

## Connected 5G-IoT Cyber Range for Training and Secure Operation

### Project Coordinator

#### Prof. Christos Xenakis

School of Information and  
Communication Technologies  
Department of Digital Systems,  
University of Piraeus,  
Karaoli and Dimitriou 80,  
PC 18534, Piraeus, Greece

Tel: +30 210 4142776

Email: [xenakis@ssl-unipi.gr](mailto:xenakis@ssl-unipi.gr)

### Project Details

G.A. number: 101145872

Project Website: [nitro-project.eu](http://nitro-project.eu)

Project start: 01/01/2024

Duration: 36 Months

Total cost: EUR 1862656

The NITRO consortium has now successfully submitted key deliverables detailing the project's progress, including the final NITRO architecture and the platform's initial design. Building on these achievements, the consortium recently concluded the official first platform evaluation.

Following this successful milestone, the team is now focused on enhancing the platform through ongoing integration efforts, finalising the security training exercises, and refining the overall user experience based on the evaluation feedback. Work Package 3 (Cybersecurity Training Exercises) and Work Package 4 (Scoring System and Gamification) continue to evolve. Meanwhile, ongoing efforts are dedicated to implementing the final platform improvements in preparation for the project's concluding stages, which will feature a final platform evaluation conducted through the two use cases already underway in Work Package 5.

### CONSORTIUM



uni.systems



ubitech



NITRO project has received funding from the European Union's DIGITAL JU SME Support Actions under the grant agreement No. 101145872.

## NITRO Wins Gold at Cyber Security Awards 2026

We are proud to share that NITRO has been **awarded Gold at the Cyber Security Awards 2026** by BOUSSIAS, achieving first place in the **Cyber Awareness & Training category**. This distinction recognises the innovation and impact of the NITRO Digital Europe Action in advancing cybersecurity training and strengthening digital resilience across Europe.

At the heart of this success is NITRO's 5G-IoT cyber range, a cutting-edge environment that simulates real-world cyber threats and complex, interconnected systems. Through hands-on scenarios, users gain practical experience in identifying, analysing, and responding to modern attacks, including cascading incidents and AI-driven threats. The award also **reflects the strength of collaboration between the project partners**, Hellenic Cybersecurity Institute, University of Piraeus, Ionian University, UBITECH and Uni Systems, bringing together expertise from academia, research, and industry to deliver a truly impactful training platform.

This achievement reinforces NITRO's mission to bridge the gap between theory and practice, equipping the next generation of cybersecurity professionals with the skills needed to protect tomorrow's digital infrastructures.

 We warmly thank all partners and contributors for their dedication and continuous support.



NITRO project has received funding from the European Union's DIGITAL JU SME Support Actions under the grant agreement No. 101145872.

## First Insights from NITRO's Beta Evaluation: Testing the Platform in Action

The first evaluation of the NITRO platform was conducted through the **implementation of dedicated use cases**, marking a key step in assessing both the platform and its cybersecurity training scenarios under realistic conditions.

Rather than relying on predefined benchmarks, this initial phase focused on **how participants actually experienced and interacted with the platform**. Students, cybersecurity professionals, and ECSC-related participants engaged with hands-on scenarios in 5G and IoT environments, offering valuable insights through their direct involvement.

The evaluation process combined several complementary elements:

- **Self-paced interaction with cyber range scenarios**, reflecting real-world challenges
- **Pre- and post-session self-assessments**, capturing perceived progress in areas such as 5G/IoT security and cyber range experience
- **Structured questionnaires**, exploring motivation, usability, and perceived learning
- **Qualitative feedback and observation**, highlighting usability issues, technical challenges, and user expectations

This first round of testing revealed a **consistently positive user experience**, with participants reporting meaningful learning gains and strong engagement with the scenarios. At the same time, it brought forward clear areas for improvement, including the need for more explicit task instructions, enhanced guidance during exercises, and improved stability in scenario deployment. Importantly, the evaluation demonstrated that NITRO is not only functional as a technical platform but also **effective as a hands-on training environment**. The use case-driven approach proved especially valuable in capturing both technical performance and user experience, providing actionable insights for the next phase of development.



As the platform evolves, these early findings form a **solid foundation for refinement**, supporting improvements in scenario design, usability, and overall training effectiveness in complex 5G and IoT ecosystems.



# NITRO | Newsletter

## Issue 6 | April 2026

### NITRO News & Events



### NITRO in the event AI Enables Cybersecurity: The Meetup

### NITRO Presented at the 2nd Cyber Intelligence and Cybersecurity Summit 2026



NITRO project has received funding from the European Union's DIGITAL JU SME Support Actions under the grant agreement No. 101145872.

# NITRO | Newsletter

## Issue 6 | April 2026

### NITRO News & Events



NITRO Represented at the 13th Information Security Conference 2026

NITRO presented at the 1st Student Cybersecurity Conference of the University of Macedonia



Christoforos Dadoyan Presents NITRO Research at ICISSP Conference 2026



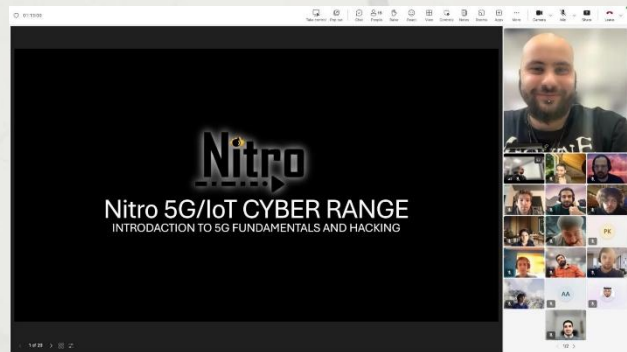
NITRO project has received funding from the European Union's DIGITAL JU SME Support Actions under the grant agreement No. 101145872.

### NITRO News & Events



### IURC Presents NITRO Project at Research Day in Corfu: NITRO 5G-IoT Cyber Range

### IURC Showcases NITRO 5G-IoT Cyber Range to CENCUS: Exploring 5G Security Threats



### NITRO Publications

- Paparis, G., Apostolis Zarras, Aristeidis Farao, & Christos Xenakis (2026). PINSA: Privacy-preserving cyber insurance framework. Cluster Computing. Springer Nature. [<https://doi.org/10.1007/s10586-026-05996-z>]



NITRO project has received funding from the European Union's DIGITAL JU SME Support Actions under the grant agreement No. 101145872.

## Upcoming Deliverables and Future Activities

NITRO researchers are working on deliverables and tasks in order to fulfill all the main objectives, which will lead toward the completion of the project.

In the next months, researchers will work on the following deliverables:

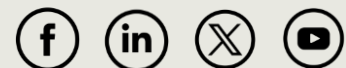
- D3.2: NITRO data repository for threats and incidents
- D3.3: NITRO security training exercises design and development - second version
- D4.3: NITRO scoring and gamification system - second version
- D4.4: NITRO Infrastructure Integration - second version



### Find us here!

Website: [nitro-project.eu](https://nitro-project.eu)

@nitroEUDEA



NITRO project has received funding from the European Union's DIGITAL JU SME Support Actions under the grant agreement No. 101145872.