

S4 Mobile LABORATORIES

www.s4laboratories.com

Founded: April 2019

Employees: 8

CEO: Chris Matney

CTO: Dr. David Perry

We build mobile soil laboratories to help non-scientists find and map what's hidden underground on site and in real time.

Team

Mr. Chris Matney - CEO

Seasoned entrepreneur with lead executive and technical roles in five startups, including three as founder. His companies have launched more than a dozen products, and he has consulted for 200 large IT and technology firms.

Dr. David Perry - CTO

Professor Emeritus Chemistry, University of Akron with a successful academic career and extensive publications exploring the development of spectroscopic methods and their practical applications.

Founded from a multi-disciplinary research group at the University of Akron, S4 is currently funded by the National Science Foundation.

Problem

The problem is simple. There are things hidden underground from bodies in clandestine graves to toxic chemicals. Many are hard to find.

Beachhead Market : Forensics

There are 81,900 fallen U.S. soldiers overseas in unknown graves and 18,000 U.S. civilians currently buried in clandestine graves. The recovery rate of these missing bodies is 3% annually.

Current methods for finding clandestine human burials (primarily cadaver dogs, ground-penetrating radar, and untargeted excavations) have a success rate of less than 30% and an average cost of \$100K per excavation.

Product : Subterra Grey

The Subterra technology platform is a mobile soil laboratory with a probe inserted into the soil that uses diffuse reflectance near-infrared (NIR) spectroscopy to map subsurface chemical fingerprints *in situ* and in real time providing comprehensive analysis of subsurface soil chemistry.

The Subterra Grey enables forensic detectives to find clandestine burials in real time increasing per site success rates to 90% at an 80% reduction in cost.

While the platform is universal (i.e., can detect hundreds of chemical signatures for a wide range of applications), the Subterra Grey is designed to detect fatty salts from human decomposition that remain for hundreds of years after burial.

Intellectual Property

A patent for our technology was filed on June 15, 2020.

Forensic Market Analysis

We have validated both product-market fit and price through 180+ potential customer interviews across state (police, SBI, Native American tribal THPO), federal (FBI, DoD, US Army, BLM, NPS, USFS), and private forensic companies. At a \$40,000 MSRP, our target Serviceable Obtainable Market is \$102M from a Serviceable Addressable Market of \$826M.

Competitive Advantage

- Subterra provides full chemical analysis vs. simple anomaly detection
- Subterra requires no scientific training - simple green/red (i.e., dig/no dig)
- First mover advantage for our soil chemistry algorithms and database

Traction

S4 is partnered with:

- Department of Defense POW/MIA Accounting Agency (DPAA)
- University of Akron Research Foundation
- MAGNET (Ohio Manufacturing Extension)

Proof-of-Concept

- Completed 2/2020

Prototype Design & Build

- In progress until 12/2020
- \$225K - NSF SBIR grant
- \$100K - OTF TVSF grant

Seeking pre-seed funding to build and field test three Subterra Grey prototype units in 2021.

- \$250K
- Expected start: 8/2020
- Expected finish: 3/2021
- SAFE Equity preferred