IRF minesweeping system

- EMPLOYS ACTIVE TECHNOLOGY
- LOCATES METALLIC MINE AND MADE OF PLASTIC MATERIALS
- LOW COSTS
- HIGH OPERATIVE EFFICIENCY
- GUARANTEES SECURITY FOR OPERATORS

Principle of operation

IRF system, which is based MGRI patented tecnology, works through a terrain irradiation phase, by means of energy supply with appropriate parameters (power, frequency, duration).

Operative sequence continues with acquisition of plurality of maps pertinent radiant re-emission coming from controlled surface and with the elaboration, in real time, of the achieved information.

Such information, already processed, are compared with elements and parameters which characterize the materials to identify and are sent to the control center unit(remote).

In this way, terrain parameters and possible present target ones are stimulated to change their previous equilibrium values until reaching a new thermodynamic state, at the end of emission phase.

From such transitory unbalance we obtain a better thresold of target visibility and necessary information about their constituent materials.

The product

Currently IRF system consists of an operative prototype with mobile trolley on ground, but it can be possible to operate, in future, also with other platforms, different from land ones (aerial and/or satellitare).

IRF system, compared to conventional ones, grants the detection, the localization and the identification of mine type (metal and/or plastic), with acquisition of information and data to process and/or store and allows, besides, the reaching of an high operative efficiency.

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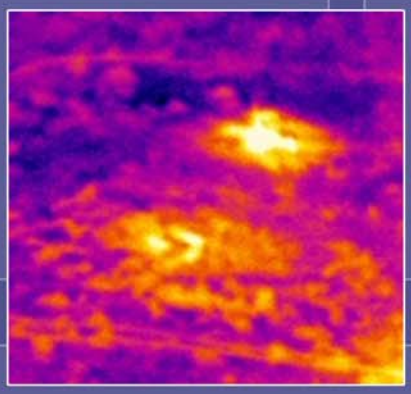
Innovative factor

Current systems are based on passive tecniques such as metal detector and/or specialized dogs and they can assure only the determination of metal mines and not of plastic ones.

They show answer which is only a sound type (impossiblity of information maintenance and subsequent elaborations), and have high cost of use and exercise:

- Poor operative efficency (only 46 mq per day for 15 person team);
- Poor security (they employ men and animals inside the area to clear);
- Poor flexibility (information and area knowledge remain in native place and they can be lost in case of distruction of the unit).

Classic image on visile spectrum of the operating scenario on the ground with tank destroyer mines (metal) and APM (plastic), both in surface and buried.



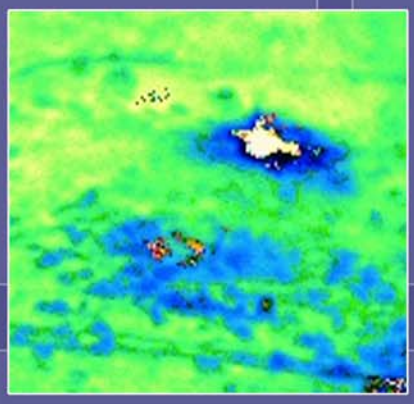


Image achievable through MGRI tecnique, that reveals the different answers between two buried material; plastic is more enlightened and it's located 2cm deep, while below material is the answer of AT mine (metal), 10 cm deep. On right: final elaboration by central unit with target emphasis and their constituent materials and with possibility of Georeference (White=Plastic, Red=Metal, Black=Rocks).

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APPARATI CONSULENZA SICUREZZA INFORMATICA

ACSI s.r.l., Via Appia Nuova, 896, 00178, Rome
Phone: 06 - 7187388, Fax: 06 - 7187557

www.acsisrl.it