

FBK's Cybersecurity JointLab: Research and infrastructure for digital security

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The governance model presented at the GARR 2026 Conference demonstrates how collaboration across different areas of expertise can strengthen security, ensure business continuity, and drive innovation.

FBK's [JointLab for Cybersecurity](#) is an innovative model designed to enhance the security of information systems, ensure service continuity, and proactively address cyber threats. Officially established in 2025, the joint laboratory brings together the expertise of FBK's [Center for Cybersecurity](#) and its Digital Solutions and IT Infrastructure Service.

Its distinctive feature is the direct connection between research activities and the management of the Foundation's digital and operational infrastructure (IT/OT). Solutions developed by researchers can be tested in a controlled environment that replicates real-world scenarios, allowing their effectiveness to be validated before deployment. This is the case, for example, with anomaly detection models tested on FBK network traffic—always in compliance with the necessary security and data protection requirements—or TLSAssistant, a tool that verifies the security and compliance of TLS endpoints (one of the most widely used security protocols on the Internet) against national and international guidelines, including those of ACN, NIST, BSI, and ANSSI.

"The JointLab was created to establish a stable bridge between those who develop new solutions and those who manage and protect the Foundation's digital infrastructure on a daily basis. This enables us to accelerate the transfer of innovation into practical applications and to validate research in real-world environments," said **Leonardo Canello**, a member of FBK's JointLab for Cybersecurity, who presented the model at the **GARR 2026 Conference** recently held in Pisa.

The event brought together representatives from Italian universities, research institutions, and public organizations for three days of discussions on the major challenges facing digital infrastructure, resilience, and digital sovereignty, while also looking ahead to future developments such as the potential positive and negative impacts of quantum computing. **GARR** is the national research and education network that provides high-performance connectivity and advanced services to Italy's scientific community. Through its connection to the Géant network, it enables

universities and research centers to collaborate internationally, facilitating the sharing of data, expertise, and digital infrastructure. Each year, the GARR Conference serves as one of the leading forums for discussion among professionals working in technological innovation and digital research. The presentation of the JointLab provided an opportunity to demonstrate to other members of the GARR community how structured collaboration between research and infrastructure management can deliver tangible benefits for cybersecurity.

This synergy becomes even more valuable in light of the NIS2 **Directive**, which requires organizations to strengthen their digital resilience and cyber risk management capabilities. In this context, the JointLab provides a practical mechanism for translating cybersecurity expertise and research results into deployable solutions, fostering collaboration between research and operational infrastructure while supporting compliance with emerging regulatory requirements. The experience gained is also shared through training and awareness activities aimed both within the Foundation and toward local public authorities, with the goal of contributing to the development of a safer, more informed, and more resilient digital ecosystem.

In a context where cybersecurity is increasingly critical to the effective functioning of organizations, the JointLab for Cybersecurity has established itself as a strategic asset for FBK. *“Security can no longer be considered separate from research or infrastructure management if we want to ensure resilience and lay the foundations for digital sovereignty—a goal that is becoming increasingly urgent at both the national and European levels given the current geopolitical landscape. In this context, the value of the JointLab lies precisely in its ability to integrate diverse expertise through an interdisciplinary approach, enabling us to identify emerging security challenges and stimulate research into both technological and organizational solutions that can subsequently be validated internally. In this way, a virtuous cycle is created that promotes research excellence with significant impact both within FBK and across the broader ecosystem in which it operates, ensuring that the Foundation’s expertise, services, and infrastructure can be used with confidence by public bodies and companies—first in Trentino and then at the national and European levels—while maintaining a strong commitment to innovation,”* emphasized **Silvio Ranise**, Director of FBK’s Center for Cybersecurity.

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