



## ANMD-MRS1-003 · Advanced Agriculture Technologies

# Soil Moisture Sensors

*A Global Sustainability Due Diligence & Market Research Study*

History 2020–2024 · Base Year 2025 · Forecast 2025–2032 · Outlooks 2035 / 2040 / 2050 · Currency US\$

## WHY THIS REPORT

Soil moisture sensors meter water and crop stress in real time, turning guesswork irrigation into data-driven, water-efficient decisions that lift yield and cut input cost. This decision-grade study sizes the global sensors market three ways — value, units and monitored area (ha) — across sensor type, automation level, deployment and application, across seven regions and four forward scenarios to 2032, with long-term outlooks to 2050.

## SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

Sustainability is this report's backbone, not an afterthought. Beyond yield, soil moisture sensors deliver measurable water-use efficiency gains, optimised scheduling and reduced water stress, while curbing over-irrigation and leaching strengthens the natural-capital story — each treated as material, evidenced outcomes rather than marketing claims.

### Mapped Sustainable Development Goals:

<b>SDG 2</b> Zero Hunger	<b>SDG 6</b> Clean Water	<b>SDG 12</b> Responsible Consumption	<b>SDG 13</b> Climate Action	<b>SDG 15</b> Life on Land
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### Measurable sustainability outcomes assessed:

- Water-use efficiency gains from sensed, root-zone-based scheduling
- Reduced over- and under-watering and avoided crop water stress
- Lower leaching and improved resource stewardship
- Electronics embodied carbon and sensor end-of-life circularity as material risks

**Framework alignment:** Double materiality mapped to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, with greenwashing and SDG-washing screens applied throughout.

## WHAT'S INSIDE AT A GLANCE

<b>53</b> Chapters	<b>9</b> Report Parts	<b>7</b> Regions Covered	<b>40+</b> Country Markets
<b>2025–32</b> Forecast Horizon	<b>4</b> Forward Scenarios	<b>25+</b> Companies Profiled	<b>5</b> SDGs Mapped

## REPORT COVERAGE

**Geographic scope:** North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. Asia Pacific anchors volume on water scarcity and the smart-farming push; Europe is policy-led on CAP water-efficiency; Latin America, Africa and the Middle East assessed on their own merits.



## MARKET OVERVIEW

### From early adopters to commercial scale — where data-driven irrigation replaces guesswork.

The soil moisture sensors market is moving from early adoption to mainstream commercial scale. Demand is driven by intensifying water, input-cost and climate pressure on agriculture, supported by maturing incentives across Asia Pacific, Europe and North America. The market is read three ways — value, units and monitored area (ha) — and forecast under four scenarios, each region reported separately.

- Asia Pacific anchors volume — India, China, Australia and Japan, on water scarcity and the smart-farming push across smallholder and commercial growers
- Europe is policy-led — Germany, France, Netherlands and Spain, on CAP water-efficiency and horticulture intensity
- North America accelerates on drought management and precision-agriculture adoption
- Resource-and-yield economics is the differentiator — input and resource savings plus yield gain, increasingly with service and data revenue

## REGIONAL OUTLOOK

Across seven reporting regions, the report separates early commercialisation leaders from high-growth and emerging markets — each profiled in full rather than aggregated into Rest of World.

Region	Stage	Lead Markets & Drivers
Asia Pacific	Volume leader	India, China, Australia, Japan — water scarcity, smart-farming push
Europe	Policy-led	Germany, France, Netherlands, Spain — CAP water-efficiency, horticulture
North America	Accelerating	United States, Canada — drought, precision-ag adoption
Latin America	Emerging	Brazil, Chile, Mexico — agribusiness, export crops
Africa	Frontier	South Africa, Egypt, Kenya — water security, blended finance
Middle East	Frontier	Israel, Saudi Arabia, UAE — water security, sovereign investment

## KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
<ul style="list-style-type: none"> <li>• Water-scarcity + irrigation-efficiency convergence</li> <li>• Real-time scheduling &amp; input-cost savings</li> <li>• Policy incentives (PMKSY, CAP, USDA, state schemes)</li> <li>• Farmer water-saving &amp; yield economics</li> <li>• IoT, telemetry &amp; AI-scheduling technology gains</li> </ul>	<ul style="list-style-type: none"> <li>• Sensor &amp; gateway CAPEX vs manual judgement</li> <li>• Calibration, drift &amp; soil-variability accuracy</li> <li>• Connectivity, power &amp; data-rights concerns</li> <li>• Electronics &amp; semiconductor cost inflation</li> <li>• Farmer adoption, financing &amp; social-licence barriers</li> </ul>



## SEGMENTATION SNAPSHOT

<b>By Sensor Type</b>	Capacitive / FDR · TDR · tensiometric · resistive · neutron-probe
<b>By Automation Level</b>	Manual read · telemetry-connected · AI-scheduled
<b>By Application</b>	Field & row crops · orchards & plantations · greenhouse & horticulture
<b>By End User</b>	Farmers · cooperatives / FPOs · agri-corporates · researchers · public schemes
<b>By Deployment</b>	Single-depth · multi-depth profile · networked array
<b>By Scale</b>	Smallholder · commercial · research

## TABLE OF CONTENTS — PARTS & CHAPTERS

The full report is organised into nine parts across 53 chapters, listed below. Detailed sub-headings, country tables and directories are provided in the full report.

### Part I — Report Foundation, Discovery and Strategic Intelligence

- › Chapter 1. Scope, Methodology and Report Architecture
- › Chapter 2. Industry Discovery Summary — Soil Moisture Sensors
- › Chapter 3. Executive Intelligence and Decision Dashboard
- › Chapter 4. Strategic Findings, Materiality and Investment Verdict Preview

### Part II — Market Intelligence, Sizing, Forecasting and Segmentation

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- › Chapter 6. Market Dynamics
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- › Chapter 8. Market Segmentation Analysis
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### Part IV — Technology, Innovation and Category-Specific Intelligence

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## Part VIII — Scenario, Future Intelligence and Final Due Diligence Verdict

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- › Chapter 44. Risk Register, RAG Rating and Anti-Greenwashing Screen
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- › Chapter 46. Implementation Roadmap and Stakeholder Playbooks

## Part IX — Annexes, Directories and Reference Material

- › Chapter 47. Methodology Annex
- › Chapter 48. Corporate Directory and Company Intelligence Annex
- › Chapter 49. Patent Directory and Patent Intelligence Annex
- › Chapter 50. Project Intelligence Annex
- › Chapter 51. Forecast Annex
- › Chapter 52. Sustainability KPI Annex
- › Chapter 53. Reference Annexes

## COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans specialist sensor providers, established instrument manufacturers, and regional agtech integrators. Deal activity — distribution partnerships, technology licensing and demonstration programmes — signals a market consolidating around bankable, repeatable designs.

### Representative players profiled in the full report:

Sentek Pty Ltd. · Delta-T Devices Ltd. · CropX Technologies Ltd. · Sensoterra B.V. · Pessl Instruments GmbH (METOS) · and 20+ further profiled players across sensing, telemetry and analytics.

**Investment intelligence:** venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a Go / No-Go / Conditional-Go investment verdict.



## KEY QUESTIONS THIS REPORT ANSWERS

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- ? How large is the global soil moisture sensors market, and how fast will it grow to 2032?
- ? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- ? How does sensed scheduling change returns versus calendar watering?
- ? Who leads, and where is the competitive and patent white space?
- ? Is the investment case bankable — and under what conditions?
- ? How does the technology align with the SDGs and emerging disclosure regulation?

## WHY ANMD — THE DIFFERENCE

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*Most market studies stop at units and revenue. This report is built as a sustainability due diligence instrument — fusing market sizing with ESG, SDG, climate, water and natural-capital intelligence and a decision-ready bankability verdict in a single architecture.*

- › Triangulated sizing — every market read three ways so value, volume and area views reconcile rather than conflict.
- › Region-honest forecasting — Latin America, Africa and the Middle East reported in full, never hidden inside Rest of World, every forecast resolved to the 2025 base year.
- › Integrated evidence base — company, patent and project databases linked to the analysis, with published-filing patents and FTO treated as an indicator, not a legal conclusion.
- › No-fabrication discipline — every estimate carries a data-confidence rating and disclosed sources; gaps are flagged for further diligence, never filled with invented numbers.
- › Anti-greenwashing rigour — SDG-washing and greenwashing screens plus claim-substantiation checks built into the ESG and project analysis.
- › Decision-first structure — 9 Parts and 53 Chapters culminating in stakeholder playbooks and a clear Go / No-Go / Conditional-Go investment verdict.

## WHO SHOULD BUY THIS REPORT

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Investors and infrastructure / PE funds, sensor manufacturers and component suppliers, integrators and agtech platforms, agribusinesses, cooperatives and FPOs, researchers, public schemes, policymakers, and corporate strategy and ESG teams.

### Access the Full Report

The complete report delivers all 53 chapters in full, with every sub-heading, country table, company and patent directory, forecast model and due diligence checklist.

Purchase at [www.anewmarketdynamics.com](http://www.anewmarketdynamics.com) · Standard & Premium licences · Single-Site (SSL) and Global-Site (GSL) options at checkout.

### Want the Complete Detailed Table of Contents?

This prospectus lists the nine parts and 53 chapters. The complete detailed table of contents — every sub-heading, country table, exhibit, company and patent directory and annex — is available on request to registered users. To receive it, register with your official company email at [www.anewmarketdynamics.com](http://www.anewmarketdynamics.com). The full detailed table of contents will be sent directly to your registered company email address.