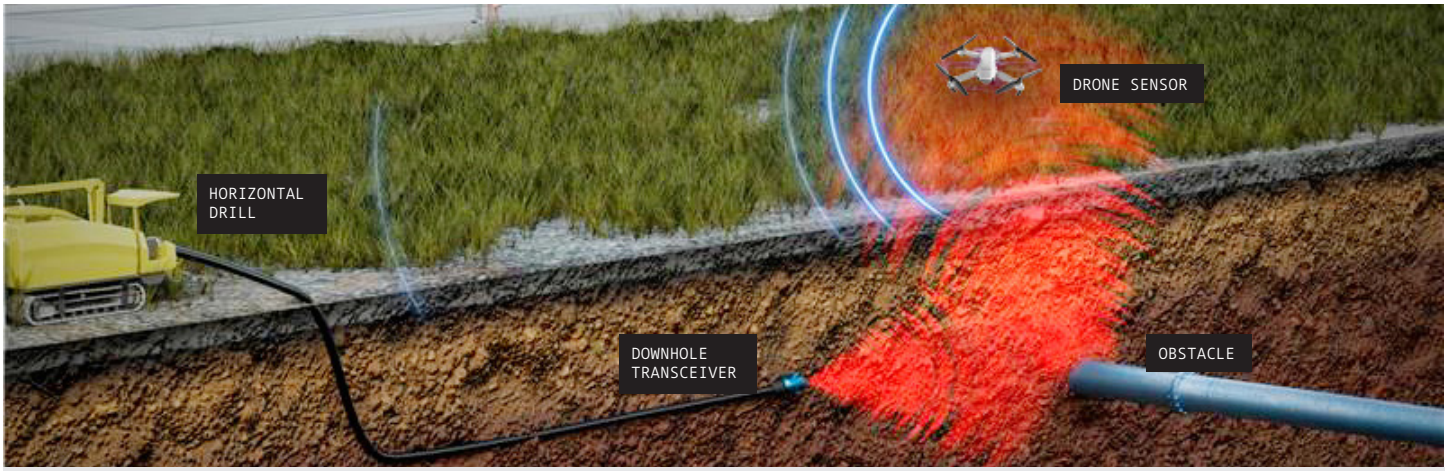
ENERGY

BURROW

Borehole Underground Reconnaissance and Real-time Obstacle Wayfinder



BURROW uses an advanced AI system that networks a UAV and downhole transceiver for high-accuracy underground obstacle sensing.

Summary

Undergrounding is the preferred way to run utility lines, but it must navigate increasingly congested subsurface environments.

BURROW aims to make resilient utility tunneling cheaper and safer by reducing potholing and eliminating strikes.

The system optimizes utility-scale horizontal directional drilling by leveraging techniques from the oil and gas industry and couples them with novel AI-driven computation and visualization to illuminate the subsurface.

Technology

BURROW uses an Unmanned Aerial Vehicle (UAV) networked with a custom downhole transceiver behind the drill bit.

Data captured by the sensor suite is processed with physics-driven machine learning techniques to generate high-resolution subsurface location data.

The system detects previously unidentified obstacles such as water pipes, sewer mains and electrical cables in the drill path.

These findings are sent back to the rig operator in real-time for drilling guidance.

Impact

BURROW is a key innovation that will help modernize America's power infrastructure using cost-effective and high-speed undergrounding technology.

BURROW promises to reduce the time, cost and risk of horizontal directional drilling via look-ahead sensing.

By combining sophisticated downhole electronics, a smart UAV and machine learning AI, it will improve drilling accuracy while avoiding obstacles and eliminating costly and dangerous strikes.

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