

Soil Monitoring Market by Offering (Hardware, Software, Services), System Type (Sensing & Imagery, Ground-based Sensing, Robotic & Telematics), Application (Agricultural, Non-agricultural) and Region - Global Forecast to 2027

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Abstracts

The soil monitoring market is estimated to be worth USD 551 million in 2022 and is projected to reach USD 1,088 million by 2027, at a CAGR of 14.6%. The soil monitoring market is expected to grow exponentially owing to factors such as efforts of governments and companies to promote sustainable agriculture practices, need to preserve soil quality, stringent government regulations pertaining to ecological stability, and growing need for farm productivity improvement.

The soil monitoring market is at a promising stage and is expected to see strong growth during the forecast period. The low technical know-how of ground-based monitoring systems has led to the wider adoption of several soil monitoring sensors. Moreover, using various IoT-based devices and several niche offerings provided by companies for soil monitoring has led to the development of telematics and remote monitoring.

"The market for sensing & imagery systems is estimated to grow at the highest CAGR during the forecast period."

The market for sensing and imagery will witness strong growth as the use of satellite imagery, drones, manned aircraft, or aerial imagery is more prominent in agricultural applications of soil monitoring; these imaging systems gather raw data pertaining to soil. Multispectral and hyperspectral sensors are usually mounted on these airborne vehicles. Remote sensing technology is an economical technique for mapping and monitoring crop and soil variability. Remote sensing imagery helps in pasturing the



growth rate, mapping soil variations, monitoring field variability, detecting pestinfected or diseased plants, enhancing crop input, etc. Sensing and imagery systems become complicated in the case of data mapping as they require instrument calibration, atmospheric correction, cloud screening of data, and image processing.

"The market for hardware is estimated to account for the largest share between 2022 and 2027."

The soil monitoring market for hardware is expected to flourish at a significant growth rate and is estimated to hold the dominant position during the forecast period. Hardware components, sensors, devices, and equipment are increasingly adopted in agricultural and non-agricultural applications. The integration of various sensors into remote monitoring solutions owing to the reduced cost of these sensors has resulted in the largest market share of the hardware segment.

"The market for non-agricultural application is estimated to grow at the highest CAGR from 2022 to 2027."

The soil monitoring market for the non-agricultural application is expected to grow at the highest CAGR during the forecast period. The use of several sensors, soil scanners, and devices for soil monitoring purposes for the non-agricultural application has been on the rise. Weather forecasting, flood and drought management, sports turf management, landscaping, and ground care use soil monitoring sensors to optimize their operations.

"Soil monitoring market in the APAC region is expected to witness robust growth during 2022-2027."

The surging investments in the ag-tech sector in APAC, increasing penetration of ground-based monitoring systems as well as sensing and imagery systems are some of the major factors for the fast growth of the soil monitoring market. The region has promising growth prospects in the soil monitoring market owing to the presence of various international and domestic players in the field of soil monitoring in countries such as India, China, Japan, and Australia. Other factors contributing to the growth of the soil monitoring market in the APAC region include strong government support to digitalize agriculture, rising concerns to boost productivity, and integration of advanced systems with various equipment.

Break-up of Primaries



By Company Type: Tier 1 – 20%, Tier 2 – 45%, and Tier 3 – 35%

By Designation: C-Level Executives – 35%, Directors – 25%, and Others – 40%

By Region: Americas – 45%, Europe – 25%, APAC – 20%, and RoW – 10%

The major players in the soil monitoring market include Stevens Water Monitoring Systems (US), SGS Group (Switzerland), METER Group (US), Element Material Technology (UK), The Toro Company (US), Campbell Scientific (US), Sentek Technologies (Australia), Spectrum Technologies (US), Irrometer (US), and CropX Technologies (Israel).

Research Coverage

The report segments the soil monitoring market and forecasts its size, by volume and value, based on offering (hardware, software, and services), system type (sensing and imagery systems, ground-based monitoring systems, others (robotics and telematics systems)), application (agricultural and non-agricultural), and region (Americas, Europe, APAC, and RoW).

The report also provides a comprehensive review of market drivers, restraints, opportunities, and challenges in the soil monitoring market. It covers the qualitative aspects in addition to the quantitative ones.

Reasons to buy this report

To get a comprehensive overview of the soil monitoring market

To gain wide-ranging information about the top players in this industry, their product portfolio details, and the key strategies adopted by them

To gain insights about the major countries/regions in which the soil monitoring market is flourishing



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*Details on Business overview, Products/Solutions/Services offered, Recent developments, MnM view, Key strengths, Strategic choices, and Weaknesses and competitive threats might not be captured in case of unlisted companies.

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About

According to the new market research report on "Soil Moisture Sensor Market by Type (Volumetric and Soil Water Potential), Application (Agriculture, Residential, Landscaping, Sports Turf, Weather Forecasting, Forestry, Research Studies, and Construction & Mining), and Geography - Global Forecast to 2023", the soil moisture sensor market is expected to grow from USD 131.7 million in 2018 to USD 264.0 Million by 2023, at a CAGR of 14.92% between 2018 and 2023. The growth of this market is driven by a gradual shift in the climatic conditions and growing demand for the improved productivity.

Major players in the soil moisture sensor market include

METER Group (US)

Irrometer Company (US)

The Toro Company (US)

Campbell Scientific (US)

Delta-T Devices (UK)

Spectrum Technologies (US)

Sentek (Australia)

Stevens Water Monitoring Systems (US)

E.S.I. Environmental Sensors (Canada)

IMKO Micromodultechnik (Germany)

Volumetric soil moisture sensors to hold larger share of market during forecast period

In terms of value, volumetric soil moisture sensors are expected to hold a larger share



of the soil moisture sensor market during the forecast period. The volumetric soil moisture sensors provide more accurate data and require very little or no calibration at the time of installation; hence, their demand in almost all the applications is high.

Soil moisture sensor market for sports turf application to grow at highest CAGR during forecast period

The soil moisture sensor market for sports turf application is expected to grow at the highest CAGR during the forecast period. As more people are interested in sports for the entertainment purpose, investments for the betterment of playgrounds, turfs, and other related infrastructure have increased drastically; this leads sports turf to be the fastest-growing application of the soil moisture sensors.

Americas to hold largest share of soil moisture sensor market during forecast period

The Americas is expected to hold the market with the largest share between 2018 and 2023. The growth of this market is attributed to the factors such as strict environmental regulations, strong government support, efforts toward automation of agricultural processes, and growing adoption of precision farming and yield monitoring practices by small and the large farm owners to increase the productivity of the fields.



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