

 Future Processing

SmartFlow



WATER
LOSSES
MONITOR

www.smart-flow.eu



The illustration shows a 3D perspective of a city grid with various buildings, trees, and streetlights. A network of white lines represents water pipes and data connections. Several orange Wi-Fi symbols are placed along these lines, indicating smart infrastructure. A small monitor icon is also visible, suggesting data monitoring. At the bottom, a water drop icon is connected to the network lines.

WHAT IS SMARTFLOW?

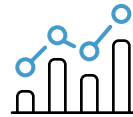
SmartFlow is a system used for monitoring waterworks infrastructure parameters. It is based on sensors built into the waterworks around the city. The sensors collect and transmit real-time information about water distribution which is then analysed and processed by the system. In case of any anomalies, location of the fault is visualised on the map of the city, making it easier for the engineers to locate and repair the fault. The system effectively tackles the problem of hidden leakages which means that if failures occur, they are attended to quickly and no longer generate major losses.



COLLECTION OF DATA FROM SENSORS



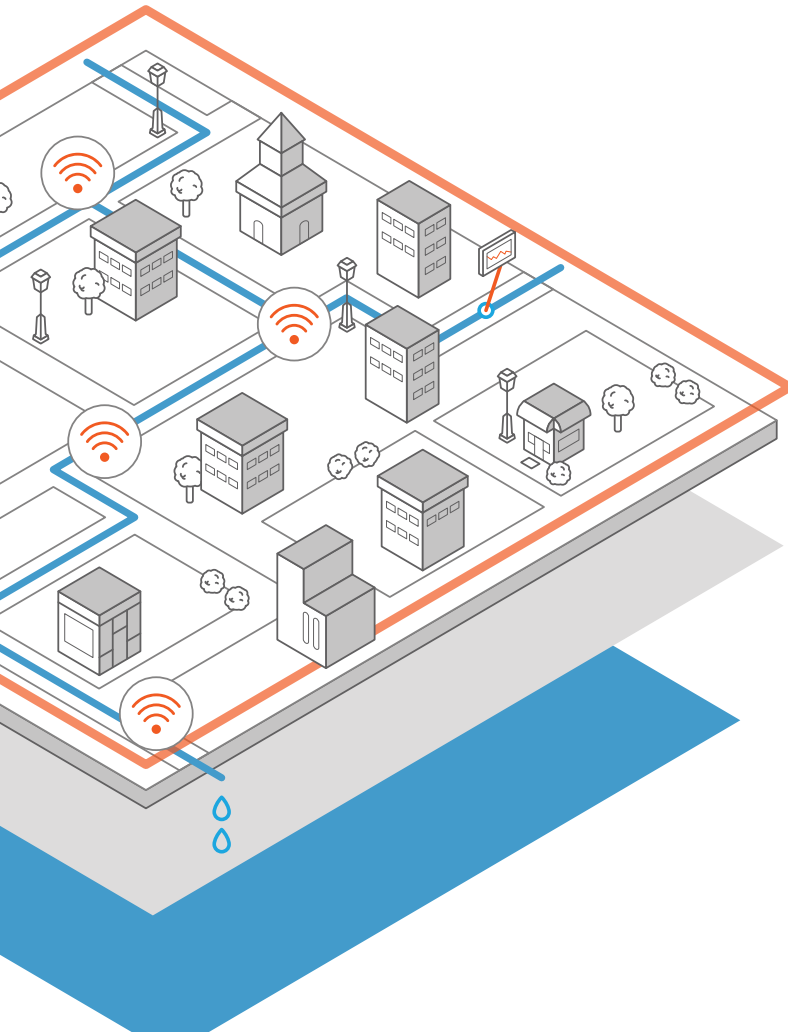
PROCESSING AND ANALYSIS



DIAGNOSIS AND VISUALISATION



ALERT



BENEFITS

- ▶ Tangible water savings through an earlier detection of leakages
- ▶ Faster reaction to anomalies within the water supply system
- ▶ Intelligent and ecological management of water supplies
- ▶ Easier and quicker analysis of data
- ▶ Better management of water supply system

SMARTFLOW'S CAPABILITIES

- ▶ The data on the state of the water network is gathered in one system
- ▶ Visualisation of the network, data analysis and alarming on anomalies
- ▶ Automatic analysis
- ▶ Adapting the methods of diagnoses and analysis to suit client's needs
- ▶ Analysis of multiple parameters
- ▶ Implementation in any area
- ▶ Possibility of real-time data processing

IMPLEMENTATION OF SMARTFLOW AT MPWIK WROCŁAW



MPWiK Wrocław is the municipal water supplier for the Wrocław agglomeration. It is in the top 5 biggest water supply enterprises in Poland. In addition to its regular business activity, MPWiK, chooses innovative solutions that save natural habitat and resources by cooperating with universities and environmental research facilities. Its activity is supported and developed by the MPWiK's New Technologies Centre, an internal research and development unit. In 2015, MPWiK teamed up with **Future Processing** and **Microsoft** to develop a system to tackle the problem of hidden leakages. The result of this cooperation is SmartFlow.

EFFECTS OF THE COOPERATION

- ▶ **500 mln** litres of water saved in 2016 alone
- ▶ **9%** reduction in water loss
- ▶ **72h** - maximum time to locate and fix failures
- ▶ **80%** of Wrocław's area monitored by SmartFlow
- ▶ Thanks to SmartFlow the detection of anomalies shortened from **180 days to 3 days** localising hidden leakages is much easier

MPWIK WROCŁAW IN NUMBERS

WATERWORKS' LENGTH:

2 037 KM

NUMBER OF CONNECTORS :

APPROX. 41 300

NUMBER OF HYDRANTS :

APPROX. 14 100

DIAMETERS OF PIPELINES:

80 - 1200 DN

NUMBER OF LOCKS:

62 700

NUMBER OF MAIN WATER METERS:

49 200

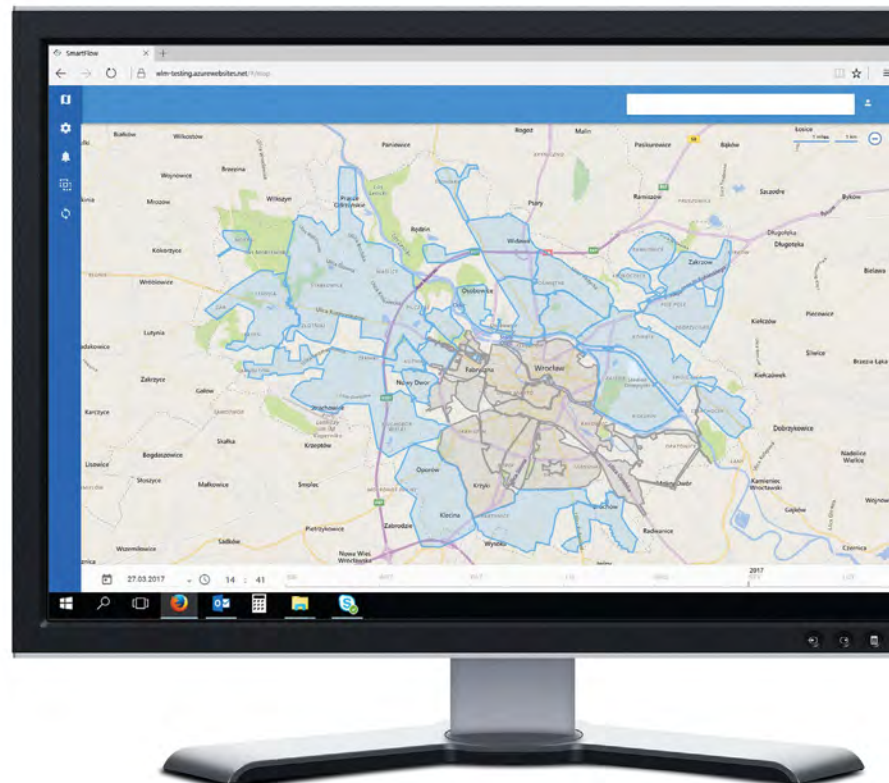


REFERENCES

Application in easy and transparent way allows to monitor waterworks infrastructure parameters. Notification system, with use of customized warnings and alerts, indicates dispatchers the corresponding DMAs and flowmeters with found abnormalities. It gives waterworks service the ability to react quicker and more precisely to potential leakage or unauthorised consumption.

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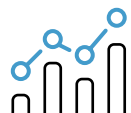




STABLE WATER SUPPLY MANAGEMENT MEANS:



ECOLOGY - PREVENTING HYDROLOGICAL DROUGHT



EFFICIENCY - FASTER REACTION TIME TO DAMAGES



COST-EFFECTIVENESS - MINIMISING WATER AND ENERGY LOSSES

CONTACT WITH US!

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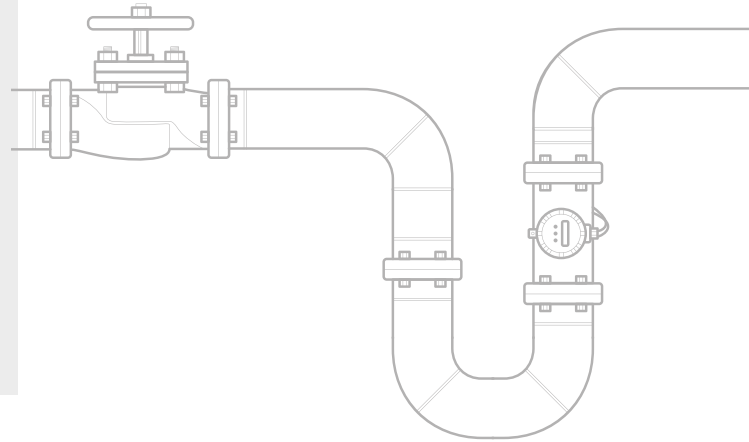
SUPPORTING WATER SUPPLY SYSTEM MANAGEMENT

FULL SERVICE

- **Organizing workshops to learn about your company and its needs**
- **Auditing:**
 - IT systems
 - infrastructure
 - business processes
- **Preparing an individual proposal based on:**
 - infrastructure and IT systems
 - company's needs and processes
 - measured indicators
- **Recommending improvements**
- **Providing technical support and warranty service**

TAILOR-MADE SYSTEM

See for yourself what are the benefits of implementing SmartFlow. Our experts will tailor the system to your company's needs, capabilities, and stage of development.



COMPANY'S TECHNOLOGY READINESS LEVEL

SmartFlow can be implemented in companies with different technology readiness levels and provide support for their development. The system grows together with your company.

0. TECHNOLOGY READINESS LEVEL. THE COMPANY HAS IMPLEMENTED:

- ▶ a billing system which aggregates data from endpoint water meters

1. TECHNOLOGY READINESS LEVEL. THE COMPANY HAS IMPLEMENTED:

- ▶ a billing system which aggregates data from endpoint water meters
- ▶ a GIS database gathering water supply system data

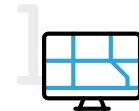
2. TECHNOLOGY READINESS LEVEL. THE COMPANY HAS IMPLEMENTED:

- ▶ a billing system which aggregates data from endpoint water meters
- ▶ a GIS database gathering water supply system data
- ▶ a measurement infrastructure enabling water supply system monitoring powered by the SmartFlow app

Company's readiness level



Water sales data



Digital mapping of the water supply system



Measurement infrastructure

Benefits of implementing the SmartFlow app	Company's readiness level		
	0	1	2
Ensuring the right balance for the water supply system between purchases and sales	✓	✓	✓
Gathering information on system failure based on night usage	✓	✓	✓
Improving quality of services	✓	✓	✓
Performing necessary inventorying, thus gaining up-to-date knowledge on infrastructure status, as well as conducting an analysis useful for the selection of measurement infrastructure and water supply system mapping solutions	✓	✓	✓
"Sealing" company's financial leaks	✓	✓	✓
Improving communication and information flow within the company	✓	✓	✓
Meeting regulations introduced by the amendment of the water resources law	✓	✓	✓
Gaining access to possible new sources of financing	✓	✓	✓
Improving company image by investing in innovations	✓	✓	✓
Gaining a detailed knowledge on infrastructure		✓	✓
Repairing failures effectively		✓	✓
Acquiring data for investment activities		✓	✓
Analyzing current impact of the investment on the water supply system		✓	✓
Improving water supply system organization			✓
Locating failure points			✓
Ensuring end-to-end water supply system management			✓
Managing human resources efficiently			✓
Integrating and correlating data from the sales, geo/IT, and water supply system monitoring systems			✓
Managing investments			✓

CONTACT US

We will be happy to discuss all the details of SmartFlow implementation and to show you how the system can help your company grow.

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