

# **IBM and SCHNEIDER ELECTRIC**

## **A shared vision of innovation issues**

*How IBM and Schneider Electric have transformed their innovation strategy to improve the way they serve their customers..*

*Press Conference*

*Paris, 13rd September, 2005*

## RECHERCHE ET INNOVATION: CONFUSIONS NUISIBLES AUTOUR DES MOTS

*Il est étrange de constater à quel point certains attribuent aux mots "recherche" et "innovation" la signification qu'ils aimeraient leur voir attribuer. D'où de déplorable malentendus à propos de programmes en cours de lancement.*

**R**espectivement, les deux expressions ont connoté, concernant les actions des pouvoirs publics autour de la recherche et de l'innovation. La raison réside dans le fait que chacun cherche à trouver un terrain d'entente autour des programmes en préparation. Pour la majeure partie des intervenants du public, tout d'abord, recherche signifie "industrialiser bien", c'est-à-dire définir ce qui doit être développé en France. Or, les mots "recherche" et "innovation" ont des significations bien différentes, sans être pour autant synonymes à l'usage des pouvoirs publics.



Le mot de "recherche" est souvent utilisé de manière erronée. Cette recherche "industrielle fondamentale" n'est que très peu développée en France. Or, les mots "recherche" et "innovation" ont des significations bien différentes, sans être pour autant synonymes à l'usage des pouvoirs publics.

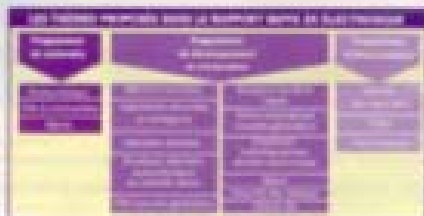
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## L'électronique, pilier de la politique industrielle

*Les programmes pilotes pour la nouvelle politique industrielle ont été lancés sous l'égide de l'Etat et plus de 50% d'entre eux concernent l'électronique.*

**L**e plan stratégique pour l'industrie française a été lancé sous l'égide de l'Etat et plus de 50% d'entre eux concernent l'électronique. Les programmes pilotes pour la nouvelle politique industrielle ont été lancés sous l'égide de l'Etat et plus de 50% d'entre eux concernent l'électronique.



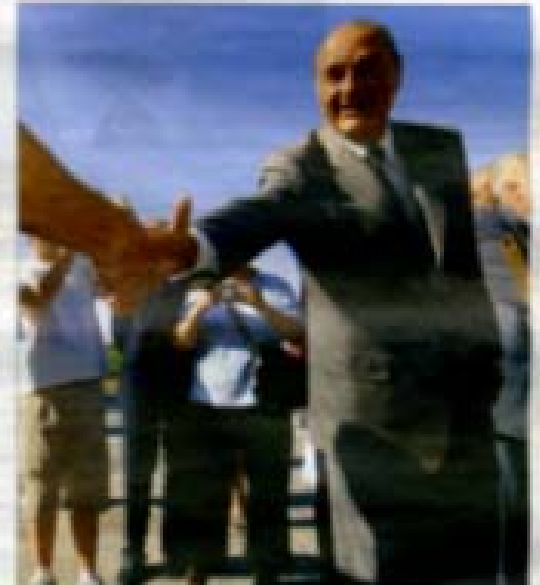
Les programmes pilotes pour la nouvelle politique industrielle ont été lancés sous l'égide de l'Etat et plus de 50% d'entre eux concernent l'électronique.

## Chirac veut relocaliser la recherche en France

**J**acques Chirac a installé hier l'Agence de l'Innovation industrielle, qui fait des débats multiples avec quatre premiers projets.

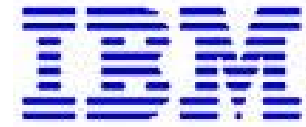
**L**e chef de l'Etat exhorte les dirigeants des grandes entreprises à investir plus dans l'innovation technologique en France et en Europe.

**L**a loi d'orientation et de programmation sur la recherche sera présentée dans les prochaines semaines.



LE CHEF D'ETAT

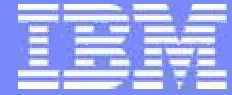




## AGENDA

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<b>IBM's viewpoint on innovation in the "Electronics" sector</b>	<b>15'</b>
<i>Bruno Fernandez – IBM Business Consulting Services</i> <i>Associate Partner – Business Solutions for Innovation</i>	
<b>Schneider Electric's response to the challenge of innovation</b>	<b>15'</b>
<i>Alain Marbach – Schneider Electric</i> <i>Executive Vice President - Product &amp; Technology</i>	
<b>IBM's response to the challenge of innovation</b>	<b>15'</b>
<i>Philippe Hedde – IBM Business Consulting Services</i> <i>General Manager</i>	
<b>Questions / Answers</b>	<b>30'</b>



Business Consulting Services

# Managing innovation: the key to success

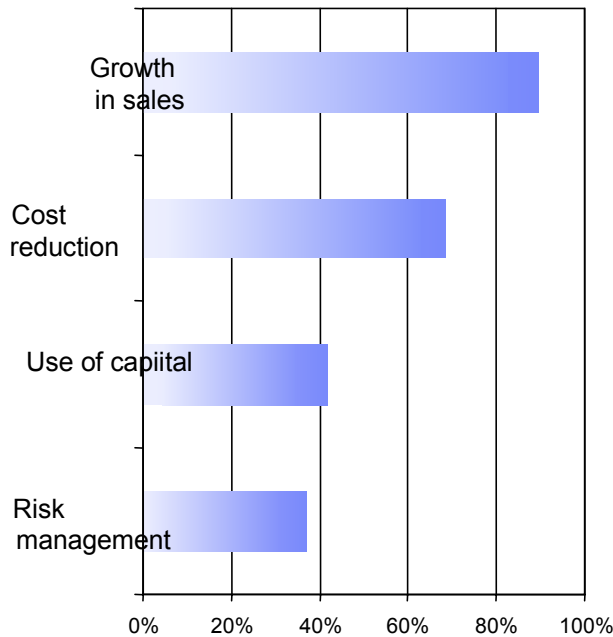
*IBM's point of view on the electronics industry*

**Bruno Fernandez**

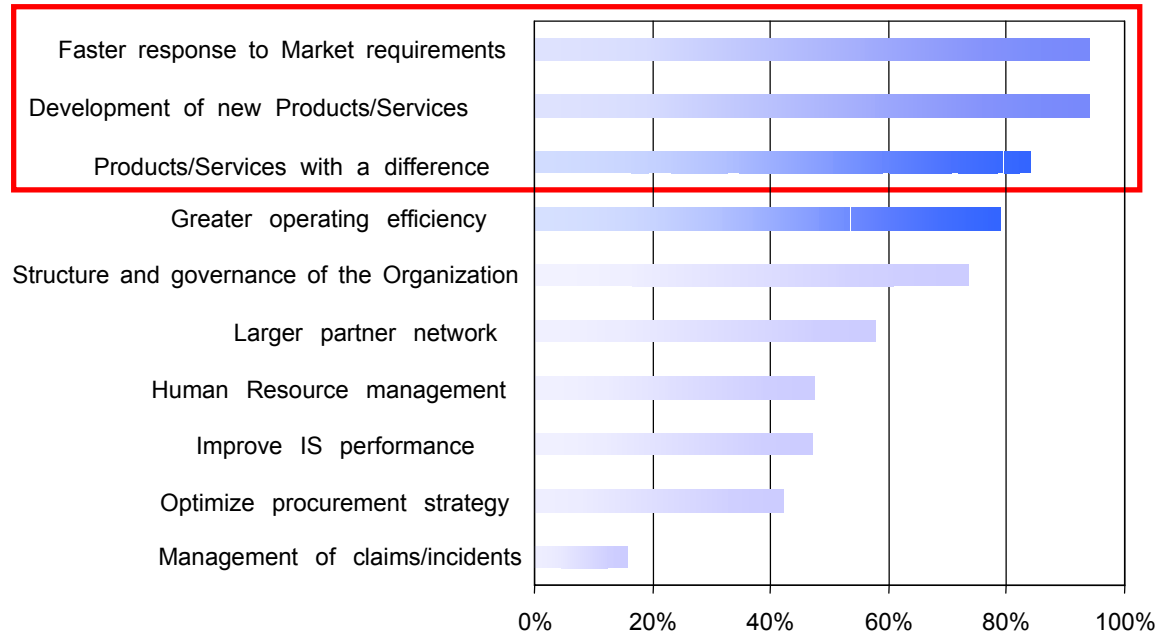
*Associate Partner, IBM Business Consulting Services  
Business Solutions for Innovation*

## A growth objective is back in the strategy of the electronics sector.

### Objectives



### Priorities

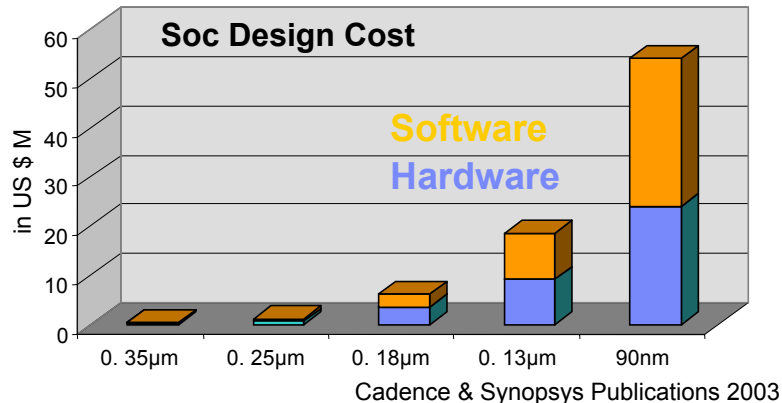


The Electronics sector is seeking growth by taking **new products and services with high innovation content quickly** to market and, at the same time, **maintaining control over costs**.

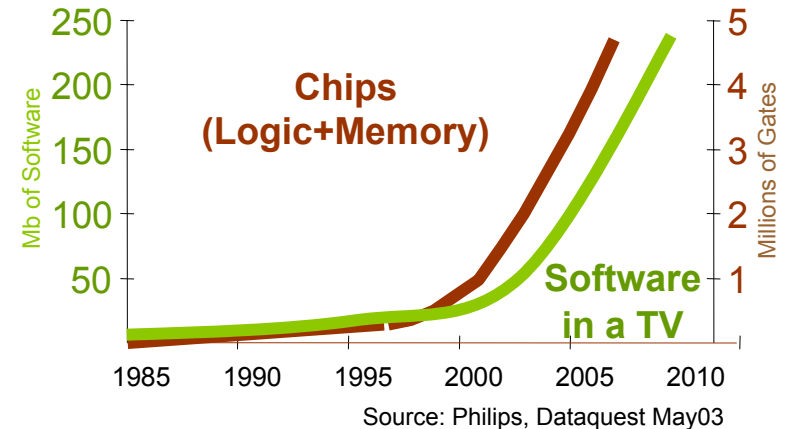
Source: IBM Business Consulting Services, The Global CEO Study 2004

## Electronics constitutes a fantastic vector of innovation but provides growth in investment and complexity

### Growth in investment



### More complex products

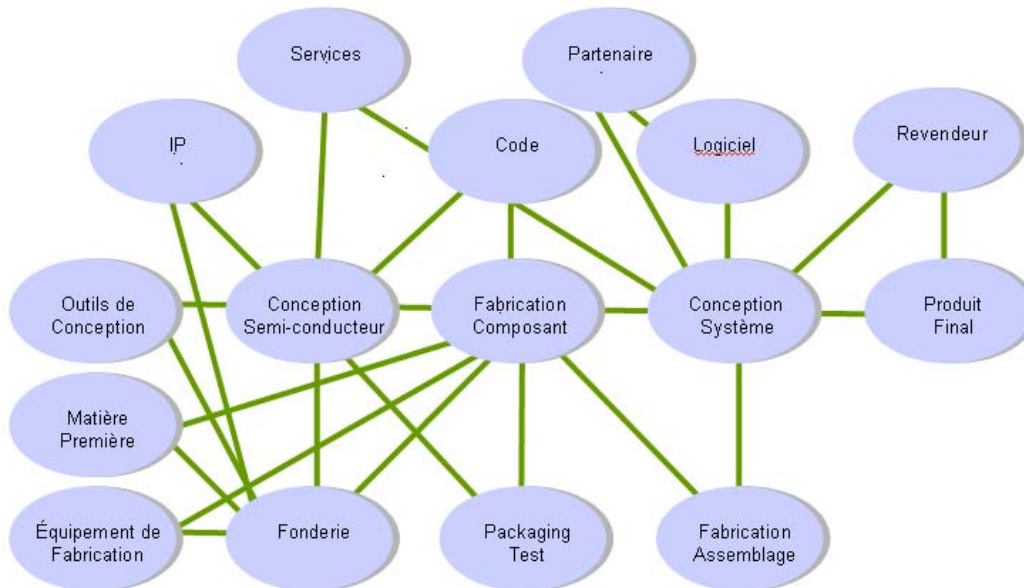


- ❖ Every year, the quantity of software codes developed worldwide is multiplied by 3 to 5.
- ❖ 40 to 50 processors can be found in every household.
- ❖ In the automobile sector, 32% of breakdowns are related to electronics and software.
- ❖ According to experts, 90% of automobile innovation will come from electronics by 2010.

Electronic systems that foster the provision of **complex, easy to configure functions** have become **major issues at stake** in the area of differentiation and innovation.

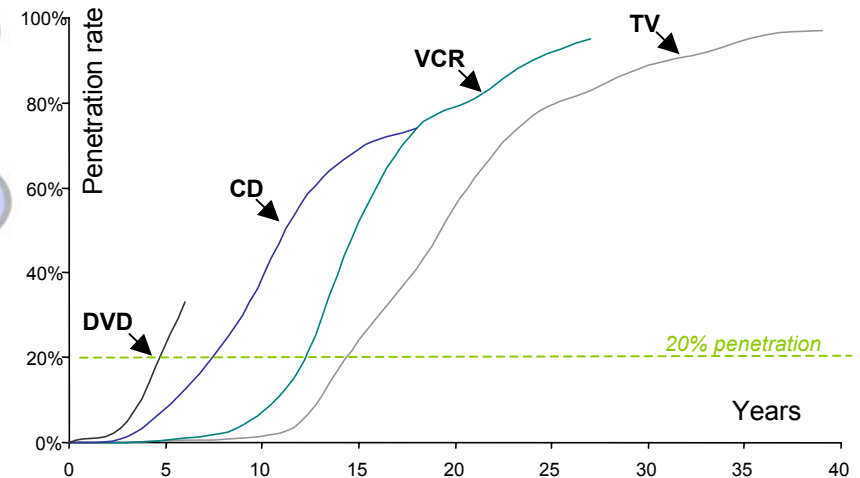
# The Electronics sector is characterized by the ever-increasing complexity of its environment.

## A complex, worldwide ecosystem



## Narrower market windows

### Pace of adoption of technology

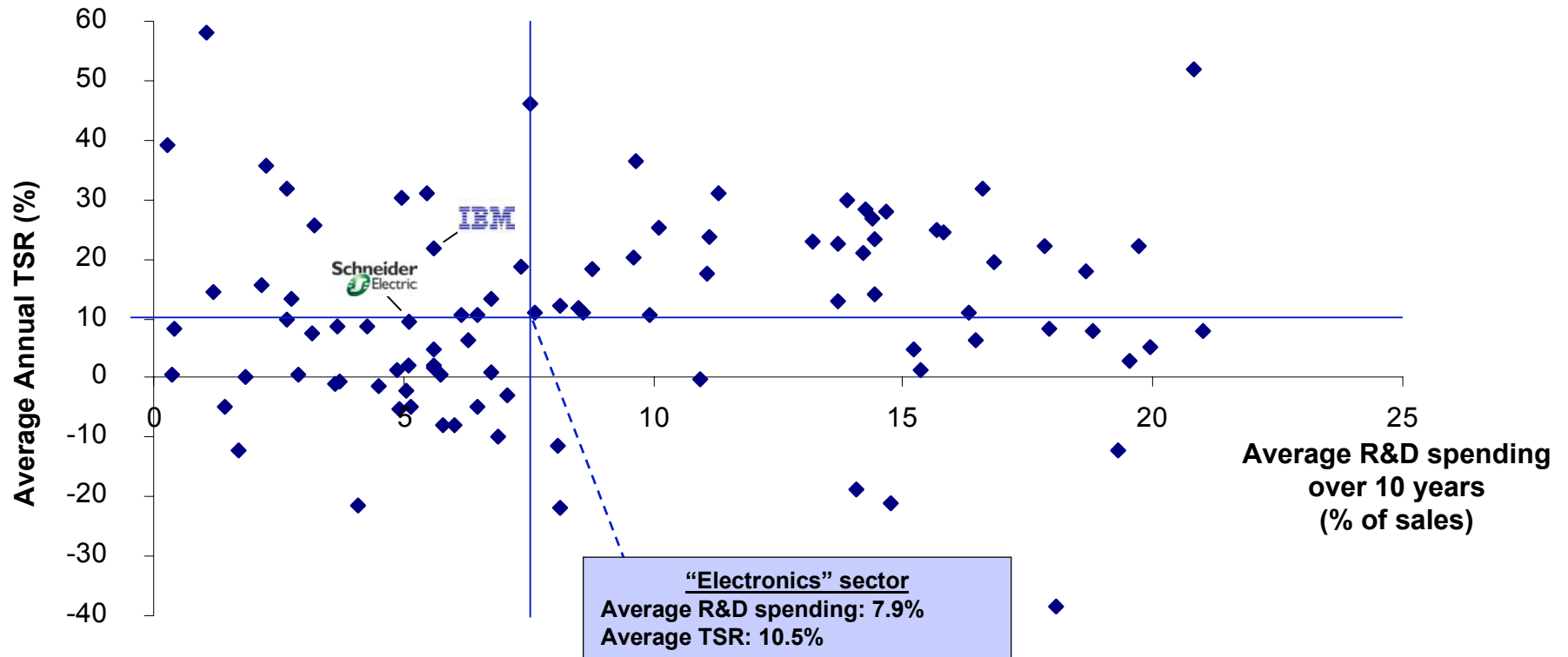


**"For most companies, the highest amount of profit is obtained at the 20% penetration rate"** Sean Wargo, Senior Analyst at industry group Consumer Electronics Association.

To stay competitive, companies in the electronics sector must take new offerings to market **faster** and be **continually** integrated into the chain of value of a **complex worldwide ecosystem**.

# There is no automatic correlation between R&D spending and the performance of companies

R&D spending compared to the performance (TSR) of companies in the "Electronics" sector (1994–2003)<sup>1</sup>



Source: Thomson One Banker; IBM Institute for Business Value analysis

Note: (1) Includes 98 companies categorized by S&P as communication equipment, healthcare equipment, and industrial conglomerates, as well as companies in the IBM BCS segment "Industrial – Electronics."

TSR: Total Shareholder Return = ((End of period share price – Start of period share price) + dividends) / Start of period share price

# To obtain profitable growth, maintaining control over the chain of innovation is vital.

**Market Planning:** Know the requirements in order to take the right products to the right market at the right time.

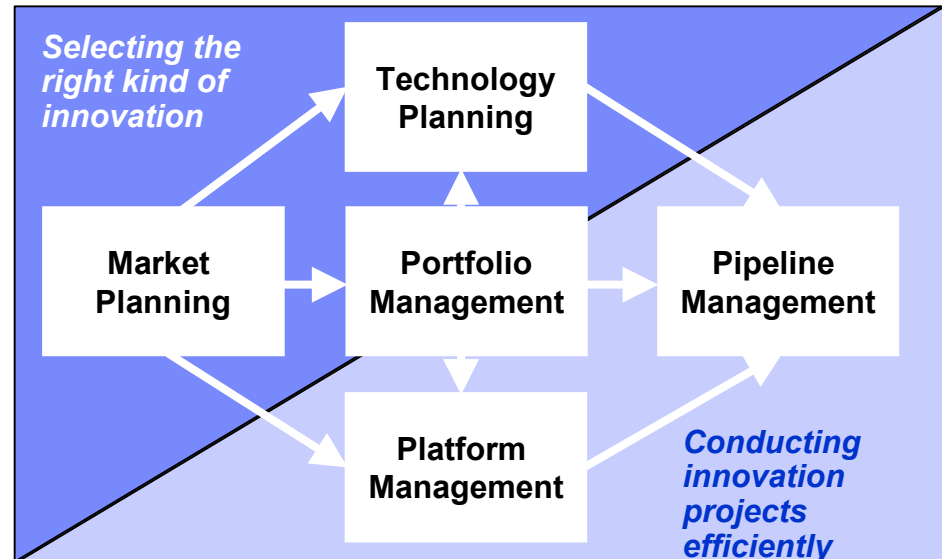
**Technology Planning:** Integrate Research into the offering design process.

**Portfolio Management:** Select the right investment domains by managing risks and priorities. (incl. ecosystem)

**Platform Management:** Enhance the value of investment by developing a software platform to extend the offering.

**Pipeline Management:** Optimize development cycles.

## The IBM model to maintain control over innovation



**By combining its Service capacity with technological expertise, IBM assists its customers with innovation, from the implementation of diagnostics to the creation of new products or services.**

# ***Schneider Electric's response to the challenge of innovation***

***Alain Marbach***  
***Schneider Electric***  
***Executive Vice President***  
***Products & Technology***

**Merlin Gerin**

**Square D**

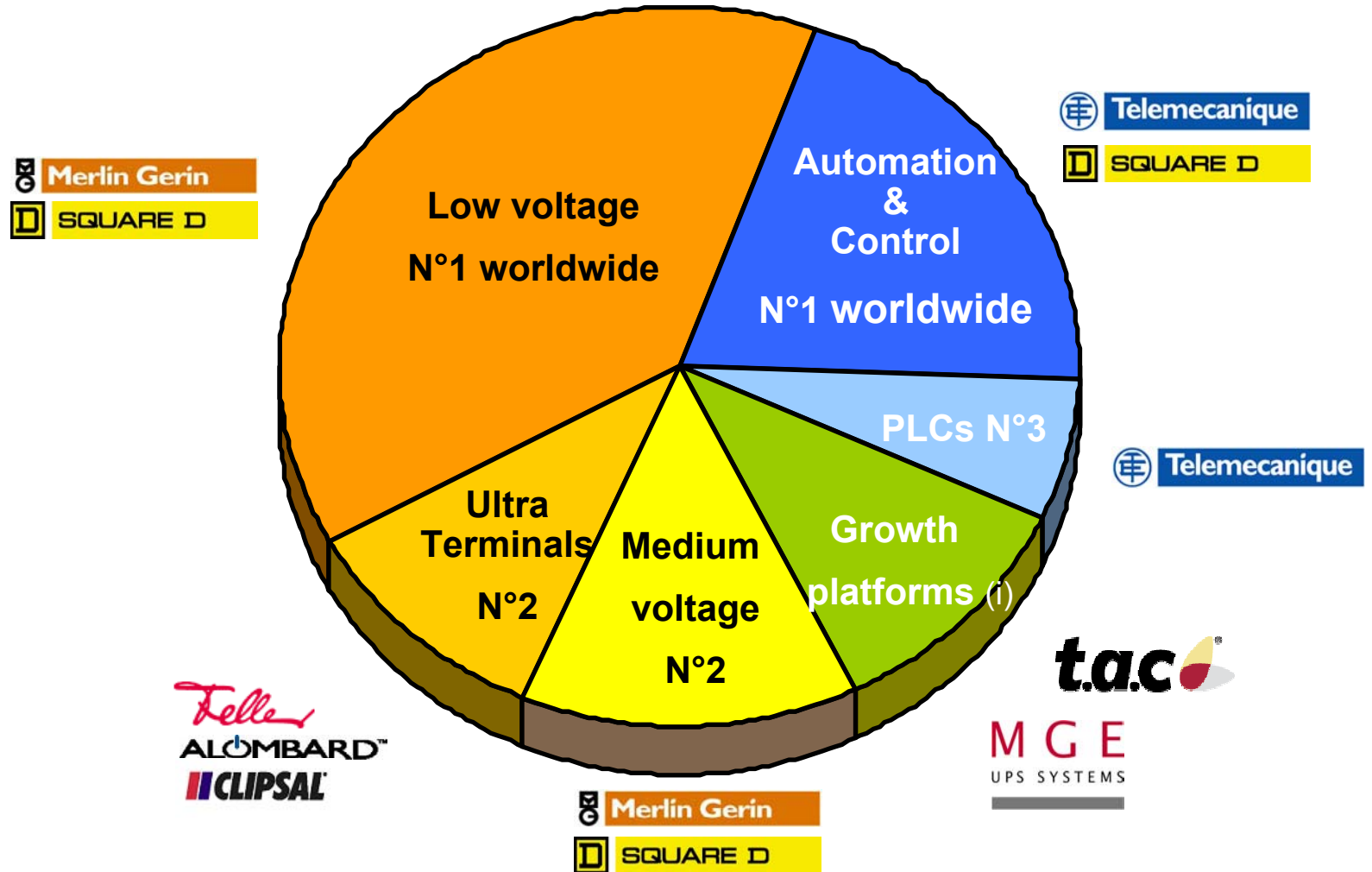
**Telemecanique**



**Schneider**  
 **Electric**

*Building a New Electric World*

# We are the world leader in “Power & Control”



# We are building a new electric world

.....  
A safer, more comfortable and efficient new world



## Residential

11% of sales



## Industry

IBM  
Mercedes Benz  
Procter&Gamble Mexico  
Renault ...

31% of sales



## Buildings

Hilton Sofia in Bulgaria  
New Mexico University  
...

41% of sales



## Energy & Infrastructure

Athens underground  
London Big Wheel  
Lisbon La Luz stadium  
...

17% of sales



# We are globalizing our R&D resources to ensure speed and concentration

.....

- **4,500** researchers and developers in 25 countries **looking to the market**
  
- **535 million euros** invested in R&D, i.e. 5.2% of sales with efforts directed towards processes and staff (rationalization, search for maximum efficiency, multicultural teams, etc.)
  
- Efficient **grouping** of world R&D units in ultramodern centres of technology
  - Scientific & Technological Centre (**Grenoble**)
  - Power & Control Protection Centre (**Eybens + Cedar Rapids**)
  - Automated Control Systems Centre (**Sophia-Antipolis**)
  
- Fast **development** of technology and support centres in emerging countries in order to closely adapt our products to markets: **Shanghai (China), Bangalore (India) & Monterrey (Mexico)**
  
- Substantial investment (2003 to 2006) to obtain **a CAD environment** (including the IBM Rational CAD software) common to the various R&D centres and **unified management of the portfolio of projects**



# Eybens, the new core of R&D



→ **Principal centre worldwide** for electric control and power protection



→ The first new arrivals started to move in on 1 September, from Belgium and France (Rueil, Rouen/Le Vaudreuil, Dijon, Châlon and a number of sites in the Grenoble region)



# R&D fundamentals at Schneider Electric...

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## → A Projects approach

- **Project Manager** and Reduction of time to market
- Portfolio of Projects and Sliding Planning

## → Ruggedness objectives

- Improve **the prime quality** of our products (Six Sigma approach)
- Be ahead of the market in **eco-design** (elimination of cadmium 15 years ago)
- Guarantee the **interoperability of** products

## → Systematic search for internationalization

- “Focus group” and “field-tests” in emerging countries - **Innovation very, very close to customers**
- Hiring of **talented staff** of all origins (Marco Polo program )
- **Joint-Venture** (with Toshiba and Fuji)
- A number of ‘special’ partnerships (IBM, Tata-India).

# ... from electricity to the Internet

→ The Internet has radically changed all methods of communication...

→ Schneider Electric has launched the “Transparent Ready”™ concept

## Changes

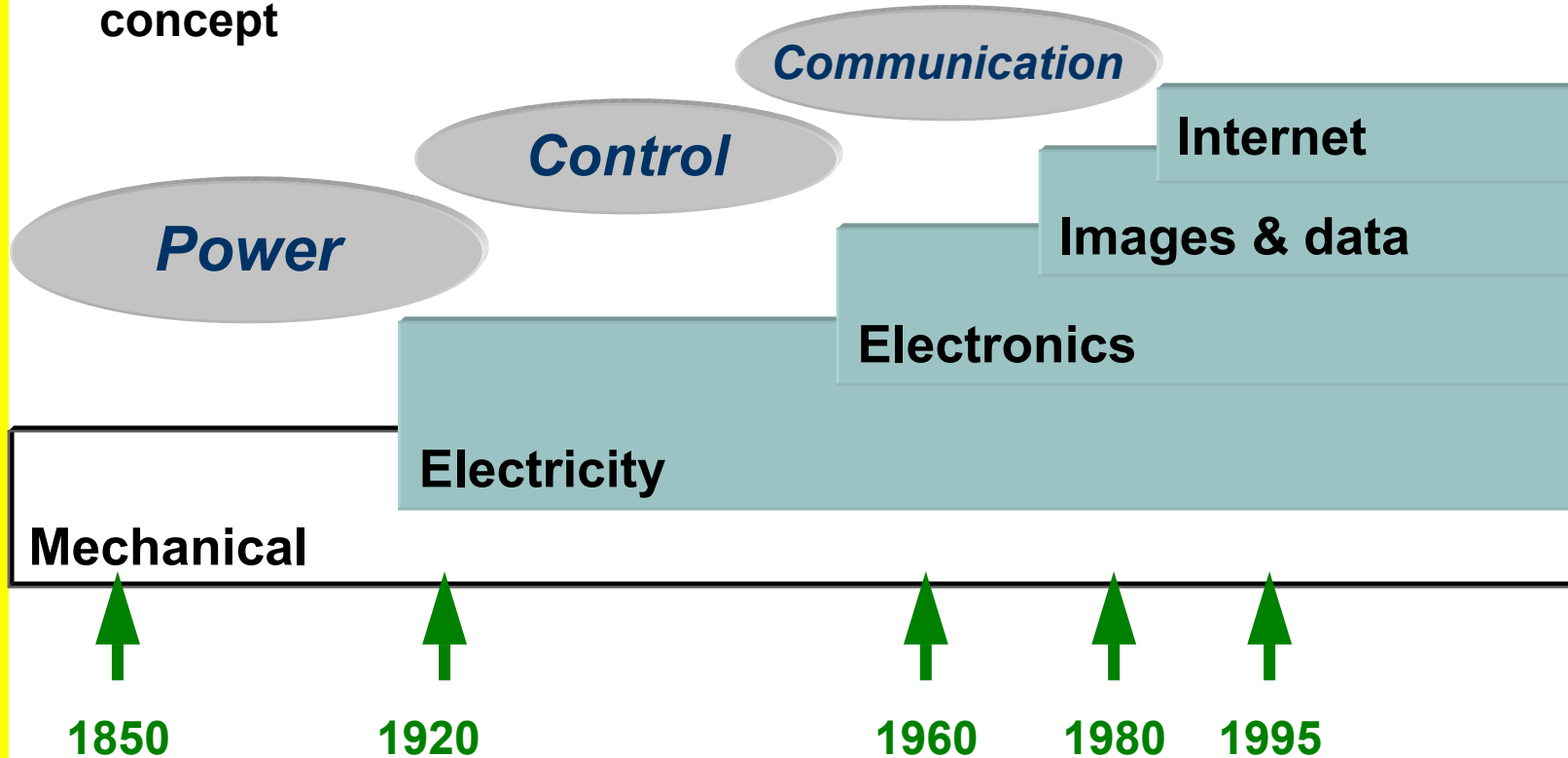
Web

Microprocessor

Transistor

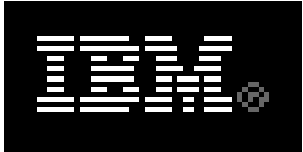
Transformer

Steam engine



# IBM & Schneider Electric: an example of a strategic partnership.....

→ IBM & Schneider Electric have signed a co-development and international co-operation agreement



WebSphere software

- To supply connections that are easy to integrate between the Transparent Ready architecture PLCs and the WebSphere middleware (therefore open to the end user's ERP/MES) of our common industrial customers

- By **the sole use of standard** ISs (OPC, XML Soap & Web services, on Ethernet TCP/IP)

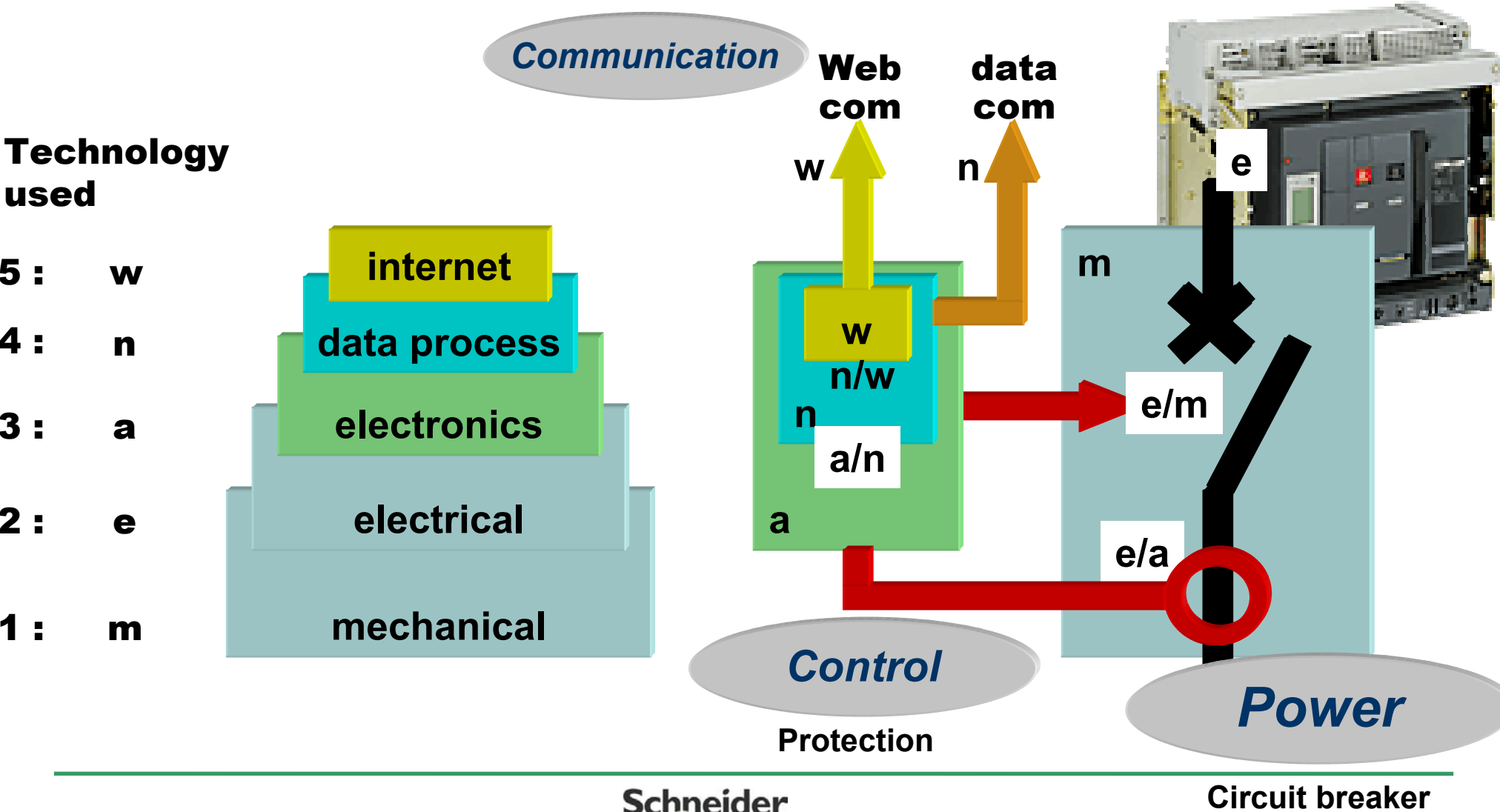
Schneider  
Electric

Transparent  
Ready

- Initially for the **microelectronics** domain

- And later for the **food and beverage** sector

# Example of multi-technology: the modern circuit breaker





# Our challenge: to transform the use of electricity

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- Have a global vision of the use of electricity
  
- The convergence of **electricity, automated systems and communication technology** is opening up a field of **innovation** and transforming the design and operation of electrical installations.
  - Our new<sup>2</sup> company program is focused on the **transformation of electricity applications** for our customers
  
- **Energy efficiency** is a major issue at stake for the future, with the spotlight on 3 key areas
  - Energy consumption
  - The quality and availability of energy
  - Electrical equipment operating conditions



# Energy efficiency: a products and services response

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- **Know “your electricity” – its quality and quantity**
  - Measurement and control Products, Solutions and Services for sellers of electricity
    - Acquisition of **Power Measurement, Inc.** (Canada)
  
- **Know your Building and reduce its energy consumption**
  - Acquisition of **Abacus Engineered Systems** (USA)
  - Acquisition of **TAC Energy solutions** (USA)
  
- **Prepare, manage and optimize an entire building (access, security/safety, air conditioning, lighting)**
  - Acquisition of **TAC, Andover Control** and **Invensys/Satchwell**
  
- **Deploy an offering and business** composed of high-level **innovative services** with specialist **services** professionals.

# IBM has chosen Schneider Electric in the United States

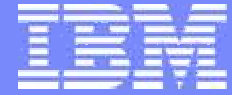
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## → To **optimize** its electricity costs

- Systematic measurement
- Understanding of interference
- Local management of electrical efficiency and integration into IBM's global operation
- Delegations of responsibility and cost awareness
- Comparison and optimization
- Security of the power supply
- Negotiations and quick change of supplier

## → To **assist** with maintaining control over the semi-conductor process

- Transparent Ready for the process

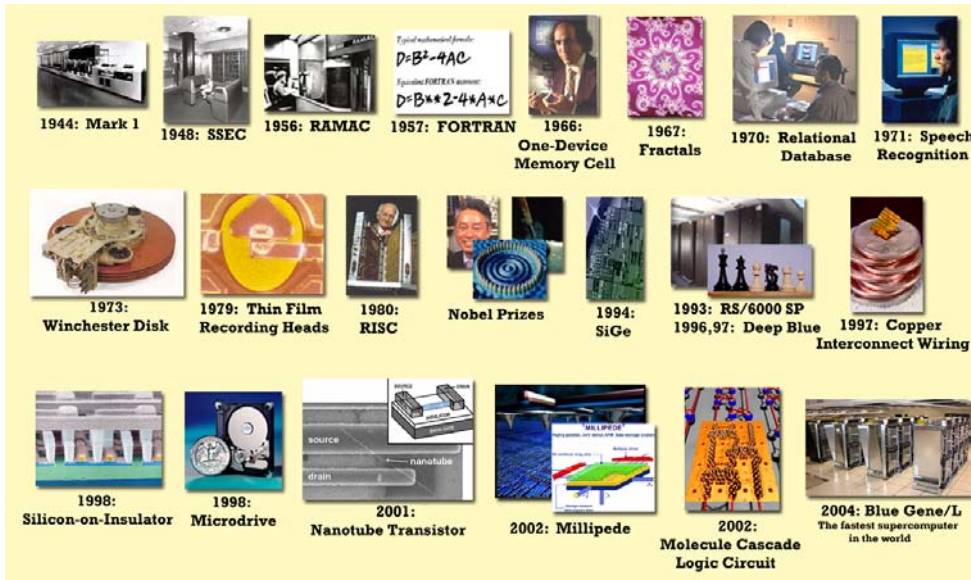


Business Consulting Services

# IBM's response to the challenge of innovation

**Philippe Hedde**  
*IBM Business Consulting Services*  
*General Manager - France*

## The history of IBM is marked by innovation milestones



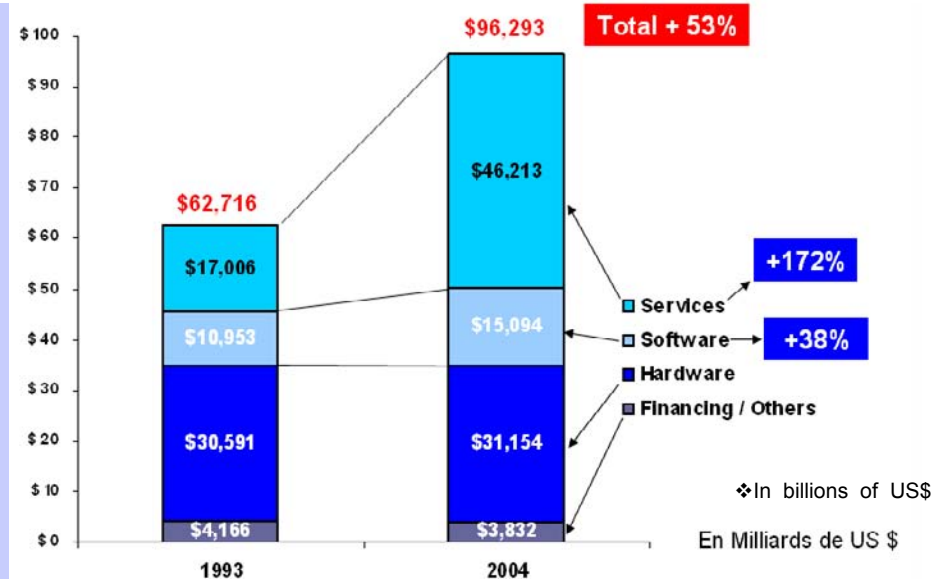
- For the 12<sup>th</sup> year running, IBM is the company that has filed the most patents in the USA (70% more than the company in the N°2 slot).
- IBM opens up access to its Research and Technology to its customers.

- IBM has numerous Research centres and an R&D budget in 2004 of 5.673 billion \$

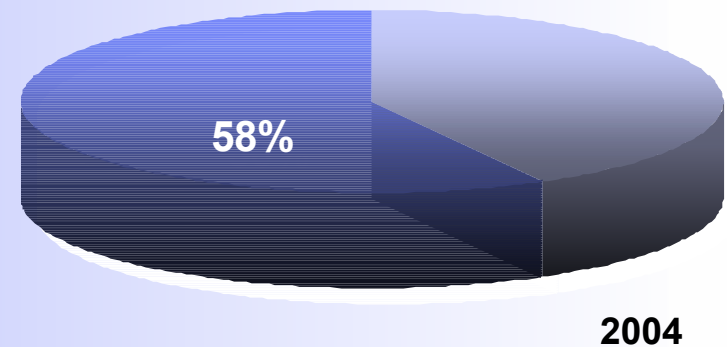


In 10 years, IBM has radically transformed its market positioning.

# Evolution of sales

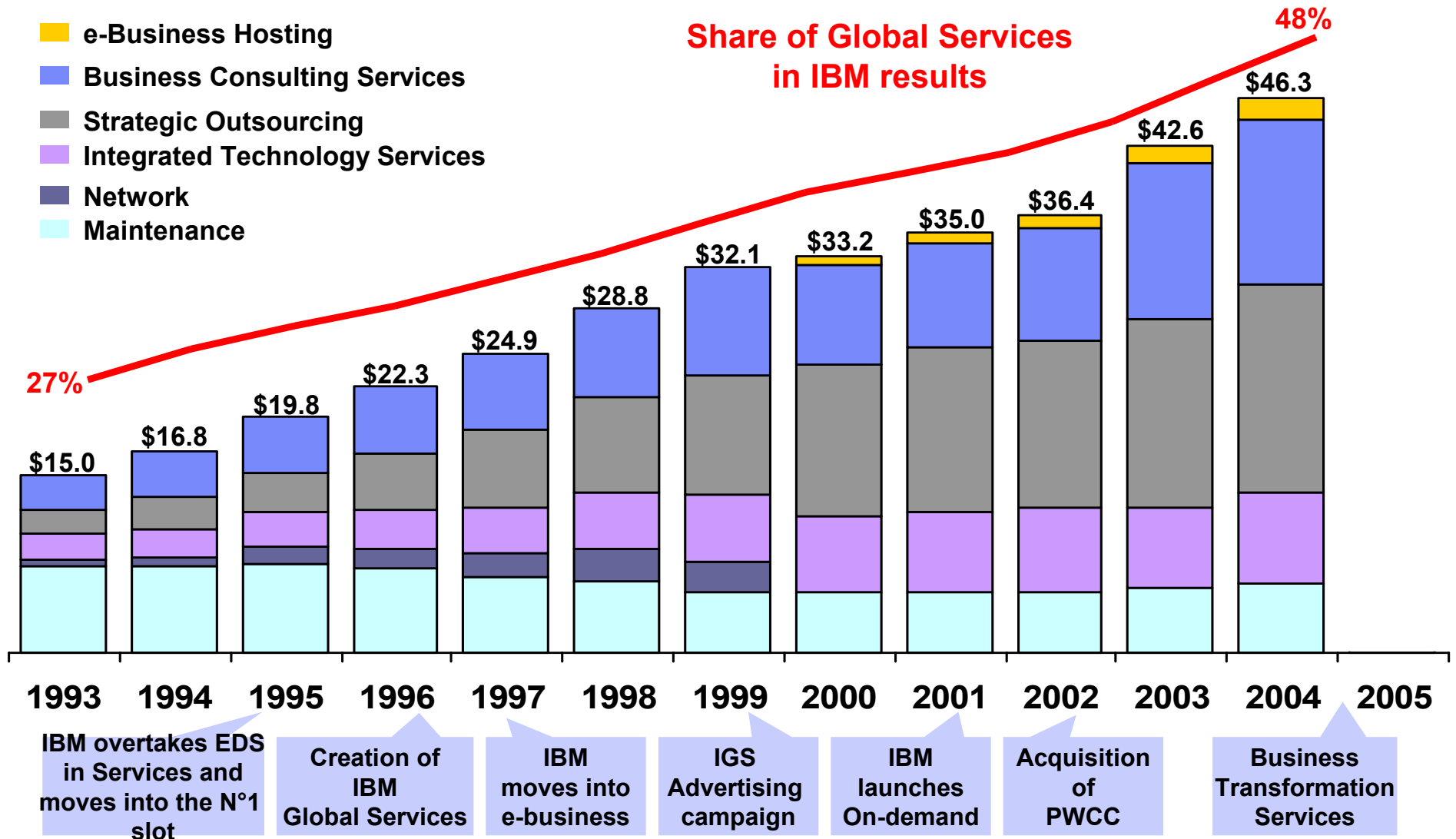


# IBM employees in Services (%)

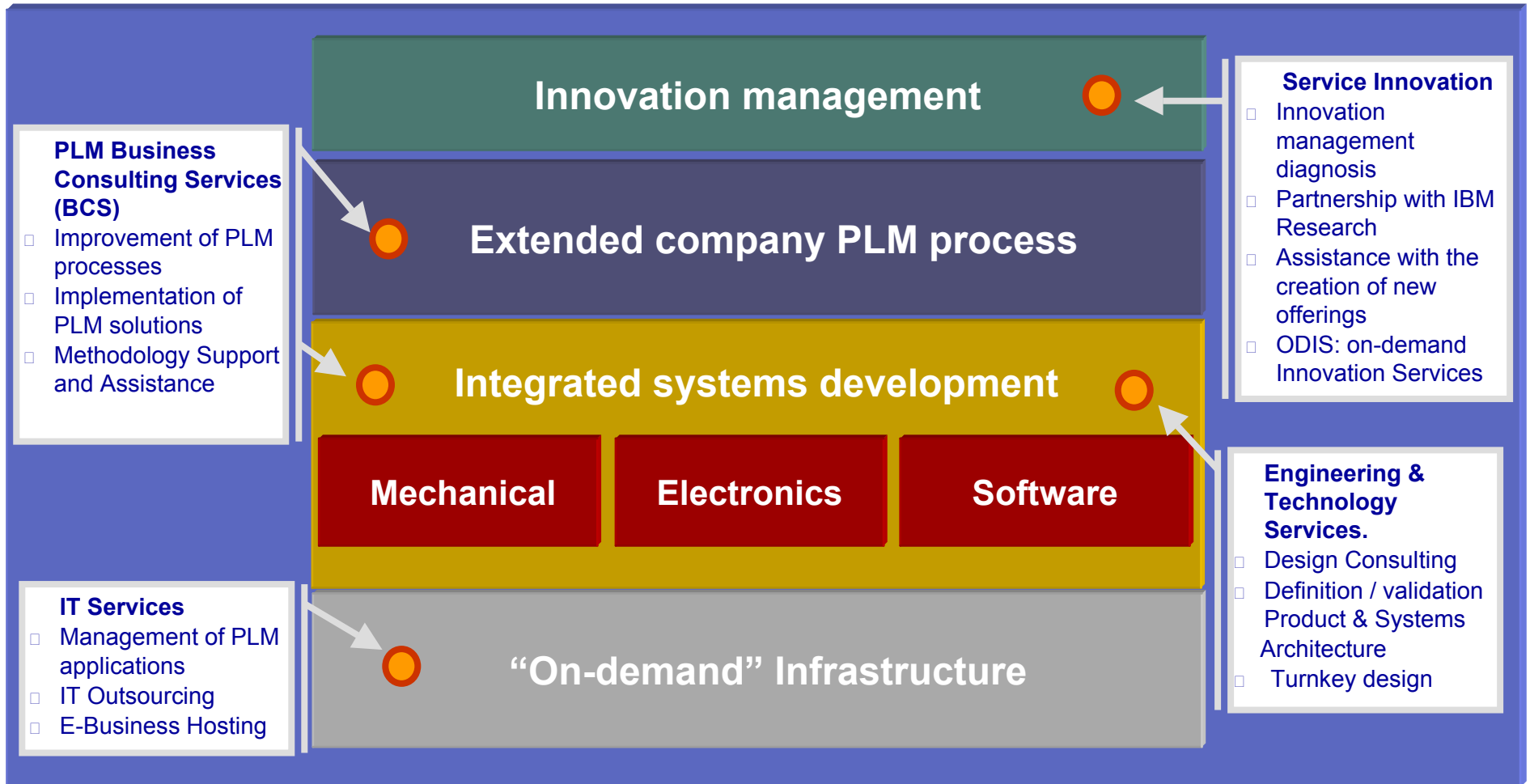


# The evolution of IBM towards services

In Billions of US \$



# IBM has offerings and expertise in all the domains of innovation and PLM



**PLM: Product Lifecycle Management: (Processes and Tools)**

## The evolution of the VALUES displayed by IBM reflects a profound change in the way we act.

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### 1990s

- ❖ Respect for Customers.
- ❖ Respect for People.
- ❖ Respect for Shareholders.
- ❖ Respect for the Environment.
- ❖ Respect for Action.

### 2000s

- ❖ Be dedicated to the success of every customer.
- ❖ Innovation at the core of our action, for ourselves and our customers.
- ❖ Confidence and personal responsibility in all internal and external relations.

## Valeo / IBM alliance for the development of automobile software

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Valeo, one of the world's leading automobile equipment manufacturers and IBM, the leader worldwide in information services and technology, have announced the launch of a new initiative to extend the functions of onboard software.



The new Valeo division, about to be created, will have the benefit of Valeo's automobile expertise combined with the experience of IBM in onboard software processes and methods. The aim of this joint initiative is to improve quality, optimize costs and reinforce the reliability and security of onboard software in vehicles.

*“This initiative is an important new stage in Valeo’s strategy to become a leading supplier of reliable, competitive electronic automobile solutions,”* commented Thierry Morin, Chief Executive Officer of Valeo

*“This agreement with Valeo demonstrates our commitment to the reinforcement of innovation in the automobile industry via onboard software ”* explained Janette Beauchamp, General Manager of the IBM Global Automotive Industry Division.

Mai 2005

## IBM designs and delivers innovative equipment for its customers. For example: the Medtronic pacemaker programmer.



### The Medtronic Challenge

- Medtronic is one of the world leaders in medical equipment with annual sales of 10 billion \$.
- Medtronic needed a platform to communicate with its programmable pacemakers.
- Medtronic chose IBM for its skills and technological expertise.

### Advantages for Medtronic

- Ease of use.
- Increase in its market share.
- Focus on basic skills.



Medtronic, Inc.  
Cardiac Pacemaker Programmer

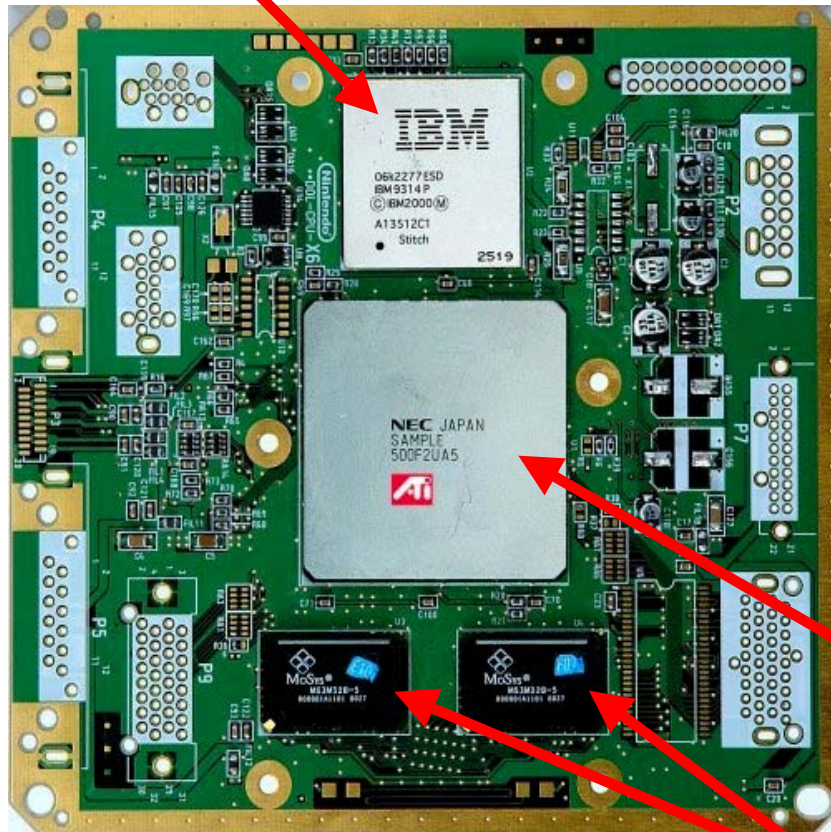
### The Solution

- IBM ThinkPad® technology as the reference mother board.
- Power supply personalized to integrate medical constraints.
- Robust design for intensive use.
- Equipment supplied at a competitive price.

# IBM designed the architecture for the new Nintendo GameCube based on the IBM PowerPC 750 processor



IBM - "Gekko" processor



ATI - "Flipper" graphic processor

MoSys - "Splash" memory

## IBM's mission is to be the N° 1 player in transforming our customers' business into value

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- At IBM, innovation is the byword: an alliance between **expertise in new forms of technology** and a **refined understanding of** our customers' **business sectors** to provide them with tangible results by associating business with technology.
- To meet the challenge of innovation, the principal plus points of IBM Business Consulting Services are its **human assets**, **professional expertise** and a combination of experience and intelligence in order to invent the new responses required by our customers.
- IBM helps companies to **anticipate market change** and **take the right decisions to create value**.

**We cannot predict the future... As a result, innovation is constantly called into question.**

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**“I think there is a world market for maybe five computers.”**

Thomas Watson, chairman of IBM, 1943

**“Computers in the future may weigh no more than 1.5 tons. ”**

Popular Mechanics, 1949

**“There is no reason anyone would want a computer in their home. ”**

Ken Olsen, founder of DEC, 1977

**“640K ought to be enough for anybody. ”**

Bill Gates, 1981

**“Prediction is difficult, especially about the future”**

Yogi Berra

