COMPREHENSIVE UNDERGROUND MAPPING

Xplora provides an advanced Unexploded Ordnance (UXO) Risk Assessment service in compliance with Italian Regulation, designed to ensure maximum safety and efficiency during the planning and execution of infrastructure projects in areas potentially affected by unexploded ordnance.

By integrating non-invasive methodologies with advanced artificial intelligence algorithms, Xplora not only identifies genuine UXO-related anomalies, eliminating ambiguities and false positives, but also delivers objective and repeatable results, avoiding errors caused by the subjective interpretation of traditional heat maps by technical personnel.

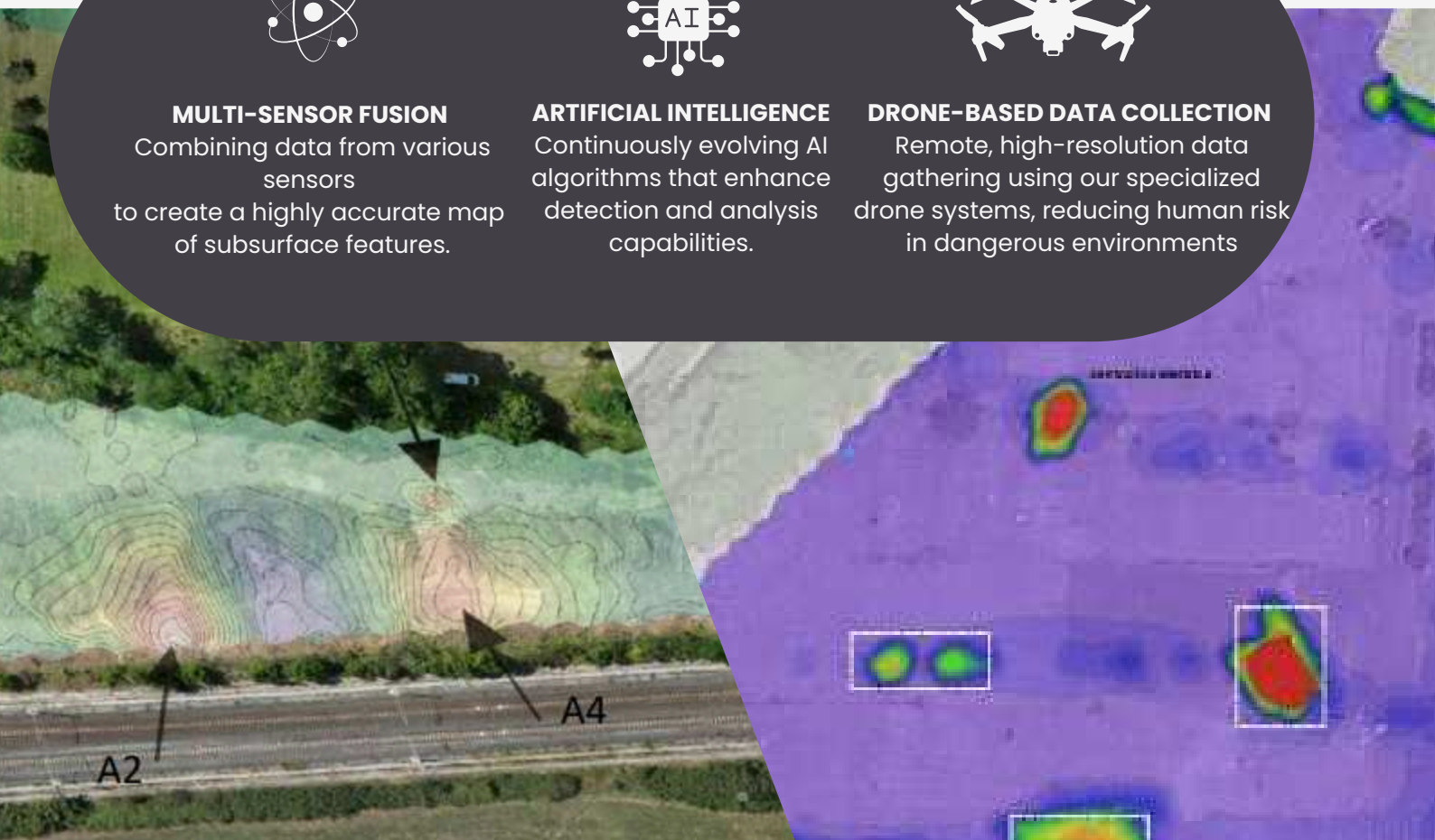
The technical outputs include a shapefile compatible with GIS projects, featuring updated digital mapping of the area and a 3D representation of UXO to depths of up to 14 meters, as well as a technical report fully compliant with national regulations.
These tools provide a reliable and objective foundation for risk planning and mitigation. This approach not only enhances the effectiveness of interventions but also significantly reduces time and operational costs, limiting the need for extensive Explosive Ordnance Disposal (EOD) operations to areas with confirmed anomalies associated with UXO. Xplora's service is therefore an essential support for tackling projects in complex environments, such as densely urbanized or railway areas.

THE TECHNOLOGY

MULTI-SENSOR FUSION
Combining data from various sensors
to create a highly accurate map of subsurface features.

ARTIFICIAL INTELLIGENCE
Continuously evolving AI algorithms that enhance detection and analysis capabilities.

DRONE-BASED DATA COLLECTION
Remote, high-resolution data gathering using our specialized drone systems, reducing human risk in dangerous environments



RFI

LOCATION: Perugia-Città di Castello
DATE: 09/2024
TERRAIN: Gravel

PROJECT

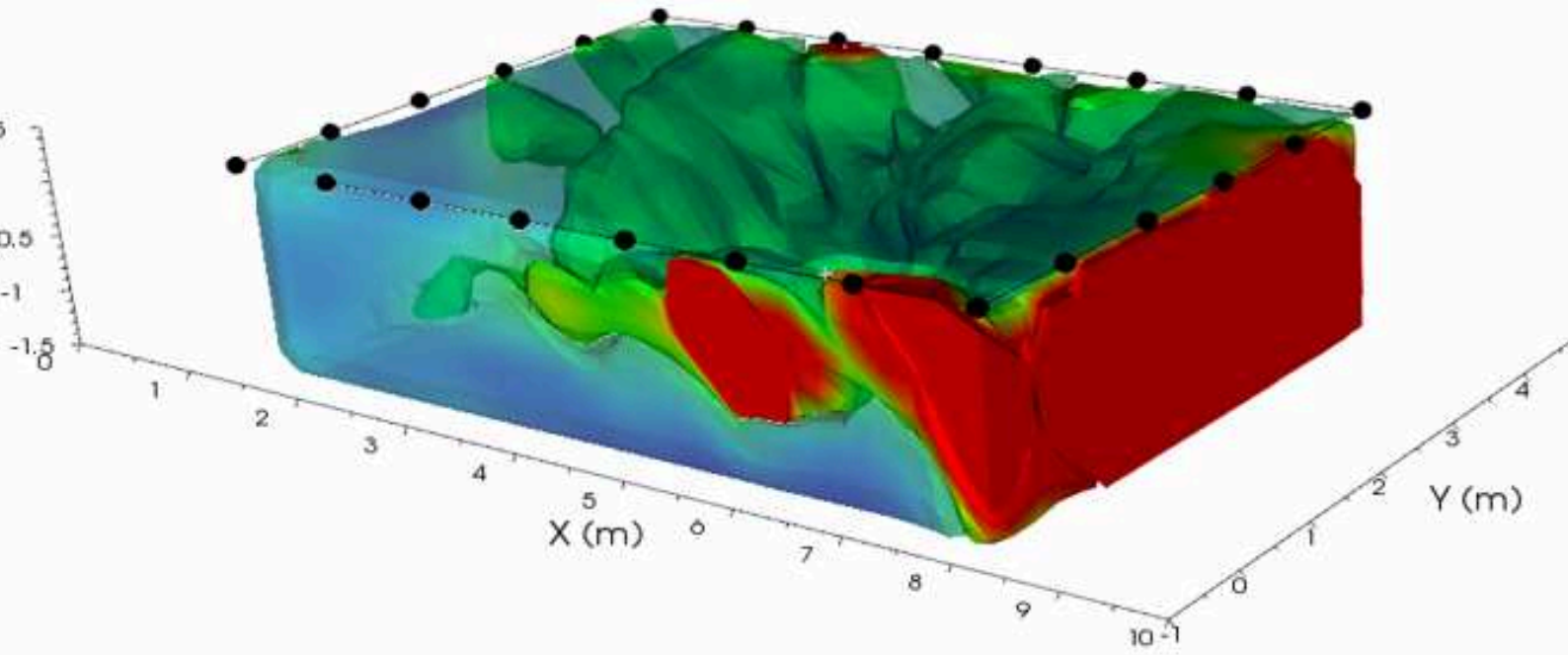
Non-invasive instrumental survey to a depth of 3 meters below ground level for the detection of anomalies of unexploded ordnance (UXO) along the Perugia-Città di Castello railway section. The investigation covers 19 crossings along a 20 km route, enabling the immediate clearance for subsequent excavation activities.

CHALLENGE

The specific site conditions, which made the use of ground-penetrating radar impractical due to structural and operational interferences, were overcome through the application of the ERT technique. The intervention, carried out at night to minimize disruptions to railway traffic, ensured accurate results fully aligned with the project requirements.

OUTPUT

- Three-dimensional map with characterization of ferromagnetic anomalies and identification of potential UXO-related risks for subsequent targeted clearance if required;
- Technical report in compliance with national regulations.



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