

Airport Control System

- EMPLOYS INFRARED ACTIVE TECHNOLOGY
- LOCATES BOTH METAL AND PLASTIC MATERIAL
- NOT DANGEROUS EMISSIONS FOR USERS
- HIGH OPERATIVE EFFICIENCY
- GUARANTEES SECURITY FOR PASSENGERS
- ACTIVE SHIELDING

Principle of operation

The problem of access control is separated in two main sectors:

- person inspection;
- luggage inspection.

For the first sector, developed technology adopts sensors in emission and reception which use infrared frequency (IR), not heavy and intrusive towards the man; it's thinkable, obviously, a rapid conversion of technology regarding the use of sensors in different frequency bands (low level X band).

As far as, finally, luggage inspection, MGRI technology uses the same sensors currently employed, but with different survey in the time (this is done using several sensor employing procedures) and different algorithm of pattern recognition and of their constituent materials.

Through IR technique, positive comparisons are achieved both from laboratory experiments, and from real tests led next to international airports in Italy.



Inquiry on a person which carries a metallic object and a plastic one.

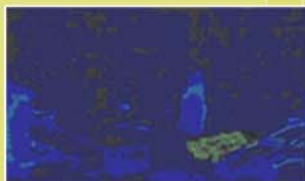


Previous image elaboration enhancing the presence of metallic objects.

This system consists of:

- Emission sensor;
- Infrared sensor;
- Interface with notebook and relative acquisition software and synchronisms;
- Notebook and relative processing softwares and Graphical User Interface.

Operating procedure foresees the transit of the subjects in a fit area of real time image acquisition, in executing a preprocess and real time filtering and presentation of results on monitor, through two produced images. Relatively to the luggage control the results reported on following slides are achieved, through the use of current employed sensors (operating in microwave band) but with the use of the new procedure of data acquisition, of active shielding for environment able to inhibit cellular communications from and towards the outside.



Result of acquisition of sensor informations. On right: previous image processing in which it's showed (in green) the presence of explosive.

On monitor are reported the results of conventional used machines and the modality of interfacing of suggested system with pre-existent one. On right: elaboration of the images directly from conventional monitor.

