

## The Plant

- » Designed for the Process Industry and Utilities
- » For existing plants and new installations
- » Addresses concentrations of valves
- » Certified as Zone 1 Intrinsically-Safe

## The Solution

- » Real time monitoring of valves
- » Full range position and limit indications
- » 5 year battery life
- » Predictive valve failure indications
- » Robust wireless system
- » Redundant mesh network
- » Conforms to industrial standards
- » Fully integrated with all standard automation systems: PLC/DCS/SCADA
- » Easy, non-disruptive and quick implementation on hot lines
- » Fraction of the cost compared to wired alternatives

## The Value

- » Increased yield - reduced risk
- » Comprehensive monitoring added to the plant
- » Predictive valve maintenance
- » Eliminates unnecessary shutdowns
- » Improved safety
- » Enhanced operational efficiencies
- » Improved plant profitability - reduced operational costs
- » Improved accountability with increased automation
- » Smooth implementation
- » Quick ROI

## Standards

- » ATEX approved for Zone-1 explosion proof installations
- » TUV/CE certified
- » Integrated OPC interface to PLC/DCS/SCADA
- » Wireless standards supported: ISA 100.11a and Zigbee Pro
- » Compatible with HART management system
- » Embedded in ISA100
- » IP 66

### Frost and Sullivan 2010 New Product Innovation Award

Eltav Wireless Monitoring is the recipient of the Frost and Sullivan 2010 New Product Innovation Award for wireless Sensor solution. The award is based on a careful analysis of available wireless sensors in the process industry, considering technological superiority, ROI for the customers, innovation value and more.



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# Wireless Monitoring of Valves

## Wireless. Easy. Value.

## System Description



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ELTAV Wireless Monitoring Ltd

# Industrial Wireless Monitoring

## VD

### Valve Device

Small, self powered wireless sensor and transceiver for bi-directional communication. The device is bracket mounted on the valve or actuator, and it transfers analog position and other vital monitoring data in real time.

## DIB

Small, self powered input box capable of receiving up to 4 digital inputs and transfers the data in real time.

## OD

### Operator's Device

A hand-held wireless device that communicates with Eltav VD and network components in the field, using low frequency and zigbee one-on-one communication. The OD delivers messages and performance data to the operator and is used to support installation, configuration, provisioning, calibration, maintenance and network performance.

## Wireless Router

Each Wireless Router collects and routes data from up to 32 associated VDs and nearby Wireless Routers and transmits the information to the control center. Data transfer redundancy is assured by automatic routing of the wireless devices through a Mesh Topology.

## Tunneling Router

Last hop Wireless Router which transfers data collected from the wireless network to the management components of the TCP/IP network. Two or more Tunneling Routers ensure redundancy.

## EMS Clients

### Access to Eltav's wireless sensor network and information

The GUI Client provides a view to sensors data and network status and allows configuration of remote sensors and alarms.

The Connectivity Client forwards Valve Device data and status to the third party PLC, DCS and SCADA. Supported protocols are: Modbus RTU, Modbus TCP/IP and OPC DA.

## EMS Server

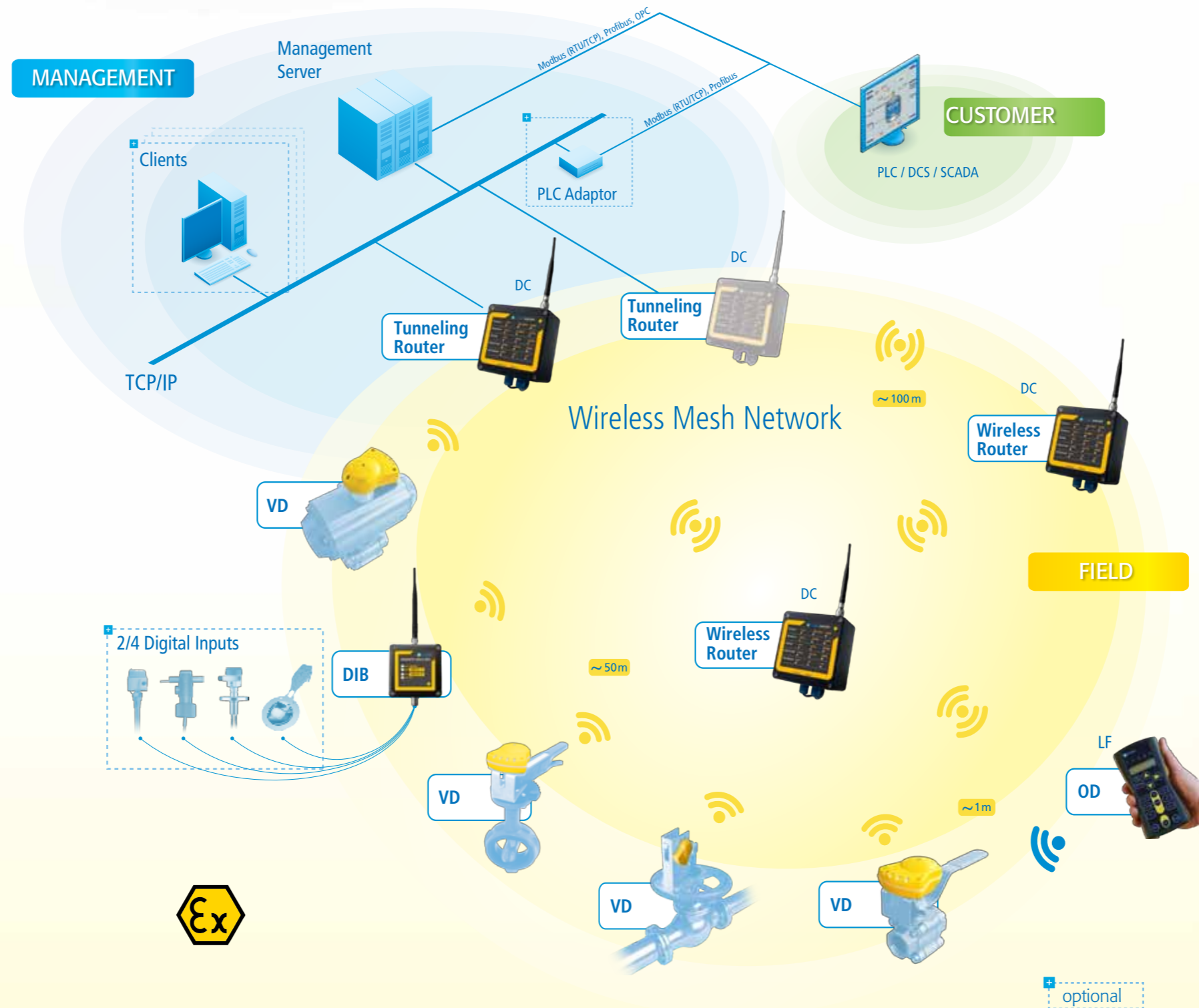
### Management System Server

Central server software on the TCP/IP network which maintains the wireless network, performs data logging and publishes sensor information to clients.

## PLC Adaptor

### PLC/SCADA/DCS interface

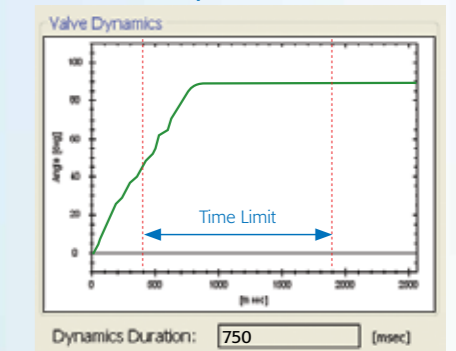
Eltav's hardened connectivity device (embedded software). Adds robustness to the entire system by providing industrial-class and redundant interface to PLC, DCS and SCADA, as well as network management abilities.



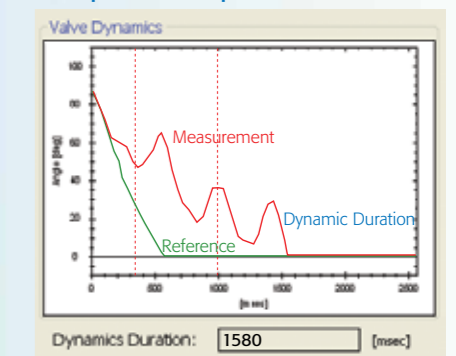
## Predictive Maintenance

- » Monitoring of valve opening and closing profiles
- » Detecting of variations from reference profiles
- » Creating alarms and enabling predictive maintenance
- » Adjustable reference profile and limits

### Normal valve operation



### Disrupted valve operation



### Incomplete valve operation

