

# EarthWorks

## Satellite-Based Prevention of Infrastructure Failures

### Secure the Future of Your Infrastructure with EarthWorks

EarthWorks monitors subsurface soil moisture content for ground infrastructure installations: dams and levees, roads, railways, mining operations, and large, developed properties. It accurately detects high-moisture areas across large regions, without causing damage to the ground, to anticipate and prevent potential failures BEFORE life-threatening and financial repercussions ensue. EarthWorks data is derived via an orbiting satellite and a highly sensitive radar band that reflects off underground moisture, regardless of the time of day, weather conditions, or surface changes, enabling scale-up monitoring. The signal is analyzed through ASTERRA's patented algorithms and visualized as a soil moisture heatmap. EarthWorks can assess underground conditions across vast tracts of land simultaneously, up to 800,000 acres/3,200 sq km. Having no labor, equipment, or testing fees, and using minimal scans, this cost-effective solution delivers a high return on investment

### EarthWorks Insights on EO Discover

With a subscription to ASTERRA's EO Discover platform, customers receive an alert for at-risk areas to prioritize their inspection resources and address critical issues as quickly as possible. Reports, dashboards, notifications, and key metrics are all available in one place. The service includes data download options in GIS data format for viewing in Esri or other common software.

### Industries Served by EarthWorks

#### Dams and Levees

There are 92,000 U.S. dams in the U.S. storing either water or toxic waste, many past their 50-year "age alert" for enhanced monitoring, and 25,000 miles/40,000 km of levees. With a view from a satellite, we monitor seepage across entire systems.

#### Mining

Whether for safely storing waste behind tailings dams, locating underground pipe leaks, or ensuring stable ground to transport material and support heavy equipment, EarthWorks' ability to assess multiple situations at once supports diverse mining applications.

#### Roads

Moisture is the leading cause of failure along 4 million miles/6.4 million km of U.S. roads. Because EarthWorks penetrates up to 6.5/2 m beneath asphalt and concrete, its efficiency is unmatched.

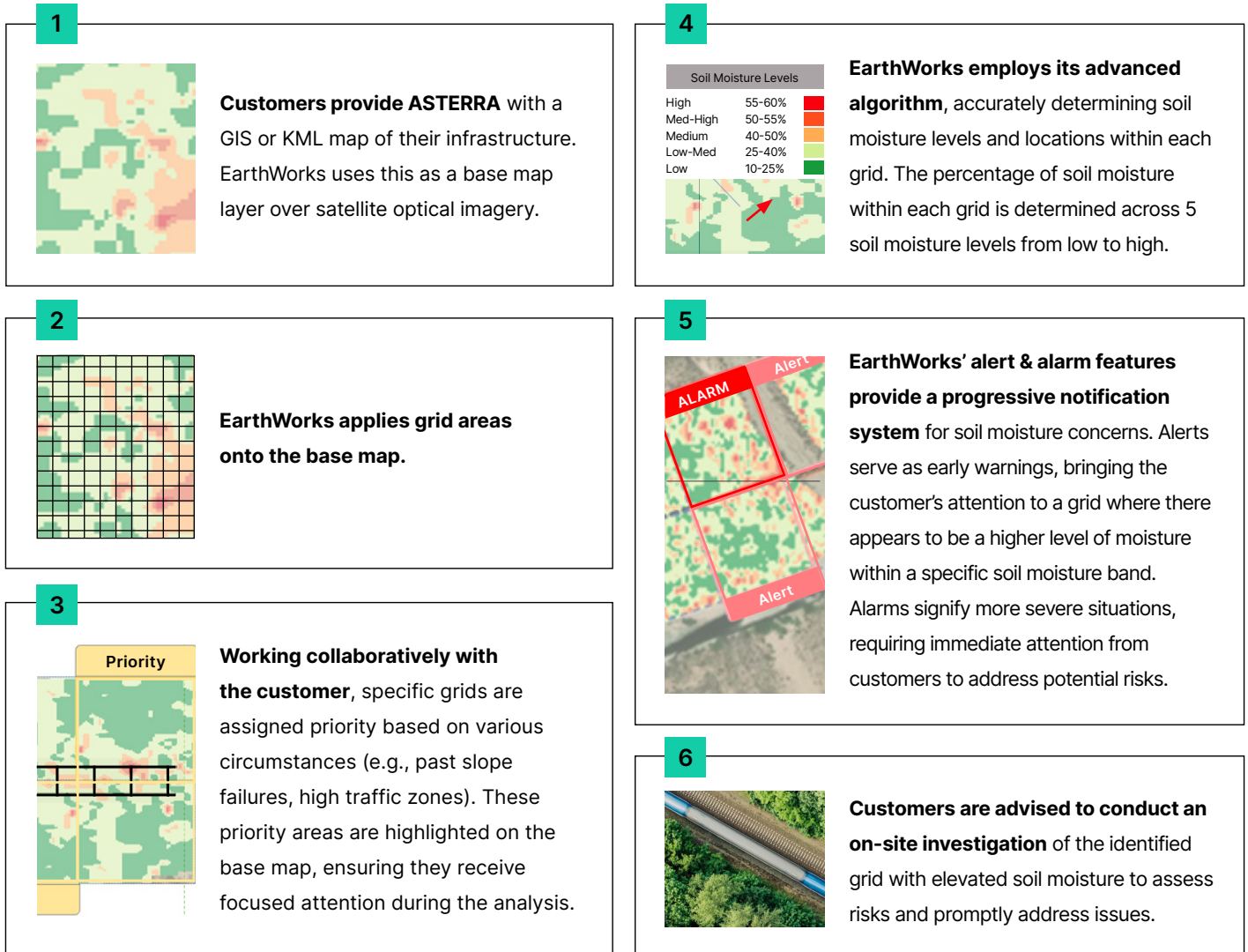
#### Rail

Unseen pockets of moisture are compromising areas along 148,000 miles/238,000 km of U.S. rail lines. EarthWorks can monitor hillsides above and below, well beyond the right of way.

#### Property

Hundreds of thousands of acres of asphalt surround our airports, office parks, and other critical facilities. EarthWorks penetrates the pavement to monitor it over time to spot moisture issues before they become safety issues

## How It Works



## About ASTERRA

ASTERRA (formerly Utilis) provides underground soil moisture data services on pipes, roads, rails, dams, levees, properties, and mines to water utilities, government agencies, and infrastructure managers. Using SAR (synthetic aperture radar) data from satellites and a series of proprietary algorithms, ASTERRA turns

data into actionable intelligence that supports largescale decisions and Earth's resource resilience. Since 2017, in 64 countries, ASTERRA technology has saved over 315 billion gallons of water, 788,219 MWH of energy, and 201,784 metric tons of carbon. ASTERRA is headquartered in Israel with offices in the U.S., the U.K., and Japan.