

Critical Infrastructure Research and Resilience Network



ciprnet.eu

Project facts

Network of Excellence
Co-funded by EU FP7
Started March 1, 2013
Duration 48 months
Partners 12
Grant no 312450

CIPRNet Summary

The Critical Infrastructure Preparedness and Resilience Research Network or CIPRNet establishes a Network of Excellence in Critical Infrastructure Protection (CIP). CIPRNet performs research and development that addresses a wide range of stakeholders including (multi)national emergency management, critical infrastructure operators, policy makers, and the society. By integrating resources of the CIPRNet partners acquired in more than 60 EU co-funded research projects, CIPRNet will create new advanced capabilities for its stakeholders. A key technology for the new capabilities will be modelling, simulation and analysis for CIP. CIPRNet builds a long-lasting virtual centre of shared and integrated knowledge and expertise in CIP. This virtual centre shall provide durable support from research to end users. It will form the foundation for the European Infrastructures Simulation & Analysis Centre (EISAC) by 2020.

CIPRNet mission

The CIPRNetwork will provide concrete and long-lasting support from the CIP research communities to the initial audience, enhancing their preparedness for CI-related emergencies, and provide knowledge and technology to other stakeholders for improving the understanding and mitigation of the consequences of CI disruptions, leading to an enhanced resilience of CI.

CIPRNet Services

- cipedia.eu
 - [online glossary of CIP](#)
 - [list of CIP conferences](#)Registration of experts asked for!
- [European CIIP Newsletter](#)
- [CIPRNet training events](#)
- [CIPRNet lectures](#)
- [Bibliography of CIP literature](#)
- [Database of CIP research projects](#)
- [CIPRNet publications and deliverables](#)
- More to come!
Visit ciprnet.eu



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 312450. The European Commission's support is gratefully acknowledged. The contents of this document and the view expressed in the publication are the sole responsibility of the author and under no circumstances can be regarded as reflecting the position of the European Union.

Advanced Decision Support

CIPRNet Decision Support System (DSS) services

The functions of the CIPRNet Decision Support System include consequence analysis, threat forecasting, threat visualisation, and data accessing and gathering. These functions are bundled into the following services:

- S1 (Operational DSS)
- S2 (DSS with Event Simulator)
- S3 (DSS with synthetic Harms Simulator)
- S4 (What-if analysis tool)

S1 is the **operational** DSS that receives data in real time from *true* external inputs (meteo forecast, nowcasting data, earthquake data (shake maps), etc.) and starts operationally the whole chain of Risk Analysis.

S2 is an **on-demand tool** containing the same workflow of S1 but using as inputs *simulated* meteo or geophysical events, like earthquakes, heavy precipitation and lightning, heat/cold waves and strong winds. This enables stress-testing of critical areas with respect to potentially occurring natural events.

S3 is an **on-demand tool** supporting the creation of *synthetic* harm scenarios (virtual physical damages inserted by the user). For stress-testing during the preparedness phase of crisis management, S3 can produce artificial threat scenarios.

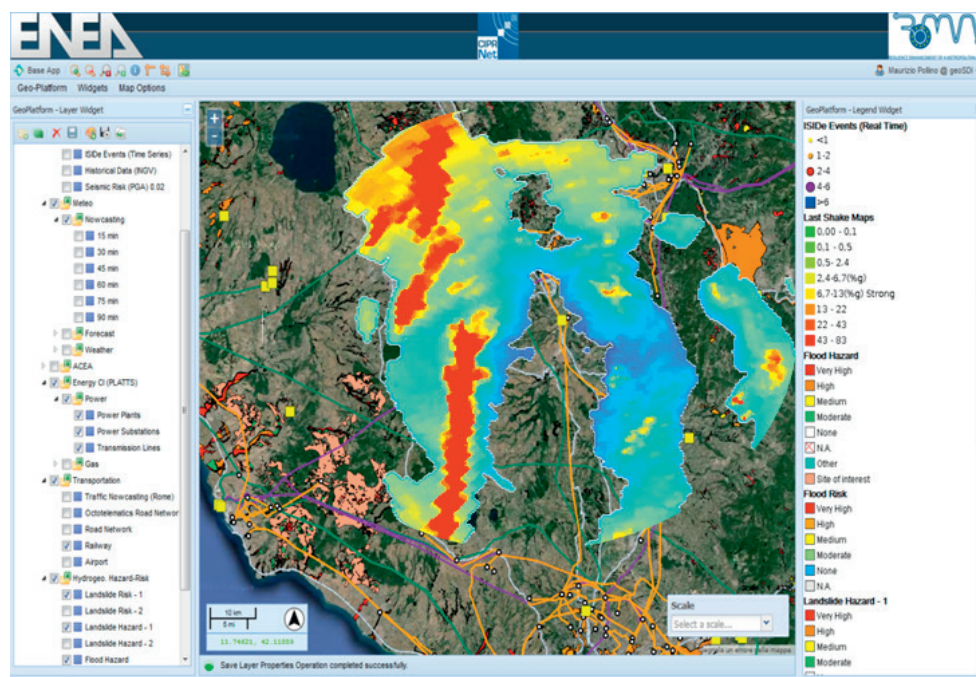
S4 triggers the start of the last part of the DSS workflow. End-users can use S4 **on demand** for designing, comparing, and validating mitigation and healing strategies through (what-if) analysis of potential consequences they produce.

Contact

Dr. Vittorio Rosato

ENEA
Casaccia Research Centre
Italy

vittorio.rosato(at)enea.it



CIPRNet's VCCC services

CIPedia® – clopedia.eu

CIPedia® is an online glossary of CIP terms and definition and aims at establishing a common reference point for CIP concepts and definitions. CIP terminology varies significantly due to contextual or sectoral differences, which, combined with the lack of standardisation, create an unclear landscape of concepts and terms. CIPedia® tries to serve as a point of disambiguation where various meanings and definitions are listed, guiding the reader to seek additional information to the relevant sources. CIP and domain experts can register to make contributions to CIPedia®. Also, CIP conference information can be entered.

Contact: [marianthi.theocharidou\(at\)jrc.ec.europa.eu](mailto:marianthi.theocharidou(at)jrc.ec.europa.eu)

European CIIP Newsletter (ECN) – ciprnet.eu/ecn.html

Established in 2006, the ECN is a focused dissemination organ for fostering the cooperation between the CI(I)P research communities and CI and CII stakeholders. The ECN addresses the CIP and CIIP research communities, policy makers, CI operators, crisis managers and civil protection agencies. The scope of the ECN includes feature articles of project results, expert articles on hot CI(I)P and CIP issues, best practices in C(I)IP and CIP and more.

Contact: [bmhaemmerli\(at\)acris.ch](mailto:bmhaemmerli(at)acris.ch)

CIP related research information – ciprnet.eu

Information on CIP related research and its results is currently scattered across various sources, making it hard for stakeholders to get a full picture of these efforts. CIPRNet is building a comprehensive base of CIP research related information. This includes a database of CIP reeseach projects, a bibliography of CIP related literature, and numerous links to other relevant sources of information. Also, CIPRNet's own results, publications and deliverables, are being offered.

Contact: [erich.rome\(at\)iais.fraunhofer.de](mailto:erich.rome(at)iais.fraunhofer.de)

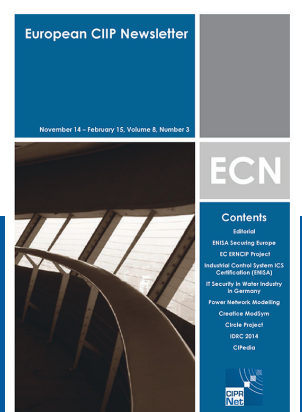
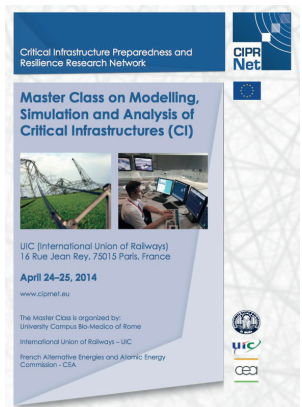
CIPRNet training activities – ciprnet.eu/capacity_building.html

CIPRNet performs a wide range of training activities, like Master Classes for end-users, courses for post-graduate students and lectures for a wider community. Check out the announcements at the CIPRNet website! Online participation is possible (registration required).

Contact: [r.setola\(at\)unicampus.it](mailto:r.setola(at)unicampus.it)

CIPRNet Services

- clopedia.eu
 - online glossary of CIP
 - list of CIP conferences
 Registration of experts asked for!
- [European CIIP Newsletter](#)
- [Bibliography of CIP literature](#)
- [Database of CIP research projects](#)
- [CIPRNet publications and deliverables](#)
- [CIPRNet training events](#)
- [CIPRNet lectures](#)
- [More to come!](#)
Visit ciprnet.eu



Critical Infrastructure Research and Resilience Network



New Capabilities

The CIPRNet's joint R&D activities towards implementing new capabilities include:

- Creating added-value, decision-support capabilities with consequence analysis for national and multi-nation emergency management and CI owners based upon integrating technologies available at CIPRNet partners,
- Supporting the secure design of Next Generation Infrastructures (such as Smart Grids),
- Creating a new 'what if' modelling, simulation and analysis capability for training emergency managers by exploring different courses of action in crises.

VCCC and EISAC

Another tangible result of CIPRNet is the Virtual Centre of Competence and Expertise in CIP (VCCC). It provides support from the CIP research communities to stakeholders. Its services are accessible through the CIPRNet web site. A newly founded association will foster the evolution of the VCCC to EISAC for sustaining support beyond the duration of CIPRNet.

Capacity Building

CIPRNet supports capacity building within the multi-disciplinary community of CIP experts by training activities like CIPRNet Master Classes for end-users, CIPRNet courses for post-graduate students and CIPRNet lectures for a wider community. Also, CIPRNet fosters open-minded young talents that are required for building and sustaining the expert capacities. One means is the CIPRNet Young CRITIS Award (CYCA) for the best young talents' research work in CIP.

ciprnet.eu

Contact

Dr.-Ing. Erich Rome
(co-ordinator)

Fraunhofer IAIS
Sankt Augustin
Germany

[erich.rome\(at\)iais.fraunhofer.de](mailto:erich.rome(at)iais.fraunhofer.de)

PARTNERS

Fraunhofer-Gesellschaft zur Förderung der Angewandten Forschung e.V. (Fraunhofer)

Agenzia Nazionale per le Nuove Tecnologie, L'Energia e lo Sviluppo Economico Sostenibile (ENEA)

Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek (TNO)

Union Internationale des Chemins de fer (UIC)

Commissariat à l'énergie atomique et aux énergies alternatives (CEA)

The European Union represented by the European Commission represented by the Joint Research Centre (JRC)

Stichting Deltares (Deltares)

University of Cyprus (UCY)

Uniwersytet Technologiczno-Przyrodniczy im. Jana i Jędrzeja Śniadeckich w Bydgoszczy (UTP)

Università Campus Bio-Medico di Roma (UCBM)

The University of British Columbia (UBC)

ACRIS GmbH (ACRIS)

COUNTRY

Germany

Italy

The Netherlands

France

France

European Union

The Netherlands

Cyprus

Poland

Italy

Canada

Switzerland