Powering the future of utilities with Advanced Metering Infrastructure

Advanced Metering Infrastructure (AMI) is a comprehensive system that deploys smart meters to automatically record water consumption and transmit data through a secure remote network. This helps prevent non-revenue water loss, accurately track water consumption, reduce the risks and costs of manual meter reading, and improve both customer experience and overall water management.

GHD ensures you maximise the value of your AMI investment by fully harnessing the potential of smarter water networks. We focus on optimising systems with digital twins, networked sensors and customer-facing apps. We help you lay the foundation for intelligent, connected infrastructure that provides early leak detection, real-time insights, operational visibility and precise billing to match your smart city ambitions and sustainability goals. This advanced framework is the digital backbone of utility operations, leveraging AI, predictive analytics, digital scenario modelling, more resilient infrastructure and proactive water management.

The platform also creates a digital link between utilities and their customers, driving stronger customer engagement. It allows households to track water use, shift consumption to off-peak hours and adopt more efficient habits. In doing so, it not only encourages behavioural change but also helps reshape how people perceive the value of water.

Benefits of AMI

Real-time intelligence:
Continuous, high-resolution data unlocks advanced system monitoring, including pressure, flow, and water quality, delivering predictive insights and smarter decision-making.

Enhanced customer experience:
Personalised dashboards and real-time alerts help customers monitor usage, detect leaks, understand pricing and manage bills. Clear, time-stamped data builds trust, improves satisfaction and reduces billing disputes.

Workforce & operational optimisation:
Remote data access, automation, and AI-driven insights free up utility staff for higher-value work, improving efficiency, reducing costs, and minimising manual errors.

Predictive leak & water quality detection:
AI-powered anomaly detection identifies leaks and potential water quality issues before they escalate, protecting both infrastructure and public health.

Non-revenue water reduction & cost savings:
Accurate data helps detect losses, optimise pressure management and reduce unauthorised consumption, cutting non-revenue water and improving utility profitability.

Crisis response & resilience:
System-wide visibility that enhances emergency response, supporting faster action during contamination events, droughts, and infrastructure failures.

→ The Power of Commitment

AMI is the digital backbone of future-ready utilities

"AMI 2.0" forms the foundation for intelligent, resilient utilities operating in tomorrow's smart cities. It brings together advanced metering, integrated sensors, and connected platforms to enable a fully digital water ecosystem. Key components include:

Intelligent meters: Deliver near real-time usage data and alerts to both utilities and customers, supporting proactive engagement and issue resolution.

Embedded network sensors: Installed in pipes and sewers, these sensors detect leaks and pressure anomalies, then send that data to a digital twin platform to support operations and maintenance.

Digital twin integration: Smart meter and sensor data continuously update a utility's digital twin, enabling predictive maintenance and capital planning to prevent costly failures.

Customer engagement platforms: Mobile apps and web portals provide real-time consumption tracking, personalised insights, and system alerts, driving transparency and conservation.

Data-driven billing: Accurate, granular usage data allows for equitable, usage-based billing models, moving beyond traditional tiers or estimates.

Environmental stewardship: High-resolution data enables early leak detection and conservation, helping utilities protect water resources and optimise distribution efficiency.

The next generation of utility performance

At GHD, we view AMI as a platform for enterprise transformation. We align your metering investments with your business goals, operational workflows and customer expectations. From strategy and change management to system integration and stakeholder engagement, we enable utilities to modernise holistically rather than simply deploy smart meters.

Digital twins support this transformation, using AMI data to simulate system performance, prioritise investments, and enhance emergency response.

Meanwhile, connected home devices, like leak sensors and smart irrigation systems, will empower customers take a more active role in conservation and risk reduction.

Our commitment

At GHD, we are dedicated to providing innovative solutions that enhance the efficiency, sustainability, and resilience of water utilities. Our team is committed to delivering high-quality services that meet the unique needs of our clients. We go beyond traditional AMI frameworks by establishing intelligent water networks and driving transformative business strategies.

Get in touch

→ ghd.com/FutureofWater
To request more information contact
www.ghd.com/en/contact-us

Our philosophy

As resources grow scarcer, we recognize that water is not a commodity to be controlled. Instead, we must embrace its intrinsic value within a natural, balanced cycle by shifting to integrated, system-wide solutions for water infrastructure management.
We must have a broader grasp of water's whole picture, combining engineering and artistry—inventive approaches and original ideas—to deliver truly elegant outcomes.

This is how GHD can make a meaningful difference with our clients. The Future of Water is one we share.

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