SOIL SCOUT

Wireless Underground Sensor Solution

World's first truly wireless, underground soil condition sensor

WHY SOIL SCOUT?

Understanding what is happening underground is critical in agriculture!

2/3 of agronomic phenomena occur underground!

SOIL SCOUT

We waste precious resources!

Precision farming enables
higher efficiency of inputs!

SOILSCOUT

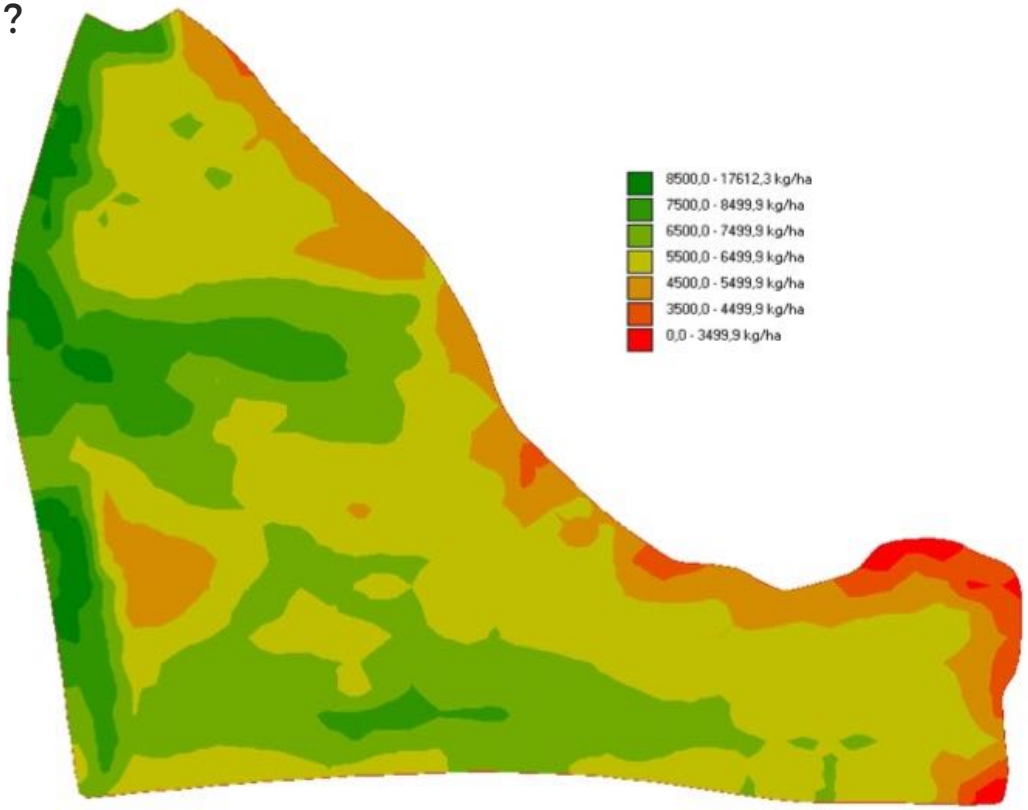
FIELDS ARE NOT UNIFORM

But what is variation telling us?

Precision Agriculture =
Data Driven Farming

- Measure growth variability
- Identify cause(s) of poor growth
- Remove growth restrictors
- Manage inputs spatially

The most important phenomena occur underground !



SOILSCOUT

BETTER SOLUTION WAS NEEDED

In-field obstacles or expensive & labour-intensive manual sampling is often not an option!

No Spatial Variability or No Dynamics ?

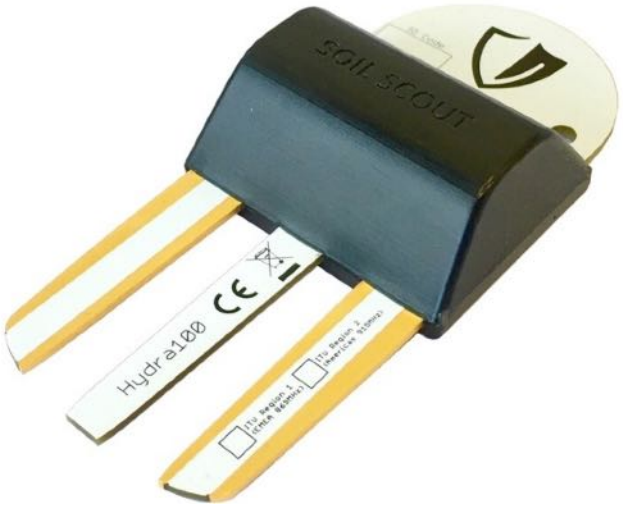



SOIL SCOUT

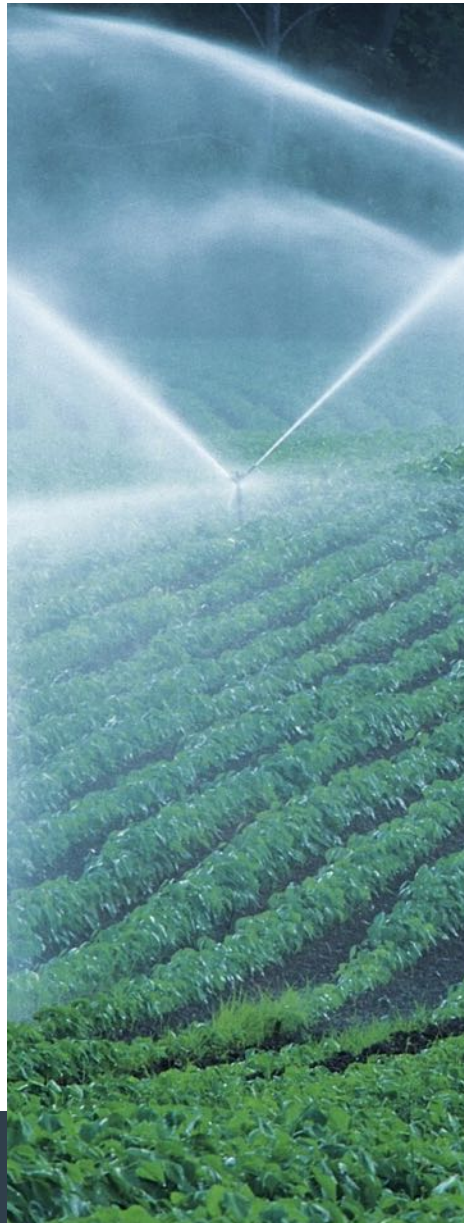
THE FIRST FULLY WIRELESS UNDERGROUND AGRICULTURE SENSOR

Make informed decisions based on accurate and permanent measurements

- Soil Moisture
- Temperature
- Salinity (EC)
- Up to 20 years

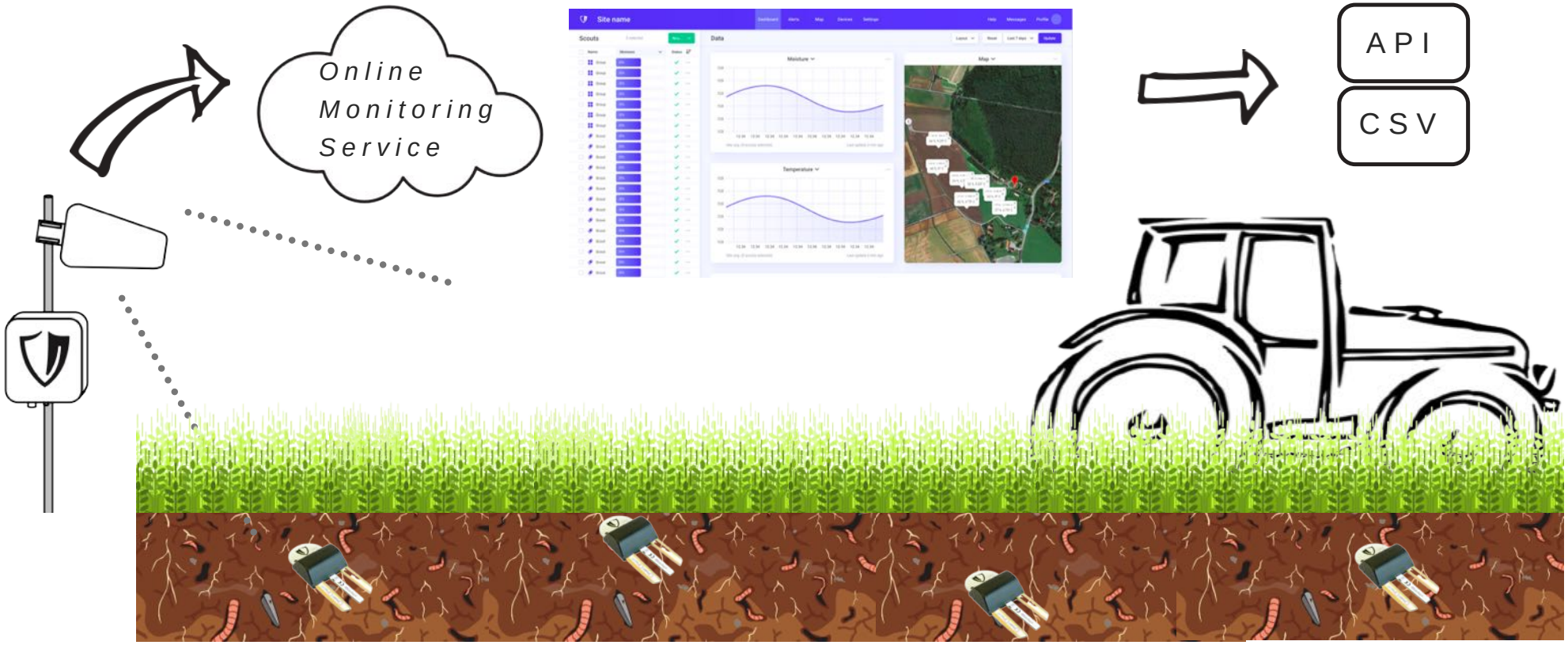


US9673912B2

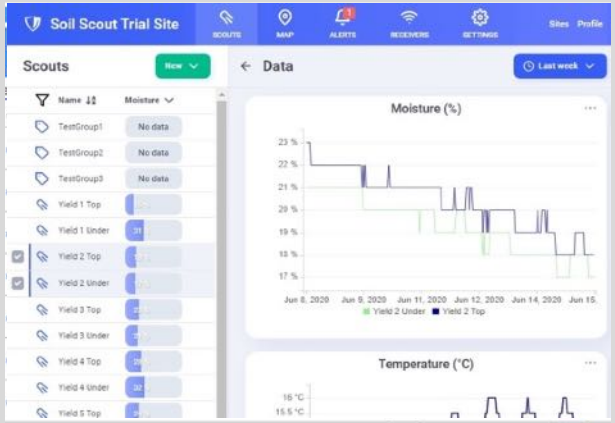


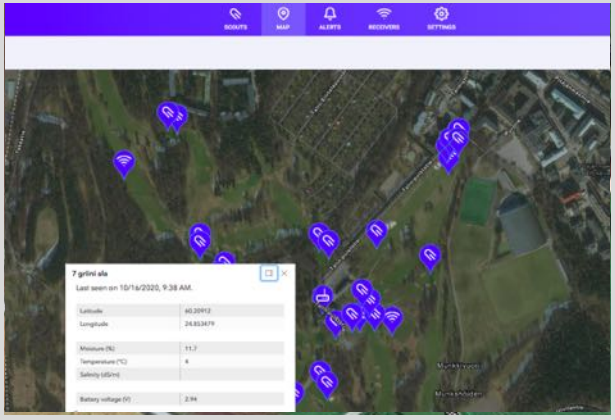
MORE THAN 2000 SENSORS PRODUCED

HOW DOES IT WORK?



Maximum achievable distance from sensor to receiving antenna varies depending on antenna height, sensor depth and line of sight. For details, visit www.soilscout.com





MONITORING

Detailed real-time view

ANALYSIS

Make informed decisions based on accurate data

SHARE

Download and share the data through an API

Monitoring Service

SOLUTION ELEMENTS

Hydra Scout

- Permanently buried sensor
- Up to 20 yrs battery life

Echo Repeater

- Boosts the signal up to 10km to next receiver

Base Station

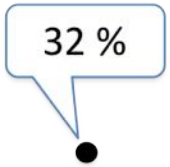
- GSM modem
- Can handle over 1000 Scouts

Antennas

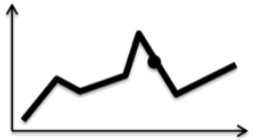
- Omni directional
- Directive Yagi
- Stub Antenna

FROM GUESSWORK TO MANAGEMENT

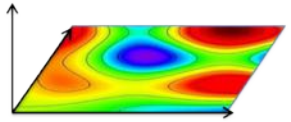
1. Real time actual conditions instead of guess work



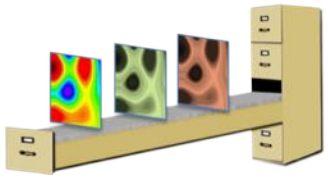
2. View into dynamic behaviour



3. A view into spatial and depth variability in 3D



4. Saved records from year to year for analysis and planning ahead



SOILSCOUT

INSTRUMENTATION EXAMPLE

EXAMPLE: 20ha field growing Strawberry, using drip-irrigation system

- 1 Base Station located at the farm center
- 30 Scouts in predefined locations across the site
- 3 ECHO Repeaters

- Scouts can be placed anywhere
- More sensors can be added anytime
- Echo Repeaters used to catch the signals from the sensor
- Site design provided to ensure appropriate configuration

SOIL SCOUT

CASE STUDIES

MÄKELÄ STRAWBERRY FARM, FINLAND

- Soil temperature and moisture are critical in strawberry farming
- The data provides an accurate information to optimize irrigation, protect plants from frost and select the right plant varieties

- 25 ha monitored with 30 Scouts.

KLEEMOLA SEED FARM, FINLAND

- The seed production farm is equipped with controlled drainage, which is managed based on soil moisture data from two depths.
- In-season fertilization is decided according to moisture availability. The insight into dynamic soil conditions including moisture, temperature and EC is the everyday basis for field management decisions.
- 11 ha monitored with 17 Scouts.

SOIL SCOUT

COMPETITIVE ADVANTAGE

We compete with few wireless sensors and wired solutions

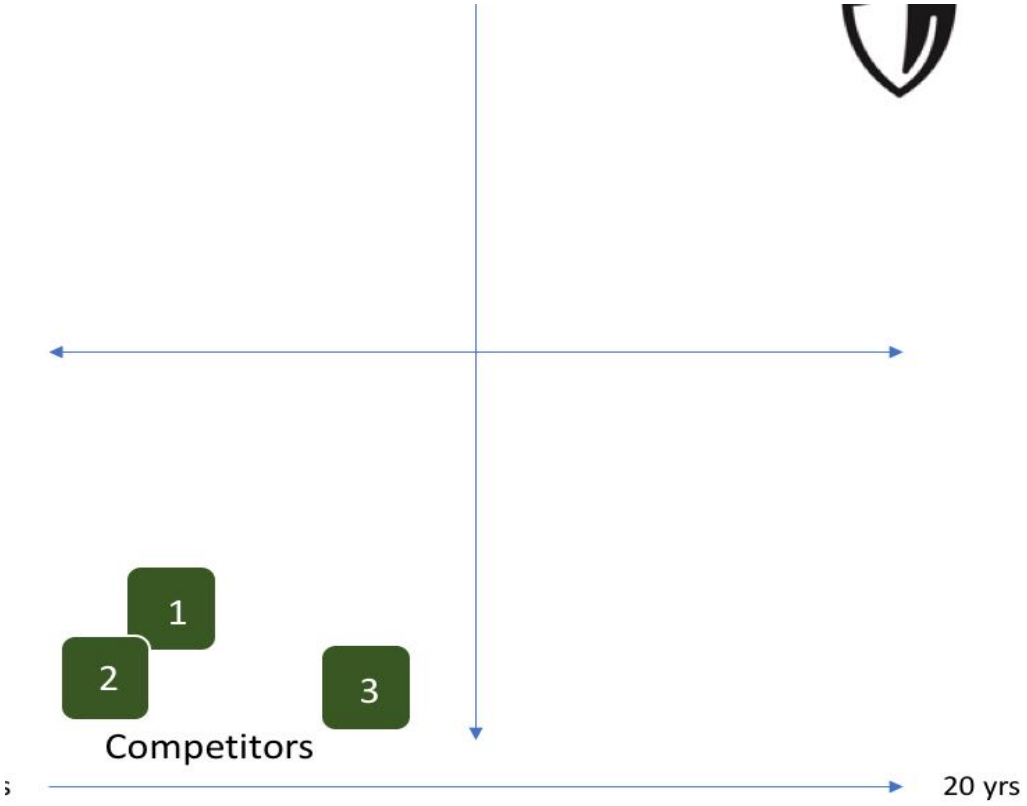
The most significant competitor is "old habits"

We are patent protected

Soil Scout is the only technology that can reach up to 2m depth wirelessly

Competitor Comparison

Soil Sensors with above ground wireless repeaters



SOIL SCOUT

Selected Agri References

1. Yara International, FI
2. Mäkelä Strawberry Farm, Kesälahti FI
3. Royal Agriculture Univ. Cirencester, UK
4. Salix Morava, Horni Mostenice, CZ
5. Natural Resources Institute Finland
6. RISE Uppsala, SE
7. Waitatapia Farm, New Zealand
8. ProAgria, Elimäki, FI
9. Kleemola Seed Farm, Ulvila, FI
10. Du Roi Nurseries, South-Africa

SOIL SCOUT

SOIL SCOUT

UNLEASH THE TRUE POTENTIAL OF YOUR FIELDS!

SAVE MONEY

Optimized irrigation and work planning
Less fertiliser runoff
Less manual sampling work

MAKE MONEY

Optimized soil conditions and inputs
Produce more yield
Meet the standards

MAKE IMPACT

Save precious water resources
Reduced water table pollution
Less greenhouse emissions

The **Soil Scout** story....

Soil Scout was formed through the collaboration of a 19th generation farmer and soil agronomist with a technology specialist, focused on wireless solutions

The Company has designed, created, patented and commercialised an underground wireless soil monitoring solution

Our mission is to give soil experts the insights and data they need to manage their lands in the most efficient and effective ways.

SOIL SCOUT


Soil Scout Ltd
www.soilscout.com
Facebook.com/soilscout
Twitter @Soil_Scout
SOILSCOUT.COM