



AI-powered pipe condition assessment system for metropolitan wastewater networks

Pipe Sleuth is an automated Condition Assessment System for pipeline networks. It reduces manual efforts and time needed to review and code video scans. It uses Artificial Intelligence (AI) and advanced neural networks to identify, grade and score pipe anomalies based on the NASSCO PACP standard. It generates a comprehensive inspection report. It can be integrated to Asset Management systems (like Maximo) to generate maintenance work orders. It can also be interfaced to ArcGIS so videos can be reviewed on-line by clicking pipe segments.

Pipe Sleuth saves up to 75% of the total cost of scanning and improves of the reliability of detection significantly. Start using Pipe Sleuth and gain up to 350% RoI over a period of 5 years.

Key takeaways



Lower cost of scanning: Reduction in cost of scanning by 75%



Lower cost of assessment: Automation reduces assessment time to 10% of video duration



Higher detection rate: AI based detection eliminates errors due to fatigue or distractions with an accuracy of 90%



Better use of experts: Deploy experienced human experts assess more complex or severe problems



Lower civic disruptions: Faster procedure results in smaller duration of street closure



Optimize maintenance decisions: Decisions can now be made based on overall health score of pipeline than the age of pipeline

Case Study

| Profile | Technology | Business need | Wipro solution | Benefits |
|---|--|--|--|--|
| A premier water utility company in the United States of America | <ul style="list-style-type: none"> Image Processing AI / Deep Learning | Utility companies inspect about 50,000 feet of water/sewer pipes annually. Manual review of hundreds of hours of video results in high cost and also are prone to errors | <p>The solution processes videos to identify and classify anomalies (e.g. cracks, roots, grease deposits etc.) in an underground pipeline installation. Automatic report generation</p> <p>Automation by analyzing videos off-line</p> | <p>Solution works at > 90% accuracy with < 20% false detection.</p> <p>80% reduction in time to complete the analysis.</p> <p>Liability impact on utility companies mitigated.</p> <p>First roll-out covering 3200 miles of pipes covering 725 sq. miles</p> |

Features



Playback of processed video displaying anomalies



Process multiple video files simultaneously



Can consume video in wide variety of formats



Users can review individual defects with annotations



Comprehensive reports with overall pipe ratings

46

Types of anomalies can be detected

80%

Prediction accuracy

3 months

Implementation time

For more information reach out to: sales.pipesleuth@wipro.com

Wipro Limited
Doddakannelli, Sarjapur Road,
Bangalore-560 035,
India

Tel: +91 (80) 2844 0011
Fax: +91 (80) 2844 0256
wipro.com

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