

TESTUDO

AUTONOMOUS SWARM OF HETEROGENEOUS RESOURCES
IN INFRASTRUCTURE PROTECTION VIA THREAT PREDICTION AND PREVENTION



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NEWSLETTER 3



SEPTEMBER 2026

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Dear Reader,

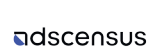
Welcome to the third and final issue of the **TESTUDO** Newsletter. Our consortium has finalised the development of new tools and capabilities for enhancing the surveillance and protection of the European Critical Infrastructure and the project is reaching its completion.

We would like to present you our accomplishments in the third year of the project implementation and the results we have managed to deliver that were demonstrated to the End Users during the final trials in July 2026.

If you are interested in the post-project updates on **TESTUDO** and related topics, follow us on our social media channels and check the News section on our webpage.



TESTUDO project team





Summary and accomplishments of the third project year

In the third year the consortium focused on efforts for the implementation, testing and evaluation of the first prototype of the **TESTUDO** platform.

In December 2025, 4th physical plenary meeting of the **TESTUDO** project was held in Bilbao, Spain. Review of project activities focused on the completed execution of Use Case 2 trials, with all partners involved having the opportunity to present the current state of developments of the **TESTUDO** system.



TESTUDO 4th plenary meeting

The fifth in-person plenary meeting of the **TESTUDO** project took place on April 24 near Athens, Greece, at a picturesque location managed by EYDAP.

During the meeting, partners discussed the upcoming project activities, with a particular focus on the preparation to the system testing and evaluation. The data collected during the Use Case 2 trials confirmed that the defined objectives had been successfully achieved.



TESTUDO 5th plenary meeting

As usual, participants were also presented with the current status of work on the **TESTUDO** system, organised by individual work packages. These activities laid the groundwork for the demonstration under Use Case 3.

The meeting concluded with a clear outline of the consortium's next steps, in particular regarding the preliminary evaluation of the system based on the collected data.

The successful implementation of all project objectives resulted in the delivery of an integrated framework that combines autonomous systems, advanced sensing technologies, artificial intelligence, information fusion, predictive intelligence, and decision-support services into a unified operational platform for Critical Infrastructure protection.

More specifically, **TESTUDO** delivered:

- 🌐 An interoperable platform integrating heterogeneous technologies for Critical Infrastructure monitoring and incident management.
- 🌐 Advanced sensing and AI-based capabilities for detecting physical, cyber, chemical, and environmental threats.

- Enhanced situational awareness through real-time information fusion and predictive analytics.
- Decision-support tools that assist Critical Infrastructure operators and first responders during security incidents.
- Technologies validated through large-scale demonstrations in representative operational environments.
- Scientific, technological, and operational knowledge that contributes to strengthening the resilience of European Critical Infrastructures.

Overall, six project milestones were accomplished, marked with the submission of six deliverables.

The final **TESTUDO** Review Meeting will be held In December 2026 at the Research Executive Agency's premises in Brussels, Belgium. All the progress and achievements of the reporting period (until month 36) will be presented to the Project Officer and appointed Reviewers.

Project deliverables with PUBLIC dissemination level, when accepted, will be released via the project webpage on the [Deliverables & publications](#) subpage.



Dissemination and clustering activities

While **TESTUDO** team worked towards the completion of the technical goals, efforts to disseminate the project results have been continued along with strenghtened collaboration with other security related projects and clusters, in order to maximise **TESTUDO**'s societal and technological impact.

On April 15-16, 2026, the Center for Research and Technology Hellas (CERTH) represented **TESTUDO** at the [Research and Innovation Symposium for European Security 2026 \(RISE-SD 2026\)](#) in Varna, Bulgaria.

Konstantinos Gkoutakos presented **TESTUDO**, its strategic goals and objectives, system architecture, technological assets and three Use Cases. The project was also presented at a dedicated booth featuring a roll-up banner, promotional video, and brochures, allowing direct engagement with attendees.

The goal of the RISE-SD 2026 was to provide a unique forum for disseminating scientific results, support knowledge exchange, and create networking and clustering opportunities for security stakeholders of EU-funded projects in security and defence.



TESTUDO 5th plenary meeting

On April 25-27, 2026, ACCELIGENCE Ltd. (ACCELI) showcased **TESTUDO** at their stand during the **Automation & Robotics Expo 2026 (A+R Expo'26)** in Athens, Greece.

ACCELI presented various types of their UAVs, with the versatile octa-copter CERBERUS among them, which will be utilised as one of the **TESTUDO** assets.

The A+R Expo '26 is the most important exhibition event for the automation and robotics sector in Greece, where the most advanced technological solutions in automation and robotics are presented, along with new and emerging technologies such as Artificial Intelligence and drones.

The discussions taking place during the exhibition and the open exchanges of views help to highlight new trends and draw useful conclusions for the future of the sector. The topics covered range from the application of AI and machine learning technologies to the impacts of automation on employment and society in general.



 TESTUDO at RISE-SD 2026

On April 29th, 2026 **TESTUDO** held **an online workshop for stakeholders focused on CI protection in response to environmental and security challenges.**

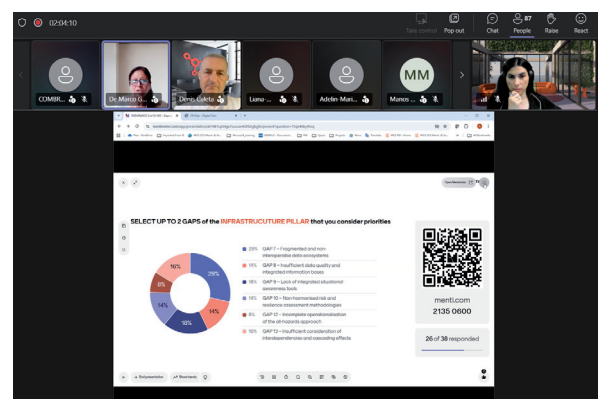
The workshop was targeted to all the safety and security professionals in critical infrastructures: tunnel construction companies and tunnel operators, Fire Brigades, Police, UAV providers, chemical industries, traffic monitoring centres and other key players of the technologies developed in the project.

Workshop presentations and discussions were focused on identifying safety & security challenges in tunnels and water facilities as well as recently completed **TESTUDO** Use Case 2 trials and integrated technical training for the end-users.

On June 4th, 2026 **TESTUDO** and **ENDURANCE** projects held jointly **an online workshop for stakeholders focused on EU Cross-border Collaboration.**

The workshop was targeted to all the relevant Critical Infrastructure stakeholders: national and international law enforcement and security agencies, CI operators, security experts across all security domains, members of related security projects and networks and members of standardisation bodies.

The workshop has gathered over 100 participants from across Europe, fostering interesting and fruitful discussions with valuable insights, innovative ideas and practical perspectives on resilience challenges, priorities and opportunities for enhanced collaboration.



 EU Cross-border Collaboration Workshop by TESTUDO and ENDURANCE

Also in June, **TESTUDO** has become a member of the **Societal Resilience Cluster of Projects**, to foster the cross-project collaboration and an enhanced stakeholder awareness.

The main objective of the cluster is to unite projects focused on Secure Societies, particularly those emphasising community engagement and societal involvement. It brings together projects under the Disaster Resilient Societies framework that share a common goal of improving responder technologies.



Societal Resilience Cluster of Projects

As one of the final activities, on July 7th, 2026 in Athens, **TESTUDO** held its last **training workshop for CI stakeholders** that was focused on presenting the project use cases, developments and impact as well as training on the project's solution and shaping a roadmap for future technical and commercial collaboration.

The workshop gathered over 20 participants (on-site and remote) and it was targeted at presenting to the **TESTUDO** end-users the expected UC3 results and gathering their feedback for evaluation via dedicated questionnaires.

The stakeholders' expertise and perspective are vital for the project exploitation plans to ensure the solutions developed in **TESTUDO** are aligned with real-world market needs and user requirements, considering also all potential regulatory, technical, or social barriers to adoption.



TESTUDO's final Training Workshop for Stakeholders

TESTUDO 2nd Policy Brief

In April 2026 the **2nd TESTUDO Policy brief "Operational Readiness in Critical Infrastructure Protection: Early Insights from TESTUDO Pilots"** has been publicly released.

Key highlights:

-  **TESTUDO** strengthens critical infrastructure protection through an integrated, real-time platform combining AI-enabled detection, predictive analysis, multi-sensor fusion, and coordinated robotic assets to enhance operational readiness.

- Use Case 2 pilot validation confirmed high-accuracy visual detection above 80% mean Average Precision (mAP), predictive accuracy of 80% or higher, stable low-latency performance under concurrent sensor feeds, and smooth system integration across components.
- User feedback identified usability constraints, including alert overload and limited multi-sensor correlation, highlighting the need for improved prioritisation and clearer visualisation.
- While aligned with the key EU frameworks, **TESTUDO** pilots underscored the absence of harmonised EU validation and certification pathways for AI- and autonomy-enabled critical infrastructure protection tools.

Context and objectives

The brief evaluates **TESTUDO**'s operational readiness and pilot outcomes, aiming to translate early evidence into actionable EU policy. It emphasizes performance, usability, and interoperability lessons learned from realistic pilot deployments.

Key Achievements and Findings

Critical infrastructure (CI) is essential to public safety, economic stability, and social well-being. However, increasing threats such as cyber-attacks, climate change-induced disasters, and other disruptions necessitate innovative solutions to enhance resilience. The **TESTUDO** project, funded by the European Commission under Horizon Europe, integrates artificial intelligence (AI), predictive analytics, and autonomous systems to protect CI through real-time threat detection and response.

- **Technological Progress:** Developed a real-time platform for automated hazard identification and decision support tailored to operators.
- **Pilot Insights:** Simulated incidents demonstrated robust performance and integration, but revealed usability constraints requiring improved alert management and visualisation.
- **Policy Alignment:** **TESTUDO** aligns with EU regulations but faces barriers due to the lack of standardised validation frameworks for AI in critical infrastructure.

Policy recommendations

Short-term (0-1 year): Establish EU-wide testbeds for AI-enabled protection tools, enhancing usability and interoperability.

Medium-term (1-3 years): Integrate predictive AI into national policies, developing common validation standards for autonomous tools.

Long-term (3+ years): Create cross-sector cooperation platforms to sustain preparedness and align AI certification with resilience frameworks.

Key message

Europe's critical infrastructure faces increasing risks from climate disruptions and cyber-physical threats. **TESTUDO** demonstrates that AI-enabled solutions can significantly enhance operational readiness but highlights the need for usable systems, clear accountability, and harmonized EU standards to facilitate practical uptake.



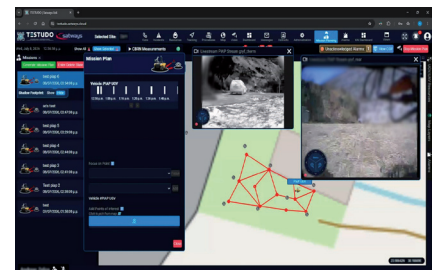
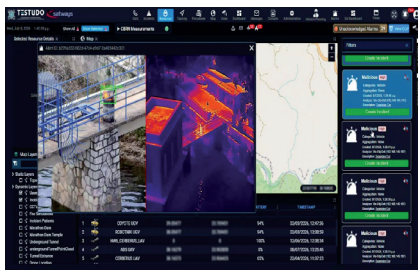
TESTUDO Use Case 3 Final Trial

Between 6 and 10 July 2026, the final **TESTUDO** system trials took place, this time focusing on the protection of water sector critical infrastructure. Project partners gathered in Greece to prepare, complete the final integration of, and test the system components that, when combined into a single operational solution, were expected to prove their effectiveness in real-life scenarios.

During the demonstrations, ground robots and aerial drones were tested under realistic operating conditions. In addition to providing environmental data through RGB cameras, thermal imaging cameras, and chemical contamination detector, **TESTUDO** assets also demonstrated the ability to interact with their surroundings, including the detection and inspection of a suspicious backpack.

Project partners and invited stakeholders had the opportunity to see first-hand the developed software modules, enabling real-time data analysis and visualisation, together with the hardware platforms integrated within the **TESTUDO** system, successfully performing the tasks defined in the operational scenario.

Technical data collected during the final trials will now be thoroughly analysed. The results will serve to assess the performance of the individual components as well as contribute to the final evaluation of the whole **TESTUDO** system.



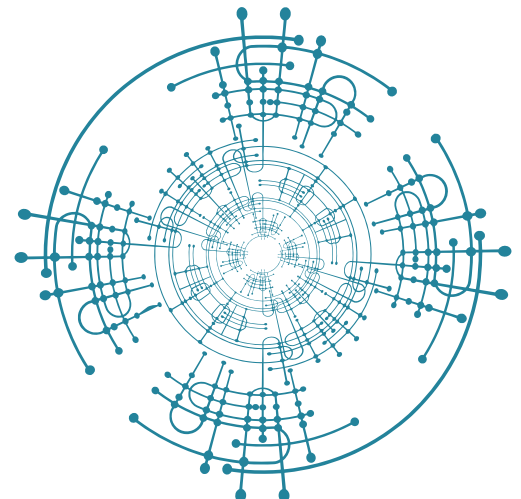
TESTUDO Use Case 3 Final Trial



TESTUDO Stakeholders Community and follow-up

One of the goals for the **TESTUDO** consortium was to **establish a broad dialogue with all the stakeholders of the project** on the solutions developed and collect feedback on expectations as well as on the outcomes via building a large community around the **TESTUDO** project encompassing various end-users and stakeholders interested in **the progress of the project, its conclusions and results**. As the project concludes, the efforts to disseminate its results and continue the established collaborations will be maintained.

Any new updates regarding **TESTUDO** as well as other projects and security-related topics will be communicated via the [project website](#) and [LinkedIn](#).





Beyond TESTUDO: Turning project results into lasting impact

From Innovation to Impact: Exploiting TESTUDO's Results

As **TESTUDO** approaches its completion, attention is turning to what comes next for the technologies, tools and knowledge developed throughout the project. A dedicated exploitation process has helped identify the project's most promising results, explore synergies between complementary solutions, and define pathways for their future uptake and development.

Our [new article](#) provides an overview of how **TESTUDO** is transforming research results into opportunities for continued innovation and real-world impact, supporting the long-term protection and resilience of critical infrastructure.

Shaping the Future of Critical Infrastructure Protection

As advanced AI, autonomous systems and cyber-physical technologies become increasingly important for protecting Europe's critical infrastructure, moving from successful research and demonstrations to real-world deployment remains a key challenge. **TESTUDO's** experience highlights the importance of clear validation pathways, interoperability, trustworthy AI, effective procurement and operational readiness.

Our [new article](#) presents **TESTUDO's** key policy recommendations for supporting the adoption and scale-up of advanced Critical Infrastructure protection solutions, outlining priorities for policymakers, operators, technology providers and other stakeholders.

Read the full article to discover how **TESTUDO's** findings can contribute to a more resilient, secure and technologically prepared Europe.



Contact

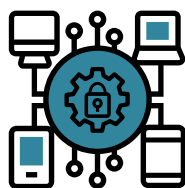


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