BAG-INTEL

Intelligent system for improved efficiency and effectiveness of the customs control of passenger baggage from international flight arrivals

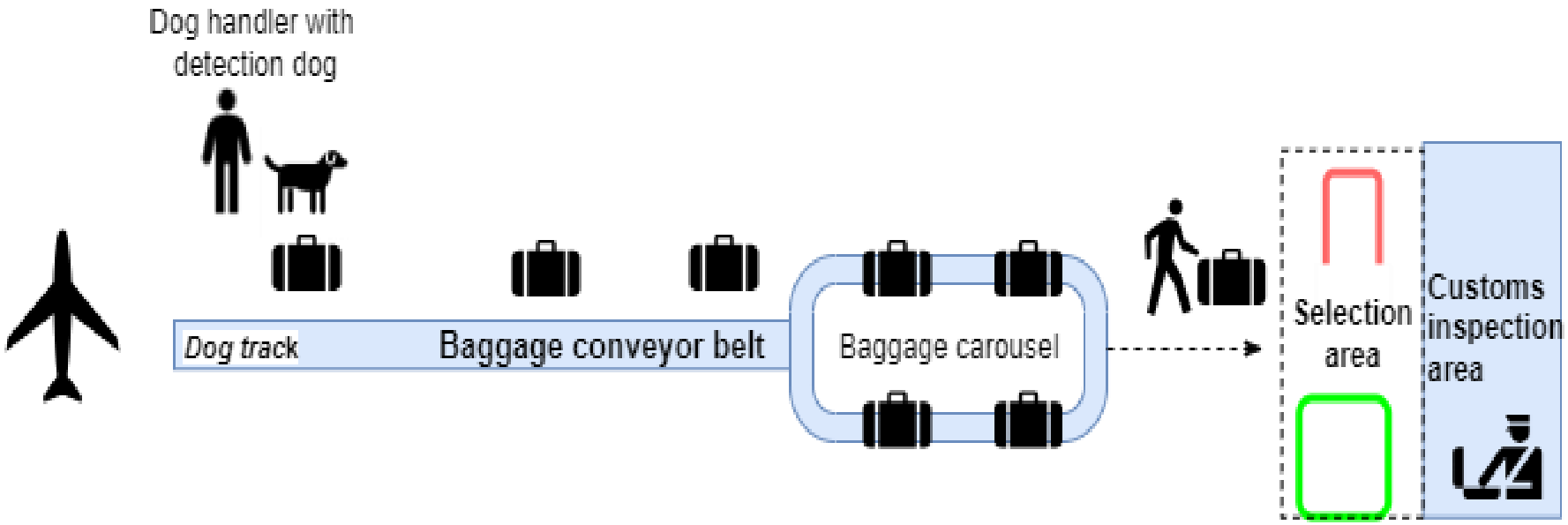
Raquel Pastor (ISDEFE)

CoU Spain – Plenary Meeting

Centro para el Desarrollo Tecnológico y la Innovación (CDTI), Madrid, Spain
18 February 2025

BAG-INTEL:
challenge addressed

Current Customs Control Practices at International Airports: Drawbacks and Insights

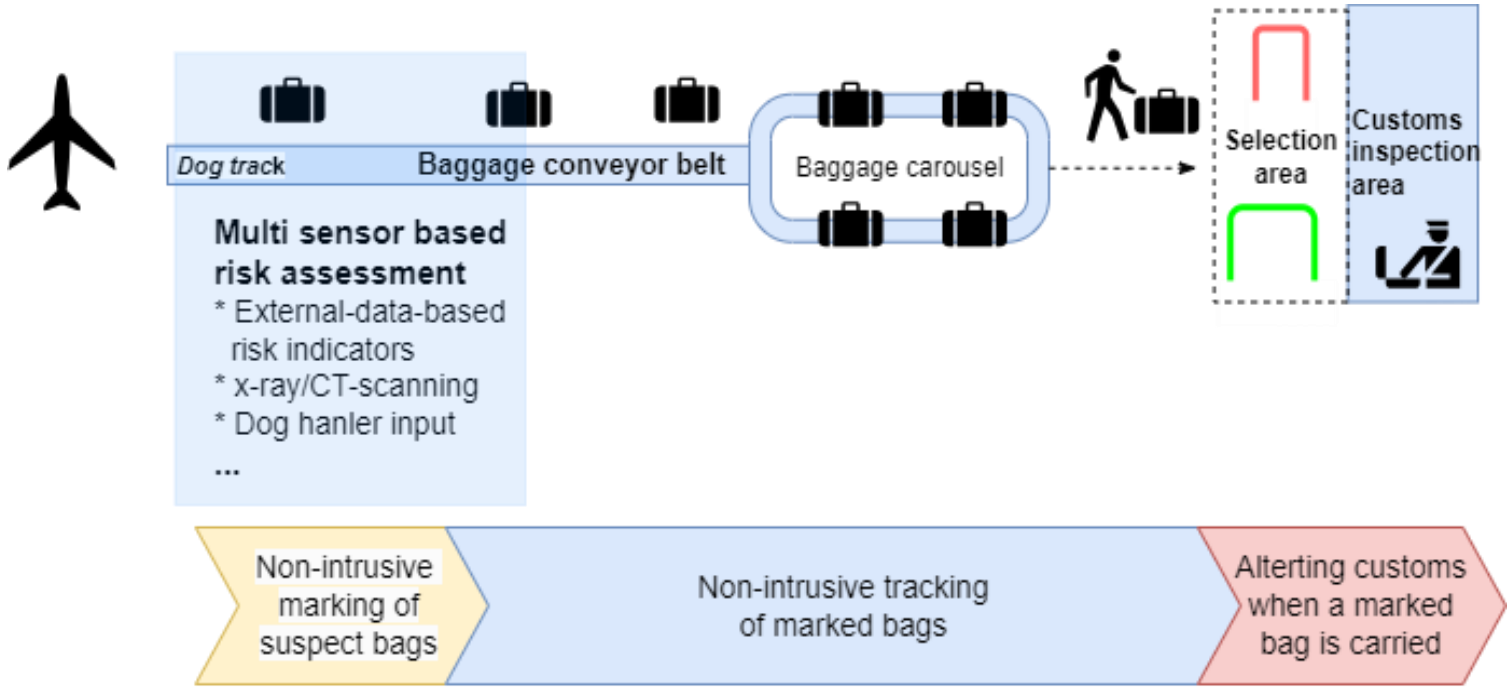


© Copyright BAG-INTEL 2023-2026

AI-powered BAG-INTEL solution

The BAG-INTEL Approach

Streamlining Customs Operations

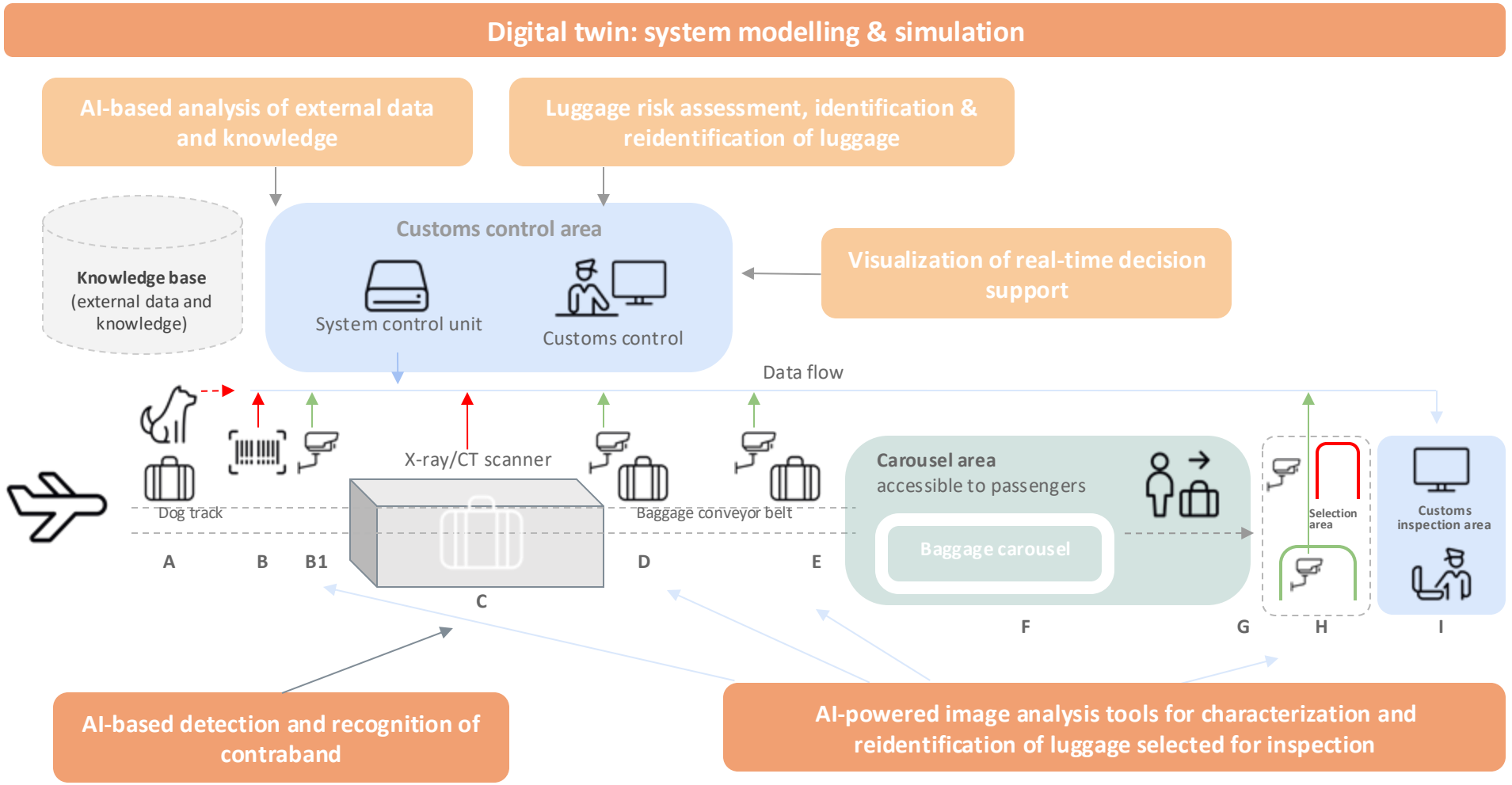


Identification of bags suspcted to contain contraband, tracking such bags. and alerting the customs when they are carried into the customs place at the exit of the baggage delivery space

Revolutionising customs operations at international airports

© Copyright BAG-INTEL 2023-2026

The BAG-INTEL system overview



© Copyright BAG-INTEL 2023-2026

Main technical aspects of the solution

- BAG-INTEL represents a **significant leap in airport security** by leveraging IoT, AI, and multi-cloud technology
- It provides a **scalable and secure solution** to modernise airport operations
- It has a **potential for wider applications** in other high-security environments

© Copyright BAG-INTEL 2023-2026

Advancing the state of the art

THE BAG-INTEL SOLUTION

Implementing the BAG-INTEL solution with its advanced features and capabilities, including:

- AI-powered functionality for enhanced detection of contraband in X-ray scanning of luggage,
- AI-powered risk assessment based on the analysis of data from external sources (Passenger Name Record and Law Enforcement Agencies),
- AI-camera-based end-to-end reidentification of luggage, and
- digital twin for system visualization and performance optimization,

will lead to greater effectiveness and efficiency of the customs control processes!

- ✓ The cases of manual inspection not leading to finding contraband will decrease as **only luggage containing contraband will be inspected manually**.
- ✓ More contraband will be detected as **more luggages containing contraband will be flagged**.
- ✓ Besides, the **AI-camera-based reidentification is non-intrusive**, avoiding all the disadvantages of alternative solutions.

© Copyright BAG-INTEL 2023-2026

Technical aspects of the solution

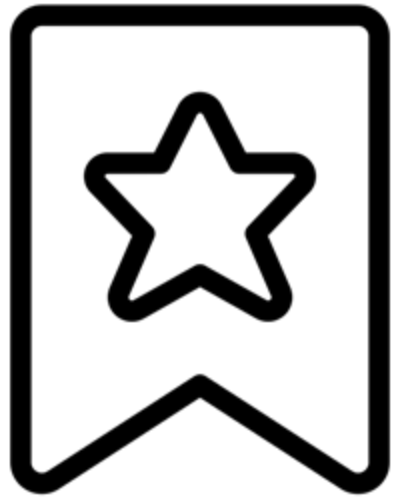
BENEFITS AND IMPACT

- **Enhanced security**
  multilayer architecture and real-time data processing (reduces threats)

- **Operational efficiency**
  automated systems decrease human workload (reidentification and scanning of bags)

- **Scalability**
  adaptable to other security-sensitive sectors

- **Proposes a unified model**
  which can be used to set the new standards in EU airports and introduce a harmonized solution



© Copyright BAG-INTEL 2023-2026

The Partners

BAG-INTEL

Legind Technologies

cea

Universidad de Granada

STAM Mastering Excellence

Netcompany

DBC diadikasia

ICCS ΕΠΙΣΕΥ

PSI

INSA Rouen Normandie

smiths detection

EXUS

Isdefe

ΑΑΔΕ Independent Authority for Public Revenue (IAPR)

Fraport Greece

KEMEA

Hellenic Police

CEPOLIS Centre of Excellence for Police and Security Research

Republic of Estonia Tax and Customs Board

Guardia Civil Civil Guard

ADM Agenzia delle Dogane e dei Monopoli

MARTEL innovate

CONCEPTIVITY 360 SECURITY

TOLD STYRELSEN

© Copyright BAG-INTEL 2023-2026

Reach out to BAG-INTEL >

- **Project Coordinator**
  Henrik Larsen (Legind Technologies, Denmark)

- **Technical and Scientific Coordinator**
  Georgios Bardas (Netcompany-Intrasoft, Luxembourg)

- **Communication and Dissemination Expert**
  Klaudia dos Santos (Martel Innovate, Switzerland)

  info@bag-intel.eu

- **ISDEFE**
  Raquel Pastor (rpastor@isdefe.es)
  Esther Nistal (enistal@isdefe.es)

BAG-INTEL

Follow our journey!

bag-intel.eu

@BAGINTEL

@BAG-INTEL

Funded by
the European Union

Project funded by

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**