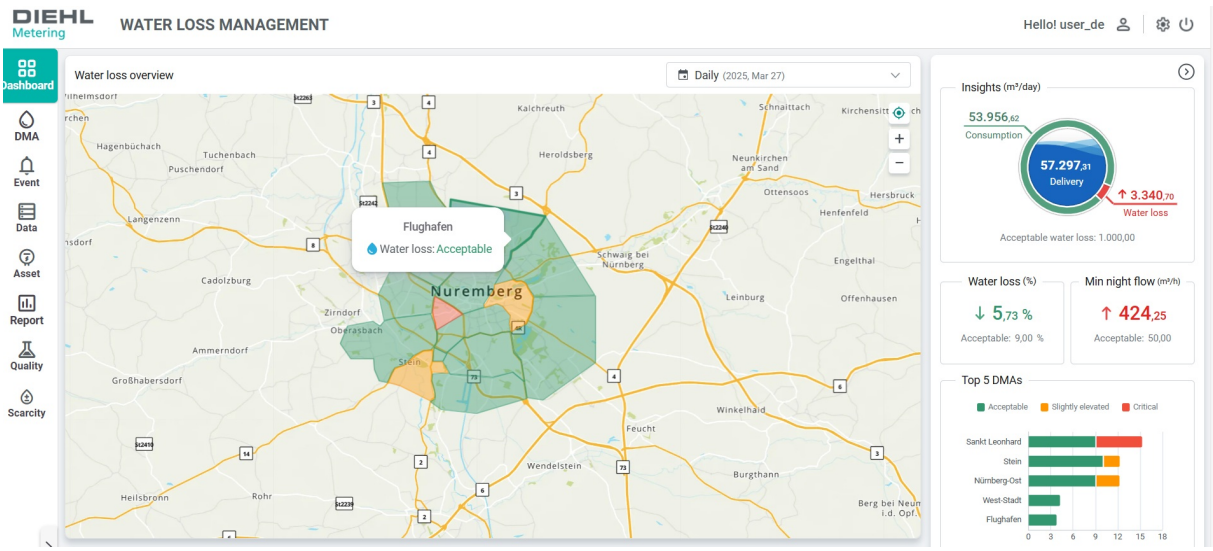
Product factsheet

Waterloss Management

Software solution
Consulting or service offering (e.g. training)



Description

Water Loss Management (WLM) by DIEHL Metering is designed to minimize water losses in distribution systems. The software is interoperable with several hardware and software solutions. The primary objective of WLM is to monitor and reduce non revenue water (NRW), in addition to providing support for the reporting of leak KPIs (e.g. NRW, real losses, ILI) for regulators (the EU Drinking Water Directive is mandatory by 2026). Other key objectives include continuous calibration, scheduling repairs based on volume loss and volume loss rate, and reducing the time from leak detection to repairs through continuous leak detection and localization.

The process is facilitated by a digital twin, which unifies multiple data pools from various departments (e.g. GIS, Hydraulics, Sensor Data, Annual Billing, and Damage Reports).

- The dashboard has been designed to present key performance indicators (KPIs) in a clear and accessible manner:
  - DMA and their KPIs as well as their trends: NRW, night Flow and water loss
  - Benchmarking between the different DMAs to determine which DMAs require urgent attention, allowing to schedule repairs accordingly
  - Data Overview: Delivered/Consumed water and its Losses
- By clicking into an effected zone (red) the user drills down to the pipe with the leak in just minutes

To facilitate more precise and timely identification of leaks, following sub steps are performed:

- Following this, the modelling of the network can be undertaken. Both hydraulic and acoustic models can be

implemented

- The subsequent damage reports, along with any anomalies that satisfy the calibration thresholds (e.g. large consumptions, flushing, pump switching, etc.), are utilized to automatically and continuously:
  - Fit the deployed model to the real-world network
  - Train the pattern recognition leak detection algorithm to best fit to the network's data (Flow meters, Flow rate sensors, Temperature, Pressure sensors, acoustic sensors)
- The system is now operational and will automatically detect, track and localize leaks

Target audience

Water network operators/ water utilities

D E V E L O P M E N T

Actors, their roles and interactions

The solution is built inhouse and is provided to all network operators. This includes industry companies, water and heat utilities as well as meter manufacturer.

Unique selling points

- **80% Reduction** of the leak detection **expenditure**
- **40%** reduction of **water losses**
- Precise **leak detection** up to **50 meters** from **0.2 m³/h**
- **Early** identification **within minutes** and **high-precision** localization **within hours**
- **Real-time** hydraulic/acoustic models and continuous **calibration**
- **Health status** of pipes: Monitoring the status of pipes to ensure that network operators plan the renovation work according to their budget
- **Recommendations for action** (AI-based calculations that take your network requirements and damage into account)

Technical requirements

- Sensor Data
- GIS

Publications

https://www.youtube.com/watch?v=XUfvuVwd_zM

URL

https://www.diehl.com/metering/en/products-solutions/solutions/leckagen-frueher-erkennen-wasserverluste-effektiv-reduzieren/

Technologies applied by the product

- **AI techniques**
- **Digital Twin**
- **Hydraulic Systems Optimization**

Costs

Subscription
Last update: 2025-05-09

Related tags

sustainability | reduce | leakage detection | Sustainable Water Management | waterloss | AI | localization

Downloads

The following file can be downloaded from the online page of the product: https://mp.watereurope.eu/d/product/166

- WLM two pager