# 811-BASE: The Future of Field Operations

info@domistat.com

# The unacceptable cost of a single severed line


## Billions in Annual Infrastructure Damage

Over $50 Billion/Year

## Severe Safety Risks to Workers and Public

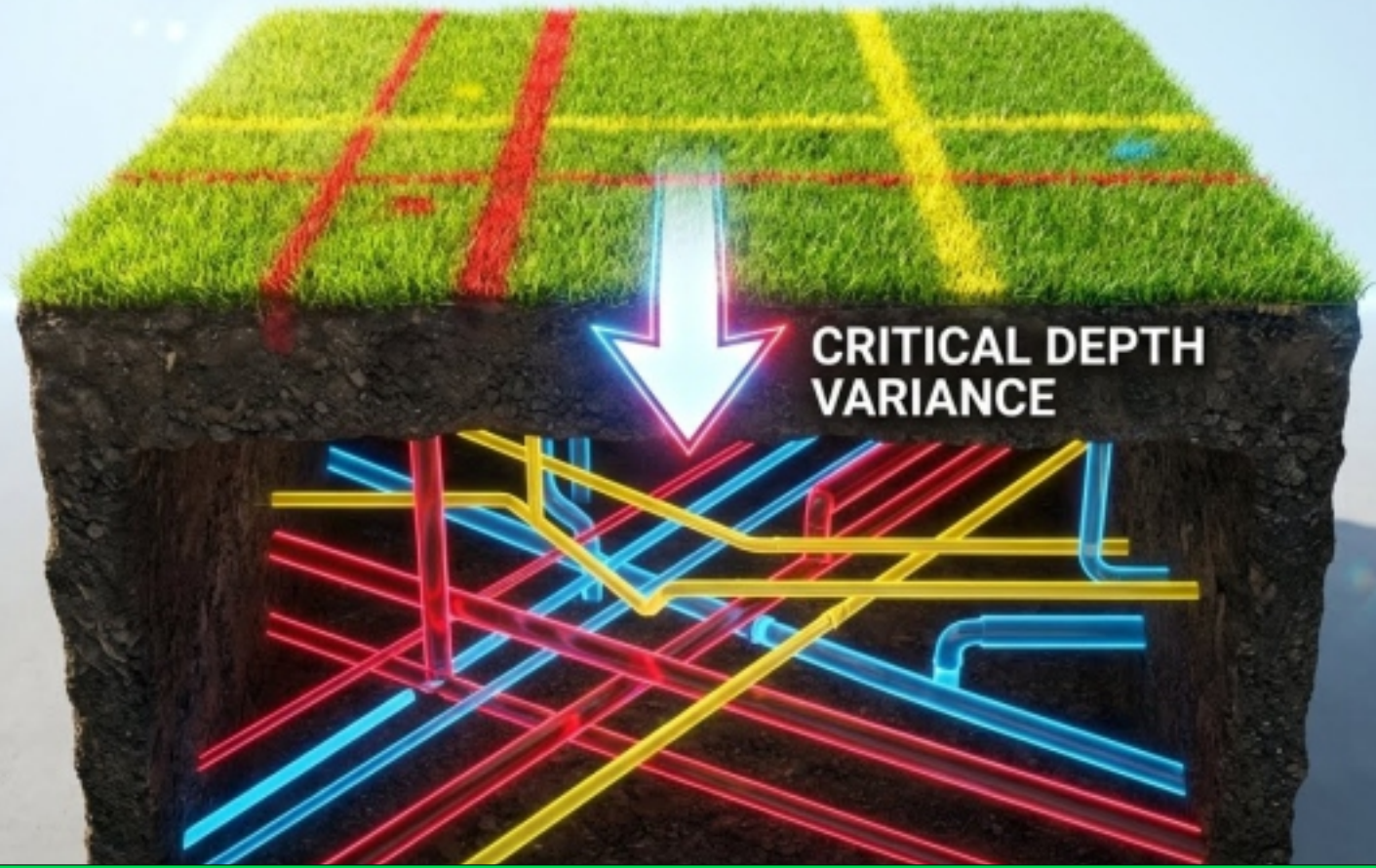
Injuries, Fatalities, Evacuations

## Regulatory Fines and Project Delays

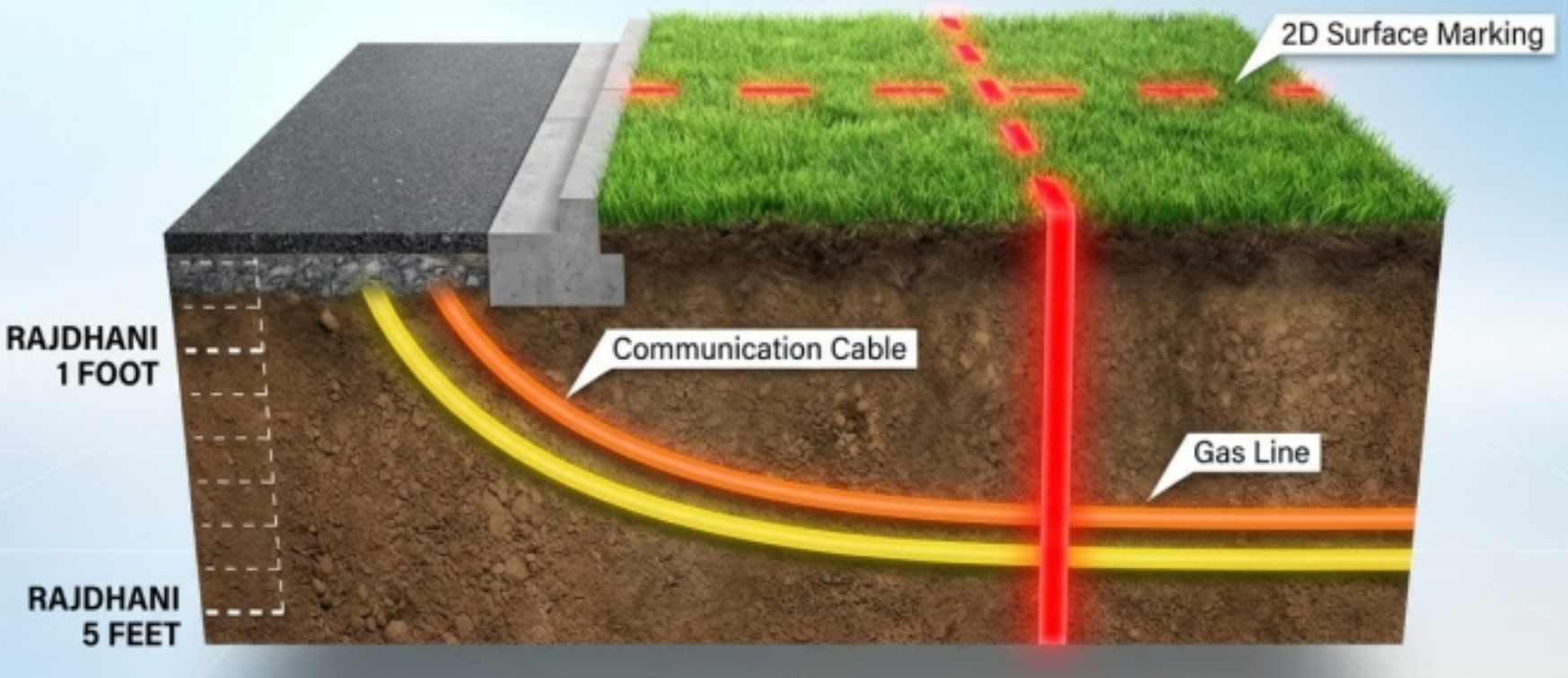
Hefty Penalties, Missed Deadlines

Protecting Infrastructure. Saving Lives. 811 Before You Dig.

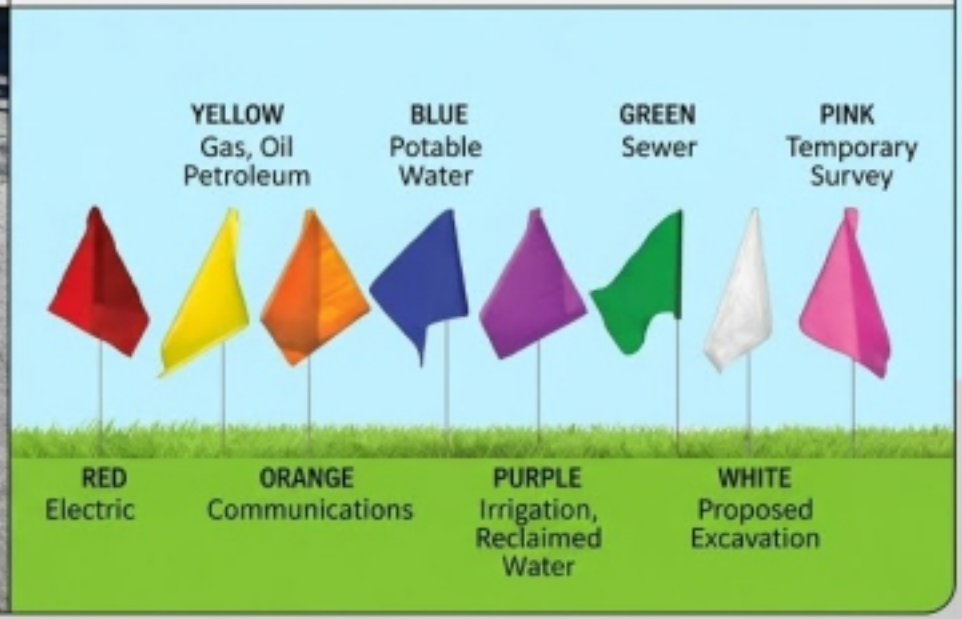
# Surface indicators cannot capture critical depth variance



# The mechanics of lateral drift and depth blindness



# Analog tools are failing to protect permanent infrastructure

| REALITY | STANDARD |
| --- | --- |
|  |  |

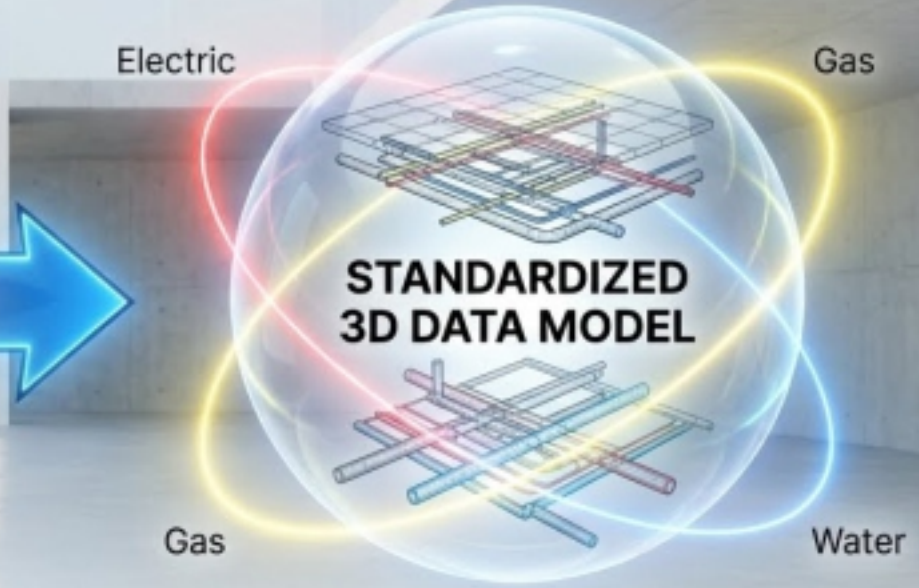


We rely on degrading paint and easily displaced plastic flags to protect highly volatile, multi-million-dollar subterranean networks.


True excavation safety requires precise Z-Accuracy
Z=3.5ft
Traditional 'Locate & Mark' surface paint is insufficient.
LiDAR-captured depth data (Z-Accuracy) is the crucial missing dimension, providing contractors contractors with exact depth projections via AR devices before digging commences.

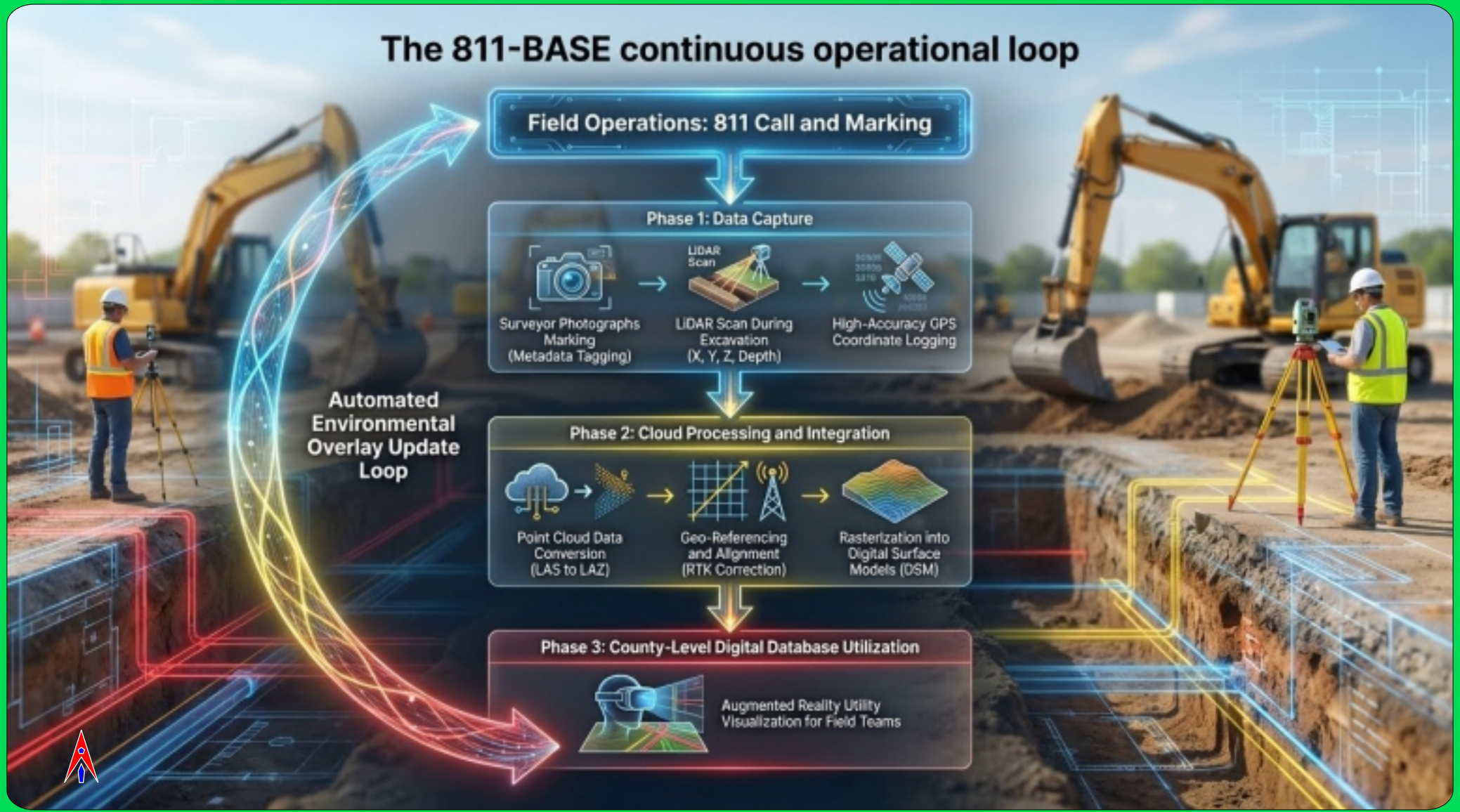
# Eradicating data fragmentation through unified 3D standards

Inconsistent, siloed 2D paper records and disparate digital formats create massive inefficiencies.




A mandate for utility owners to migrate existing locates into a standardized, open-source 3D format (GeoJSON, GeoTIFF). This unified data is accessible via a single API, enabling seamless AR integration.

# The 811-BASE continuous operational loop



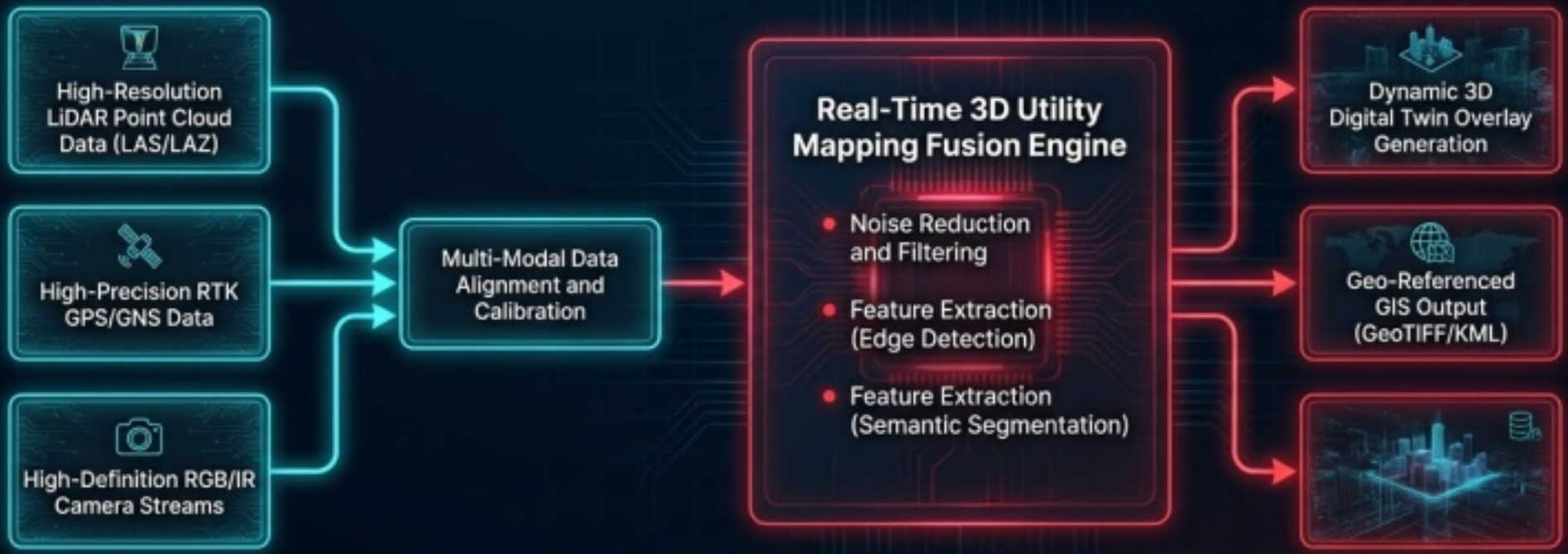
# Phase 1: Establishing ground truth during physical installation

The most accurate map is created when the trench is open. This is standard practice for utility maintenance and upgrades, providing the perfect window for systemic, high-fidelity mapping before the earth is closed.

# Capturing high-fidelity point clouds at the source


- **LiDAR Scanning:** Generating industry-standard point cloud data containing 3D coordinates (X, Y, Z), intensity, color, and classification.
- **Format Efficiency:** Raw LAS files are compressed into LAZ formats to ensure significant file size reduction for large datasets without losing accuracy.
- **Metadata Integration:** High-accuracy GPS logging ensures every millimeter of scanned pipe is permanently locked to a global coordinate system.

# Phase 2: The Real-Time 3D Utility Mapping Fusion Engine




Raw point clouds and RTK GPS are fused in the cloud, filtered for noise, and converted into highly optimized Digital Surface Models (DSMs) ready for instant field access.

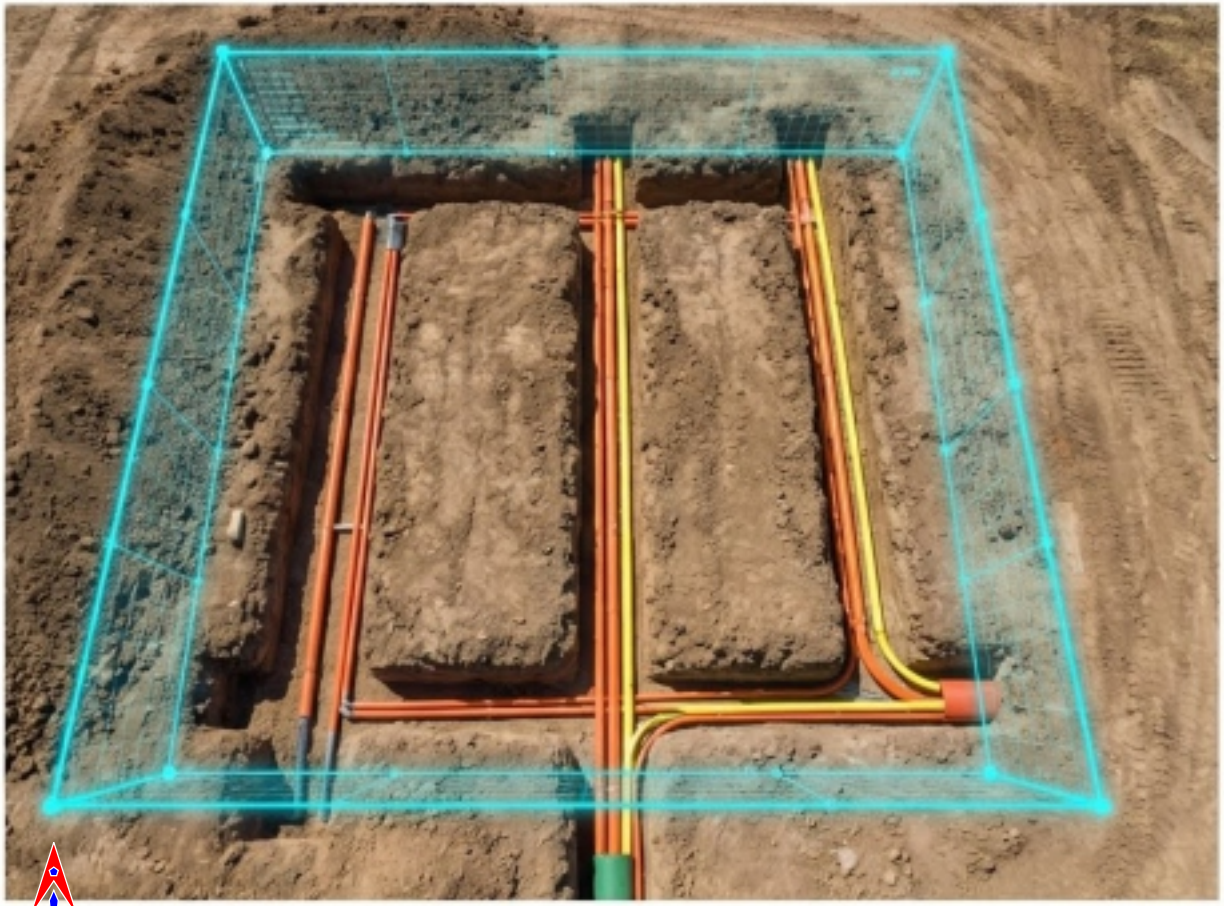
# A secure, regulated commercial cloud repository

# Phase 3: Bringing the 3D map back to the dirt

# Establishing absolute strike prevention zones

# AI-driven real-time excavator activity logging

# Closing the loop through municipal permitting



All municipal construction permits must include a final closing step: the mandatory submission of **high-accuracy, geo-referenced 3D data** (point clouds and GIS overlays) all new installations to the regulated database.

This ensures continuous, reliable updates to the global map.

# Immediate structural hazard context for First Responders

First Responders require immediate, geo-located information on utility shutoffs upon entering a blind zone. 811-BASE delivers this critical data for rapid, safe intervention in seconds.

# A unified spatial understanding: Ground to Airspace

With increasing air activity, Government drones equipped with LiDAR continually add overlays. 811-BASE creates a total 3D hazard map—critical for municipal safety regulation and future air traffic control.

# Protecting Infrastructure. Saving Lives.