

SUCCESS CASE 28.2026

UNIFIED ELECTRICITY METERING THROUGH THE AMI PLATFORM

CREATING A SINGLE DIGITAL FOUNDATION FOR SMART METERING AND GRID OPERATIONS



THE CHALLENGE

Historically, EDP Redes España operated different systems for the collection and management of metering data across low-, medium- and high-voltage networks. While these systems fulfilled their individual purposes, maintaining multiple platforms increased operational complexity, limited process standardization and reduced efficiency in the management of data collected from smart meters and remote measurement equipment.

The growing digitalization of network operations created the need for a unified platform capable of centralizing data acquisition from different technologies, improving data quality and reliability, and supporting the remote management of approximately 1.4 million supply points. At the same time, the solution needed to increase operational efficiency, reduce resources dedicated to metering operations and provide a scalable foundation for future digital services.

THE SOLUTION

To address these challenges, EDP Redes España implemented and continuously evolved its Advanced Metering Infrastructure (AMI) platform. The project was designed to consolidate into a single technological environment the remote acquisition of data from smart meters as well as other metering and remote management devices.

The deployment began in April 2024 with the replacement of the previous smart-meter management system and the integration of low-voltage PRIME smart meters into a single platform. Subsequently, between November 2025 and January 2026, metering systems supporting medium- and high-voltage networks were integrated, enabling the centralized acquisition of measurement data across all voltage levels. During 2026, the project entered a second phase focused on enhancing functionalities, improving usability and strengthening operational performance.

The resulting solution provides a unified and technology-independent platform for metering data management, creating a common operational framework capable of supporting large-scale digitalization and automation initiatives across the business.

MAIN ACHIEVEMENTS

- Became the first electricity company in Spain to unify low-, medium- and high-voltage metering acquisition within a single technological platform.
- Improved reliability and sustainability of metering data capture processes through centralized management and monitoring.
- Reduced the need for field interventions, delivering benefits in operational efficiency, safety and operating costs.
- Automated critical metering management processes, reducing dependencies on third parties and streamlining operations.
- Enhanced data quality, traceability and availability, facilitating network monitoring and incident resolution.
- Established a robust technological foundation for advanced analytics and future predictive models based on electrical measurements and field events.
- Achieved data collection rates of approximately 99% and remote command execution rates of up to 97% for low-voltage equipment, exceeding historical performance levels.

KEY SUCCESS FACTORS

A major success factor was the progressive integration of metering infrastructures from different voltage levels into a single operational platform. This consolidation simplified operations, reduced technological fragmentation and created a consistent environment for managing metering processes across the organization.

Another important factor was the phased implementation approach, which enabled the integration of existing systems while ensuring continuity of operations. The successive incorporation of low-, medium- and high-voltage assets allowed the organization to progressively realize benefits while continuously improving system capabilities.

The project also created a high-quality data environment that supports automation, operational excellence and future analytics applications. By improving data accessibility and traceability, the AMI platform became a strategic enabler for broader digital transformation initiatives.

WAY FORWARD

The next step is to complete the functional optimization phase currently underway and continue evolving the AMI platform to further strengthen digitalization, automation and operational efficiency. The long-term objective is that, by 2028, all metering devices will be managed through this single solution, consolidating a scalable, secure and technology-independent architecture.

By creating a unified metering platform across all voltage levels, EDP Redes España has established the digital backbone for future smart grid operations. The initiative demonstrates how platform consolidation can improve operational performance, enhance data quality and create the foundation for advanced analytics and predictive network management.