

### GMMRA – Libya (The Great Man Made River Authority)

#### AMR and Water Distribution Network Monitoring System

The expanding economy and growing population along the fertile coastal strip of Libya is creating an increasing demand for water for irrigation, for industry and for domestic and municipal use.



**Turnouts:**

- No electricity
- No communication cable
- No field information

With the realization of the Great Man-made River Project, an economic and plentiful new source of fresh water is being made available and being transported and distributed through the country.

The distribution points of the network where the consumed water quantity is measured and can be supervised are called **turnouts**.

### Solution

The implemented DIWICON system enables real-time network monitoring and provides **remote presence**.

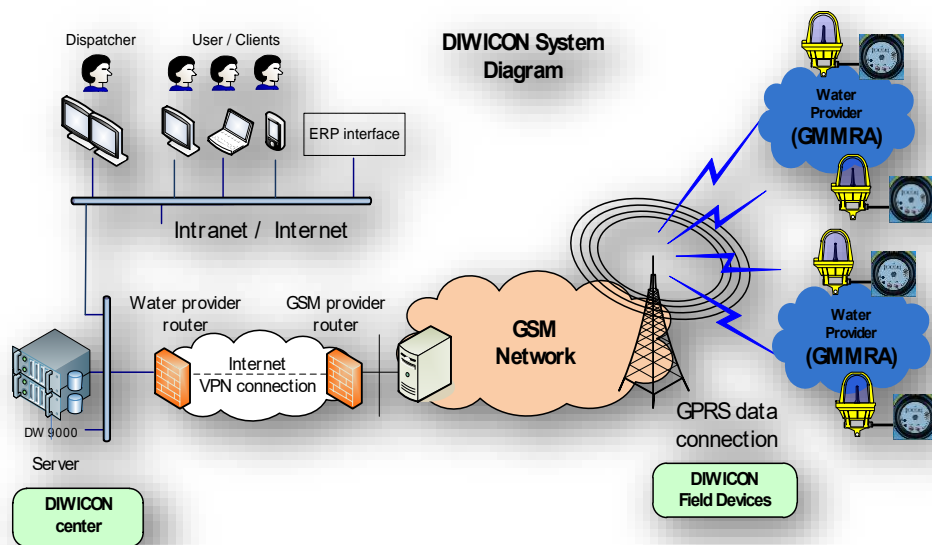
There are **field controllers** and pressure transmitters installed at the turnouts. These autonomous devices are operated by **built-in batteries** while data is transferred between the field and the central server via industrial **GPRS communication**.

**Objectives:**

- Water consumption monitoring
- Hydraulic monitoring
- Loss and rupture detection
- Remote valve control

**Key features:**

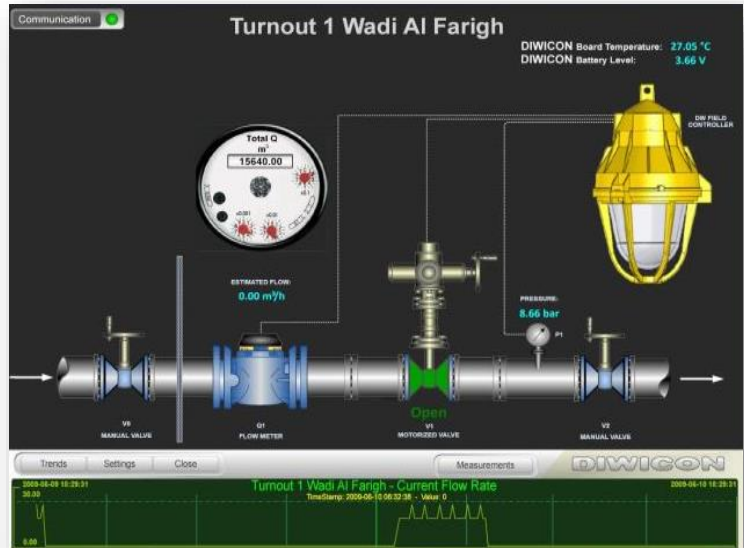
- Automated meter reading for industrial water meters
- On-line network supervision
- No power or communication lines are required
- Up-to-date web based user interface



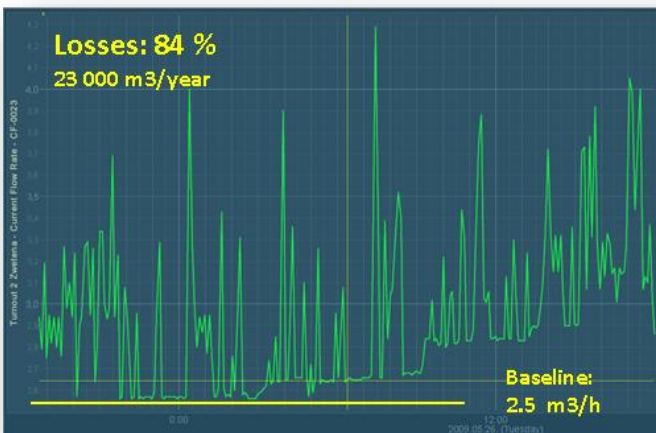
### EXAMPLES



Under the ground – inside of a Turnout.  
Installed **field controller** and a junction box.



The same Turnout – represented on the display of the web based **SCADA application**.



Trend diagram of the current flow rate of a Turnout. Water consumption has never been lower than 2.5 m<sup>3</sup>/h - it could mean **continuous loss of water** or leaking..

**All the objectives defined by GMMRA are achieved.**  
**Turnouts can be remotely supervised and the network operation can be optimized.**

- All necessary information is available without delay
- Troubleshooting time of the entire distribution network can be really short
- System operates by using optimal parameters without unnecessary losses

