

SMART METERS: DESIGNING A KEY PART OF THE SMART GRID ECOSYSTEM

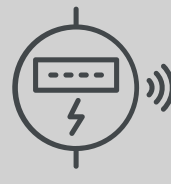
By 2026, the global smart meter market is projected to reach \$44.18 billion to answer desires for sustainability, efficient consumption, and economical advantages.

But how do you get the most out of these cutting-edge solutions?



Traditional Meters:

Analog electric, gas, or water meters used to periodically monitor utility usage for billing purposes.



Smart Meters:

Computerized meters connected to the smart grid. Empower two-way communication between the meter endpoint and utilities.

COMMUNICATION TECHNOLOGY AND HOW IT WORKS

AMR

- Automated Meter Reading (AMR) communication technology automatically collects consumption and status data from meters.
- Either walk-by or drive-by with a data receiver in proximity to the device.
- Stored on a local collection device and uploaded to the utility cloud data center later.

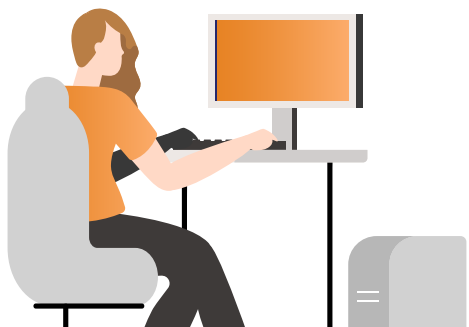
AMI

- Automatic Metering Infrastructure (AMI) is an integrated system of water meters, communication networks and data management systems that enables two-way communication.
- Doesn't require utility personnel to collect the data.
- System can automatically transmit data directly to the utility at predetermined intervals.

BENEFITS OF SMART METERS

CONSUMERS:

- Greater, more detailed feedback regarding energy use
- Ability to adjust habits
- Reduces blackouts and system-wide electricity failures
- Faster outage detection and restoration of service
- Reduces negative environmental impacts
- Increases privacy (no on-site visits)



UTILITIES:

- No manual monthly meter readings
- Monitors system in real time
- Encourages more efficient use of power resources
- Helps optimize profit with existing resources
- Provides responsive data for balancing electric loads, reducing blackouts
- Enables dynamic pricing
- Avoids capital expense of building new power plants



KEY CONSIDERATIONS TO OPTIMIZE SMART METER PERFORMANCE



EMI Performance



Durability



Ability to Withstand Harsh Environments



Wireless Connectivity



Miniaturization



Signal Integrity

TE CONNECTIVITY SOLUTIONS



Antennas & RF Connectors



Power & Grounding



Relays



Sensors



Connectors

To learn more, visit www.te.com/smart-metering

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