



Result of the first two-year journey of ECHO

Written by Matteo Merialdo
Project Implementation Coordinator, RHEA Group



ECHO recently concluded its **first two-year journey**, where multiple systems, software and frameworks development activities took place. It is time, finally, to exploit and show the results of these two incredibly intense years!

In a nutshell, ECHO worked on a **vast set of assets** and delivered its **first consolidated versions**:

- **ECHO Multisector Assessment Framework (E-MAF)** – a novel process to **assess the risk of multi-sector and inter-sector scenarios**.
- **ECHO Cybersecurity Certification Scheme (E-CCS)** – based on the EU Certification Framework, the E-CCS provides guidelines to more easily **define sector-specific product-oriented certification schemas**.
- **ECHO Cyberskills Framework (E-CSF)** – an innovative methodology to **design and implement tailored outcome-based cyber training curricula**, including hands-on skills development based on cyber ranges exercises.
- **ECHO Governance Model (E-GM)** – a full **governance model for a network of cyber centres of competence**, to be used by ECHO partners to guarantee continuity after the ECHO project, directly connected to the European Cybersecurity Competence Network.
- **ECHO Early Warning System (E-EWS)** – a **complete, hardened, early warning system for EU organizations**. E-EWS enables hundreds of organizations to share early warning cyber information and collect, process, enrich threat intelligence data from multiple sources. Able to connect to existing, national, early warning networks based on different technologies, **E-EWS aims to constitute one of the technological foundations of the European Cybersecurity Competence Network**. As a means to test and validate the E-EWS, ECHO is regularly organizing extensive tabletop exercises involving dozen of organizations and complex scenarios.

- **ECHO Federated Cyber Range (E-FCR)** – an unprecedented system to connect multiple cyber ranges and enable complex scenarios for training, testing, research, and development. Besides, the team developed a complete Marketplace for cyber range services to limit the actual scattering of the market.
- **ECHO Technology Roadmaps** – technology roadmaps are a vital element of the novel EU cybersecurity strategy, as a means to collect and design solutions for crucial cybersecurity challenges. At the forefront of the research, ECHO developed a streamlined methodology to identify cyber technical challenges and derive technology roadmaps to overcome such challenges.
- **ECHO Early Prototypes** – after the definition of a set of technical cyber challenges for EU, the ECHO team designed and implemented a large set of technological prototypes, intending to push cyber engineering research to the next level. Among the prototypes at their final stage of development:
 - Penetration Testing Tool
 - Trust & Quality Metrics
 - CyMS, network monitoring for Maritime sector
 - CVE Strainer
 - SNORT automation module
 - CTI extractor
 - MonSys
 - Malware Analysis and Intelligence Tool
 - Intrusion Detection System Combo
 - E-MAF software tool (based on the ECHO Multisector Assessment Framework)
 - Secure Information Sharing Platform for healthcare data
 - Threat Exposure Calculator
 - Automated X-Modes and Effects Analysis

On top of all these activities, ECHO managed to connect all its partners at multiple layers (research, engineering, business). Thanks to this experience, we are working together in many other activities, and we are at the forefront of the Horizon and Digital Europe programs.

These first two years were a long and intense ride: it is now time to test and validate our outputs. We are interested on any organization willing to join the ECHO Network and provide their contribution to any of these activities! Participation in our training curricula, in our cyber range exercises and tabletop exercises, is very welcome. Don't hesitate to contact info@echonetwork.eu for further information, or visit <https://echonetwork.eu/join-echo/>!