



# Xylem Proactive Asset management approach



## Our People

More than **16,000**



## Our Customers

Partnering with our customers to build strong, lasting relationships



## Our Solutions

Bringing together **advanced technologies, application expertise** and **smart sustainable** solutions



## Our Brands

Market-leading brands with a legacy of **over 100 years** supported by a solid **TotalCare service** portfolio

## We care for water...



... and beyond

## 2020 Revenue



## Operating in

**~400** locations  
in more than 50 countries  
**sold in ~150 countries**

## 2020 Revenue



NYSE  
Trade Symbol **XYL**

Global  
Headquarters

Tel +1 914-323-5700  
[www.xylem.com](http://www.xylem.com)

xylem  
watermark.

Our corporate social responsibility program

Provided safe water and sanitation solutions since 2019 to **4.8+** million people

Responded to **28** water-related disasters with humanitarian aid since 2019

Educated **3.9+** million people on WASH and the value of water (since 2019)

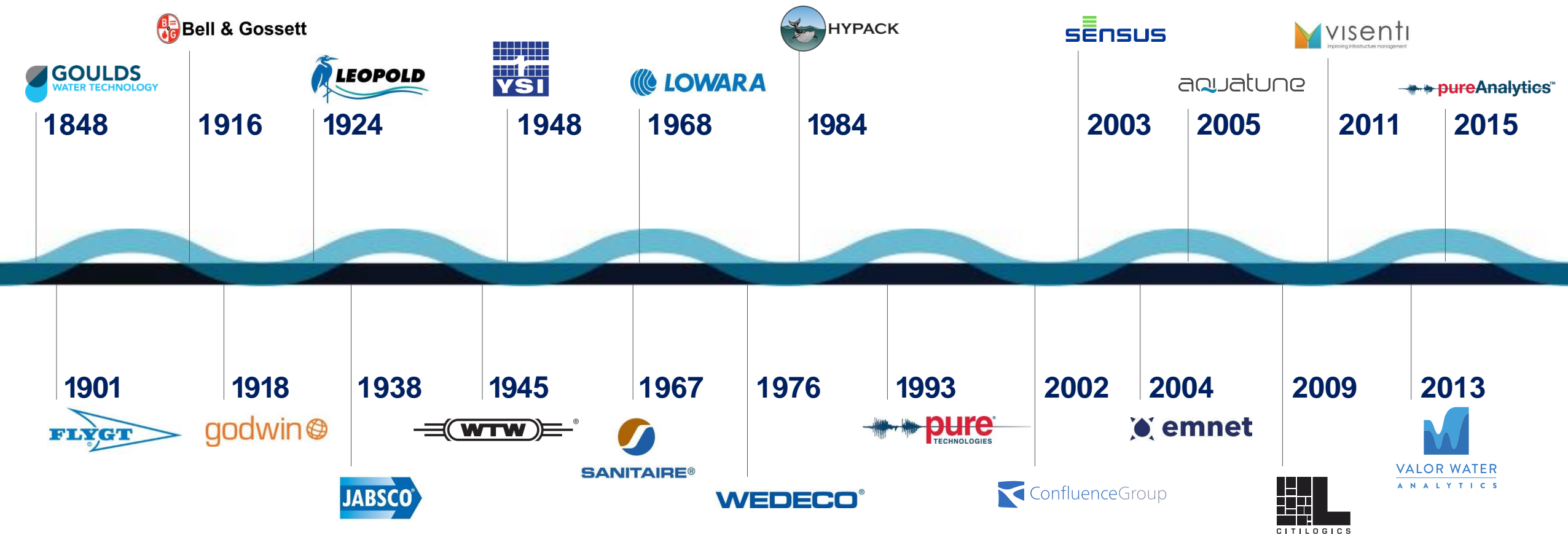
Engaging our employees, customers and partners

**230,000+** hours volunteered (2016-2020)

**45%** of employees engaged in volunteer activities in 2020, despite social distancing challenges


**12,900** external business partners engaged (since 2019)

# A Strong Brand Legacy



Dates are years brands were established


# By the Numbers: Xylem's Pipeline & Valve Assessment Experience




**PIPELINE MONITORING**

**1,340+**  
Kilometers of Pipeline Monitored

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**450+**  
Pipe Interventions\*  
(2017-Present)




**LEAK DETECTION**

**18,550+**  
Kilometers of Pipeline Inspected for Leaks

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**8,600+**  
Leaks Detected




**PIPE WALL INSPECTION**

**9,110+**  
Kilometers of Pipe Wall Inspected

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1.87M pipes inspected for pipe wall degradation



**97%** Pipes in Good Condition



**VALVE ASSESSMENT**

**1.39M**  
Valve Inspections Performed

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**65,000+**  
Large Valves Serviced

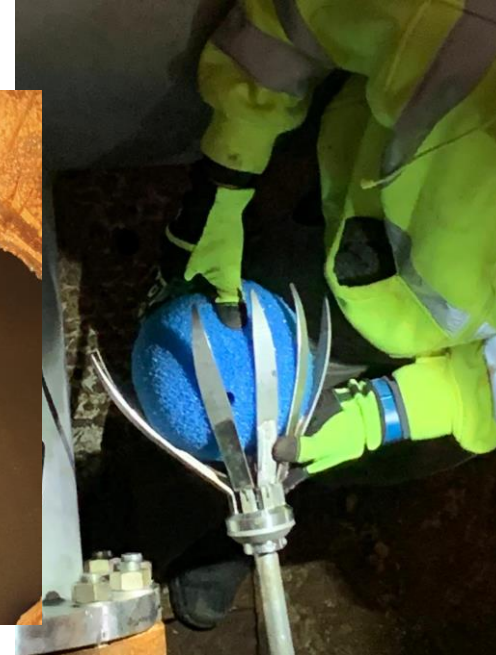
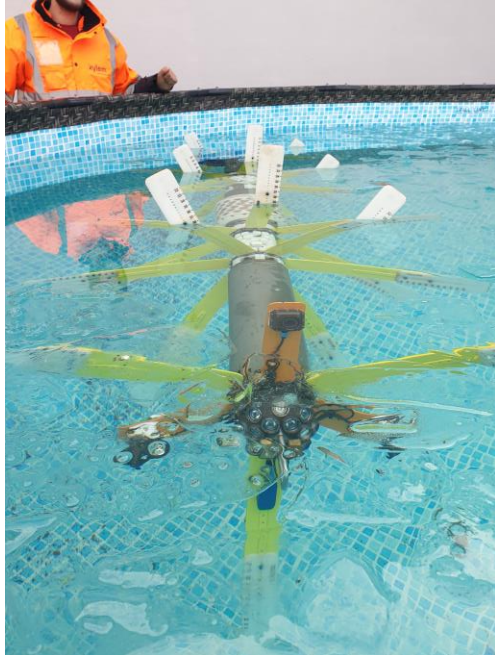
**30+**  
Years of Experience

**48**  
Countries Where We Have Worked

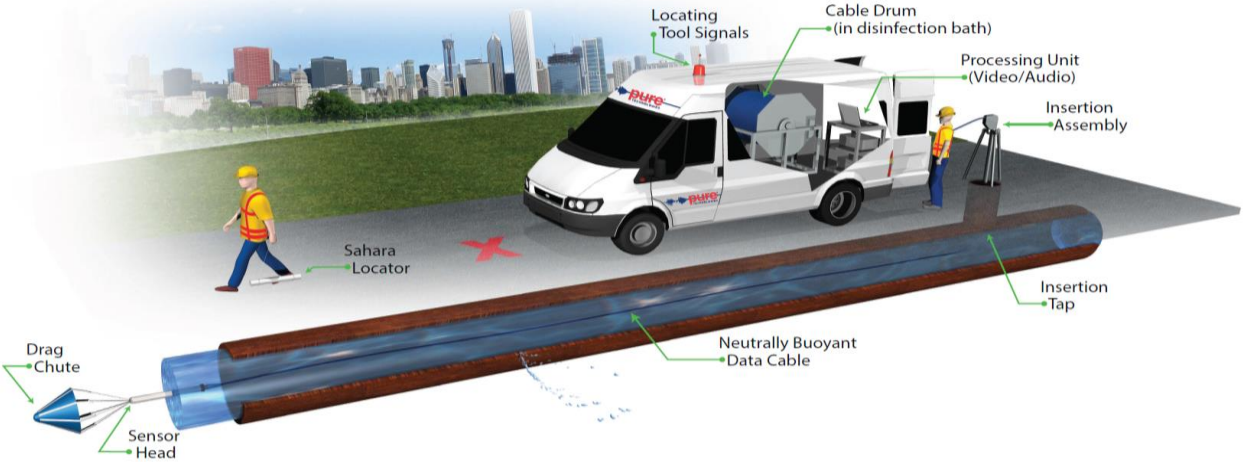
\*The utility made a proactive repair based on monitoring data.

# Our portfolio

- **Inline Leak Detection**
- **Pipe Wall Condition Assessment**
- **GIS Mapping**
- **Online Monitoring**

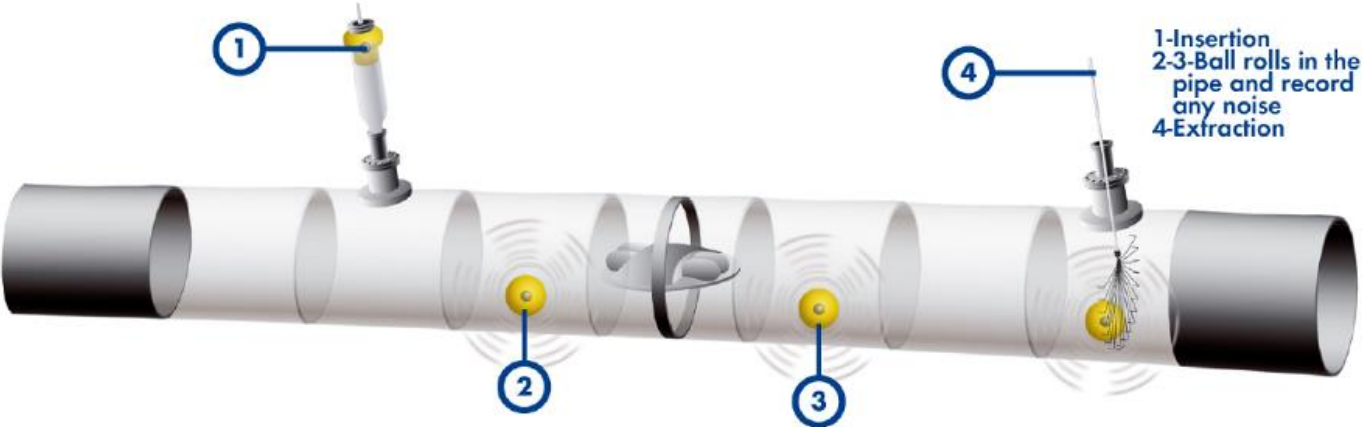


# Inline Leak Detection Platforms for Large Diameter Pipes



## Sahara® System

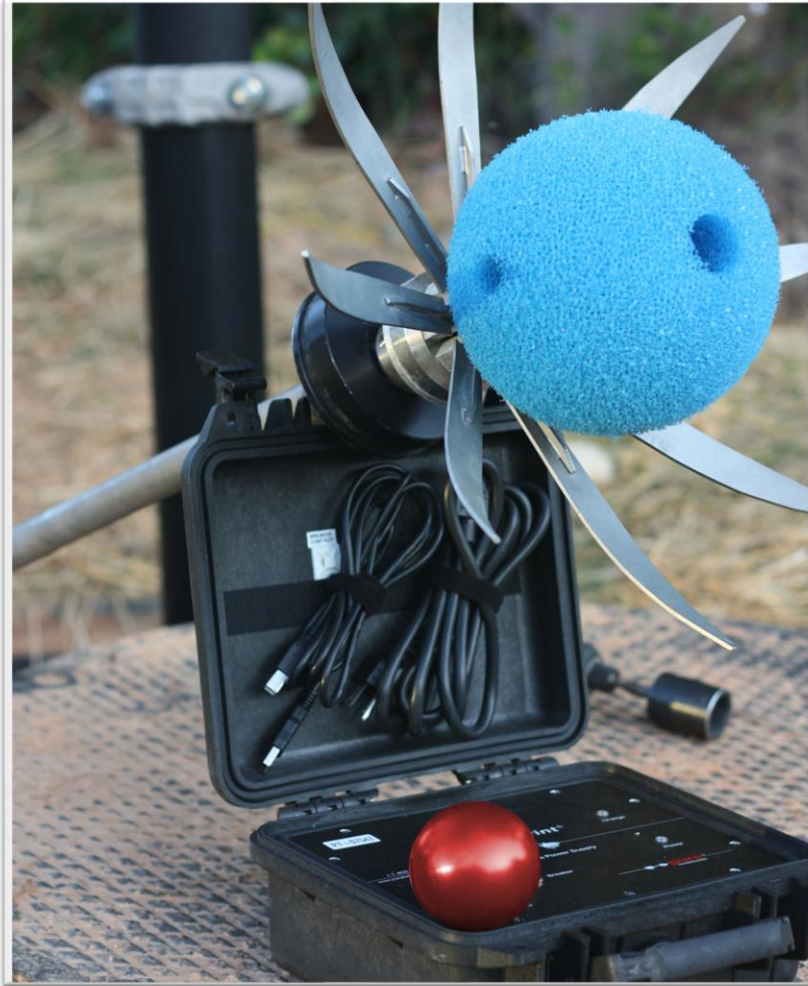
- Tethered leak detection with CCTV
- Ideal for complex networks
- Worldwide since 1999
- 1000's of km inspected



## SmartBall® System

- Free swimming system
- Ideal for long transmission mains
- Worldwide since 2005
- Over 10 000 km inspected

# SmartBall



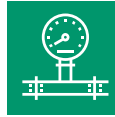
**SmartBall is a free-swimming inspection platform that is used to help pipeline owners better manage their pipelines by:**



Identifying and locating hidden leaks and gas pockets with high accuracy



Mapping the pipeline to confirm alignment



Measuring the pressure along the pipeline to identify partial blockages and confirm pipeline elevations



Identifying and locating potential undocumented features and pipe type changes

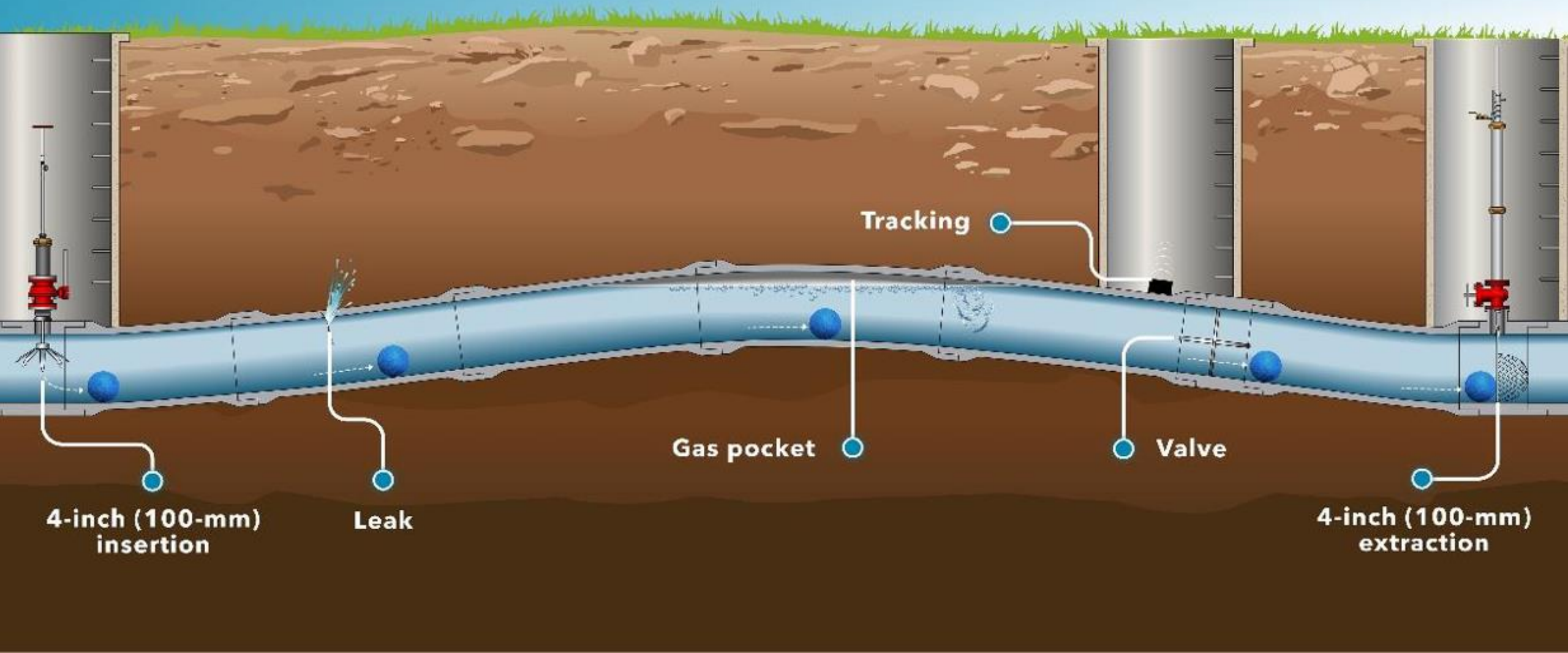


Contributing current inspection data to engineering analysis used for capital planning

# SmartBall®

Free-Swimming Inspection Platform for Leak and Gas Pocket Detection and Pipeline Mapping

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Let's Solve Water



4-inch (100-mm)  
insertion

Leak

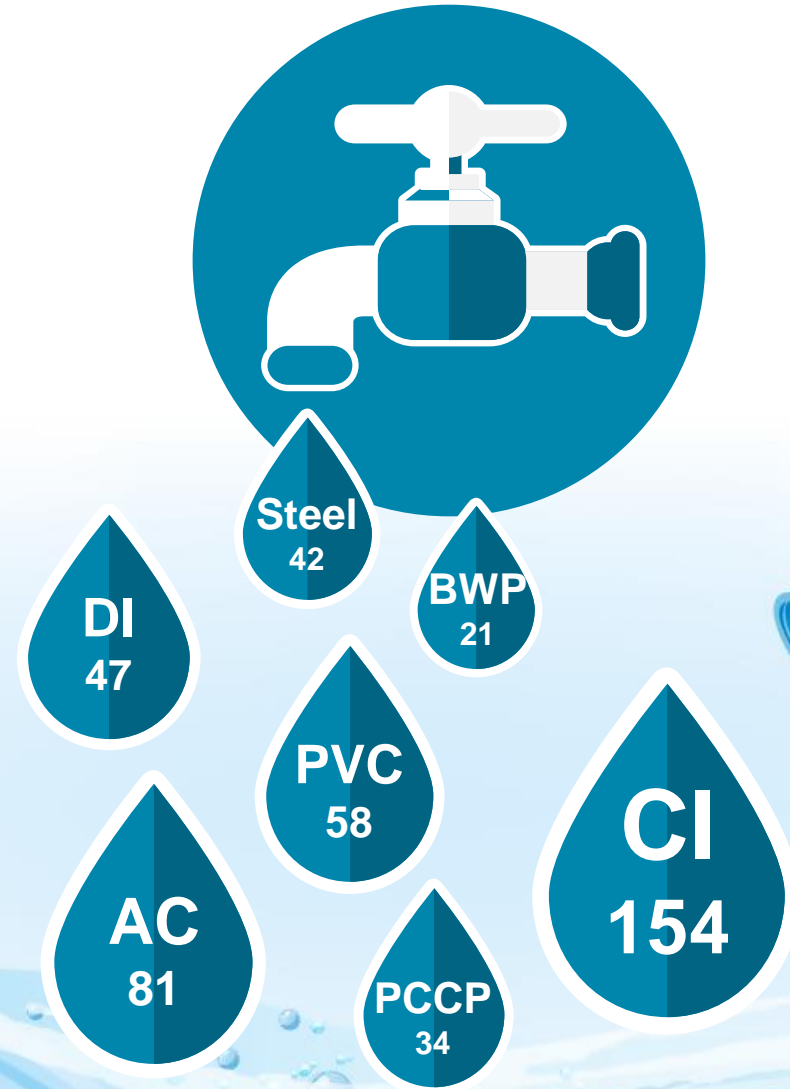
Gas pocket

Tracking

Valve

4-inch (100-mm)  
extraction

# Average number of leaks found per 160 km of inspection distance



# Romania – current project



# Introduction to Sahara



## Sahara is a free-swimming tethered inline leak detection system with onboard camera:



Inline leak and air pocket detection platform with CCTV and sub-meter mapping technology for all pipe materials



Minimal disruption to service



Used in pipelines 150 mm in diameter or larger



50 mm or larger tap (any orientation) required for insertion



Same day results



Ideal in complex and urban systems



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# Condition Assessment PipeDiver Platform

# Understanding failure mode



**Mettalic Pipes – Pitting, cracking & Leaks**

**PCCP and BWP– Wire Breaks**

# Electromagnetic Platforms – PCCP and BWP

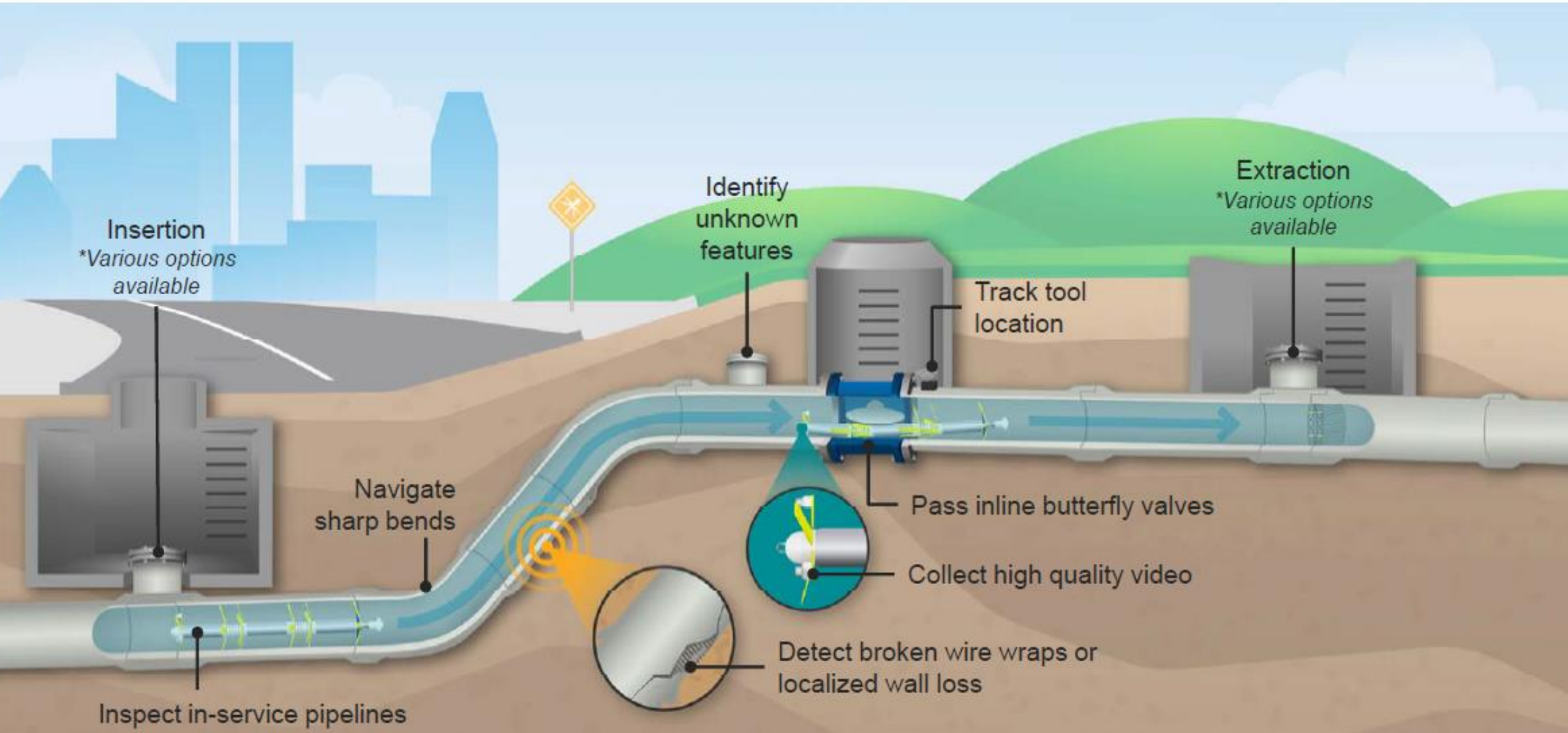


PipeWalker (Drained Pipeline)

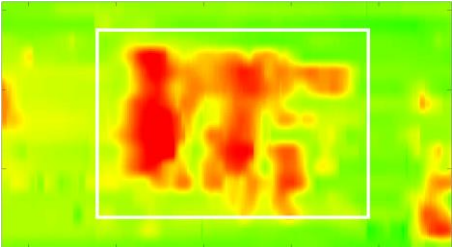
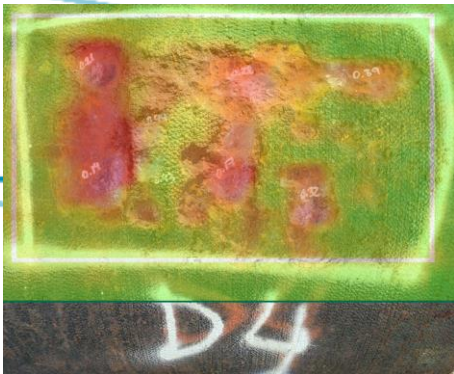


PipeDiver (Operating Pipeline)

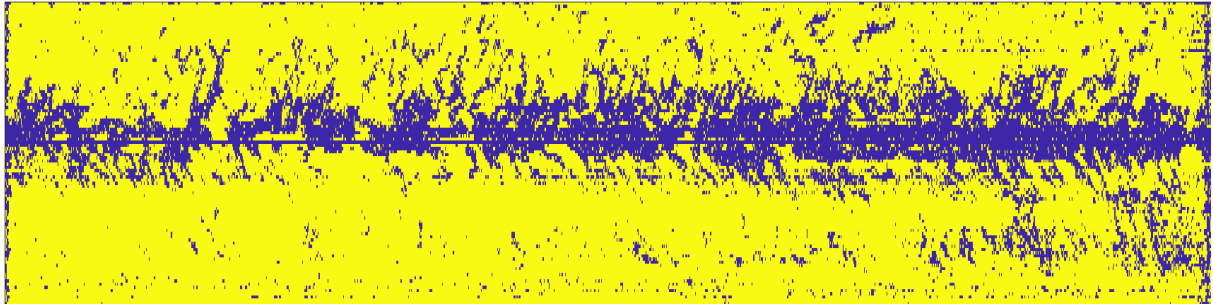
# PipeDiver Working Principle



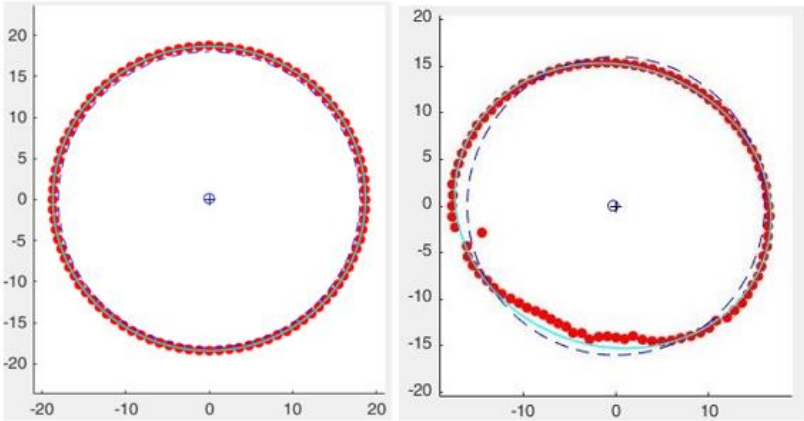
# Ultrasonic PipeDiver



Wall loss detection



Tuberculation build-up



Out-Of-Roundness detection

# Pipeline Monitoring

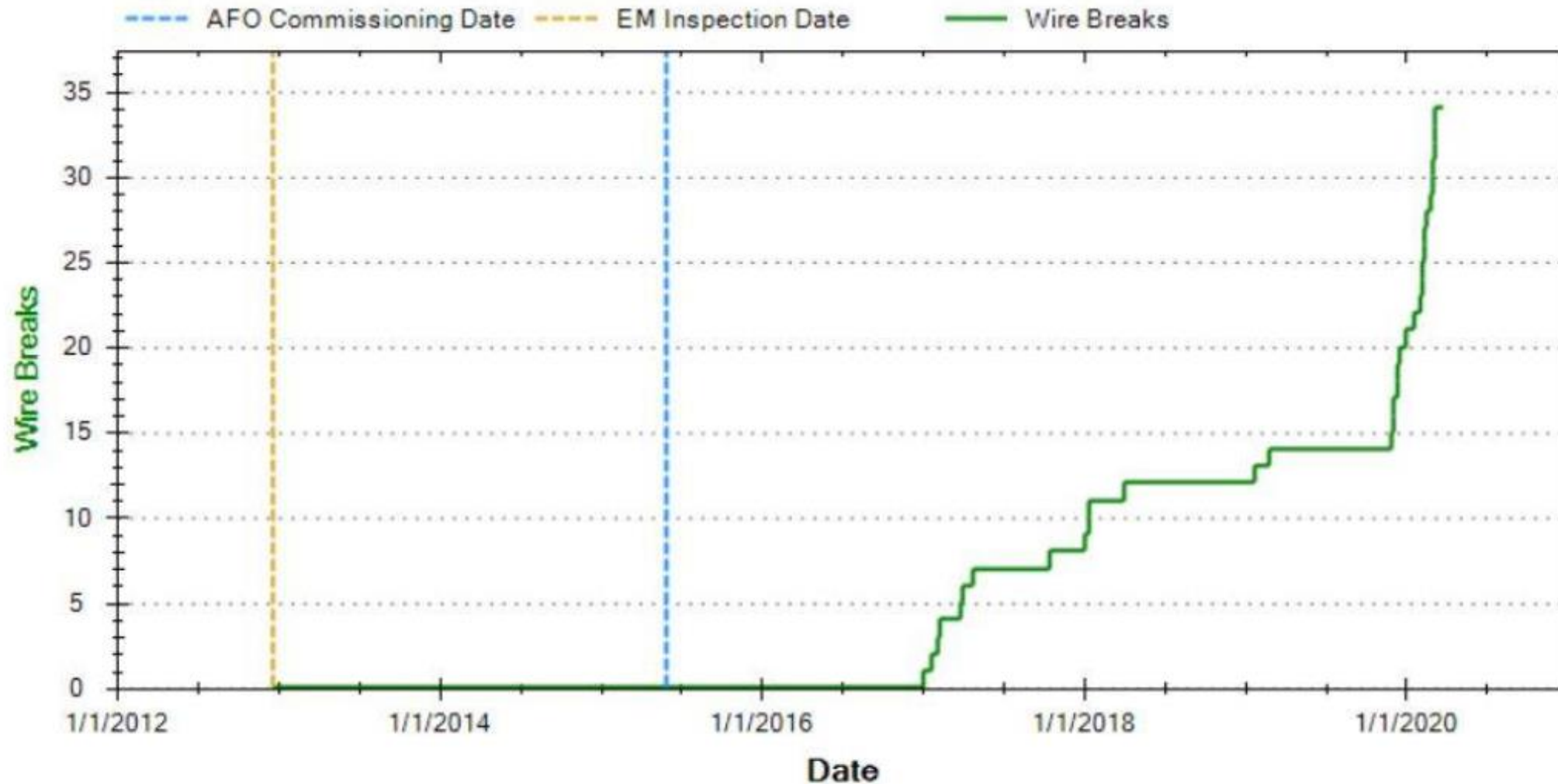
# SoundPrint AFO – Acoustic Monitoring of PCCP pipes



Over **1500KM** of Pipeline Currently Being Monitored Across the Globe.

# AFO– Long Term Monitoring Prevents Failure

Wire Break Trend



### Tier 1

- Prioritize the most critical pipelines
- Do a basic evaluation of risk of failure on each critical pipeline
- Find and fix leaks to prevent major failures
- Create mapping of unknown pipelines for future asset management
  - Our technology : [SmartBall](#) and [Sahara](#)

### Tier 2

- Do not create renewal plans based on age or bad reputation
- Do a wall condition assessment on most critical pipelines that might be old and experienced failures in past
- Create a renewal plan based on real data
- Only 1 – 10% of old pipelines need to be renewed to mitigate 99% of the risk of failure
  - Our technology : [PipeDiver](#) and [PipeWalker](#)

### Tier 3

- Build online monitoring systems for critical pipelines and pro-actively prevent failures
  - Our technology : [AFO](#)









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