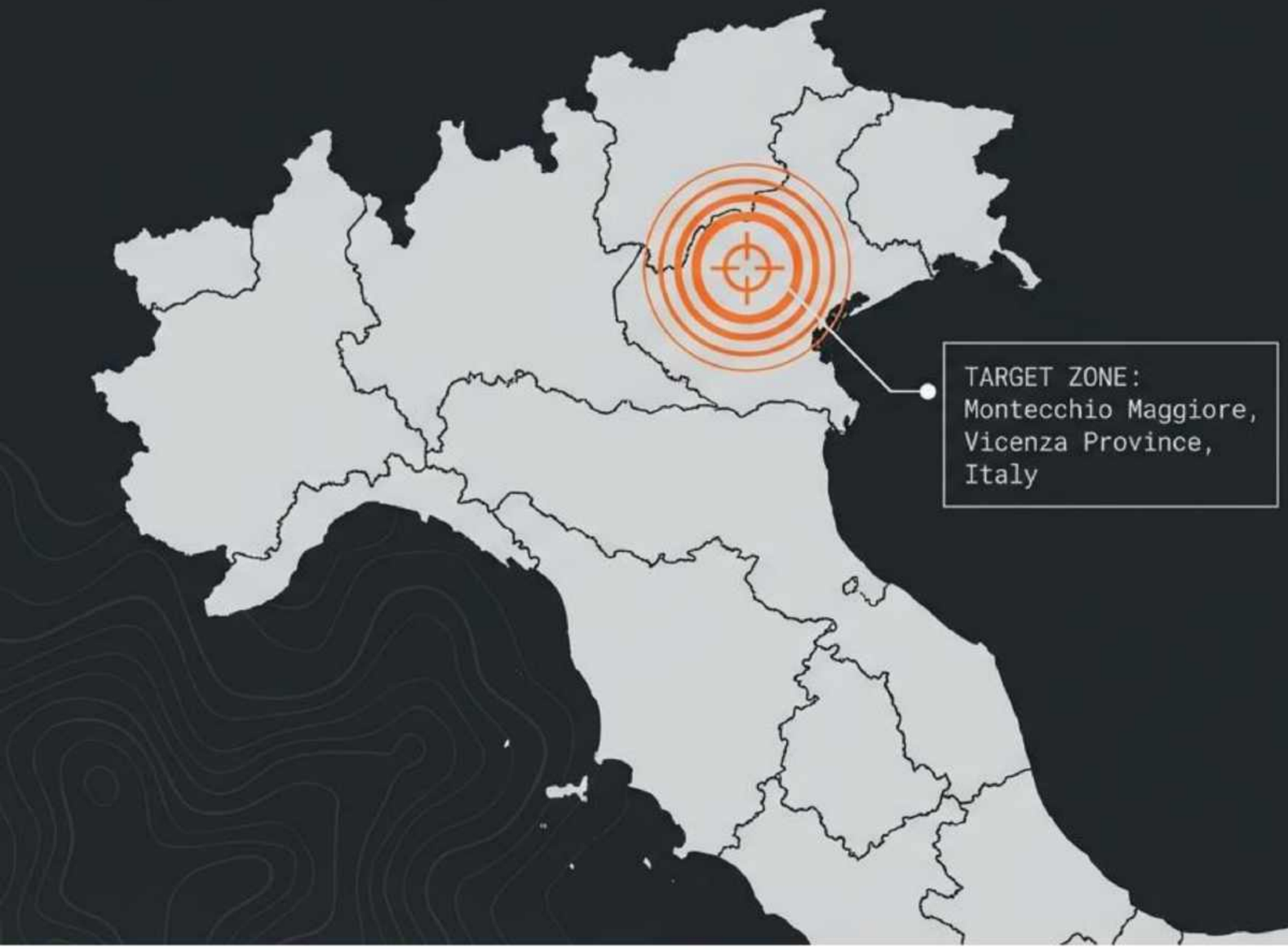
SUBTERRANEAN ANOMALY DETECTION: OPERATION MONTECCHIO MAGGIORE

Remote Nuclear Magnetic Resonance (NMR) & Drone Photogrammetry Proof of Concept

CLASSIFICATION: Unclassified / Commercial Release
DATE OF COMMENCEMENT: 10/04/2017
REFERENCE REPORT: ATLAS-2017-05

Atlas Projekt D.O.O. | Nova Gorica, Slovenia

OPERATIONAL PARAMETERS & MISSION CONTEXT



THE OBJECTIVE

Locate and extract deep-buried, high-explosive anomalies dating back to the Second World War.

THE CHALLENGE

Non-invasive detection of deep subterranean industrial casings across a privately owned, historically cultivated land tract without prior disruptive excavation.

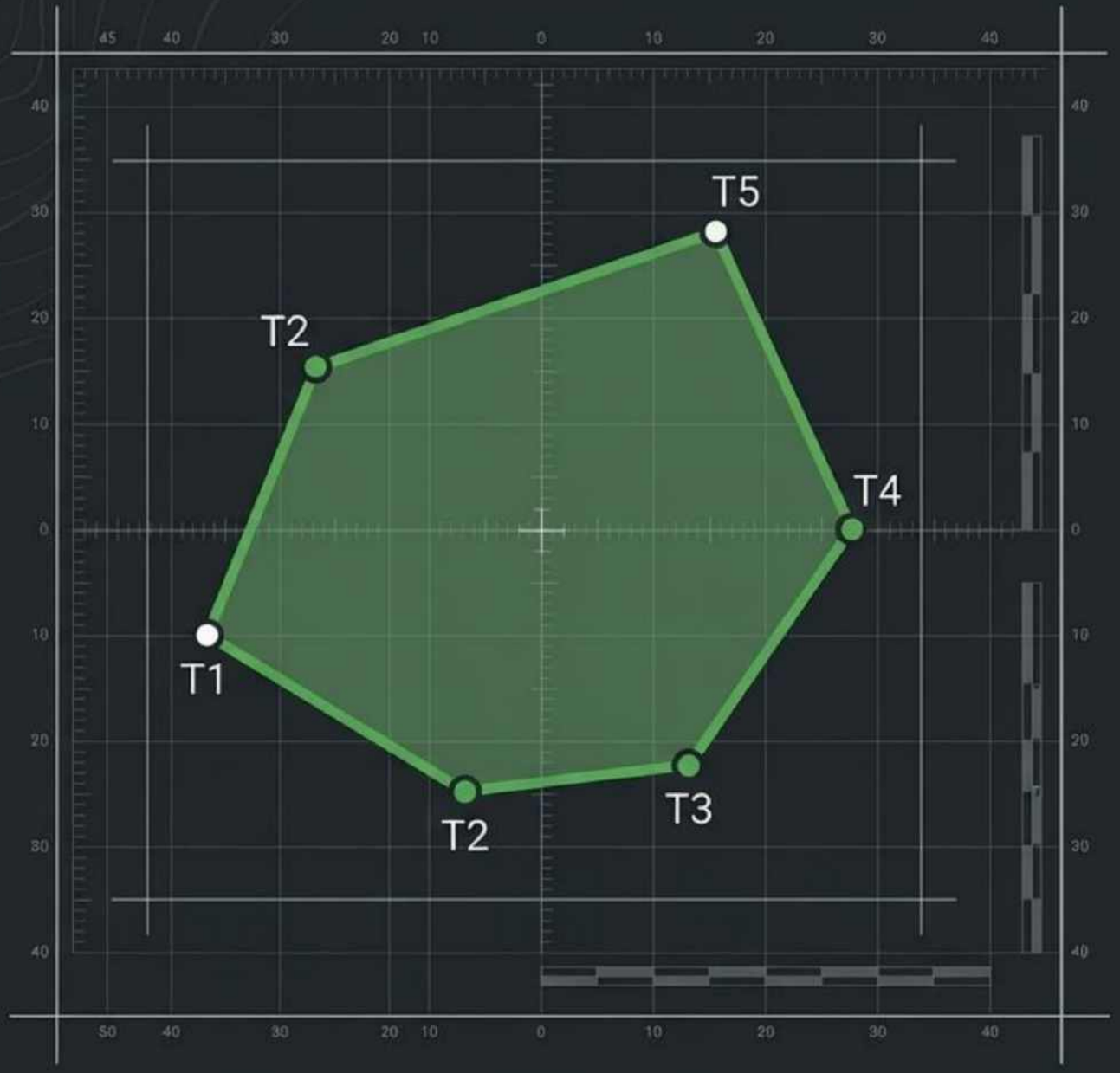
THE CATALYST

On April 10, 2017, Atlas Projekt D.O.O. commissioned Gruppa Poisk (representing Sevastopol State University) to deploy an experimental remote Nuclear Magnetic Resonance (NMR) analytical method to map the subsurface threat landscape.

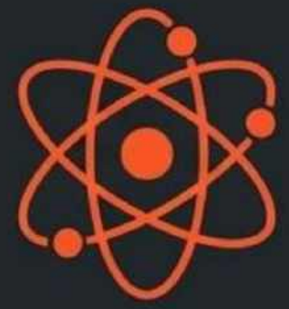
SEARCH PERIMETER GEOLOCATION

T1: 45° 28' 58.00" N | 11° 23' 46.23" E
T2: 45° 28' 54.13" N | 11° 23' 45.01" E
T3: 45° 28' 55.59" N | 11° 23' 50.51" E
T4: 45° 29' 01.87" N | 11° 23' 47.37" E
T5: 45° 29' 00.40" N | 11° 23' 41.86" E

Georeferenced survey boundaries established for aerial photogrammetry capture.



OPERATIONAL DIVISION OF LABOR

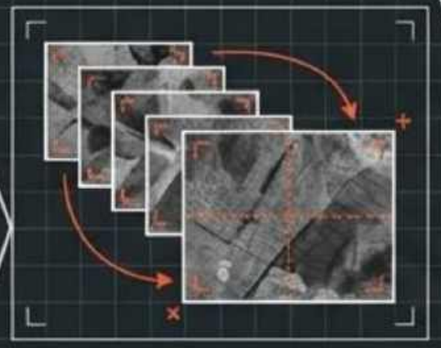
ATLAS PROJEKT D.O.O. (DATA ACQUISITION)		GRUPPA POISK (REMOTE ANALYSIS)
		
Nova Gorica, Slovenia	**BASE OF OPERATIONS**	Sevastopol State University, Russia
Atlas Drone S900 (Remote Piloted Aerial System)	**PRIMARY HARDWARE / ENGINE**	Remote Nuclear Magnetic Resonance (NMR) Analysis
Analog camera with georeferencing modules	**SENSOR CONFIGURATION**	Applied to acquired photographic matrices
High-resolution aerophototopographic survey images formulated into a unified matrix.	**FINAL OUTPUT DELIVERED**	Target geolocation dossier with specific subterranean coordinates and material identification.

HYBRID DETECTION WORKFLOW

STEP 1: AERIAL TOPOGRAPHY

[ITALY]

Atlas Drone S900 executes a precise fiight path over the T1-T5 Montecchio Maggiore bounding box, capturing georeferenced analog imagery.



STEP 2: MATRIX CONSTRUCTION

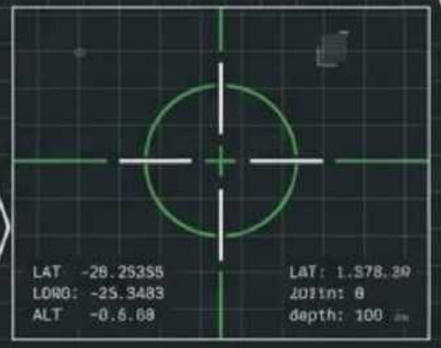
[SLOVENIA]

Raw imagery is compiled by Atlas Projekt into a continuous, data-rich operational matrix.

STEP 3: REMOTE NMR ANALYSIS

[RUSSIA]

Gruppa Poisk applies remote Nuclear Magnetic Resonance processing to the matrix, isolating specific molecular signatures of subterranean explosives.



STEP 4: GEOLOCATION OUTPUT

[TARGET]

Generation of a finalized coordinate dossier isolating the exact subterranean positions of historical military assets.

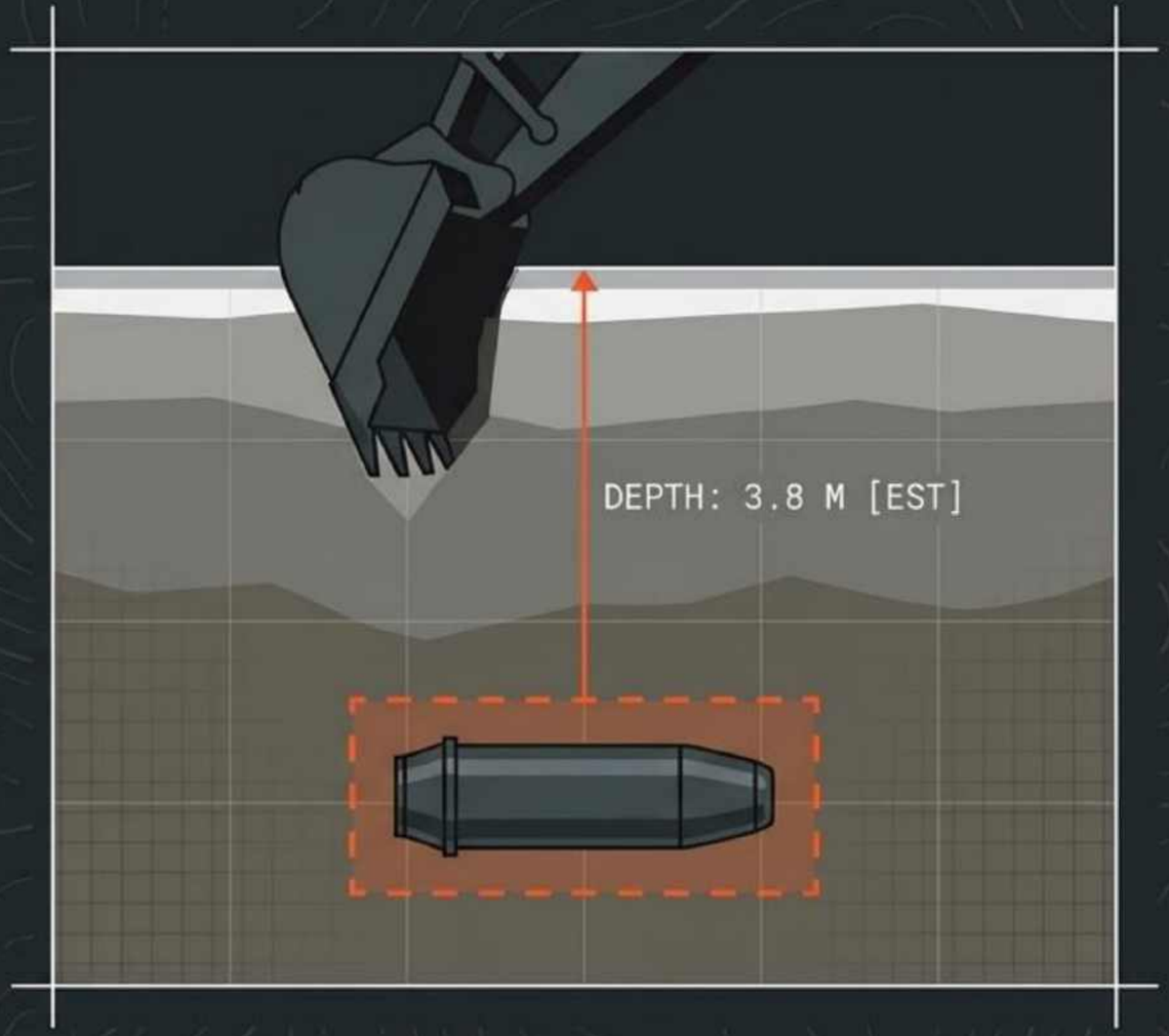
FIELD VERIFICATION: TRANSITION TO PHYSICAL EXCAVATION

Following the remote NMR analysis, the property owners executed exploratory excavations utilizing exclusively the coordinates provided in the Gruppa Poisk dossier.

TARGETS ACQUIRED: Industrial-grade metallic casings identified.

CLASSIFICATION: Unexploded ordnance (UXO) / Military explosive devices.

PROTOCOL TRIGGERED: Due to imminent threat levels, civilian excavation was halted. Target extraction and controlled demolition handed over to specialized armed forces units.



TAKEAWAY: The remote analysis successfully identified deep-buried military assets invisible to the naked eye.

EXCAVATION DATA VALIDATION

Remote NMR Geolocation vs. Physical Excavation Metrics.
Overall Target Location Probability: 80%.

TARGET 1 (G1)	TARGET 2 (U1)	TARGET 3 (G2)
COORDINATE: 45° 28' 56.64" N | 11° 23' 48.12" E	COORDINATE: 45° 28' 57.88" N | 11° 23' 47.18" E	COORDINATE: 45° 28' 57.91" N | 11° 23' 47.72" E
MATERIAL: TNT (Match: YES)	MATERIAL: TNT (Match: YES)	MATERIAL: TNT (Natch: YES)
DEPTH: 2.12 meters	DEPTH: 1.90 meters	DEPTH: 1.74 meters
DEVIATION: -0.90 meters South	DEVIATION: +0.80 meters East	DEVIATION: +0.45 meters South

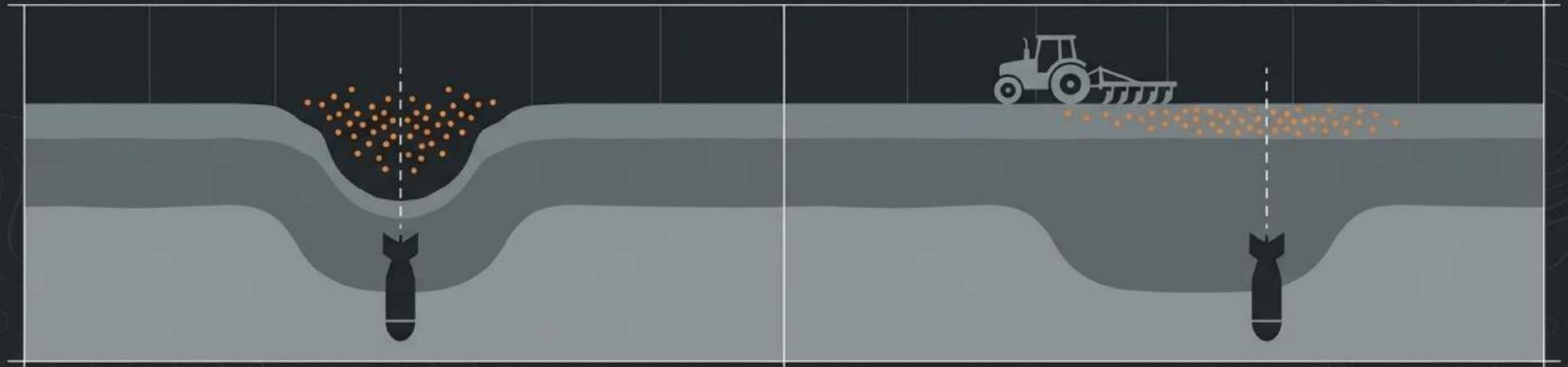
Result of first excavation phase categorized as completely satisfactory, verifying methodology efficacy.

DIAGNOSTIC ANALYSIS OF LOCATION DEVIATIONS

The minor geographic discrepancies (under 1 meter) are not a failure of the NMR sensor, but a reflection of topsoil contamination.

PAST (WWII INITIAL IMPACT)

PRESENT (2017 AGRICULTURAL SHIFT)



1. INITIAL IMPACT

The original kinetic strike of the ordnance scatters explosive residue and metallic particulates into the surrounding upper soil layers.

2. AGRICULTURAL DISPLACEMENT

Decades of heavy agricultural tilling and private land landscaping shift this contaminated topsoil horizontally.

3. SIGNAL GHOSTING

The remote NMR detects the combined signature of the static deep target and the shifted contaminated topsoil, creating a slight geographic pull on the final coordinate formulation.

STRATEGIC SYNTHESIS: SCALING BEYOND REMEDIATION

Because the remote NMR method isolates specific atomic signatures via drone matrices, it is entirely agnostic to the target material. The identical workflow used to locate TNT can be recalibrated for highly lucrative commercial resource detection.

NMR CAPABILITIES

ORDNANCE REMEDIATION (PROVEN)

Locating unexploded military threats and industrial scrap with 80% baseline accuracy.

HYDROLOGICAL MAPPING

Pinpointing subterranean aquifers, deep water tables, and hidden agricultural water resources.

HYDROCARBON EXPLORATION

Non-invasive preliminary detection of oil and natural gas pockets prior to expensive exploratory drilling.

MINERAL PROSPECTING

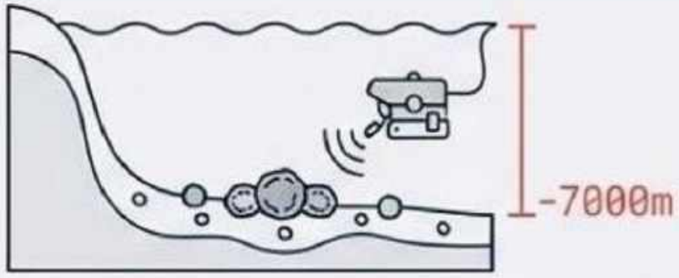
Identifying distinct mineral deposits and heavy metal concentrations with extreme time and resource efficiency compared to traditional bore-sampling.

OPERATIONAL CERTIFICATION

Regarding the search for underground materials and substances of other types (water, hydrocarbons, and minerals), our company confirms the sheer effectiveness of the NMR method. We recommend its application in conjunction with Gruppa Poisk methodologies to enable highly precise object detection with massive advantages in time and resource economy.

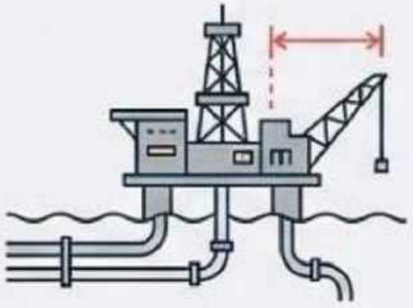
ISSUED: Nova Gorica, 24/05/2017
AUTHORITY: ATLAS PROJEKT D.O.O. – Direktor

Versatile - Direct results - No photographic interpretation

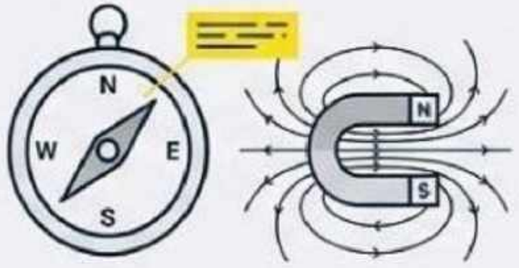


Polymetallic Nodules (Offshore to -7000m).

Archaeology and Shipwrecks.



Oil and Gas (Field Rehabilitation).



AMAS Zones (Overcomes Magnetic Disturbances).

SUSTAINABILITY: 100% Non-invasive. Ideal for national parks. No drilling permits.

Drug enforcement - Arms trafficking - Explosives searches - Buried hazardous chemical waste - Searches for precious metal loot - Chemical precursors in cocaine and heroin production - Terrorist group base camps

Customized version

1. For translation costs, please contact us.
2. For the addition of company-specific documentation, please contact us.
3. For an editable option, please contact us.
4. Consultations available at **Michel.friedman@fands-llc.com** or **mlf10357@yahoo.com** .

Disclaimer

The opinions, analyses, and explanations expressed in this text are solely those of their author, Michel Louis Friedman. They do not represent the views of any institution, company, employer, or other entity. The author disclaims all liability for the use or interpretation of this material.

Contact

Michel L. Friedman-Matarese

Móvil / WhatsApp: +591-71696657

Email: michel@geo-nmr.net

Speaker FR-UK-ES-BR/PT

Area : África y Américas

Igor Kostelanetz

Tel / Móvil / WhatsApp: +79787155212

Email: igor@geo-nmr.net

Speaker RU-UK

Area : World