

Co-Friend

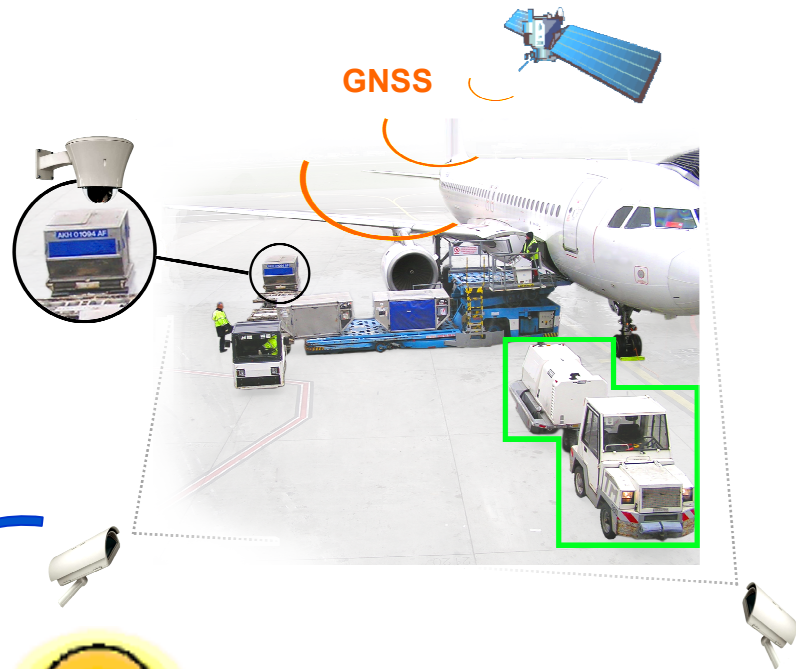
*Cognitive & Flexible
learning system operating
Robust Interpretation of
Extended real scenes by
multi-sensors Datafusion*

Co-FRIEND aims to design an innovative framework for understanding human activities in real environments, through a cognitive vision system, identifying objects and events, and extracting sense from scene observation.

Multi sensor data fusion

A heterogeneous sensor network is deployed at Toulouse Blagnac airport for data acquisition. It is composed of fixed and PTZ (Pan Tilt Zoom) cameras and GNSS receivers. It covers several apron areas where all object movements are monitored. The PTZ cameras are controlled by the system to enhance recognition of specific activities (e.g. tracking of specific objects, detecting door openings...).

GNSS



Cognitive platform

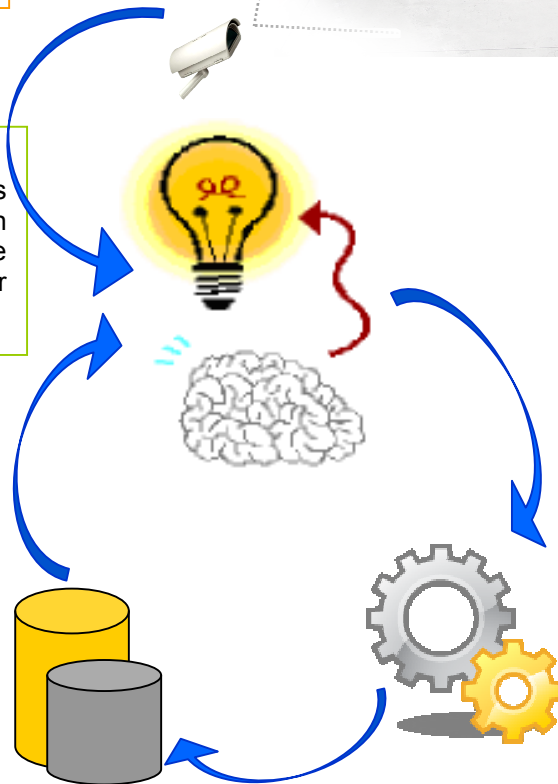
All object movements and classifications returned by the multi sensor data fusion platform are analyzed to learn and recognise events of interest. Each aircraft stopover operation is analyzed and monitored.

Knowledge database

An ontology of events, and object types is modelled using a probabilistic spatio-temporal formalism. The learning phase generates contextual information and activity models that are subsequently used for event recognition.

Machine Learning

The system is able to learn simple and complex event classes. These can then be used to induce a taxonomic object hierarchy based on behaviour. Machine learning supports and extends the built-in knowledge base, increasing robustness, and allowing transfer to new situations and environments.



www.co-friend.net

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