Integration of Mobile Traceability in Leak Detection

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Agenda

• Overview
• Terminology
• Traditional Leak Detection
• Implementing Technology
• Summary
About GAZOMAT

• Design, Manufacture, Sell gas measurement equipment for over 25 years
• Used for leak detection on over 300,000 miles of gas networks in over 35 countries
• Offices in USA, France, Italy, UK, China, Brazil
About GAZOMAT

• Remote Monitoring/Telemetry
• Mobile Traceability Solutions
• Enterprise Software Solutions
• Leak Detection Services
Terminology

• Gas Measurement
  • Analysis of a gas for specific composition characteristics
  • Technologies/Methods
    – Laser Spectroscopy
    – Infrared
    – Electrochemical Cell
    – Many more...
Terminology

• Leak Detection
  • Using gas measurements to detect fugitive emissions from gas delivery and storage systems
  • Methods
    – Pedestrian
    – Vehicle
    – Remote
    – Aerial
Terminology

• Geographic Information Systems (GIS)
  • A Geographic Information System (GIS) lets us visualize, question, analyze, and interpret data to understand relationships, patterns, and trends.
  • Correlation between quantitative or identity information and geographic location
Terminology

- Enterprise Application Software (EAS)
  - Software application implemented for use by an organization rather than an individual
  - Workflow Implementation
  - Data Warehousing
Leak Detection

Methods

Vehicle
Pedestrian
Remote Monitoring
Aerial
Leak Detection

• Leak Detection Results Help
  • Prevent High Risk Incidents
  • Ensure Quality of Construction/Remediation/Mitigation Measures
  • Prevent and Reduce Financial Losses
  • Prevent Regulatory Violations
Leak Detection

• Traditional Data Recording
  – Locating and navigating using printed maps
  – Manual recording of gas measurements, inspection, and verification
  – Manpower Intensive
Gazomat

Vehicle Leak Survey

Gas measurement found...
Verify Source Location

GIS

Confirmed

Manual Import / Updating ...

Remediation Complete...
Confirm

Leak Confirmed...
Dispatch Emergency Response?

Remote Sites
Implementing Technology

• Take Advantage of Today’s Available Technology
  – Field Data Collectors
    • Toughbooks, Mobile Phones, Tablets, Handheld Data Collectors
  – Commercial and Consumer GPS / GNSS
  – Internet Connectivity
  – Enterprise Solutions
Implementing Technology

• Advantages of Software: Field Traceability
  – Adding geographic location to measurement values
  – Adding additional data
    • Pictures
    • Comments / Notes
    • Personnel / Field Technician
    • More ...
Implementing Technology

• Why do we use Software with Leak Detection?
  – Automate Tasks
    • Gas Measurement, Location Data, Pictures, Notes, etc.
  – Simplify Work for the User
  – Improve Efficiencies and Ensure Data Integrity
Vehicle Leak Survey

Gas measurement found... Verify Source Location

GIS

Enterprise Application Software (EAS)

Remediation Complete... Confirm

Leak Confirmed... Dispatch Emergency Response?

Confirmed

Remote Monitoring
Implementing Technology

• Real-time visibility to leak detection efforts
• Improve data integrity
• Increase data collection for GIS analysis
• Secure access for users based on role
• Automated reporting and notifications
Enterprise Environment

Device Connectivity
Web Services

EAS
Working Engine,
Data Analysis

Infrastructure
Data,
Infrastructure,
Support Services

Information Delivery
Notifications, Email, SMS

Reporting
Online Web Application

Mapping

Integration
To other systems

GIS

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Implementing Technology
Implementing Technology
Summary

• Maximize benefits from today’s technologies
• Increase efficiency and capabilities of field personnel
• Have confidence in collection of field data
• Improve workflow processes involved in leak detection lifecycle
Questions
Thank you