# Trimble Water

Transforming the way the water industry works through smart water technology solutions

Anand Sirohi,
Trimble India

Trimble.water

telog A TRIMBLE COMPANY

# A Global Leader

Trimble integrates hardware, software, wireless communications and services to provide integrated solutions that maximize productivity and enhance profitability

NASD:TRMB

Founded in 1978 as early GPS pioneer
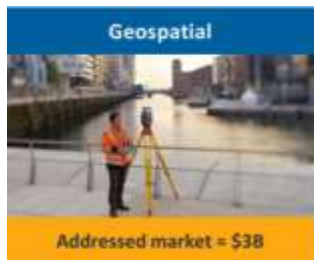
$3,1 Billion Revenue (2018)

13% of revenue reinvested in R&D annually

Customers in over 150 countries

11,000+ employees

Organized into industry focused divisions

Global Business Segments

| Geospatial | Construction | Agriculture | Transportation & Logistics |
|---|---|---|---|
| Addressed market = $3B | Addressed market = $4.5B | Addressed market = $2.5B | Addressed market = $3B |
| Reporting Segment: Geospatial | Reporting Segment: Buildings and Infrastructure | Reporting Segment: Resources and Utilities | Reporting Segment: Transportation |

Emerging Business Segments

| Forestry | Energy | Water | Rail | Field Service Management |
|---|---|---|---|---|

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# **Trimble** Water

Acquired November 2015

- Strategic, industry focused business unit

- Technology solutions for water, wastewater, stormwater & environmental water industries

- Market leader in IoT and remote monitoring

    – **In North America - Used by 100+ large and 3,000+ small/med utilities, flow service providers & AEC firms**

- Solutions across the infrastructure design-build-operate lifecycle

**Planning and design**  **Surveying and mapping**  **Construction and project management**  **Operations and maintenance**  **Customer Service**

TRANSFORMING THE WAY THE WORLD WORKS

# Our Mission is to Deliver Solutions that Transform the Way the Water Industry Works

Improving Asset Management and Performance

Optimizing Water and Wastewater Operations

Enhancing Worker Safety and Productivity

Improving Customer Service and Response

Reducing Leakage and Non-Revenue Water

Minimizing Flooding and Environmental Impacts

Enhancing Public Health, Compliance & Sustainability

# Trimble Unity

A unified platform for managing critical assets and field operations

- Mapping & Asset Management
- Mobility
- IoT & Remote Monitoring
- Leak Detection

- GIS Centric
- Cloud and Mobile Software
- Support Smart Water Management
- Improve Business Process
- Support Making Better Decisions
- Regulatory Compliance

esri

# Offering Innovative Solutions and Tools to Support Smart Water Management

**Trimble** Unity

**Single Platform for Smart Water Management & Analytics**

- GIS Mapping
- Work Management & Mobility
- Remote Monitoring
- Alarm & Event Management
- Operational Insights & Analytics

**GIS Mapping**

Integrated mobile solutions, offering 3D and high accuracy mapping with intelligent workflows and tools for automating asset mapping and GIS updates.

**Work Management & Mobility**

Office, field software and rugged mobile solutions, offering asset maintenance, service and repair workflows. Improving field operations and workforce productivity.

**IoT and Remote Monitoring**

Provide real time operational awareness of asset performance, by transforming asset, operations information and network operating data into actionable intelligence for better decision making.

Powered By Telog Enterprise

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# Integrate and Extend Your Existing Systems

Asset Management

Customer Information and Billing

Meter Data Management

Geographic Information Systems

Wireless Monitoring and SCADA

Trimble Unity

Trimble Unity allows dispatchers, supervisors, and field crews to access key operational information from a single platform

# High Accuracy Mapping

- Out of box data collection apps using the Esri LGIM

- Support 1D & 2D barcodes for capturing asset specifications

- Capture and Attach Photos

- Capture High Accuracy GPS (With Meta-Data)

- Locate tool to quickly locate underground assets

**Efficient Data Collection Workflow**

**Capture Accurate 3D Positions**

**Locate Hard to Find Assets**

**Keep GIS Up-to-date and Accurate**

189516492

Trimble R2

Trimble TDC100

Trimble R1

Hydr 39509

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# Mobility

Field software and rugged **mobile solutions** for extending back office systems to the field to **automate and streamline field operations** and workforce productivity

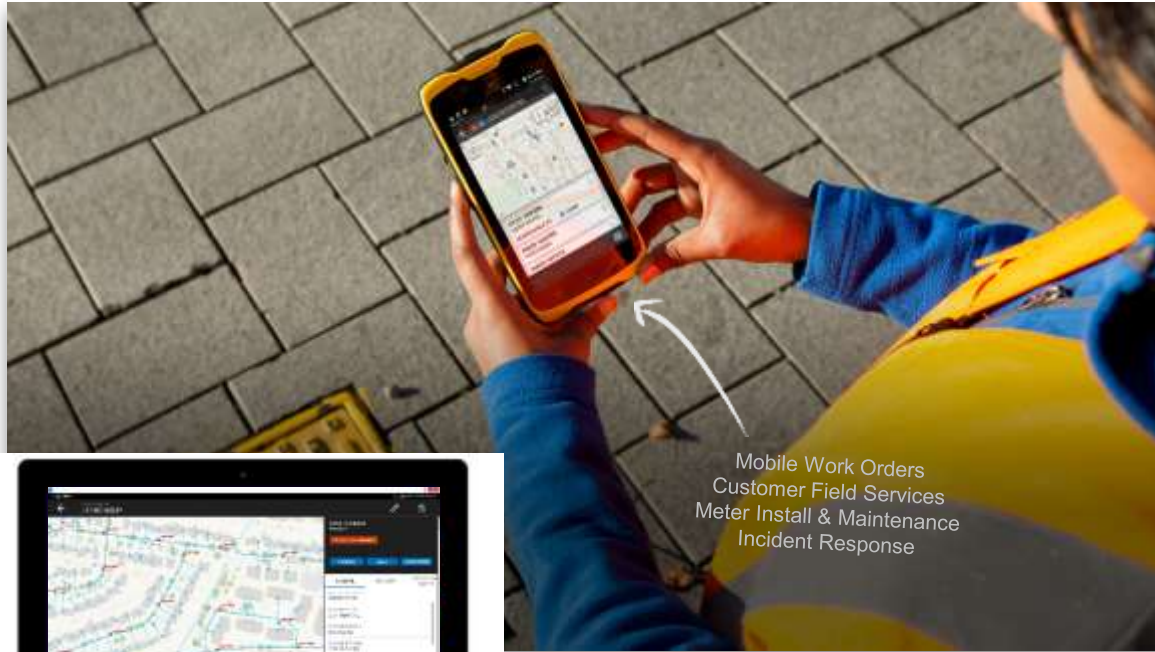Streamline Field Service Operations

Enhance Worker Safety and Productivity

Support Regulatory Compliance and Reporting

Improve Customer Service and Response

Mobile Work Orders
Customer Field Services
Meter Install & Maintenance
Incident Response

**Trimble** Unity

Cityworks   ORACLE   SAP   IBM MAXIMO   esri

# Work Management & Mobility

Mobile hardware and software solutions with intelligent workflows and tools for asset maintenance, repair and condition assessment

Streamline Asset Maintenance Operations

Enhance Worker Safety and Productivity

Improve Customer Service and Compliance

Support Capital Improvement Planning



Ranger 3
with antenna for meter

Juno T41
with RFID

Ranger 7
with modules

TDC100
smartphone & rugged GNSS handheld

Asset Inspection
Condition Assessment
Asset Repair
Meter Install & Maintenance

Trimble Unity

Cityworks    ORACLE    SAP    IBM MAXIMO    esri

# Asset Management

Mobile hardware and software solutions with intelligent workflows and tools for asset maintenance, repair and condition assessment
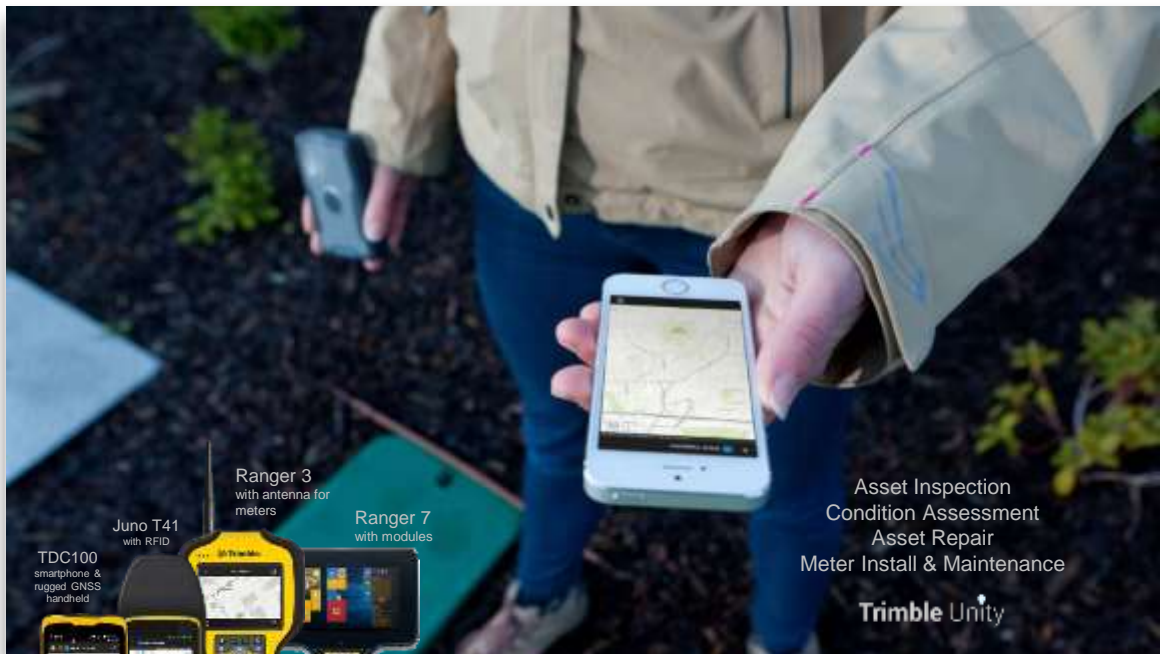
Streamline Asset Maintenance Operations

Enhance Worker Safety and Productivity

Improve Customer Service and Compliance

Support Capital Improvement Planning

TDC100
smartphone & rugged GNSS handheld

Juno T41
with RFID

Ranger 3
with antenna for meters

Ranger 7
with modules

Asset Inspection
Condition Assessment
Asset Repair
Meter Install & Maintenance

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# Wireless Water Monitoring

IoT wireless rugged, battery powered sensors, software and analytics for proactive water monitoring, alarming and reporting
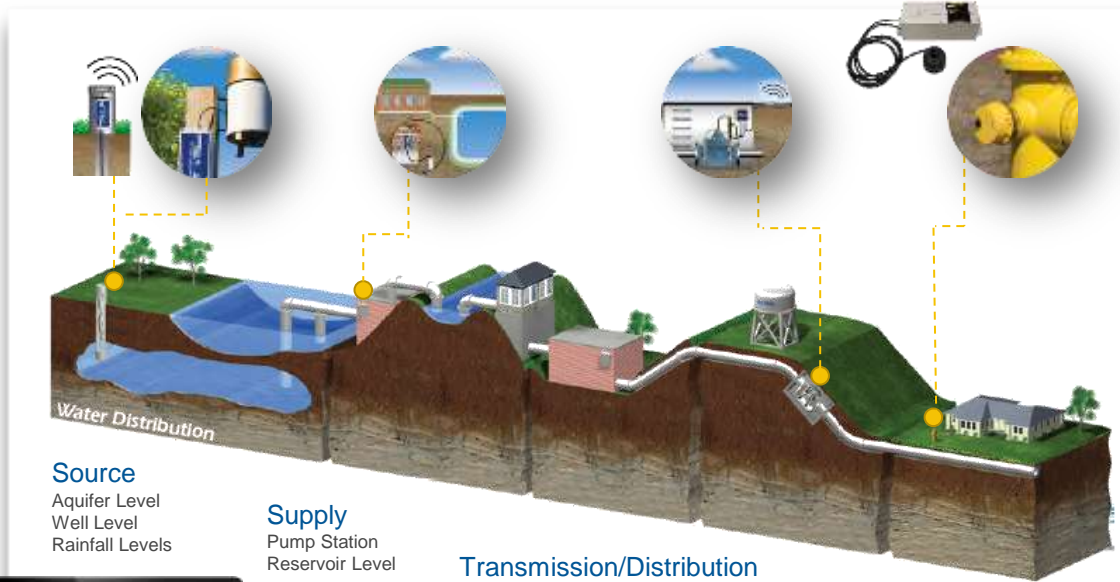
Real-time Situational Awareness

Reduce Leakage and Non-Revenue Water

Manage Pressure and Transient Events

Monitor and Optimize Water Operations

**Water Distribution**

**Source**
Aquifer Level
Well Level
Rainfall Levels

**Supply**
Pump Station
Reservoir Level

**Transmission/Distribution**
Tank Level
Compound Meter
Mag Meter
Pressure Relief Valve
Pressure Reducing Valve
Water Quality
Leakage/NRW

**Consumption**
Hydrant Pressure
Water Hammer

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# Wireless Wastewater & Stormwater Monitoring

IoT wireless rugged, battery powered sensors, software and analytics for proactive environmental water and overflow monitoring, alarming and regulatory reporting
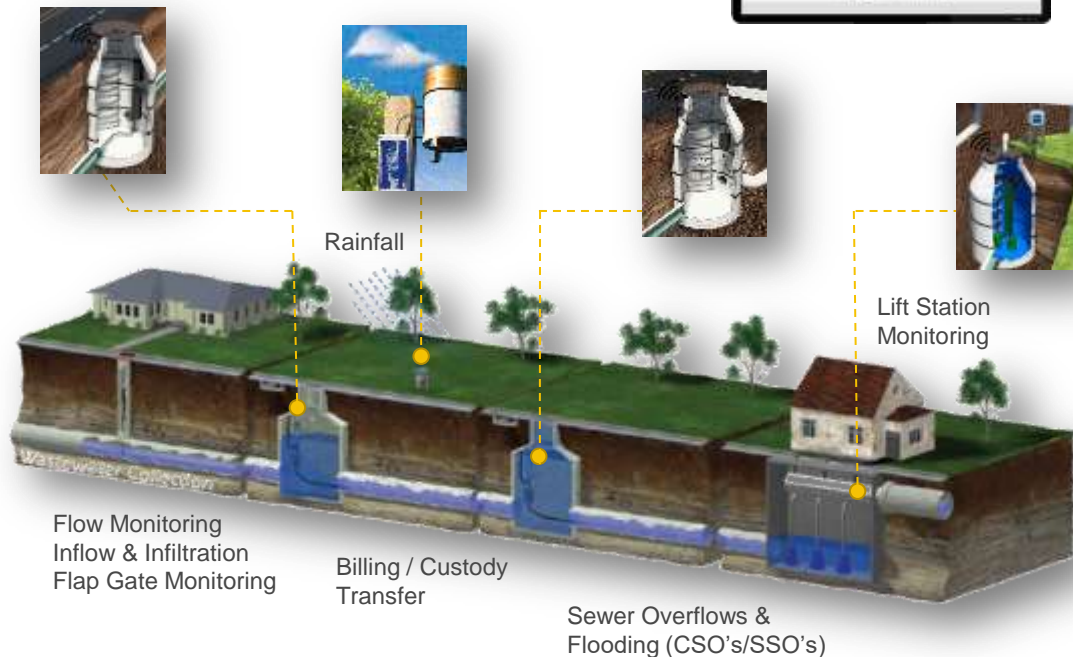
Real-time Situational Awareness

Minimize Flooding, CSO's, SSO's and Environmental Impacts

Streamline management and regulatory reporting

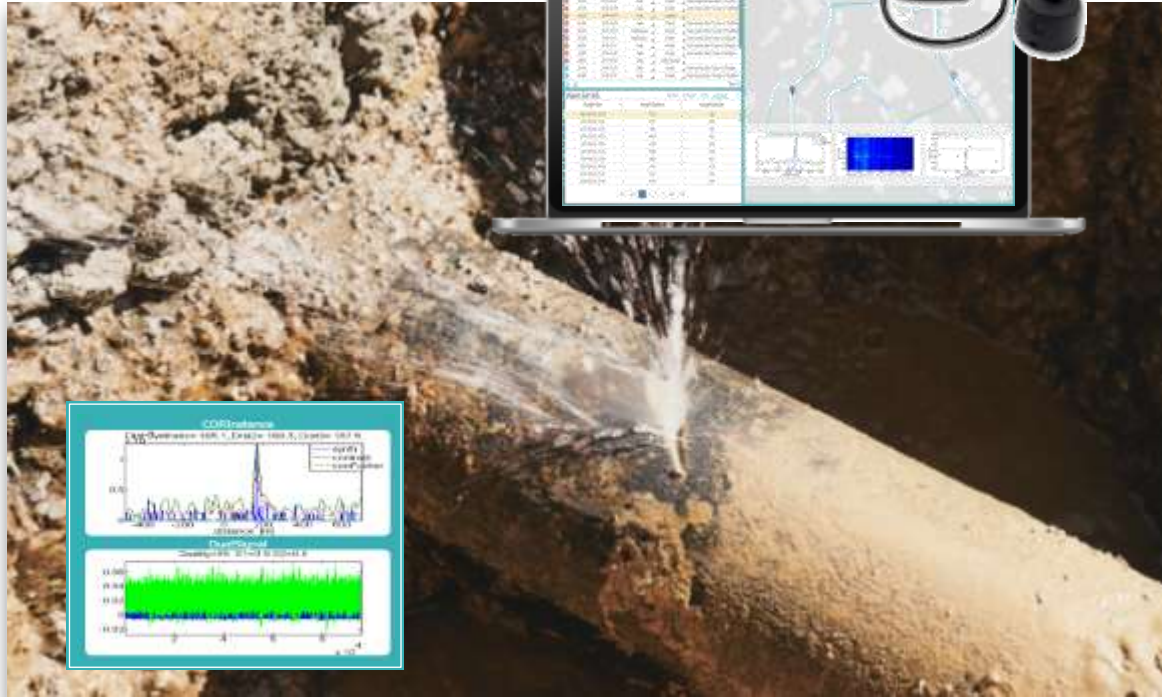Monitor and Optimize Wastewater & Stormwater System Operations



Rainfall

Lift Station Monitoring

Flow Monitoring
Inflow & Infiltration
Flap Gate Monitoring

Billing / Custody Transfer

Sewer Overflows & Flooding (CSO's/SSO's)

# Wireless Leak Detection, Monitoring & Pipeline Condition Assessment

An innovative solution for proactively **identifying** leaks, **pinpointing** their exact locations and **monitoring** asset condition, by using highly sensitive acoustic sensors, management software & mobile applications.

- Fixed Leak Detection System
- Mobile Leak Detection System

# Comprehensive IoT and Smart Water Monitoring and Management Platform

SCADA
Historian
GIS
MDM

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Data Sharing
API's, Data Access

**Communications & Data Transfer**

**Telog® Monitoring and Data Sharing**

**Telog® Data Loggers & Sensors**

Flow            Groundwater Level
Level           PRV Monitoring
Surcharge       Pump or Lift Station
Tank Level      Water Hammer
Rainfall        Pressure
Water Quality   Metering

## Smart Water Management Applications & Analytics

- Pressure Monitoring
- Leakage and NRW
- Flow and Level Monitoring
- Rainfall Monitoring
- Event Management
- Asset & Work Management
- GIS Mapping

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# Trimble SiteVision

**Augmented Reality for Utility Field Operations**

# Trimble SiteVision for Utility Field Operations

- Visualizing underground infrastructure:
  - Water
  - Power
  - Gas
  - Telecommunications
- Crew site induction
- Improved crew safety, reduced interrupts
- Design vs. As-Built clash detection
- Pothole visualization
- Asset attributes accessibility

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# SiteVision

- Integrates with
  - Trimble Unity and Trimble Business Center
  - GIS data and 3D BIM models
- Creates and enables situational awareness
- Helps in collaboration, communication and information sharing

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UTILITY MAPPING BY TERRAFLEX

# Utility Viewing



**True 3D**
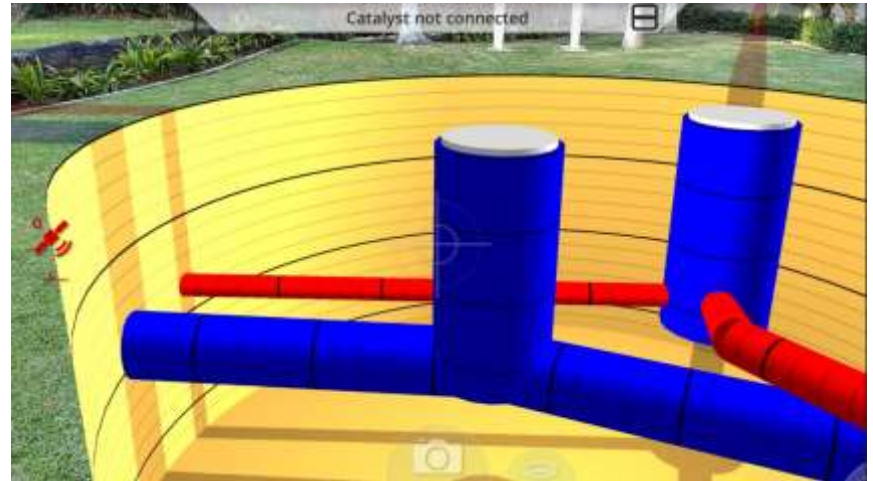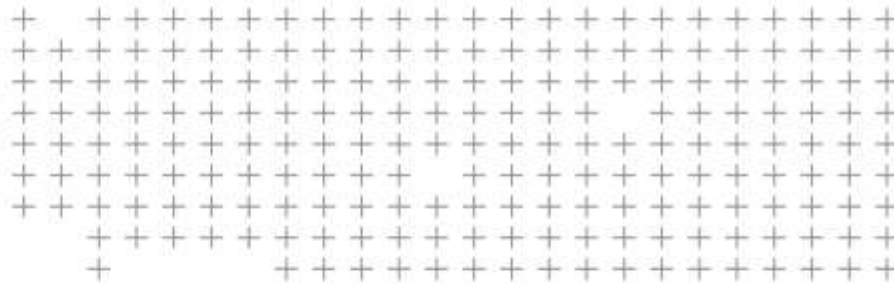


**Pit View**



**OnGround**

- Underground objects in true 3D
- Pitview and ground projection

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# Pitview

- Shape
    - Round, Half Round, Cut Plane, Underground, Surface Only
- Diameter
    - Adjust pit width
- Depth
    - Adjust pit depth
- External Opacity
    - Adjust projected pipe opacity
- Pin Position
    - Keep the pit in one location

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# Trimble.water

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