

Purpose of this example	
Demonstrate the use of satellite technology for leak detection	
General information on the water utility or project	
Name of town/project/utility	United Kingdom, South Staffs Water
Type of project	Drinking water leak detection
Scope of project	This document describes the basic framework of satellite leak detection associated with South Staffs Water utility.
Contact (optional)	Christine Howles ChristineHowles@south-staffs-water.co.uk
Asset manager/project manager	
Service contractor	Contract
Population (people served)	1.6M people
Length of network and age of system	6,000 kilometers
Number of service connections	449,750
Number of pumping stations	
Special conditions	Different types of pipe materials and ground cover.
Project related ISO standard	ISO 24528
GIS in use, since when?	Yes, 2013.
Main methods and tools	Proactive maintenance
Initiation and main features of the project (AM/water loss)	
Objectives and policy/regulation, if relevant?	
Set by Souths Staffs Water, in accordance with customer research and approval by financial regulator Ofwat.	
What is the current level of knowledge of the assets (detailed inventory, CCTV, condition assessment, ...)	
South Staffs Water always looks for new technologies to provide the highest water quality for their clients while taking environment protection into account. Using Utilis technology, SSW was able to strengthen pipeline resilience by encouraging proactive control and reducing significant amount of leakages. According to the utility's resilience action plan, the project was part of the goals to reduce leakage by 25% in the South Staffs area and 15% in the Cambridge region.	
What are the main actions in the recent past (lengths of rehabilitated network, acquisition of knowledge, active leakage control, pressure management, DMA...)?	
The water utility did all the above mentioned. Utilis helped them not only reducing leakages but also finding them in less amount of time on more cost-efficient way.	
What are the tools, criteria, performance indicators, technologies, used to implement the project (see e.g. ISO 24523 or ISO 24528)?	
This project used SAR satellite data to detect leaks. The main performance indicators are daily performance like number of leaks found, amount of water saved, cost savings.	

Project activities
Main activities (leak repair, pipe renewal, special techniques, ...): (include figures or volumes if available)
Satellite leak detection and leak repair. 2.5- 3.1 leaks/ day
Outcomes of the asset management policy
Results. What are the main outcomes in terms of impact on the assets, the operation, the planning of works, etc.?
Overall, 2 MLD leakage saving and average 2.8 leaks found per day with Utilis technology compared to 0.4 leaks per day with traditional method. Utilis can detect leaks across all asset and ground types as well as pipe materials.
Setbacks, failures, upcoming activities (optional):
The utility has all the information to compare the Utilis satellite technology with other leak detection methods and decide if they engage with Utilis on a long term.
Financial aspects
How is the project budget defined? What are the constraints? What is the impact on tariff? Is there a specific budget dedicated to asset management policy, on top or instead of usual budgets (OPEX and CAPEX)? For what duration?
Utilis technology requires no CAPEX, so it significantly lowers expenses during the project.
Impact on the operational costs quantified or analyzed and which method is used?
Overall nightline reduction is 2 MLD and the total cost of 1 MLD reduction is £ 180,000 (total cost including Utilis, Point of Interest follow up and repair).
Indicate financial criteria (e.g. return on investment), give figures
£ 180,000 - total cost to save 1 MLD, it represents 1/3 of the standard cost.
Method for the estimation of the value of assets (optional)? Depreciation method used
Recommendations for a good management of assets
Proactive leak detection using satellite leakage reports increases efficiency 3-5 times compared to conventional method.
Conclusions, return of experience (lessons learned)
Utilis' satellite technology works efficiently for water utilities and helps them reducing overall leakage reduction costs.
Possible improvements
Outlook and suggested improvements