



INNOVATE *LIKE NEVER BEFORE*

Disruptive B2B2C eBusiness solutions provided on next-generation mobile empowered Business Webs

Prof. Dr. Martin Przewloka, SAP Mobile Research



IT STAR Conference Bari, May 2013

Agenda

- 1 Research at SAP in a Nutshell
 - 2 Some Challenges and Trends
 - 3 The (Mobile) Business Web Vision
 - 4 First Scenarios
-

We look into the future of IT and business software.



How will the business world look like in 3, 5, and 10 years?

What are game-changing future trends?

How can we help our customers to run better?

We are a global team



Locations with 4 or more employees

We co-innovate and collaborate.



BUSINESS STRATEGY

We identify, evaluate, and create new businesses and next big things.

emerging economies

future energy

future logistics

future manufacturing

future retail

urban management



TECHNOLOGY STRATEGY

We strengthen our technological foundation.

security

big data

hardware

platforms

human computer
interaction



TALENT & SKILL STRATEGY

We benefit from our global network.

university ecosystem

software campus



talent attraction &
retention

PhD program

Our research approach



RESEARCH ENGINE

- Applied research
- 3 to 5 year application and technology innovations



COMMERCIALIZATION ENGINE

- Business incubation
- 1 to 3 year technology and business innovations

A dark gray world map is visible in the background of the slide. The map shows the outlines of continents and countries. A solid yellow horizontal bar is at the top of the slide.

Agenda

- 1 Research at SAP in a Nutshell
 - 2 Some Challenges and Trends**
 - 3 The (Mobile) Business Web Vision
 - 4 First Scenarios
-



1972

Our World's population was **3.8bn**
Only **36%** were living in cities.

A dark gray silhouette of a world map serves as the background for the entire slide. The continents are outlined in a slightly lighter shade of gray, and the oceans are represented by the dark background.

2012

Our World's population is **7bn**.
Already **50%** are living in cities.


A dark gray world map with white outlines of continents and countries, serving as the background for the text.

2052

Our World's population will reach **9bn**

Predicted **70%** will live in cities.

Manage challenges of increasing urbanization

- 
- A scenic view of a city skyline from a hillside. In the foreground, a large, dark, spreading tree stands on a rocky, vegetated slope. The sun is visible behind the tree's canopy, creating a lens flare effect. In the background, a dense urban skyline is visible, partially obscured by a light haze or fog. A semi-transparent dark box on the right side of the image contains a list of challenges.
- Climate change
 - Citizen demands
 - Fiscal pressure
 - Urbanization



Customers are looking for value



3.5

billion
coupons redeemed
in 2011

45%

want retailers to
understand their
preferences

>70%

have a loyalty or
rewards card

Data, Data Everywhere

Digital Media



Business
Data



A/V Streams



Social Networks



Digital Shadow



Logfiles



Surveillance Videos



Internet of Things



RFID



Smart-Grids



Genome
Sequencing

Predetermined Trends we will face

Non-Technological Drivers

Demography

Population growth will take place in the developing world

Economic Power is Multi-polar

Wealth, prosperity and economic power will continue dispersing across the world

Healthcare

Will increase as major focus of public concern and spending due to populations age

Natural Resource Constraints

Perceptions of resource shortages drive national strategies based on zero-sum calculus

Life-long Education

Potential for individual human agency will expand in a range of ways

Technological Revolutions

Mobile Connectivity

Virtual connections grow, even as physical networks shrink and localize

Masses of new data

Availability of data to be queried for new analytical insight will change our mindsets

Digitization

Will continue to roll through industries and business processes of all kinds

User experience

Rapid improvement of the user experience, legibility and action ability of systems

Access to information

Real-time information availability will change the forms of organizations

Trends in Enterprise Computing

Business Network as the Model

Businesses are moving away from static supply chains towards **adaptive and dynamic value networks formed through collaboration.**

Everything as a Service

Business activities from mainstream industries will move into the Internet of Services and will be presented as the **next wave of consumable services.**

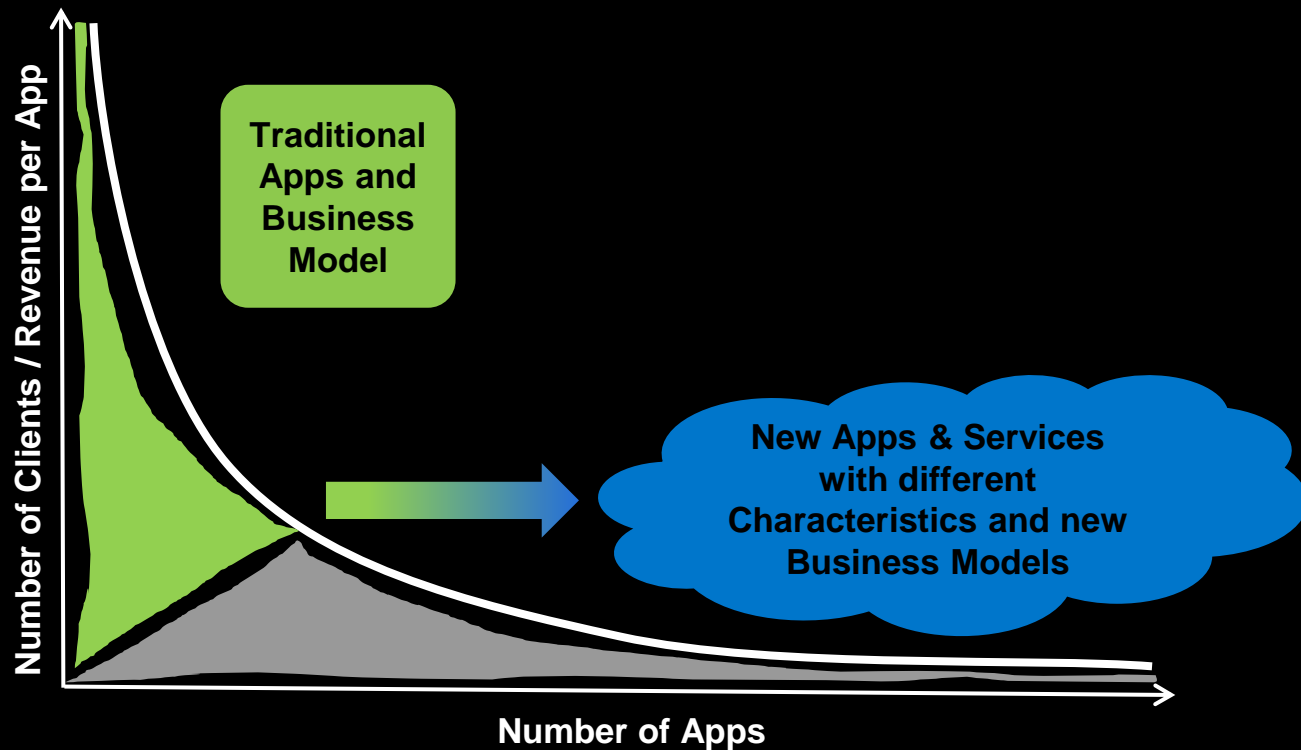
Internet of Things

Massive volumes of information from intelligent and connected things will change the way businesses and consumers interact.

Technology Disruption

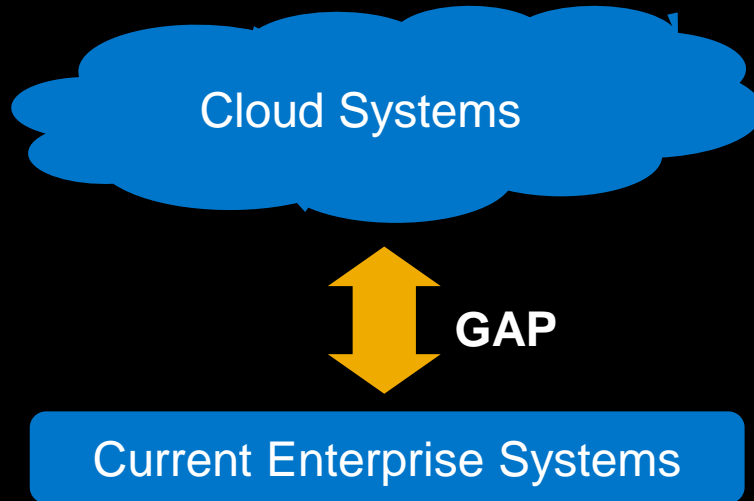
Traditional business models are being disrupted by technology trends including **enterprise mobility, in-memory capabilities, real-time analytics and cloud computing.**

A shift in the App market opens up unique opportunities



The Inflection in Enterprise Software

The Emergence of the Cloud indicates the need for new “Systems of Engagement”*



Emergent Needs

Mobility

Big Data

New User Experience

Elastic

Social

Internet of Things

* Enterprises Shifting from 'Systems of Record' to 'Systems of Engagement'. Geoffrey Moore, The Future of Enterprise IT, Innovation Conference, June 2011

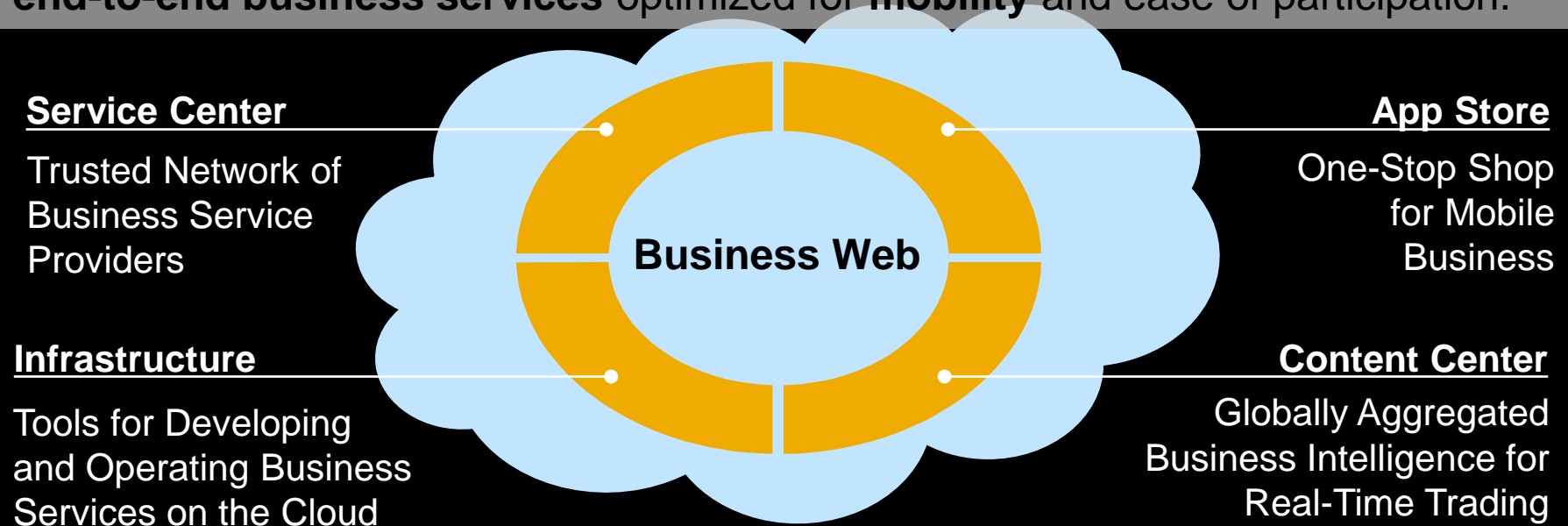
A dark gray world map is visible in the background of the slide. The map shows the outlines of continents and countries. A solid yellow horizontal bar is at the top of the slide.

Agenda

- 1 Research at SAP in a Nutshell
 - 2 Some Challenges and Trends
 - 3 The (Mobile) Business Web Vision**
 - 4 First Scenarios
-

Business Web: A True Business Cloud for the Enterprise

The Business Web is a **cloud-based business environment** that provides access to the necessary infrastructure, applications, content, and connectivity to deliver **end-to-end business services** optimized for **mobility** and ease of participation.



Business Web: Marketplace and Business network

The Business Web is a **cloud-based business environment** that provides access to the necessary infrastructure, applications, content, and connectivity to deliver **end-to-end business services** optimized for **mobility** and ease of participation.

The Provider Side



Enterprise, Web or
Machine Data

Business Web

End-to-End
Orchestration

Business Services

Applications and Content

Technology and Infrastructure

The Consumer Side

Businesses/
Enterprises

Connected
Consumers

Government

Connected
Consumers

A dark gray world map is visible in the background of the slide. The map shows the outlines of continents and countries. A solid yellow horizontal bar is at the top of the slide.

Agenda

- 1 Research at SAP in a Nutshell
 - 2 Some Challenges and Trends
 - 3 The (Mobile) Business Web Vision
 - 4 **First Scenarios**
-

Precision Retailing

Why?



What?



Business Model



- Help to increase the margin for retailers
- Reach consumers with targeted offers / deals
- Increase image of retailers and help to position them as thought leaders in the area

- Real-time on-demand marketing platform both for retailers and end consumers
- Mobile shopping assistant that delivers relevant product information, location, and special offers
- Dashboard for retailers to gain information

- Retailer pays SAP per App download
- SAP gets a share from each coupon redeemed \Rightarrow SAP shares success with its customers
- Retailer charged per employee using the dashboard **SAP RESEARCH**

Smart Asset Tracking

Why?



- Real-time insights into sales, conclude on conversion rate
- Avoid stock-outs
- Increase supply efficiency
- Detect failures
- Increase sales

What?



- Cabinets as smart items connected to the backend allowing real-time monitoring and enabling faster reactions
- Mobile App for truck drivers
- App for improved planning of daily logistics

Business Model



- Subscription fee per connected ice cream cabinet (bundling)
- Subscription fee to monitor connected assets (business user)
- Subscription fee per user (dispatcher)

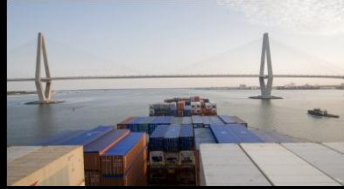
Smart Logistics

Why?



- Increase logistics efficiency
- Fast and flexible integration of new partners in trading network
- Optimized resource allocation
Transparency for all involved players

What?



- Supply chain visibility across different parties, traffic control and vehicle management
- Individual guidance of parties regarding availability of resources

Business Model / Challenges



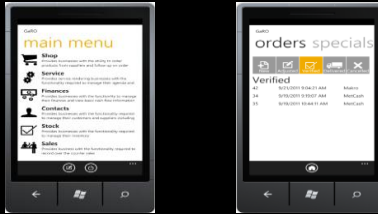
- Managing port operations efficiently and at the lowest cost is a high priority (traffic congestion -> smart traffic control)
- The plan is to offer additional services (smart container operations, sea traffic control, terminal operations, etc.) to increase competitor position

Last Mile Network

Why?



What?



Value Proposition



Potential market

- Last-mile VSME retail stores : Large untapped market opportunity
- Customer Pain - the last mile retail stores in India have a highly inefficient, manual supply chain
- Business needs not satisfied by current SAP product / services

Mobile services offered for very small enterprises in emerging economies

- Procurement
- Sales
- Financials
- Inventory

Leverage of ecosystem

- Expand total addressable market for SAP
- Create a connected retail supply chain for India
- Enable credit for rural India

Information as a Service: Our Concept

Primary sources

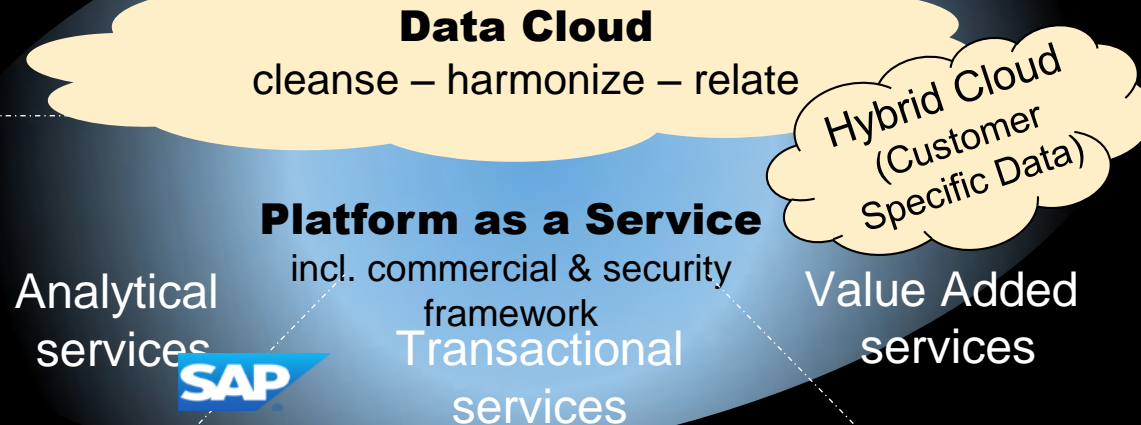
- Structured business data
- Beyond own reach
- New revenue stream for data owners
- Examples: Diagnoses, clinical parameter, Point-of-Sale Data

Generation

Consumption

Secondary sources

- Usually unstructured
- Publicly available
- Examples: bulletin-boards, search logs, meta data



Smart Diagnostics Scenario

Problem: Record pandemic outbreaks in real-time to support differential diagnostics, to enable preventive measures and to prepare the health system

Communicable Disease Surveillance

Data Recording

Gender: M F

ICD10: J09 - Inf.

Patient: ☐ Vaccinated ☐ Unable to work ☐ Hospitalized

Age:

Ticker: M

Spreading of ILI

Legend

Which symptoms did newly occur last week?

☐ Cough

☐ Sore Throat

☐ Fever

☐ I've visited a doctor

☐ I was unable to work

☒ I'm vaccinated against influenza ✓

When did the symptoms occur first?

Mo., 6. Feb. 2012

Send data

Approach

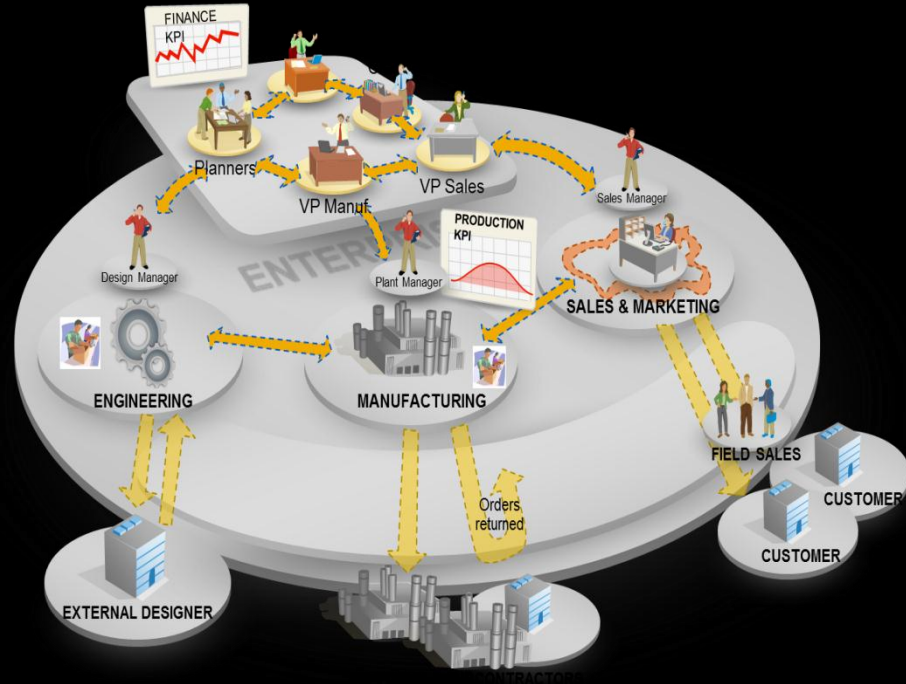
- Carry out sentinel surveillances amongst doctors and the public
- Support doctors to classify symptoms to improve differential diagnostics based on WHO case definitions
- Support health authorities and pharmaceutical companies to predict the behavior of an outbreak

Stakeholder and benefits

- Citizens, doctors: Transparency, monetary incentives
 - Authorities: Monitoring of the spread
 - Hospitals: Capacity planning in case of pandemic outbreak
 - Pharmaceutical industry: Adaption of the supply chain
- Vaccination campaigns

Real-time Value Add Networks in Industry 4.0

1. Customer-specific link from design to configuration, ordering, planning and production
2. Dynamic process negotiation from ordering to delivering (quality, time, risk, robustness, price, environmental safety, ...)
3. Dynamic adaptation of production sites and logistics
4. Monitoring and feedback in real-time (production, logistics, business relationships)
5. Emergent effects and variable framework conditions (regulatory requirements, risk, liability, export control)



Use energy in a sustainable way

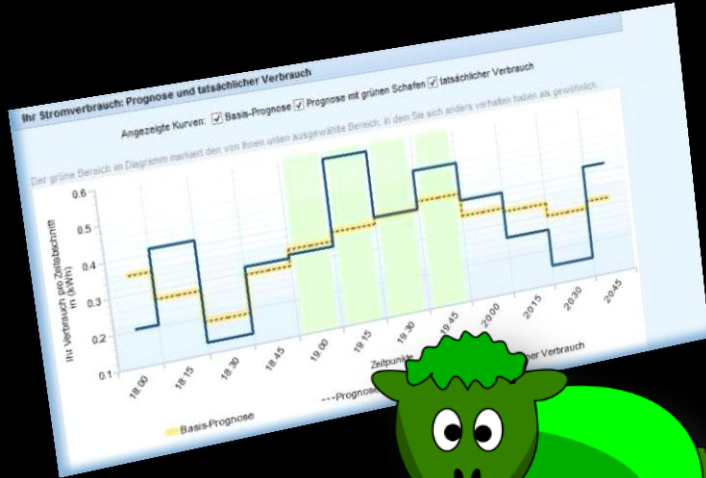
A row of wind turbines on a green hill under a blue sky. The turbines are silhouetted against the sky, and the hill is covered in green grass. The sky is a clear blue with some light clouds.

Information and Communication Technologies (ICT) and especially new applications can help sustain electricity supply while protecting the environment.

ICT will enable a wider integration of renewable energy, promote innovative low-carbon transport alternatives such electric vehicles and encourage the way electricity is consumed.

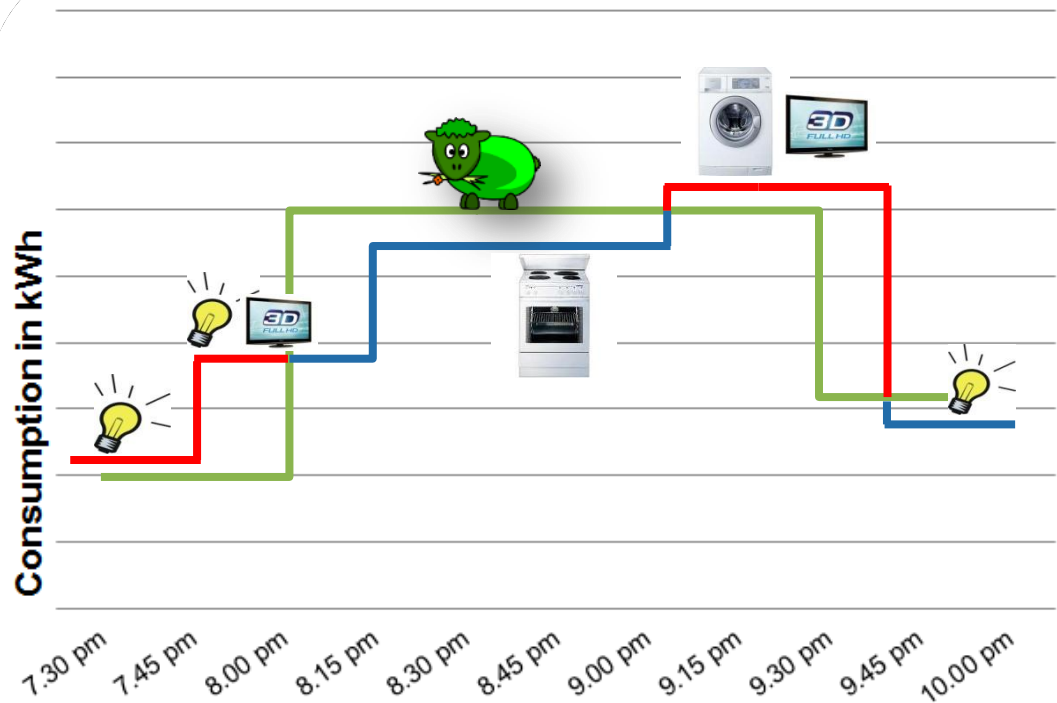
**Over 1.0 billion tons of Carbon Dioxid
emissions can be saved by 2020
on a world wide scale through Smart Grids**

Individual prognoses with green sheep



- Together with project partners we
 - build up an infrastructure for smart grids
 - and enable continuous consumption prognoses
 - to supply required energy more efficiently
- Together with a thousand test customers
 - we test new services for a better energy management
 - that allow more interactions between supplier and consumer
 - to create individual consumption prognoses and thereby save more energy

The Green Sheep - Notification Scenario



- planned energy consumption (consumer)
- real consumption – above plan
- real consumption – below plan

RUN

like never before.

If you could do anything with your business, what would you do with it? Where would you run with it? Whatever your vision is, SAP can help you make it real. Accelerate change. Seize opportunity wherever and whenever you find it. Unlock insights instantly. From fine-tuning your business to transforming it entirely, SAP can help you run in entirely new ways.

Run like never before at sap.com/runbetter

RUN BETTER. **SAP**



Thank you!

Contact information:

Prof. Dr. Martin Przewloka
Senior Vice President
SAP Research
martin.przewloka@sap.com

© 2011 SAP AG. All rights reserved

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Excel, Outlook, and PowerPoint are registered trademarks of Microsoft Corporation.

IBM, DB2, DB2 Universal Database, System i, System i5, System p, System p5, System x, System z, System z10, System z9, z10, z9, iSeries, pSeries, xSeries, zSeries, eServer, z/VM, z/OS, i5/OS, S/390, OS/390, OS/400, AS/400, S/390 Parallel Enterprise Server, PowerVM, Power Architecture, POWER6+, POWER6, POWER5+, POWER5, POWER, OpenPower, PowerPC, BatchPipes, BladeCenter, System Storage, GPFS, HACMP, RETAIN, DB2 Connect, RACF, Redbooks, OS/2, Parallel Sysplex, MVS/ESA, AIX, Intelligent Miner, WebSphere, Netfinity, Tivoli and Informix are trademarks or registered trademarks of IBM Corporation.

Linux is the registered trademark of Linus Torvalds in the U.S. and other countries.

Adobe, the Adobe logo, Acrobat, PostScript, and Reader are either trademarks or registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Oracle is a registered trademark of Oracle Corporation.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.

Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems, Inc.

HTML, XML, XHTML and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Java is a registered trademark of Sun Microsystems, Inc.

JavaScript is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.

SAP, R/3, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP BusinessObjects Explorer, StreamWork, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects Software Ltd. Business Objects is an SAP company.

Sybase and Adaptive Server, iAnywhere, Sybase 365, SQL Anywhere, and other Sybase products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Sybase, Inc. Sybase is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

The information in this document is proprietary to SAP. No part of this document may be reproduced, copied, or transmitted in any form or for any purpose without the express prior written permission of SAP AG.

This document is a preliminary version and not subject to your license agreement or any other agreement with SAP. This document contains only intended strategies, developments, and functionalities of the SAP® product and is not intended to be binding upon SAP to any particular course of business, product strategy, and/or development. Please note that this document is subject to change and may be changed by SAP at any time without notice.

SAP assumes no responsibility for errors or omissions in this document. SAP does not warrant the accuracy or completeness of the information, text, graphics, links, or other items contained within this material. This document is provided without a warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

SAP shall have no liability for damages of any kind including without limitation direct, special, indirect, or consequential damages that may result from the use of these materials. This limitation shall not apply in cases of intent or gross negligence.

The statutory liability for personal injury and defective products is not affected. SAP has no control over the information that you may access through the use of hot links contained in these materials and does not endorse your use of third-party Web pages nor provide any warranty whatsoever relating to third-party Web pages.