NextSense

SENSE. CONNECT. GROW.

NextSense Agriculture & Plantation Intelligence

Real-Time Monitoring and Smart Automation for Agriculture and Plantation

For Palm Oil Plantation, Sugarcane, Horticulture, and Crop Farming

FIELD CONDITIONS
Sensors capture real-time data from the field

DECISION MAKERS
Autonable insights anytime, anywhere

ONE PLATFORM. CONNECTED INTELLIGENCE.



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Challenges in Modern Agriculture and Plantation



1. Limited Field Visibility

Kondisi tanah dan tanaman sulit dipantau secara menyeluruh.



2. Manual Irrigation Process

Pompa dan valve masih dioperasikan berdasarkan jadwal atau perkiraan.



3. Inefficient Water and Fertilizer Usage

Penggunaan air dan pupuk tidak selalu sesuai kebutuhan aktual tanaman.



4. Late Detection of Field Problems

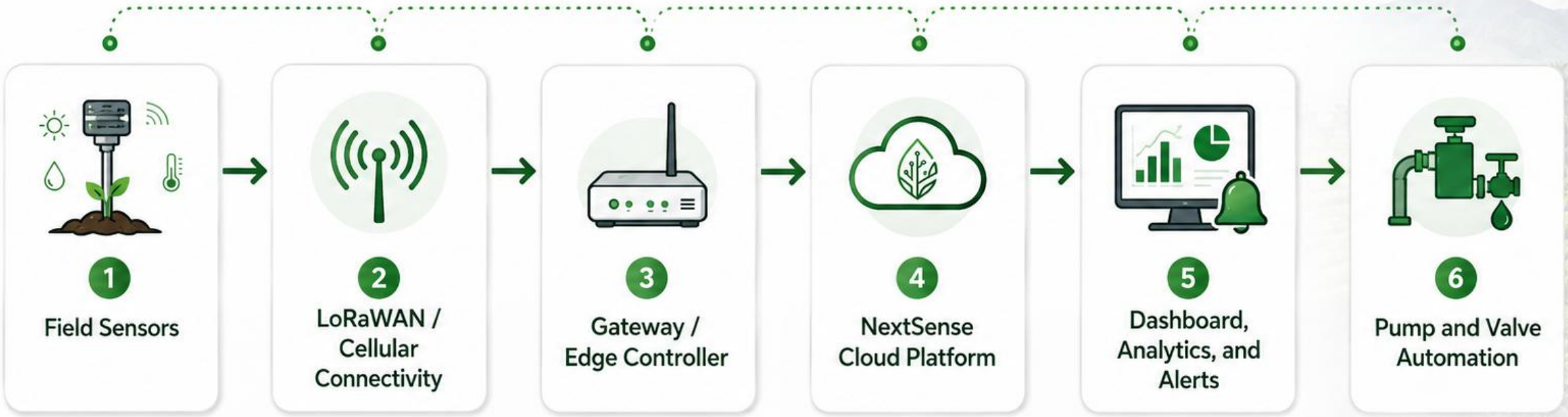
Kekeringan, genangan, perubahan cuaca, dan kerusakan peralatan terlambat diketahui.



Operational decisions are often made without sufficient real-time field data.

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One Integrated Platform for Field Monitoring and Automation



- Real-time visibility
- Faster operational response
- Data-driven irrigation management

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Complete Visibility Across the Plantation



2 Weather Condition

Rainfall, air temperature, humidity, wind speed, wind direction, and solar radiation.

1 Soil Condition

Soil moisture, soil temperature, pH, EC, and nutrient indicators.

3 Water Resources

Reservoir level, canal level, water flow, pressure, and water availability.

4 Irrigation Equipment

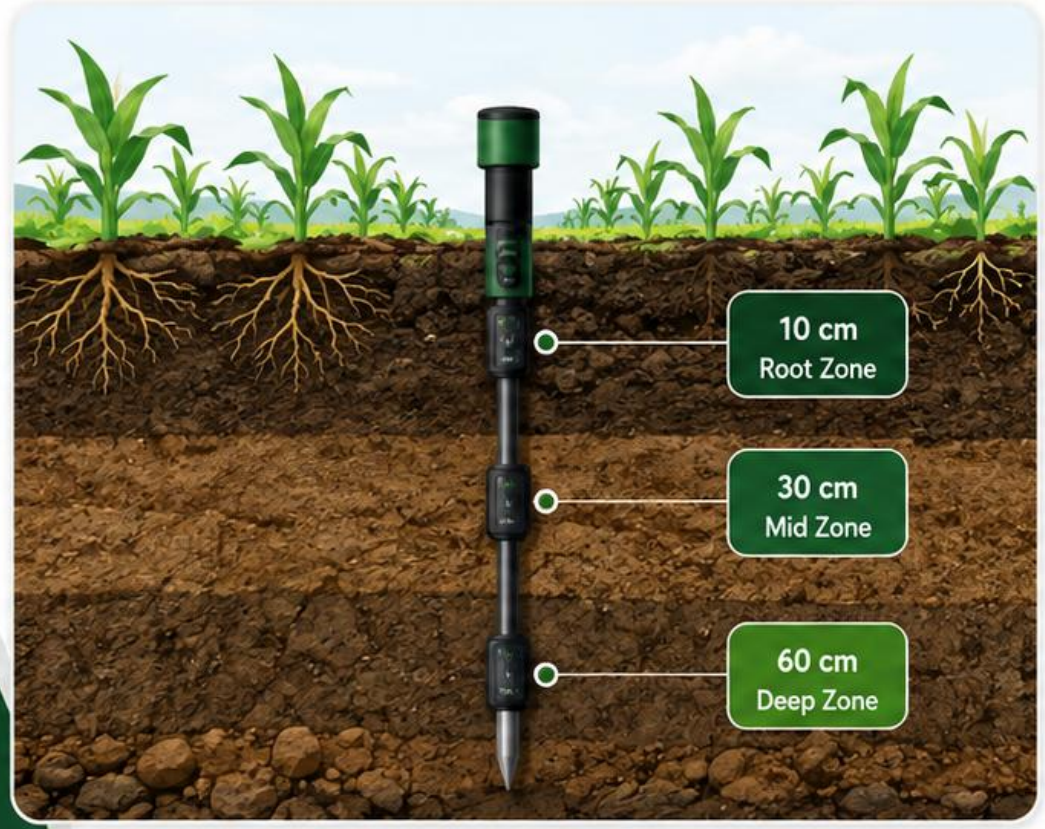
Pump status, valve position, motor condition, electricity usage, and operating hours.

5 Crop and Field Condition

Field mapping, block status, irrigation activity, and anomaly reporting.

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Understand What Happens Below the Surface



Parameter

- Soil moisture
- Soil temperature
- Electrical conductivity
- Soil pH
- Optional NPK measurement

Insights

- Area terlalu kering
- Area terlalu basah
- Perbedaan kondisi antarblok
- Waktu irigasi yang direkomendasikan
- Indikasi ketidakseimbangan kondisi tanah

Sensor dapat dipasang pada beberapa kedalaman sesuai jenis tanaman dan akar.

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Hyperlocal Weather Intelligence

- Rainfall
- Temperature
- Relative humidity

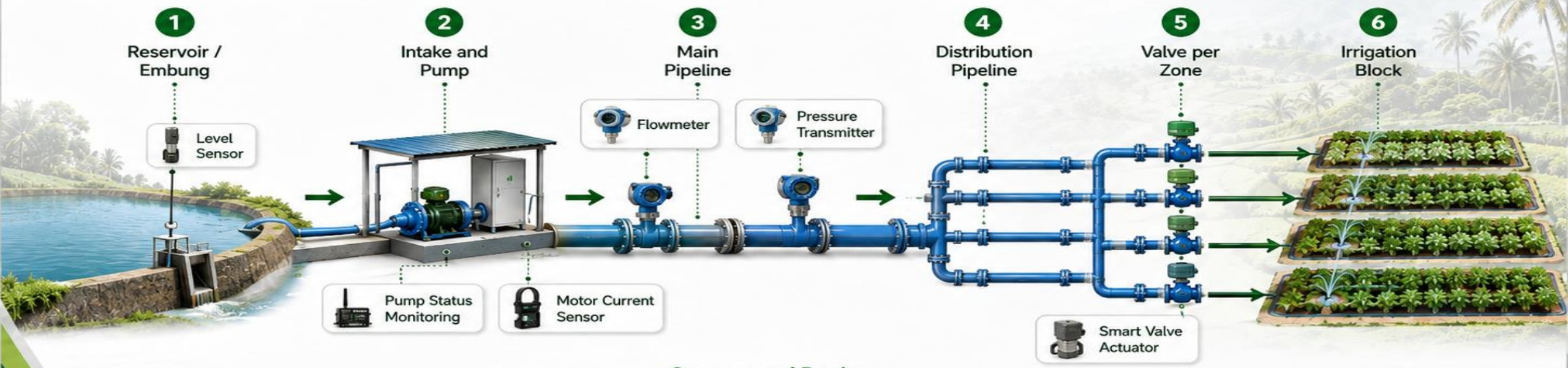


- Wind speed and direction
- Solar radiation
- Atmospheric pressure
- Leaf wetness, optional

Data cuaca lokal membantu menentukan jadwal irigasi, pemupukan, penyemprotan, dan aktivitas lapangan.

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Monitor Every Drop from Source to Field



Sensors and Devices


Water-level sensor


Flowmeter


Pressure transmitter


Pump status monitoring


Motor current sensor


Smart valve actuator

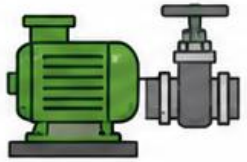
The system verifies whether water actually reaches the intended irrigation area.

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From Monitoring to Automatic Action

1. 
Soil moisture below threshold

2. 
Check rainfall forecast and water availability

3. 
Verify pump and valve status

4. 
Open selected irrigation zone

5. 
Monitor flow and pressure

6. 
Stop irrigation when target is reached

7. 
Record activity and generate report

Operating Modes

- Manual control
- Schedule-based control
- Sensor-based automation
- Recommendation mode
- Fully automatic mode

Customers can start with monitoring first, then scale gradually into automation.

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Smarter Farms. Better Yields.

One Dashboard for the Entire Operation

Real-time visibility. Smarter decisions. Better outcomes.

Total monitored area
1,245 ha
Across 28 blocks

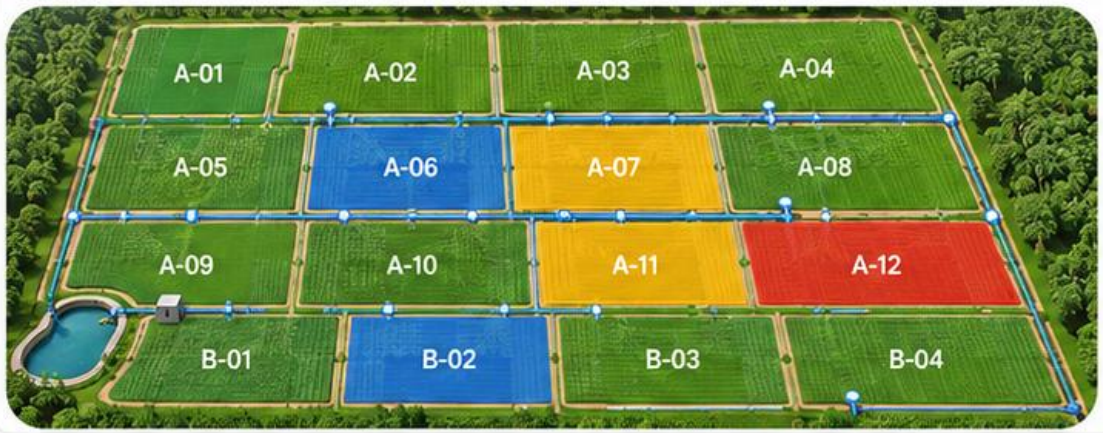
Active sensors
368
Online • 97%

Irrigation zones operating
8 / 28
29% of total zones

Water consumption today
2,560 m³
↑ 12% vs yesterday

Critical alerts
3
Requires attention

Field / Plantation Map

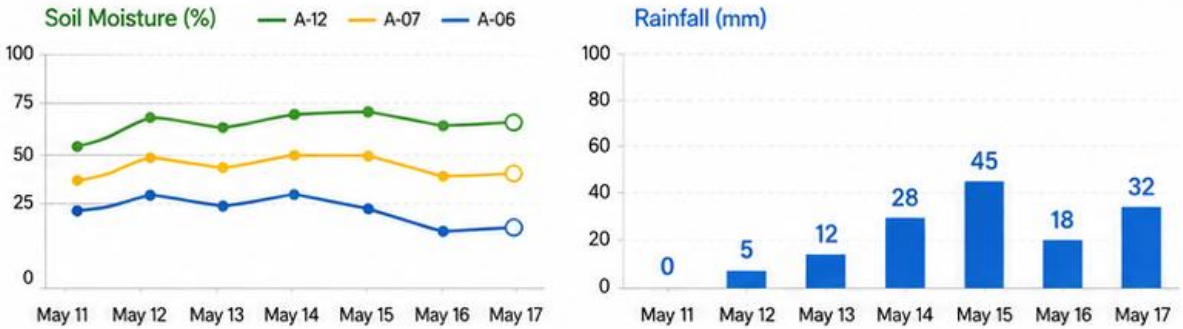


Alerts

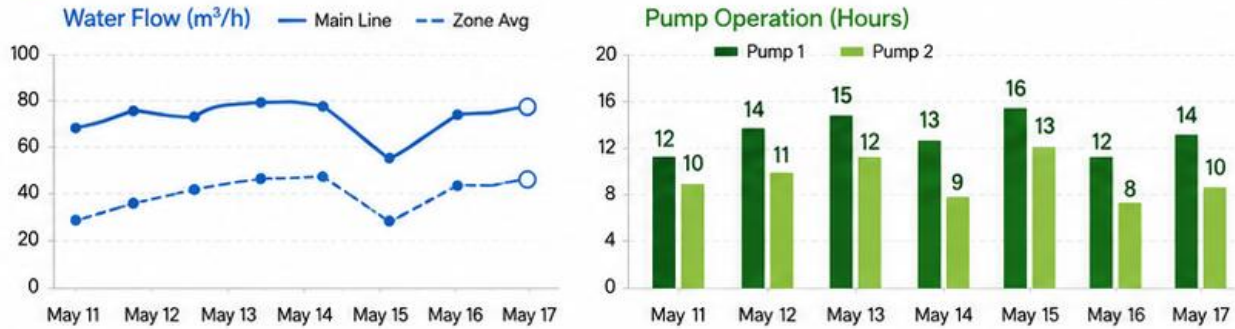
View all

Soil moisture Block A-12 below limit	09:18 AM
Pump Station 2 abnormal current	08:47 AM
Reservoir level below minimum	07:35 AM
No flow detected after valve opened	06:22 AM

Soil Moisture & Rainfall Trends



Water Flow & Pump Operation Trends



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Know the Condition of Every Block

Field Map and Block Monitoring

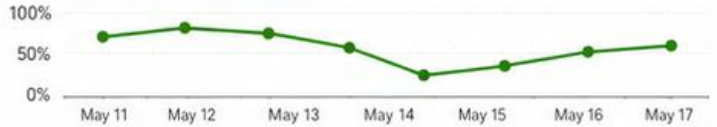


Selected Block Details

A-12 | 24.5 ha

Crop type	Oil Palm
Planting age	6 years
Current soil moisture	28%
Last rainfall	12 mm
Last irrigation	Today, 08:30
Water consumption	48 m³
Sensor health	Online 97%
Open alerts	2 active alerts

Soil Moisture Trend (7 Days)



- Soil moisture below threshold
- Irrigation delay in Zone 2

Legend

- Normal
- Warning
- Critical
- Irrigation in Progress

Monitored Blocks
28
of 28 blocks

Active Alerts
5
Require attention

Online Sensors
368
Online • 97%

Management can move beyond total plantation visibility and identify issues down to block level.

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Detect Problems Before They Become Losses

Detection Flow



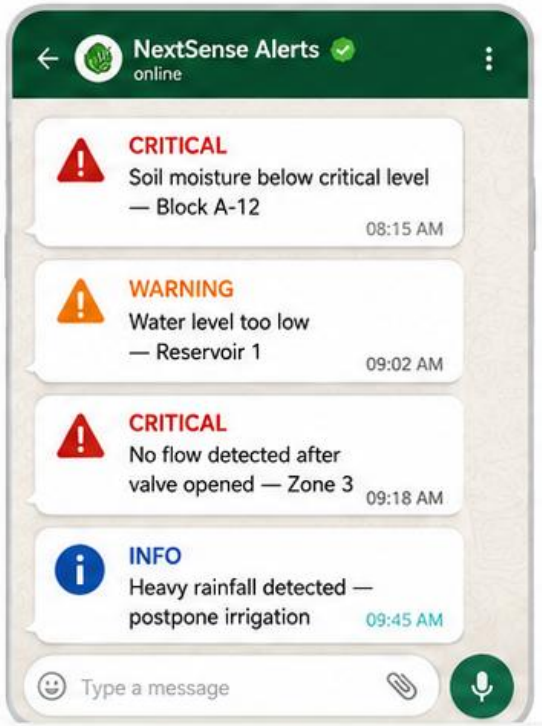
Example Alerts

- Soil moisture below critical level
- Water level too low
- Pipeline pressure drop
- Abnormal water consumption
- Pump running but no flow detected
- Sensor offline
- Heavy rainfall detected
- Irrigation duration exceeds limit

Notification Channels



Notification Examples



Dashboard Alerts

Time	Alert	Priority
08:15 AM	Soil moisture below critical level — Block A-12	CRITICAL
09:02 AM	Water level too low — Reservoir 1	WARNING
09:18 AM	No flow detected after valve opened — Zone 3	CRITICAL
09:45 AM	Heavy rainfall detected — postpone irrigation	INFO

View all alerts →

Priority Levels



Faster alerts help teams respond before minor issues become operational losses.

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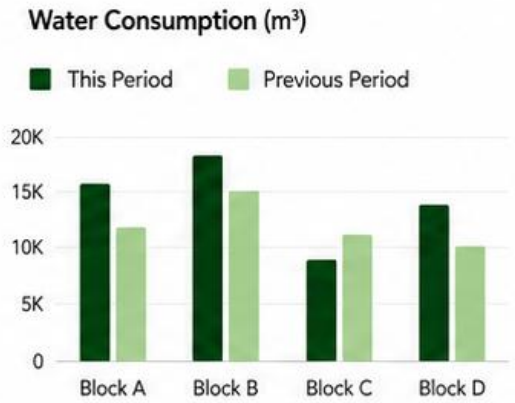
Turn Field Data into Operational Decisions

Analytics and AI-assisted recommendations for smarter farm operations

Slide 12

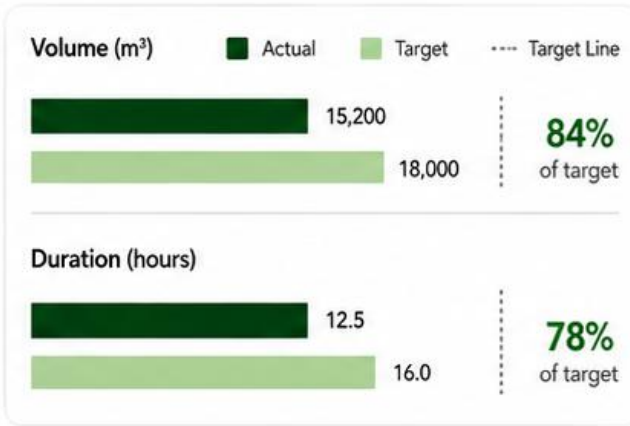
1. Water Usage Analytics

Compare water consumption across blocks and across time periods to identify inefficiency and optimize distribution.



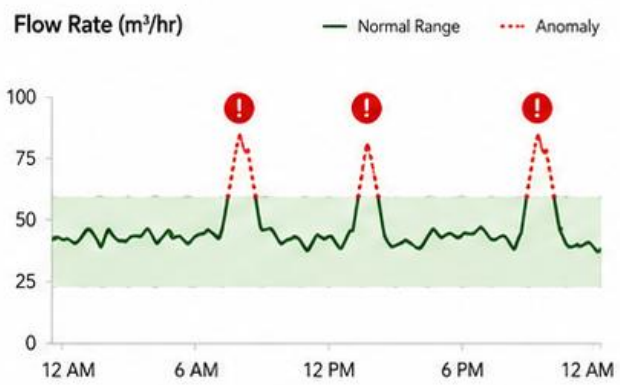
2. Irrigation Performance

Analyze whether irrigation volume and duration are aligned with operational targets and field requirements.



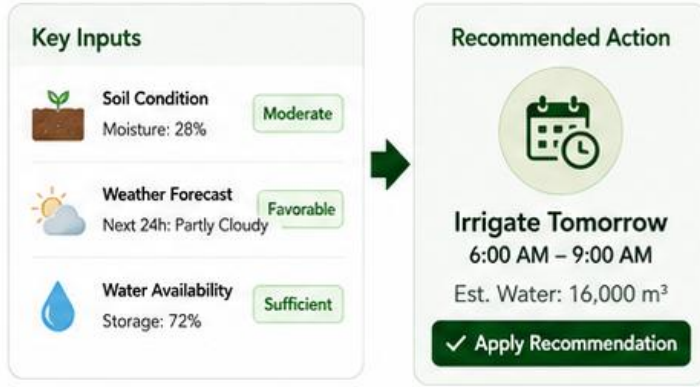
3. Anomaly Detection

Detect leakage, blockage, abnormal pump behavior, and sensor issues before they escalate into losses.



4. Operational Recommendation

Provide AI-assisted recommendations for irrigation timing based on soil condition, weather, and water availability.



AI-assisted recommendation supports agronomists and operations teams. It does not replace agronomic judgment.

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Operational Impact for Agriculture and Plantation

Improve Field Visibility

Field conditions can be monitored without waiting for manual reports.

Optimize Water Usage

Water is applied based on the actual needs of each zone.

Reduce Manual Inspection

Field teams can focus on areas that require action.

Prevent Operational Losses

Issues in pumps, pipelines, reservoirs, and irrigation can be identified earlier.

Create Reliable Historical Data

Data is stored for operational evaluation and future planning.

Actual results depend on field conditions, operating procedures, and implementation scope.

Start Small, Scale with Confidence

Flexible implementation in three phases to match your operational needs and budget.

1 Phase 1 — Monitoring Pilot

- Selected field blocks
- Soil sensors
- Weather station
- Reservoir monitoring
- Basic dashboard and alerts

2 Phase 2 — Operational Integration

- Flow and pressure monitoring
- Pump status integration
- Block-level irrigation monitoring
- Mobile alerts
- Historical reporting

3 Phase 3 — Smart Automation

- Automatic pump control
- Smart valve control
- Irrigation recommendations
- Advanced analytics
- Integration with ERP or plantation systems

Tidak perlu langsung melakukan otomasi penuh.
Implementasi dapat dilakukan secara bertahap sesuai kebutuhan dan kesiapan operasional.

Lower Risk — Start small and prove value

Cost Efficient — Invest step by step

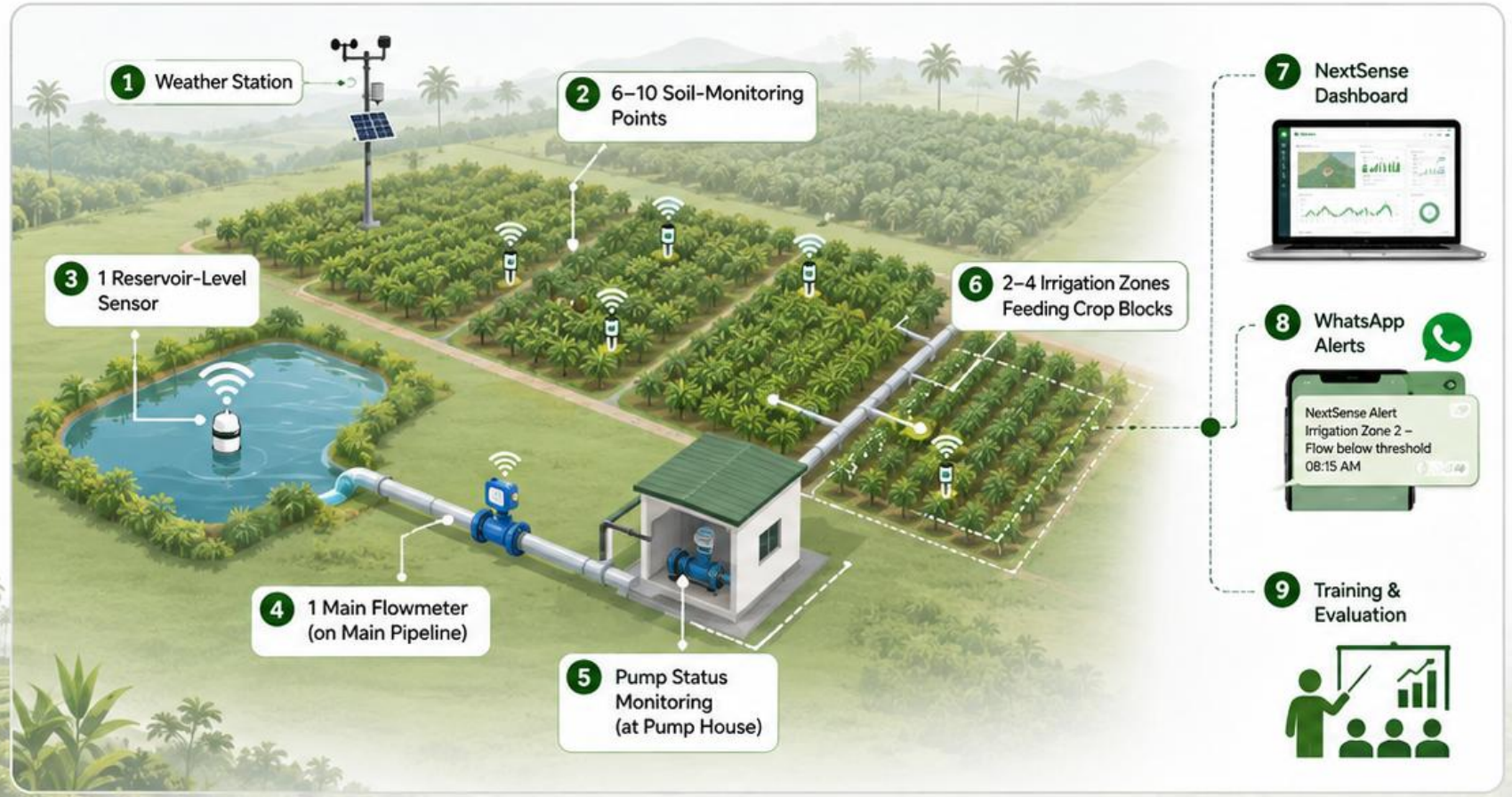
Scalable — Easy to expand

Future Ready — Built for growth

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Proposed Pilot Deployment

Recommended Pilot Project



Pilot Scope

- 1 weather station
- 6–10 soil-monitoring points
- 1 reservoir-level sensor
- 1 main flowmeter
- Pump status monitoring
- 2–4 irrigation zones
- NextSense dashboard
- WhatsApp alerts
- Training and evaluation

Evaluation Duration

Menyesuaikan siklus operasional dan tanaman.

Pilot KPI

- Data availability
- Alert response time
- Irrigation visibility
- Sensor reliability
- Water-consumption baseline
- User adoption

Start with a focused pilot, validate the value, then scale with confidence.

Select the Right Solution for Your Operation

Flexible solution packages for different operational needs

Solution Packages

Monitoring Package

- Soil monitoring
- Weather monitoring
- Water-level monitoring
- Dashboard
- Alerts

Best for: Basic visibility

Intelligence Package

- All monitoring features
- Flow and pressure monitoring
- Historical analytics
- Block comparison
- Recommendation engine

Best for: Better decision-making

Automation Package

- All intelligence features
- Pump control
- Smart valve control
- Automatic irrigation logic
- Integration with existing systems

Best for: End-to-end automation

Pricing is not shown in this general deck. Final proposal and pricing depend on field survey and implementation scope.

Scalable | Modular | Survey-based proposal

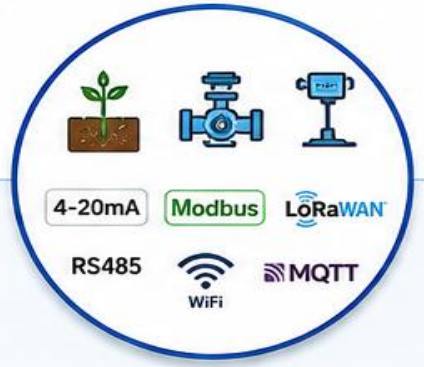
Why NextSense

Smart solutions for smarter agriculture and plantation operations



1 End-to-End Integration

Sensor, konektivitas, gateway, dashboard, alert, dan automation.



2 Flexible Sensor Compatibility

Dapat mengintegrasikan sensor dan protokol industri yang berbeda.



3 Customizable Dashboard

Dashboard disesuaikan dengan proses dan kebutuhan customer.



4 Local Engineering and Support

Survei, instalasi, commissioning, training, dan after-sales support.

We deliver a solution designed around
the customer's operational process—not only a collection of sensors.

Customer Focus
Solutions built on your operational priorities

Reliable & Scalable
Stable, secure, and ready to grow with your business

Actionable Insights
From data to decisions that drive impact

Long-Term Partnership
We grow together with your success

Let's Build a Smarter and More Efficient Plantation

From real-time visibility to smarter decisions that drive productivity and sustainability.

1



Identify the operational challenge

Understand key pain points and operational goals in your plantation.

2



Conduct a field and engineering survey

Our team performs on-site assessment and data collection.

3



Define the pilot scope

We design the right solution scope based on your needs and priorities.

4



Deploy the solution

We install, integrate, and configure the system for real-time monitoring.

5



Evaluate results and scale

We evaluate performance, prove impact, and scale across more areas.

Schedule a Technical Discussion and Live Dashboard Demonstration

See how **NextSense** can help you improve productivity, optimize resources, and drive sustainable growth.

NextSense
Plantation Intelligence

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Smart Solutions for Smarter Operations

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