



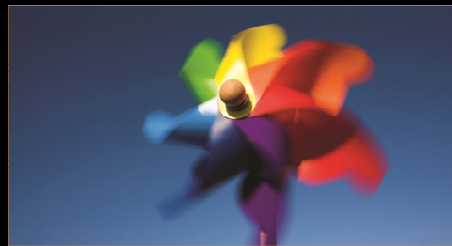
Intelligent Sensing Anywhere

Intelligent Sensing Anywhere

Ponto de Encontro - Novembro 2010



Oil & Gas



Energy



Environment



Healthcare

Our Vision and Mission



Intelligent Sensing Anywhere

VISION

“Our vision is to turn our name into reality: Intelligent Sensing Anywhere. We want to take our telemetry systems to every corner of the world, bringing sensing to every home, every car, every person, every environment! We aim to measure your air and water quality, your energy consumption, your health, and the status and location of all your belongings... and then to intelligently process your data in order to build you a better world!”

MISSION

Excellency in Monitoring and Remote Management

To offer metering and remote control products and solutions, fulfilling the demand for real-time information, management and optimization in the Oil, Energy, Environment, Transportation, Security, Home Automation and Health markets, while significantly contributing to the creation of sustained value throughout the world.

ISA in Numbers



20

Years of experience in the telemetry technology domain

110

Highly qualified employees

40%

Employees dedicated to R&D

2x

Revenue from 2006

Still growing fast...

32%

CAGR (Compound Annual Growth Rate) in the past 5 years

80%

Percentage of turnover coming from the international market

50,000

Number of products successfully installed worldwide...



Energy

- Remote monitoring
- Energy efficiency
- Smart grids
- Renewable energies
- Aggregator Solutions



Oil&Gas

- Monitoring of LPG and piped gas networks
- Supply logistics (tanks and cylinders)
- Remote management of fuel stations
- Refineries monitoring



Environment

- Measurement of carbon footprint
- Meteorology and Seismology
- Hydropower Potential



Healthcare

- Ambient Assisted Living
- Tracing people and assets
- Remote medicine

Our Fields of Expertise



Telemetry/M2M Communications

Instrumentation, Automation and Control

Embedded Systems

Software Engineering

Support Services



Business Advantages and key Differentiators



Internationalization

- Global presence through international business development team, subsidiaries and partners enables market specific solutions to leverage international knowledge platforms

Experience & Know-how

- Creating gas telemetry solutions for 20 years
- Technology and know-how in the fields of electronics, software development, telemetry and control

Support

- Over 100 highly qualified employees as well as a hotline to assist you

R&D

- More than 45 employees dedicated to R&D for rapid development and prototyping , new applications every year

Focus

- Market-driven innovation

Reference Clients

- Butagaz, BP, Shell, Repsol, Primagaz, Gascan, Galp,

Diverse and Comprehensive Product Line

- Complete products including hardware and software

Awards and International Distinctions



Key player in the Smart Metering Industry - Berg Insight 2009



Innovative SME
COTEC Portugal 2005, 2006, 2007, 2008, 2009



Entrepreneurship 2010
IV INSEAD Award



Innovation & Excellence Award
Coimbra (CMC/UC)



Internationalization Award
Venture Capital IT 2009



Involved in Many European Research Projects

IT SMEs Internationalization Award 2006
ICEP & ANETIE



Innovation Product Award
COTEC - Unicer 2008



Certified supplier for the largest gas and liquid fuels



R&D unit certified by the Portuguese Innovation Agency (ADI)



Innovation Award
Metering Europe 2006



Best Practices in Innovation Management

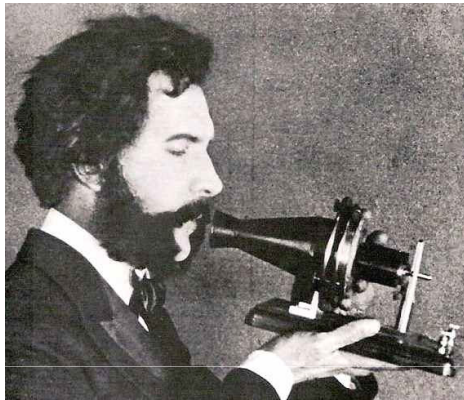


Worldwide presence

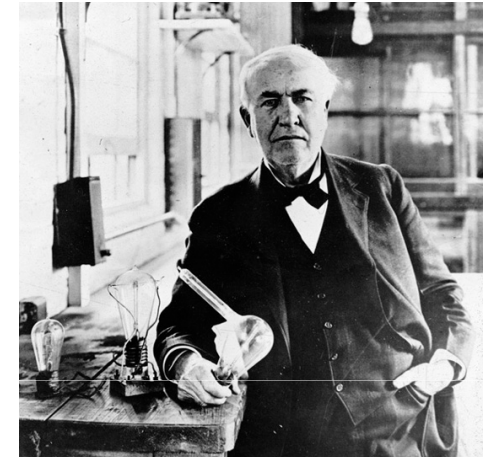


Over **50,000** telemetry systems installed the world around

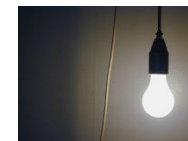
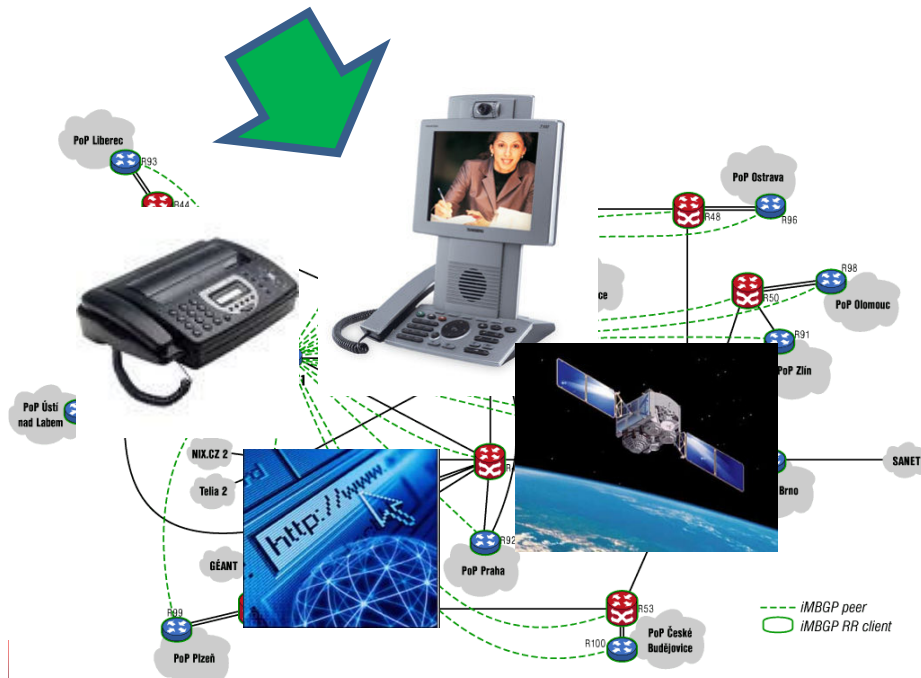
LET'S DO SOME TIME TRAVEL



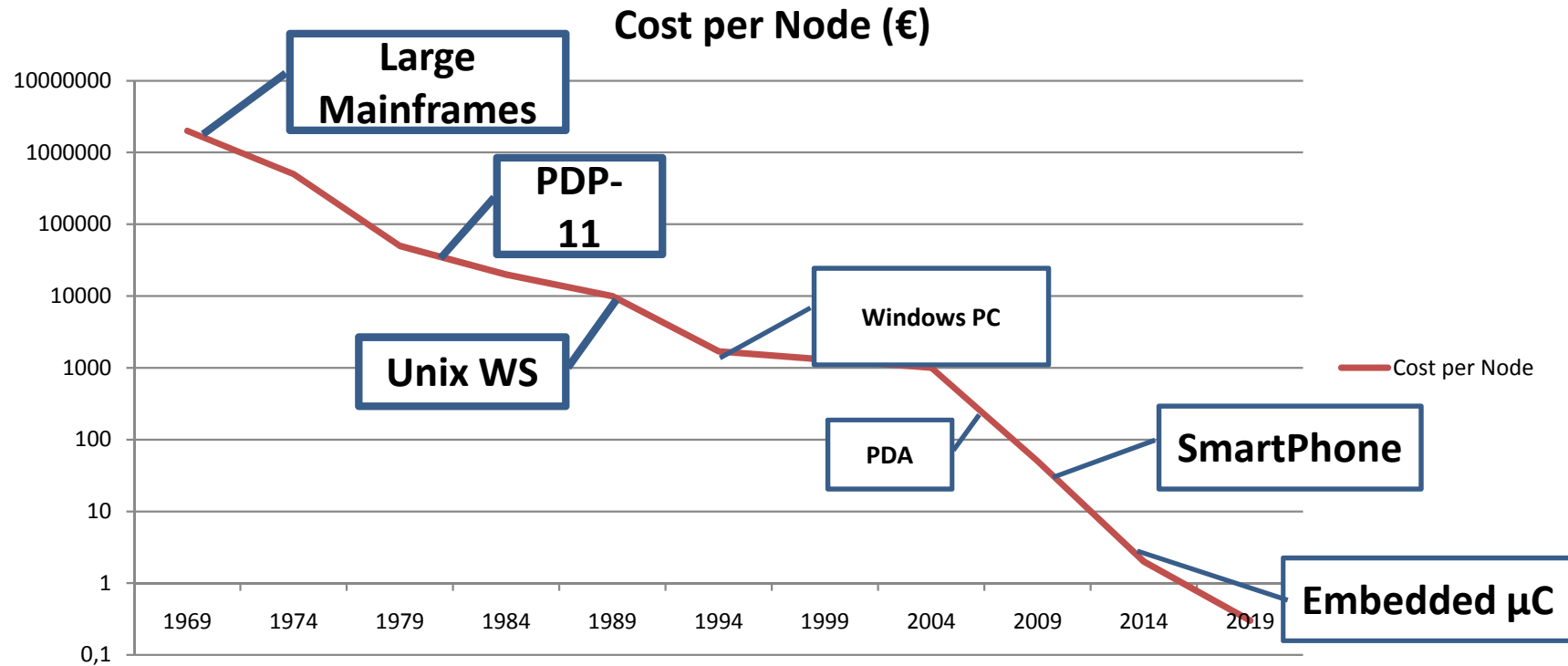
Alexander Bell



Thomas Edison

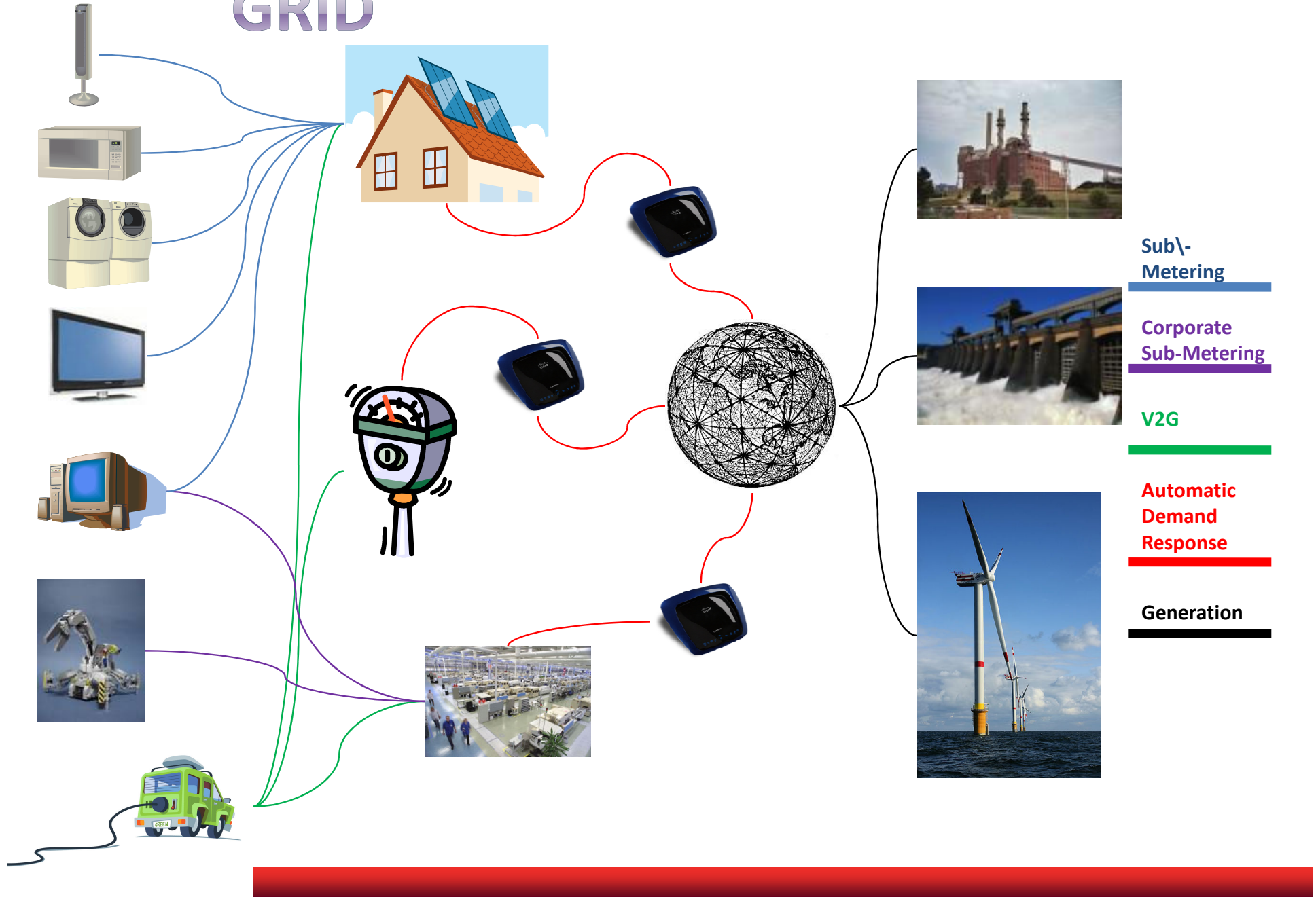


FALLING PRICE OF INTERNET NODES

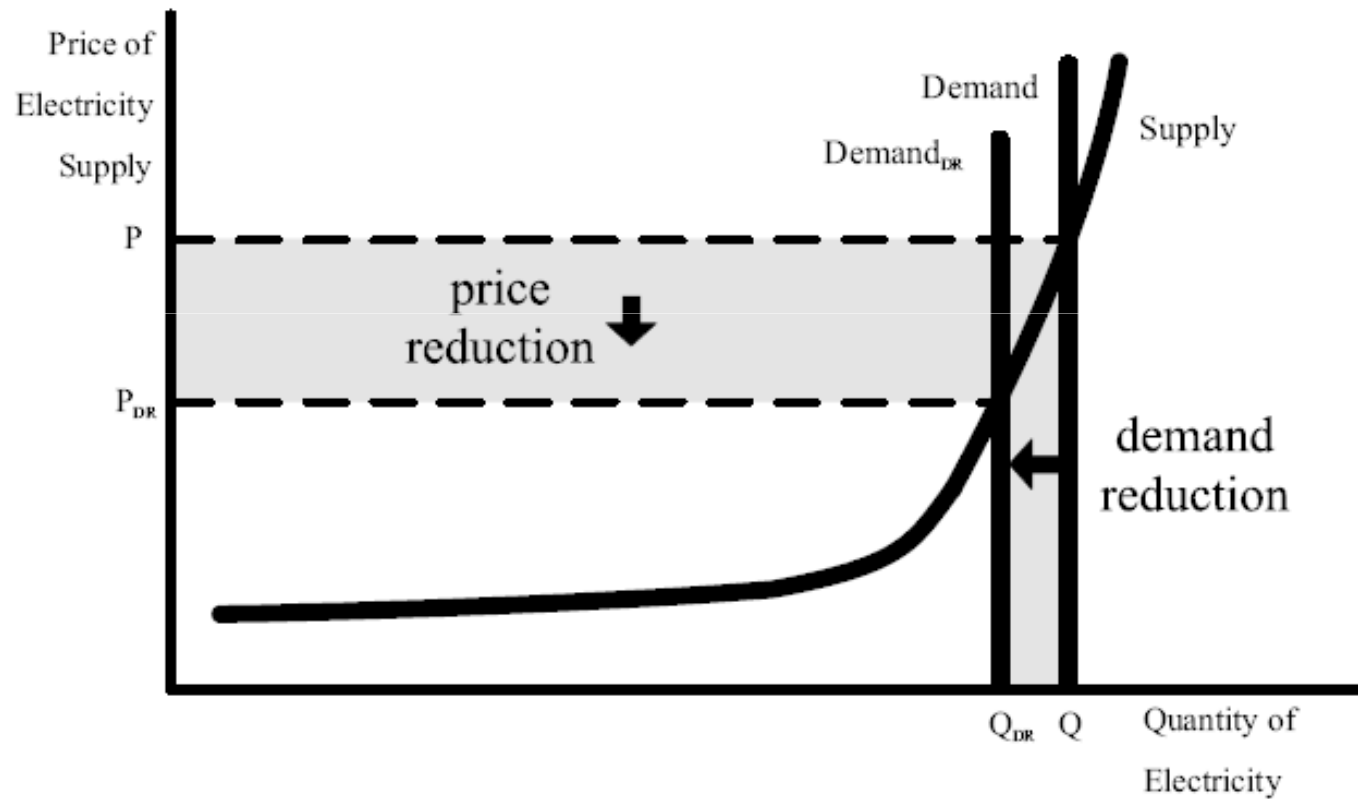


It's time for us to leverage the low-cost of Internet nodes to put communication capabilities into

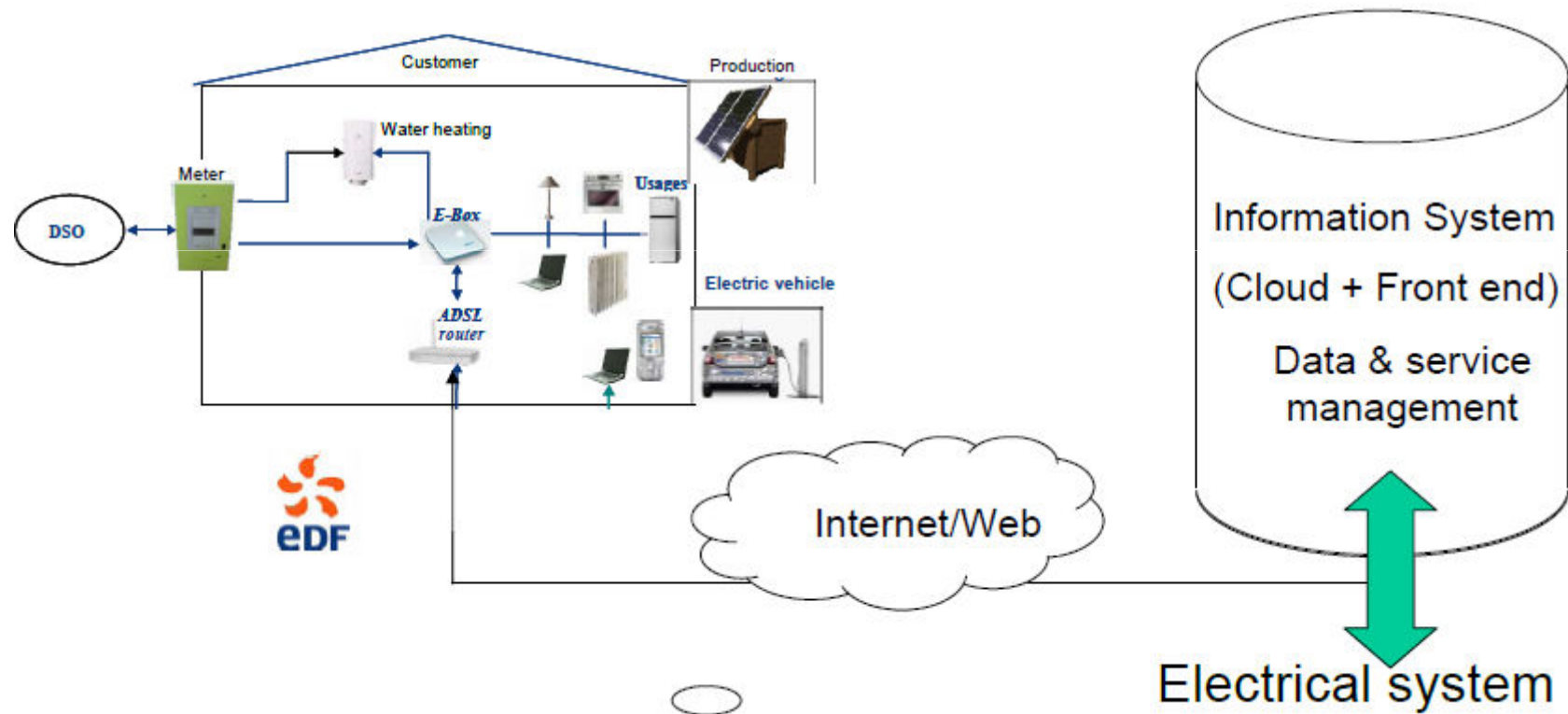
GRID



BUSINESS CASE



SMART METER VS. SMART GRID



Credit: Jean-Luc Dormoy's presentation at 1st Usage Scenario Meeting

Gas & Oil Telemetry



- Challenge**
- Improving customer service and increasing customer loyalty;
 - Improving efficiency of operations.

Solution iGas, Autonomous system for the remote monitoring of gas/fuel/oil tanks.

- Benefits**
- ROI <2;
 - Reducing transportation by 30%;
 - Reducing logistical costs by optimizing the journeys;
 - Avoiding tank ruptures and no delivery trips.



Main Customers



Gas & Water Metering Solutions



Challenge

- Remotely acquiring utility meter readings;
- Providing new services and products in a cost-effective way;
- Estimating consumer profiles (demand forecasting).

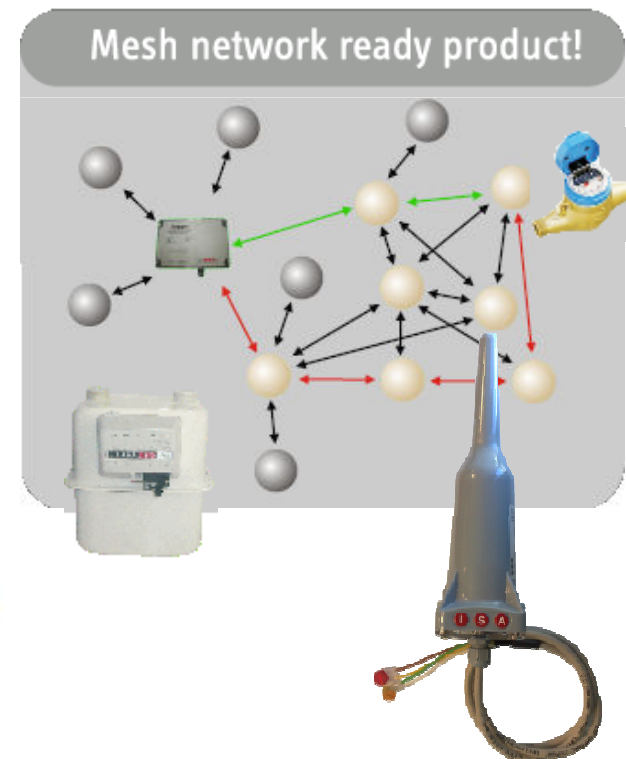


Solution

iGas AMR, Automatic Meter Reading System for remote monitoring of tanks and meters.

Benefits

- Better commercial management;
- Predicting and managing critical situations of excessive demand;
- Real time and accurate invoicing (instead of estimates);
- Better service and cost control;
- New services and applications.



Main Customers



Multi-Utility Building Management



Challenge

- Utilities demand management;
- Reading of all utilities;
- Data Acquisition from different Brand Meters;
- Multi-Protocol communications;

Solution

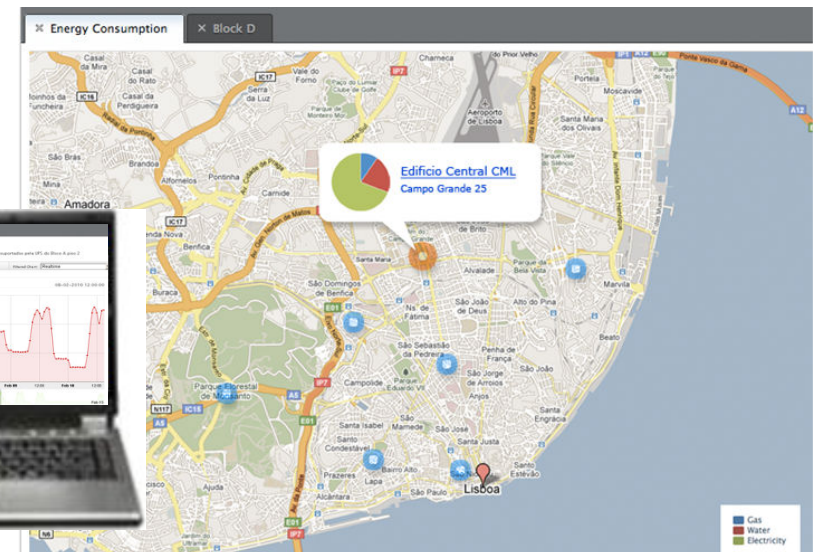
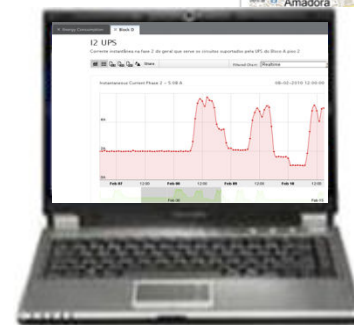
iMeter - Multi-utility consumer data concentrator (electricity, gas and water) with remote control and data access capability.



Benefits

- Integration with existing network systems;
- Connection to existing equipments;
- Real time remote access;
- Improved customer service;
- Data Logging;
- Long Range Mesh-Network;

Main Customers



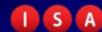
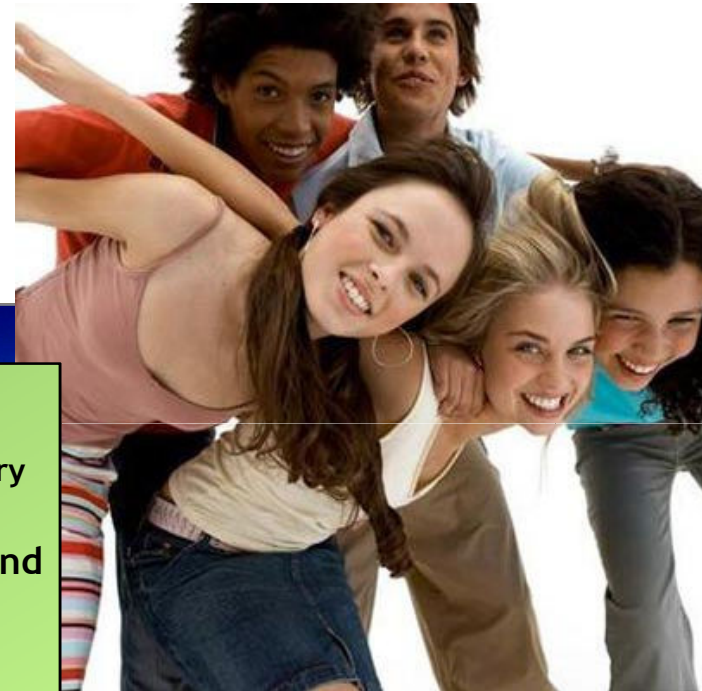
Multi-Utility Metering Solutions



In 2009: Monitoring of 22 buildings at the University of Aveiro

Includes Multi-Utility remote metering of:

- 150 Electricity Meters
- 70 Gas Meters
- 70 Water Meters



Energy Management in Teaching Institutions

Primary to University

- Monitoring of consumption and meteorological parameters in real time
- Efficiency Platform for centralized management
- Reduction of consumption and waste
- Quick return on investment



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Large Scale Integration



Challenge

- Extremely complex energy production systems;
- Big variety of technologies used by in the last decade;
- Standardize heterogeneous and scattered data in a unique platform based in open standards and in real time.

Solution

SKIPPER, Scattered data gathering system (e.g. SAP, FoxPro, SQL Server, OSI, Oracle, etc.) to consolidate in repository through ETL (Extract, Transform, and Load) processes.

Benefits

- Support decision making process in real time;
- Efficient use of resources;
- Short ROI.

Main Customers



Smart Homes



Home Area Network for Energy Efficiency

Lets you know your energy usage
in real-time

Empowers you to
reduce your consumption

Reduce household's carbon footprint!

Helps you save money!



iMeter Kit

Smart Homes



1. Simultaneous collection of data:



Energy monitoring



Advanced sensor



Other Sensors



Wireless transmitter



iMeter Kit

iMeter - Innovation Product Intelligent Energy Efficiency Solution



Manage your water, gas and electricity consumptions in the comfort of your home

- Home automation: remotely control your lights, HVAC, home entertainment system and other appliances.
- Automatically read and log your electricity, gas and water meters.
- Calculate daily, weekly, monthly and yearly energy costs.
- Extract your carbon footprint.
- Identify and tune your consumption profile.
- Access your data from a mobile phone or the Web.

User-friendly software included.

The advertisement features a woman and a child sitting on a white sofa, looking at a laptop. To the right, there is a red background with a house icon and a list of features. At the bottom, there are images of the iMeter hardware components.



INNOVATION PRODUCT AWARD
COTEC - UNICER 2008

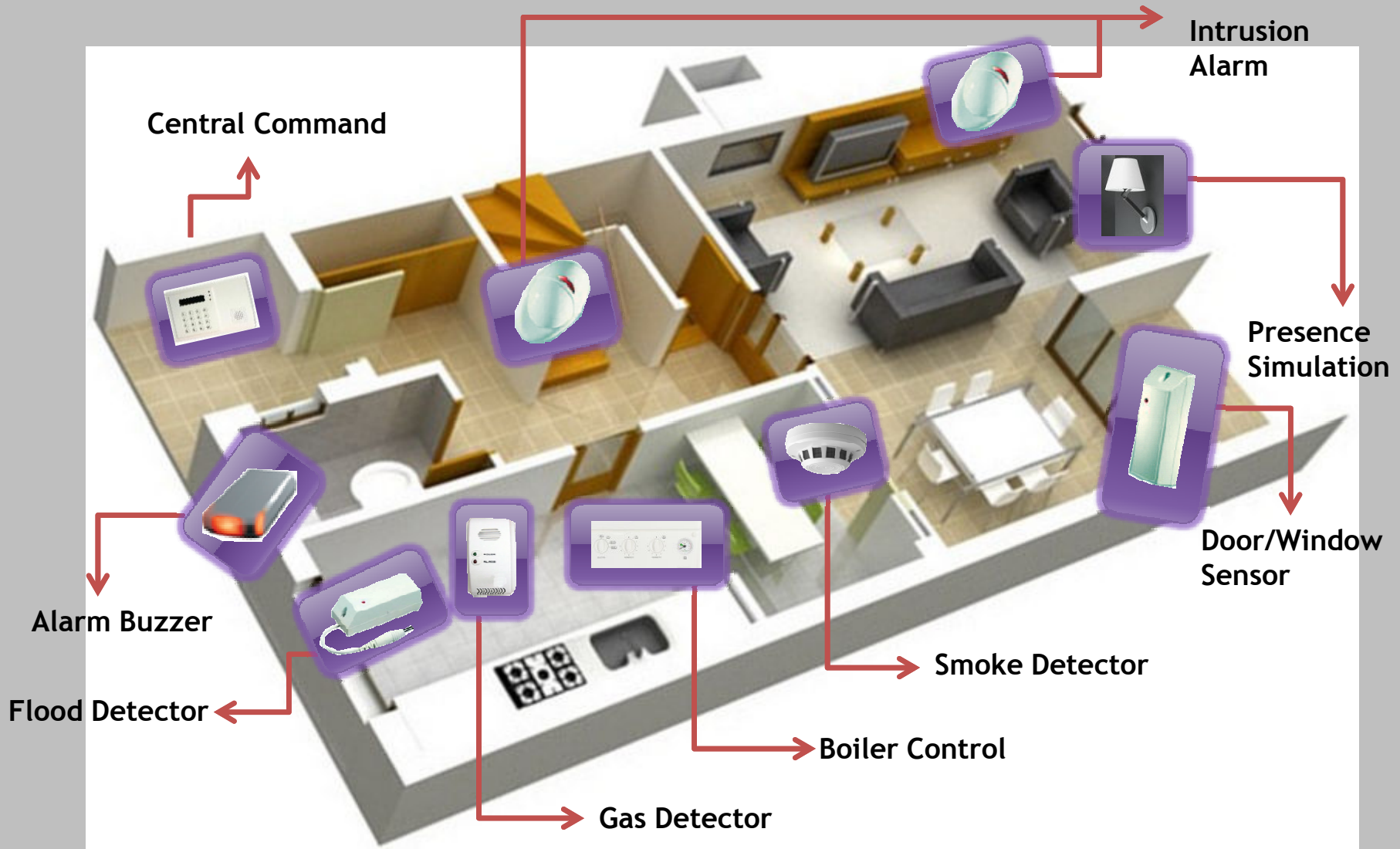
Recognized by the President,
Aníbal Cavaco Silva,
during the Fifth Innovation
Meeting held by COTEC in June
2008



Metering Europe - Innovation Award



Smart Homes



Integration of other systems

iMeter Kit

2. Communication with the consumer:



Rede Social
EnerBook



TV



Display



Mobile
Phone

3. Possible system integration:



Assisted
Living



Security



Domotics



Others

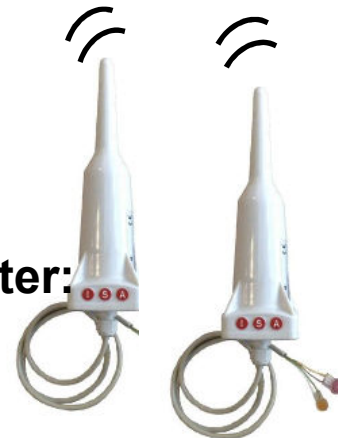
- Residential metering, and...



iMeterBox



Electricity Metering



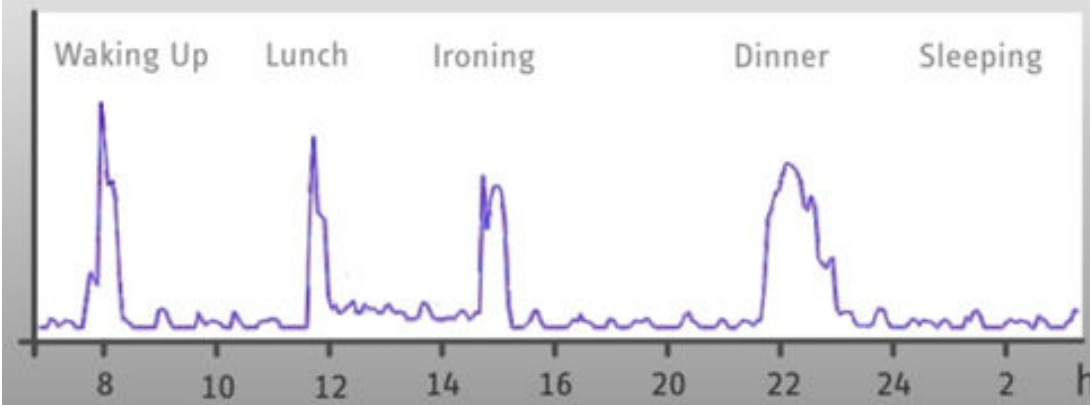
NetMeter:
Gas &
Water



...sub-metering... Home Area Network



Real-Time Energy Diagram



EnerBook interface showing energy management data for user Bruno Soares.

- Perfil:** Bruno Soares. Message: "Vejá aqui os seus apêzcos para reduzir os consumos!" and "Como se um consumo anual superior ao anterior".
- Indicadores:** Diário Mensal Anual. Includes a bar chart of energy consumption (kWh) by day and a "Reportar" button.
- Previsão de Consumos Anuais:** Based on average daily consumption.
 - Electricidade: 78,54 € (606,9 kWh)
 - CO₂: 242,76 Kg emitidos
 - Carros: 4 carros em circulação
 - Árvores: 10 árvores abatidas
- Valores médios de Outubro:**
 - Total: 6,30 €
 - Electricidade: 2,61 € (2,63 kWh)
 - Gas: 1/2 radio € (1/2 radio em)
 - Água: 4,0 € (3,0 m³)
 - 5,7% Desde Mês Anterior (Increase)
 - 5,7% Desde Mês Anterior (Decrease)
 - 0% Desde Mês Anterior (No Change)
 - 4,3% Desde Mês Anterior (Decrease)

Energy efficiency leveraging other services



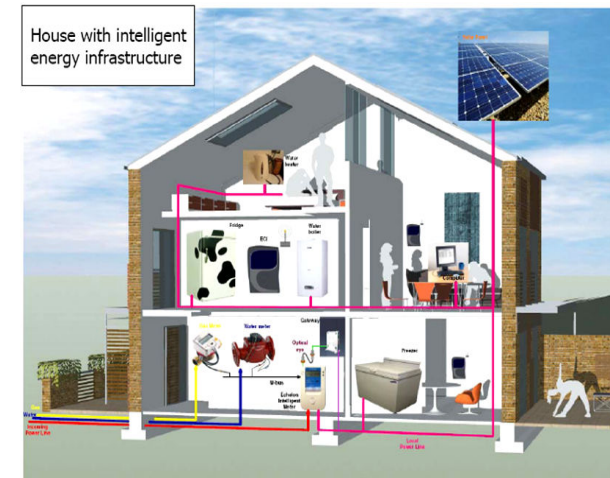
Integration with
Security, Domotics,
Well-Being and HealthCare
Solutions and Services...



Interoperability



Smart Home



Energy Saving Advisory Services, Security and Ambient Assisted Living Alerts...

Smart Homes - EnerBook



✓ allows users to view real-time historical and current data on their consumption of water, gas and electricity;

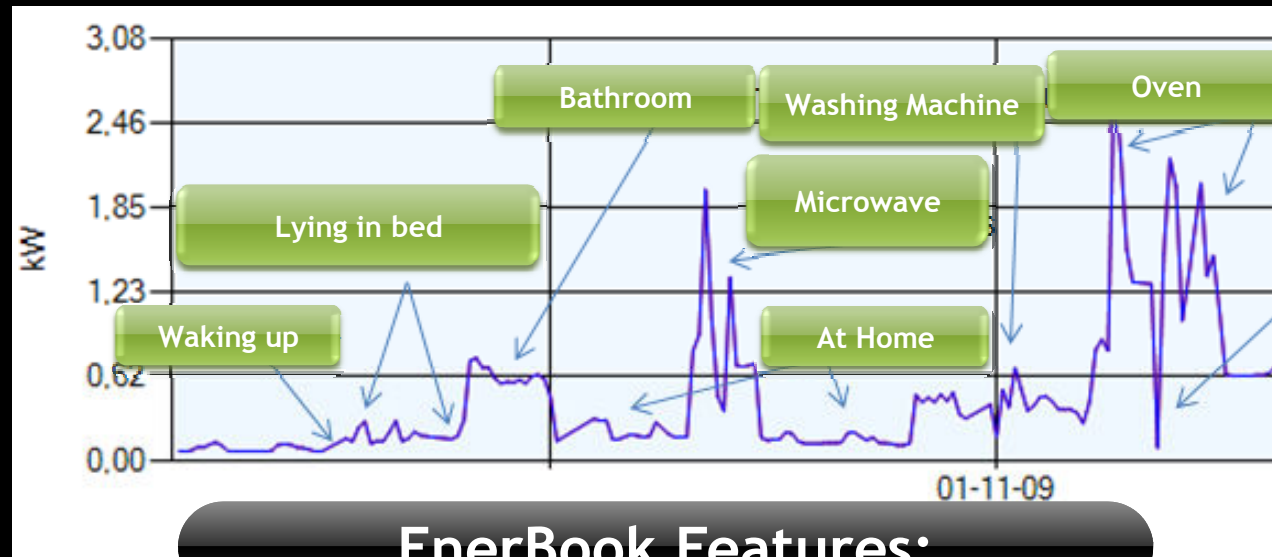
✓ makes it possible for consumers to manage their consumption independently and to monitor the development of their carbon footprint.



Energy Solutions - EnerBook



Enerbook displays your consumption as a Home Electrocardiogram!



EnerBook Features:

Historical Charts

Consumption and cost estimation

Power consumption and real-time cost

Alarm triggering on preset limits

- The energy channel (PT partnership)



iMeter Tom. Sala

Inovação

Equipamentos

Sair

Consumo Instantâneo

0,02 kWh

Previsão de Custo Mensal

simples	1,91 €
bi-horária	1,46 €
pequena	1,43 €

Dia

Mês

Ano

iMeter Tom. Sala

Inovação

Equipamentos

Sair

Fase A

Água

Gás

Tom. Cozinha/Frig...

Tom. Sala

Iluminação

Dia

Mês

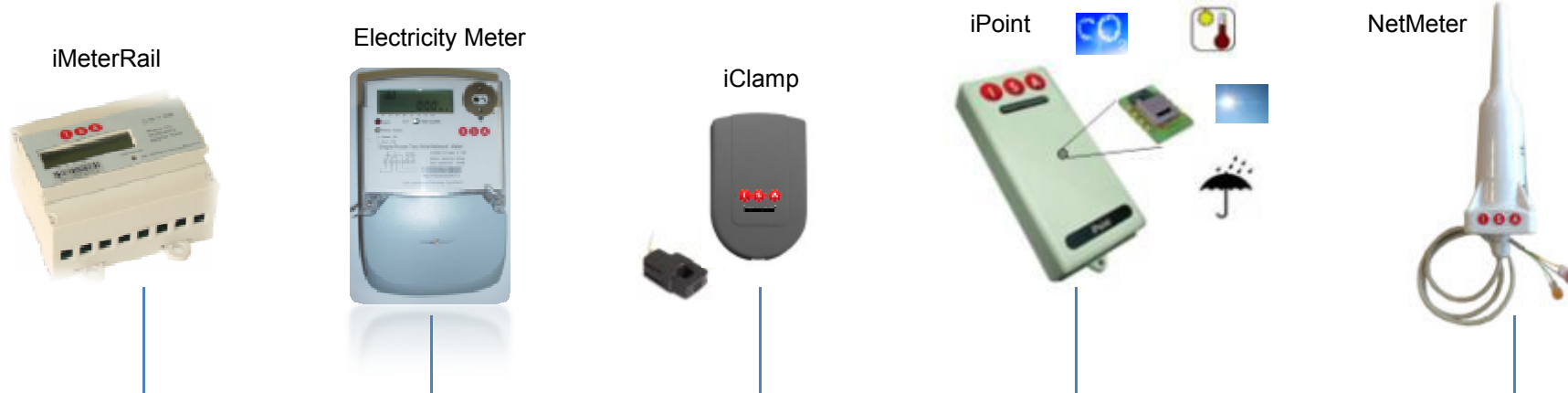
Ano

Next offers in the iMeter lineup

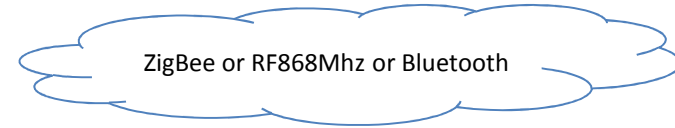


iMeter Kit

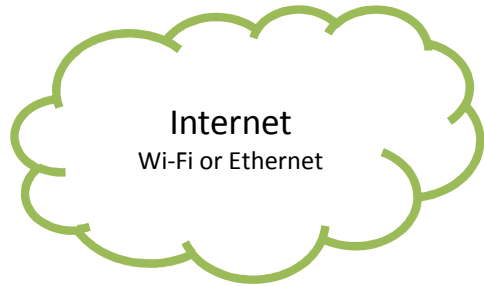
iMeter Overview



iMeterPlug



ZigBee or RF868Mhz or Bluetooth



Internet
Wi-Fi or Ethernet



iMeterDisplay



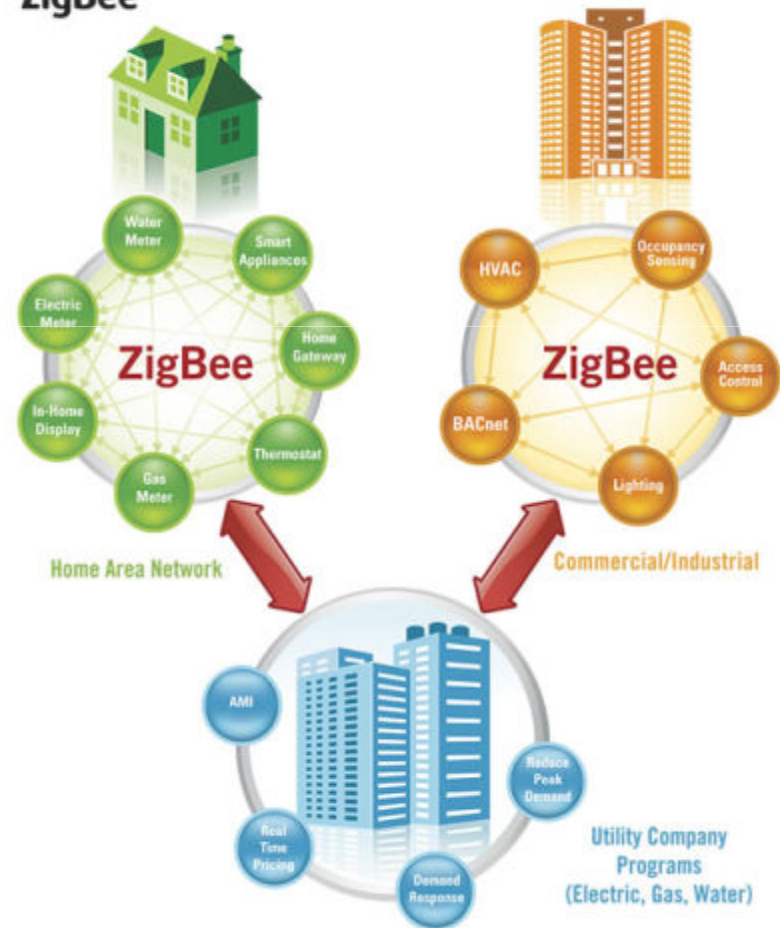
iMeterDisplay



- High Resolution Color Display
- ZigBee Ready – Smart Energy Profile
- ISA Mesh Network – 868Mhz
- Bluetooth (optional)
- Wi-Fi or Ethernet (optional)
- Complementary to Enerbook
- Data Logging Capacity
- Remote Firmware Upgrade
- Ambient Temperature Sensor

ZigBee Smart Energy

ZigBee®



iMeterClamp



- In house proprietary Design
- More accurate than the competitors
- RF 868Mhz or ZigBee
- Low cost
- Battery Powered (replaceable on the field)
- Low power consumption
- Smart Sensor: automatic acknowledgement, if the message is not delivered it stores the data with a time stamp



RF 868MHz or ZigBee



iPoint Confort



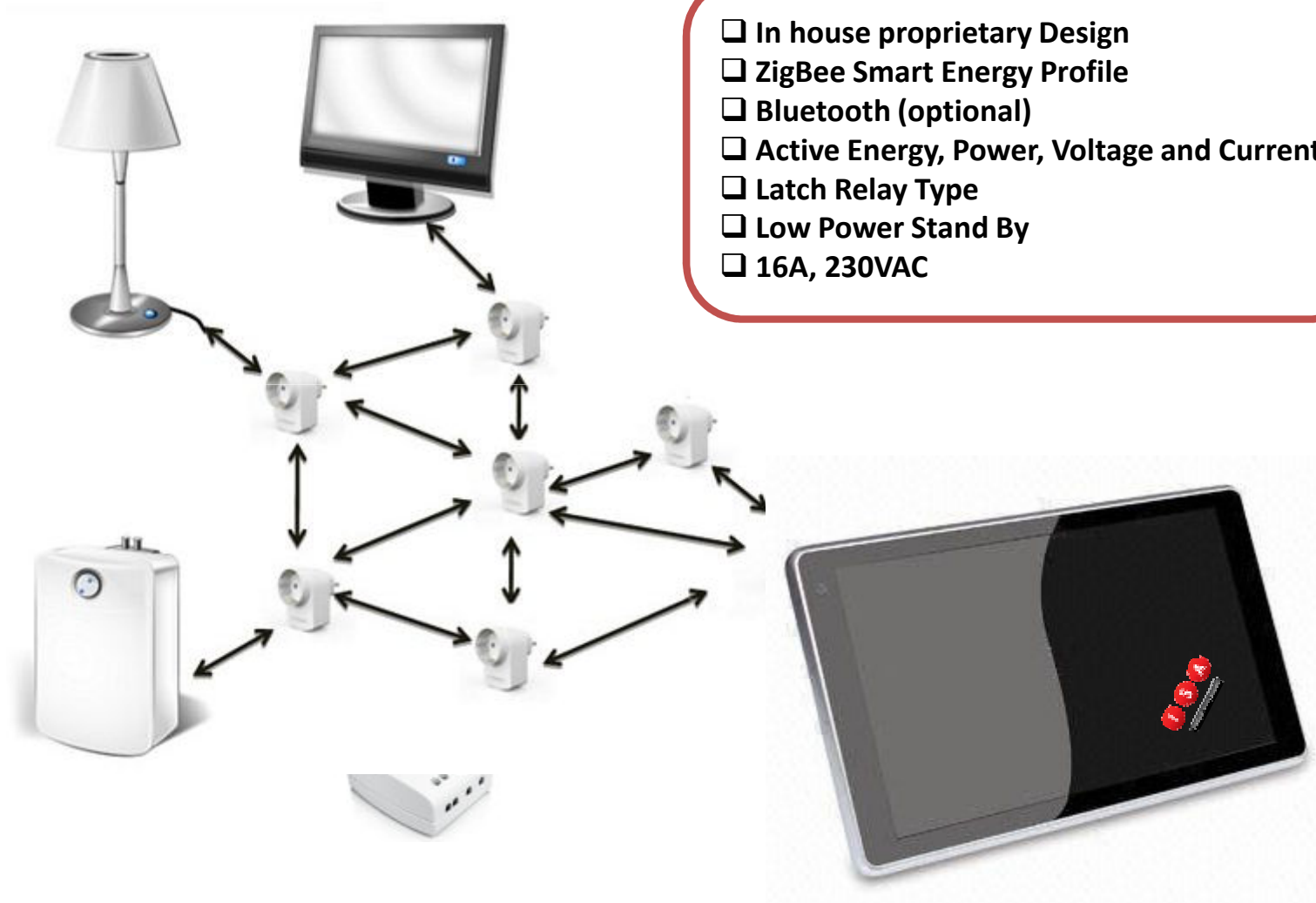
- In house proprietary Design
- Two models available:
 1. Battery powered with temperature, humidity, light intensity and motion sensor
 2. Mains powered with CO2 Sensor
- RF 868Mhz or ZigBee
- Very low cost
- Low power consumption
- Smart Sensor: automatic acknowledgement, if the message is not delivered it stores the data with a time stamp



RF 868MHz or ZigBee



iMeterPlug



- In house proprietary Design
- ZigBee Smart Energy Profile
- Bluetooth (optional)
- Active Energy, Power, Voltage and Current
- Latch Relay Type
- Low Power Stand By
- 16A, 230VAC

NetMeter



- ATEX Zone 0 Certified
- IP68 Enclosure
- Pulse output Gas and Water Meter Compatible
- ISA Mesh Network – 868Mhz
- Lithium Powered Battery (not replaceable on the field)
- Smart Sensor: automatic acknowledgement, if the message is not delivered it stores the data with a time stamp
- Low Cost



RF 868MHz or ZigBee



iMeterBox (B2B)



- Same functionality as iMeterDisplay (where a display is not needed)
- ZigBee Ready – Smart Energy Profile
- ISA Mesh Network – 868Mhz
- Bluetooth (optional)
- Wi-Fi and Ethernet
- Data Logging Capacity
- Remote Firmware Upgrade



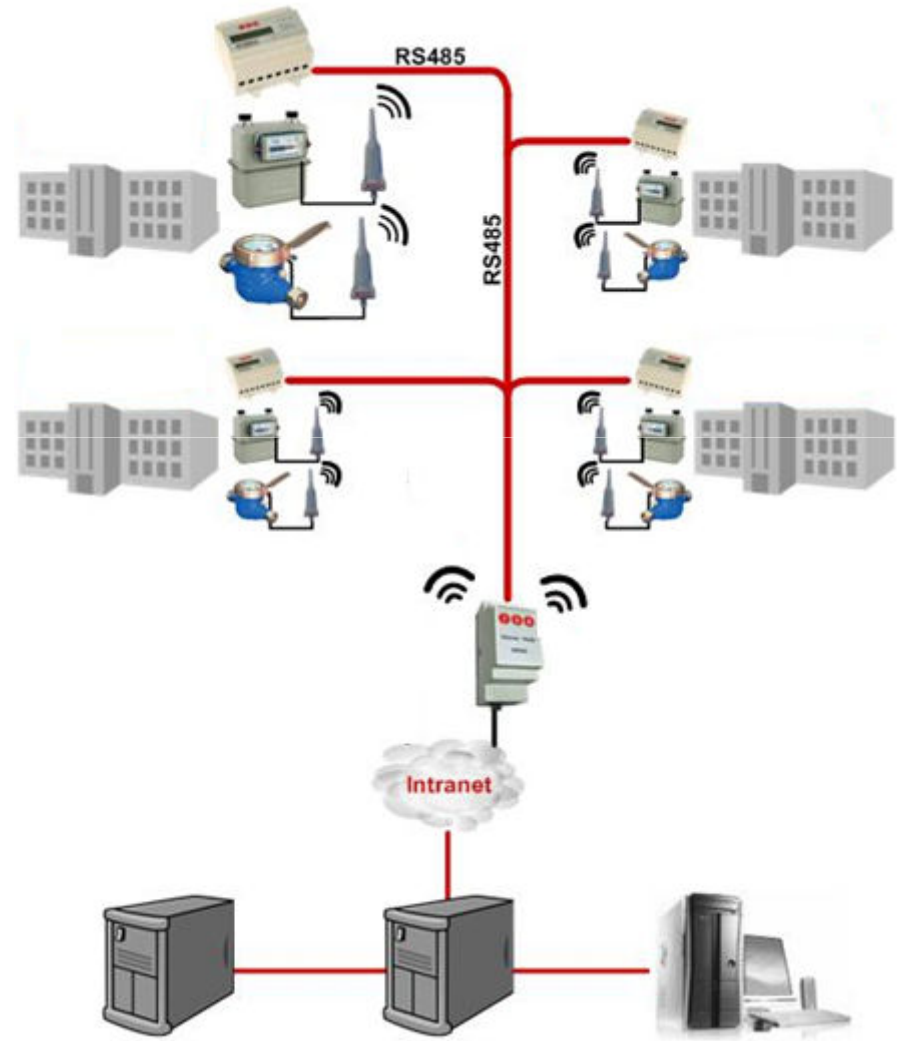
iMeterBox Industrial



- Same functionality as iMeterDisplay
- DinRail Mount
- RS485 Support for iMeterRail Reading
- ISA Mesh Network – 868Mhz
- Ethernet Connectivity
- Ethernet to RS485 transparent mode
- Data Logging Capacity
- Remote Firmware Upgrade
- 12V/24V Power Supply



iMeterBox Industrial



RF DinModule



- DinRail Mount
- RS485 Support for iMeterRail Reading
- ISA Mesh Network – 868Mhz
- ZigBee Smart Energy Profile
- RF to RS485 transparent mode (no logging)
- 230VAC Power Supply



← RF 868MHz or ZigBee →








Roadmap



								
iMeterDisplay	iMeterClamp	iMeterPlug	NetMeter	iPoint Confort	iMeterBox	iMeterBox Industrial	RF DinModule	Smart Meter Integração ZigBee
Q1 2011	Q1 2011	Q4 2010	Q3 2010	Q2 2011	Q1 2011	Q4 2010	Q2 2011	Q4 2010

ZigBee & RF868Mhz

					
iMeterDisplay	iMeterClamp	iMeterPlug		iMeterBox	RF DinModule
Q1 2011	Q3 2011	Q2 2011		Q2 2011	Q3 2011

Bluetooth

Innovating for you!



Q & A

For more information, contact:

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José Luís Malaquias jmalaguias@isa.pt

4. Projectos de referência em curso



Manchester - UK - Town Hall

4. Projectos de referência em curso



Lisbon - Portugal - Town Services

4. Projectos de referencia em curso



Helsinki - Finland - Schools

4. Projectos de referência em curso



Leiden - Holland - City Services

UNIVERSIDADE DE AVEIRO

- Contabilidade Energética
- Comunicação com utilizadores



Our references: utilities



ISA's solutions are monitoring
24 000 GWh remotely!

This corresponds to
25% of energy
produced in Portugal

