

BAG-INTEL

Press release

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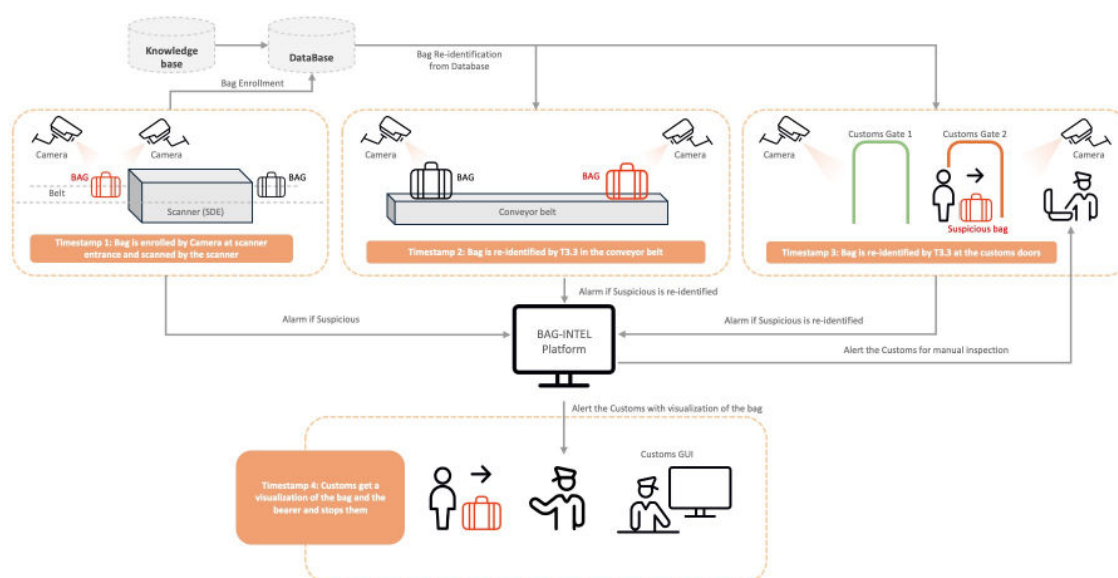
The BAG-INTEL Project Advances Unified AI-Driven Customs Platform

The BAG-INTEL project, funded under the EU Horizon Programme, is progressing toward the deployment of a unified platform that brings together diverse technical components to enhance customs controls at airports. In recent months, the central objective has been to integrate AI-powered modules, data analytics, and digital twin technologies into a cohesive system capable of real-time online operation during pilot trials. This integration is managed through a robust continuous integration and delivery (CI/CD) framework, enabling automated updates, testing, and reliable deployment in operational environments.

Integration Platform: Real-Time Customs Control

The integration effort aims to build an online, real-time platform for customs officers. For the first time, different technical systems — including scanners, cameras, databases, and advanced AI — work together seamlessly over a multi-cloud architecture, delivering stepwise risk alerts on suspicious baggage directly to customs officers' dashboards. The platform will be systematically tested and refined based on pilot airport feedback, ensuring adaptability to real-world requirements and continuous improvement.

The Operational Pipeline: Four Key Moments



The BAG-INTEL pipeline operates across four distinct airport process timestamps, guiding the journey of a suspicious bag from flight arrival to inspection:

- **Timestamp 1:** Bags are enrolled via cameras at the scanner entrance and scanned using the scanner.
- **Timestamp 2:** If a bag is flagged as suspicious during scanning, it is re-identified at the conveyor belt.
- **Timestamp 3:** Once the passenger collects the bag from the carousel and approaches the customs gates, the bag undergoes a final re-identification.
- **Timestamp 4:** Customs staff receive real-time alerts throughout all earlier timestamps, visualizing the suspicious bag's journey and enabling informed, timely manual inspection decisions.

Integration Platform: Real-Time Customs Control

Recent integration achievements include the definition of standardized APIs, the finalization of data flows, and the alignment of communication protocols, ensuring robust interoperability among partners' contributions. Development follows an agile, modular approach in which each software component undergoes testing before merging. The integration process includes both local and system-wide interoperability tests, focusing on two major platform releases that incorporate feedback from pilot airports for maximum operational reliability.

Outlook

This unified platform stands ready to deliver scalable, secure, and efficient customs operations, with ongoing refinements sourced from direct operational feedback. The proactive, iterative approach ensures that customs officers have early, actionable insights and that suspicious bags can be swiftly intercepted for manual inspection—safeguarding passengers and streamlining airport security.

About BAG-INTEL

BAG-INTEL is a 36-month Horizon Europe project launched in September 2023 to enhance customs baggage controls at inland border airports. It introduces AI-supported risk assessment tools that help customs officers focus inspections on high-risk luggage, improving contraband detection while saving time and resources. The project combines AI-based luggage reidentification, intelligent contraband recognition in X-ray scans, and a digital twin for system visualization and optimization. By integrating these innovations, BAG-INTEL aims to make baggage control more effective, efficient, and sustainable—without increasing human resource demands.

To demonstrate the social and technological impacts of the BAG-INTEL solution, the project is implementing three real-world use cases across Europe. Use Case I takes place at Billund Airport in Denmark, Use Case II at Makedonia Airport in Thessaloniki, Greece, and Use Case III at Milan Linate Airport in Italy, previously conducted at Adolfo Suárez Madrid-Barajas Airport in Spain. These use cases provide operational validation of the platform, highlighting its ability to enhance security, streamline workflows, and support customs officers in a variety of airport contexts.

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