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.

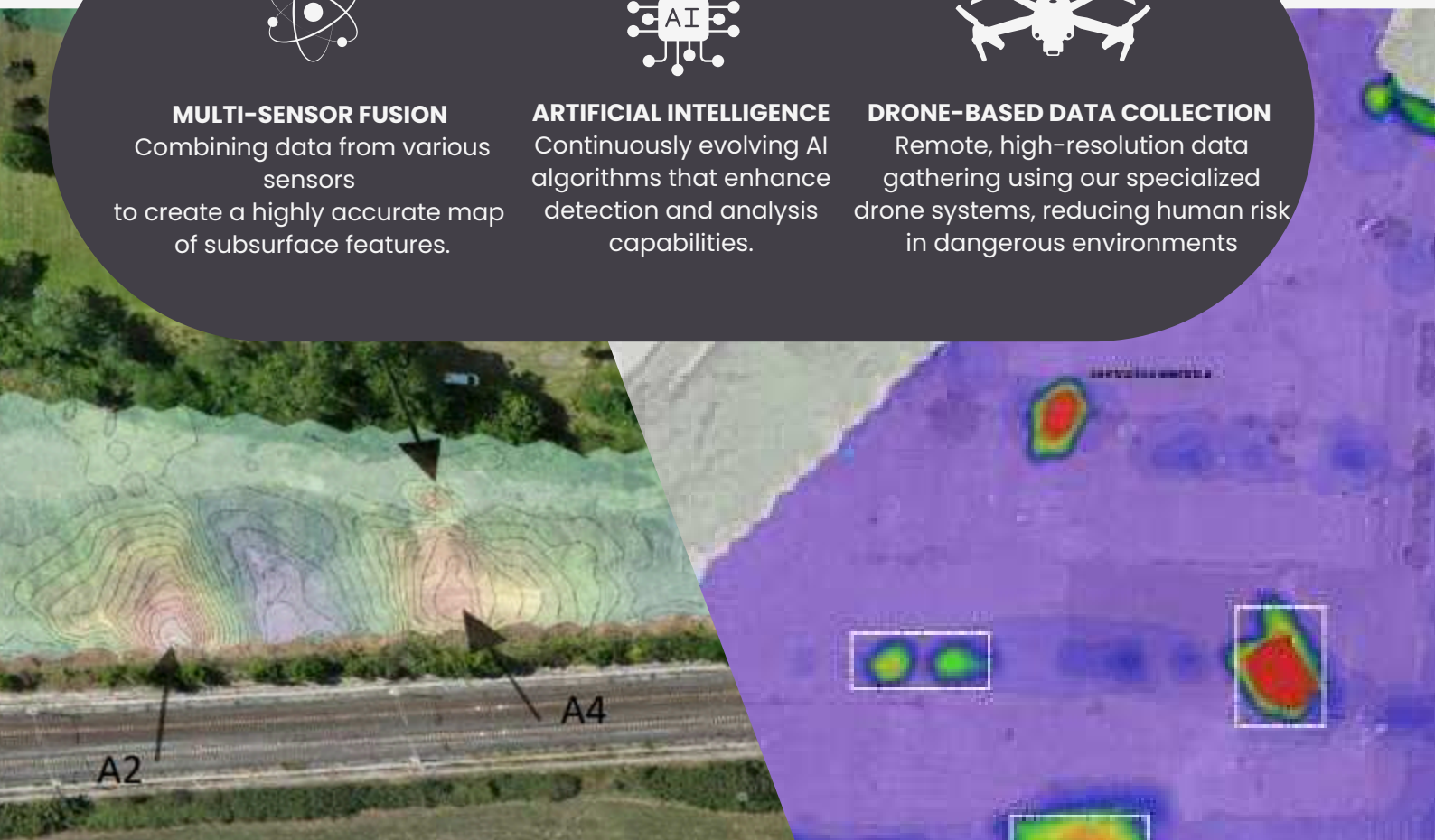
The technical outputs include a shapefile compatible with GIS projects, featuring updated digital mapping of the area and a 3D representation of UXO to depths of up to 14 meters, as well as a technical report fully compliant with national regulations.
These tools provide a reliable and objective foundation 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



IRETI

LOCATION: Collecchio (PR)
DATE: 10/2024
TERRAIN: Field

PROJECT

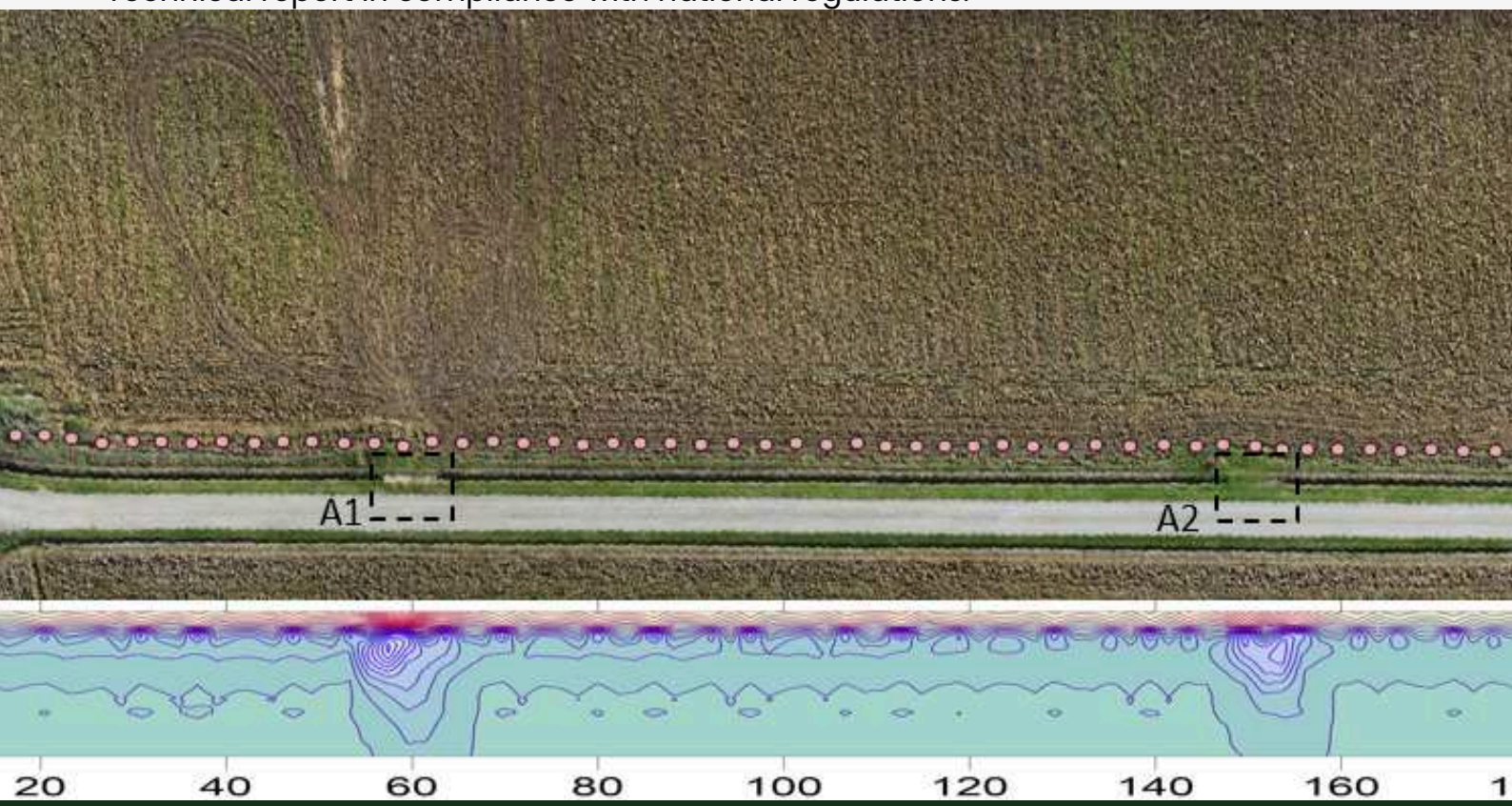
Non-invasive instrumental survey to a depth of 10 meters below ground level for the detection of unexploded ordnance (UXO) in the Collecchio (PR) area to support the design and subsequent installation of a pipeline.

CHALLENGE

The geological complexity of the area, characterized by gravel deposits mixed with water-saturated clay layers, created significant challenges for the propagation of magnetic signals. Additionally, the presence of metallic fragments from previous agricultural activities increased noise in the recorded data, making it difficult to distinguish between UXO-related anomalies and spurious signals. The integrated approach and proprietary algorithms of Xplora enabled the isolation of signals relevant to UXO, significantly reducing false positives.

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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