

European Reference Network for critical infrastructure protection

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**The European Commission's
science and knowledge service**
Joint Research Centre



The Joint Research Centre at a glance

3000 staff

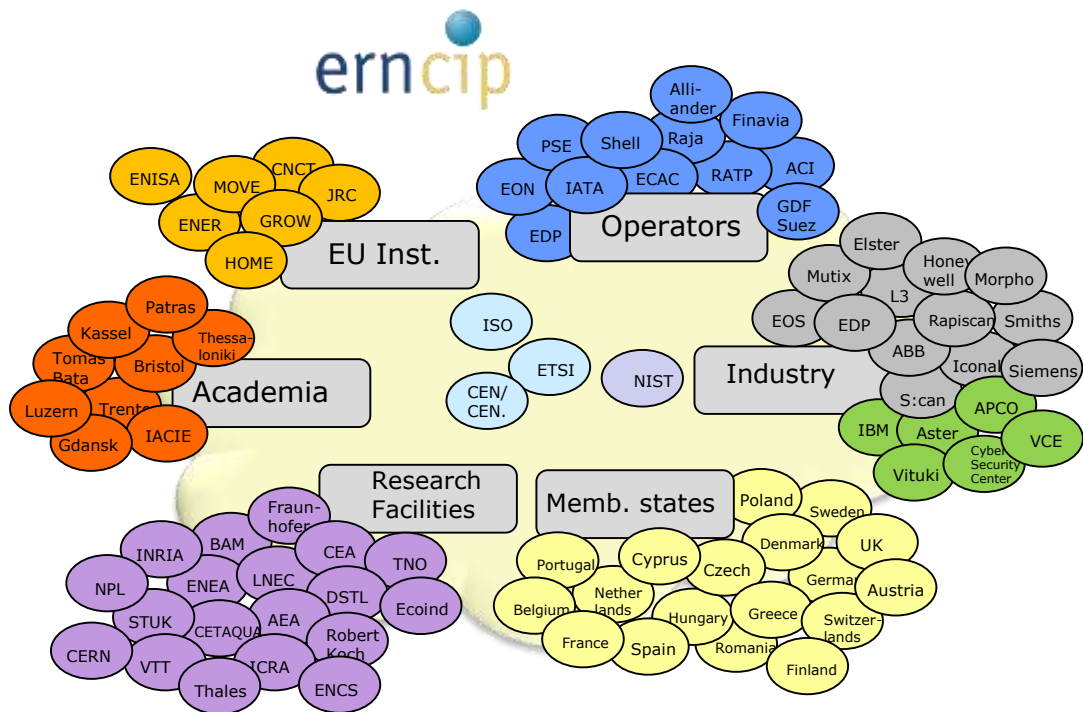
Almost 75% are scientists
and researchers.

Headquarters in Brussels
and research facilities
located in 5 Member States.



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**



<https://erncip-project.jrc.ec.europa.eu/>

Support to EU policy

The work of ERNCIP directly supports EU policy:

- Project created within the European Programme for Critical Infrastructure Protection (EPCIP) aimed at improving the protection of critical infrastructure in Europe;
- Action Plan to enhance preparedness against CBRN security risks (COM(2017) 610 final) = "*Encourage harmonisation through standardisation and certification for CBRN security products and systems: Continue pre-normative research activities within the framework of ERNCIP*";
- Supporting research on explosives detection (Communication on the EU security agenda, April 2016).

ERNICIP core activities

1. Facilitate Thematic Groups

– currently seven active

450+ experts from 200+ organisations in 18 Member States have participated in ERNCIP thematic groups



ERNCIP deliverables

We have three main types of deliverables from ERNCIP:

1. Recommendations for standardisation and research activities
2. Recommendations in support of EU policy
3. Guidance to infrastructure operators on protective security

Plus the ERNCIP Inventory: an online database of facilities in the EU with capabilities for testing security solutions

ERNICIP core activities

2. Develop and Operate the ERNCIP Inventory

135 experimental facilities from 24 Member States are registered in the ERNCIP Inventory



Thematic Groups 2017-2018

Chemical & Biological Detection

- Chemical/Biological(CB) Risks to Drinking Water
- Detection of Indoor Airborne CB agents

Weapons & Explosives Threats

- Detection of explosives and weapons at secure locations
- Protection of structures against explosive effects

Radiological & Nuclear Threats

- Radiological/Nuclear threats to critical infrastructure

Physical Security

- Extended Virtual Fencing (video and biometric technologies)

Cybersecurity

- IACS components Cybersecurity Certification Framework

Sponsors

DG HOME B4
Innovation and
Industry for Security,
June 2017 to May 2019

DG HOME D2 Terrorism
and Radicalisation,
April 2017 to March
2019

DG CNECT,
March 2017 to February
2018

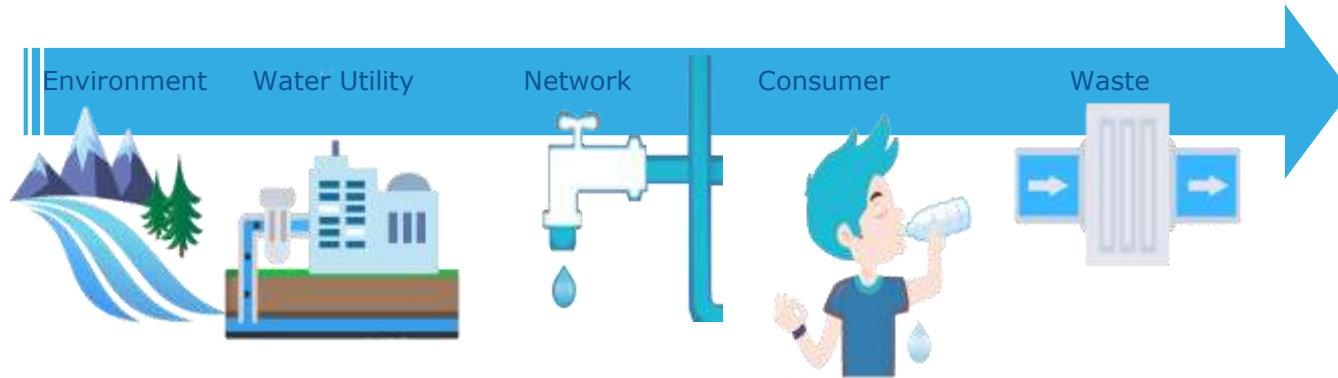


Chemical and Biological Risks to Drinking Water

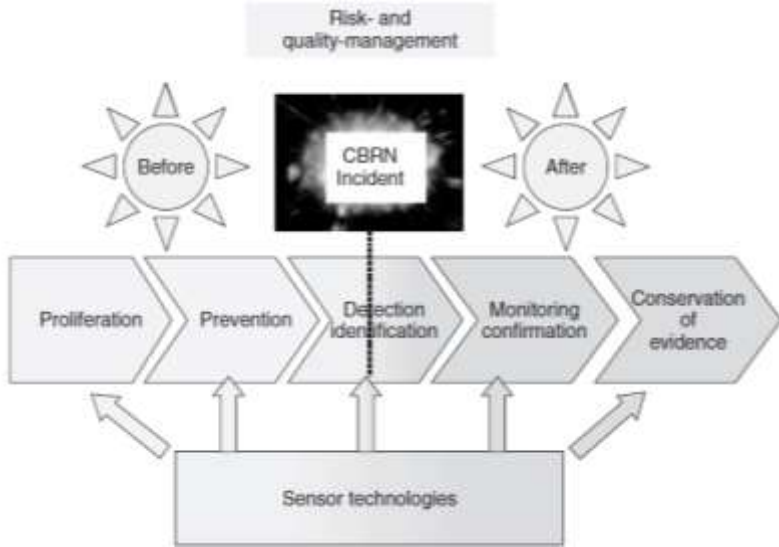


A response to deliberate chemical and/or biological contamination of drinking water.

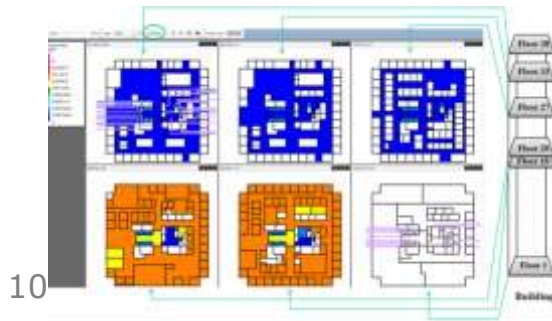
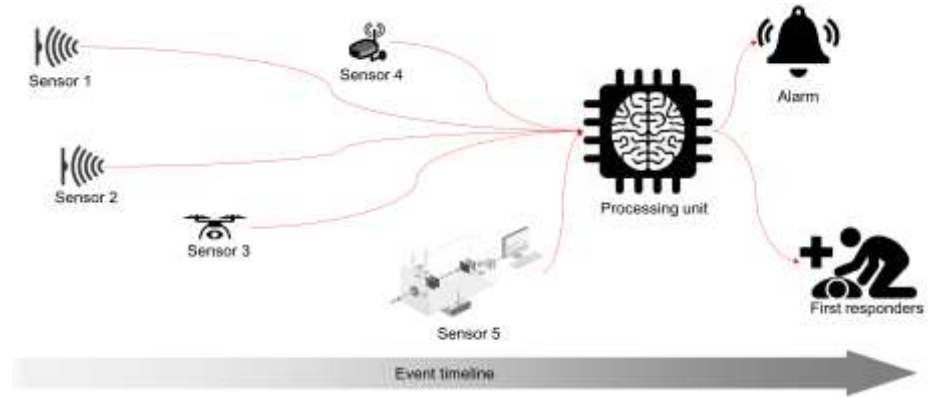
- Real-time water quality monitoring systems;
- Proposal: **Guidance on Water Security Plan for water utility operators to complement their Water Safety Plans.**



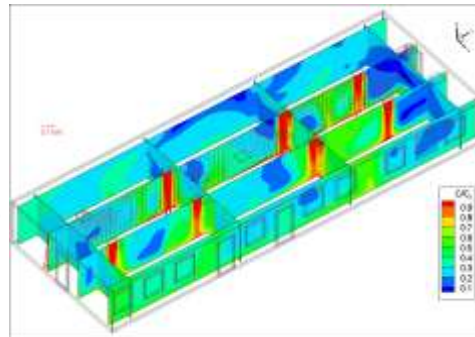
Detection of Indoor Airborne CB agents



How to combine sensors?



Where to place sensors?
How many?



Which scenarios to protect for?

Detection of Indoor Airborne CB agents - Planned Outputs

- 1. Guidance to security managers** on establishing sensing systems for DIM of indoor, airborne chemical and biological threats)
 - Different types of infrastructure, e.g. metro stations, high-rise buildings and airports
 - Optimal combination of sensors.
- 2. Report on gaps for research and standardization**
 - identification of research gaps
 - identification of gaps on standardization will be identified
 - Recommendations for future steps on sensor technologies.

Detection of Explosives and Weapons in Secure Locations (DEWSL)

Recent DEWSL Outputs

- Proposals for standardisation activities for mitigating the risk of explosives and weapons attacks at secure locations with low/medium throughput, including **production of EU-level guidance on screening vehicles at checkpoints**
- A set of research topics to help mitigating the risk of explosives and weapons attacks at secure locations with high throughput (e.g. large sporting and entertainment events) and at public places/mass transportations locations with no secure perimeters
- A working paper on the challenges and user needs for guidelines and research mitigating the risk of explosives and weapons attacks at secure locations with high throughput (e.g. large sporting and entertainment events) and at public places/mass transportations locations with no secure perimeters

Protection of Structures against explosive effects

- Testing of blast-loaded windows
→ Revision of testing standard EN 13123 and EN 13124
- Framework of the risk assessment components for building design standards (concerning terrorist effects/blast)
→ New concept, no existing procedure



Radiological and Nuclear Threats to Critical Infrastructure



Detect radiological and nuclear threats to critical infrastructure and mitigate consequences

Topics being analysed by this network of experts in 2017-2019 are:

- 1) Novel Detection Technologies
- 2) Robotics - radiation detection with unmanned systems
- 3) Reachback - expert support to field teams.

with a view of capitalising on the new list-mode data format standard being developed (IEC 63047) following the pre-normative research completed by this thematic group.

Extended Virtual Fencing

Biometric/video technologies are becoming increasingly important for critical infrastructure protection

Can technology help to identify and warn of suspicious/unusual incidents?



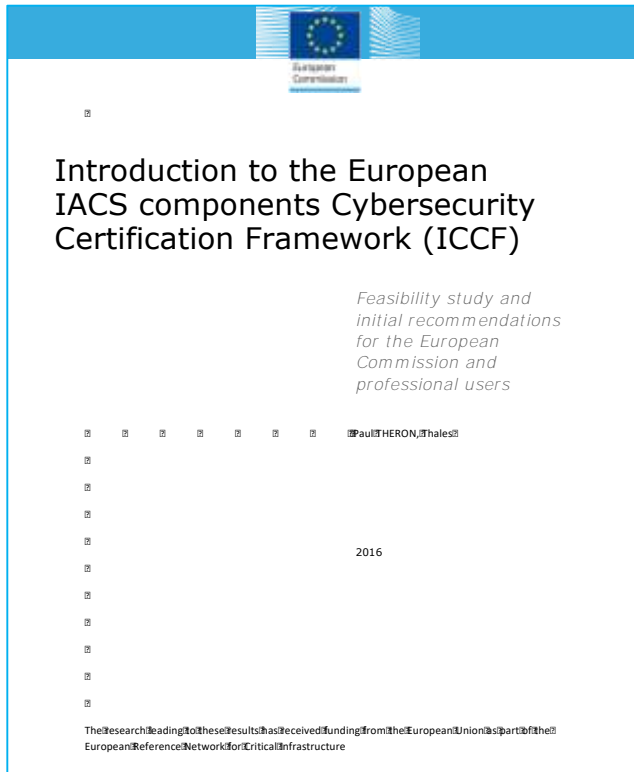
ERNICIP proposes to assess the use of biometric/video technologies which now provide the possibility to perform risk mitigation at a distance, enabling more effective human intervention.

Millions of people are on the move....

But
Most Access Controls were designed for a different world



The IACS (Industrial Automation & Control Systems) Compliance & Certification Framework - ICCF



Update due April 2018

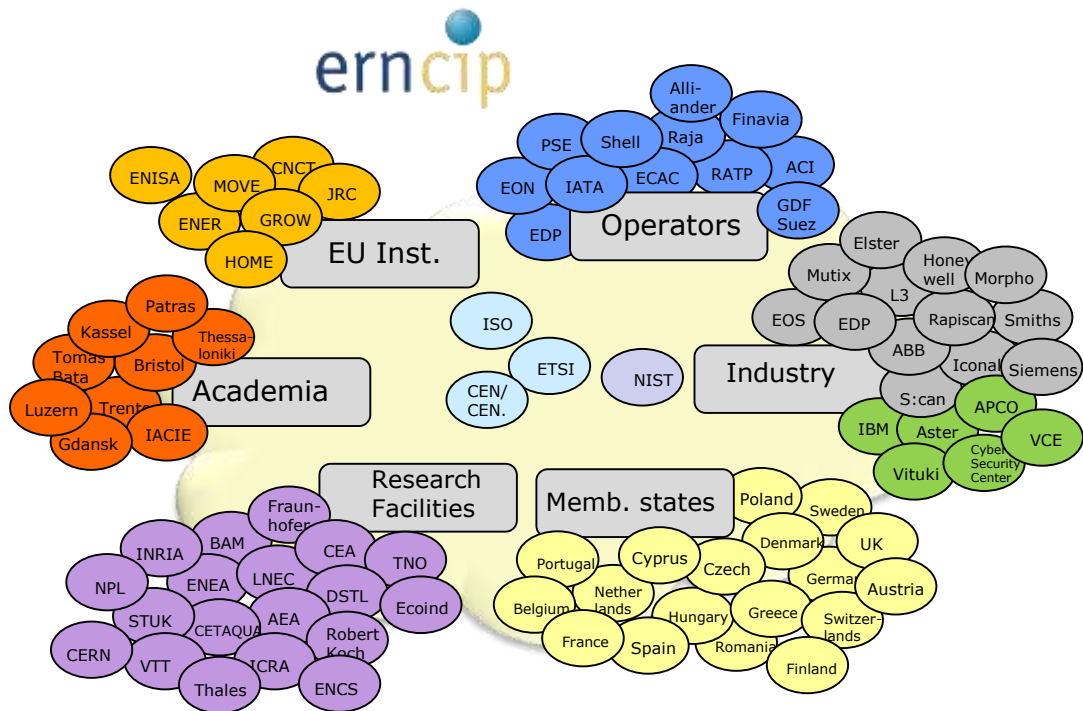
ERNCIP Approach - Summary

What differentiates the ERNCIP approach?:

- Primarily resourced by volunteer experts
- Encouragement for collaboration with other projects (current and completed)
- Thematic Group activities managed through Commission approval of annual work programmes for each Group, setting out objectives, responsibilities and deliverables, but run by the experts themselves
- ERNCIP network enables access to end-user communities
- Low cost/but slower delivery
- Flexibility to respond to changing priorities.

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<https://erncip-project.jrc.ec.europa.eu/>

Thank you for your attention – to get in touch:

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