STOP-IT

Secure and protect your water infrastructures with STOP-IT

In the critical infrastructures of the water sector, cyber and physical elements are more and more interconnected thanks to the ongoing process of digital transformation. The increasing integration brings benefits, but also new challenges, especially from a security perspective. To increase the resilience of the water service, it is demanding to break the siloes separating cyber and physical security and adopt an all-hazards risk management framework able to identify, analyse and evaluate cyber and physical risks, their combination, and their cascading effects.

At the same time, water organizations, as critical entities, have to comply with new directives about security advising to perform risk assessment and take appropriate technical and organisational measures in order to boost resilience. Achieving cybersecurity therefore is an increasingly complex goal, as a direct consequence of the development of technology and the improving sophistication and frequency of cyber-attacks. The goal is even more challenging if barriers, such as lack of awareness and competence gaps, exist.

The European research project STOP-IT attempted to tackle these challenges. During four years of intense research and collaboration, the consortium succeeded in different directions by:

1. Raising awareness about cybersecurity in the water sector by organizing dedicated thematic communities of practice and with active dissemination work through conferences, publications and materials.
2. Supporting water utilities to systematically protect their systems by addressing cyber-physical security as an integrated approach.
3. Improving the ability to cope with new risks by building competence through training activities.
4. Producing a large number of tools and technologies to protect critical water infrastructure against cyber and physical threats and their combination.

The research results culminate in the STOP-IT platform that combines all STOP-IT tools and therefore **supports strategic and tactical planning, real time operational decision making and post-action assessment** for the key parts of the water infrastructure. It includes and combines strategic and tactical decision making tools, tools to monitor and protect SCADA and IT systems, tools for protection against physical threats, tools to detect cyber-physical anomalies, tools for risk exposure assessment, alert generation and countermeasure proposition, a tool to detect and inform about wireless jamming attacks, a tool for storing and sharing information about cyber threats and attacks across critical infrastructure, a tool for alerting users/citizens about a critical situation and a tool that visualizes information from all modules of the STOP-IT platform.

All modules and tools are integrated, connected to each other and interoperable, therefore ensuring the protection against combined cyber-physical threats and allowing the analysis of cascading effects of physical and cyber events.

More information about the project, the tools or the platform at: https://stop-it-project.eu/

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 740610.