CLIMATE CHALLENGES

CLIMATE COLLECTIVE

Climate Challenges Case Study Series

AI-BASED VALIDATION OF SMART METER DATA

WITH XENREALITY AND LEADING SMART METER MANUFACTURER AS A CLIENT

ABOUT STARTUP

XenReality is a Vision AI platform that enables intelligent industrial automation by embedding computer vision directly into existing operational workflows. The platform integrates seamlessly with current systems, tools, and devices, allowing enterprises to improve efficiency and accuracy without disrupting ongoing processes.

SERVICES

Plug-n-play XenReality Platform with the following Vision AI Modules:

- **XenTrack** - Realtime Visual Tracking & Analytics
- **XenRead** - AI-Powered Visual Reading & Verification
- **XenInspect** - Automated Visual Quality Checks
- **XenScan** - Safety & Compliance Monitoring
- **XenCapture** - Create 3D models from images

VALUE PROPOSITION

- **Improved Quality and Accuracy**

Vision AI automates inspection and monitoring processes, reducing human error and ensuring consistent, high-quality outcomes across industrial operations.

- **Operational Reliability without Disruption**

Seamless integration with existing systems and workflows enables automation adoption without downtime or major process changes, improving reliability of day-to-day operations.

- **Measurable Profitability Gains**

By reducing defects, rework, and manual effort while improving process efficiency, XenReality delivers tangible cost savings and productivity gains that directly impact profitability.

Founded October 2023
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Domain: Energy / Utilities

Headquarters in Bangalore, Karnataka

Website: https://www.xenreality.com/

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THE PILOT

ESTIMATED IMPACT

~11 Million

Smart meter data validations automated annually
(30,000 validations/day x ~365 days)

~146,000 Hours

Manual verification labours eliminated annually
(~0.8 minutes saved per verification task × 11M verifications)

~220,000

Errors Prevented
Potential manual verification errors avoided annually
(Assuming ~2% manual error rate in data entry)

80 TPA CO2 Avoided

Reduction in emissions from reduced manual operations, travel, and processing inefficiencies.

GREATER IMPACT

~200 Million

Smart Meter Validations
(If deployed across multiple utility installation programs nationally)

~2.64 Million

Labour Hours Eliminated
(Large-scale automation of meter verification across utilities)

~4 Million+

Potential Errors Prevented
(Improved data integrity and compliance in national smart meter deployments)

~1400+ TPA CO_2

Emissions Avoided

ABOUT THE CORPORATE

Location: India

Industry: Energy / Utilities

CHALLENGES

Specific Needs Identified by the Corporate

The customer aimed to scale smart meter deployments nationally, but manual verification slowed installation workflows and increased operational costs. Additionally, inconsistent data capture made it difficult to maintain traceability and ensure compliance across installations.

SOLUTION

Details of the Pilot: AI-based Validation of Smart Meter Data during installation.

- Advanced OCR extracts precise digital & analog data
- Object recognition detects anomalies
- Real-time dashboard updates records, validates data & flags discrepancies

What the Innovation Will Achieve: XenReality has simplified the automation of manual vision-based tasks, with the following business impact:

- Reduced manual data entry and errors
- Improved data traceability and compliance
- Faster operational workflows

OUTCOMES

Since deployment in October 2025, the solution has demonstrated significant operational improvements:

- 30,000 smart meter data points validated daily
- 5× productivity improvement compared to manual verification
- 50% reduction in operational costs
- Faster installation workflows with improved traceability
- The platform has also strengthened compliance by maintaining digital audit trails for installation records.

AI-based solution

Reduce manual labour

Easily intergrated