

The Smart Meter Technology Value Chain (Strategic Focus)

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Abstracts

Introduction

This report looks at the advanced metering infrastructure value chain. It covers what is driving utilities to adopt smart meter technology, what technology makes up the infrastructure, how the technology benefits a utility, key players in the ecosystem and the competitive landscape for these players.

Scope

*Discusses the drivers for adoption of smart metering technologies in Western Europe and North America

*Provides insight into what technologies comprise advanced metering infrastructure

*Describes how different utilities will benefit from different elements of the smart metering infrastructure

*Provides recommendations for technology vendors and services companies

Highlights

A full analysis of the current performance of technologies is included, as well as Datamonitor's opinion on future take up of the various technologies underpinning advanced metering infrastructure.

The geographic and utility-specific drivers for adoption are detailed in length, providing

insight into what technologies will be adopted where and for what reason.

Reasons to Purchase

- *Gain a deep insight into the advanced metering infrastructure
- *Understand why utilities are adopting advanced metering infrastructure technologies
- *Learn where the current bottlenecks lie in advanced metering infrastructure

Contents

OVERVIEW

Catalyst

Summary

Key Messages

Ageing electricity infrastructure is based on centralized generation

Current industry pressures drive AMI adoption

AMI adoption will vary across geographies

There are many barriers to the adoption of AMI technology

Differentiation amongst meter manufacturers is difficult

Meter Data Management systems are core to AMI functionality

A great deal of the value of AMI lies beyond the MDM

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Market Opportunity

Scope of report

Ageing electricity infrastructure is based on centralized generation

Current industry pressures puts the centralized generation model under strain

Cost to serve

Electricity theft is exacerbated by time to detection

Widely dispersed renewable energy generation causes problems on the distribution network

The intermittency of wind power increases the potential for large scale energy storage investment

Improve interoperability

Demand management

Customer usage data

Mismatches in the settlement process

AMI, as a part of the smart grid, can address many of the current industry pressures

The functionality made available through AMI addresses many of the current industry pressures

Smart grid technologies address issues surrounding distributed generation

AMI adoption will vary across geographies

There are many factors that drive the type of AMI and smart grid investment

AMI is more likely to gain funding than other capital projects

Not all AMI roll outs are driven by logical decision-making

The drivers for adoption varies across geographies

There are many barriers to the adoption of AMI technology

The technology remains unproven at scale

Open standards

To gain full functional benefit of AMI, much of a utilities back office and applications need upgrading

The recession and subsequent economic stimulus package have both caused delays to AMI investments in the United States

European regulations will probably insist on minimal technological requirements

The AMI Value Chain

Meters

Meter functionality is diverse

Technological innovation is only a temporary differentiator among meter manufacturers

The frequency of meter readings will drive huge investment in data center hardware

Communications

Home area network communications

Last mile to home - the network linking smart meters to the outside world

Power line carrier

Wireless mesh

Cellular

WiMax

Wide area network - transmitting meter data to the utility

Meter data management systems

Meter data management systems become the core of AMI-enabled functionality

The functionality of MDM systems varies from supplier to supplier

MDM systems are all adaptations of products designed for different applications

All MDM systems are struggling with scalability issues

Beyond the MDM

Smart delivery

Smart customer

Customer Impact: The Benefits of AMI

Customer side

AMI provides accurate automated meter reading, cutting field force costs

AMI improves the efficiency of processing customer churn

AMI enables the efficient conversion to prepay

AMI helps mitigate losses through theft

AMI will change the face of a utility's contact center, but may not help reduce costs

Improved customer visibility of energy use

AMI data improve knowledge of the customer

Delivery side

AMI improves the accuracy of load forecasting

AMI allows utilities to manage demand by controlling end user's appliances

AMI can also help utilities to manage demand through time-of-use tariffs

AMI promotes microgeneration of renewable energy

AMI assists in detecting outages much faster

Competitive Landscape

Meter manufacturers

Itron

Landis + Gyr

Elster

Echelon

Communications manufacturers

Trilliant

Silver Spring Networks

Ambient

Aclara

Telecommunications companies

MDM vendors

OSIsoft

Ecologic Analytics

Itron

EnergyICT

eMeter (EnergyIP)

Enterprise software companies

Oracle

SAP

Systems integrators and outsourcers

IBM

Accenture

Capgemini

Logica

Partnerships and alliances

Smart Energy Alliance

AMI Lighthouse Council

Go to Market

Understand your clients' specific needs

Don't rely on technology to differentiate

Provide strong ROI cases and proofs of concept for applications beyond the MDM

Work around utilities' inherent conservatism

Services companies should focus on the customer side for AMI-driven opportunities

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Datamonitor consulting

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