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fh OBERÖSTERREICH UNIVERSITY OF APPLIED SCIENCES UPPER AUSTRIA

SUPPLY CHAIN MANAGEMENT

SOPHIE – resilience of supply chains to cascading effects from digital space.

The SOPHIE project aims to enhance the resilience of supply chain ICT infrastructures by increasing awareness of cybersecurity issues as well as reducing the frequency and severity of successful cyber-attacks. The reliability of these infrastructures increases the reliability of planning for production and supply chains, benefiting both customers and suppliers.

The SOPHIE project initiative addresses the pressing threat of cyber-attacks by focusing on increasing awareness and enhancing responsiveness in the supply chain. Specifically targeting technical and non-technical core personnel, the project aims to build resilience through the implementation of suitable tools and reference processes. This comprehensive approach aligns with the project's primary goals: improving understanding of cyber-attack impacts, reducing the frequency and severity of successful attacks, and decreasing the recovery time while planning preventive costs efficiently.

The initiative employs various measures, including the analysis, modeling, and simulation of cyber incidents, coupled with training programs and cybersecurity awareness exercises. These activities are designed to reflect user behavior in emergencies, analyze operational and decision-making processes, define and validate response measures, and coordinate actors and their responsibilities. The simulation aspect aids in identifying critical processes, potential bottlenecks, and opportunities for tactical process optimization, contributing to both proactive and reactive management of cyber-attacks along the supply chain.

Aditionally, the project draws attention to cascade effects, lateral movements and illustrates potential risks to the entire supply chain when less protected parts of the supply chain are targeted. Initiatives like SOPHIE are deemed crucial for ensuring resilience and adaptation to external influences in the digitized economy.

Furthermore, SOPHIE conducts a comprehensive requirements analysis to identify the resilience and cybersecurity needs of national and international supply chains. Following a step-by-step approach, the project includes mapping system components, simulating cyber-attacks, analyzing cascade effects, and developing training programs for key personnel. Results encompass algorithms for identifying critical points, scenario simulations, and the integration of cyber-physical systems into the AIT cyber range. This integration aims to enhance the identification of bottlenecks and disruption effects.

contact details of the project manager:
Mag. Michael Herburger, BA MA PhD
+43 50 804 33255, michael.herburger@fh-steyr.at

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