

# EDAMS Network Asset Management Metering Manager Module

*It assists Utility Managers to Manage, Evaluate, Verify, Correlate to Zones and Estimate bulk readings*

The Metering module forms part of the EDAMS Network Asset Management System. It can assist Utility Managers to effectively manage, evaluate, verify and estimate bulk meters and their readings. The Metering Manager module integrates:

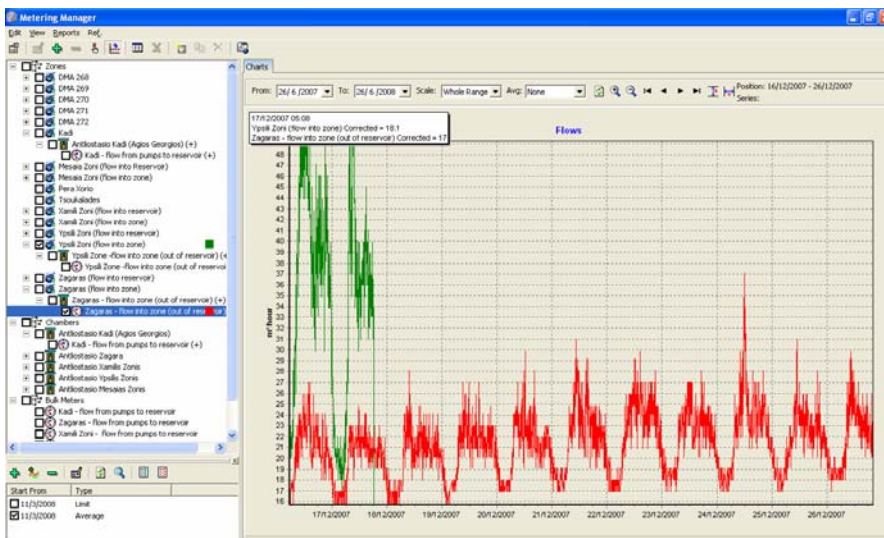
1. Network Assets Information
2. Zoning (District Metered Areas)
3. Telemetry & Other Meter Reading Sources
4. Any other metering info

It provides the Utility Manager with a tool to evaluate, correct and/or estimate bulk meter readings and provide reliable input to District Areas Managers for balancing or billing purposes.

## The Metering Problem

When the entire system input is metered, the calculation of the supply should be a straight forward task. In practise however Utilities experience many problems in managing bulk meter readings, i.e.

1. Some of the meter sources may be often unreliable and many readings have to be estimated.
2. In cases that the Utility is a bulk supplier accurate estimation is of paramount importance as a small error represents a large volume of water. Such estimations can be quite complicate as the total flow has to be estimated by using any (or a combination) of the following: (i) temporary flow measurements using portable devices, (ii) SCADA systems (iii) reservoir drop tests or (iv) analysis of pump curves, pressures and average pumping hours.
3. The installation of telemetry and SCADA systems has created a proliferation of data. Time-series data are difficult to manage and control particularly if they originate from multiple sources e.g. SCADA and data loggers.
4. Bulk meter readings not only need to be evaluated and verified but correlated to District Metered Areas and network assets for balancing purposes. These difficulties have a

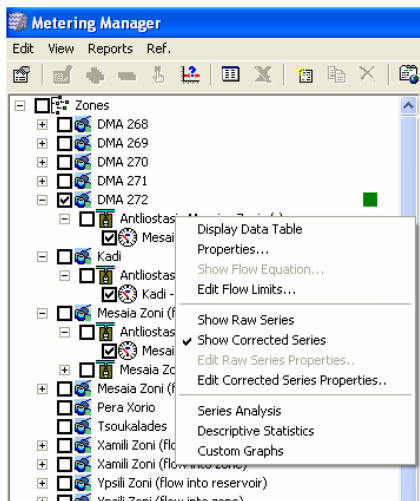


ripple effect in Utility efforts to manage the DMA's as part of operational activities.

5. In larger Utilities, the management of bulk meter readings requires dedicated Units (Metering Departments). Such units have lack of integrated tools and use Excel spreadsheets and ad-hoc links/downloads to the SCADA software. This results in lack of integration and reduced productivity and effectiveness.

## Bulk Metering & EDAMS Asset Management

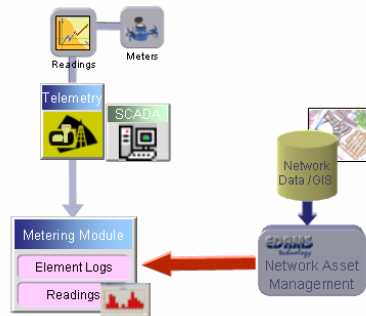
A bulk metering programme is part of the Utility strategy for online monitoring of the networks. The use of EDAMS Network Asset Management system can become a vital tool in the process of guiding the acquisition, use and disposal of assets to maximise the most of their service delivery potential and to manage the related risks and costs over their entire life. Using this process, there will be proper and continuous selection, installation, maintenance, renewal and replacement of meters over a specified period of time so that leakage in the system is kept under control.



Using EDAMS Asset Management the Utility can implement a programme to improve large (bulk) water meter accuracy comprising of:

1. Asset Register of all existing meters with all their details including type, accuracy limits, age or date of installation etc.
2. Integration of meter reading data sources and Management and control of the readings.
3. Programme for replacement based on long-term asset management and best practice (sample testing) etc

## Functionality Overview



The Metering Manager module provides users with the ability to manage readings taken from any element. Operational logs are kept for all fixed plant and the data they comprise of includes counter readings, operating times, energy consumption and user definable indicators such as temperature, pressure etc. In addition, logs highlight automatic discrepancies to ensure efficient use of both plant and operators. There are three types of readings kept in the system:

1. Telemetry readings are recorded and transmitted automatically.
2. Data Logger readings
3. Manual readings

Each of the above types of readings can be collected and stored, enabling data capture for bulk meters, reservoirs/towers, pressure relief devices and monitoring points. These points can be defined for any variable at any place that needs to be monitored (rivers, chlorination points, etc) and can be aligned to a node or pipe for GIS reference and analysis purposes. The readings taken at these points can also be used by the system for calibration purposes.

The Metering module takes full advantage of all readings collected from heterogeneous sources. The following functionality can be achieved:

1. The system has been designed to enable easy access to all metering logs. Particular emphasis is given in the representation of bulk meter readings in relation to balancing zones. Readings from selected bulk meters are shown simultaneously in time-series flow graphs so that any abnormalities can be easily recognised and amended.
2. Historical time series can be easily stored / retrieved for accurate/relevant/timely analysis and decision making
3. Efficient monitoring and control of bulk meter operation for prompt response to problems.
4. Evaluation and verification of bulk meter readings.
5. Flexible estimation of problematic meterings by a multitude of methods for any period that meters are out of action, including application of policies.
6. Statistical analysis tools and pattern generation allows for Optimised Operational Guidelines.

## System Implementation

System implementation uses a structured methodology and includes predefined element libraries and full operator and management training. Our consulting services, based on over twenty years of industry experience, ranges from data capturing and field validation to network optimisation and the reduction and control of non-revenue water.

Contact us for more information on our products, services or Partnership Program



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