



FOLDOUT

SMART SENSING & DETECTION TECHNOLOGIES



SMART SENSOR ALGORITHM



EXAMPLE DEPLOYMENT AND MONITORING



- Complementary multi-sensor detection system for outdoor usage in remote areas with low IT infrastructure
- Embedded AI designed for detection/classification/tracking of persons/cars
- High Resolution RGB, thermal, low-light cam with zoom
- Designed for day/night, harsh weather conditions
- Configurable for different distances
- Transportable and robust
- Simple deployment - mountable on trees or masts
- GPS/IMU for self localization
- LTE/Wifi communication on board
- Battery/wired power supply

The research for this work has received funding from the European Union (EU) project FOLDOUT (grant agreement n° 787021) under the EU's Horizon 2020 Programme

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Border surveillance made smart and seamless

Demonstrations - Technologies have been successfully tested by borderguards in relevant border surveillance use cases with demonstrations at 3 different sites in Bulgaria (typical central Europe weather conditions), Greece (hot conditions), Finland (cold weather conditions).



INTEROPERABILITY

FOLDOUT solution incorporates an abstraction layer that allows the integration of existing sensors for better integration. An interoperable system allows integration with European border surveillance systems to avoid vendor Lock-Out and is a first step towards standardization.



THROUGH FOLIAGE DETECTION

A transportable system with mobile (transportable) sensors and detection technologies applying innovative solutions which are specifically adapted for through foliage detection scenarios. The sensors can provide information day & night, and in harsh environments.



MACHINE LEARNING ALGORITHMS

With novel specialized machine learning algorithms and performance evaluation matrices FOLDOUT technology provides added value to sensor data. This allows the system to perceive, localize, track and classify objects into humans, vehicles and other objects.



MULTI-ALTITUDE SENSOR PLATFORMS

FOLDOUT technology integrates ground- aerial and satellite data for securing near real-time detection in foliated areas. The technologies provide early and long-distance detection allowing swift alarms or pre-warning to border authorities



SIMPLE USER INTERFACE

The user centric interface is easy and efficient to operate by the border guards. FOLDOUT collects sensor-data, as well as the derived detections and alarms in a command and control (C2) software solution for common event visualization. This feature helps border guards fill gaps in their current day-to-day operations when they have to monitor and use a large number of independent



COMPLIANCE WITH LEGAL AND ETHICAL REQUIREMENTS

FOLDOUT delivers technical solutions that are in-line with EU Legal-Ethical-Privacy rules and regulations. Technology impact assessment anticipates legal and privacy concerns. The collection, processing and production of the data are compliant with GDPR.



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