Demonstrating the future of smart metering and smart networks





The project This European project has 21 participants...





Water



CYBULA > high performance pattern recognition systems



Intelligent Pipeline Monitoring





The utilities' mission

To pave the way for a more modern wholesale utilities business

- Assess the state of the art in sensor technology and advanced analytics
- Produce demonstrations of what is possible
- Use lessons learnt to help steer strategy
- Socialise the necessary technologies to get the business gently up to date with modern practices



Work streams

Data cleansing and enrichment	The smart network	Understanding our customers	Holistic visualisation	Strategic steer
Best practice for identifying and handling bad or missing data. Building processes to transform time series data into more useful forms.	Applying novel machine learning algorithms to quickly detect and localise leaks and bursts. Understanding the potential for real- time smart meter flows as a surrogate for pressure.	Demonstrating data-driven techniques for property classification. Smart methods for analysing customer- side leakage and wastage.	Combining data sources to demonstrate the potential of a unified, holistic view of the water network.	Demonstrating the potential of 'big data', advanced analytics and real- time data, plus advising on technologies. Providing guidance to utilities by assessing the benefits of additional sensors.

Data cleansing and enrichment



- Best practice for identifying and handling bad or missing data.
- Building processes to transform time series data into more useful forms.



The smart network Data cleansing and enrichment Holistic visualisation Understanding consumption Strategic steer

- Applying novel machine learning algorithms to quickly detect and localise leaks and bursts.
- Understanding the potential for real-time smart meter flows as a surrogate for pressure.



Understanding consumption

- Demonstrating data-driven techniques for property classification.
- Smart methods for analysing customer-side leakage and wastage.





• A spatio-temporal view of the demonstration site combining all of the above helps monitor the network and identify potential efficiencies

Data cleansing
and enrichmentUnderstanding
consumptionStrategic steerThe smart
networkHolistic
visualisation

• Demonstrating big data, advanced analytics and real-time data's potential, plus advising on technologies.

• Providing guidance to utilities by assessing the benefits of additional sensors.



Timeline

- 2014
 - Project begins
 - Demonstration site construction begins
 - Syrinix TrunkMinders and BurstMinders installed
- 2015
 - Construction nearing completion, Incertameters installed
 - Data collection, cleansing and validation
- 2016
 - Advanced analytics methods tested
- 2017
 - Project completion, public demonstration



Thank you for listening

Any questions?

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