



# TECHNOLOG

The Application of Technology for Water Network Management



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Technology for Water Network Management 2

Technology is an aid to:


- Controlling critical sites such as reservoirs, trunk mains and chlorination plants
- Remotely monitoring huge geographical areas with massive lengths of pipe
- Quantifying leakage
- Identifying zones for leak repair, pressure management and pipe replacement
- Locating leaks

BUT, technology cannot do this alone. To achieve the benefits it must be:

- Correctly applied
- Correctly installed and commissioned
- Maintained to achieve the benefits in the long-term





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Cello GSM/GPRS Data Loggers 3

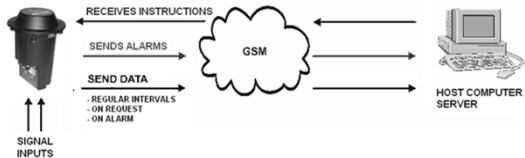

- Revolutionised the way in which networks are monitored
- Thousands of km of pipework remotely monitored every day from the office
- Alarms indicate abnormal conditions such as bursts or low pressure
- Burst awareness time reduced to minutes
- 6 year battery life
- Designed for use in flooded chambers
- Proven technology - over 300,000 supplied world-wide
- Zednet data platform for all your data on the web


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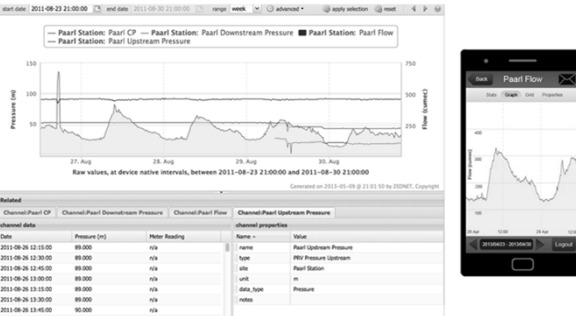
Cello GSM/GPRS Data Loggers 4


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Zednet Software 5



Date	Pressure (m)	Water Reading	Name	Value
2011-08-26 12:15:00	89,000	nil	name	Paarl Upstream Pressure
2011-08-26 12:30:00	89,000	nil	type	PIV Pressure Upstream
2011-08-26 12:45:00	89,000	nil	site	Paarl Station
2011-08-26 13:00:00	89,000	nil	unit	m
2011-08-26 13:15:00	89,000	nil	data_type	Pressure
2011-08-26 13:30:00	89,000	nil	notes	
2011-08-26 13:45:00	89,000	nil		





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Regulo Electronic PRV Controllers 6

- 1993 technology transfer from the gas industry
- Autowat PRV Controller became the 'water version' of Autogas
- 3<sup>rd</sup> generation of PRV controller use pneumatic control because:
  - air is compressible
  - water is corrosive and debris blocks solenoid valves and filters
- Integrated GSM/GPRS communications for closed-loop control with remote monitoring

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Electronic PRV Controllers 7

Standard fixed outlet PRV

PRV Critical Point

Zone

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Electronic PRV Controllers 8

PRV with pressure modulation

Control PRV Critical Point

Zone

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Khayelitsha Pressure Control Project 9

- Khayelitsha was pressure control on a scale that hadn't been seen before
- A powerful combination of world class design and implementation combined with state of the art technology delivering savings of 24,000 m<sup>3</sup>/day

SAICE: Pretoria Award for the most outstanding Civil Engineering Achievement

Khayelitsha Pressure Management Project

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Khayelitsha Pressure Control Project 10

KHAYELITSHA : Savings from Time Modulated Control (67m to 38m)

Flow (m<sup>3</sup>/h)

Average Flow Before = 2 600 m<sup>3</sup>/h

Average Flow After = 1 500 m<sup>3</sup>/h

Annual saving = 9 million m<sup>3</sup>

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Thank You

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