

xylem
Let's Solve Water

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Using Advanced Infrastructure and Analytics in the Management of NRW

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1

Advanced Infrastructure Analytics



Who we are
A new Xylem platform of **disruptive technologies** to help water utilities substantially reduce the capital and operating costs of operating a water network

What we do
We use **data gathering, artificial intelligence and machine learning** tools to help utilities monitor, optimize and control the condition and performance of their networks

Our impact
We create **outsized economic benefits (10x)**, substantially reducing non-revenue water and capital and operating costs through predictive analytics and design optimization

3

Introduction

Collecting data enables intelligent decisions which helps to manage risk and investment.

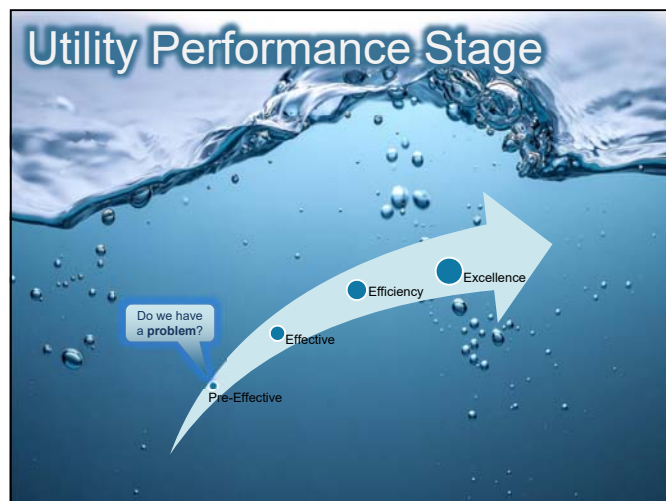
- Looking at leakage from different perspectives
- Identifying and managing different sources of data to achieve leak detection precision
- Using Data Analytics to make leakage investment decisions for the future

2

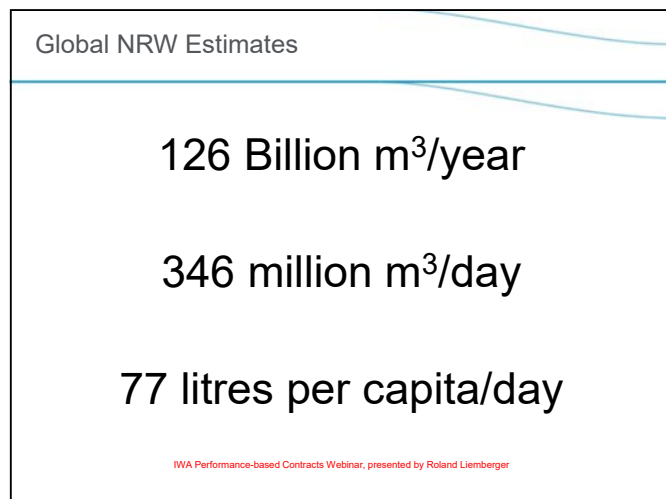
Key Facts and Figures - AIA

 > 60,000 km of inline inspections completed (lifetime)	 650 employees	 > 3000 leaks located in 2017
 Median AIA company age 14 years	 > 5 billion gallons of water saved in 2017	 > 6 billion gallons of sewer overflow avoided (South Bend, IN)

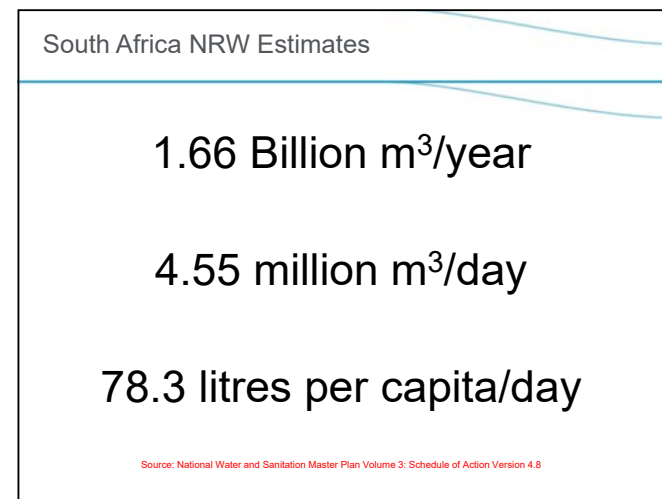
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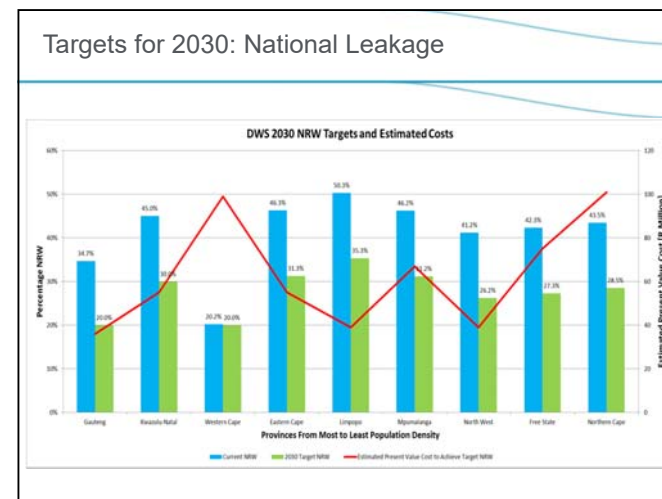
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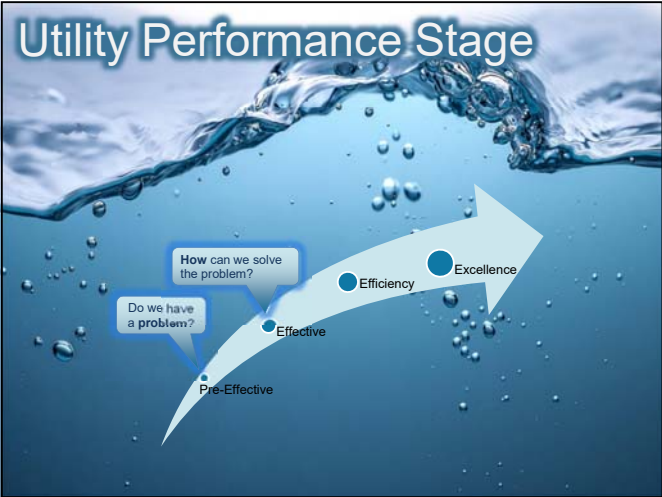
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Where in the system does the most leakage come from ?

	Gwinnett County		South West Florida		Utility No. 3	
	Dist. Mains	Trans. Mains	Dist. Mains	Trans. Mains	Dist. Mains	Trans. Mains
Distance (km)	3,900		4,700		7,100	
No. of Leaks	92%	8%	91%	9%	93%	7%
Avg. leak size (LPM)	8.7	53	7.2	68	17	136
Total leakage	51%	49%	13%	87%	63%	37%

- Bulk Pipelines have "High Value" leaks i.e. high pressure and/or large volume leaks
- Majority of high pressure/large leaks do not surface - **75%** of detected leaks did not show surface signs

10

The Underground Asset Challenge

- Aging infrastructure is a key concern
- The best-in-class renewal programs only address 1% of the system per year.
- Most pipes are in good condition
- Large Diameter Pipes are high risk and high replacement value
- We can defer 90% of CAPEX while reducing risk.**

11

Inline Leak detection Solutions

Reduce system losses in a comprehensive but cost-effective way

1. Insertion

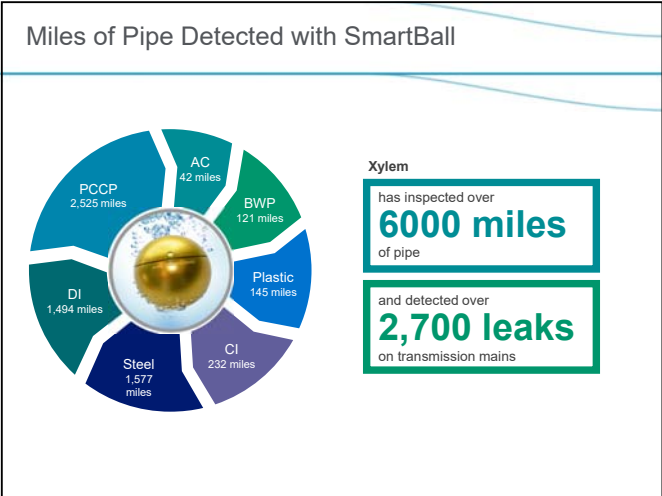
2. Seal cable in the pipe and record any noise

3. Extraction

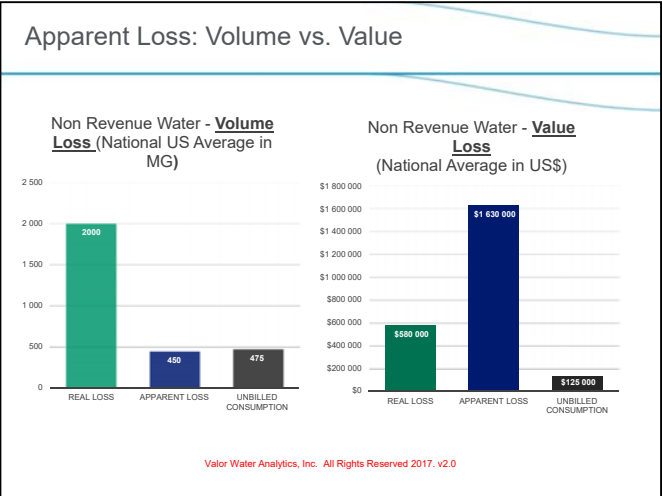
4. Extraction

pure technologies
a xylem brand

12



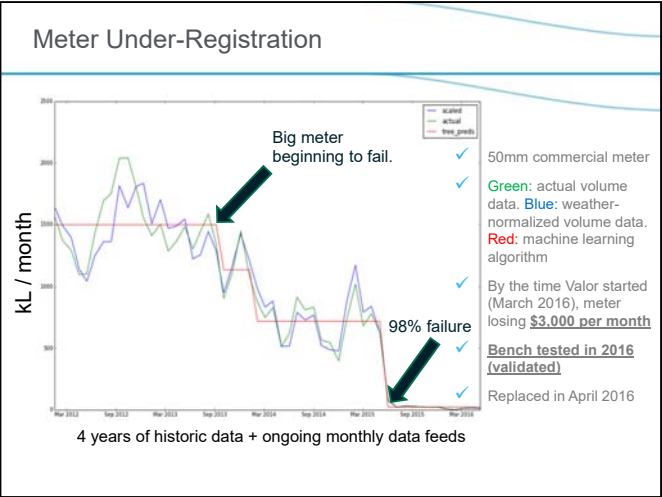
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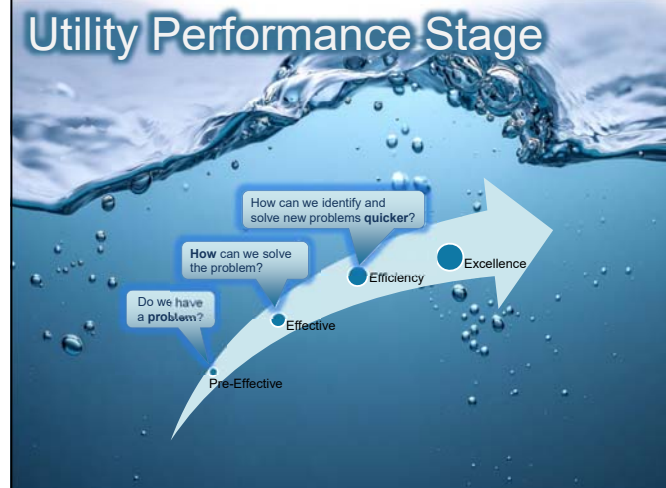
16

The True Value of a Flow Meter

- Average meter replacement age in South Africa – **20 years**
- Average meter degradation per year – **0.35% to 0.5% p/a**
- The average meter when it is removed is registering between **7% and 10% less water** than when it was new.
- **This is top line revenue!**

Sources:

17



19

The future of Metering – Static Meters

Electromagnetic

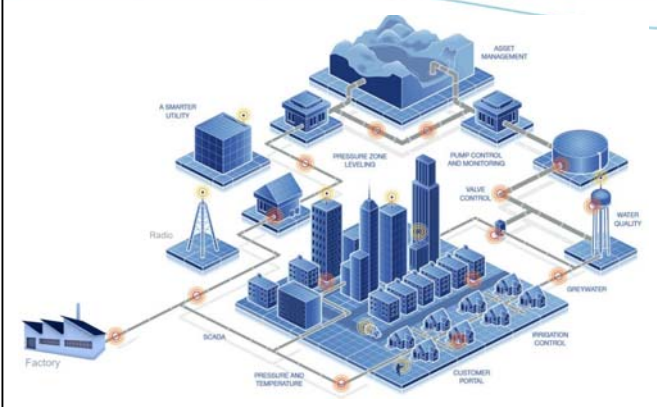


Ultrasonic

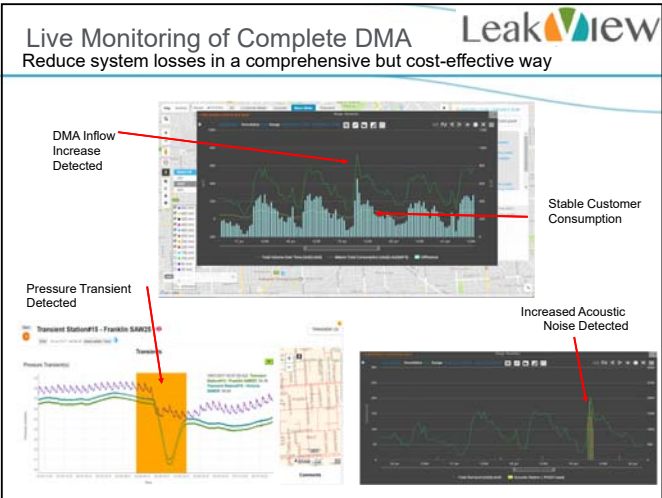


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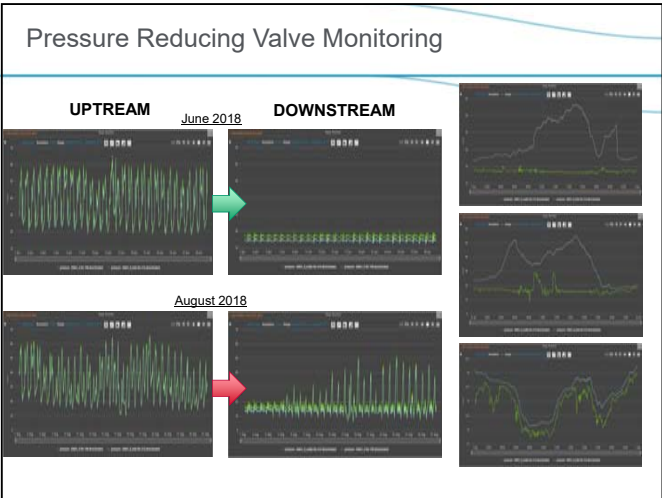
Advanced Infrastructure



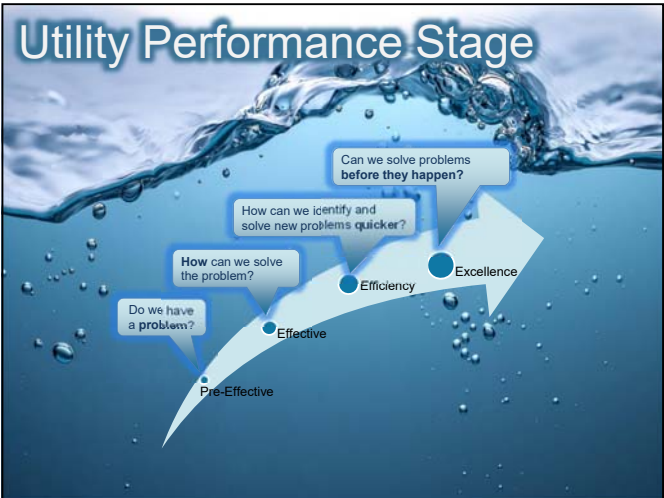
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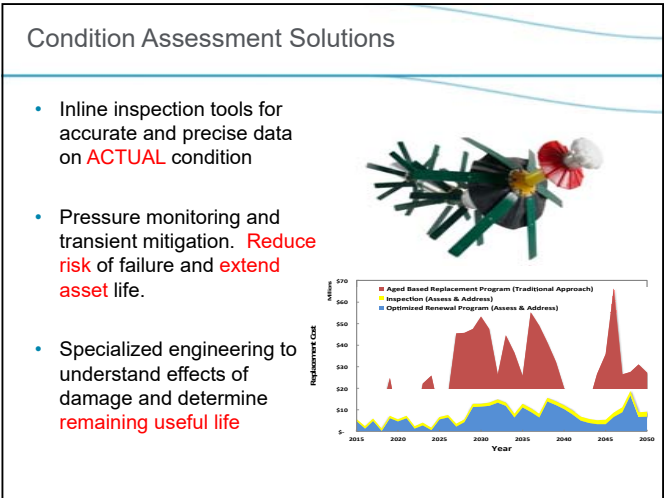
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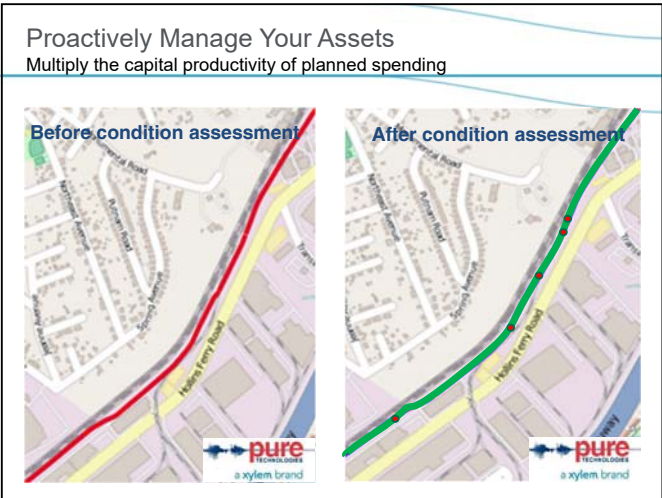
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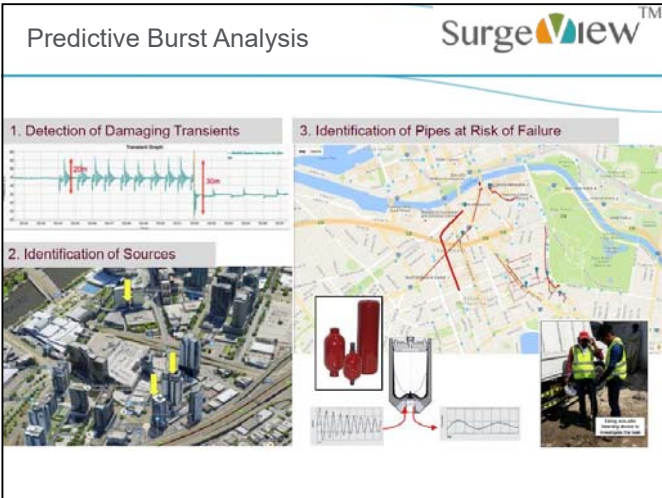
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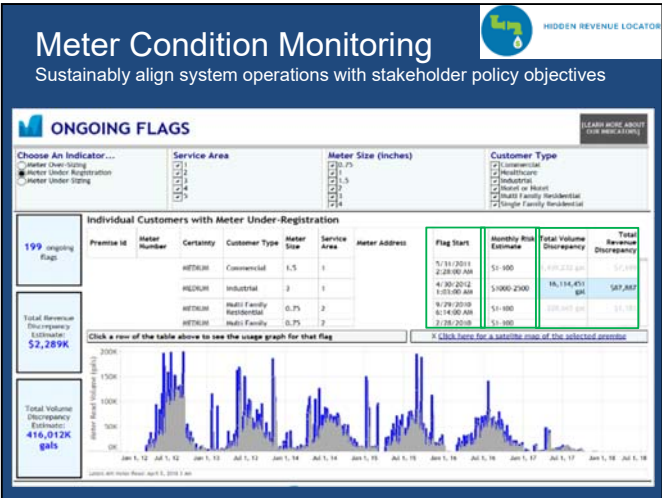
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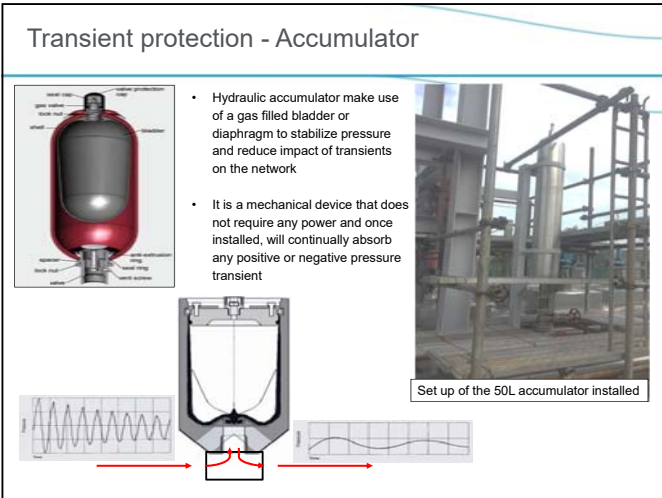
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29