **identify the gaps** and to **define requirements** for **next generation detectors** in the **EU**.
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

Demo Video available on ERNCIP Project website
https://erncip-project.jrc.ec.europa.eu/inventory
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)
• An explosives/weapons detection consultation workshop (2015).
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

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Vimeo: Science@EC