ECOSSIAN

European Control System Security Incident Analysis Network

Project number: **607577**
Project website: **www.ecossian.eu**
Project start: **1st June, 2014**
Project duration: **3 years**
Total costs: **EUR 13.196.720,61**
EC contribution: **EUR 9.224.459**

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 607577.

Mission of ECOSSIAN:

The mission of ECOSSIAN is to improve the detection and management of highly sophisticated cyber security incidents of and attacks against critical infrastructures by implementing a pan-European early warning and situational awareness framework with command and control facilities.

Motivation:

The protection of Critical Infrastructure (CI) increasingly demands solutions which support incident detection and management at the levels of individual CI, across CIs which are depending on each other, and across borders. An approach is required which really integrates functionalities across all these levels. Cooperation of privately operated CIs and public bodies (governments and EU) is difficult but mandatory.

After more than 10 years of analysis and research on partial effects in CI Protection (CIP) and for individual infrastructure sectors, ECOSSIAN is a European attempt to develop this holistic system.

One goal is a prototype which facilitates preventive functions like threat monitoring, early indicator and real threat detection, alerting, support of threat mitigation and disaster management. The factors of societal perception and appreciation, the existing and required legal framework, questions of information security and implications on privacy will be analyzed, assessed and regarded in the concept.

Objectives:

The European economy and the welfare of its citizens require that the European CIs function properly. To address this issue ECOSSIAN project contributes to the

- European Programme for Critical Infrastructure Protection (EPCIP)
- Strategy and Action Plan developed by the European Commission
- Worldwide Initiatives on Cyber Security of Industrial Control Systems and Smart Grids followed by ENISA and Member States.

ECOSSIAN will establish a working and exchange relation to the Security and Defence Agenda, who has already produced useful guidelines on how to improve Europe's CIP.

The ECOSSIAN project aims to:

- Establish and enhance a security-state awareness to support operators of CI by implementing an Operator Security Operation Centre (O-SOC);
- Combine O-SOCs of Member States' identified and designated CI in a National Security Operation Centre (N-SOC);
- Improve the effectiveness of decision-making and incident response capabilities in Member States through real-time situational awareness, information sharing and efficient command & control opportunities;
- Support a pan-European early-warning entity through the connection of Member States N-SOC to a European Security Operation Centre (E-SOC), including the required interoperability standards;
- Enable consistent and collaborative cross-border and cross-sectorial incident management for CI by utilizing E-SOC capabilities;
- Build trusted relationships and engage the CI operators at the EU level;
- Ensure trustworthiness, anonymity, privacy and legality of action for all stakeholders and end users as necessary;
- Perform a full-scale demonstration of the implemented ECOSSIAN framework and system; and
- Build an entry point for EU-US collaborative information sharing efforts in cyber defense to create readiness to react on a global basis.

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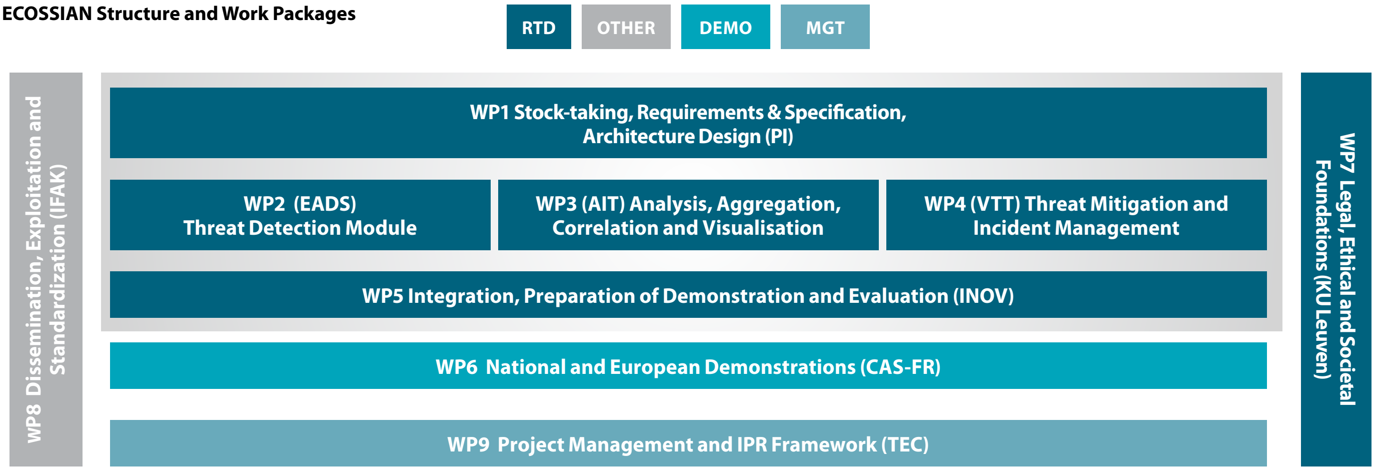
ECOSSIAN Structure and Work Packages



RTD

OTHER

DEMO

MGT

WP8 Dissemination, Exploitation and Standardization (IFAK)

WP1 Stock-taking, Requirements & Specification, Architecture Design (PI)

WP2 (EADS) Threat Detection Module

WP3 (AIT) Analysis, Aggregation, Correlation and Visualisation

WP4 (VTT) Threat Mitigation and Incident Management

WP5 Integration, Preparation of Demonstration and Evaluation (INOV)

WP6 National and European Demonstrations (CAS-FR)

WP9 Project Management and IPR Framework (TEC)

WP7 Legal, Ethical and Societal Foundations (KU Leuven)

Technical Approach:

The ECOSSIAN project is planned to run 36 months. The work performed in the framework of this project is organized in nine different work packages with significant dependencies and expected synergies among them.

WP1 Stock-taking, Requirements & Specification, Architecture Design

WP1 reviews the state of the art of CI security provisions, defines suitable use case scenarios and evaluates the main gaps not adequately addressed by currently available SOC technologies. Further goals are the drawing of the ECOSSIAN platform and monitoring of basic security methodological aspects.

WP2 Threat Detection Module

WP2 deals with research and development in extending current state of the art techniques and methodologies. The focus is on identifying indicators and artefacts of cyber-attacks in real-time to be able to trigger alarms in a timely manner.

WP3 Analysis, Aggregation, Correlation and Visualisation

WP3 focuses on the analysis of collected data and their aggregation and correlation in order to generate a higher level view on systems and services of CI providers. A further objective is the proper visualization of gathered information suitable for decision makers.

WP4 Threat Mitigation and Incident Management

WP4 deals with research and development of novel approaches for better handling of threats and realized risks to CI. Further a forensic tool is planned and implemented in the WP.

WP5 Integration, Preparation of Demonstration and Evaluation

WP5 targets the integration of all the components developed in the project, including testing and validation of the ECOSSIAN approach. Final objective for this WP is to prepare the system for the demonstration activities.

WP6 National and European Demonstration

WP6 proves how the ECOSSIAN system can be used, its main features, the global workflow and how information will be shared between CIs and governmental stakeholders.

WP7 Legal, Ethical and Social Foundations

WP7 focuses on legal and business aspects of the crisis prevention and management. Its goal is to ensure that the developed system is compliant with the legal framework in the areas of privacy, data protection and information sharing.

WP8 Dissemination, Exploitation and Standardization

WP8 focuses on the transfer of knowledge developed in ECOSSIAN to industrial communities, academia and the general public as well as on the exploitation of results and on identifying project outcomes to be passed to standardization working groups.

WP9 Project Management and IPR Framework

WP9 deals with the overall legal, ethical, financial and administrative management as well as the maintenance of the consortium agreement and IPR protection.

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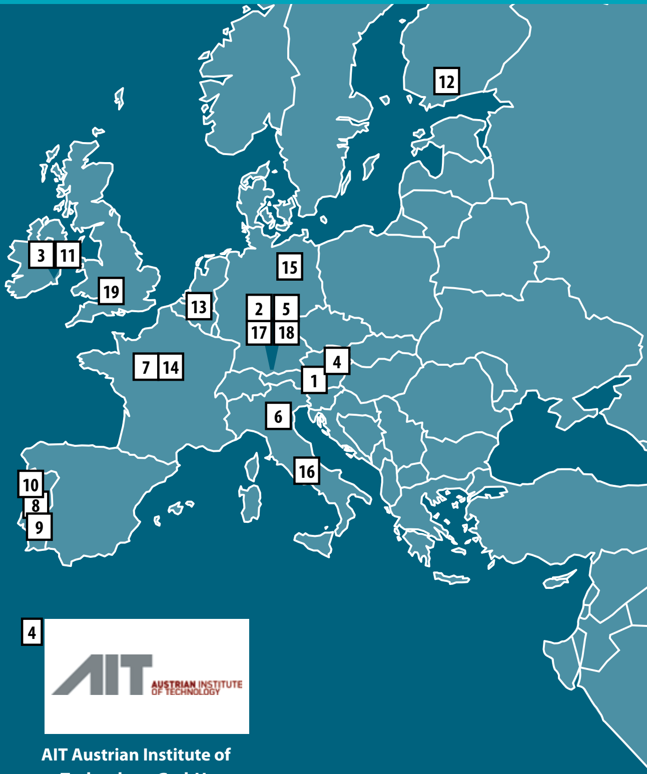
Consortium:

The ECOSSIAN consortium is well-positioned to achieve its objectives by bringing together a European team of leading industrial and research companies, a research oriented SME as well as well respected universities. These 19 project partners from 9 different countries form a complete chain stretching from basic research and service design, via applied research, up to end-user oriented service providers.



Project Partners:

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