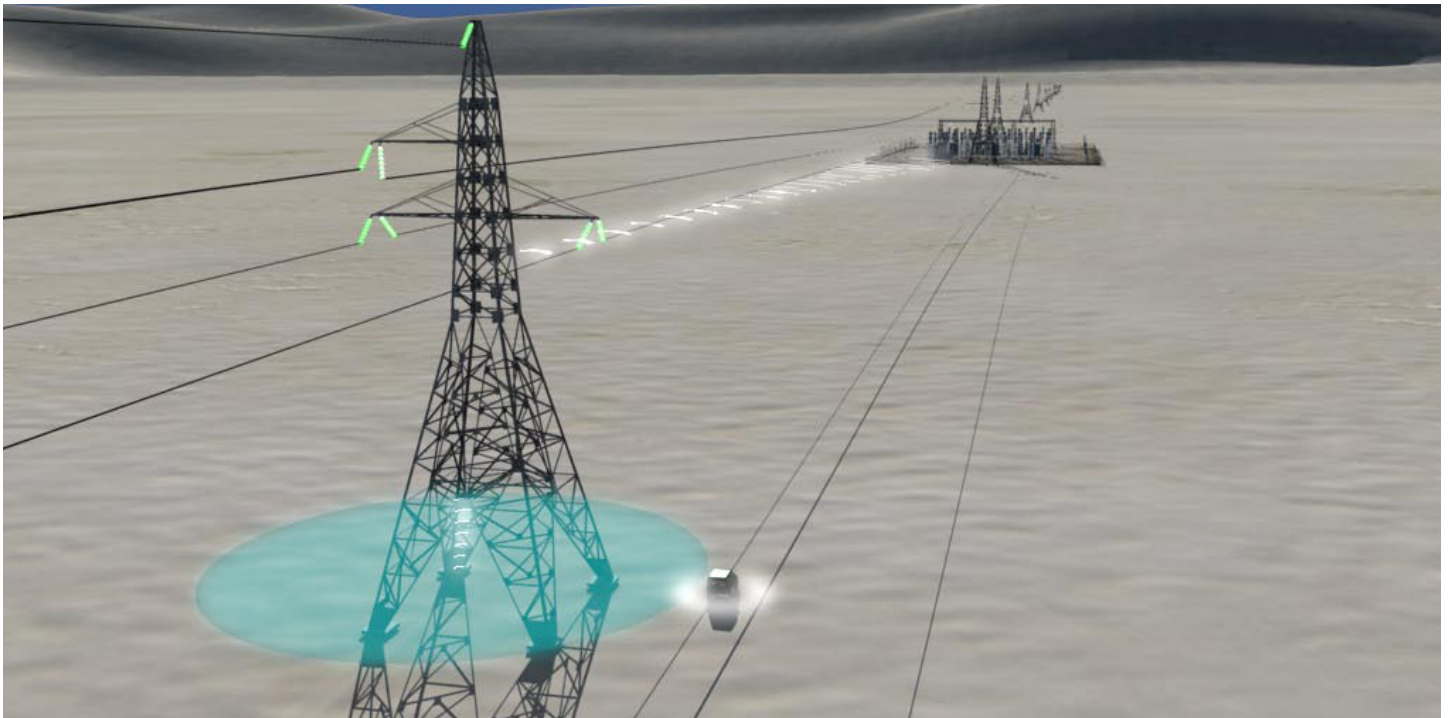


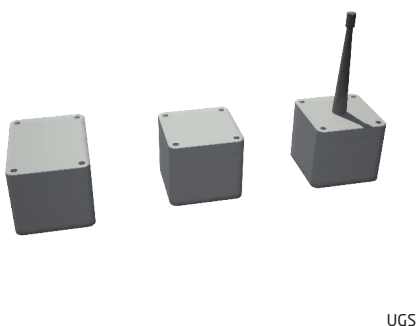
PROTECTION OF ELECTRICAL GRID INFRASTRUCTURES (PELGRIN) JLS/2009/CIPS/AG/C2



Pylon Communications

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Project objectives



UGS

A deliberately well-designed terrorist attack to the electrical grid could cause a power blackout in a wide area, in a whole country, or even in several countries due to cascading effects.

European Electrical Grid, comprising substations and distribution lines, requires and demands a higher level of protection against terrorist attacks. Specificity of the assets to be protected (absence of powering and communications infrastructures, wide areas to be covered, etc) requires new security products not currently available in the market.

The aim of the project is to develop innovative technologies in order to provide a cost-effective security system solution with minimal false alarm ratio. The project will use georeferenced tracking software simplifying the integration of heterogeneous sensors and the system management.

Description of the work

The project is structured in different activities over 18 months, and it is focused on innovative solutions:

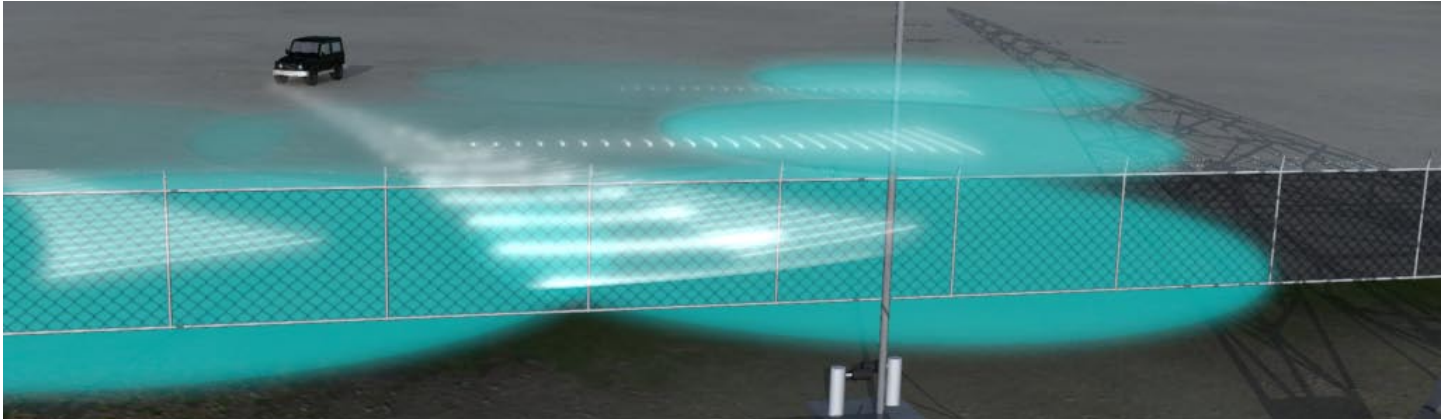
- Implementation of a low cost and easy to install **sensor network using efficient UGS** (Unattended Ground Sensors) which incorporates their own communication solution.
- Exclusive use of **geo-referenced alarms**, resulting in a more effective set up of the system.

- Combination of events and alarms from non radar heterogeneous sensors using application of radar tracking techniques/ algorithms, which will **increase the warnings accuracy and the tracking** of the intruder.

The outcome will be a single alarm for the detection of each target integrating the information from different sensors.

PELGRIN is a user and scenario driven project, therefore the field testing of the proposed solutions is an essential part of it. PELGRIN comprises the following phases:

- Definition and assessment of scenarios, requirements and applicable technology.
- Solutions development.
- Field Tests.
- Analysis of results, reporting and dissemination.



Perimeter Sensors

Expected results

The project results will show the improvements achieved in the protection of the European electricity grid. These expected results are summarized below:

1. Development of a feasible and cost effective solution for the **protection of power lines and wide areas with neither power nor communications infrastructures**. Nowadays most of these facilities are unprotected due to the unaffordable cost of existing solutions.
2. Development of **software modules to fully merge conventional electronic security systems** (CCTV, microwave barriers, volumetric) for inner and perimeter protection with emerging security technologies (Radar, UGS) for early warning detections. The synergy of the sensors will result in a reduction of the cost of the systems, increasing the available data of the alarms and reducing the false alarm ratio.

Consortium Members



“With the support of the Prevention, Preparedness and Consequence Management of Terrorism and other Security-related Risks Programme European Commission - Directorate-General Home Affairs”

