Smart Meters Opportunities

Presentation To:
TresVista Financial Services

August 26, 2009

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Smart Meters Opportunities

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Highlights

Upgrading the Existing Grid	• In order to match the growing generation capacity and demand of electricity, the existing grid calls for upgrade to increase reliability, manage peak demand, and integrate renewable sources
Growing Smart Meter Market	• One of the fastest growing segments of smart grid value chain, with an expected growth of 16.3% for the next 5 years
Governments Driving Growth	• Mandates by various governments across the US and Europe to implement smart meters , coupled with fiscal stimulus will be the key growth drivers
Benefits to All Stakeholders	• Provides long term benefits to utilities by reduction in infrastructure investments, to consumers by reduced electricity bills, to environment by reduction in CO_2 emission, and hence to overall economy
Focus Area of Investment	• Key area of investment by tech giants like IBM, Google, Cisco etc. and financial investors especially clean tech funds
Valuation	• Higher public and acquisition multiples indicate higher expected growth in the segment

Smart Grid Technology

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Smart Grid Technology

Highlights

Smart Grid Revolution	● Technological constraints of existing grid, growing demand of electricity, financial and environmental benefits of smart grid call for an overhaul
Eco-System	● Smart meter, demand response, automation, integration with renewable energy, energy storage form the smart grid eco-system
Benefits all Stakeholders	● Provides cost saving benefits to utilities, energy saving benefits to consumers, and overall financial benefit in terms of reliable system and reduced infrastructure spending
Large and Growing Market	● USD 17.0 billion market is expected to grow at a CAGR of 16.3% due to government initiatives, with smart metering infrastructure being the largest segment

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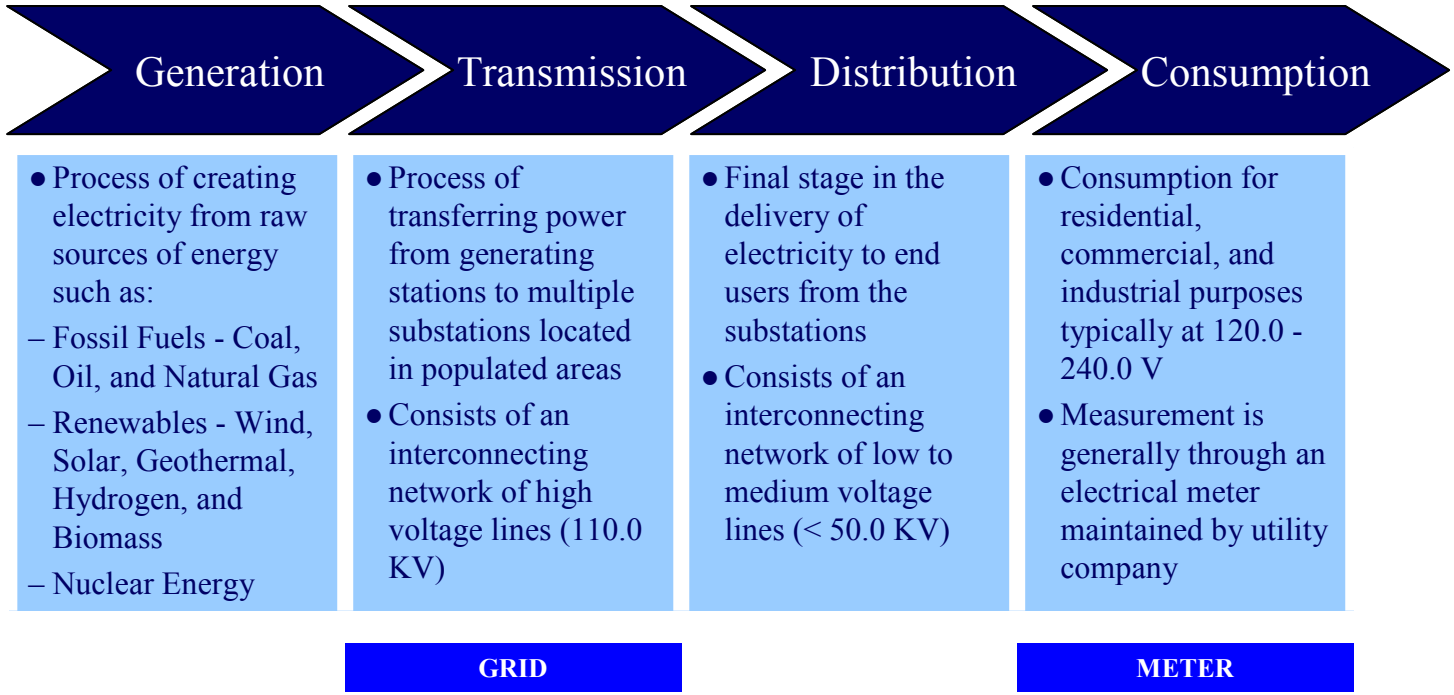
Electricity Utility Value Chain[1]



Generation, Transmission, Distribution, and Consumption form the electricity value chain

(1) *Source: www.energystoragecouncil.org, www.wikipedia.com*

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From Conventional Grid…	Need to Transform…	…to a Smart Grid
Unidirectional information flow from utilities to consumers	**Flow of Information**	Bidirectional flow of information from utilities and consumers
Inability to match the growing electricity demand with growth in transmission capability	**Electricity Demand Growth**	Increased grid efficiency to match the demand growth
Little integration of operational data with asset management	**Asset Optimization**	Complete integration with utility to result in faster responses
Limited scale integration with renewable resources	**Integration with Renewable Sources**	Large scale integration of renewable sources to existing grid needs a technological upgrade
Congestion and power quality issues to cause outages	**Reliability**	Reliable system to reduce cost of outages (USD 80.0 billion/year)(1)
Use of costly-to-run peaker plants(2) to meet peak demand	**Managing Peak Demand**	Minimization of load to meet peak demand

Technological, financial, and environmental benefits call for smart grids

(1) *Source: "Building the smart grid" by The Economist dated 04-Jun-09*
(2) *Peaker Plants are power plants that generally run only when there is a high demand*

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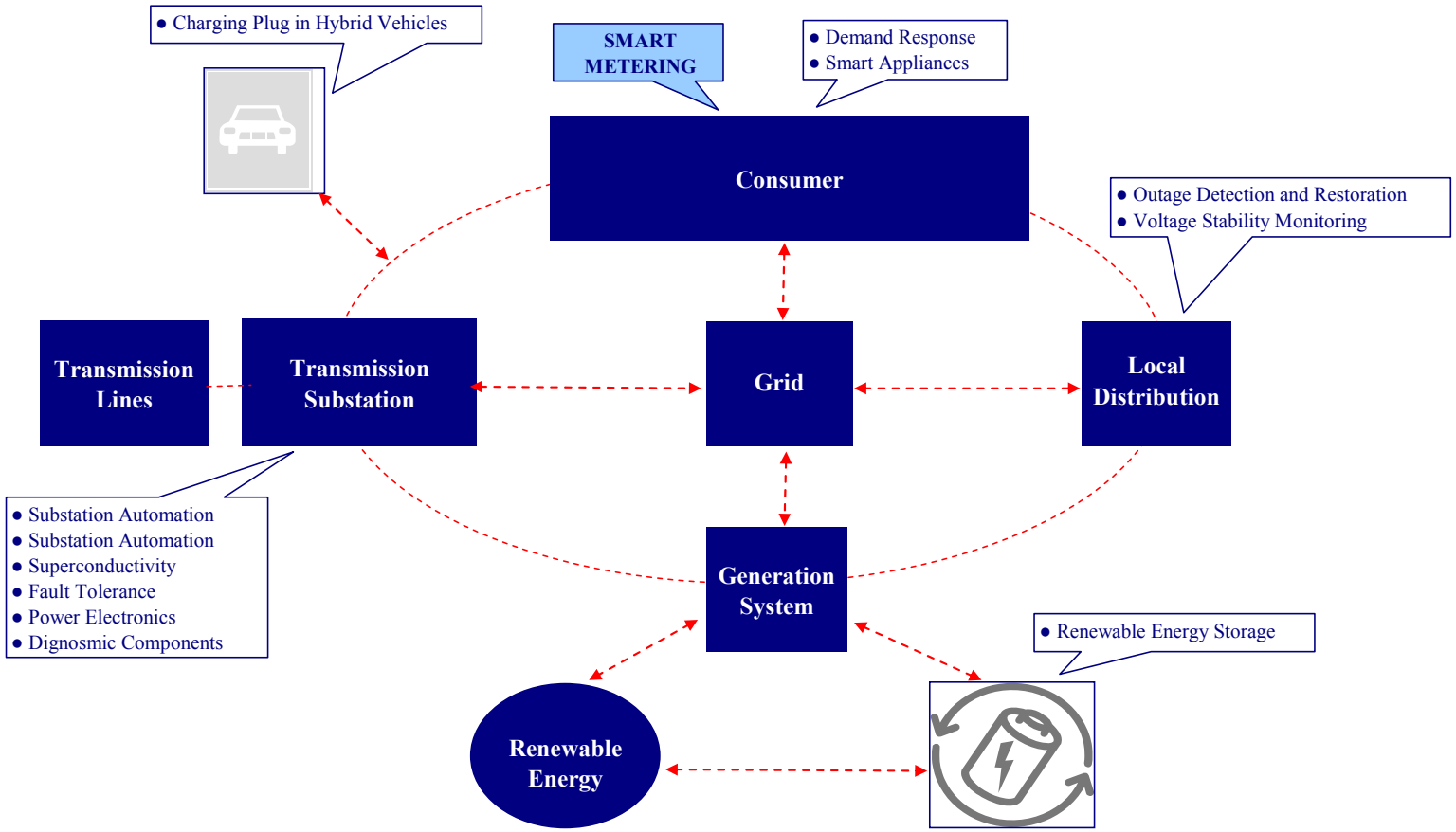
Smart Grid Eco-System



Incorporating communications, analytics, automation, and control to the conventional grid

(1) *Source: "How real is the vision of a smart grid?" by GPBullhound dated Jun-09*

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Potential Benefits to Utilities

- **Energy Efficiency**
  - Easing congestion and increasing utilization to result in increased efficiency by 50.0% to 300.0%(1)
- **Reduction in Investment**
  - Increased asset optimization to reduce the estimated investment of USD 1.5 trillion on infrastructure(1)
- **Real time Load Management**
  - Ability to react in real time to an emerging trend by getting startup generators on stream or instructing meters to shed non essential load
- **Integration of Renewable Sources of Energy**
  - Capability to integrate at levels higher than 20.0% can be achieved with smart grid

Potential benefits to Consumers

- **Affordability**
  - Communicating with consumers by means of the right price signals and smart appliances, smart grid can encourage consumer to select affordable consumption pattern
- **Reduced Billing**
  - Reduction in investment in utility infrastructure will result in a substantial reduction of the electric bill (33.0% – 50.0%), which is currently assigned as "infrastructure mortgage"(1)
- **Live Billing**
  - Customer will be able to take advantage of cheaper electricity prices at off-peak prices
- **Hybrid Vehicle Support**
  - Support to the next generation automotive vehicles including plug-in hybrid electric vehicles (PHEVs)

Clear benefits for utilities and consumers

(1) *Source: "The Smart Grids: An Introduction" by Litos Strategic Communication*
(2) *Source: Interviews conducted by Capgemini with North American Utilities having deployed AMR pilot projects*

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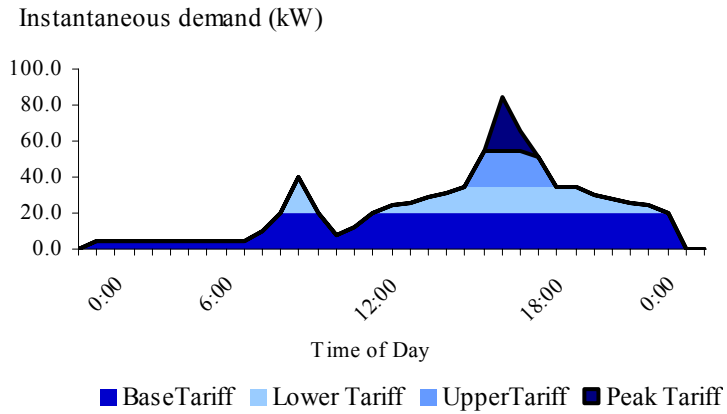
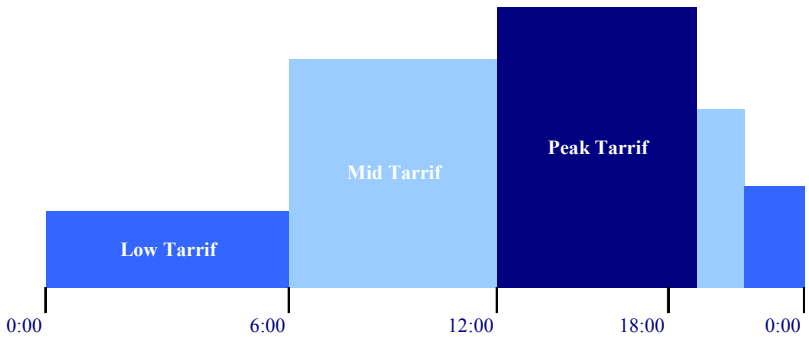
Time-of-Use Tariff Benefit to Consumer

- Real time usage and tariff information to customers
- Tariffs can either be based on time of day, day of week, seasons or based on incremental usage or overall demand
- Flexible tariffs to incentivize users to spread their non-essential load and reduce electricity bill

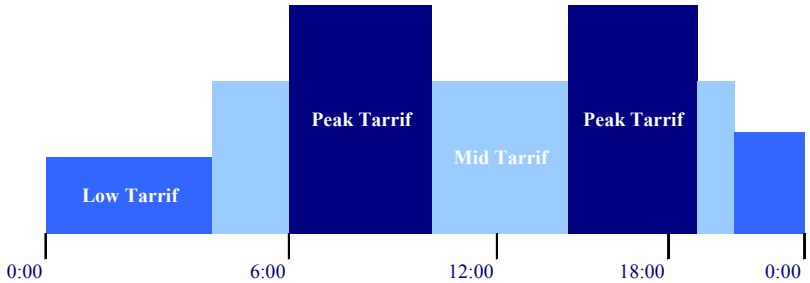
Daily Tariff – Time of Use



Seasonal Tariff – Summer



Seasonal Tariff - Winter



Smart grids enable consumers to take advantage of cheaper tariffs

(1) *Source: "Smart Metering Solutions Overview" by Alcatel-Lucent dated Aug-08*

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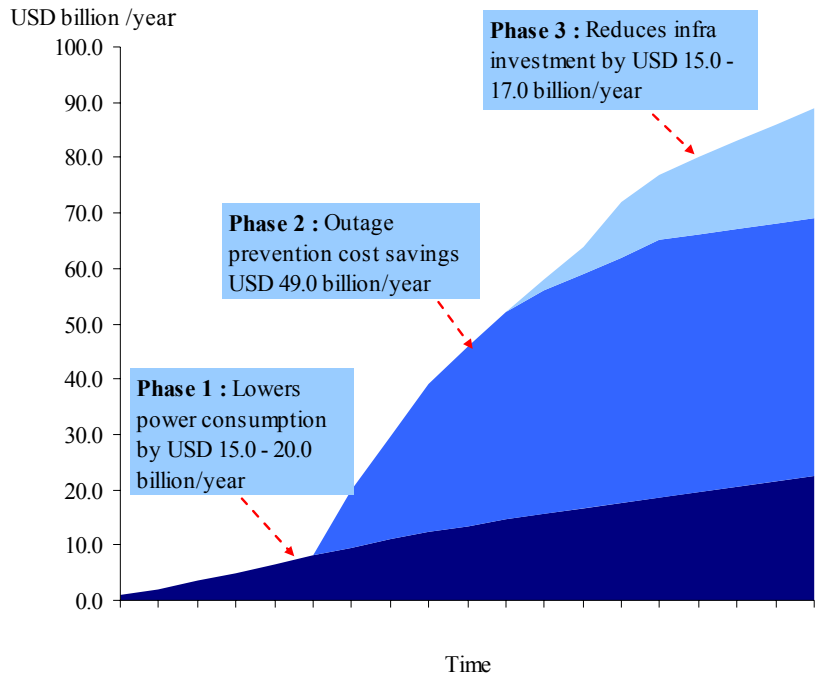
Operational Benefits(1)

Parameter	2000 Baseline	2025 Existing Gird	2025 Smart Grid	2025 % Change
Electricity Consumption (kWh billion)	3,800.0	5,800.0	5,050.0	(12.5%)
Delivered Electricity Intensity	0.41	0.28	0.20	(29.0%)
% Demand Reduction at Peak	6.0%	15.0%	25.0%	66.0%
% Load Requiring Digital Quality power	<10.0%	30.0%	50.0%	66.0%
CO_2 Emission (million metric tonnes of carbon)	590.0	900.0	720.0	(20.0%)
Cost of Power Distrubance to Businesses	100.0	200.0	20.0	(90.0%)

Economic Benefits(2)



- The cumulative economic benefits of transforming the current electric distribution system to a smart grid could reach USD 90.0 billion annually by 2020(2)

Operational and economic benefits due to smart grid implementation

(1) *Source: "Smart Grid : Enabler of the New Energy Economy" by The Electricity Advisory dated Dec-08*
(2) *Source: Galvin Electricity Initiatives study in 2009, GP Bullhound analysis*

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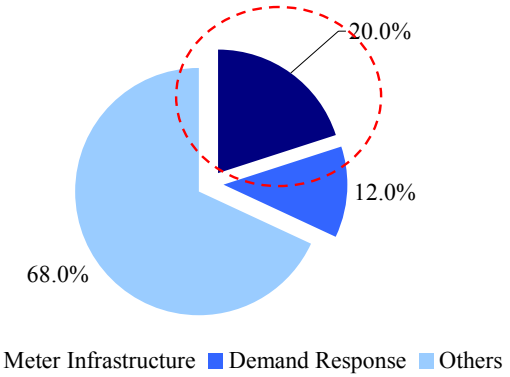
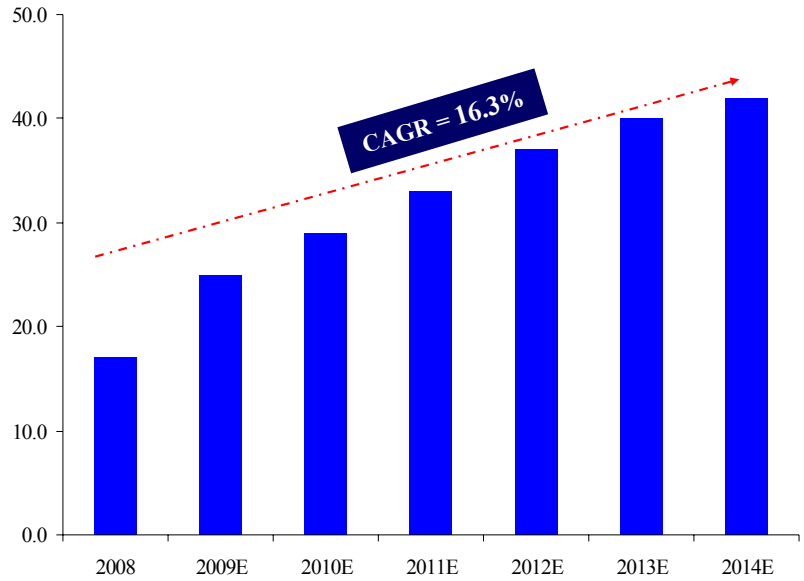
Global Smart Grid Market

- The global smart grid market generated USD 17.0 billion of revenues in 2008, with the forecasts of total market to reach USD 42.0 billion by 2014[(1)]
- Growth in smart grid implementation will largely depend on two key government initiatives
  - Subsidies (tax credit, grants) needed for utilities to justify their investments
  - Interoperability mandate, a timetable to push for collaboration on standards

Global Market Segments[(2)]



Global Smart Grid Market Size[(1)]



Large and high growth market driven by government initiatives

(1) *Source: Deloitte, FERC, and GP Bullhound Analysis*
(2) *Source: "How real is the vision of a smart grid?" by GPBullhound dated Jun-09*

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Highlights

Smart Vs Dumb

- Real time two way communication between consumers and utilities make smart meters “smart”

Value Chain

- Home area network, wireless communication protocols, IT management systems at utilities, and smart appliances at home form the value chain for smart meter

Benefits

- Provides saving in capex and opex to utilities and energy saving benefits to consumers to reduce electricity bills

Barriers

- Unproven technology, clear estimate of financial benefits, and lack of knowledge among consumers may hinder the implementation of smart metering initiatives

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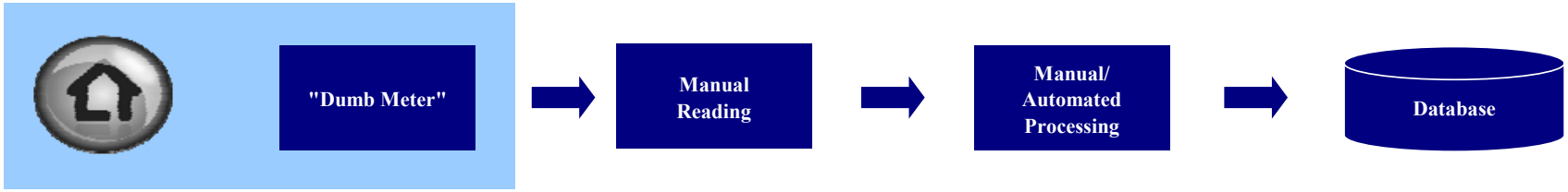
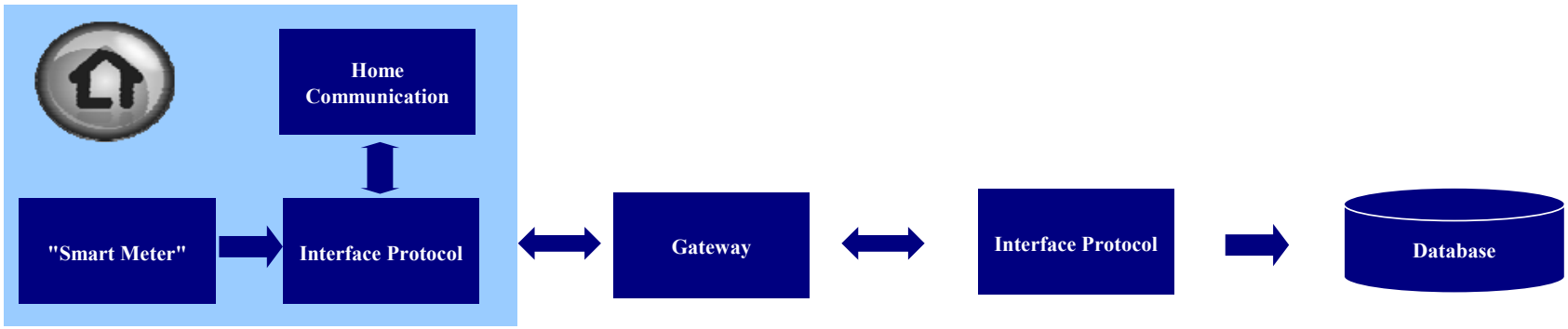
"Dumb Meters"



"Smart Meters"



Bidirectional communication makes smart meters really "smart"

(1) *Source: "Smart Metering" by www.leonardo-energy.org dated Jul-06*

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Smart Meters

Hardware(1)

House/ Building Monitor

Outlet/Appliance Monitor

Remote Monitoring Website/Mobile

Home Display

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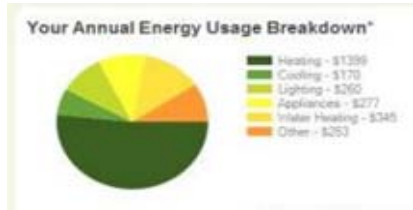
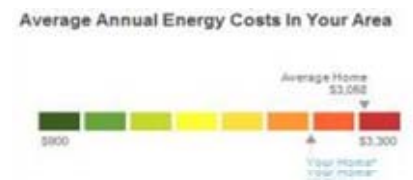
Software(1)

Real-Time Energy Monitoring

Consumption Information Analysis





Smart meters – "the look and feel"

(1) *Source: Google Images*

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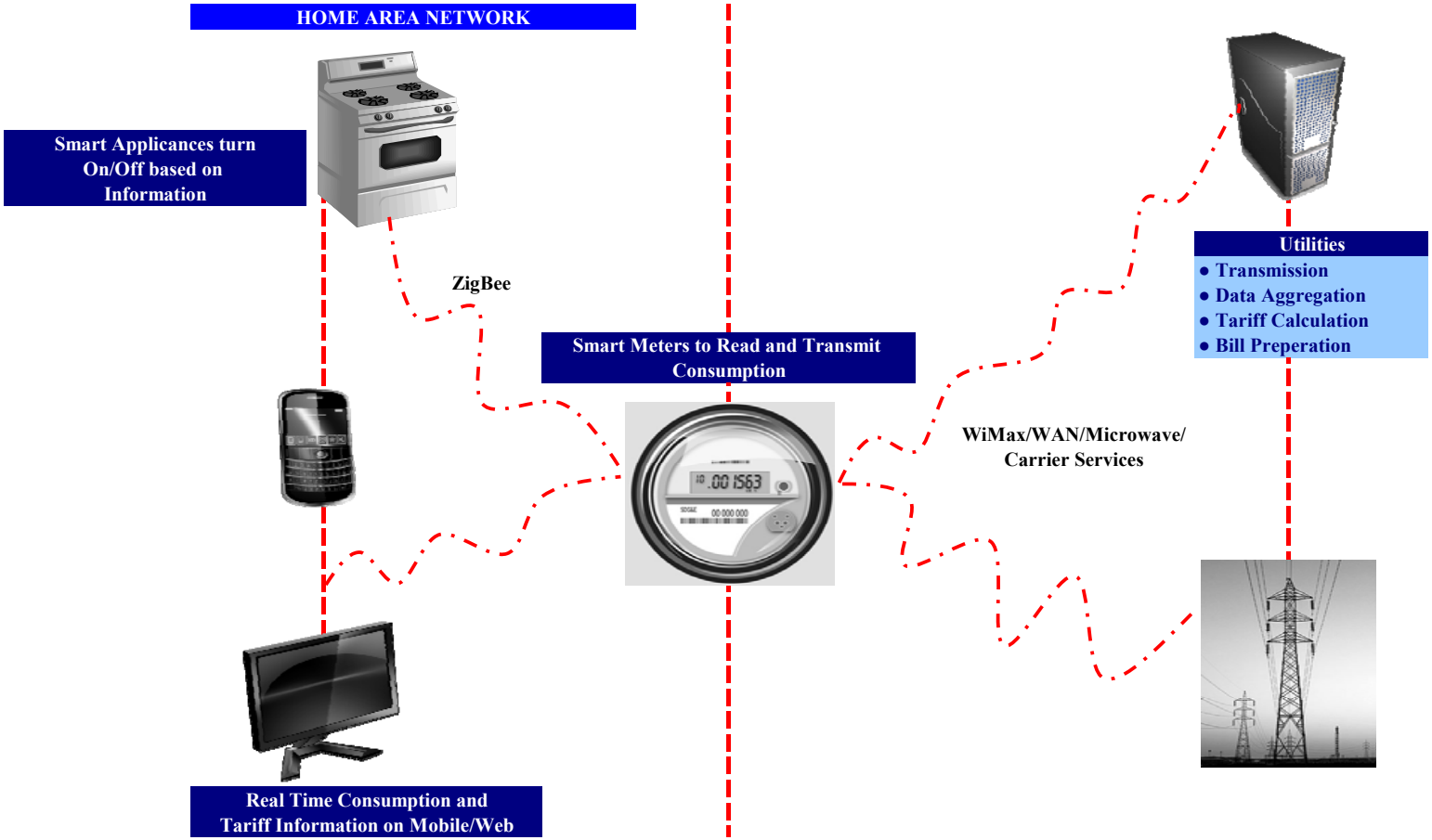
Smart Meter Communication



Smart Meter–the communication hub for smart grid

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ZigBee-Communication for Home [1]

- Open standard wireless technology developed for low-cost, low-power, and wireless sensor networks
- Operates in unlicensed bands
- Reliable and secure networking using access control lists, 128-bit encryption etc.
- Typical applications include lighting controls, automatic meter reading, heating control, home security etc.

WiMax-Communication for Wide Area[2]

- Wireless digital communications system intended for wireless metropolitan area networks
- Provides broadband wireless access up to 30.0 miles for fixed stations, and 3.0 – 10.0 miles for mobile stations
- Operates on both licensed and non-licensed frequencies
- Typical applications include broadband access, last mile connectivity to smart grid etc.

Home Area Network (HAN)[3]

- Home Area network is a residential local area network which connects multiple devices within the home
- Smart meter when integrated with HAN can communicate real time energy usage to digital devices
- HAN can automatically turn devices on or off, up or down, and shift smart appliances to an economy mode based on preset preferences to conserve energy

Smart Appliances[4]

- Smart appliances are regular electrical appliances with a widget that can read the real time electrical consumption and pricing to adjust its operation (turn on/off)
- Estimated energy savings up to 10.0% using real time mechanism
- Potential benefits of USD 70.0 billion by implementation smart appliances technology in next 20 years[2]

Technologies to drive smart meter implementation

(1) *Source: www.digi.com*
(2) *Source: www.wikipedia.com*
(3) *Source: www.sdge.com*
(4) *Source: www.ert.rmi.org*

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Smart Meter – Potential Benefits to Various Stakeholders

Likely Benefits	Energy Supplier	Generation	Transmission	Distribution	Meter Mgmt	Customers	Governments
Improved energy use visibility	◑					●	◔
Reduced metering costs	◑				●		
Streamlined switching process	●					◑	◔
Reduced customer services/billing	◑					◔	
Better debt management	◑					◑	
Improved outage and demand management	◑	◔	◑	◑			◔
Improved customer analytics	◑	◔	◔	◔			◑
Improved load forecasting		◑	◑	◑			◑
Improved investment decisions		◕	◑	◑	◑	◔	◕
CO_2 reduction	◔	◑	◔	◔			◑

Benefits to all the stakeholders

Source: "The impact of smart metering on the energy and utilities market" by Datamonitor dated Jun-07

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Benefits to Utilities[1]

Benefits	% Saving
Load Forecasting	**9.0% - 14.0%**
Metering	2.0% - 4.0%
Demand Management	**2.0% - 22.0%**
Vegetation Management	3.0% - 7.0%
Outage and Restoration	3.0% - 8.0%
Tariff and Regulatory	1.0% - 4.0%
Asset Management	**4.0% - 19.0%**
Billing and Customer Care	2.0% - 7.0%
System Control	4.0% - 11.0%
Settlement	2.0% - 4.0%
Standards and Construction (Capex)	**15.0% - 20.0%**
Collections	**15.0% - 25.0%**
Field Work Management	3.0% - 7.0%
Safety	2.0% - 5.0%

Consumer Payback Period Calculation[2]

Parameter	Assumptions
Energy Saving on Smart Meter	10.0%
Average Yearly Energy Usage	7,080.0 kWh
Energy Saving per Year	708.0 kWh
Average Revenue per User by Utlity	15.0 Cents/kWh
Annual Saving	USD 106.2
Cost of Smart Meter	USD 300.0
Payback Period for Smart Meter	**2.8 years**

Saving in capex and capex for utility, whereas consumer payback period will depend on energy saving

(1) *Source: Interviews conducted by Capgemini with North American Utilities having deployed AMR pilot projects*
(2) *Source: "The Smart Meter: Vanguard of the Smart Grid" on www.theoildrum.com. The analysis is based on Southern California Edison tariff structure in California and energy saving information by www.energystar.gov*

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Barriers to Smart Meter Implementation

System	● Revenues of network operators increase with electricity consumption discouraging them to adopt measures that reduce consumer electricity consumption
Economic	● High investment costs exposes players to considerable financial risks during implementation, commissioning, and operations
Technical	● Lack of a set of widely accepted open standards capable of guaranteeing the interoperability of systems and devices produced by different manufacturers
Knowledge	● Lack of knowledge about new rate structures, tariff mechanism, and financial benefits of smart meter implementation to consumers

Barriers to implementation because of conflicting interest of various stakeholders

(1) *Source: Annual Report on the Progress in Smart Metering-2008 by ESMA*

Smart Meters Market Overview

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Highlights

Need to Upgrade

- Non-renewable coal being the major source of power generation, there is a huge need for energy conservation and better transmission systems

Increasing Penetration of Smart Meters

- There has been an increasing penetration of smart meters with expected growth rate of 16.2% over next 5 years

Government Initiatives

- Funding of USD 4.5 billion for smart grid investments in stimulus package and 20/20/20 initiative by EU provide thrust to the industry

Growing Deployments

- Major utilities in the US and European region have started deploying smart meters with preset targets

US Smart Meter Industry

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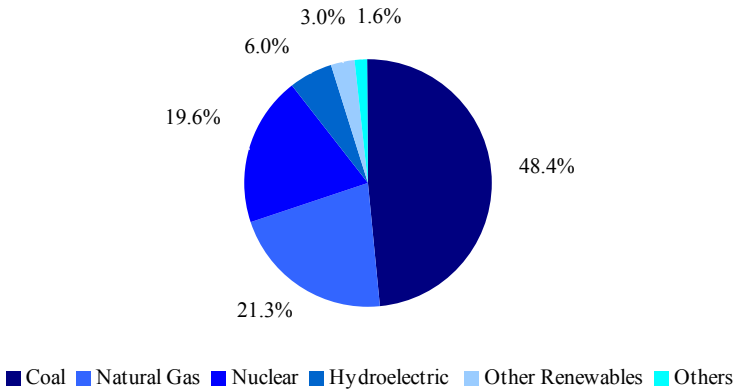
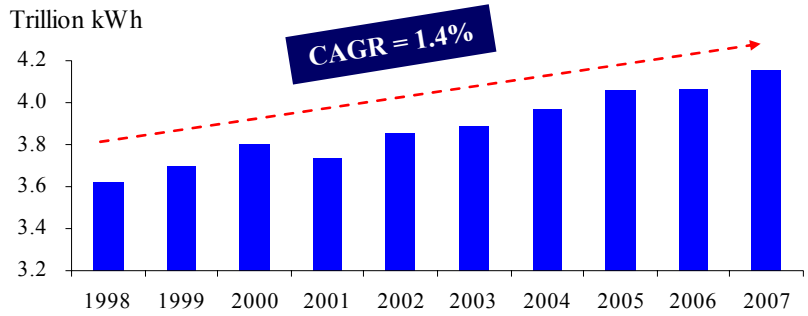
US Smart Meter Industry

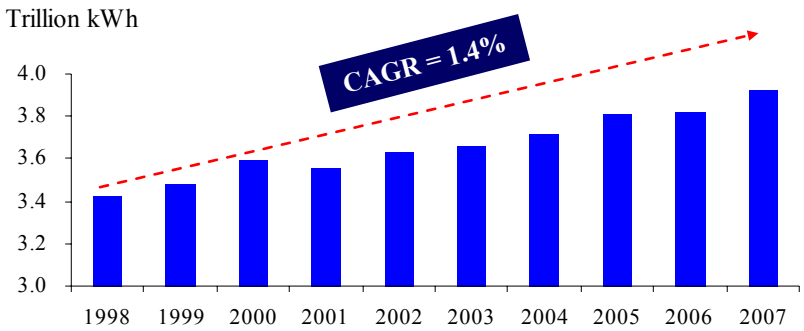
Sources of Generation(1)



Total US Power Generation(1)



Total US Power Consumption(1)



US High Voltage Transmission System(2)

AC		DC	
Voltage (kV)	MoTL(3)	Voltage	MoTL(3)
230.0	76,762.0	250.0 - 300.0	930.0
345.0	49,250.0	345.0	852.0
500.0	26,038.0	500.0	192.0
765.0	2,453.0	765.0	1,333.0
Total	**154,503.0**	**Total**	**3,307.0**

Continuous growth in generation and consumption

(1) *Source : www.eia.doe.gov*
(2) *Source: National Transmission Grid Study by Department of Energy, USA*
(3) *Miles of Transmission Line*

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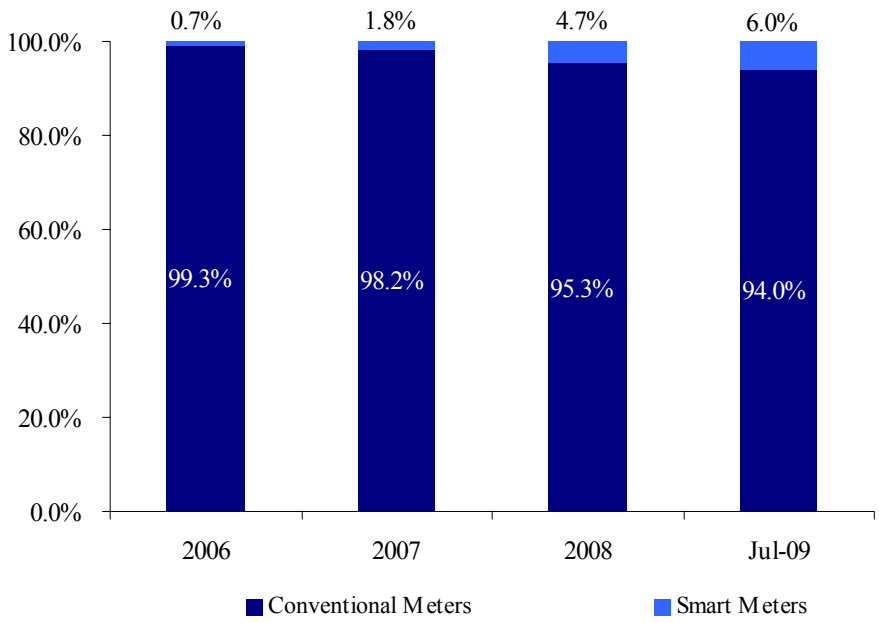
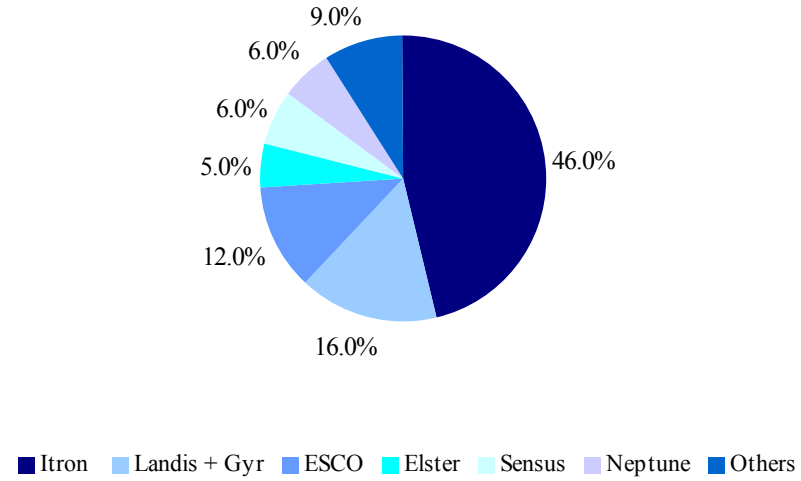
Smart Meter Penetration[1][2]



Smart Meter Market Players[1]



Growing penetration of smart meters, Itron being the largest player

(1) *Source: " How real is the vision of a smart grid?" by GPBullhound dated Jun-09*
(2) *Source: www.smartutilityevent.com*

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Policy Initiatives[1]

Policies	Measures
2005 Energy Policy Act	• Encouraging time based pricing and other forms of demand response mechanisms
2007 Energy Independence and Security Act	• Guidance to eliminate barriers in energy, capacity, and ancillary services market • States should "consider" smart grid investments before proceeding with traditional investments • Consumers should be provided with information like time of use pricing, sources of generation etc. • Funding "Regional Smart Grid Demonstration Initiative" with USD 100.0 million per year in 2008-12 with a grant upto 50.0% • Creating a Smart Grid Authorization Fund to fund up to 20.0% of qualified investment (capped at 20.0 million per project)
2008 Emergency Economic Stabilization Act	• Decreasing the depreciation period from 20.0 years to 10.0 years for smart meters and smart grid investments
2009 American Recovery and Reinvestment Act	• Raising the federal match limit on Smart Grid Authorization Fund to fund up to 50.0% of qualified investment • Raising the cap on federal match limit on Smart Grid Authorization Fund to USD 200.0 million • Extension of bonus depreciation period for the 2009 tax year • Funding of USD 4.5 billion to smart grid investments with specific federal share for - Smaller Projects: USD 0.3 million to 20.0 million - Larger Projects: USD 20.0 million to 200.0 million • Establishing up to 5 demonstration projects under "Regional smart grid Demonstration Initiative" with cap up to USD 100.0 million per project instead of per year cap

Continuous thrust on smart grid implementation

(1) *Source: "In search of a smarter grid" by Baird dated 20-Jul-09*

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Utility Smart Meter Initiatives[1]

#	Utility	State	Meters (Millions)	Details
1	State program	Pennsylvania	6.0	Act 129 (signed on 10/15/08) mandated that electric distribution companies with over 100,000 customers must provide smart meters either to customers that request one, for newly constructed buildings, or to all customers within 15 years
2	Southern California Edison	California	5.3	Full deployment by 2012; Peak time rebate (PTR) rate structure
3	Pacific Gas & Electric	California	5.1	Full deployment by 2012; Critical Peak time (CPP) rate structure
4	American Electric Power	Indiana, Kentucky, Michigan, Ohio, Oklahoma, Texas, Virginia, West Virginia, Arkansan, Tennessee, and Louisiana	5.0	Full deployment by 2015, one-fifth to be completed by 2010. Partnered with GE to deploy equipment and technology
5	Florida Power & Light Co.	Florida	4.4	Performed two pilots of 50,000 meters each and plans to deploy smart meters throughout its service territory
6	Southern Company	Georgia, Alabama, Florida, and Mississippi	4.3	Deploying smart meters throughout its service area, projected to reach full deployment by 2012-2013
7	DTE Energy	Michigan	4.0	Pilot testing of 30,000 meters in Grosse IIe Township; Full deployment to be completed by 2014
8	Oncor	Texas	3.0	Originally a deployment of 600,000, program expanded for all customers in north Texas; full deployment by 2012
9	State Program	Massachusetts	2.6	The MA Green Communities Act mandates that a smart meter pilot (5,000 meters) should be conducted, potentially followed by a state-wide rollout
10	Center Point	Texas	2.0	Received approval in 2008 to install an advanced metering system across its service territory by 2014

(1) *Source: The Edison Foundation – Institute for Electric Efficiency*
(2) *Critical Peak Pricing (CPP): Very high "critical peak" prices are assessed for certain hours on event days (often limited to 10.0 to 15.0 per year). Prices can be 3.0x to 10.0x times as much during these few hours*
(3) *Peak Time Rebate: It is similarCPP without Time of Use Pricing, but is only in one direction – Customer can get credit for load reduction, but no penalty if load increases*

European Smart Meter Industry

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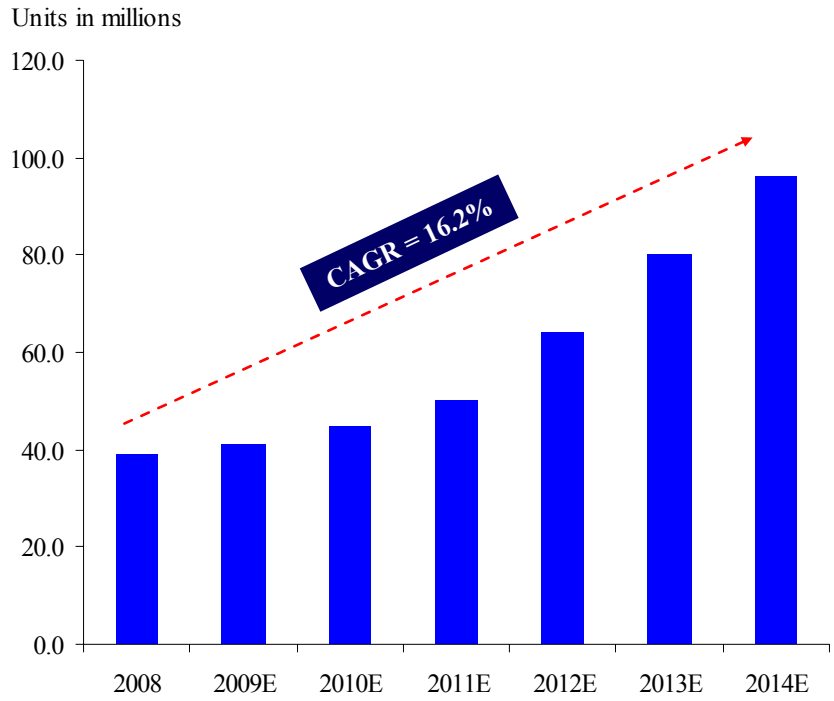
European Smart Meter Industry

European Energy Market

- European electricity consumption is projected to increase at a CAGR of 1.4% up to 2030[(1)]
- Investment up to EUR 500.0 billion in utility infrastructure to meet the demand growth[(1)]
- EU aims at 20/20/20 goal by 2020
  - Cut greenhouse gas emissions by 20.0% from 1990 levels
  - Increase renewable energy usage by 20.0%,
  - Cut energy consumption through improved energy efficiency by 20.0%
- Only widespread deployment of smart meters will enable its 20/20/20 goals[(2)]
- 80.0% of European consumers will have smart energy meters installed in their homes by 2020[(3)]

European Smart Meter Market[(4)]



"Smart Grid"- Necessary for achieving 20/20/20 goals

(1) *International Energy Agency*
(2) *European Smart Metering Industry Group*
(3) *Source: www.businessweek.com*
(4) *Source: Smart Metering in Western Europe - M2M Research Series Jul-09*

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European Smart Meter Industry

United Kingdom-Government

- Installation of smart meters in most businesses by 2012, a mandate announced in 2007
- Installation of smart meters in most houses in next 10 years, a mandate announced in 2008
- Installation of smart meters in all houses by 2020, announced in 2009

United Kingdom-Utilities

- Pilot implantations by EDF Energy, E.ON, Scottish Power, and Scottish and Southern Energy
- Equivalent funding from the companies for the Energy Demand Research Project which is funded by GBP 10.0 million from the British Government
- Creation of 2,600 jobs at British Gas for rollout of smart meter technology

France-Government

- The Commission de régulation de l'énergie benchmarked smart meter projects through the US and Europe in 2007, with the objective to build a business case to transform low voltage meters fleet into smart meters

France-Utilities

- Announcement of the first phase of a nationwide rollout of 33.0 million smart meters in July 2008 Electricité Réseau Distribution France – the French electricity network business of EDF (a wholly state owned utility company)
- Announcement to deploy up to 90,000 homes by a consortium of electricity distributors led by GAELD

(1) *Source: "From Policy to Implementation: The Status of Europe's Smart Metering Market" by Capgemini dated 04-Mar-09*

Smart Meters Opportunities

European Smart Meter Industry

Germany-Government

- Financial stimulus package of EUR 100.0 million for smart metering projects given in January 2009
- Time-of-use and load depending tariffs to be available by 2010
- The smart metering for private customers is in its infancy, as there is no specific legislation

Germany-Utilities

- RWE Pilot in Mülheim an der Ruhr, for 100,000 electricity smart meter
- Target to install 10,000 electricity smart meters over the next 3 years by Stadtwerk Haßfurt
- Pilots on small scale by utility operators like EnBW, EWE, Stadwerke Bochum & EVB, Mainova etc.

Italy-Government

- Compulsory installation of digital smart meters for all electricity providers, a mandate announced in 2006
- Government plans that 65.0% of the customers will have smart-meters in 2009, 90.0% by 2010, 95.0% by 201

Italy-Utilities

- Replacement of 27.0 million electricity meters with smart meters by Enel during 2001-2006
- Implementation of smart metering solution for 1.0 million customers by Acea Distribuzione
- Extending smart meters to gas network by A2A in Milan

(1) *Source: "From Policy to Implementation: The Status of Europe's Smart Metering Market" by Capgemini dated 04-Mar-09*

Smart Meters Opportunities

European Smart Meter Industry

Netherlands-Government

- Smart metering to become a mandate for grid operators (Electricity Act 1998)
- The Government announced its intent to replace all 7.5 million electric meters and 7.0 million gas meters in the country by the end of 2017
- Partial rollout (new buildings, renovations, and on customers request) to start in 2H 2009

Netherlands-Utilities

- 100,000 electricity and gas smart meters installed by Oxxio, a new supplier in the Dutch market
- Various smart metering trials from 2002 by Alliander followed by a 35,000 meter deployment based on the NES system
- Mass Rollouts expected in 2011 by other utility players

Spain-Government

- Mandate to install smart meters in all houses announcement in 2007
- Spanish regulator forced distribution companies to implement smart metering projects by 2018, also establishing a set of minimum functionalities that the implemented solution must cover .

Spain-Utilities

- Plans to deploy 10.0 million smart meters by Endesa and Iberdrola
- Initiatives by Lberian Smart grid, Energias Portugal, Iberdrola, and Union Fenosa to deliver smart grid

(1) *Source: "From Policy to Implementation: The Status of Europe's Smart Metering Market" by Capgemini dated 04-Mar-09*

Smart Meters Opportunities

European Smart Meter Industry

Ireland-Government

- Smart meters for every home were announced November 2007 with planned completion within 5 years
- A pilot rollout by The Department of Communications, Energy and Natural Resources (CER) to implement smart metering in Ireland has started in 2008

Ireland-Utilities

- Northern Ireland Electricity's implementing of two way communications for prepayment customers with completed installation for 175,000 customers
- Pilot projects on 25,000 meters by ESB networks (distribution system operator)

Finland-Government

- Government mandate to install smart meters for 80.0% of Finnish homes by the end of 2013
- 20.0% already have smart meters installed

Finland-Utilities

- Voluntary full-scale installations by Vattenfall, Fortum, and Vantaa Energy - the three largest utility operators
- Investment of EUR 10.0 million in a Landis+Gyr electricity smart meter solution by Satapikran Sahko Oy
- Installation of 63,000 Landis+Gyr AIM meters using PLC and GPRS by Fortum Espoo Oy (completed in 2007)

(1) *Source: "From Policy to Implementation: The Status of Europe's Smart Metering Market" by Capgemini dated 04-Mar-09*

Smart Meter Initiatives

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Smart Meters Opportunities

Smart Meter Initiatives

IBM (1)

- Early entrant into the smart grid segment for more than 5 years with initiatives such as SmartPlanet and Smart Infrastructure
- Announced USD 3.0 billion in financing for smart infrastructure initiatives in stimulus projects in Europe and Asia-Pacific
- Announced USD 2.0 billion financing under the US economic stimulus package
- Undertaking a USD 89.9 million, a 5-year project to replace 250,000 electricity and water meters with smart meters on the island of Malta
- Partnered with Cisco for a pilot project for 500 homes Amsterdam
- Collaborating with EDF to research automation for smart grid
- Smart grid pilot projects with CenterPoint, American Electric Power, and Consumers Energy

GE (2)

- Operates its smart grid business under the "EcoImagination" brand which includes green businesses such as wind-turbines, solar cells etc.
- Has one of the broadest portfolios of smart grid solutions available today, ranging from energy distribution, appliances, and financing
- Partnered with CenterPoint Energy and GridNet to deploy WiMax radios and internet routers
- Pursuing contracts in 9 countries driven by government stimulus packages that will add USD 2.0 trillion during the next three years
- Through GE Capital, GE is investing USD 4.0 billion in energy projects
- Partnered with Florida Power & Light, Silver Spring Networks and Cisco for the USD 200.0 million "Energy Smart Miami" project

Broad portfolio of solutions and huge investments by IBM and GE

(1) *Source: www.ibm.com*
(2) *Source: www.ge.com*

Smart Meters Opportunities

Smart Meter Initiatives

Cisco (1)

- Operates in smart grid via its product EnergyWise which reports and reduces energy consumption for phones, laptops, and access points
- Working with the City of Austin and others including the Environmental Defense Fund on the "Pecan Street Project"
- Collaboration with Landis+Gyr to build smart grid communications infrastructure
- Aims to provide solutions for efficient, IP-based backhaul communications for smart meters that will integrate proprietary solutions into the overall smart grid platform
- Will also provide solutions for cyber security and WiMax
- Expects revenues from smart grid to reach USD 20.0 billion over the next 5 years

Google (2)

- A new entrant into the smart grid segment, Google launched PowerMeter which is under beta testing
- Google PowerMeter receives information from utility smart meters and energy management devices and provides customers with access to their home electricity consumption right on their personal iGoogle homepage
- Partnerships with eight energy companies to use PowerMeter including San Diego Gas & Electric and Wisconsin Public Service, Toronto Hydro–Electric System Limited, and Reliance Energy
- Named Itron as PowerMeter partner
- Signed a contract with GE to develop a software for smart grid

Portfolio of communication solutions by Cisco, whereas Google is a new entrant

(1) *Source: www.smartgridcentral.com*
(2) *Source: www.google.com/powermeter*

Smart Meters Opportunities

Smart Meter Initiatives

SAP (1)

- Collaboration with 7 major utility companies for integration of advanced metering infrastructure with enterprise technology
- Integration of Landis+Gyr AMI with the SAP for Utilities using enterprise services
- Launched a packaged dashboard developed in cooperation with StreamServe to display cost-to-serve modeling and related carbon emissions impact

Microsoft (2)

- Launched "Hohm", a new internet software package for customers to watch their energy usage and help them save their energy bills
- To make practical recommendations to consumers, including placing new caulking on windows or installing a programmable thermostat
- Working with four utilities: Xcel Energy, Puget Sound Energy, Seattle City Light, and Sacramento Municipal Utility District

ORACLE (3)

- Acquired utility meter data management software companies SPL WorldGroup and Lodestar in 2006 and 2007 respectively
- Launched a broad range of software for smart meter data management, customer billing and relations, load analysis, asset management etc.
- Promises a "utilities network management system" to help smart meter networks pinpoint power outages

intel (4)

- Working with GE and Grid Net to promote WiMax protocol, as a smart grid communication standard
- A three-year collaboration with the State Grid Corporation of China (SGCC) to run grid simulations on Intel servers
- Intel Capital committed USD 10.0 million to five companies specializing in smart grid and energy efficiency technologies

Tech majors to offer a variety of software solution to smart grid

(1) Source: www.sap.com
(2) Source: www.peakenergy.blogspot.com
(3) Source: www.greentechmedia.com
(4) Source: www.seekingalpha.com

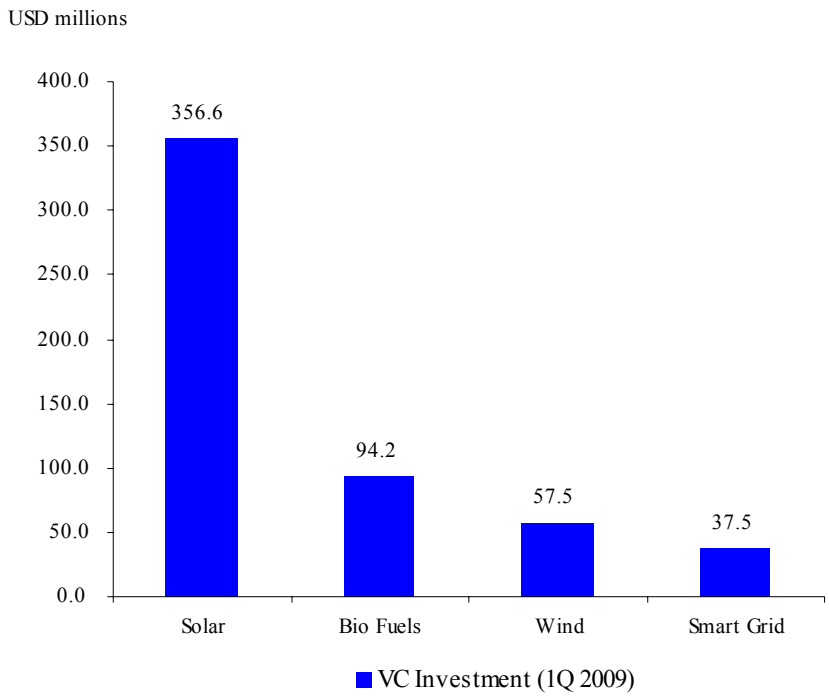
Smart Meters Opportunities

Smart Meter Initiatives

Clean-Tech Investments

- Massive investment in year 2008 (USD 461.0 million total smart grid investments), followed by a slowdown in 2009
- Investments in 1Q 2009:
  - USD 37.5 million in five deals in smart grid
  - Represents 8.0% of total smart grid investment in 2008
  - Roughly 5.0% of overall clean-tech investment (vs. solar at 67.0% of total)
- Investments in smart-grid is expected to improve once the private-equity market bounces back
- M&A acquisitions are expected to be more robust due to the entry of tech heavy-weights such as Cisco, Google, Intel, Oracle, AT&T in the segment

Clean-Tech Investments – 1Q 2009



Slowdown in smart grid investments in FY 2009

(1) *Source: " How real is the vision of a smart grid?" by GPBullhound dated Jun-09*

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Smart Meters Opportunities

Smart Meter Initiatives

Private Placement Activity(1)(2)(3)

Date	Target	Investors	Deal value (USD million)
10-Jun-09	AlertMe	Index Ventures, Good Energies, SET Venture Partners, and VantagePoint Venture Partners	12.8
01-Jun-09	Sentilla Corp.	Claremont Creek Ventures, and Onset Ventures	7.5
28-May-09	SkyPilot Networks Inc.	Trilliant Networks Inc.	
23-Apr-09	Energy and Power	Altira Group LLC, Robeco Group N.V., and NGEN Partners, LLC	30.0
06-Apr-09	Ember Corp.	Chevron Technology Ventures L.L.C., ePlanet Ventures, GrandBanks Capital Inc., and New Atlantic Ventures	8.0
09-Mar-09	SynapSense Corp.	American River Ventures, DFJ Frontier, N^{th} Power LLC, Emerald Technology Ventures AG, Sequoia Capital, and Robert Bosch	7.0
29-Dec-08	Positive Energy, Inc.	New Enterprise Associates	14.0
24-Nov-08	Ambient Corp.	Vicis Capital, LLC	8.0
09-Nov-08	Telvent Git S.A.	Abengoa SA, Waddell and Reed Investment Mgmt., Ivy Investment Mgmt Co., Waddell and Reed Advisors Science and Technology Fund	103.0
30-Oct-08	Eco Power Solutions Corp.	Altira Group LLC	7.0
28-Oct-08	Ice Energy, Inc.	Second Avenue Partners, and Energy Capital Partners	33.0
23-Sep-08	GridPoint, Inc.	Goldman Sachs Group, New Enterprise Associates, Robeco Group, Perella Weinberg Partners, and Susquehanna PE Investments	100.0
20-Aug-08	Trilliant Networks, Inc.	MissionPoint Capital Partners, Zouk Ventures Ltd	40.0
10-Jul-08	Silver Spring Networks, Inc.	Foundation Capital, Kleiner, Perkins, Caufield and Byers, and Northgate Capital Group, L.L.C.	90.0

After witnessing heavy investments in 2008, investments have slowed down in 2009

(1) *Source: "How real is the vision of a smart grid?" by GPBullhound dated Jun-09*
(2) *Note: Sample list of recent deals not available*
(3) *Source: www.informilo.com*

Valuation

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Smart Meters Opportunities

Valuation

Highlights

Valuation Multiple

- Although metering companies operate at lower margin, they trade at a significant premium which indicates the growth opportunities in the sector

Financial Summary

- EBITDA and net income margin of 15.3% and 5.3% respectively
- EV/Sales and PE multiple (LTM) for public companies at 2.65x and 22.5x respectively
- TV/Sales multiple for acquisitions at 3.0x which indicates 20.0% premium to market

Smart Meters Opportunities

Valuation

Public Comparables

	Margins			Enterprise Value			
Company	**EBITDA**	**EBIT**	**Net Income**	**Revenues**	**EBITDA**	**EBIT**	**P/E**
Itron Inc.	13.1%	3.9%	0.8%	1.67x	12.7x	42.9x	NM
ESCO Technologies Inc.	16.8%	12.2%	7.4%	1.86x	11.1x	15.2x	21.6x
EnerNOC Inc.	NM	NM	NM	4.64x	NM	NM	NM
Badger Meter Inc.	19.0%	16.1%	9.9%	2.13x	11.3x	13.2x	21.1x
Comverge Inc.	NM	NM	NM	3.56x	NM	NM	NM
Echelon Corp	NM	NM	NM	3.28x	NM	NM	NM
Telvent GIT SA	12.1%	9.7%	4.1%	1.39x	11.4x	14.3x	24.8x
High	**19.0%**	**16.1%**	**9.9%**	**4.64x**	**12.7x**	**42.9x**	**24.8x**
Mean	**15.3%**	**10.5%**	**5.6%**	**2.65x**	**11.6x**	**21.4x**	**22.5x**
Median	**15.0%**	**11.0%**	**5.7%**	**2.13x**	**11.3x**	**14.8x**	**21.6x**
Low	**12.1%**	**3.9%**	**0.8%**	**1.39x**	**11.1x**	**13.2x**	**21.1x**

Moderate trading multiples

(1) *Source: Company Filings, Reuters*
(2) *For EV/EBITDA>20, and P/E multiple >50; multiple is assumed to be NM*

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Smart Meters Opportunities

Valuation

Acquisition Comparables

Deal Details				Ratios			
				Target Ratios - TV /			
Announcement Date	Target Name	Payment Type	Acquirer Name	Revenue	EBITDA	EBIT	P/E
23-Jul-08	Enerwise Global Technologies	Cash, Stock & Debt	Comverge Inc.	3.8x	NA	NA	NA
17-Apr-08	Techem AG	Cash	Macquarie Group Ltd	2.7x	9.8x	NA	NA
1-Oct-07	Public Energy Solutions, LLC	Cash & Stock	Comverge Inc.	1.5x	6.7x	NA	NA
17-Sep-07	MDEnergy	Cash & Stock	EnerNoc	4.8x	11.9x	12.0x	11.8x
11-Jul-07	Doble Engineering Com.	Cash	ESCO Technologies	4.0x	11.4x	NA	NA
25-Feb-07	Actaris Metering Systems	Cash	Itron Inc	1.6x	10.1x	NA	NA
2-Jan-06	Hexagram	Cash	ESCO Technologies	2.5x	NA	NA	NA
30-Nov-05	Nexus Energy Software Inc	Cash	ESCO Technologies	2.9x	NA	NA	NA
			High	**4.8x**	**11.9x**	**12.0x**	**11.8x**
			Mean	**3.0x**	**10.0x**	**12.0x**	**11.8x**
			Median	**2.8x**	**10.1x**	**12.0x**	**11.8x**
			Low	**1.5x**	**6.7x**	**12.0x**	**11.8x**

Moderately higher acquisition multiples demonstrate the growth opportunities in the industry

(1) *Source: Company Filings, Reuters*

Company Profiles

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Smart Meters Opportunities

Company Profiles

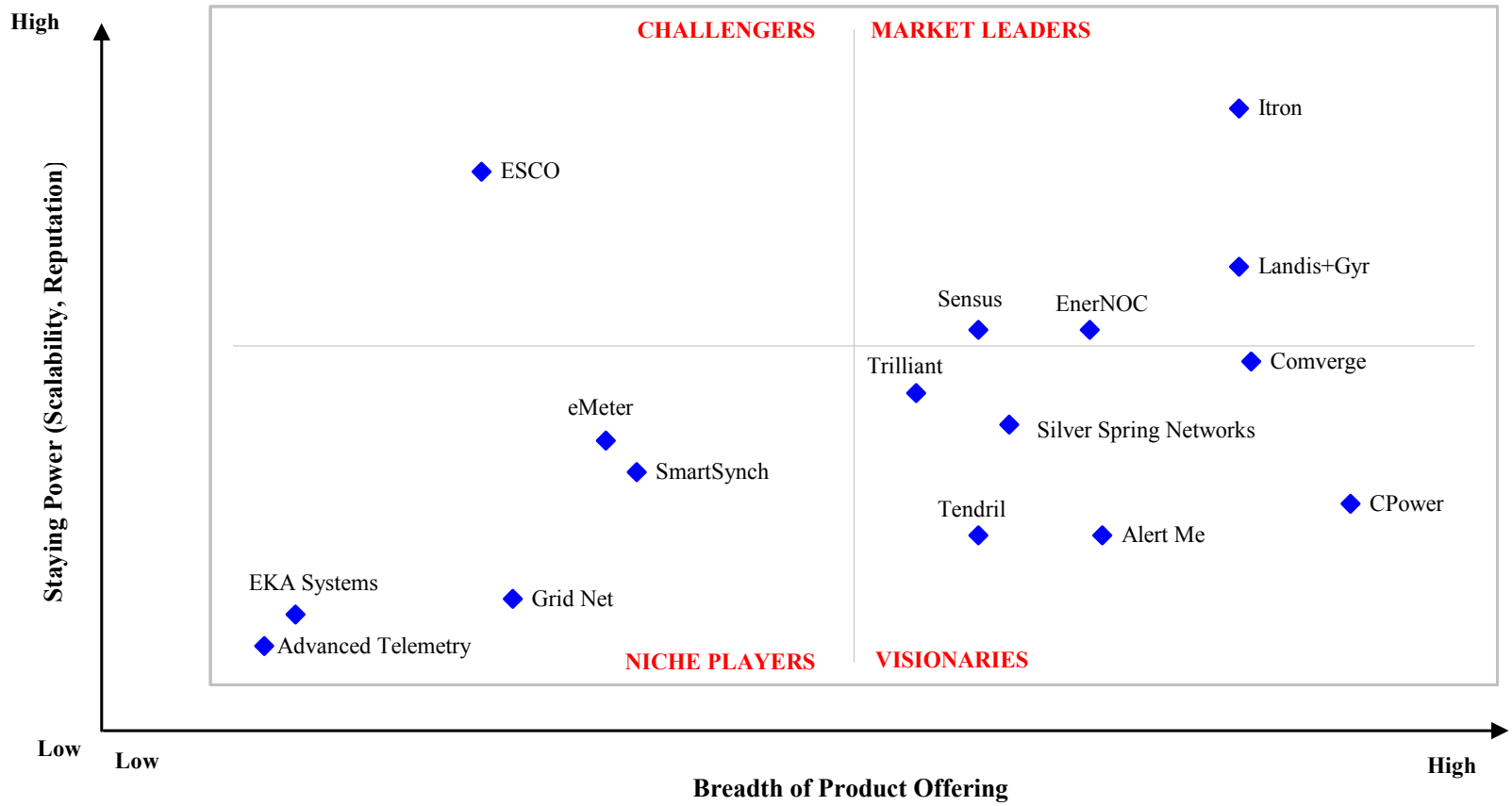
Highlights

Fragmented Markets	• Highly fragmented market with the top 6 players having 91.0% market share
Outperforming Equity Markets	• The US public companies have outperformed the stock market indices in the past one year due to their strong growth prospects
Big Contracts Wins	• Players such as Itron, Landis+Gyr, Silver Spring Networks, Sensus Metering, Grid Net etc. have received large contracts from major utilities
Surge in Investments	• Intel Capital, GE Financial Services, Siemens Venture Capital, Nth Power, Foundation Capital etc. have invested in firms specializing in smart grid technologies

Smart Meters Opportunities

Company Profiles

Magic Quadrant for the Smart Meter Industry



(1) *Source: "How real is the vision of a smart grid?" by GPBullhound dated Jun-09*

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Public Companies

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Smart Meters Opportunities

Itron Inc.

Business Overview[1]

- Founded in 1977, Washington based Itron provides a portfolio of products and services for energy and water markets to over 8,000.0 customers in over 130 countries
- Operates in two segments: Itron North America (35.0%) and Itron International (65.0%)[3]
- Manufactures metering and data collection products and also develops infrastructure systems for smart grids (including smart meters)
- Strong commitment towards smart grid by partnering with various companies such as Ambient, Tendril, Comverge etc. to deliver energy management solutions
- Smart metering products:
  - OpenWay: An advanced metering and smart grid solution of choice for measuring and managing energy usage
  - ChoiceConnect: Automates manual meter reading systems and addresses specific needs of utility companies
- Employees: Over 8,500

Investment Rationale[2][3]

- Stimulus package of USD 4.5 billion for smart grid in ARRA[4] and European Directive (20/20/20) will prove beneficial
- Awarded four large AMI contracts valued at more than USD 1.4 billion which will ramp up in 2009 and has USD 1.6 billion in total backlog
- Leading market player in electricity meters and electricity AMR with more than 43.0% shares in North America with established customer relationships
- Large installed base of meters estimated at 2.2 billion units which represents a large replacement market for conversion to smart meters
- Ability to increase presence and penetration in emerging markets such as Asia and Russia

Market leader in metering with strong commitments towards smart meters

(1) *Source: Company website*
(2) *Source: Itron Q3 2009 Investor Presentation*
(3) *Source: Initiating Coverage report by Ladenburg Thalman dated 04-Jun-09*
(4) *American Recovery and Reinvestment Act*

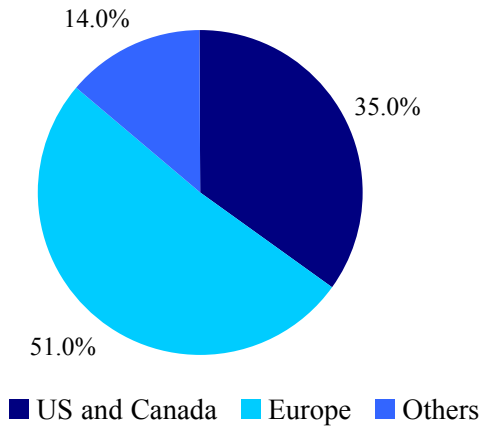
Smart Meters Opportunities

Itron Inc.

Management Team[1]

Name	Designation	Background
Malcolm Unsworth	President and CEO	25 years management experience in Schlumberger
LeRoy Nosbaum	Executive Chairman	40 years of experience with companies such as Metricom Inc. and Schlumberger
Philip Mezey	Senior VP and COO, North America	Prior experience at Silicon Energy and was a founding member of Indus Inc.
Marcel Regnier	Senior VP and COO, Itron International	27 years experience in Actaris and Schlumberger

Geographical Presence – 2Q 2009[2]



Key Clients[2]

Segment	Key Clients
North America (14.0 million Smart Meters and modules under contract)	Southern California Edison, DTE Energy, CenterPoint Energy, Xcel Energy, Southwest Gas
International	Scottish and Southern Energy, Veolia Water, British Gas, Iberdrola,Electricité Réseau Distribution France

Recent Contracts[2][3]

Customer	Value (USD millions)	Description	Shipment
Southern California Edison	480.0	Automate 5.3 million electric meters	2009 - 2012
CenterPoint Energy	350.0	Automate 3.0 million electric and gas meters	2009 - 2014
DTE Energy	350.0	Automate 3.3 million electric and gas meters	2009 - 2013
San Diego Gas & Electric	260.0	Automate 2.3 million electric and gas meters	2009 - 2011

Geographical diversification with strong order flow from leading utilities

(1) *Source: Company website*
(2) *Source: Itron Q3 2009 Investor Presentation*
(3) *Source: Press Releases*

Smart Meters Opportunities

Itron Inc.

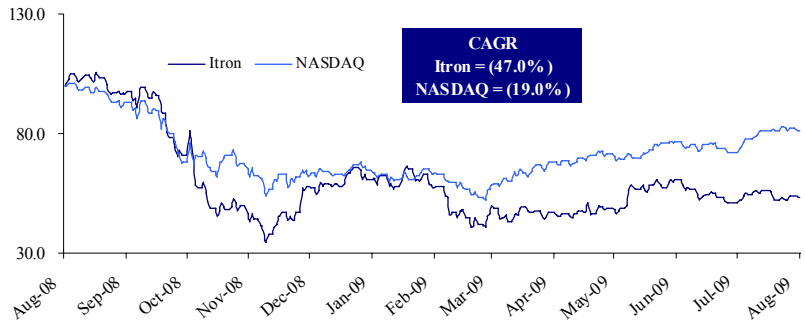
Financial Snapshot[1]

	2006	2007	2008	2009E	2010E	CAGR
Revenue	$644.0	$1,464.0	$1,909.6	$1,664.5	$1,885.9	
y-o-y growth		*127.3%*	*30.4%*	*(12.8%)*	*13.3%*	*30.8%*
EBITDA	108.0	208.9	283.5	223.8	293.0	
y-o-y growth		*93.4%*	*35.7%*	*(21.1%)*	*30.9%*	*28.3%*
EBIT	61.7	82.5	109.8	138.0	208.8	
y-o-y growth		*33.5%*	*33.2%*	*25.7%*	*51.3%*	*35.6%*
Net Income	33.8	(16.1)	28.1	(1.8)	70.3	
y-o-y growth		*(147.8%)*	*73.9%*	*(93.4%)*	*NM*	*20.1%*
EV/EBITDA	13.3x	21.2x	12.7x	12.7x	9.7x	
PE	40.5x	143.2x	79.7x	NM	29.8x	
RoE	9.5%	(2.8%)	3.1%	(0.1%)	5.2%	
RoIC	4.6%	3.5%	4.3%	5.9%	8.9%	

Shareholding Pattern[2]

Name	% Holding
Institutional Shareholders	
BlackRock Investment Management	7.8%
T. Rowe Price Associates	4.9%
Standard Life Investments	4.0%
Other Institutions	77.1%
Total	**93.7%**
Insiders	**1.7%**
Others	**4.6%**
Total	**100.0%**

Indexed Stock Price Performance[3]



Stock has underperformed the NASDAQ despite strong revenue growth

(1) Source: Reuters, Bloomberg
(2) Source: Reuters
(3) Source: Bloomberg

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Smart Meters Opportunities

EnerNOC Inc.

Business Overview[1]

- Founded in 2001, Boston based EnerNOC is a leader in demand response with over 2,500.0 MW under management
- Operates mainly in the US with some activity in the UK and is expected to break even in 2010
- Solutions:
  - Demand Response (94.9%)[3] : EnerNOC Demand Response Network to reduces peak demand for utilities and grid operators
  - Energy Management (5.1%)[3]: Monitoring Based Commissioning (MBCx) to cut energy costs and improve operational efficiency
  - Energy procurement: EnerNOC Exchange an online reverse-auction platform, provides the most favorable energy contracts
- Employees: Over 300

Investment Rationale[2]

- **Market Growth Potential:**
  - 40.0% of the existing market being untapped, demand response which is a a low risk way to reduce costs will continue to grow even in tough economic situations
- **Policy Initiatives:**
  - Government spending of USD 4.5 billion in smart grid technology is expected to benefit smart metering and demand response metering the most both being the visible segments for implementation of smart grid
- **Strong Operating Performance:**
  - Strong y-o-y operating performance with 32.0% growth in managed capacity addition and healthy gross margins of 42.4%

Leader in demand response and strong operating performance

(1) *Source: Company website*
(2) *Source: Initiating Coverage by Janney dated 16-Apr-09*
(3) *Source: 2Q 2009 Financial Report*

Smart Meters Opportunities

EnerNOC Inc.

Management Team[1]

Name	Designation	Background
Tim Healy	CEO, Chairman and Co-Founder	Served at Northern Power Systems, Merrill Lynch, UTC Fuel Cells, and Commonwealth Capital
David Brewster	President and Co-Founder	Prior experience at Beacon Power Corp., Winslow Mgmt., and SolarBank
David Samuels	Executive VP	20 years of experience at Guardent and i-Cube
Neal Isaacson	Senior VP and CFO	20 years of experience at Intrusic Inc., Ucentric Systems, and Cignal Communication

Recent Contracts[2]

Customer	Description	Term
Green Mountain Power	Green Mountain Power's customers will join EnerNOC's demand response network	2009 - 2013
Allegheny Power, Baltimore Gas and Electric, Delmarva Power and Light Co., and Potomac Electric Power Co.	Provide 250.0 MWof demand response in the state of Maryland	2011- 2014
Idaho Power	65.0 MW of demand response	5 years
Public Service Company of Colorado	44.0 MW of demand response	8 years

Key Clients[3]

Segment	Key Clients
Utility and grid operator customers (upstream)	Public Service of New Mexico, Southern California Edison, Ontario Power Authority, Tampa Electric Company
Business and institution customers (downstream)	AT&T, University of San Diego, Shop Rite, Suffolk County, Hartford Hospital, Pfizer

Recent News[1][2]

- Acquired eQuilibrium Solutions, Inc (eQ), a private Boston-based developer of enterprise carbon management and energy efficiency software applications
- Successfully deployed PowerTalk, which enables real-time communication through open, standards-based smart grid technology in more than 250 of its 5,000 customer sites

Strong order inflow from diversified client base

(1) *Source: Company website*
(2) *Source: Company Press Releases*
(3) *Source: Janney Initiating Coverage dated 16-Apr-09*

Smart Meters Opportunities

EnerNOC Inc.

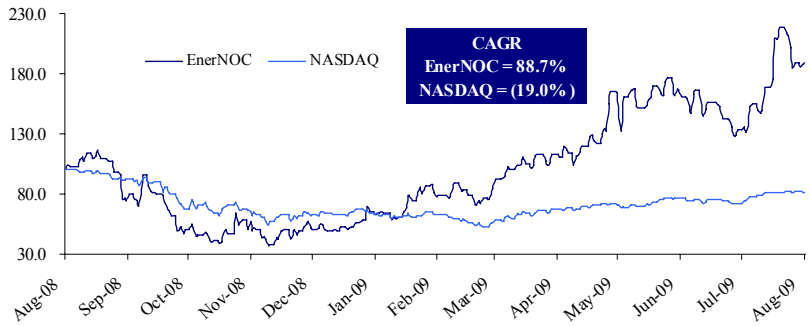
Financial Snapshot[1]

	2006	2007	2008	2009E	2010E	CAGR
Revenue	$26.1	$60.8	$106.1	$180.5	$252.1	
y-o-y growth		*133.1%*	*74.4%*	*70.1%*	*39.6%*	*76.3%*
EBITDA	(2.6)	(20.8)	(28.1)	1.7	25.1	
y-o-y growth		*NM*	*NM*	*NM*	*1368.4%*	*NM*
EBIT	(5.6)	(26.3)	(37.2)	(12.0)	7.9	
y-o-y growth		*NM*	*NM*	*NM*	*NM*	*NM*
Net Income	(5.8)	(23.6)	(36.7)	(15.9)	3.0	
y-o-y growth		*NM*	*NM*	*NM*	*NM*	*NM*
EV/EBITDA	NM	NM	NM	N.M	23.9x	
PE	NM	NM	NM	NM	N.M.	
RoE	(78.5%)	(36.0%)	(33.1%)	(18.0%)	3.4%	
RoIC	(40.8%)	(20.4%)	(35.8%)	(12.8%)	8.5%	

Shareholding Pattern[2]

Name	% Holding
Institutional Shareholders	
Foundation Capital	12.2%
Draper Fisher Jurvetson	10.8%
T. Rowe Price Associates	5.7%
Other Institutions	36.7%
Total	**65.3%**
Insiders	**13.0%**
Others	**21.7%**
Total	**100.0%**

Indexed Stock Price Performance[3]



Strong revenue growth and outperformance to NASDAQ

(1) Source: Reuters, Bloomberg
(2) Source: Reuters
(3) Source: Bloomberg

Smart Meters Opportunities

Comverge Inc.

Business Overview

- Comverge, headquartered in New Jersey was formed as a merger of utility technology groups from Scientific Atlanta, Bell Labs, and PowerCom in 2003
- Manages more than 3,000.0 MW of clean energy
- Provides solutions to residential (44.0%), utility (30.0%) , and industrial (26.0 %) segment
- Offers a range of utility smart grid products including basic one-way load control switches, smart thermostats, in-home displays, and two-way data collection and control systems
- Offers a range of residential and industrial solutions that address peak and base load capacity
- Employees: 450

Investment Rationale

- **Strong Operating Growth:**
  - Capacity addition of 264.0 MW compared to its annual target 225.0 MW
  - Net revenue addition: Generated revenues of USD 177.0 million in 1H 2009 compared to its annual target of USD 150.0 million
  - Addition of 178.0 MW of capacity in 1H 2009, compared to its 275.0 MW of annual goal on the long term contracts side
- **Improving Operational Efficiency:**
  - Higher penetration into demand response area is improving operating margins

Offers a range of utility smart grid applications with more than 3,000.0 MW under management

(1) *Source: Company website, 10-K*

Smart Meters Opportunities

Comverge Inc.

Management Team[1]

Name	Designation	Background
Alec Gilbert Dreyer	Chairman	Served at senior management levels at Horizon Wind Energy, Dynegy
Michael D. Picchi CPA	Interim President, CEO and CFO	Served at senior management levels at PRG-Schultz and Randstad
Frank A. Magnotti	President	20 years of manegerial experience at Lucent Technology, Acorn Energy, AT&T Bell Labs
Edward J. Myszka	COO	20 years of experience in business management at Motorola, Lytel

Products[1]

Products	Description
Demand Response	Includes products for load management remote programming, capacitor bank control, and service connect/disconnect control
Advanced Metering and AMI[4]	Includes products for home energy management including data collector, communication devices, and displays
Virtual SCADA	Includes capacitor controller and embedded data aggregation server
Software	Includes load management system software for utilities

Key Clients[1]

Demand Response Contracts	VPC[3] Contracts
PacifiCorp	Pacific Gas and Electric
San Diego Gas & Electric	Gulf Power
ISO New England	Commonwealth Edison
Public Service of New Mexico	Austin Energy

Recent Contract Wins[1]

Customer	Value (USD millions)	Description	Shipment
Virginia based utility	NA	117.0 MW VPC[3] and supply 150,000 AMI[4]	2010 - 2015
Commonwealth of Pennsylvania	NA	To provide demand response services	2009 - NA
Arizona Public Service and PJM	145.0	Signed the largest VPC demand response contract	2009 - 2024
Maryland based utilities	100.0	Signed VPC contracts for 343.0 MW of capacity	NA

Stable flow of contracts for its virtual peaking capacity segment

(1) *Source: Company website*
(2) *Source: Reuters*
(3) *Virtual Peaking Capacity*
(4) *Advanced Metering Infrastructure*

Smart Meters Opportunities

Comverge Inc.

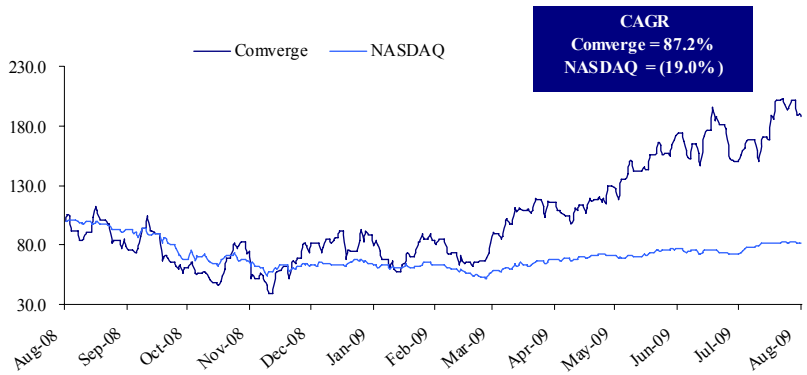
Financial Snapshot[1]

	2006	2007	2008	2009E	2010E	CAGR
Revenue	$33.9	$55.2	$77.2	$98.9	$133.0	
y-o-y growth		*62.9%*	*40.0%*	*28.0%*	*34.5%*	*98.2%*
EBITDA	(2.9)	(2.0)	(12.4)	(5.5)	7.3	
y-o-y growth		*NM*	*NM*	*NM*	*NM*	*NM*
EBIT	(5.7)	(7.5)	(19.9)	(21.6)	(5.0)	
y-o-y growth		*NM*	*NM*	*NM*	*NM*	*NM*
Net Income	(6.2)	(6.6)	(45.1)	(22.9)	(6.4)	
y-o-y growth		*NM*	*NM*	*NM*	*NM*	*NM*
EV/EBITDA	NM	NM	NM	NM	33.3x	
PE	NM	NM	NM	NM	NM	
RoE	(73.3%)	(8.2%)	(40.9%)	(38.2%)	(12.3%)	
RoIC	(42.2%)	(4.2%)	(20.7%)	(25.1%)	(5.8%)	

Shareholding Pattern[2]

Name	% Holding
Institutional Shareholders	
Invesco PowerShares Capital Management LLC	7.5%
AWM Investment Company, Inc.	6.2%
S Squared Technology, LLC	5.9%
Other Institutions	56.7%
Total	**76.3%**
Insiders	**6.8%**
Others	**17.0%**
Total	**100.0%**

Indexed Stock Price Performance[3]



Despite weak financial performance, the company's stock has been outperforming the NASDAQ

(1) *Source: Reuters, Bloomberg*
(2) *Company website*
(3) *Bloomberg*

Smart Meters Opportunities

ESCO Technologies Inc.

Business Overview[1]

- Incorporated in 1990, St. Louis based ESCO Technologies is a global manufacturer and solution provider of engineering products and operates in three segments: Utility Solutions Group (58.0%), RF Shielding & Test (23.0%), and Filtration (19.0%)
- Supplier of utility solutions for electric, gas and water utilities, including hardware and software to support advanced metering applications and fully automated intelligent instrumentation
- Caters to more than 400 utility customers worldwide and has already installed 15.0 million AMI devices
- Operates in this segment via its subsidiary Aclara and Doble Engineering
- Aclara is involved in addressing meter and energy data management, distribution planning and operations, customer service and revenue management
- Doble Engineering provides diagnostic test solutions for electric power delivery industry and is a leading supplier of testing instruments used to access the integrity of high voltage power delivery equipment
- Employees: 2,200

Investment Rationale[2]

- Well positioned with smaller electric and water utilities as munis and co-ops are actively pursuing federal stimulus funding for smart metering projects. Stimulus funding for water AMR projects (mostly munis and co-ops) will start trickling in by 4Q09
- Pursuing several large contracts (two large gas AMI opportunities, TEPCO in Japan and Latin American utilities for smart grid deployments
- As fixed network solutions gain traction in the water market, ESCO is well positioned at numerous large RFPs out for bid

Operates primarily in three segments – Utility Solutions Group, Test and Filtration

(1) *Source: Company website, Google Finance*
(2) *Deutsche Bank Initiating Coverage Research Report dated 05-Aug-09*

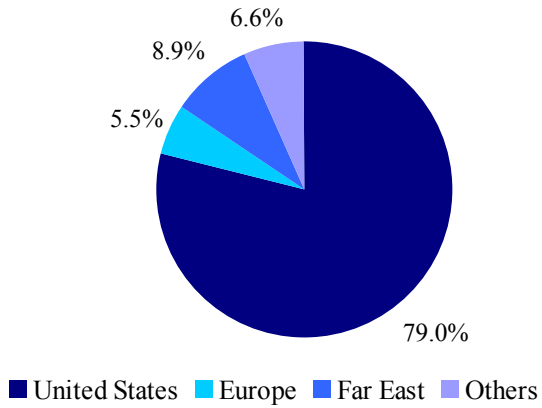
Smart Meters Opportunities

ESCO Technologies Inc.

Management Team[1]

Name	Designation	Background
Victor L. Richey Jr.	Chairman of the Board, President, CEO	25 years experience in management of the company
Gary E. Muenster	CFO, Executive VP	20 years experience in the finance dept.
Alyson Schlinger Barclay	Senior VP, General Counsel, Secretary	Served in Army Judge Advocate General's Corps
Donald C. Trauscht	Lead Director	Served as Chairman, BW Capital Corp. etc.

Geographical Presence[1]



Key Clients[2]

Utility Solutions Group	RF Shielding & Test	Filtration
Florida Power and Light Company	Nokia	Boeing
PPL	LG	NASA
PUGET Sound Energy	Dell	Airbus
TXU Energy	GE	Major Airlines
Puerto Rico Electric Power Authority	Sony	Military (Aircraft / Subs)

Recent Contracts[1]

Customer	Value (USD million)	Description	Shipment
Tallahassee, Florida	5.0	Licensed software applications for 240,000 meters	NA
NATRI[4] Project	16.7	To design and certify two automotive test chamber facilities	2009 - 2011
DEA[3], New York	68.3	Automate meter reading for 875,000 meters	2008 - 2011

U.S. centric business model with key clients in utility, electronic, and aviation sectors

(1) *Source: Reuters*
(2) *Source: Investor presentation*
(3) *Department of Environmental Protection*
(4) *National Automotive Testing and R&D Infrastructure*

Smart Meters Opportunities

ESCO Technologies Inc.

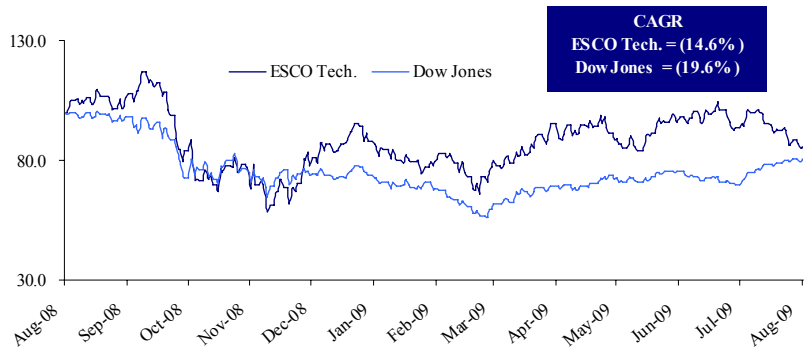
Financial Snapshot[1]

	2006	2007	2008	2009E	2010E	CAGR
Revenue	$382.4	$444.7	$623.8	$627.7	$667.4	
y-o-y growth		*16.3%*	*40.3%*	*0.6%*	*6.3%*	*14.9%*
EBITDA	55.2	53.9	108.4	115.9	126.2	
y-o-y growth		*(2.3%)*	*101.0%*	*6.9%*	*8.8%*	*22.9%*
EBIT	43.5	37.4	80.8	81.3	94.4	
y-o-y growth		*(14.0%)*	*115.9%*	*0.5%*	*16.1%*	*21.3%*
Net Income	29.2	30.4	47.4	46.4	57.4	
y-o-y growth		*4.3%*	*55.9%*	*(2.1%)*	*23.7%*	*18.5%*
EV/EBITDA	20.9x	15.5x	13.5x	10.1x	9.3x	
PE	40.8x	28.1x	26.5x	21.6x	17.4x	
RoE	8.2%	7.7%	10.7%	9.6%	11.5%	
RoIC	7.6%	7.2%	7.7%	7.7%	9.0%	

Shareholding Pattern[1]

Name	% Holding
Institutional Shareholders	
Columbia Wanger Asset Management, L.P.	13.5%
Waddell & Reed Investment Management Company	10.2%
Newton Investment Management Ltd.	10.2%
Other Institutions	59.0%
Total	**92.9%**
Insiders	**2.0%**
Others	**5.1%**
Total	**100.0%**

Indexed Stock Price Performance[2]



The stock has been out-performing the DowJones for a period of one year

(1) *Source: Reuters*
(2) *Source: Bloomberg*

TresVista FINANCIAL SERVICES

Private Companies

TresVista
FINANCIAL SERVICES

Smart Meters Opportunities

Landis+Gyr

Business Overview[1]

- Incorporated in 1896, Switzerland based Landis+Gyr provides a range of metering services for electricity, heat and gas to energy utilities all over the world
- Key Clients include – Metrix, Energex, Country Energy, EGAT Ltd., Scottish and Southern, The Rede Group etc.
- Acquired by Bayard Capital of Australia in 2004 for USD 120.3 million

Management Team[1]

Name	Designation	Background
Cameron O'Reilly	CEO	Founder and MD of Bayard and CEO of APN Media Group
Andreas Umbach	President and COO	Served in various executive positions within Siemens
Branko Bjelajac	Executive VP and CTO	Served in executive positions at Mannesmann/Vodafone, Grundig, SITA, and Orange
John Stretch	Executive VP - Asia Pacific and CTO	Executive positions in the IT and Telecom industry in AT&T, IBM, and AAPT

Facts & Figures

Parameter	Statistics
Revenues	USD 1,364.0 million
R&D	5.6% of revenues
Employees	5,070
Companies	45, operating in 30+ countries

Recent Contracts[1]

Customer	Description	Term
CitiPower and PowerCor Australia	To provide smart meters to more than 1.0 million users	NA
AEP Texas	To deploy 700,000 smart meters	2009 - 2014
Sacramento Municipal Utility District	To supply 620,000 smart meters	NA
Vattenfall Lämpö (Finland)	To implement Advanced Metering Management solution for its 385,000 customers	2009 - 2010

Operates in more than 30 countries across 5 continents and has 45 entities

(1) *Source: Company website*

Smart Meters Opportunities

Silver Spring Networks

Business Overview[1]

- Incorporated in 2002, California based Silver Spring Networks develops products and technologies which uses unlicensed 900.0 MHz spectrum to deploy and operate full two-way, reliable, secure utility networks suitable for mass deployment to electric, gas and water meters
- Strong pipeline (won a major contract with PG&E) of USD 500.0 million in backlog
- Revenues: USD 5.0 million (2008); Employees: 50

Management Team[1]

Name	Designation	Background
Scott Lang	Chairman, President and CEO	16 years experience at Perot Systems
Jordan Breslow	General Counsel	Served as General Counsel, in Cisco, Opsware; Co-Chair of the IPP[3] Group at Foster Pepper
Warren Jenson	CFO	Served as CFO of EA, Amazon.com,Delta Air Lines, and NBC
Raj Vaswani	CTO	10 years experience in Internet, software, and networking industries

Investors[2]

Phase	Investors	Investment (USD million)
Series B	Kleiner Perkins Caufield and Byers, Foundation Capital, JCB Properties, and Northgate Capital	75.0
Series C	Foundation Capital and JVB Properties	17.4
Series D	Kleiner Perkins Caufield and Byers, Foundation Capital, JCB Properties, and Northgate Capital	15.0

Recent Contracts[1]

Customer	Description	Term
CitiPower and PowerCor (Australia)	To provide AMI for 1.2 million homes and businesses in Victoria	2009 - 2013
Jemena Electricity Networks Ltd. and United Energy Distribution (Australia)	To provide AMI for 1.0 million homes and businesses in Victoria	2009 - 2013
Sacramento Municipal Utility District	To provide network infrastructure for 600,000 homes and businesses	2009 - 2011

Unlicensed spectrum based product with strong order backlog

(1) *Source: Company website.*
(2) *Source: www.tradevibes.com*
(3) *Intellectual Property Practice Group*

Smart Meters Opportunities

Trilliant Inc.

Business Overview[1][3]

- Incorporated in 1998, California based Trilliant Inc. provides wireless network solutions for advanced metering, demand response and grid management
- Acquired SkyPilot Networks in May 2009
- Largest AMI deployment with HydroOne in Ontario, Canada (1.3 million meters by 2010)
- Key products include SecureMesh for communication between advanced metering; and MeshGate: For information coordination within the network
- Revenues : USD 100.0 million (2008); Employees: 300

Management Team[1]

Name	Designation	Background
Andrew C. White	President and CEO	30 years experience in the Energy Industry with GE
Mike Towe	CFO	25 years experience in financial management in companies such as GE, Roper Industries, World Air Holdings etc.
Eric Miller	Senior VP - Solutions	25 years experience in the Energy Industry, held executive positions at Itron, Silicon Energy etc.

Investors[2]

Phase	Investors	Investment (USD million)
Series A	MissionPoint Capital & Zouk Ventures	40.0

Recent Contracts[1]

Customer	Description	Term
ESB Networks	To install SecureMesh system for its almost 150,000.0 km of distribution networks	NA
Louisville Gas and Electric (LG&E)	To supply Mesh AMI Network Solution for the "Responsive Pricing and Smart Meter" pilot program to be run by LG&E	NA

Largest AMI deployment in Ontario, Canada

(1) *Source: Company website.*
(2) *Source: www.tradevibes.com*
(3) *Source: " How real is the vision of a smart grid?" by GPBullhound dated June 09*

Smart Meters Opportunities

eMeter

Business Overview[1]

- Incorporated in 2000, California based eMeter provides solutions for demand response and real-time monitoring of resource usage
- Key products include
  - EnergyIP : Meter Data Management system
  - Energy Engage : Online consumer engagement solution
  - Advanced Software Applications
- Revenues: USD 15.0 million (2008); Employees: 150

Management Team[1]

Name	Designation	Background
Cree Edwards	Chairman	Worked at Octel Communications Corp. and GE, Co-founder of CellNet Data Systems Inc.
Larsh Johnson	Founder, Director, President and CTO	Director of Product Development at Interactive Communications Corp., co-founder CellNet Data Systems
Chris King	CSO	Held senior management positions at Utility.com, CellNet Data Systems Inc., PG&E

Investors[2]

Phase	Investors	Investment (USD million)
Series A	Foundation Capital	NA
Series B	Foundation Capital, Siemens Corporation, and DBL Investors	12.5
Series C	Sequioa Capital and Foundation Capital	32.0

Recent Contracts[1]

Customer	Description	Term
CenterPoint Energy	Deploy EnergyIP to support rollout of 2.0 million smart meters	2009 - 2013
CPS Energy	Deploy MDM solution for 1.0 million smart meters	NA
SP AusNet	Deploy MDM solution for 0.8 million smart meters	NA
Southern California Edison	Deploy MDM solution for 5.3 million meters	2009 - 2012

Provides the essential software to enable utilities to achieve large-scale smart grid deployments

(1) *Source: Company website*
(2) *Source: www.greentechmedia.com*

Smart Meters Opportunities

SmartSynch

Business Overview[1][2]

- Founded in 1998, Massachusetts based SmartSynch is leading provider of IP-based smart grid solutions utilizing public wireless networks
- Executed deployments for 100 major North American utilities (125,000 + C&I Smart meters)
- Strategic Relationships with AT&T, Rogers, T-Mobile, and Aeris
- Annual Revenue: USD 10.0 million; Employees: 40

Management Team[1]

Name	Designation	Background
Stephen D. Johnston	CEO	7 years as an investment banker with Wachovia Securities Inc.
Jake Tarr	Chairman	Current MD with Kinetic Ventures and Director of Automated Power Exchange and Peace Software
Nancy C. Floyd	Board Member	Vast management experience and Co-founder of Nth Power Tech. and NFC Energy Corp. etc.

Investors[1]

Phase	Investors	Investment (USD million)
Initial	Lime Rock, Kinetic Ventures, Siemens VC & Siemens Power T&D	8.0
Series B	Beacon Group, Cinergy Ventures, Exelon Capital Partners, and others	23.0
Additional funding	Lime Rock Partners, OPG Ventures, mgmt. team and others[4]	4.0
Series C	Battelle Ventures	12.0
Series D funding	Credit Suisse, Siemens VC, Battelle Ventures etc.	25.0

Recent Contracts[2]

Customer/Partner	Description
Gila River Indian Community Utility Authority	Utility in the process of taking over 2,700 meters on the Gila River Indian Reservation from the federal government, providing new meters and converting to smart meters
Texas New Mexico Power Co.	10,000 meters under the new pricing relationship with AT&T
AT&T	Providing wireless network for residential installations

Vast experience in smart meter deployment with key strategic relationships

(1) *Source: Company website*
(2) *Source: "How real is the vision of a smart grid?" by GPBullhound dated June 09*
(3) *Source: www.earth2tech.com*
(4) *Others: Kinetic Ventures, Siemens VC, JPMorgan Partners and Nth Power Technologies*

Smart Meters Opportunities

Grid Net

Business Overview[1]

- Founded in 2006 by Ray Bell, California based Grid Net is a leading provider of open, interoperable, policy-based network management software and communications products for the utility industry's smart grid
- Focuses solely on WiMAX and thus has been drawing support from Sprint Nextel and Clearwire, Intel and GE
- Partnering with GE and Intel gives Grid Net credibility and financial backing, also giving comfort to utilities
- Employees: 40

Products[1]

- PolicyNet Smart Grid NMS:
  - Provides secure, cost-effective and reliable management of smart grid devices, including smart meters, and routers
  - Seamless integration with utility back-end systems including OMS, DMS, CIS, Billing, etc
- WiMAX smart meter and smart modem reference designs, (licensed to GE Energy), for use in GE's advanced meter and modem product family

Investors[2]

Phase	Investors	Investment (USD million)
Initial	Intel Capital, GE Energy Financial Services, and Catamount Ventures	NA
Series C	Braemar Energy Ventures, Catamount Ventures, GE Energy Financial Services , and Intel Capital	NA

Recent News[3][4]

- Signed pilot deals with four utilities including Australian utilities such as EnergyAustralia, SP AusNet, American Electric Power, and Consumers Energy
- Collaboration with GainSpan, a leading provider of ultra low power wi-fi technology for innovative smart grid home area networks (HAN)

Strong strategic relationships with GE and Intel for WiMax solutions

(1) *Source: Company website*
(2) *Source: www.earth2tech.com*
(3) *Source: "How real is the vision of a smart grid?" by GPBullhound dated Jun-09*
(4) *Source: www.gainspan.com*

Smart Meters Opportunities

Tendril Inc.

Business Overview[1][4]

- Founded in 2004, Colorado based Tendril provides home energy management software and hardware solutions called Tendril Residential Energy Ecosystem (TREE) for utilities and consumers
- Sells a combination of services, including a wireless in-home energy displays, smart thermostats, web-based energy portals, smart outlets, and cell phone applications
- Annual revenues: USD 3.0 million ; Employees: 40

Management Team[1]

Name	Designation	Background
Adrian Tuck	CEO	20 years senior management experience in semiconductor industry
Tim Enwall	President and COO	18 years management experience with Apple, Gartner etc.
Mark Pougnet	CFO	25 years experience in the financial and technology industries etc.
Tony Bamonti	VP	20 years management experience in France Telecom, JP Morgan Chase, HP etc

Investors[2]

Phase	Investors	Investment (USD million)
Initial	In-Q-Tel and other Angel investors	NA
Series B	RRE ventures, Vista Ventures, Access Ventures, and Appian	12.0
Series C	VantagePoint Venture Partners, Good Energies, Vista Ventures and RRE Ventures	30.0

Recent News[1]

- GE's Consumer & Industrial division finalized a deal with Tendril to improve broadband communication between demand response appliances in the home, smart meters and utilities
- Itron and Tendril entered into an agreement for seamless integration over Open Way (an Itron product)
- Tendril inked deals with 29 utilities for pilots or installation of products[3]

Inked deals with various utilities and partnered with frontrunners GE and Itron

(1) *Source: Company website*
(2) *Source: www.earth2tech.com*
(3) *Source: www.smartmeters.com*
(4) *Source: "How real is the vision of a smart grid?" by GPBullhound dated Jun-09*

Smart Meters Opportunities

AlertMe

Business Overview[1]

- Founded in 2006, Cambridge based AlertMe provides smart energy and home monitoring systems helping consumers to visualize energy consumption and motion in real time via mobile phones or the Web
- Offers ZigBee based products for students, renters, small homes, and family homes
- Claims customer payback period to be approximately one year and saves 1.0 ton of CO_2 per home per year[2]
- The company has so far shipped 15,000 units[2]

Management Team[1]

Name	Designation	Background
Pilgrim Beart	CEO and Co-founder	20 years experience in high-technology companies such as Atari, AMD, etc.
Paul Fellows	CTO	Rich experience in software industry in Pi Research and Amino
Michael Black	CFO	Corporate finance experience with Leyland DAF trucks and DuPont Pharma etc.

Investors[1]

Phase	Investors	Investment (GBP million)
Initial	Boston - based VC and PE fund	NA
Initial	Cambridge Angels	NA
Series B	Good Energies, Index Ventures, SET Venture Partners, and VantagePoint Venture Partners	8.0

Recent News[1]

- Agreement announced with British Gas starting in Q4 2009 for remotely controlled heating systems
- Won the Best Cleantech/ Environmental Startup award at the TechCrunch Europas and was named one of the most promising cleantech companies at the European Tech tour's inaugural cleantech summit
- Launched a new energy saving services for utilities on its home management platform at the ZigBee Alliance Conference in February 2009

Offers ZigBee related home solutions

(1) *Source: Company website*
(2) *Source:: www.informilo.com*

Smart Meters Opportunities

Sensus Metering Systems

Business Overview[1][2]

- Founded in late 1800's, North Carolina based, Sensus Metering has vast experience in providing infrastructure systems, metering technologies and related communications to the utility industry
- Leader in building the smart grid with over 3.0 million AMI smart points deployed to date in the U.S
- Provides conservation solutions with advanced communications technologies for electric meters on fixed two-way RF networks
- Facilities: 40 in five continents; Employees: 4,000

Management Team[2]

Name	Designation	Background
Peter Mainz	President and CEO	8 years of experience with Schlumberger and IBM
Kevin Cheatham	President	President of Smith-Blair with over 11 years experience in various senior finance positions
Jeffrey Kyle	CFO	Prior experience in corporate finance for a large power company
H. Britton Sanderford	CTO	Founded Axonn Corp and served as President and founder of AMDS

Financial Snapshot[1]

	2007	2008	2009	CAGR
Revenue	$632.9	$694.2	$670.7	
y-o-y growth		*9.7%*	*(3.4%)*	*2.9%*
EBITDA	84.0	78.7	19.1	
y-o-y growth		*(6.3%)*	*(75.7%)*	*NM*
EBIT	35.9	31.0	(27.5)	
y-o-y growth		*(13.6%)*	*(188.7%)*	*NM*
Net Income	(8.0)	(10.1)	(49.9)	
y-o-y growth		*NM*	*NM*	*NM*

Recent Contracts[1]

Utility	Units (millions)	Duration (years)
Southern Company	4.3	15
Alliant Energy	1.4	15
Atmos Energy	3.0	20
Portland General Electric	0.9	15
Hawaiian Electric Company	0.4	15

Leader in smart grid building and AMI deployment with strong order book

(1) *Source: Investor Presentation - at 2009 Alternative Energy/Clean Tech Conference dated 11-Jul-09*
(2) *Source: Company website*

Smart Meters Opportunities

EKA Systems

Business Overview[1]

- Incorporated in 2000, Maryland based EKA Systems manufactures and supplies wireless smart network, smart grid networking, and AMI to the electric, water & gas utilities
- Key products includes EkaNet Nodes, EkaNet Wireless Gateways, EkaNet Wireless Network Field Tools, and EkaNet Mobile Collection Systems
- Recently won the UAE Transmission & Distribution AMI Project of the Year Award

Management Team[1]

Name	Designation	Background
Dave Pauken	President and CEO	20 years of senior management experience, at Washington Redskins and Snyder Communications
Roger Alexander	Chief Systems Architect	18 years experience in communications at Lockheed Martin, Andrew Network Solutions, etc
Brian Simpson	Product Marketing Director	22 years experience in meter reading, field service, AMR systems etc

Investors[2]

Phase	Investors	Investment (USD million)
Venture Capital Funding	Flybridge Capital Partners	NA
Series C	Angeleno Group and RockPort Capital Partners	12.5
Series D	RockPort Capital Partners, The Westly Group and Metropolitan Investments	18.5

Recent Contracts[1]

Customer	Description
Hartley Bay, Canada	To deploy smart metering technology
Itron Inc.	To provide utilities with remote demand reset and time-of-use capability with a mobile AMR system and seamless integration with Itron's meter reading software platforms

Provides smart-grid networking products to the utilities

(1) *Source: Company website.*
(2) *Source: www. mansellgroup.net*

Smart Meters Opportunities

CPower

Business Overview[1]

- Founded in 2001, New York based CPower delivers services and solutions enabling companies to reduce energy and earn payments for reductions
- Provides clients with technical infrastructure and web-based portals to manage loads and provides consumption, performance and benchmarking analytics through CPower Remote Operations Center, CPower Metering and CPowerPortal
- Acquired Xtend Energy, a provider of rapid response services and DemandDirect LLC, a provider of demand response and other demand resources in 2008

Management Team[1]

Name	Designation	Background
Michael B. Gordon	Founder and CSO	24 years experience in the energy industry having founded several profit and non-profit
Gary Fromer	CEO	Extensive experience at SAP Managed Services
Michael Mele	CFO	Prior experience at Archive Systems Inc., and ASI Solutions Inc.
John J. McWilliams	VP and CTO	Prior experience at WebGen, Primix, Ernst and Young, and ATKearney

Investors[1]

Phase	Investors	Investment (USD million)
Series A	Expansion Capital Partners, Bessemer Venture Partners, Schneider Electric Ventures, and Vantania Holdings	17.0
Series B	Mayfield Fund , Bessemer Venture Partners, Expansion Capital Partners, and others[2]	10.7
Extension of Series B	Intel Capital	NA

Recent Contracts[1]

Customer	Description
Division of Capital Asset Management	To provide demand response for 25.0 MW capacity to Massachusetts state facilities
Spartech	Demand response solution at various facilities in North America
Allegheny Power, Potomac Electric Power	To provide 200.0 MW of demand response capacity from 2011 - 2016 in Maryland
Middlesex Regional Educational Services	To manage energy consumption for 12 school districts
Defense Energy Support Center	Demand response program to United States military and federal agencies till 2013

Diversified client base including industrial, military, and educational services

(1) *Source: Company website*
(2) *Schneider Electric Ventures New York City Investment Fund, and Consensus Business Group*

Smart Meters Opportunities

Advanced Telemetry

Business Overview[1]

- Incorporated in 2007, California based Advanced Telemetry offers smart energy system for residential and small commercial applications
- Key products include
  - EcoView Residential: Smart energy and resource management system
  - EcoView Alternative Energy: Monitors alternative energy generation and home consumption
- Strategic Relationship with GE's green house project

Management Team[1]

Name	Designation	Background
Gus Ezcurra	CEO and Co-founder	Held executive positions at VeriSign Corporation, Coactive Networks, Echelon Corporation, and Harris Corp.
Tom Naylor	CTO and Co-founder	Over 13 years experience in control system design and implementation at Loudwater Technologies

Investors[2]

Phase	Investors	Investment (USD million)
Series A	Quercus Trust and 21Ventures	NA
Series B	Quercus Trust and 21Ventures	NA

Recent Contracts[2]

Customer	Description
Burger King, Taco Bell and Arby's	Deployment of EcoView commerical software
Jim 'n Nick's Bar-B-Q	Deployment of EcoView commerical software

Strategic relationship and hotel industry based clientele for commercial smart energy application

(1) *Source: Company website*
(2) *Source: Reuters*