

Final conference GoLeWe

Industry Challenges

Marc Van Gastel
Director Innovation Center of Excellence
20 May 2011



Agenda

Changing Times

Times are changing

Industrial Impact

Innovation is the answer – or is it really ?

Open Innovation

Why ? What is it ?

Closed vs Open

Examples

- Living Tomorrow
- Healthy living in the future
- Life Science Innovations
- Impact on People & Working ? Education ?



TIMES ARE CHANGING...



In the past it has often been like this:

- The world was 'simple'
- The captain could always see the two river banks.
- Strategies were 'incremental'.
- Business models were based on:
 - Advantages based on large scales.
 - Fusions between companies.



What is going on behind these waves?

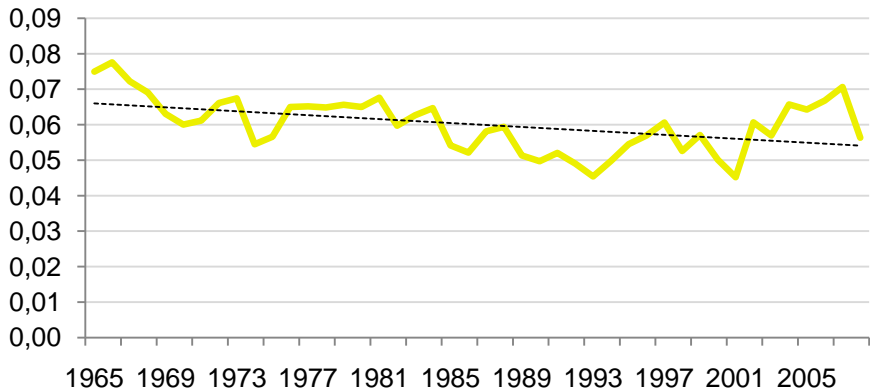
- The world is more complex.
- Our view is limited by the waves.
- Global access to waves ensures that there are waves.
- It is difficult to assess what lies behind the waves.
- Business models based on
 - *open innovation* models
 - collaboration between the companies from different industries.



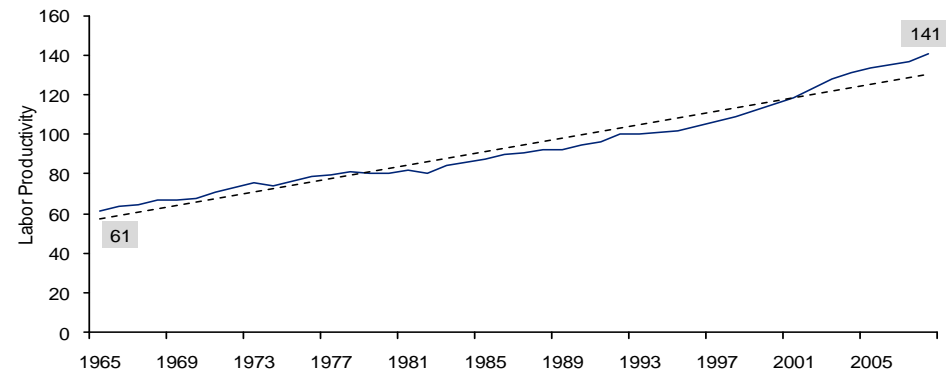
Structural Changes in Industry

A series of structural changes are happening in the industry

Return on Assets (1965 - 2009)

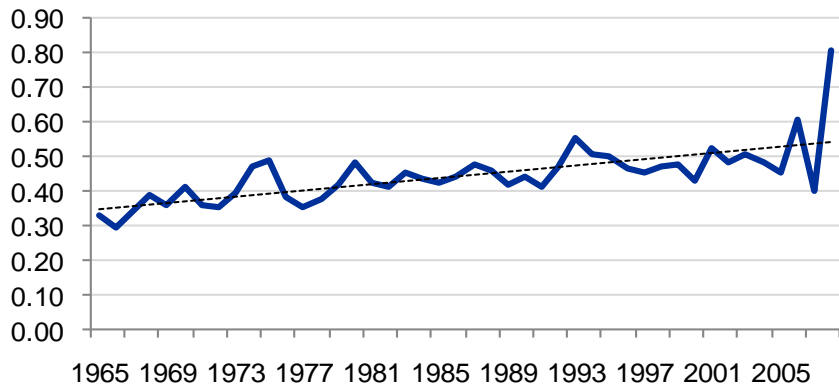


Labor Productivity (1965 – 2009)

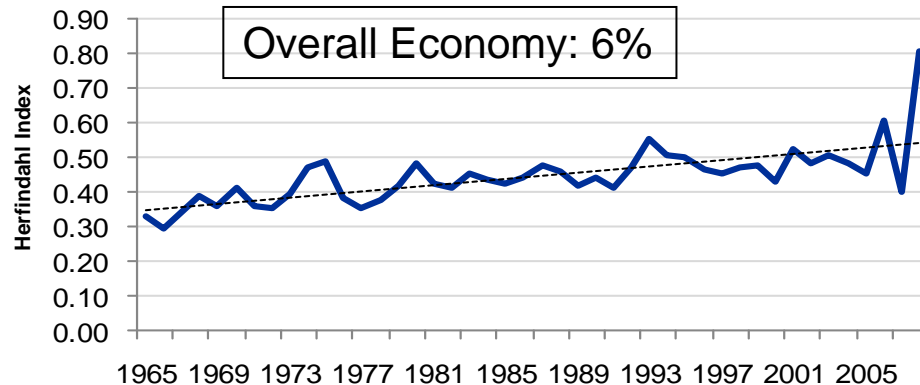


Source: Bureau of Labor Statistics, Deloitte analysis

Firm Topple Rate (1965-2009)

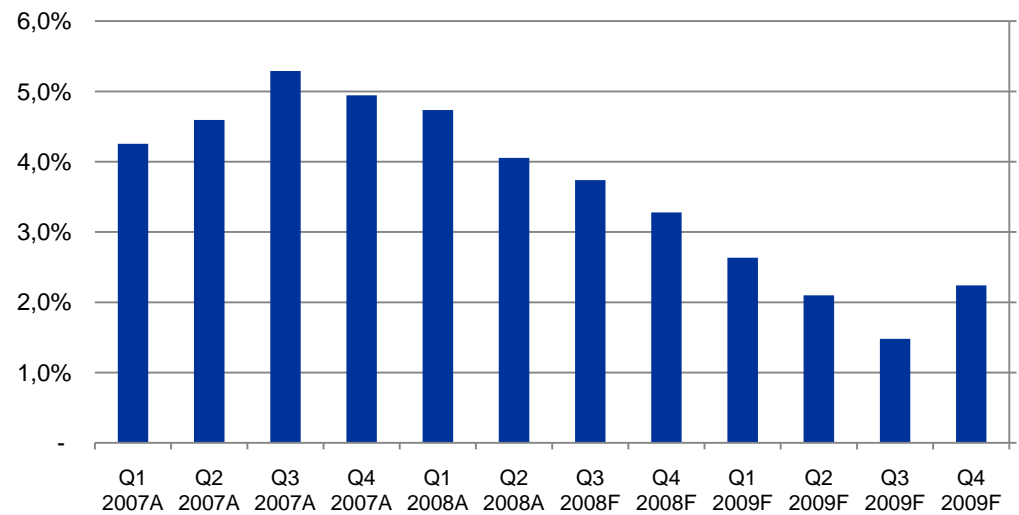


Competitive Intensity (1965-2009)

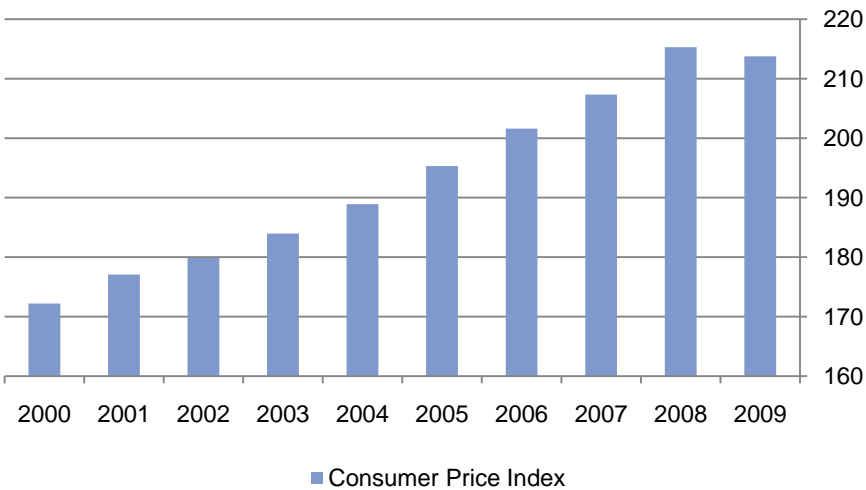


Economic trends show a decrease in financial flexibility and increase in market volatility

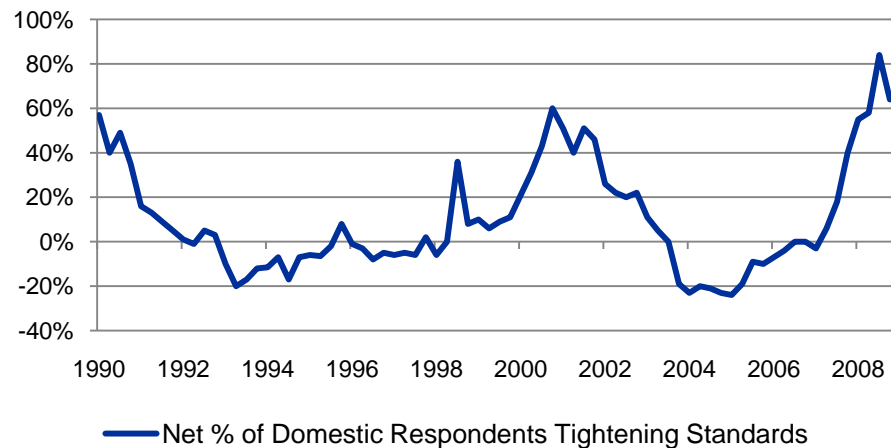
Slowing GDP YOY Growth¹



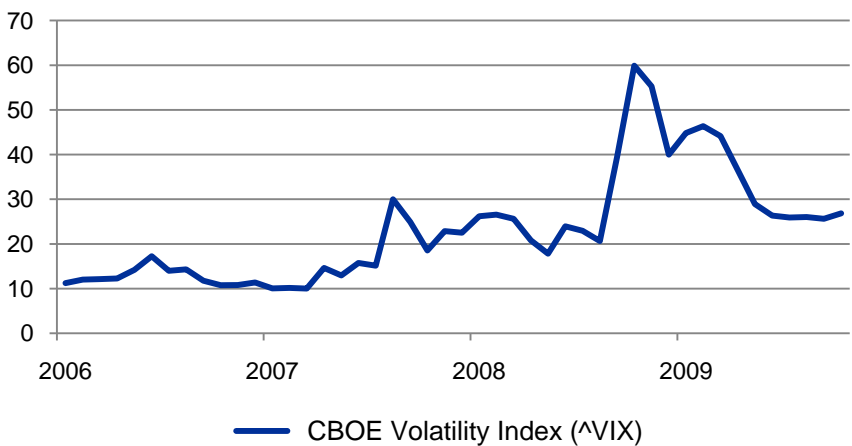
Increasing Prices for Consumers³



Tightening Credit for Large Companies²



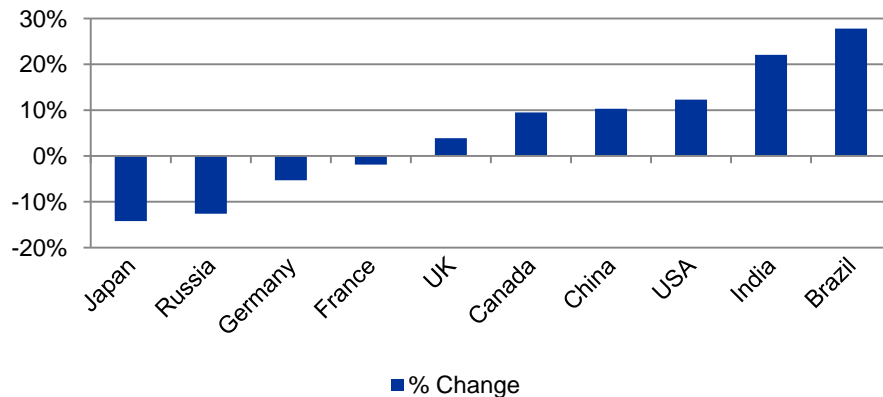
Market Volatility⁴



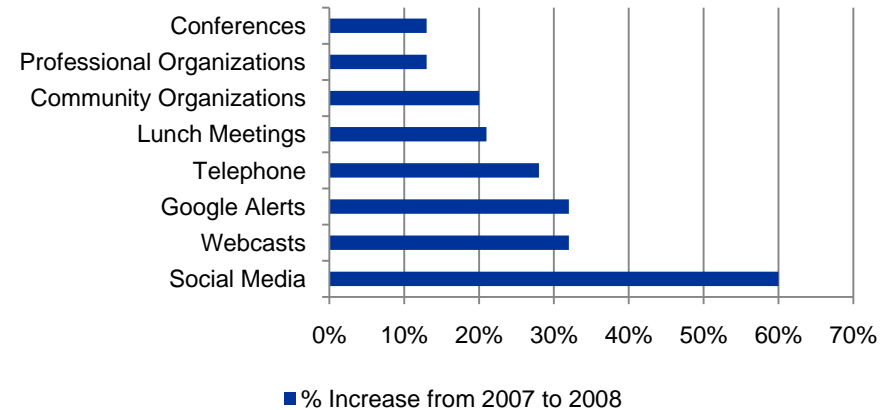
Employers must focus on providing and tailoring innovative technology as a means of enabling the employee base to capitalize on knowledge flows

Employee Trends

Change in Working Population (Ages 20-64)
Between 2005 and 2025²



Time Spent on Inter-firm Knowledge Flow Activities¹



Requirements of the Younger Generation

Due to the aging workforce, manufacturers need to build a talent management model that engages the younger labor pool in order to meet the needs of the growing industry

- The younger generation of workers prefers a **tech-savvy environment** with open social networks that embrace honest communication
- The younger generation tends to be more skilled at **multitasking**, agile in making decisions, flexible in the face of change, and **highly skilled in social networking** and team activities
- In the developing world, manufacturers are experiencing a shortage of talent and stiffer competition from other white-collar industries

Knowledge Creation

Especially critical in the era of higher innovation and increased competition are “knowledge workers”—workers whose primary economic value to the firm is their expertise

- Knowledge workers demand the ability to **share information** more efficiently in order to accelerate knowledge creation
- Technology can leverage not only internal communities with similar interests and objectives, but also **provide continuous and ongoing dialogues** with consumers and external parties

Source: (1) Deloitte Center for the Edge. “The Big Shift: Measuring the Forces of Long-term Change.” *The 2009 Shift Index*. (2) Deloitte. “Managing the Talent Crisis in Global Manufacturing: Strategies to Attract and Engage Gen Y.”

Social Media and Collaboration are being used to increase employee productivity, foster creativity and enhance customer relationships

BBC

- Web service that replays content from the last 7 days
- Users can search, select and play HD content, standard content and radio programs
- Compatible with Windows, Macs, Linux, Nintendo Wii and iPhones



British Telecom

- Internal collaboration platform – BTPedia
- Internal Blogging platform
 - Over 300 blogs in first year
- Internal social networking – MyPages
 - Using only viral marketing, there were over 1500 users in a couple of weeks.



Dell

- Dell's IdeaStorm site for collaboration
 - 45,000 registered users
 - Over 10,000 ideas posted since 2007
 - 200 ideas implemented
- Dell has 1 million+ sales through social media platform Twitter



“Enterprise social software will be the biggest new workplace technology success story of this decade.” -

Gartner

Agenda

Changing Times

Times are changing

Industrial Impact

Innovation is the answer – or is it really ?

Open Innovation

Why ? What is it ?

Closed vs Open

Examples

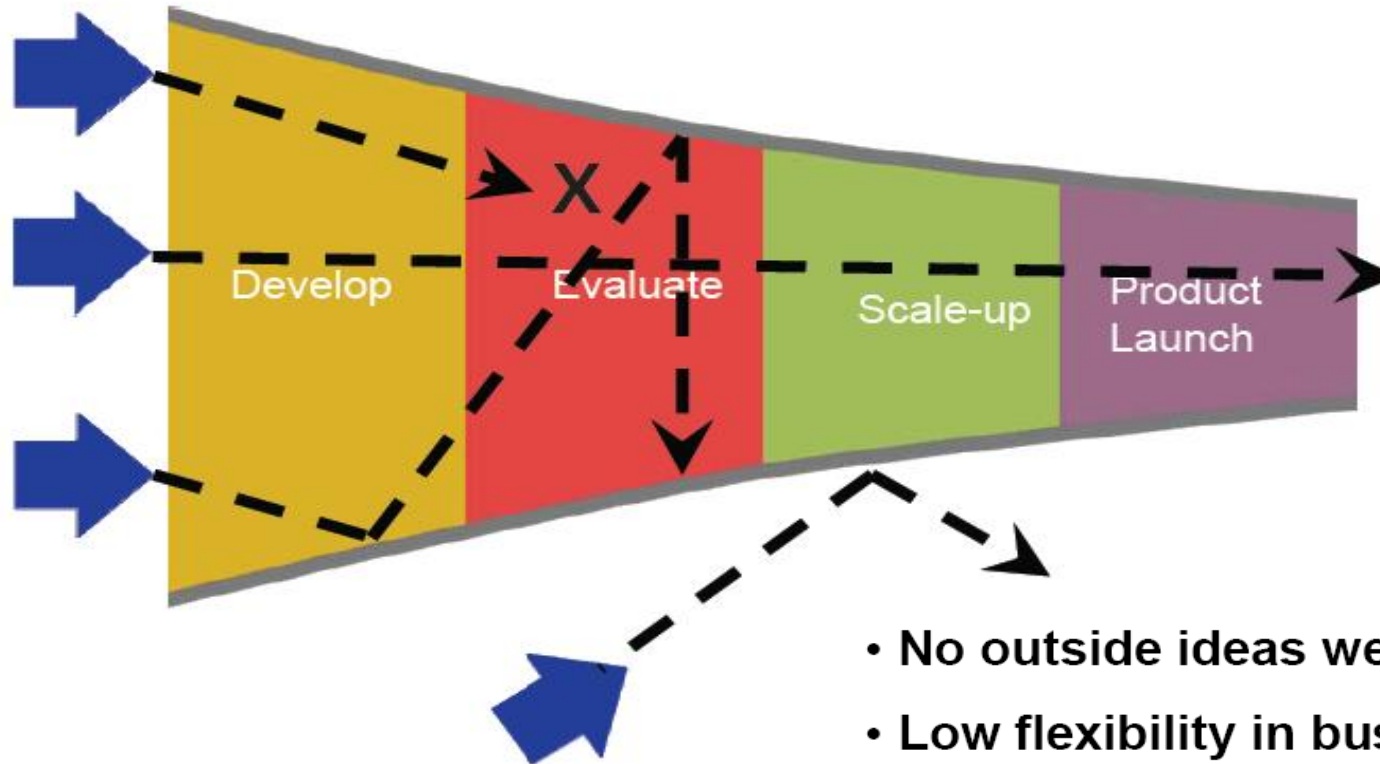
- Living Tomorrow
- Healthy living in the future
- Life Science Innovations
- Impact on People & Working ? Education ?



‘Classical’ INNOVATION...

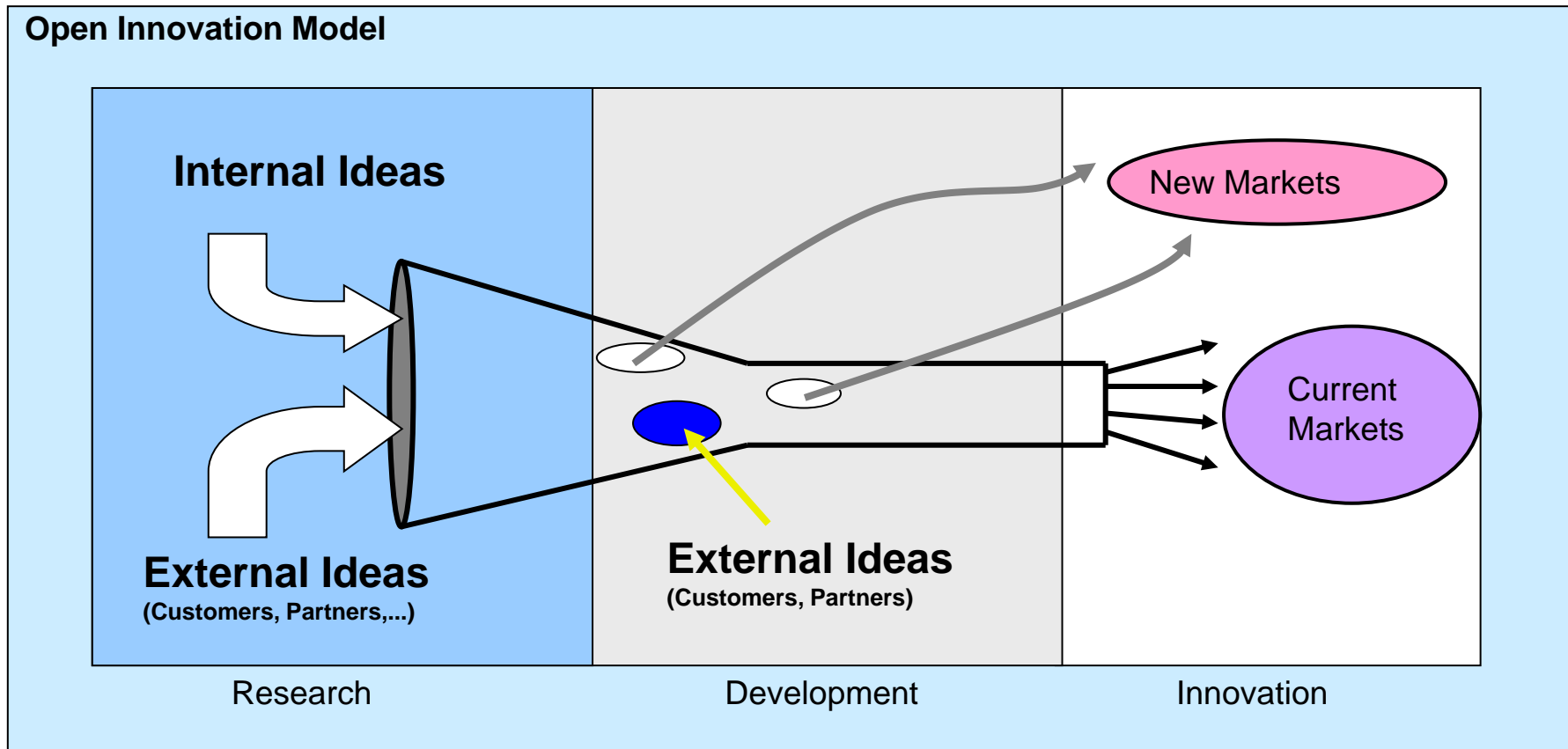
...It's often the ‘closed’ model of innovation that shows its limitations.

Stage Gate Model



- No outside ideas welcome - NIH
- Low flexibility in business models
- Capacity constrained – Slow Growth
- Nothing “escapes” to the outside
- Morale ? – Low chance of getting to market

OPEN INNOVATION: Innovate across the boundaries...



→ More radical type of products & services, or faster to market.

OPEN INNOVATION at work for P&G



A.G. Lafley, Chairman & CEO of P&G 2000 -2008.

In this period, the profits tripled to more than \$10 billion on \$76.5 billion in revenues, with an average growth rate of 6% a year.

So how did he do it?

- 1 *The First Moment of Truth :*
Make customers choose P&G products over other products.
The Second Moment of Truth :
Make customers re-buy P&G products
- 2 → **'Living It' & 'Working It'.**

- 3 *'2005: I want 50% of ideas coming from within this organisation and 50% from outside'.*

Today: P&G has an Installed base of 85 'innovation detectors' or 'Technology Scouts' worldwide.

Agenda

Changing Times

Times are changing

Industrial Impact

Innovation is the answer – or is it really ?

Open Innovation

Why ? What is it ?

Closed vs Open

Examples

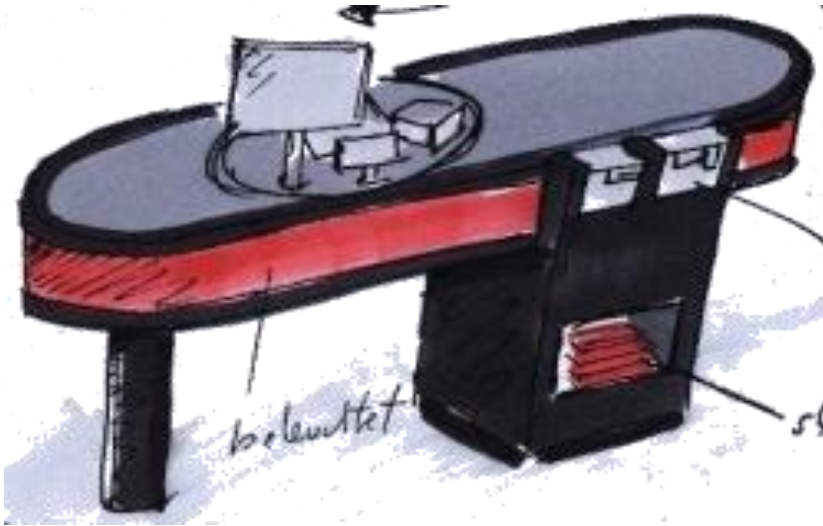
- Living Tomorrow
- Healthy living in the future
- Life Science Innovations
- Impact on People & Working ? Education ?





Let's go shopping.

OPEN INNOVATION: Shopping Experiences



- Virtual & Physical Loyalty Card
- RFID
- Assisted check-out
- Narrowcasting
- Personalisation
- Information Exchange



OPEN INNOVATION: Future Shopping Experiences



Intelligent Store Environments

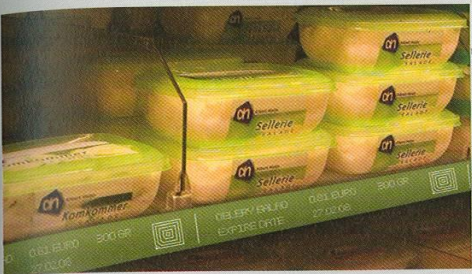
Future shopping facilities

Exchange of information between producers, transporters, retailers and their customers has an effect on all parts of the supply chain. This vision is made possible by advances in networking and identification technology: RFID chips, indoor and outdoor systems to locate goods and people, customer profiling, supplier partnering, home delivery and augmented reality will all help stores to become 'intelligent' and to compete with the on-line world of virtual shopping.



1. Lena is in the supermarket, buying her weekly groceries.
2. All shelves are equipped with RFID technology to register the tagged products on the shelf. They also have a price display and wireless communication for data exchange.
3. The shelves form an extensive network; the shopping carts and baskets have wireless communication, RFID reader and display.
4. The RFID reader in the cart reads the loyalty card in Lena's pocket so it knows her preferences; this is communicated to the wireless network.
5. When products are held near the cart, price and additional information is displayed. Products are registered as soon they are placed in the cart. The system advises other products based on the contents of the cart and her shopping behavior.
6. The radio technology and cart display direct Lena towards the shelf where the system's suggestion can be found.

OPEN INNOVATION: Future Shopping Experiences



Intelligent Shop Shelves

Retail identification and information display

Increasingly, retail stores have to comply with strict food laws and supply detailed data regarding type, origin, composition and freshness of products. Shelves are also an ideal location for showing commercial information, which can enhance sales. An intelligent, wirelessly addressable shelf display system can be a dynamic means of providing the individual consumer with additional information and facilitate inventory control.

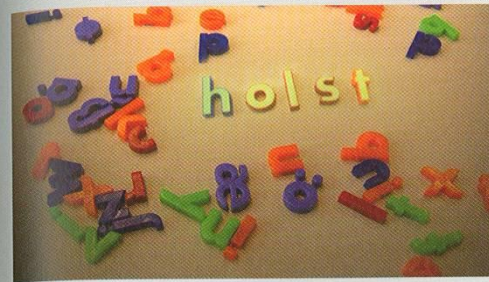
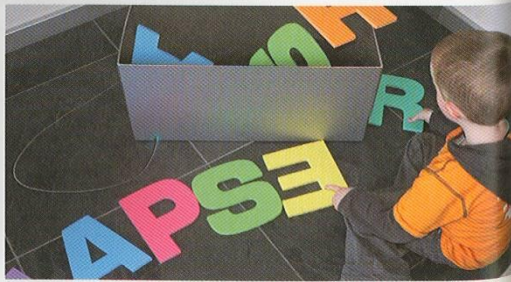


1. Lena is in the supermarket to buy her weekly purchases.
2. Before she passes the shelves, it displays normal price and product information.
3. The shelves recognise Lena by her shopping card in her purse. Lena's attention is drawn to a changing display text.
4. The display shows her customised offers. She picks out a product and continues shopping.
5. When one of the shop employees passes a certain shelf a message is displayed that refill is required because of the need to remove some products because they have passed their perishable date.
6. When the shelf is filled and the employee walks away the message automatically changes into pricing and product information.

OPEN INNOVATION: Future Consumer interaction



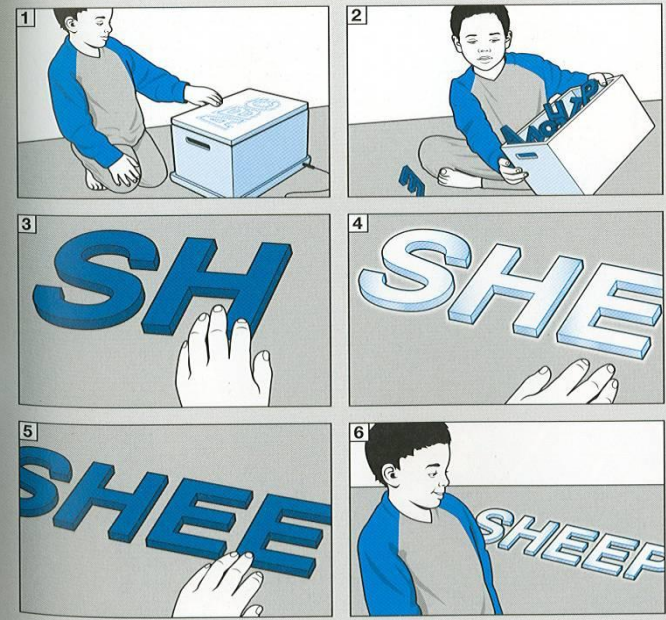
OPEN INNOVATION: A Future Child's play



LumiDo – Active Learning

A reading and maths learning game for children based on physical interaction with smart light-emitting characters and numbers

In this digital age, many children grow up behind computer screens, often with individualised on-screen entertainment and education. LumiDo is a physically interactive character and number game that makes learning tangible and fun; it lets children 'play' again. A child can form combinations of letters or numbers to discover new words or calculations that light up when the letters or numbers are correctly sequenced.



1. Joey, a child of 5, is sitting on the ground playing. In front of him is a box with the LumiDo character set. The characters have been inductively recharged in the box.
2. He knocks the box over and the characters fall on the floor.
3. Joey takes one of the characters and puts another one next to it, nothing special happens.
4. When he adds another one, an intriguing light appears. All characters of the combination light up, indicating that the combination forms a correctly spelled word. At the same time, a voice pronounces the correctly spelled word from small speakers incorporated in the characters.
5. When Joey adds another character, the new combination no longer forms a correct word anymore and the light fades out. He tries to add some other characters but nothing happens.
6. At a certain moment he adds the right character to form another 'longer' word. This word lights up and is pronounced.

Life Science Innovations



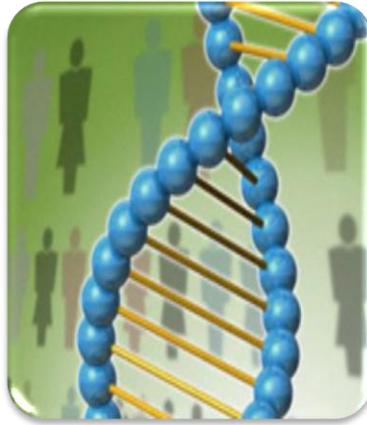
TRENDS IMPACTING SOCIETY



Ease of Use
and Comfort



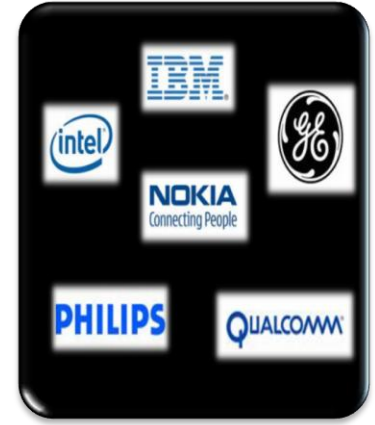
Aging
Population



Customization

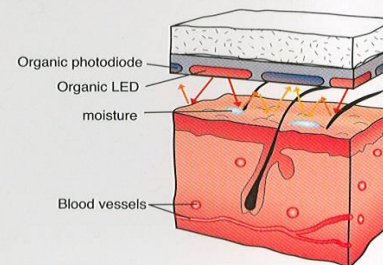
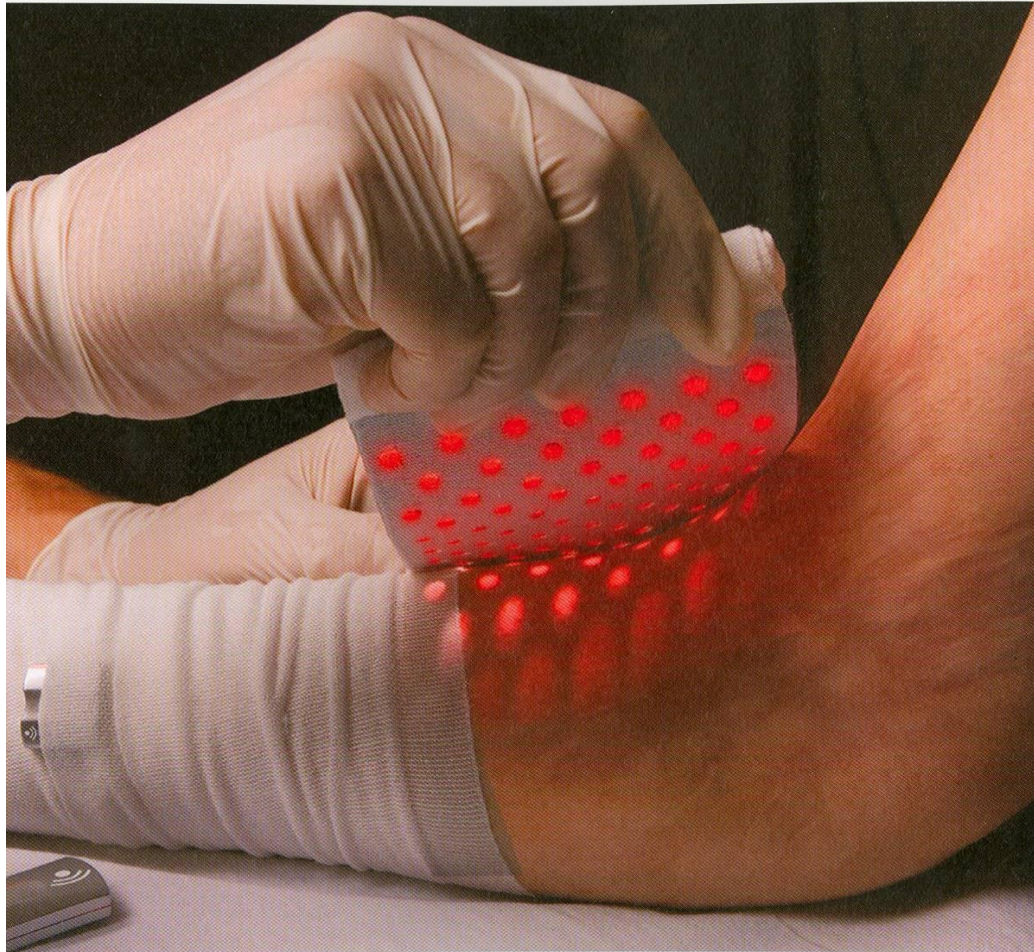


Sustainability

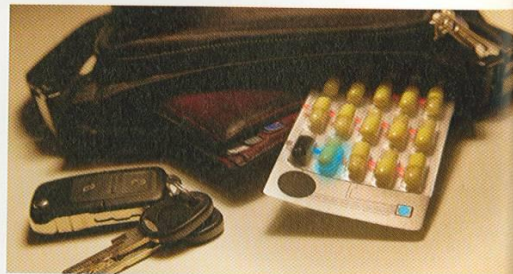


Competition is
changing

Examples: Infrared-incorporated bandages



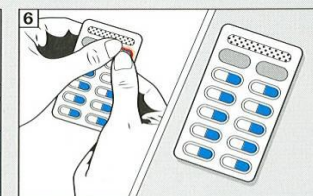
Examples: Smart Blister



Smart Blister

Self-reminding pill packaging

Research has shown that about 50% of patients take their medication incorrectly - at the wrong moment or in the wrong dose or even forget to take it - which leads to less effective treatment. The smart blister medication packaging reminds you to take the right pills at the right time. It indicates which pill has to be taken, warns the user and records which pill is taken and whether it's taken at the right moment or not. The package can be programmed to the specific prescription of that person.



1. Laura's doctor prescribes medication for her health problems

2. Laura collects her medication from the pharmacy. The package is electronically linked to Laura's medical file.

3. At home she takes her first pill and leaves the package in her bedroom

4. The next day the package starts emitting a sound in order to remind Laura to take her daily dosage. Every 10 minutes the signal is repeated till the pill is taken out.

5. Laura hears the signal and picks up the package, which is coloured red under the pill she needs to take.

6. When she takes out the pill from the blister, the package registers the fact and the warning signal disappears.

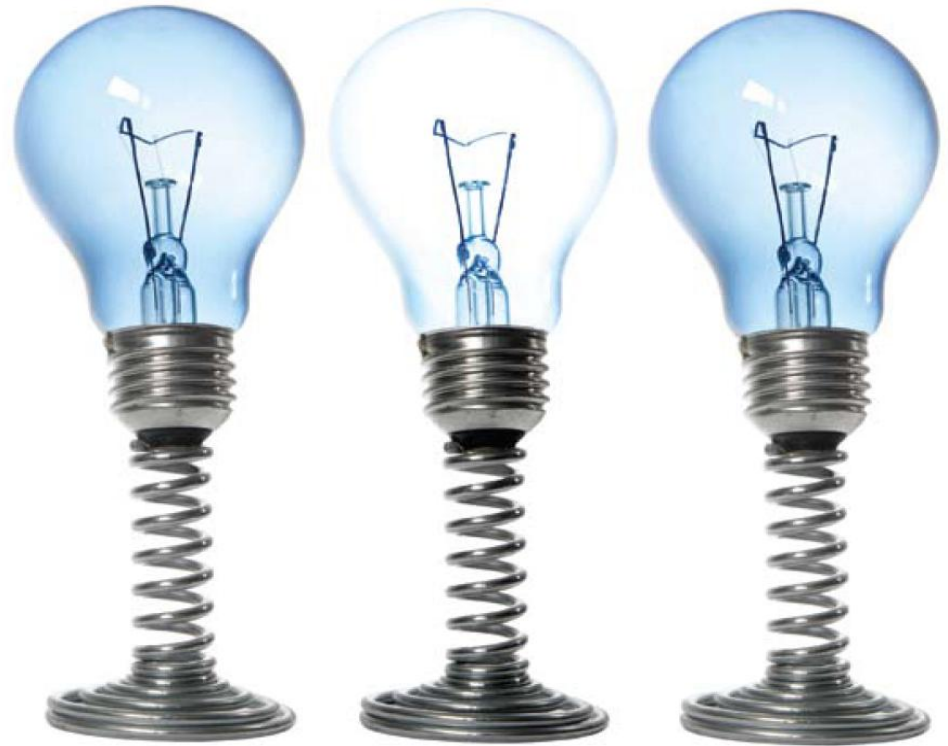
Wellness: The Wellness Cocoon Prototype

- Deep Future
- Energy Efficient
- Entertainment & Education
- Total Control

Sound, Air, Heating, Cooling



Challnges for Education ?



Tertiary education - business sector

- **Challenges:**
 - Industry does not find the right profiles anymore – high need for engineers, ICT,...
 - Difference of priorities in education and industry.
 - Disagreements on issues of intellectual property.
 - Shortage of personnel willing to mentor student projects.
 - Lack of awareness among managers in traditional industries of the importance of R&D processes in their work.

Education - Business sector collaboration

- **Objectives:**

- Motivate students to choose technological-scientific and vocational subjects.
- Professional advancement and development of teachers and trainers.
- Relevant and updated curricula
- Increase correlation between the needs and demands of employers and supply in the labour market.



Deloitte.

Marc Van Gastel

Director Strategy & Innovation
CMS Advisory
Deloitte Consulting

Berkenlaan 8c
1831 Diegem
Belgium
Tel.: + 32 477 702252
mvangastel@deloitte.com