

ORBIS PRODIGY



INFRASTRUCTURE HEALTH MONITORING SYSTEM



ORBIS PRODIGY BLUE - POTABLE • **ORBIS PRODIGY RED - FIRE** • **ORBIS PRODIGY GREEN - HVAC**
ORBIS PRODIGY YELLOW - MUNICIPALITY • **ORBIS PRODIGY GREY - WASTE/DRAIN**

www.orbis-sys.com

ORBIS PRODIGY

PREDICTIVE AND DIAGNOSTIC DEVICE FOR ALL PIPELINES

The Orbis Prodigy product range is an asset-level technology that can be clipped onto any pipework from 1/2in. to 12in. diameters and monitor an array of pipe conditions from live leak detection through to condition monitoring and Legionella alerts. The technology range covers potable water lines, fire sprinklers, HVAC, waste/drain and petrochemical systems. M2M connectivity coupled with an Orbis Live Portal system gives all asset owners and facility managers a truly powerful water management system with real-time monitoring and alerts.

Our product range allows for simple color coded installation with monitoring and alert patterns configured for each industry type.

Using the Orbis Prodigy enables all assets to become "smart enabled" with no disruption or risk to the host infrastructure.

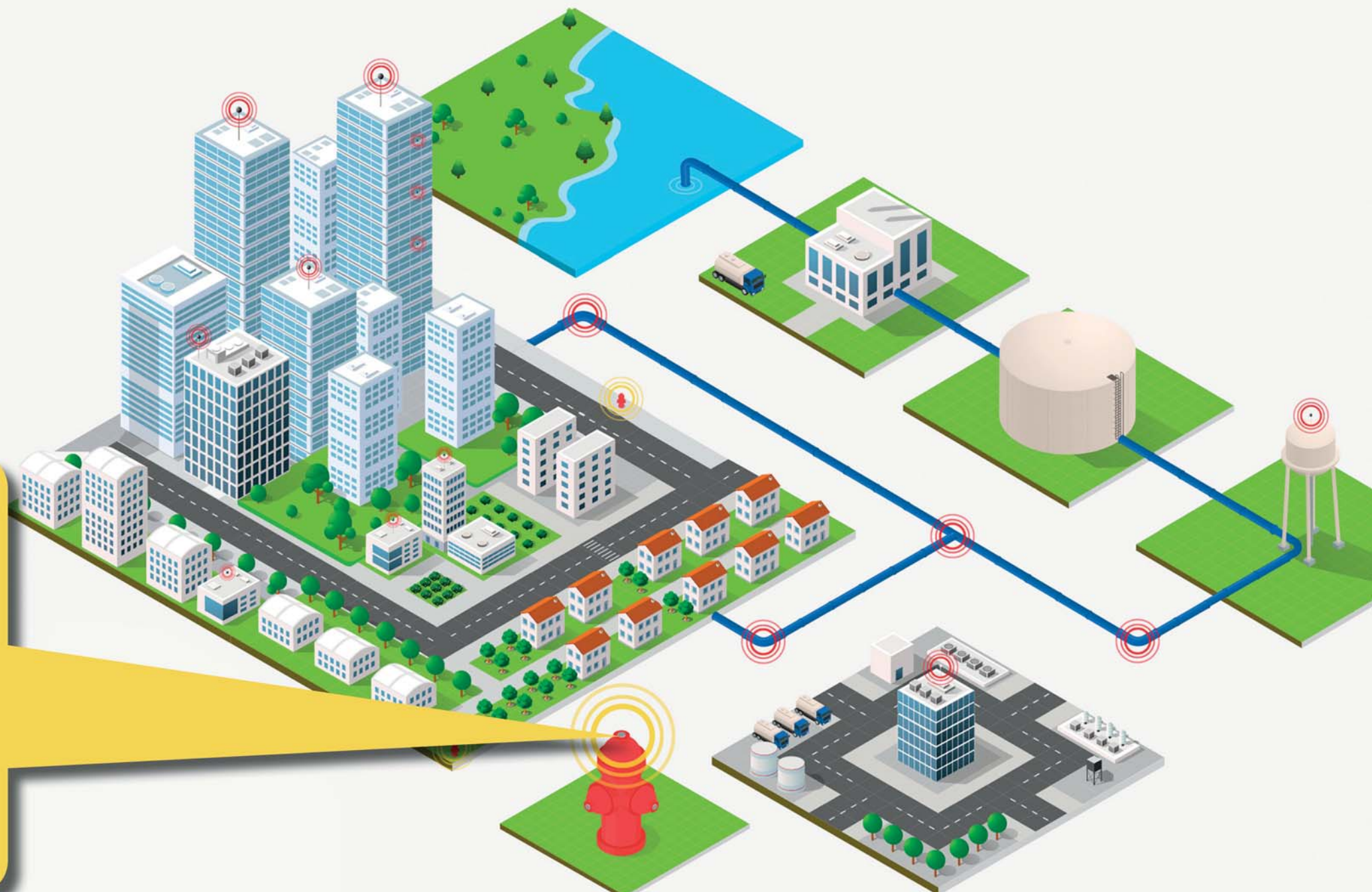
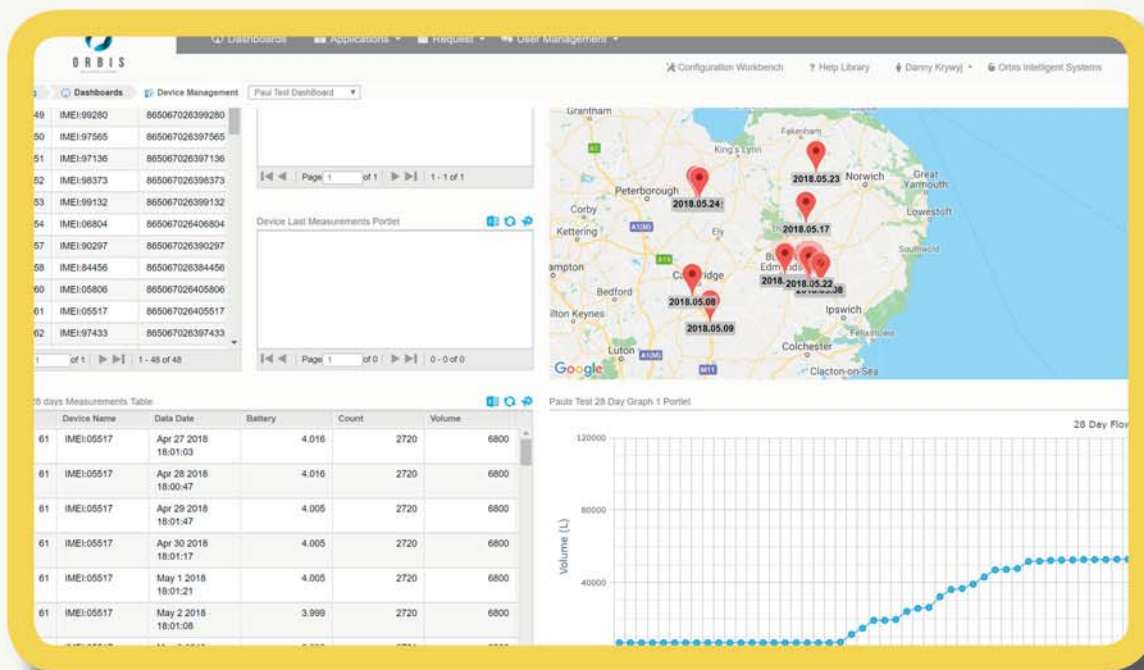
PRODIGY BLUE - POTABLE

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ORBIS PRODIGY **BLUE** - POTABLE

“LIVE LEGIONELLA CONDITION ALERTS & FULL CONDITION MONITORING”



The Orbis Prodigy Blue is configured to allow attachment to all potable water pipes from 1/2in. to 12in. diameters and is compatible across all pipe materials. The system is attached to existing potable water pipework using a mechanical clamping arrangement which allows a range of sensors to be in direct contact with the pipework surface.

Installing the Prodigy sensors throughout potable pipes in hospitals, schools, commercial & industrial buildings allows full water management and accurate condition monitoring. Detailed real-time reports are generated along with instantaneous alerts & notifications of critical events, allowing owners and managers to take corrective action immediately.

The technology is exceptionally powerful at providing live Legionella condition alerts and full asset condition monitoring over time.

- **LEGIONELLA CONDITION ALERTS**
- **CONDITION MONITORING**
- **LEAKAGE ALERTS**
- **FLOW EVENTS AND ALERTS**
- **FREEZE ALARMS**
- **VIBRATION AND PRESSURE MONITORING**
- **PREDICTIVE MAINTENANCE ALERTS**

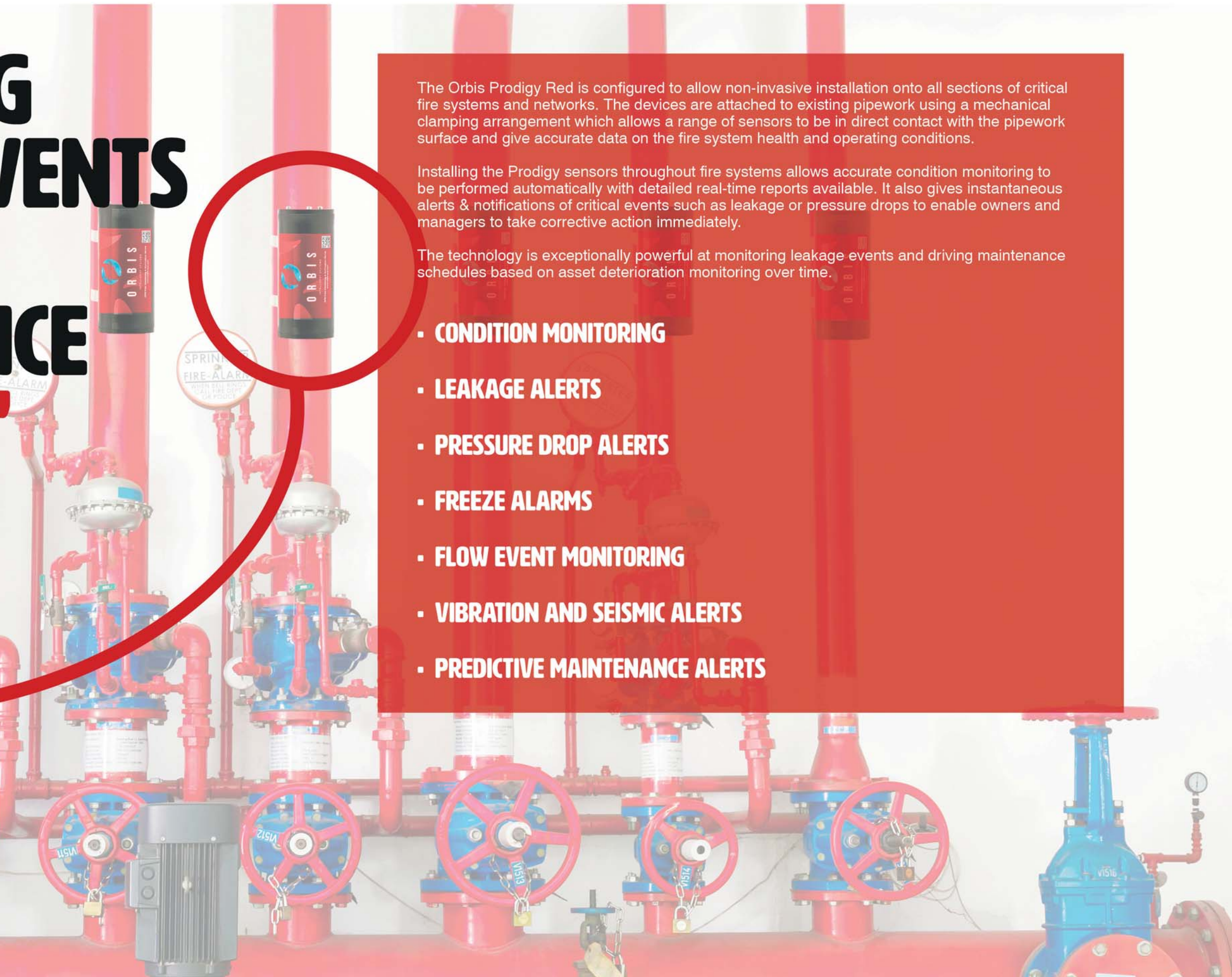
“MONITORING LEAKAGE EVENTS & DRIVING MAINTENANCE SCHEDULES”

The Orbis Prodigy Red is configured to allow non-invasive installation onto all sections of critical fire systems and networks. The devices are attached to existing pipework using a mechanical clamping arrangement which allows a range of sensors to be in direct contact with the pipework surface and give accurate data on the fire system health and operating conditions.

Installing the Prodigy sensors throughout fire systems allows accurate condition monitoring to be performed automatically with detailed real-time reports available. It also gives instantaneous alerts & notifications of critical events such as leakage or pressure drops to enable owners and managers to take corrective action immediately.

The technology is exceptionally powerful at monitoring leakage events and driving maintenance schedules based on asset deterioration monitoring over time.

- **CONDITION MONITORING**
- **LEAKAGE ALERTS**
- **PRESSURE DROP ALERTS**
- **FREEZE ALARMS**
- **FLOW EVENT MONITORING**
- **VIBRATION AND SEISMIC ALERTS**
- **PREDICTIVE MAINTENANCE ALERTS**



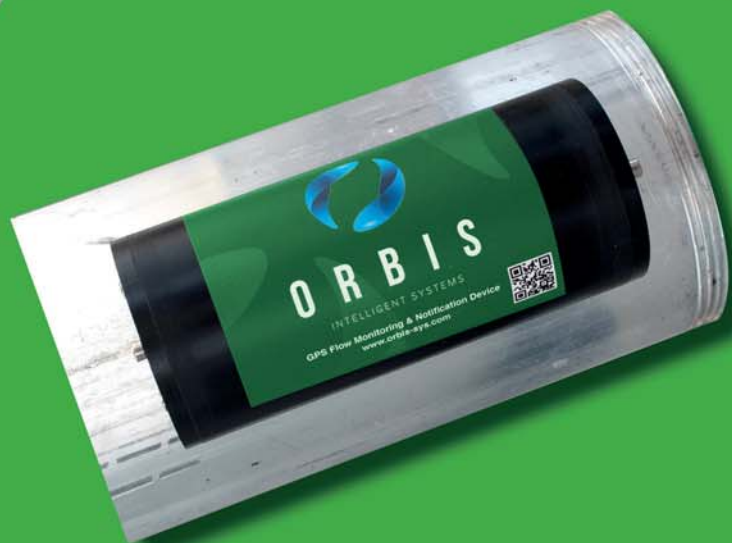
“INCREASE HVAC EFFICIENCY & PROVIDE LEAKAGE ALERTS”

The Orbis Prodigy Green is a HVAC monitoring system designed to fix onto multiple sections of HVAC systems within commercial buildings and facilities. The Prodigy Green is attached to pipework using a mechanical clamping arrangement which allows a range of sensors to be in direct contact with the HVAC pipework surface.

Installing the Prodigy sensors throughout HVAC networks allows systems to be operated more efficiently and monitored for system anomalies. Automatically generated detailed health reports and instantaneous alerts & notifications of critical events enable owners and managers to take corrective action immediately.

The technology is exceptionally powerful at increasing HVAC efficiency as well as providing leakage and asset deterioration notifications.

- **CONDITION MONITORING**
- **LEAKAGE ALERTS**
- **TEMPERATURE EFFICIENCY MONITORING**
- **SYSTEM ANOMALY DETECTION**
- **PREDICTIVE MAINTENANCE ALERTS**



“FIRE HYDRANT MONITORING FOR TAMPERING, NETWORK USAGE AND LEAKAGE”

The Orbis Prodigy Yellow is a municipality & utility-based IoT infrastructure monitoring device for installation onto pipelines, valves, fire hydrants and other essential assets. The technology creates “smart networks” from networks consisting of pipes of up to 12in. diameters, and it is effective on all pipe materials. The devices are either attached directly to pipework using a mechanical clamping arrangement or installed onto fire hydrants/valves. The Orbis Prodigy Yellow sensors are all non-intrusive, meaning that no access inside the pipe is required which keeps installation costs low.

Installing the Prodigy Yellow sensors throughout municipality zones, strategic pipework, rail & bridge crossings etc. allows monitoring and acquiring accurate performance data such as leakage monitoring, pressure transient and flow events. Detailed real-time reports are available, and instantaneous alerts & notifications of real-time events enable immediate corrective action.

The technology is exceptionally powerful at providing fire hydrant monitoring for tampering, network usage and leakage.

- **FIRE HYDRANT MONITORING**
- **USAGE AND TAMPER ALERTS**
- **LEAKAGE ALERTS**
- **TEMPERATURE MONITORING**
- **FLOW EVENTS AND ALERTS**
- **VIBRATION AND SEISMIC MONITORING**



ORBIS PRODIGY GREY - WASTE/DRAIN

“BACK-UP ALERTS & LEAK DETECTION IN COMMERCIAL & INDUSTRIAL BUILDINGS”

The Orbis Prodigy Grey is a Waste/Drain-configured technology which is directly attached to pipes of up to 12in. diameter of any material. The devices are attached to existing pipework using a mechanical clamping arrangement which allows a range of sensors to be in direct contact with the pipework surface.

The Prodigy sensors provide real-time data on commercial and industrial Waste/Drain pipe performance which includes back-up alerts, leakage alerts and accurate condition deterioration monitoring. Automatically generated detailed health reports and instantaneous alerts & notifications of critical events enable owners and managers to take corrective action immediately. The technology is exceptionally powerful at providing back-up alerts and leak detection in commercial & industrial buildings.

- **CONDITION MONITORING**
- **LEAKAGE ALERTS**
- **BACK-UP ALERTS**
- **FREEZE ALARMS**
- **SYSTEM ANOMALY DETECTION**
- **PREDICTIVE MAINTENANCE ALERTS**



Operational Requirements

Operating mode	Fully wireless – LTE Cat-M1 connectivity
Application	Potable pipes, waste pipes, drain pipes, fire systems, HVAC systems, fire hydrants
Pipe materials	Copper, CIP, SIP, DIP, Steel, PSC, Concrete, AC, Plastic, GRP, All
Measuring/Monitoring capability	Live Alerts, hourly, daily, monthly, All
Attachment means	Non-invasive clip/bolt on device
Pipe diameters	0.5in. – 12in. Dia
Power requirements	Self-powered
Installation environment	IP68, inside, outside, below ground* - *Note if installing below ground the ground must not be saturated
Cellular coverage	Any – please specify country & location upon ordering

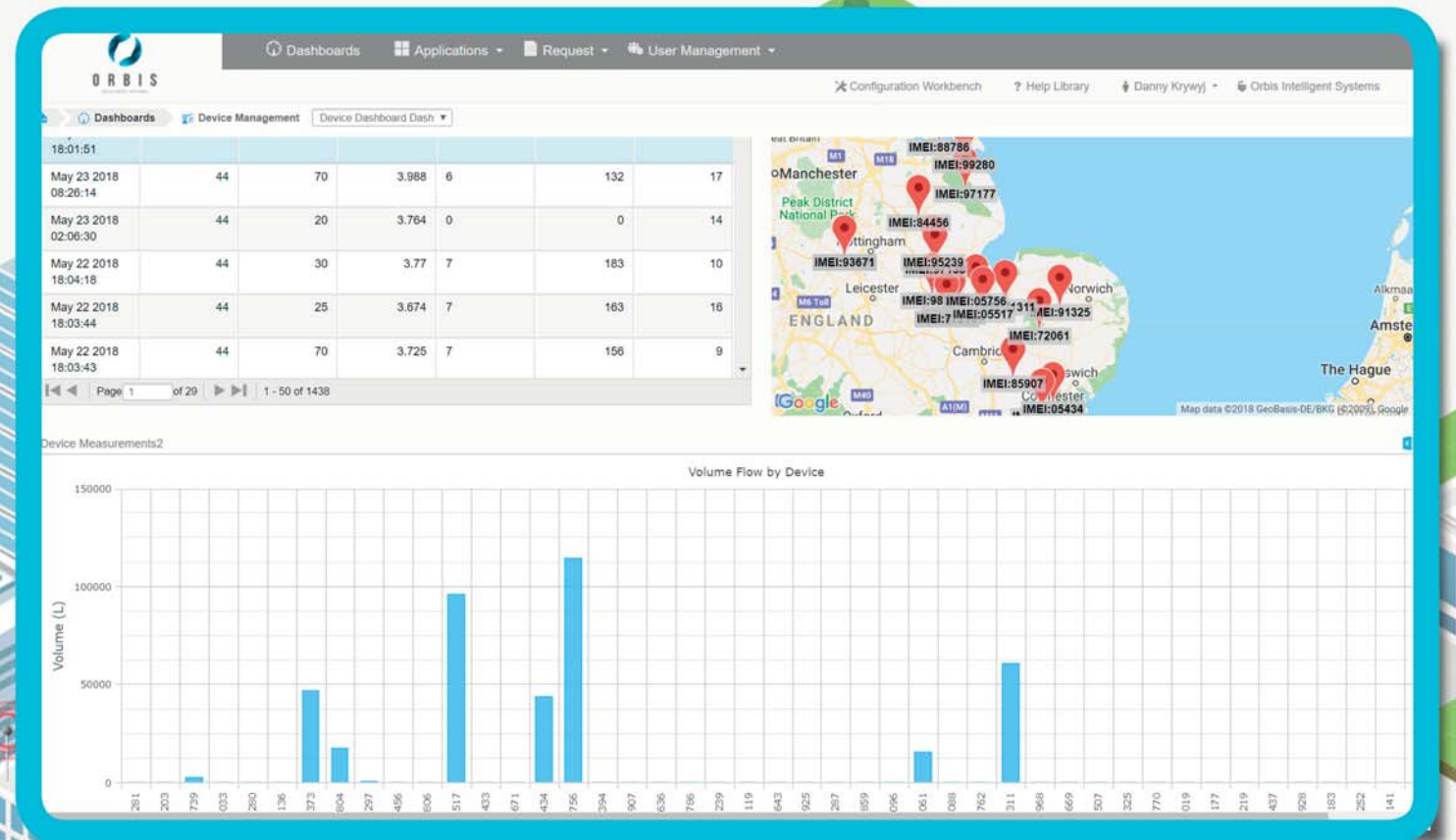
Installation Recommendations

Location points	Fire hydrants, exposed pipes of all types and sizes, drainage stacks, facility pipes
Min. pipe exposure required	7in. length and full circumferential access
Potable water pipelines	PRODIGY BLUE - POTABLE
Fire systems	PRODIGY RED - FIRE
HVAC systems	PRODIGY GREEN - HVAC
Municipality systems	PRODIGY YELLOW - MUNICIPALITY (SEE ALSO BLUE & GREY)
Waste/Drain pipelines	PRODIGY GREY - WASTE/DRAIN
Industrial/petrochemical	Speak to a member of Orbis Intelligent Systems

Specifications

Size	6.2in. (156mm) length x 2.5in. (64mm) width x 2.2in. (57mm) height
Enclosure material	Recyclable ABS with aluminium anodized cradle
Clamping material	Stainless steel
Power	3.7v Lithium primary battery
Battery life	Up to 10 years* *Designed for 10 years at low event frequency, however life will reduce at high frequency events
Operating temperature	0-185F
Communications Modem	Carrier certified LTE Cat-M1 modem
Acoustic sensors	2 condenser acoustic sensors, 1 piezo ceramic transducer
Flow sensor	Multi-thermistor array with heating element
Accelerometer	3 Axis low consumption board mount accelerometer
Pipe Condition sensor	Programmable acoustic wave inducer
Hoop stress sensor	Polyimide resin strain gauge 0.05%FS accuracy transducer
Upload and alert capability	Real-time alerts with maximum sample rate of 64,000/sec

DATA REPORT





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