Mi.Net®

Intelligence that drives the network.

Mueller SYSTEMS®

WHERE INTELLIGENCE MEETS INFRASTRUCTURE®

Mi.Net® System More now, more later.

Intelligence meets infrastructure with the Mi.Net® system,
Mueller Systems' advanced, comprehensive data
gathering solution for water utilities — now with
migratable Mi.Net M system features.

Mueller SYSTEMS®

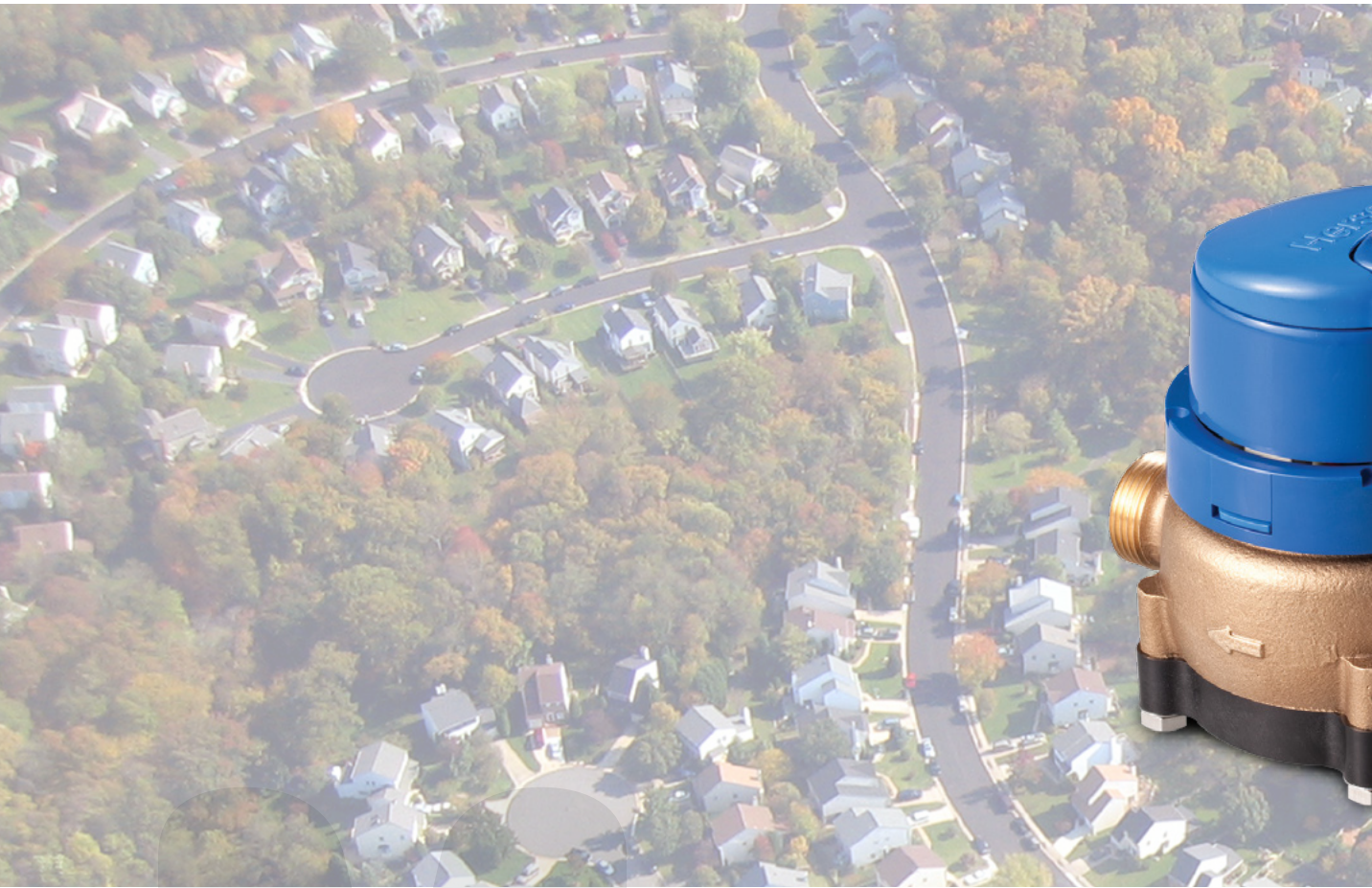# Grow your capabilities without replacing your system.

- **Industry-leading long range features and functionality**

- **Fixed AMI or Mi.Net M system migratable "AMI-Ready" mobile solutions — Advanced capabilities can be added without system replacement**

- **Flexibility and scalability to meet the needs of any size, geography and budget**

- **Mobile collection backup for AMI**

Mi.Net®

The Mi.Net system links meters, distribution sensors and control devices in an efficient wireless network for real-time access. This smart, migratable solution provides the ultimate in flexibility and scalability, allowing you to cost-effectively add advanced capabilities to fixed networks or drive-by solutions, without replacing the entire system.

For more details and the Mi.Net system's primary components, see page 10.

420 RDM Manage Connections Remotely.

Remotely manage water services with AMI or AMR systems with the 420 RDM.

Whether you have a fixed network or a drive-by solution, Mueller Systems' 420 RDM (remote disconnect meter) lets your crews connect and disconnect water service from the safety of the office or vehicles. Especially helpful if you have high account turnover, the 420 RDM protects employees, lowers labor and operational costs, reduces your carbon footprint and shortens wait times for better customer service.

RDM for fixed networks and drive-by solutions

Makes life easier for workers and supervisors

LoRa Alliance® Move Smart Cities Forward.

Mi.Net®

Transforming water systems into open communications systems.

By leveraging the Internet of Things (IoT), municipalities can transform their water systems into open communications systems, enabling them to improve the service they offer their customers and enhance the connectivity of all city services.

As a member of the LoRa Alliance, Mueller Systems is bringing IoT technology to water infrastructure through its Mi.Net® system — Mueller Infrastructure Network for Utilities advanced metering infrastructure system.

Adopting LoRa standards enables data from the Mi.Net system to travel faster and farther than before, enabling water utilities to more quickly identify and respond to issues that need to be addressed.

The LoRa Alliance champions Smart City applications in key areas, such as:

WATER **LIGHTING** **ENERGY** **IRRIGATION** **SANITATION** **FIRE SECURITY**

LoRa™ Alliance

LoRa® Alliance is an open, non-profit association of members that believes the Internet of Things era is now. Its members include multi-national telecommunication companies, equipment manufacturers, system integrators, sensor manufacturers, entrepreneurial start-ups and semiconductors.

Mi.Data® Portal Make life better for customers.

The Mi.Data portal improves customer service and conservation by giving consumers an online view of their water usage. The interactive portal graphically presents real-time and historic usage data collected by the Mi.Net® system to allow consumers to:

- Monitor water usage
- Compare current usage to previous periods
- Configure individual alerts
- Set budget and water conservation goals
- Estimate usage costs before getting the shock of a monthly bill
- Identify inconsistencies that may indicate the presence of leaks

The Mi.Data portal can be customized with your images and logos to reinforce your brand and location. You can also post educational articles and videos to teach consumers how to change consumption to meet usage or budget goals, improving conservation efforts.

Mi.Net®

Network Operations Center
Maximize your investment.

Mueller Systems' Network Operations Center (NOC) monitors water infrastructure for utilities across North America. The center is staffed by our highly skilled analysts, each of whom is responsible for a specific group of customers. We use internally-developed, Web-based tools to access utility company networks and data on the NOC's nine-foot-high, live-feed command screen. If we detect an anomaly, we alert you so you can troubleshoot the issue before it becomes a problem. By freeing up people who would otherwise be required to monitor infrastructure data, you can focus on higher-value activities to improve your infrastructure efficiency and return on investment.

Mi.Echo Technology
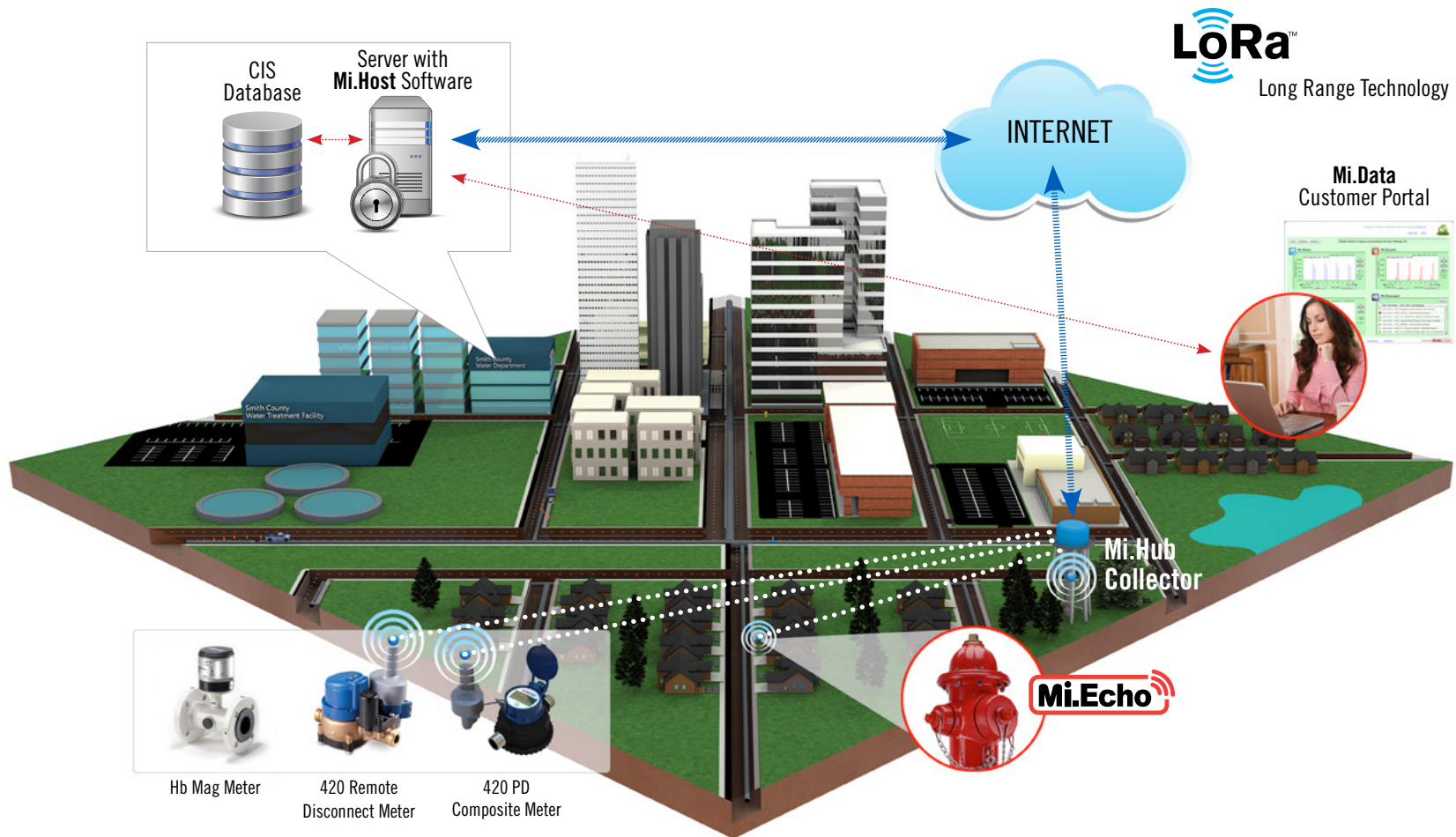
Monitor what matters.

Remotely detect and monitor water distribution main leaks with Mi.Echo® technology.
The Mi.Echo technology integrates Echologics' acoustic leak detection technology with the Mi.Net® system infrastructure for a seamless solution.

The Mi.Echo leak detection technology enables utilities to remotely detect and pinpoint leaks on distribution mains to reduce non-revenue water and prioritize repair projects without utilizing field crews, excavation or other costly processes. It integrates Echologics' noninvasive, acoustic leak detection technology to find very quiet leaks on any pipe material or multiple pipe types that other leading correlators miss. A PC-based software platform and streamlined graphical user interface make it easy to determine leak positions thus avoiding wasteful dry digging. **To see how the Mi.Echo technology works, see page 11.**
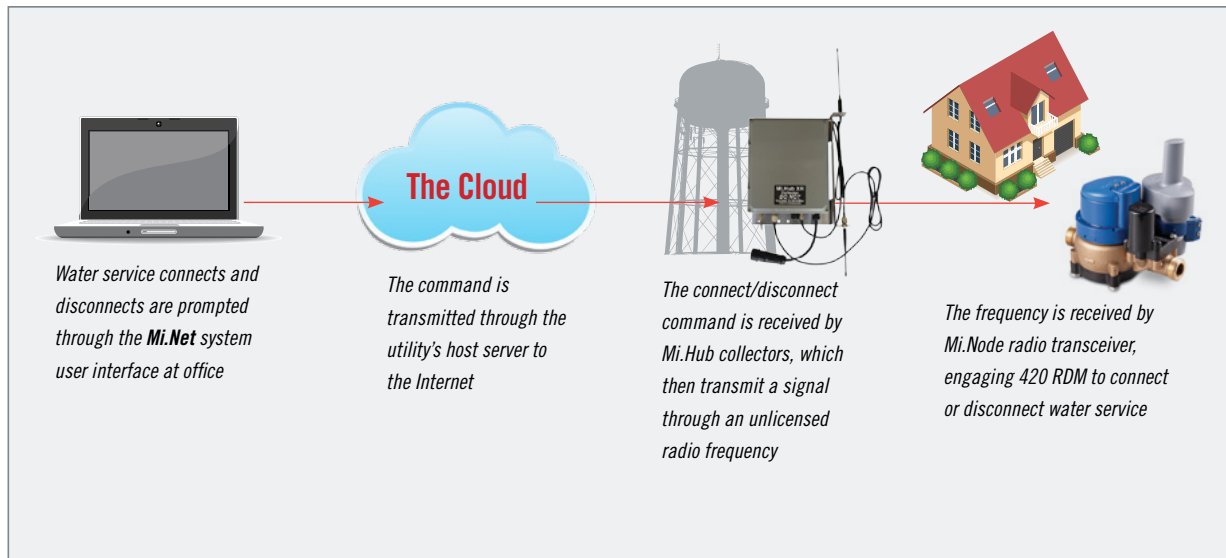
Mi.Net® System How it works.
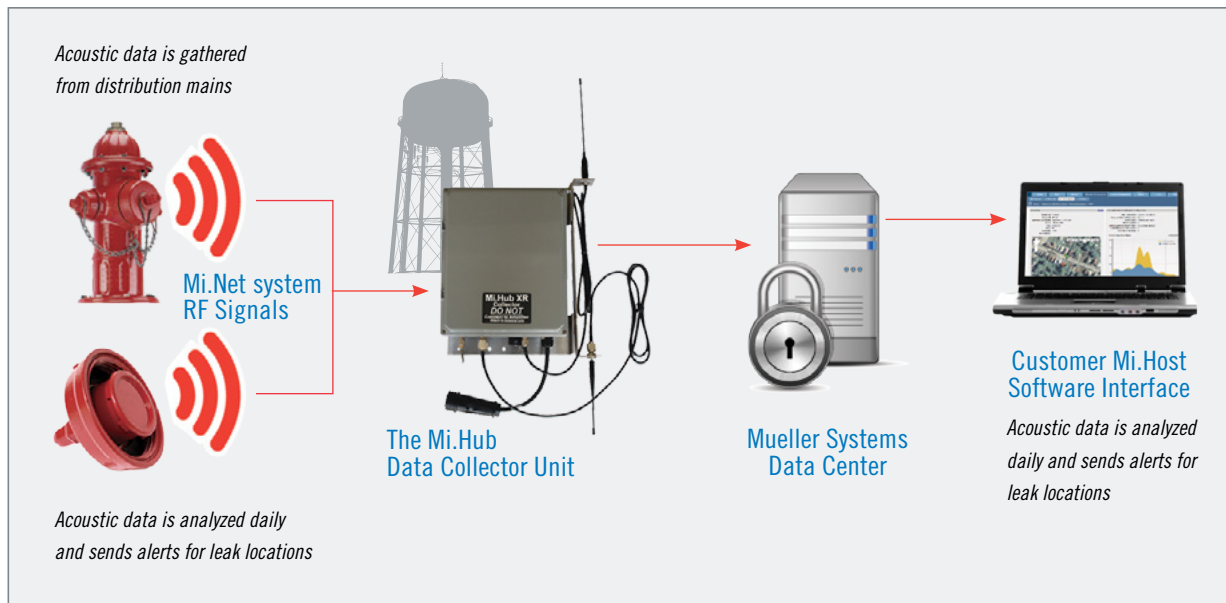

MI.NET SYSTEM COMPONENTS

- Mi.Node and Mi.Node M transceivers connected to metering devices gather and pass data through radio frequency technology to area Mi.Hub collectors through LoRa long range technology.

- Mi.Hub collectors gather and upload data to either the utility's server or our hosted server with Mi.Host MDM software via cellular or other data backhaul options.

- The Mi.Host software collects data from Mi.Hub area data collectors and stores it in a Microsoft® SQL server environment, which can be accessed any time from a personal computer or mobile device with an Internet connection.

- The Mi.Host software's intuitive user interface allows utilities to manage and monitor the Mi.Net system from the office or in the field.

420 RDM How it works.

Water service connects and disconnects are prompted through the **Mi.Net** system user interface at office

The Cloud

The command is transmitted through the utility's host server to the Internet

The connect/disconnect command is received by Mi.Hub collectors, which then transmit a signal through an unlicensed radio frequency

The frequency is received by Mi.Node radio transceiver, engaging 420 RDM to connect or disconnect water service

- Designed for 20-year service life
- Diaphragm actuated valve opens/closes using water pressure for low friction loss and low energy use
- User-friendly design for simple service and in-line maintenance
- Engineered materials resistant to chemicals for long life
- Excellent performance under low/high flow conditions
- Integrated nutating disc positive displacement (PD) meter for extreme low-flow accuracy
- Fully integral with 5/8" PD meters in standard American Water Works Association 7.5" laying lengths for quick installation without re-plumbing
- Over five years proven field experience

Mi.Echo® Technology How it works.

Acoustic data is gathered from distribution mains

Mi.Net system RF Signals

The Mi.Hub Data Collector Unit

Mueller Systems Data Center

Customer Mi.Host Software Interface

Acoustic data is analyzed daily and sends alerts for leak locations

Acoustic data is analyzed daily and sends alerts for leak locations

- Mi.Echo technology nodes are radio transceivers with proprietary acoustic sensors potted in pumper nozzle caps that easily replace caps of existing wet and dry barrel fire hydrants, to collect and analyze samples of acoustic data from distribution mains
- Data is analyzed and automatically alerts the operator of leaks and their locations
- Nodes transmit data to Mi.Host software for viewing findings on desktop or field computers
- Anomalies are automatically validated by requesting data from adjacent nodes
- Nodes perform acoustic correlation analysis and identifies leak locations to within 10 feet
- Leak verification from multiple nodes helps minimize false leak alarms

M is for Mueller.

Mueller Systems is part of Mueller Water Products, Inc., a leading manufacturer and marketer of products and services that transmit, distribute and measure water. Mueller Systems offers a full line of AMR/AMI systems; residential, fire line and commercial meters; and related products. Our infrastructure technologies give utilities access to intelligent, actionable data to increase efficiencies, reduce costs, conserve water and improve customer service.

Find out how Mueller Systems can help you by calling 800-323-8584 or visiting www.muellersystems.com.

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