

A European Perspective for Electronic Industry in Latin America



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Electronic, a Global World



 **Security**

 **Networking**

 **Consumer**

 **Wireless**

 **Storage**

 **Automotive**

 **Computer Science**



Electronic a Wide Variety of Terminals



Electronic is a key-industry for the wealth of nations



Most other industries and all services will be unable to operate without electronic.



Electronic generates more added-value than any other manufacturing industry.



Electronic Industry controls three times more jobs than it generates.



Electronic accounts for 30% of the fixed asset investments of the overall industries.



In the next ten years, the Electronic Industry will continue growing more than two times the global world GDP.

Electronic Industry worldwide represents (\$US):

4.40 x Oil, Petrol & Minerals

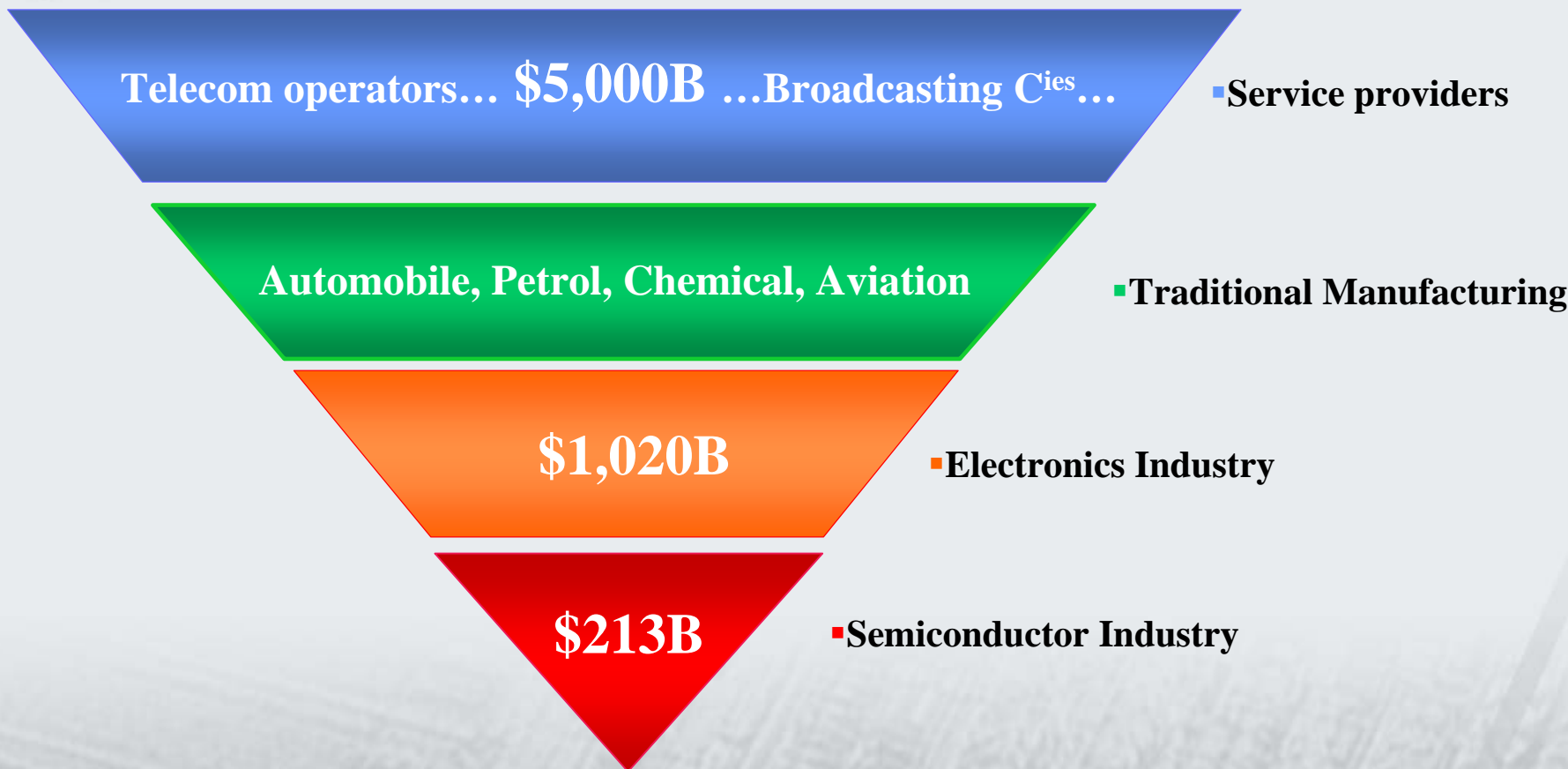
2.75 x Chemical & Plastics

2.45 x Food, Beverage & Tobacco

2.44 x Transportation

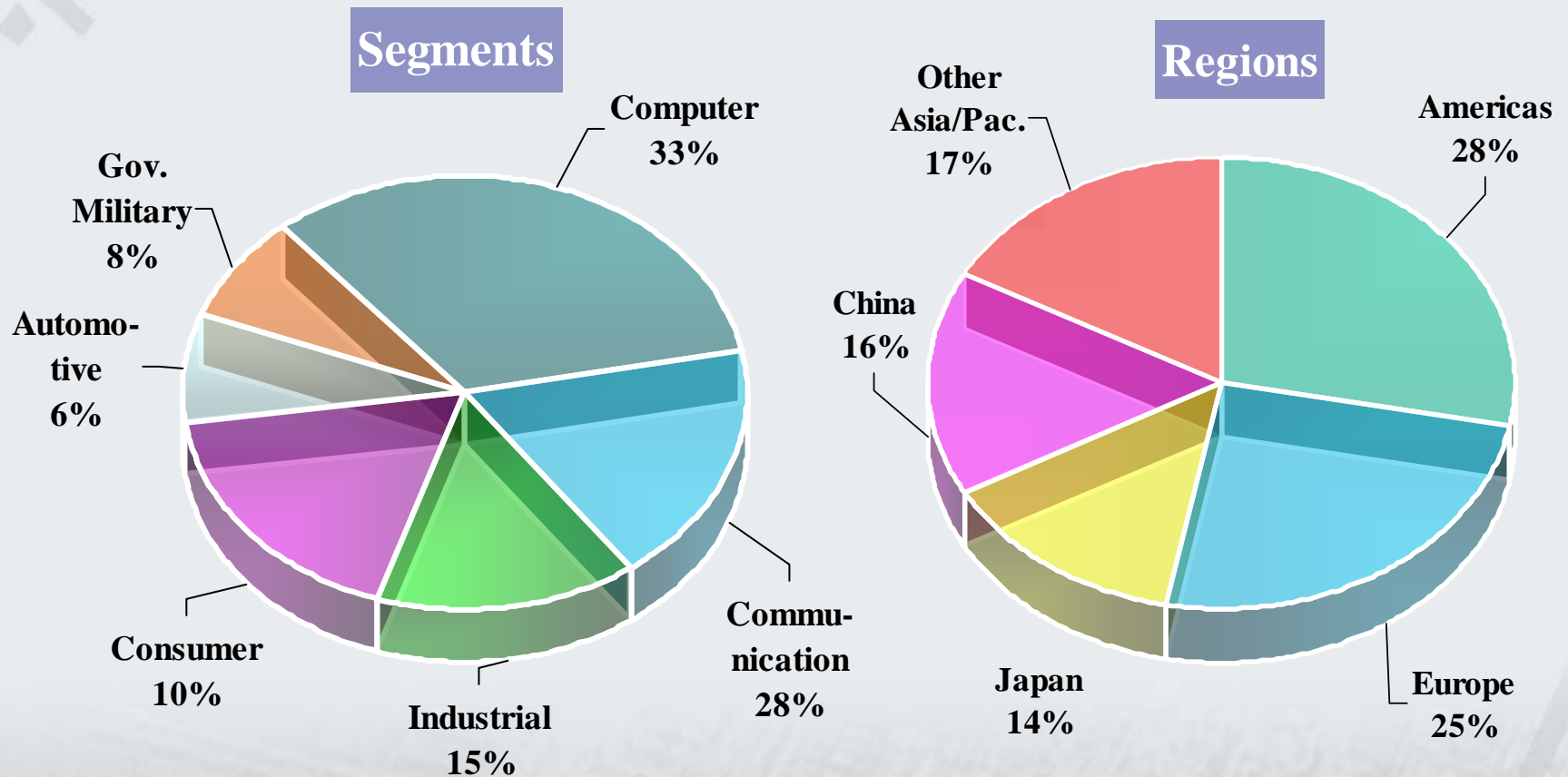
2.20 x Electricity, Gas & water

Electronic is a key enabler of added-value and jobs for the whole industry



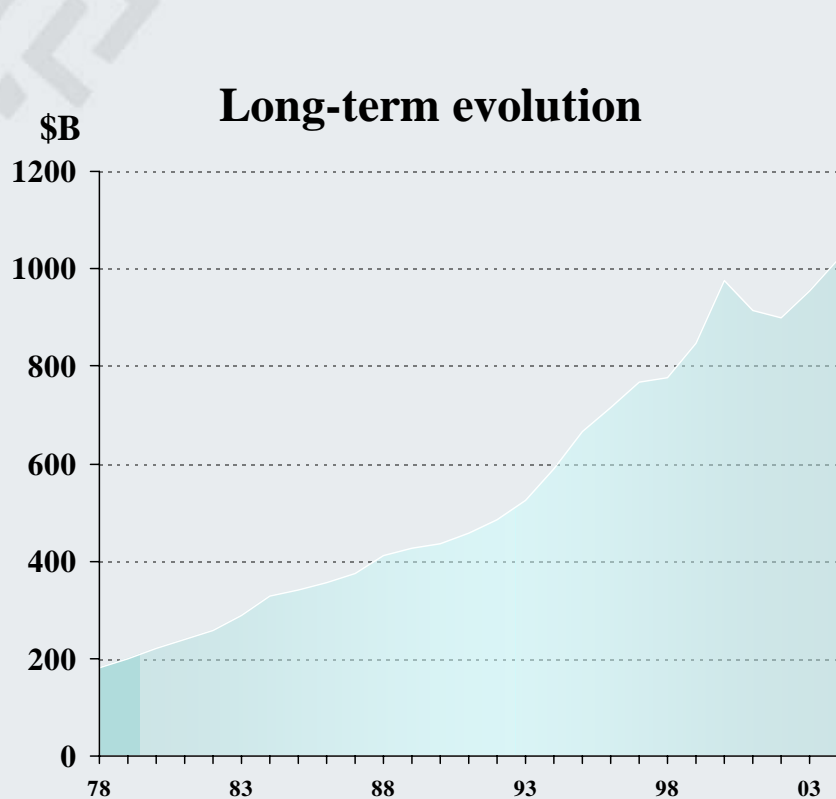
Industrial world in 2004

Electronic Industry profile in 2004

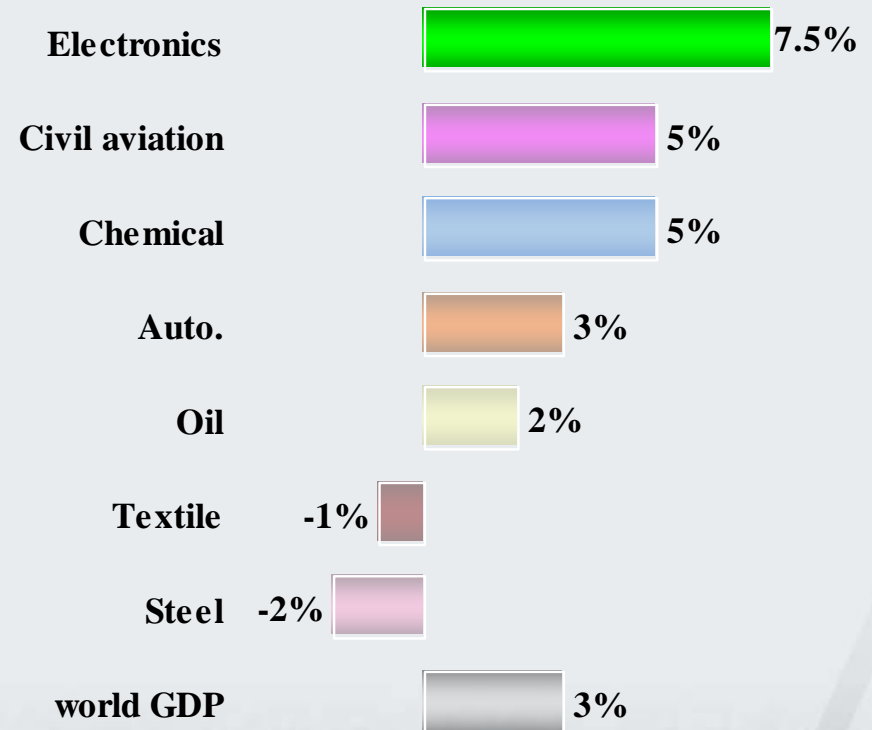


Total : \$1,020B

Electronic Industry production growth



CAGR comparisons 1978-2004



Electronic Industry is the fastest growing industry

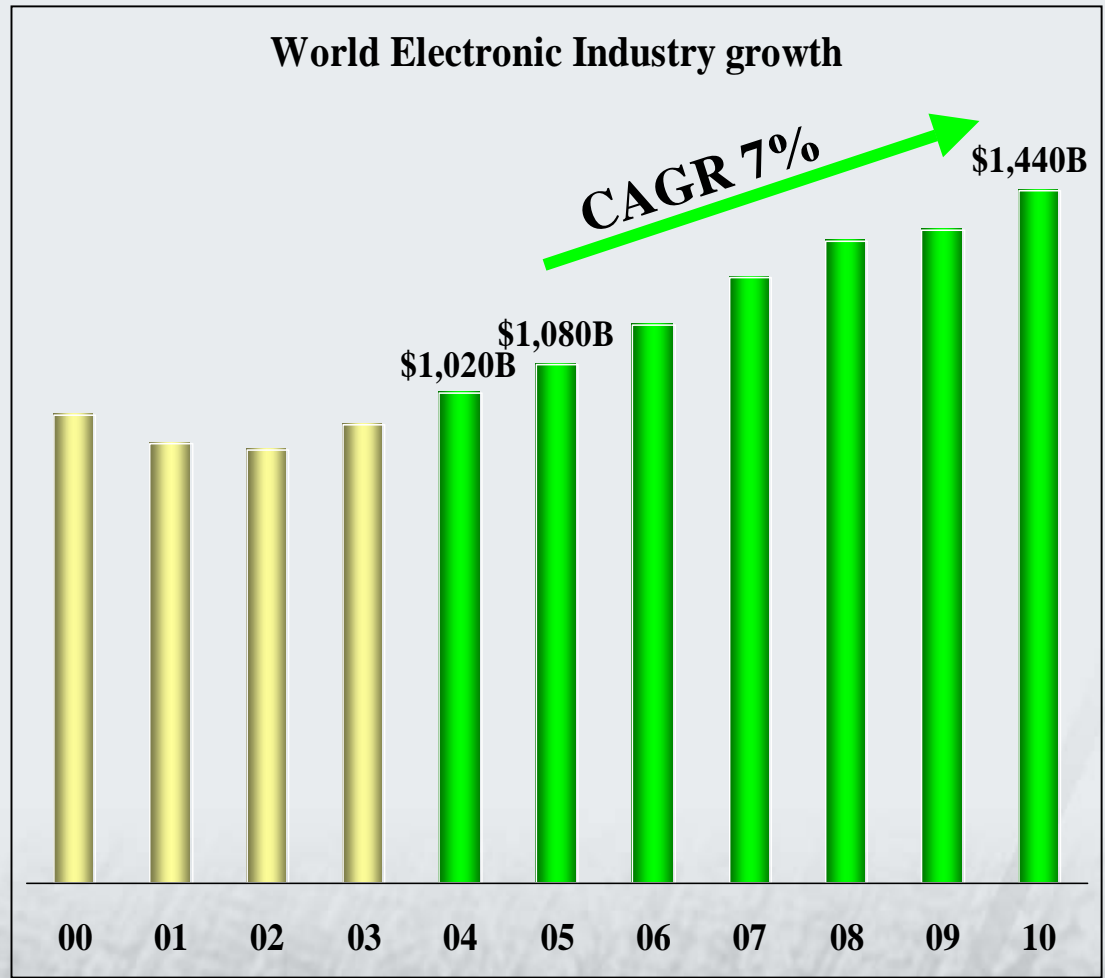
Electronic Industry trends

- Electronic industry growth is driven by:

Development of consumer applications through digitalization.

Development of new regions “BRIC”: Brazil, Russia, India, and China.

- CAGR is 4 percentage points above the world GDP growth.



Electronic is a pillar for the industrial strategy of nations

Research Programs

- **Energy saving**
 - ✓ photovoltaic
- **Medical**
 - ✓ electronic analysis
- **Etc...**

Development and Innovation Programs

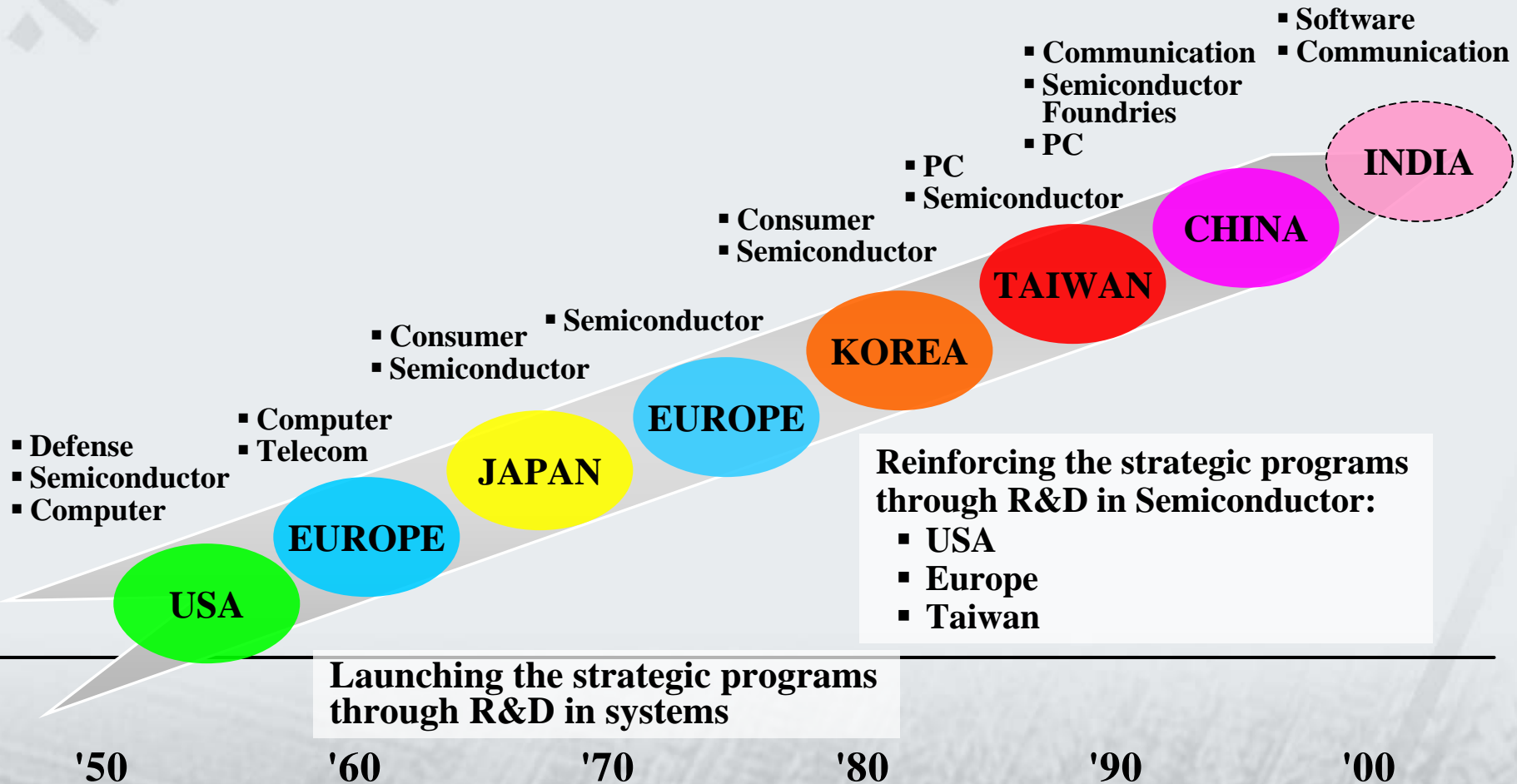
- **Buildings**
 - ✓ energy control
 - ✓ security
 - ✓ access control
- **Automotive**
 - ✓ security and intelligence
 - ✓ hybrid vehicles
- **Airplanes**
 - ✓ automation
 - ✓ air control
- **Etc...**

- **City transit**
 - ✓ automatic mass transport
- **Security**
 - ✓ Identity control
 - ✓ Network
- **Transportation**
 - ✓ fast train
 - ✓ containers follow-up
- **Etc...**

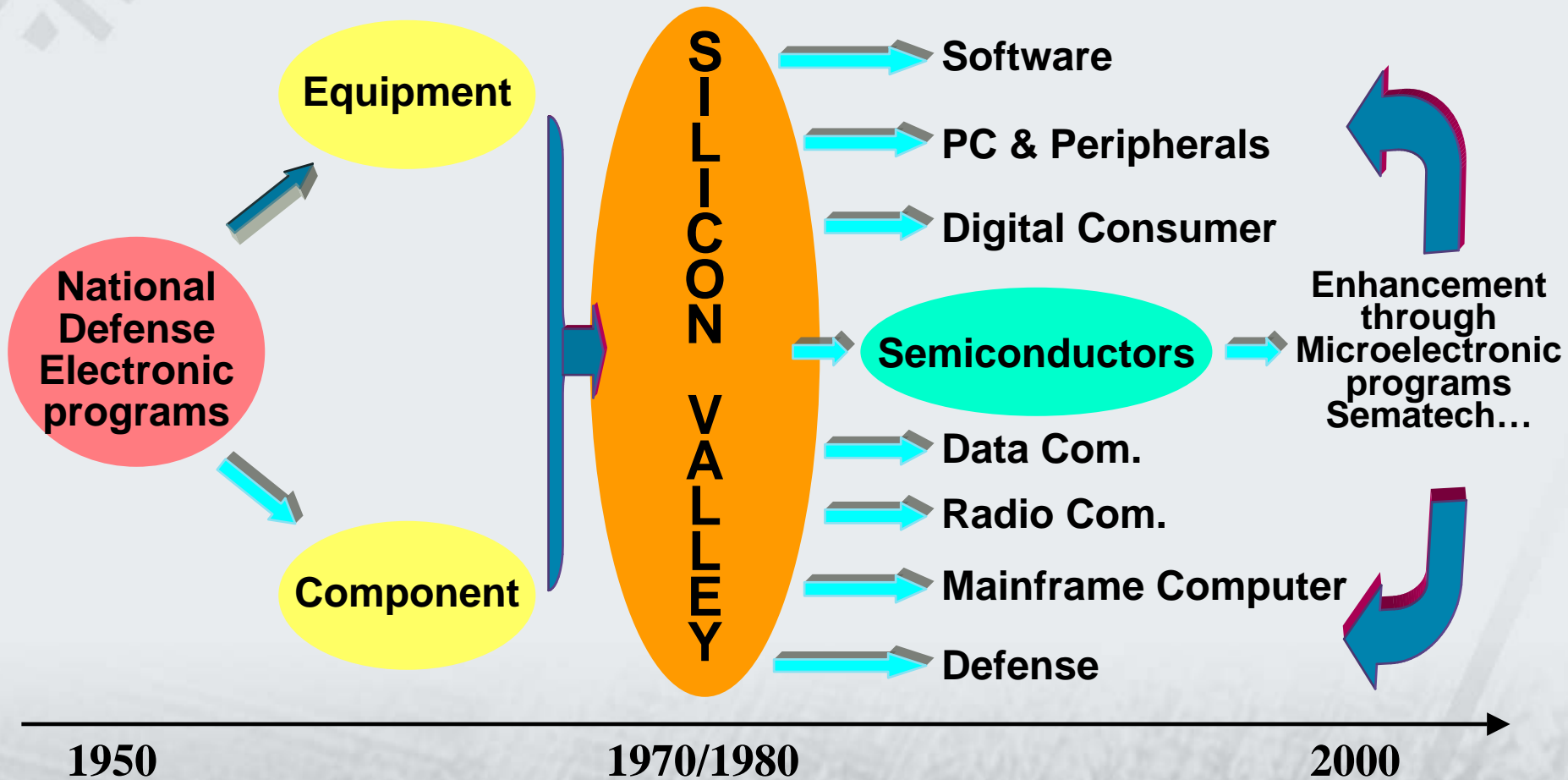
Infrastructure Programs

- **Internet**
 - ✓ high bit rate
- **TV high definition**
- **Medical**
 - ✓ electronic network
- **Etc...**

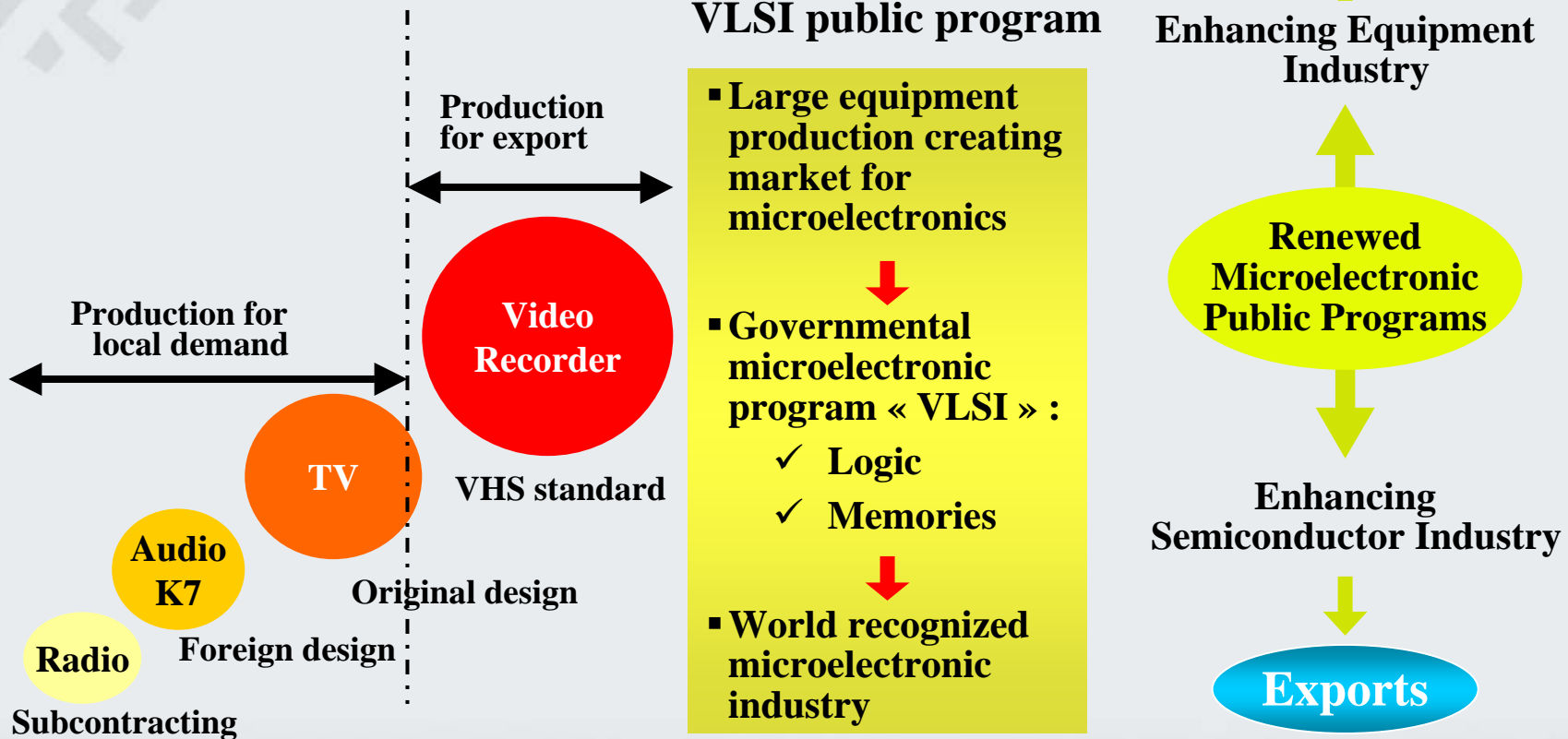
Electronic is at the center of the industrial policy of Nations



United States of America



Japan



1960

1970

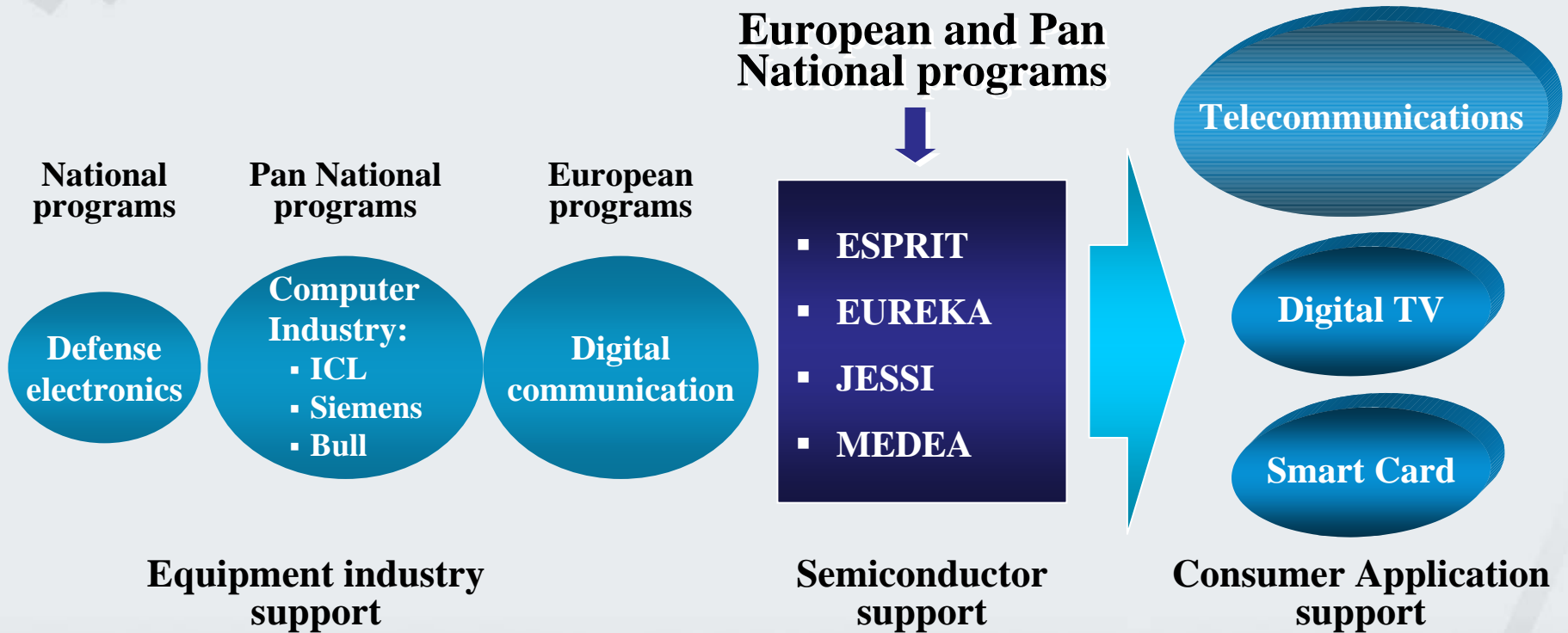
1980

1990

2000

2010

Europe



1960

1970

1980

1990

2000

Taiwan

▪ **ITRI**
✓ **ERSO**

**PC
Motherboard
Peripherals**

**Audio
Toys**

Subcontracting Equipments

**SC
foundry
industry**
▪ **TSMC**
▪ **UMC**
▪ ...
▪ ...

**Subcontracting
Semiconductors**

Hsinchu (High Tech Park)

**Diversified
Electronic
Leadership**

✓ **PC**

✓ **Consumer**

**Becoming
a Leading
Semiconductor
Supplier**

1980

1990

2000

Peoples Republic of China

Balancing Growth and Cost Competitiveness



Creation of areas of competencies

- Shenzhen/Hong Kong: *Consumer/PC*
- Shanghai: *Semiconductors*
- Beijing: *Telecom*

Mastering Electronic manufacturing science

2000

2010

2020

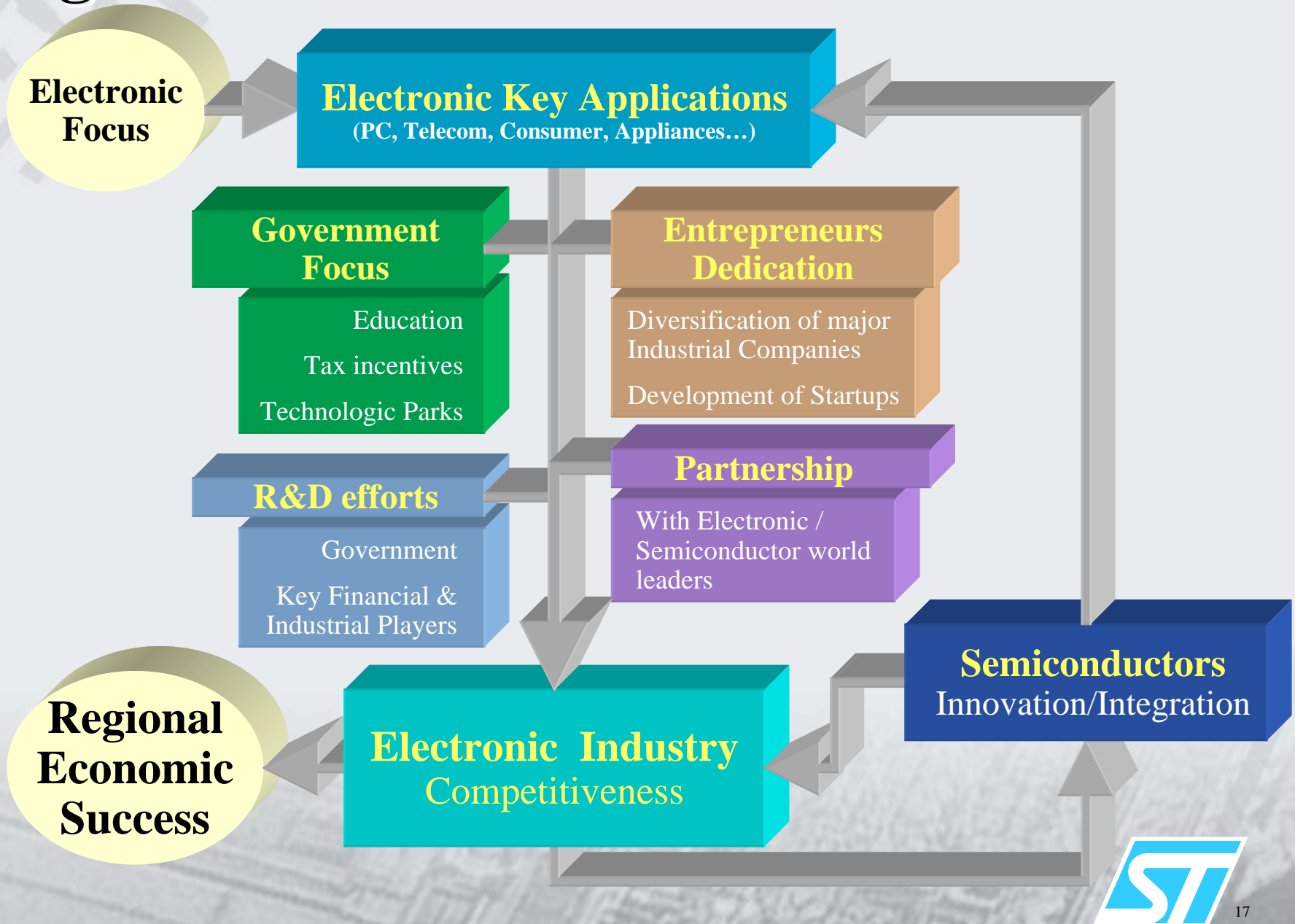
OEM (Original Equipment Manufacturers)

EMS (Equipment Manufacturer Services)

ODM (Original Design Manufacturers)



Ingredients for success in Electronic Industry



Why Europe is the partner of choice

Europe has reached leading position in many key-applications :

***Telecommunication** (in particular Mobile Phone...)*

***Digital consumer** (SetTopBox...)*

***Smart Card** (telecom, banking, security...)*

***Automotive** (electronic, security...)*

***Semiconductors** (STMicroelectronics, Infineon, Philips...)*

Solid member of the top 10 semiconductor suppliers, key contributor to the European Electronic success and having a strong historical culture of cooperation, **STMicroelectronics** is ready to contribute to Latin America Electronic Industry Development.

Opportunities for Latin America in Electronic

Present Situation

- **Market Potential**
 - ✓ Regional (around 550M inhabitants)
 - ✓ Worldwide Export opportunities
- **Stable and High Growth Economic Prospect**
- **Available Industry Structure with access to External Technical Cooperation**
- **Possible Partnership with Key Local Entrepreneurs**
- **Engineering Educational System**

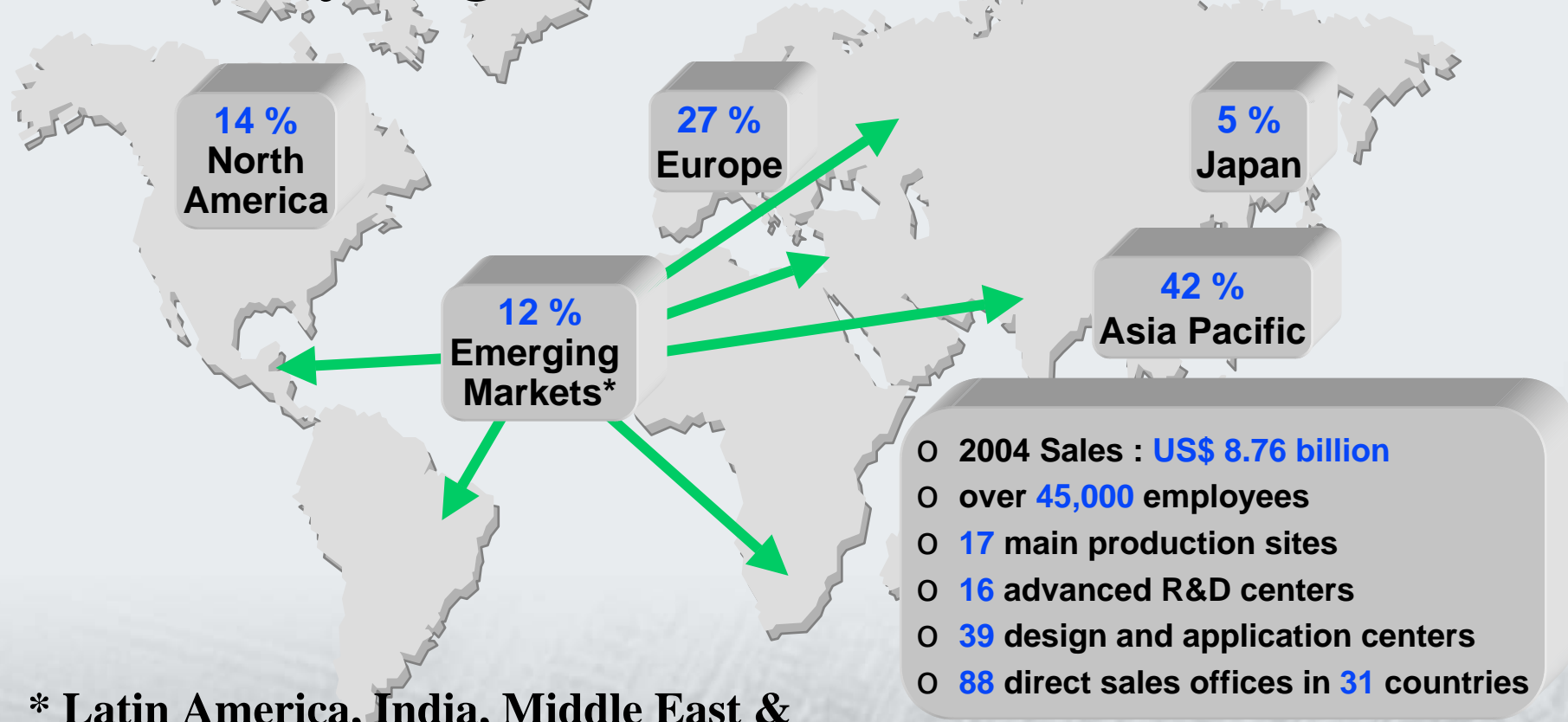
Possible drivers

- **Digital Set Top Box / HDTV**
- **Smart Cards**
- **White Goods (appliances)**
- **Electronic Meters**

STMicroelectronics

a **global semiconductor company**

Sales by region as % of 2004 sales



* Latin America, India, Middle East & Africa, Russia & Eastern Europe,

Global manufacturing infrastructure



Advanced wafer fabs:

- **12" Crolles (France)** - Pilot line in operation
- **12" Catania (Italy)** - Building & Facilities underway

△ 8" Front-end

■ Back-end

● Other Front-end

STMicroelectronics Strategy focusing on Key Programs and Product Lines



- **Wireless broadband - handsets**
3G Platform
Nomadik
- **Wireless LAN**
- **Wireline broadband**
- **Computer Peripherals**
Storage & Printing
- **Automotive**

- **Set-Top Boxes**
- **DVDs**
- **Digital TVs**

Shared Platform

- **Imaging**
- **Microcontrollers**

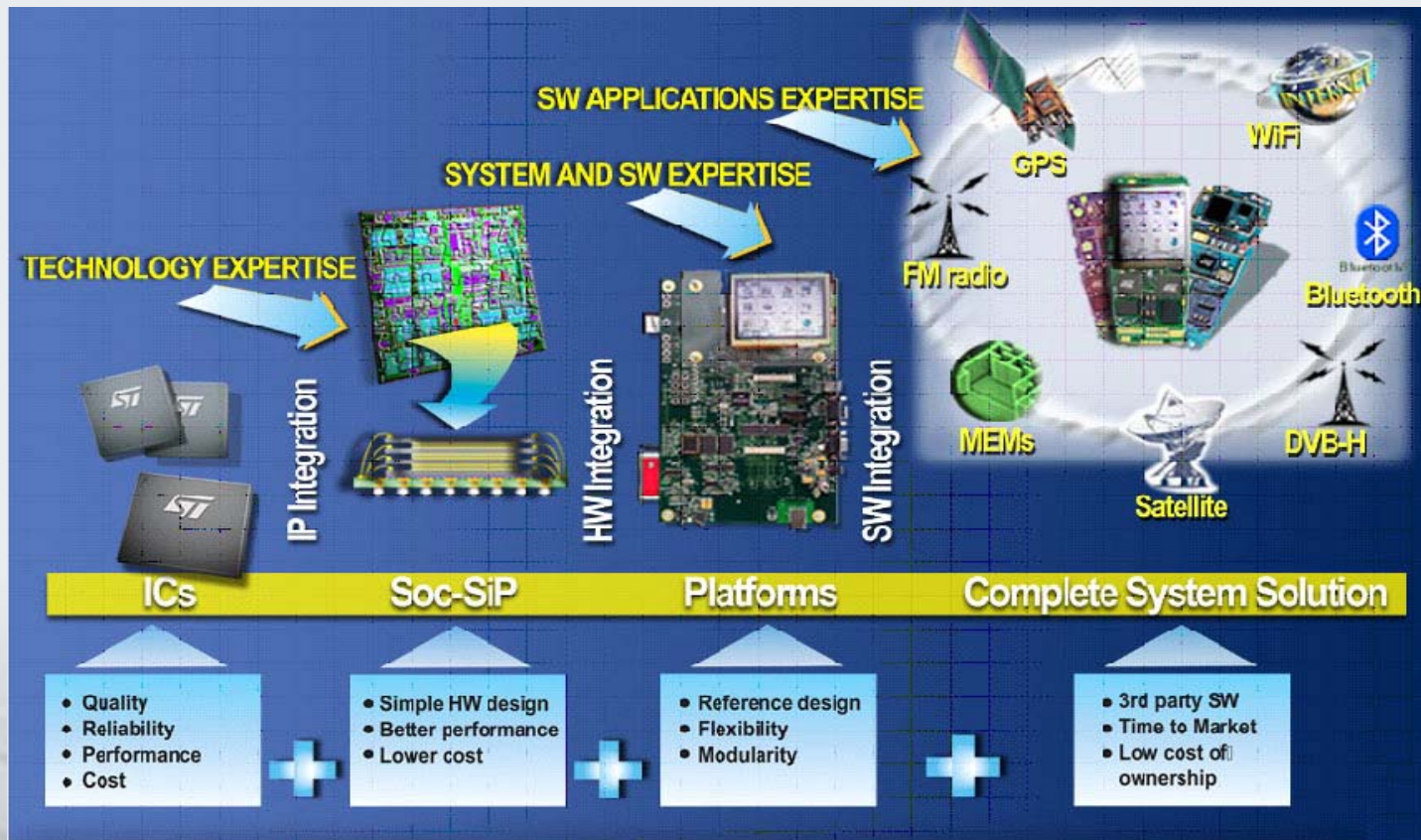
- **NOR Flash**
- **NAND Flash**
Memory cards
- **Smartcards**

- **Discretes**
- **MOSFET**
- **VIPOWER**

STMicroelectronics Contribution

Multiple Product Offerings

From **System-on-Chip**
System-above-Chip
System-in-Package } **To PLATFORM SOLUTIONS**



« No advanced industrial society can exist without controlled access to an advanced electronics industry, which in turn cannot exist without controlled access to an advanced semiconductor industry »



Pasquale Pistorio
(Honorary Chairman)