



# SoilX<sup>TM</sup>

## Designed and Manufactured

by REVE NANO-SCIENCE LLP



## About Us

Reve Nano Sciences LLP is a Group of Innovators and Researchers, working in a wide range of sciences including IOTs, Sensing Technologies, Smart Agriculture, Smart Healthcare, Data Sciences, Forensic Sciences, Machine Learning, Artificial Intelligence; having extensive experience of over 200 men years of research, solution designs, execution and deployments.

Reve Nano Sciences LLP is at the forefront of agricultural technology research, leveraging AI-ML and hyper spectral imaging to revolutionize 'on-site, Real-time soil analysis. The Reve Soil Analyzer - SoilX provides a non-invasive, real-time assessment of soil properties, optimizing agricultural practices by integrating advanced sensing technologies. As the global population grows, ensuring sustainable agricultural productivity is crucial and innovative soil analysis solutions like The Reve Soil Analyzer - SoilX plays a vital role in achieving this goal.

## Reve Nano Sciences LLP addresses critical challenges in modern farming, including:

At Sensors, we develop affordable, realtime soil sensing solutions to empower farmers with precision insights. Designed and engineered in India by Reve Nano Science LLP. The Reve soil probe integrates advanced sensor fusion with AIpowered analytics to ensure healthier crops, optimized farm input resources, and increased yields. We believe in no imitation just innovation rooted in the needs of our farmers. No more dependency on outdated, older standards or blind fertilizer use.

- **Slow and expensive soil testing methods**
- **Lack of real-time soil health insights**
- **Overuse of fertilizers & chemicals, leading to soil degradation**
- **Inefficiency in water and nutrient management**

By providing affordable, portable, and AI-powered soil analysis tools, Reve Nano Sciences LLP is enabling farmers to make smart, sustainable decisions

## **AI-ML Powered Reve Soil Analyzer - SoilX**

The Reve Soil Analyzer - SoilX is a next-generation, portable soil testing device designed to provide real-time, on-site analysis of essential soil parameters. This analyzer enables farmers, agronomists, researchers, agricultural consultants, and environmental professionals to make informed decisions about crop nutrition, fertilizer use, irrigation planning, and soil remediation for sustainable land and crop management. The analyzer is suitable for a wide range of applications, including nutrient mapping, organic and precision farming, agrochemical evaluation, academic research, and government-led soil health missions.

With its user-friendly interface, robust construction, and data-driven output, the Reve Soil Analyzer - SoilX delivers real-time insights into key soil health indicators.

- Technology: Hyper spectral spectroscopy covering UV-VIS-NIR (410nm-940nm) range
- Functionality: Detects soil nutrients, moisture, microbial activity, and carbon content etc. SoilX measures about 22 soil parameters including pH, Electrical Connectivity, Organic Carbon, Nitrogen, Phosphorous, Potassium, Sulphar, Boron, Copper, Ferrous, Manganese, Zinc, Lead absorption index, Termite influence index, Mercury residual index, Aflatoxin residual index, Relative Bacterial index, Chemical residue index, Fungal activity index, Humus content index, Moisture etc.
- Application: Portable, field-ready soil testing with instant AI-driven insights

## **IoT - Enabled Digital Farming Platform**

- A cloud-integrated solution: Allows farmers to remotely monitor soil conditions and optimize agricultural inputs. It provides data-driven farming insights for precision agriculture,
- Real-Time Data Transmission: Connects to cloud-based AI models for automated soil analysis
- Dashboard & Mobile App: Displays soil health trends, nutrient levels, and predictive recommendations. It Supports climate-resilient farming by predicting soil moisture retention & nutrient depletion trends
- AI-Powered Forecasting: Helps farmers adapt to climate change & optimize irrigation/fertilizer use, reducing environmental degradation and costs

## **Advanced Soil Carbon & Microbial Analysis**

Reve Nano Sciences LLP offers a unique AI-powered microbial activity detection system, analyzing soil biodiversity and organic carbon levels.

- Microbial Biomass Estimation: Detects the presence of beneficial/harmful bacteria
- Carbon Sequestration Potential: Monitors soil carbon storage for sustainable farming & climate action
- Supports Organic & Regenerative Farming: Helps farmers transition to eco-friendly soil practices

## Competitive Advantages of Reve Soil Analyzer - SoilX

- Real-Time & Portable: Unlike traditional lab-based soil tests that take days, the Reve Soil Analyzer - SoilX provides instant results.
- AI-Driven Analytics: Uses machine learning algorithms to predict soil health trends, offering deeper insights than conventional tests.
- Cost-Effective & Scalable: More affordable than genetic sequencing methods like 16S rRNA, making it accessible to both small holder and large-scale farmers.
- Sustainable & Non-Invasive: No chemical reagents required - analyzes soil in its natural state, supporting environmental conservation goals.
- IoT & Cloud-Enabled: Seamless integration with digital farming platforms enables remote monitoring and automated decision-making.



## CONTACT US



+91 9327010207



info@reveautomation.com  
www.revenano.com



601, Nakshatra Biz, Opp Ankur school  
Paldi, Ahmedabad-380006 INDIA