

# 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.

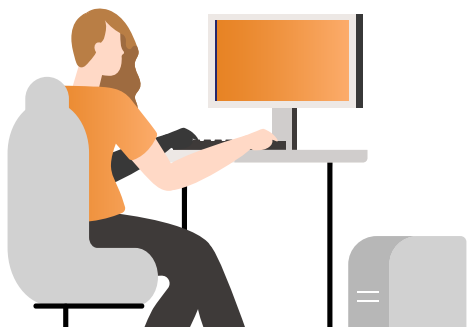
### AMI

- 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

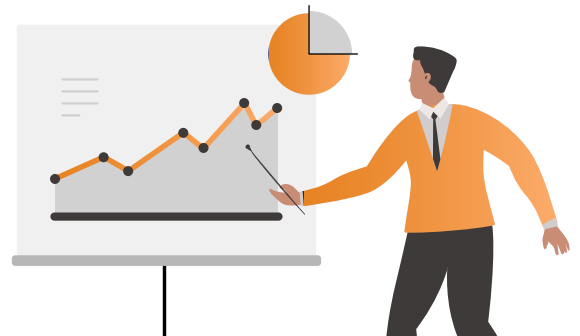
### CONSUMERS:

- 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



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