

BAG-INTEL Project Successfully Concludes Key Use Case Deployments Across European Airports

The BAG-INTEL project, funded under the Horizon Europe programme, successfully completed its core use case deployments, marking a major milestone in its mission to enhance the effectiveness and efficiency of baggage customs controls at inland border airports.

In response to the continued growth in global air travel and increasing pressure on border and customs authorities, BAG-INTEL has developed an advanced AI-driven platform designed to support decision-making processes while reducing the need for additional human resources. By combining intelligent risk analysis, real-time data integration, and innovative tracking technologies, the system enables more targeted and efficient customs inspections while maintaining a seamless passenger experience.

Demonstrating Impact in Real-World Environments

To validate its technological and operational capabilities, BAG-INTEL deployed its integrated platform in two major European airport environments, demonstrating adaptability across diverse layouts and operational conditions.

The first deployment took place at Billund Airport, Denmark, in January 2026. Over four days, the consortium conducted comprehensive technical testing, subsystem integration, and full end-to-end validation of the platform. The deployment incorporated AI-powered risk analysis, luggage re-identification through camera systems, and simulated inputs such as X-ray data and external intelligence sources. The overall system has been developed based on a novel, secure-by-design, hierarchical, Cloud-Edge-IoT continuum, multi-cloud architecture.

A dedicated training workshop enabled customs and law enforcement end users to interact directly with the platform, gaining hands-on experience with its interface and functionalities. The deployment culminated in live scenario demonstrations involving simulated low-risk and high-risk flights, allowing participants to evaluate system performance in realistic operational conditions.

The results confirmed the platform's ability to:

- Operate seamlessly in a live airport environment through full system integration

- Enhance the accuracy and efficiency of luggage inspection processes
- Support human operators with actionable insights while keeping them central to decision-making
- Facilitate valuable feedback loops between technical developers and end users

Building on this success, the second use case deployment was carried out at Thessaloniki “Makedonia” Airport, Greece. This full-scale demonstration included the physical installation of key system components such as X-ray/CT scanners, camera networks, and bag tag readers. The deployment further integrated a digital twin model of the airport environment, enabling visualization and simulation of operational workflows.

The second use case reinforced BAG-INTEL’s capacity for:

- Seamless integration with existing airport, customs, and law enforcement systems
- Enhanced situational awareness through multi-source data fusion
- Scalable deployment in complex and fully operational airport infrastructures

Empowering End Users Through Training

A central component of the BAG-INTEL approach has been its strong focus on end-user engagement. Training activities, including workshops and multimedia materials, were developed based on co-design principles to ensure that customs officers, police, and airport personnel can effectively adopt and operate the system in real-world conditions.

These efforts have helped bridge the gap between advanced technological capabilities and operational usability, ensuring that the platform delivers tangible value to practitioners on the ground.

A Step Forward for Smart Customs Operations

The successful completion of these deployments demonstrates BAG-INTEL’s potential to transform baggage control processes across Europe. By combining AI-powered analytics with human expertise, the system offers a forward-looking solution to the challenges faced by modern border management authorities.

As the project enters its final phase, the consortium will continue refining the platform, incorporating feedback from the use cases, and preparing for broader adoption and future exploitation opportunities.

About BAG-INTEL

BAG-INTEL is a Horizon Europe-funded project bringing together a multidisciplinary consortium of technology providers, research institutions, and end-user organizations. The project’s work focuses on the delivery of an intelligent, integrated platform that enhances baggage inspection processes, strengthens security, and improves operational efficiency at airports across Europe.

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