

# EU SEW : GreenTouch Panel discussion

## 20th of June 2012



THE BEST-RUN BUSINESSES RUN SAP™



# Agenda



SAP

## 1. Energy trends & EU targets

## 2. Why SmartGrids ?

## 3. EU Priorities & projects





## 4. EU Roadmap 2020

## 5. Advanced Technologies

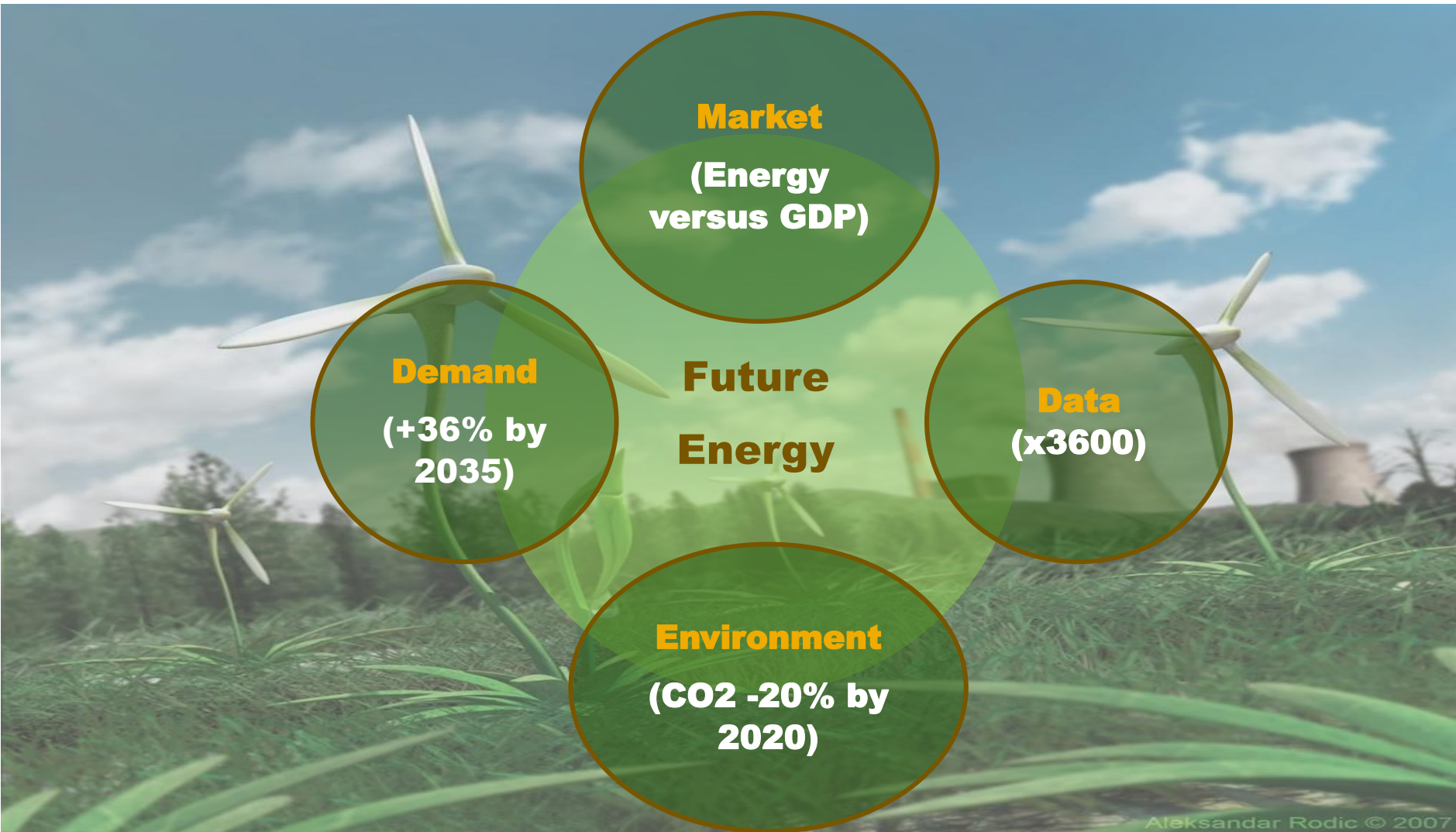
## 6. Conclusion



# New market structure in Europe

		Gencos	TSOs	DSOs	MeterOps	Retailers
Electricity		<ul style="list-style-type: none"> <li>• Mining</li> <li>• Construction</li> <li>• Generation</li> </ul>	<ul style="list-style-type: none"> <li>• Transmission</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution</li> </ul>	<ul style="list-style-type: none"> <li>• Metering</li> <li>• Operations</li> </ul>	<ul style="list-style-type: none"> <li>• Supply &amp;</li> <li>• Sales/Retail</li> </ul>
		Assets intensive				Services intensive
Gas		<ul style="list-style-type: none"> <li>• Exploration &amp; Production</li> <li>• Purchasing &amp; Trading</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Distribution</li> <li>• Storage</li> </ul>	<ul style="list-style-type: none"> <li>• Metering</li> <li>• Operations</li> </ul>	<ul style="list-style-type: none"> <li>• Supply &amp;</li> <li>• Sales/Retail</li> </ul>
Water		Exploration Preparation	Transport	Distribution	Metering operations	Supply & Customer Service
Waste		Services development	Selling	Planning and fulfilment	Treatment & Disposal	Billing & Customer Finance

# Energy trends : Future Energy driving GDP growth



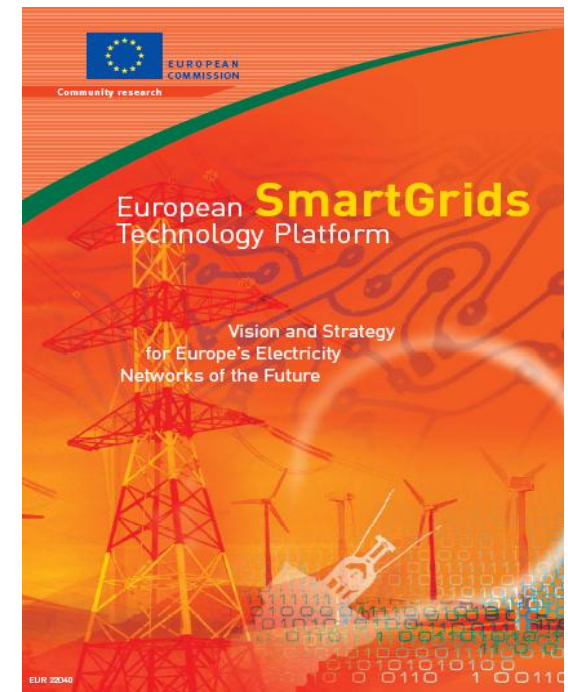
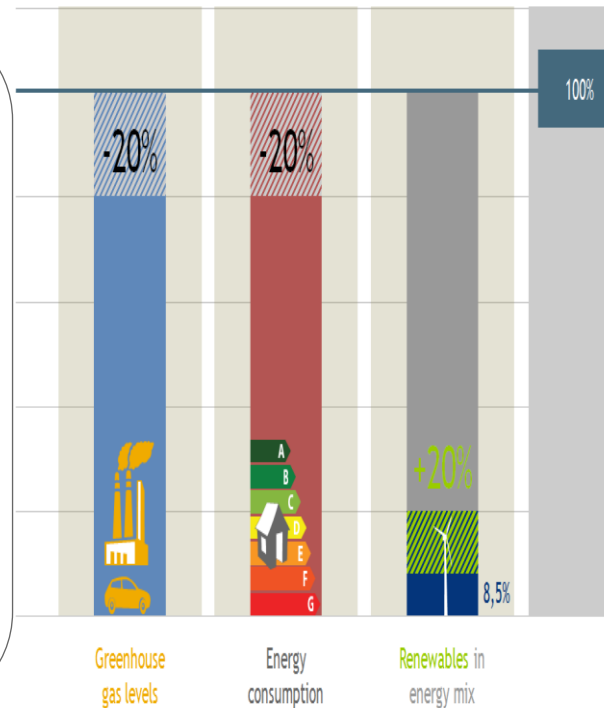
# EU targets 2020

Security of Supply

Environment compliance

Open market

20/20/20 by 2020h





# Past or future ?

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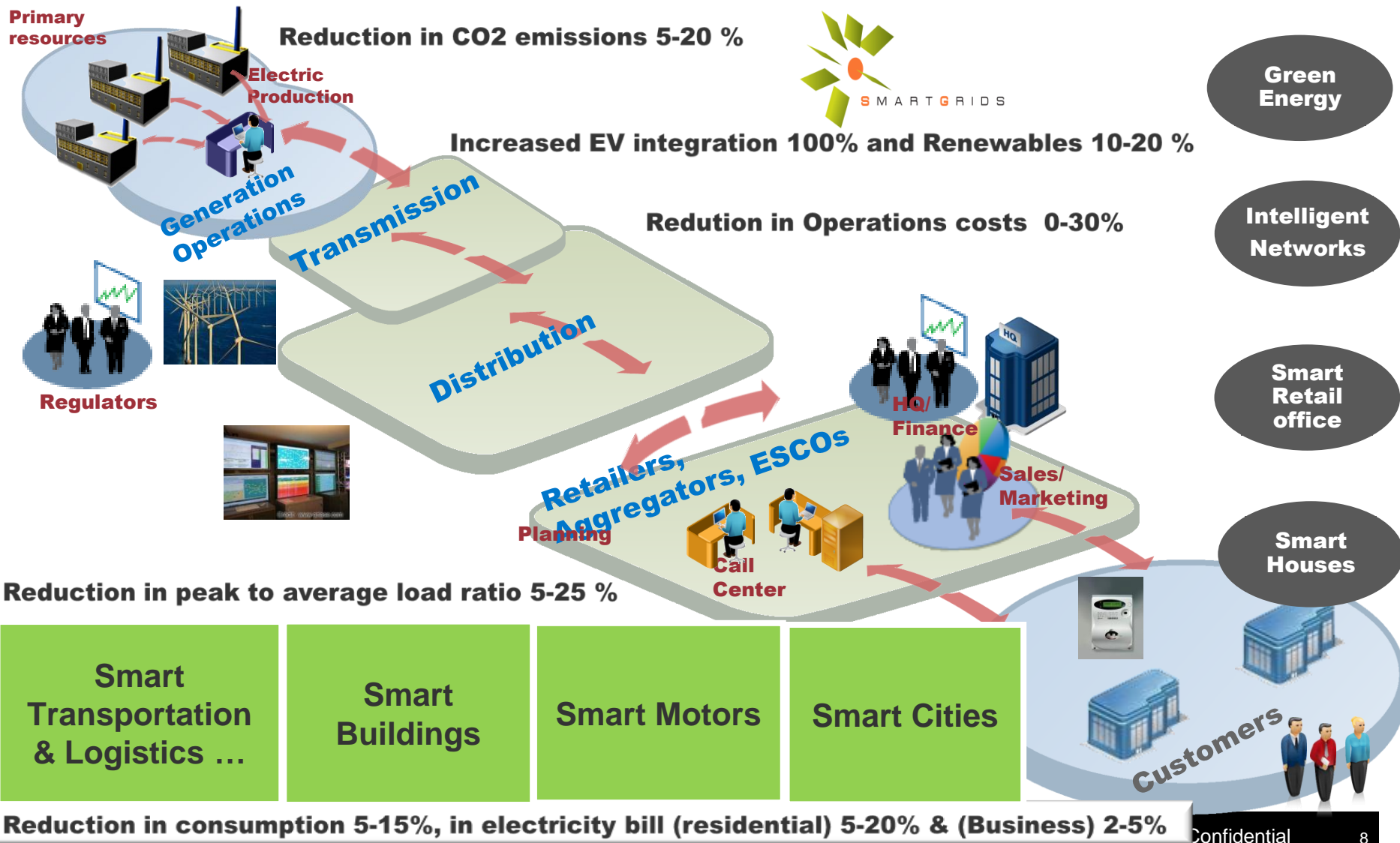
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# SmartGrids aims at Optimizing the Energy Value Chain

## KEY MESSAGE

- SmartGrids = Energy Supply Chain + Customers' Consumption Optimization

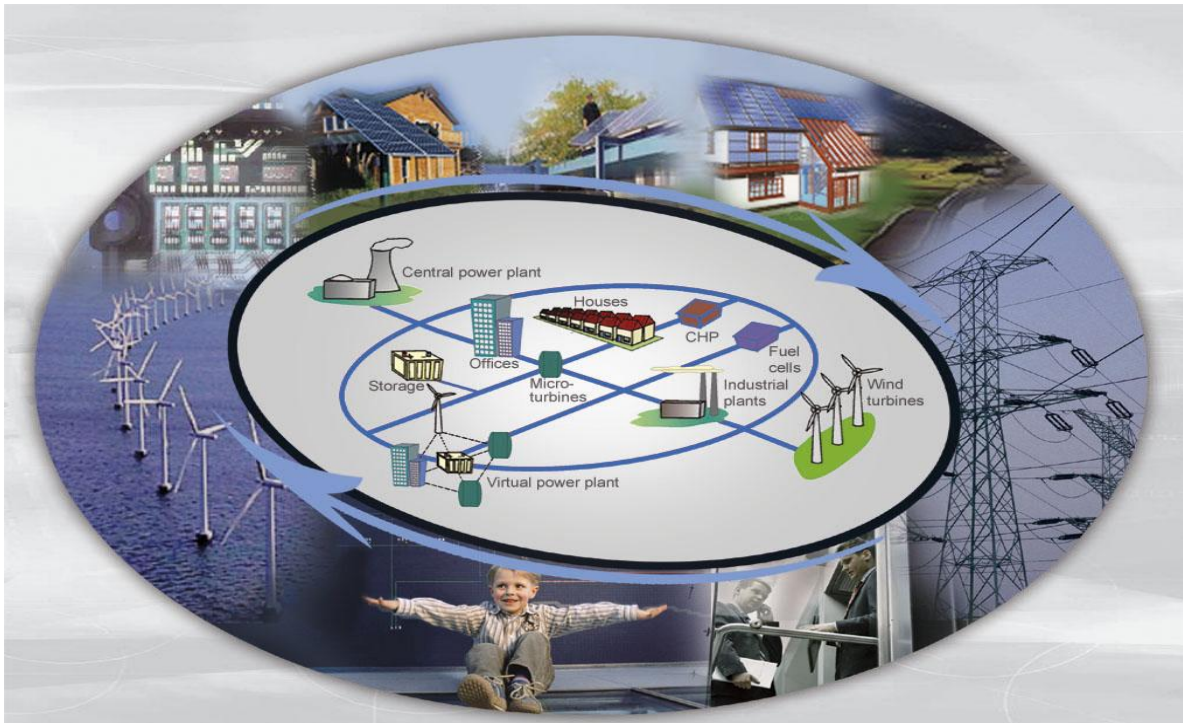




# Energy of the future 2020 is able to create up to 3 Million jobs in EU27

## KEY MESSAGE

- EU Energy Initiatives 2020+ : SmartGrids, Photovoltaic, Wind, Carbon Capture and Storage, Sustainable Nuclear, Electrical Vehicles, Smart Transportation & Logistics, Smart Cities, Smart Buildings, Smart Lighting, Smart Manufacturing, Energy Efficiency



# Agenda



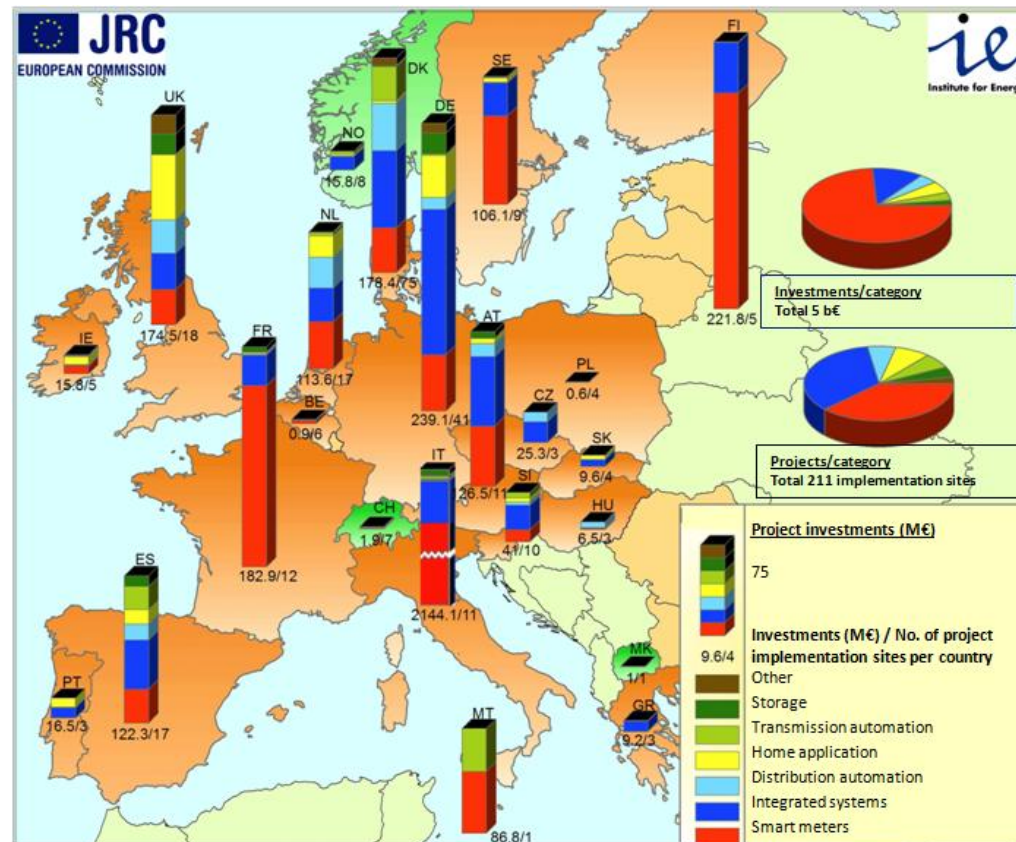
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# 211 SmartGrids related projects running in EU27 at a total investment of 5 b€ (source : European Commission JRC)

## KEY MESSAGE

- Every EU Member State has invested in SmartGrids and future Energy
- Excluding 2 b€ ENEL deployment, 3 b€ R&DD have been spent





# German SmartGrids project (e-Energy)

## KEY MESSAGE

- Connecting via a Real Time ICT platform Energy Providers and Consumers
- 140 M€ large scale demonstration of 6 projects (60 M€ public, 80 M€ private)
- SAP teamed up with EnBW in MEREGIO and MEREGIO mobile projects



IKT FÜR  
ELEKTROMOBILITÄT



eTelligence  
Modellregion Cuxhaven

GridSurfer  
Weser-Ems, Niedersachsen



RegModHarz  
Modellregion Harz

Harz.EE-mobility  
Harz, Sachsen-Anhalt

E-DeMa  
Modellregion Rhein-Ruhr

e-mobility  
Region Rhein-Ruhr, Nordrhein-Westfalen



Smart Watts  
Modellregion Aachen

Smart Wheels  
Aachen, Nordrhein-Westfalen

Modellstadt Mannheim  
Modellregion Rhein-Neckar

Future Fleet  
Region Rhein-Neckar, Baden-Württemberg



MeRegio  
Modellregion Baden-Württemberg

MeRegioMobil  
Stuttgart, Karlsruhe, Baden-Württemberg



eE-Tour Allgäu  
Allgäu, Bayern



# International SmartGrids, Smart Energy investments

**CO2 reduction 25%**  
**METI's 2009 (Remote Island SmartGrid project, Smart Charge, Smart House)**



**1<sup>st</sup> country SmartGrids system. Green generation from 2.4 to 11% by 2030**  
**64 M\$ SmartGrids pilot in 2011 (Jeju)**



**R-APDRP Government Program**  
**Energy losses reduction using ICT**  
**15 States, 5 to 10 years projects**



**7.3 b\$ as stimulus loans and grants**  
**Reduce Energy consumption by 40%**



**100 SmartGrids Projects Investment**  
**3.4 b\$ public + 4.7 b\$ private**  
**NIST standards**





# Jeju Island test-bed SmartGrids in Korea (SAP & KT, Samsung, KEPCO, SK, LG, ...)



## KEY MESSAGE

- SAP, Korea Telecom, Samsung, KEPCO, SK, LG and other partners
- The official SmartGrids project of Korea with 64 M\$ funding

### 1. Smart Place

### 2. Smart Transportation

### 3. Smart Renewable

### 4. Smart Power Grid

### 5. Smart Electricity Service



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Aleksandar Rodic © 2007

# SET Plan deployment in EU27



## KEY MESSAGE

- EU Directives should be converted into investment opportunities
- SET Plan deployment in Europe is an opportunity for Energy transformation

## EU directives adopted and communications to EU27 Member States

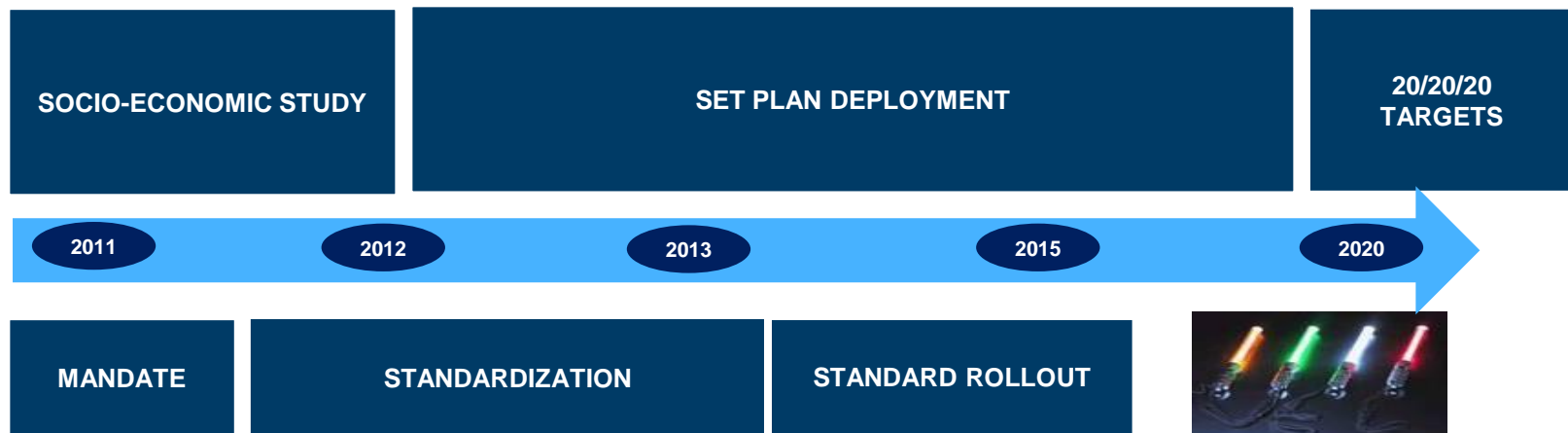
Renewables Directive (2009/28/EC, Art16)

Market regulation: 3rd energy package adopted (Directive 2009/72 & 73/EC)

European Infrastructure Package, 11/2010 and 10/2011

Communication on Smart Grids, COM(2011)202 – 12/04/2011

Energy Efficiency Action Plan and revision of ESD in 06/2011



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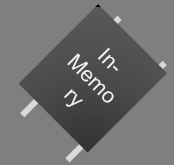


# The In-Memory Revolution « at the speed of thoughts » : Predictions in seconds !

HANA

## KEY MESSAGE

- New prediction services in real time (3600x faster, < 1s)
- What if scenarios to critical questions can be answered



SAP HANA



What if 10% Green production ?

What if 20% of EV charging ?

What if 5% tariff increase

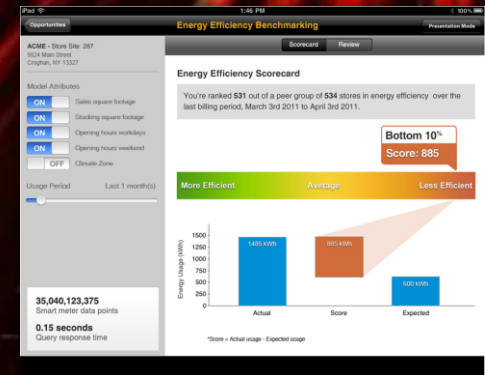
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Production



Grid



Retail



# Energy efficiency benchmarks

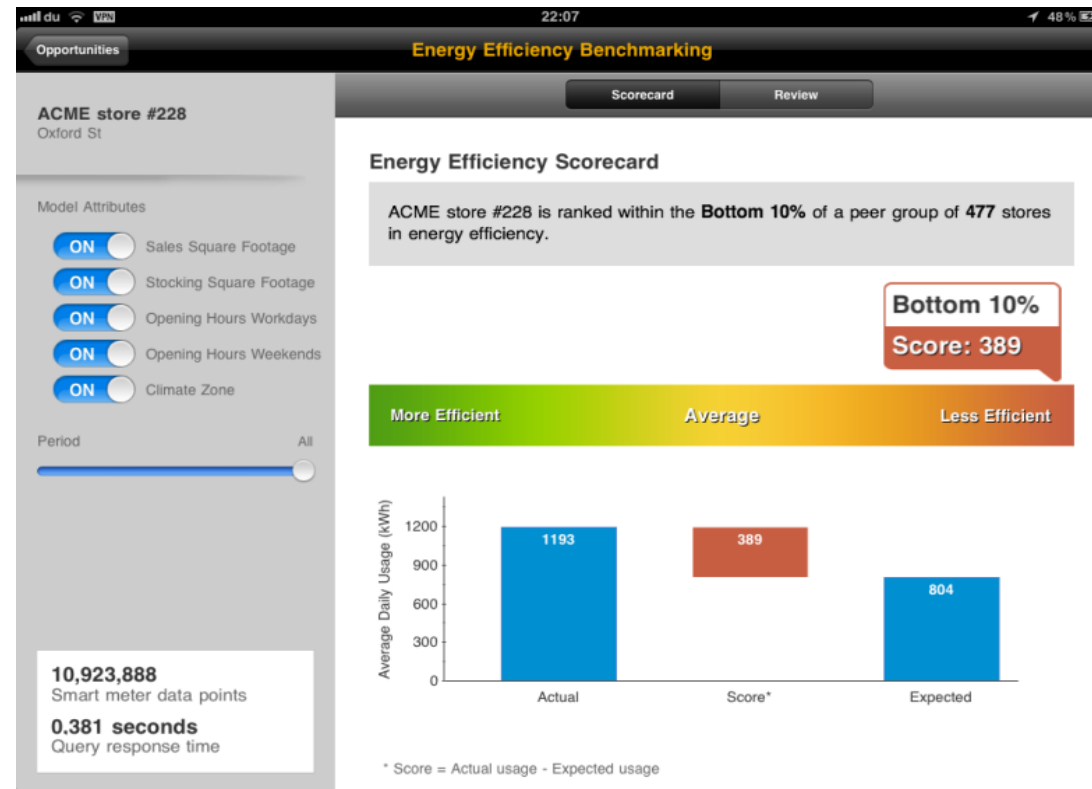
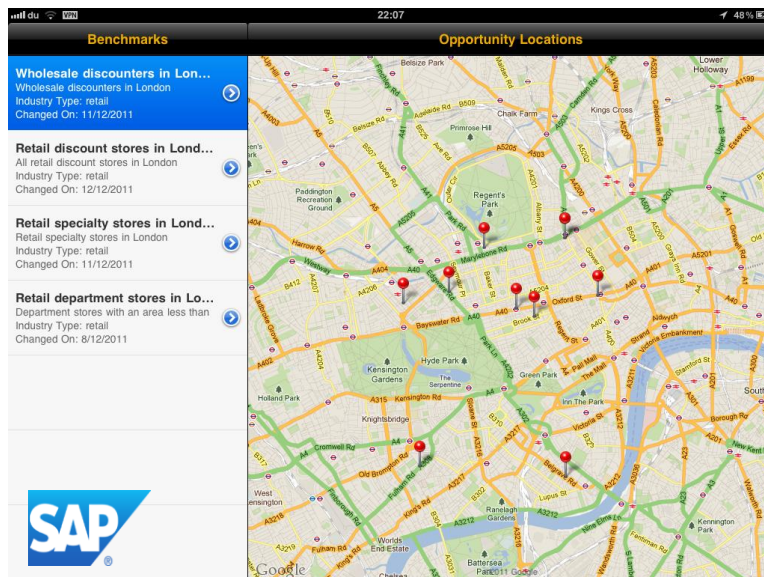
## Mobility and HANA

### KEY MESSAGE

- Available Mobile HANA App. for C&I customers : Retailer with 477 stores
- Store # 228 scores 389 in bottom 10% Energy Efficiency
- 11 Million meter data points read in 0.4 seconds (empowered by HANA)

### Energy efficiency benchmarks for C&I customers

#### Energy consumption profile per customer




# Electric Car Fleet, Car Pooling

## Electromobility

### KEY MESSAGE

- Within the Future Fleet EU funded project, SAP 100 Fleet EVs tested
- Consume to Cash solution (Telecom like)
- Demonstrated at the SAP Future Energy Centre (Karlsruhe)





0032706 (logout)

SAP

Reservations

Travels

Info

Here you can manage your travel requests by creating, editing and deleting those.

Logged in successfully.

Manage My Travels

New Travel

July 2011

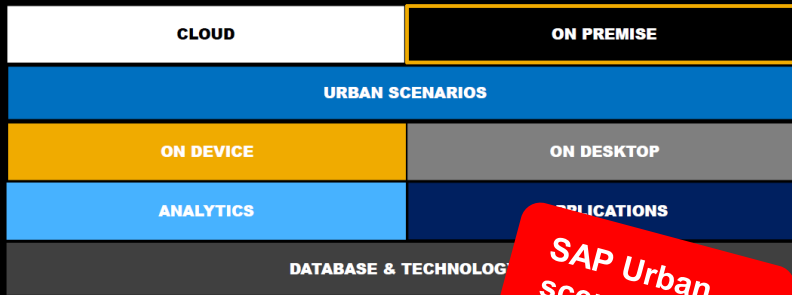
today

Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24

## KEY MESSAGE

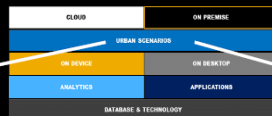
- Staged Sustainability : Citizens, Enterprise, Environment, Cities, Europe
- SAP Smart Sustainable Cities solution and SAP Urban available Scenarios

## SAP PORTFOLIO FOR URBAN



SAP Urban scenarios

## SAP URBAN SCENARIOS

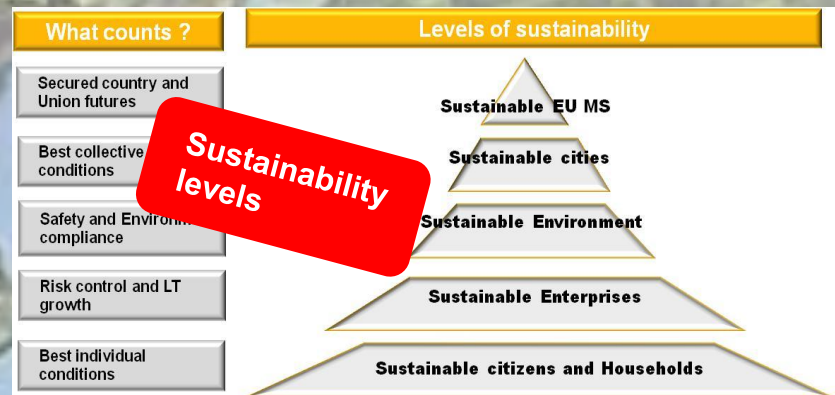


LOB

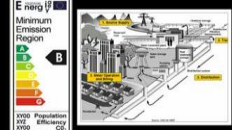


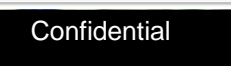
SCENARIOS

- GOVERNANCE
- TAXATION & BUDGETING
- RECREATION & CULTURE
- PUBLIC SAFETY
- HEALTH
- TRANSPORTATION
- PLANNING
- UTILITIES
- EDUCATION
- SUSTAINABILITY

- PUBLIC ADMINISTRATION
- TAX & REVENUE MGT
- INCIDENT & EMERGENCY MGT
- CITY ANALYTICS
- PUBLIC BUDGET FORMATION
- CITY CONNECT
- INVESTIGATIVE CASE MGT
- SOCIAL BENEFITS



Sustainability levels

Sustainability topics	Sustainability categories	ICT focus areas covered by SAP	Illustration
1. Environment performance	Greenhouse Gas Performance	Carbon emissions Carbon storage Carbon labelling Renewable Energy Resources	
2. Environment Water optimization	H2O, Natural resources (energy production, water use)	Water purification, infrastructure and supply Management Waste Water Management	
3. Energy Resource optimization	Energy consumption (energy efficiency, energy storage)	Global Monitoring & Control Energy Data Management Energy Supply optimization	
4. Labor, Health and Safety	Regulatory compliance Indexing and standards	Regulatory compliance Waste Management and Recycling	
5. Product Lifecycle Safety	New regulation, safety recalls, industry standards (e.g. REACH), Nuclear safety management, Solid waste	Product lifecycle management Waste Management and Recycling	
6. Financial optimization	Carbon Trading Markets	Emissions Management (EM) Carbon Marketplace Trading, real Time Pricing, Governance Risk and Compliance (GRC)	

Smart Cities  
SAP Solution map

# Tsunami of data in a connected world



1 billion Users  
7% World Population



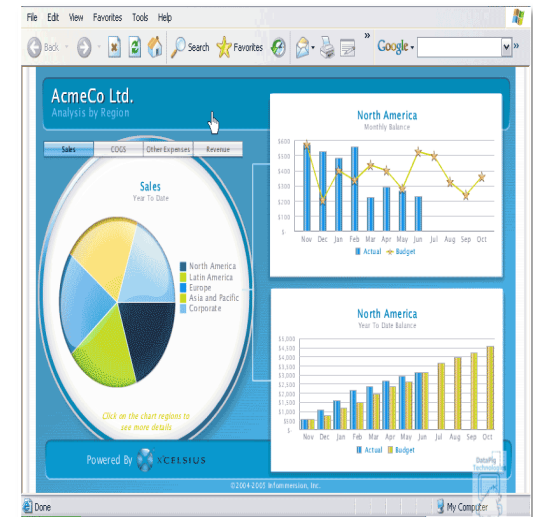
135 Million Users  
2 billion people searches



25 billion Downloads  
585,000 Applications



15 billion Downloads  
438 000 Applications





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# What will change ?

		WILL CHANGE TO...	BECOME	WITH ...
1	ENERGY	NO MORE A COMMODITY	OPTIMAL	SMARTGRIDS
2	ENVIRONMENT	BE IN THE DESIGN OF EVERY DEVICE	ANYWHERE	SUSTAINABILITY
3	CITIES & CITIZENS	CONNECTED & EMPOWERED	ONE WORLD	CLOUD BUSINESS WEB
4	DATA	ANYWHERE, ANYTIME PREDICTABLE	VISIBLE	HANA MOBILE ANALYTICS
5	DECISION MAKERS	AS FAST AS YOUR THOUGHTS	PROACTIVE	ANALYTICS HANA



**Together let's create Energy  
for a better World !**

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