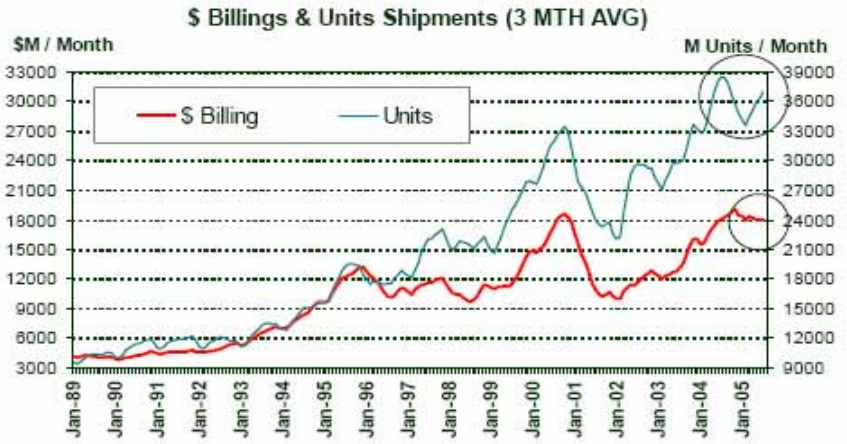
The European Semiconductor industry:

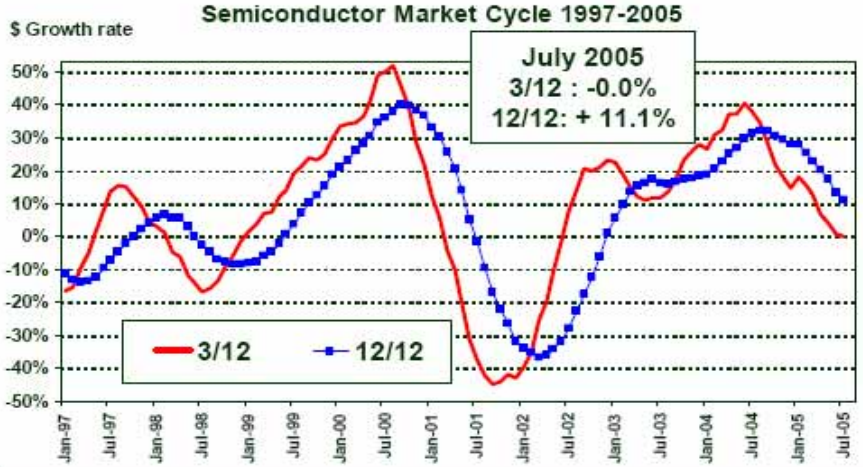
2005 Competitiveness Report

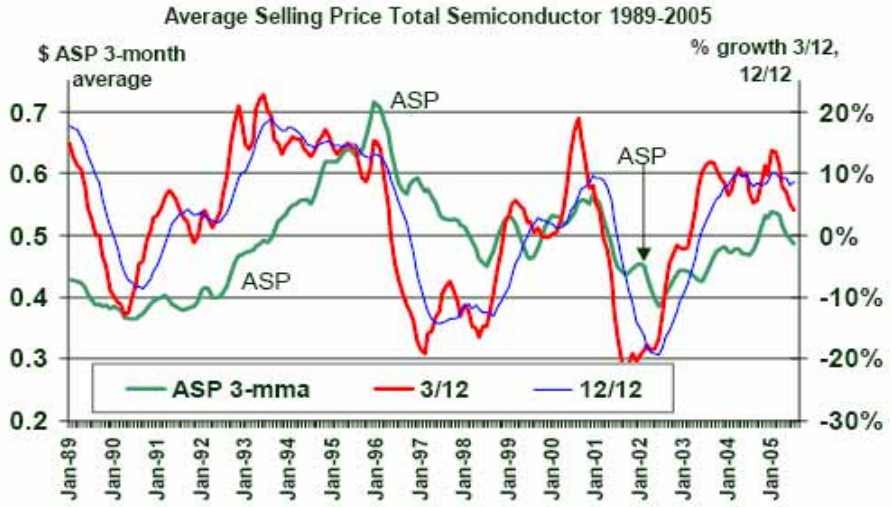
DG Enterprise

EU presentation, Brussels, September 1, 2005

WORLD MARKET INDICATORS: July 2005



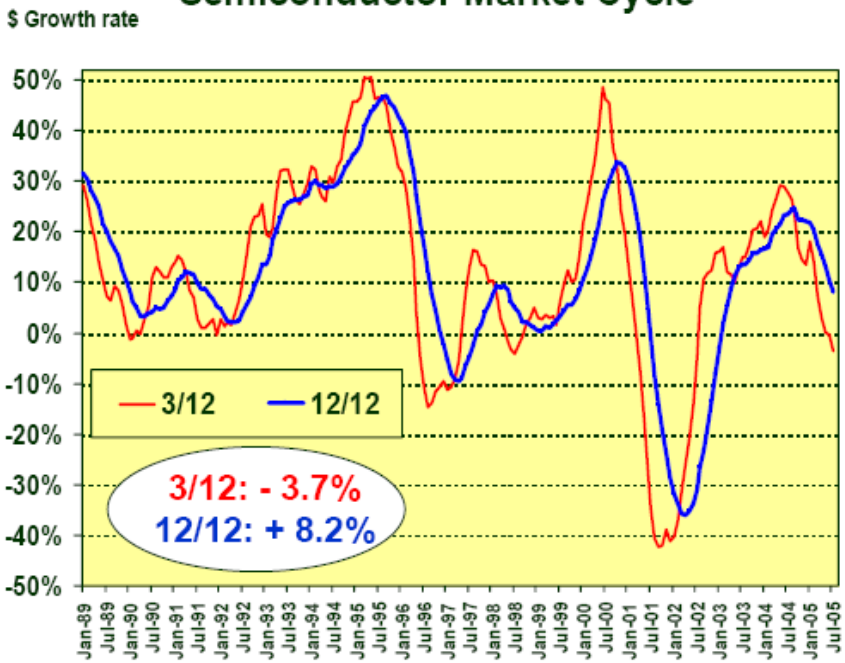




Source : WSTS

EUROPE
July 2005

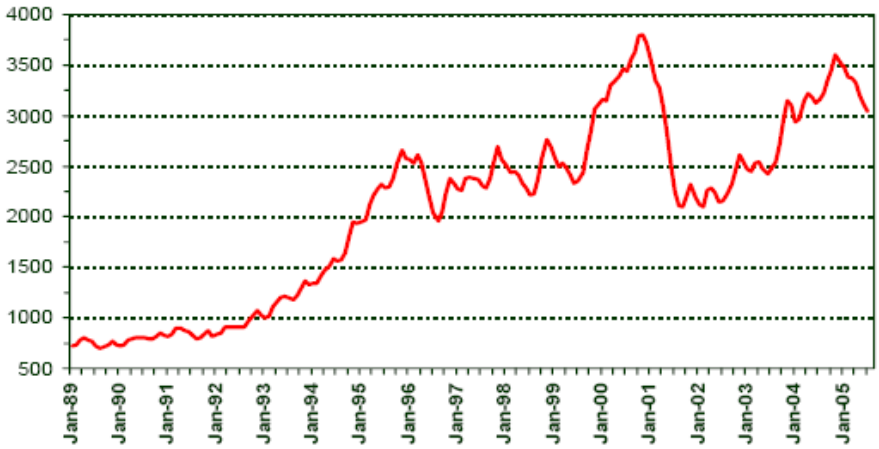
Semiconductor Market Cycle



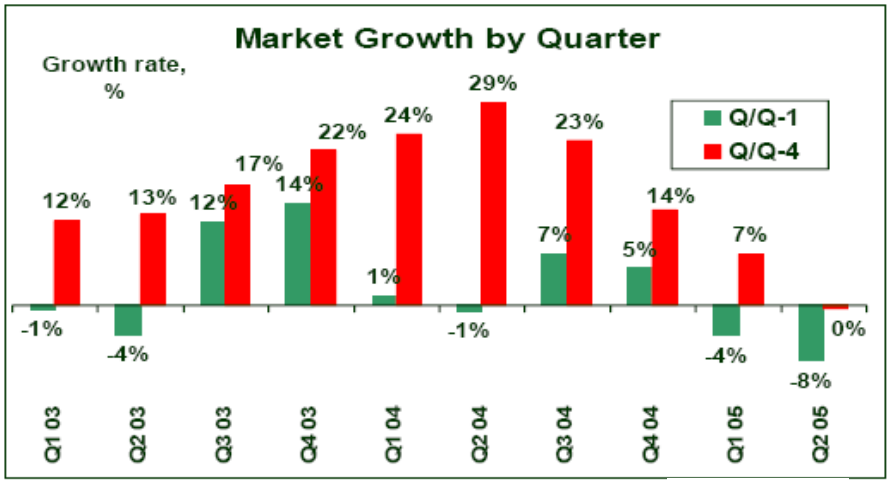
Highlights

In July, the monthly billings decreased 21.3% to $2,758M from June. On a **3-month average** basis, July revenues decreased for the eighth consecutive month, -2.0% from June, to $3,047M. The 3/12 growth rate (YoY) went further down into the negative territory. The 12/12 decelerated to +8.2% in $ (and to +2.1% in €).

Billings (3 MTH AVG)

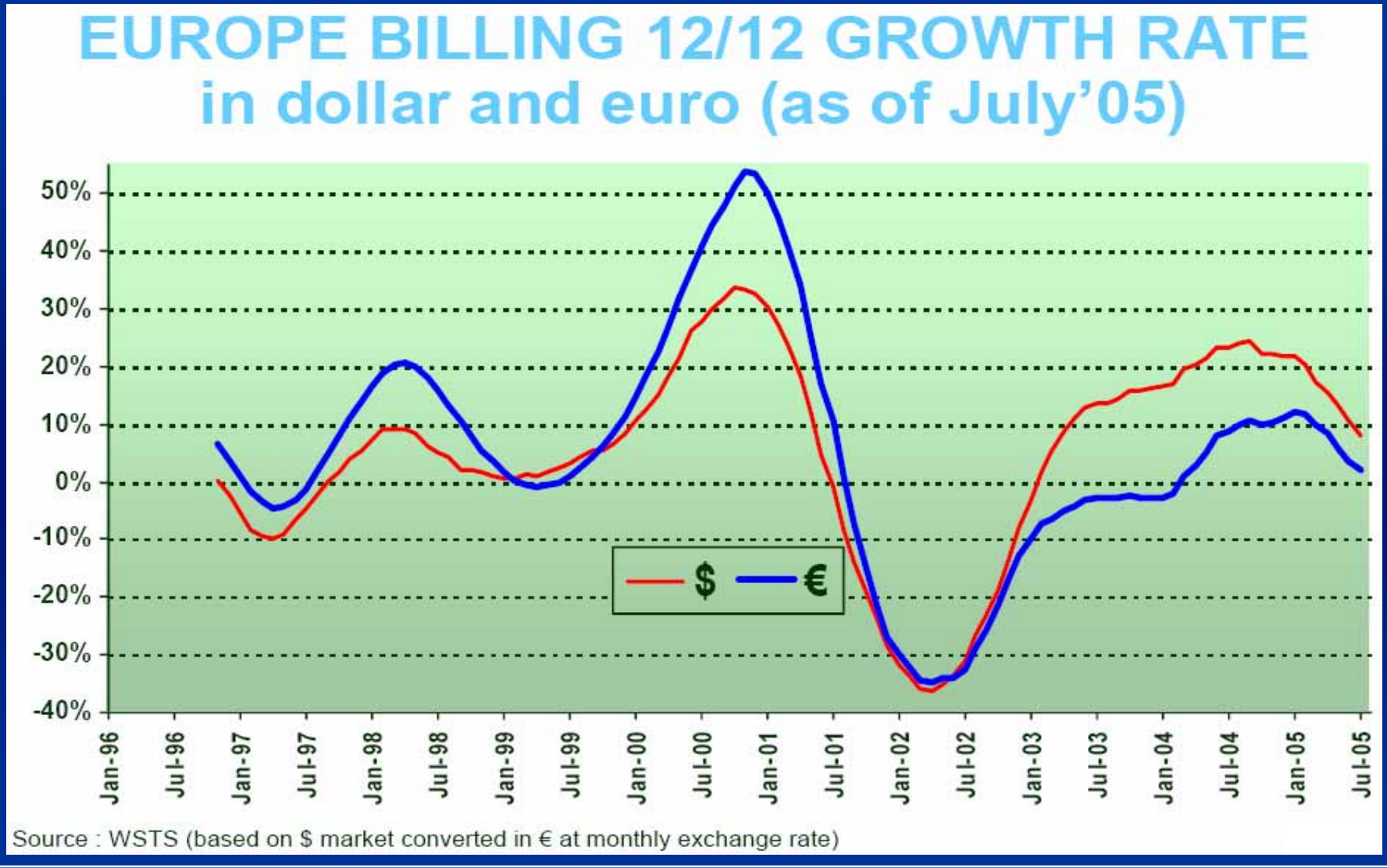


Market Growth by Quarter



Source : WSTS

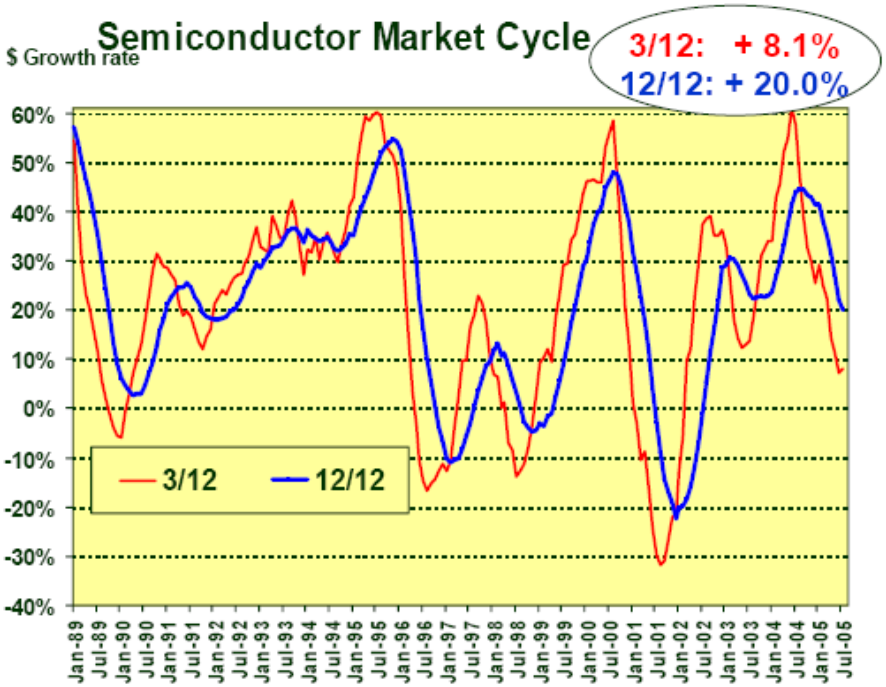
EUROPE BILLING 12/12 GROWTH RATE
in dollar and euro (as of July'05)



Source : WSTS (based on $ market converted in € at monthly exchange rate)

ASIA/PAC. July 2005

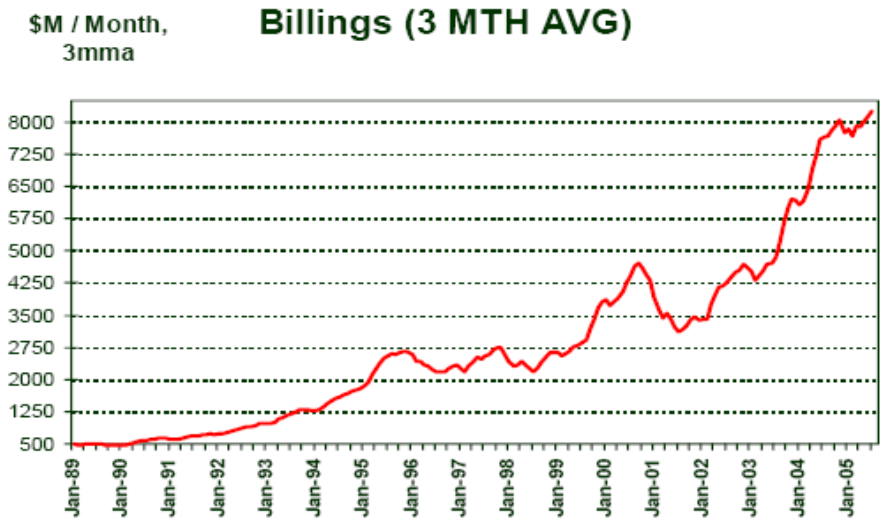
Semiconductor Market Cycle



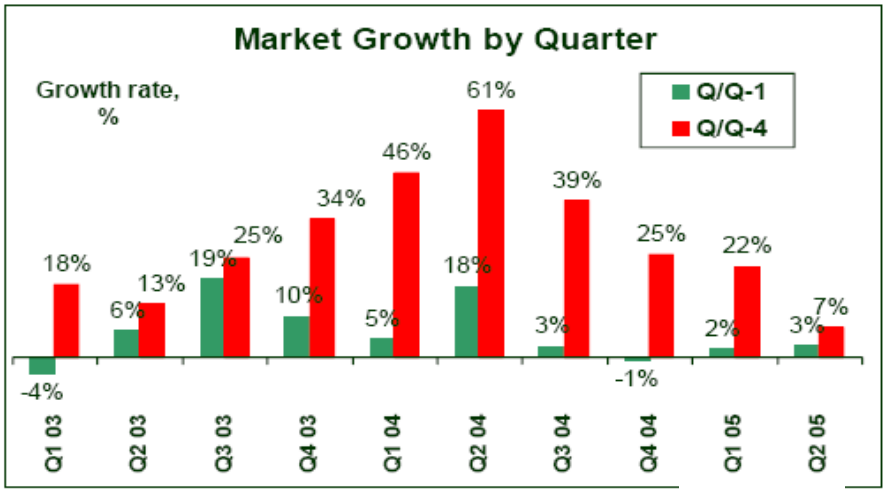
Highlights

In July, the monthly billings decreased 15.6% to $7,846M from June. On a **3-month average** basis, the market increased again, +1.7% to $8,267M. The 3/12 slightly accelerated from 7.1% to 8.1% in July (AP is the only region with a positive 3/12 and an increase in Q2 over Q1). The 12/12 continued to decelerate at a moderate pace to 20.0% from 22.1%.

Billings (3 MTH AVG)



Market Growth by Quarter



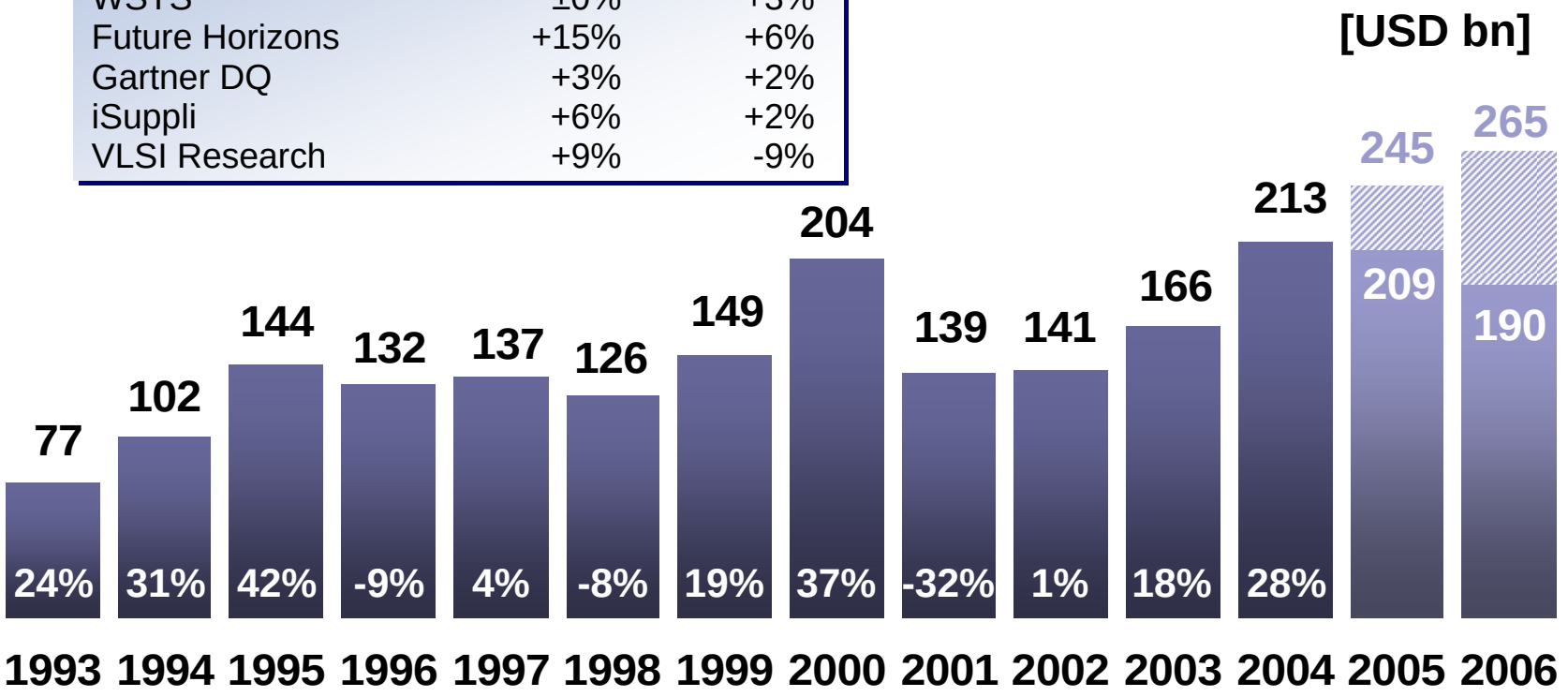
Source : WSTS

Purpose of the 2005 Competitiveness Report

- Create awareness that the European s/c industry stands at a crossroads
- Analysis of the competitiveness of the semiconductor industry in Europe and comparison with other regions
- Move the competitiveness debate to where it is being played
- Recommendations to the European Commission and Member States how the competitiveness of Europe's s/c industry can be maintained and enhanced as part of the Lisbon agenda
- Call for action

Semiconductor market development and forecasts

Forecasts*	2005	2006
IC Insights	-2%	+8%
WSTS**	±0%	+3%
Future Horizons	+15%	+6%
Gartner DQ	+3%	+2%
iSuppli	+6%	+2%
VLSI Research	+9%	-9%



Source: WSTS for historical data

* As of April 20th, 2005 / ** incl. Update 4Q CY2004

Top ten semiconductor companies in the world and in Europe 2004

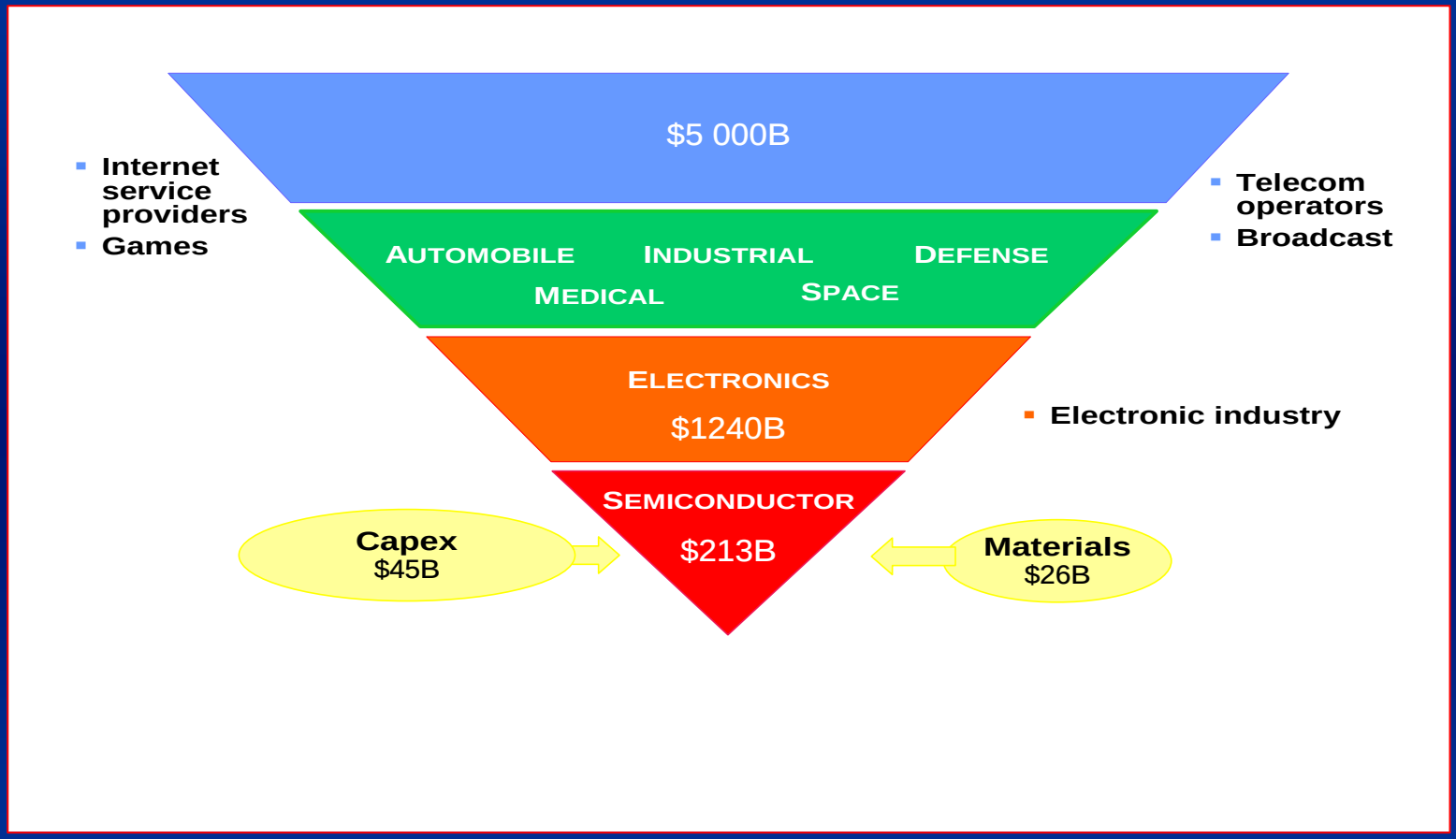
3 EU companies in top ten

World	Company Origin	Europe	Company Origin
Intel	US	Intel	US
Samsung Electronics	Korea	**Infineon Technologies**	**EU**
Texas Instruments	US	**ST Microelectronics**	**EU**
Infineon Technologies	**EU**	Samsung Electronics	Korea
Renesas Technology	Japan	Texas Instruments	US
Toshiba	Japan	AMD/Spansion	US
ST Microelectronics	**EU**	**Philips Semiconductor**	**EU**
NEC Electronics	Japan	Freescale Semiconductor	US
Philips Semiconductor	**EU**	Renesas Technology	Japan
Freescale Semiconductor	US	Micron Technology	US

Source: Dataquest and company reports

Economic impact of the semiconductor industry on other key downstream sectors in 2004

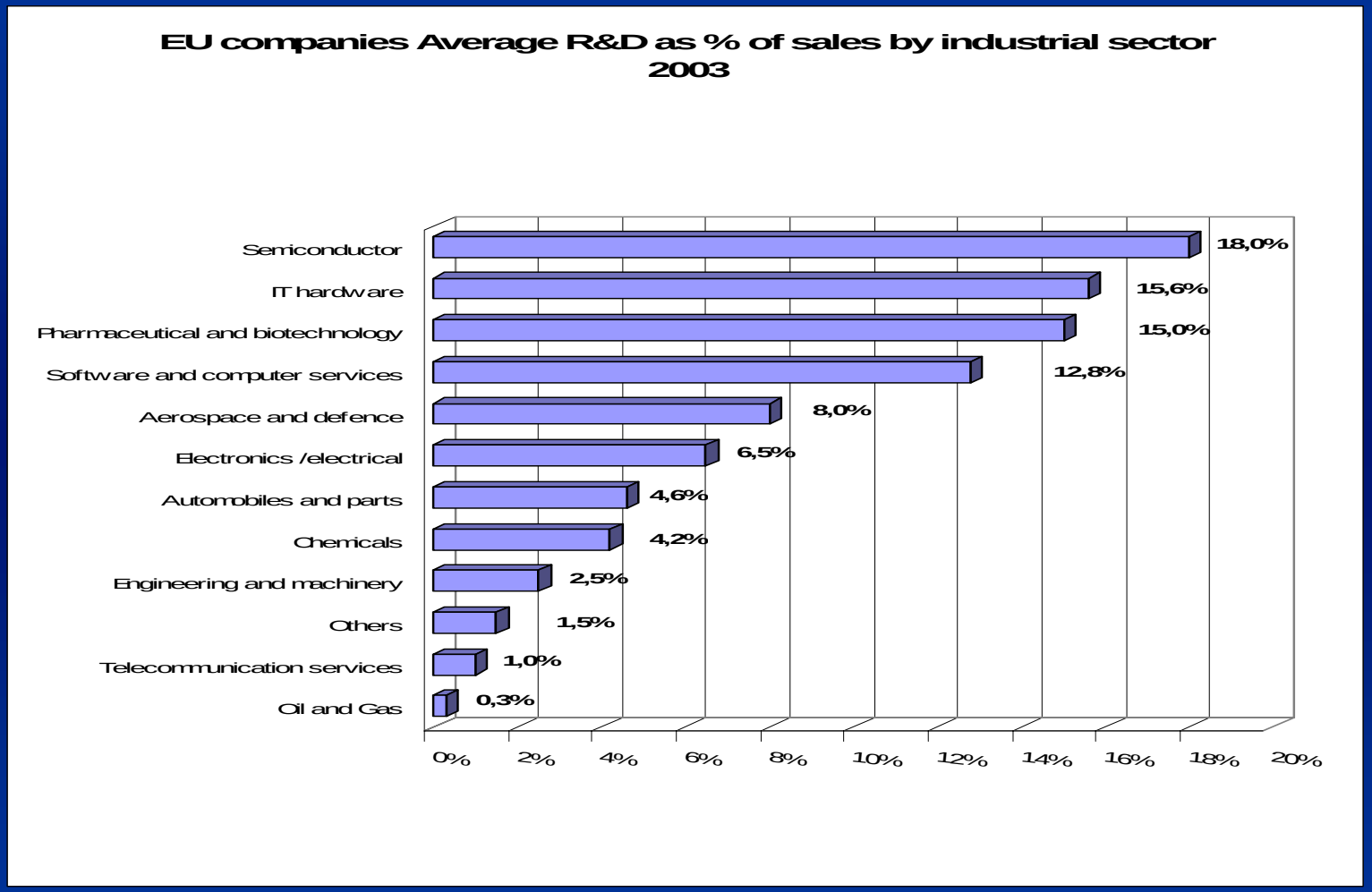
Semiconductor as "enabling" industry



2004. Source: Medea+

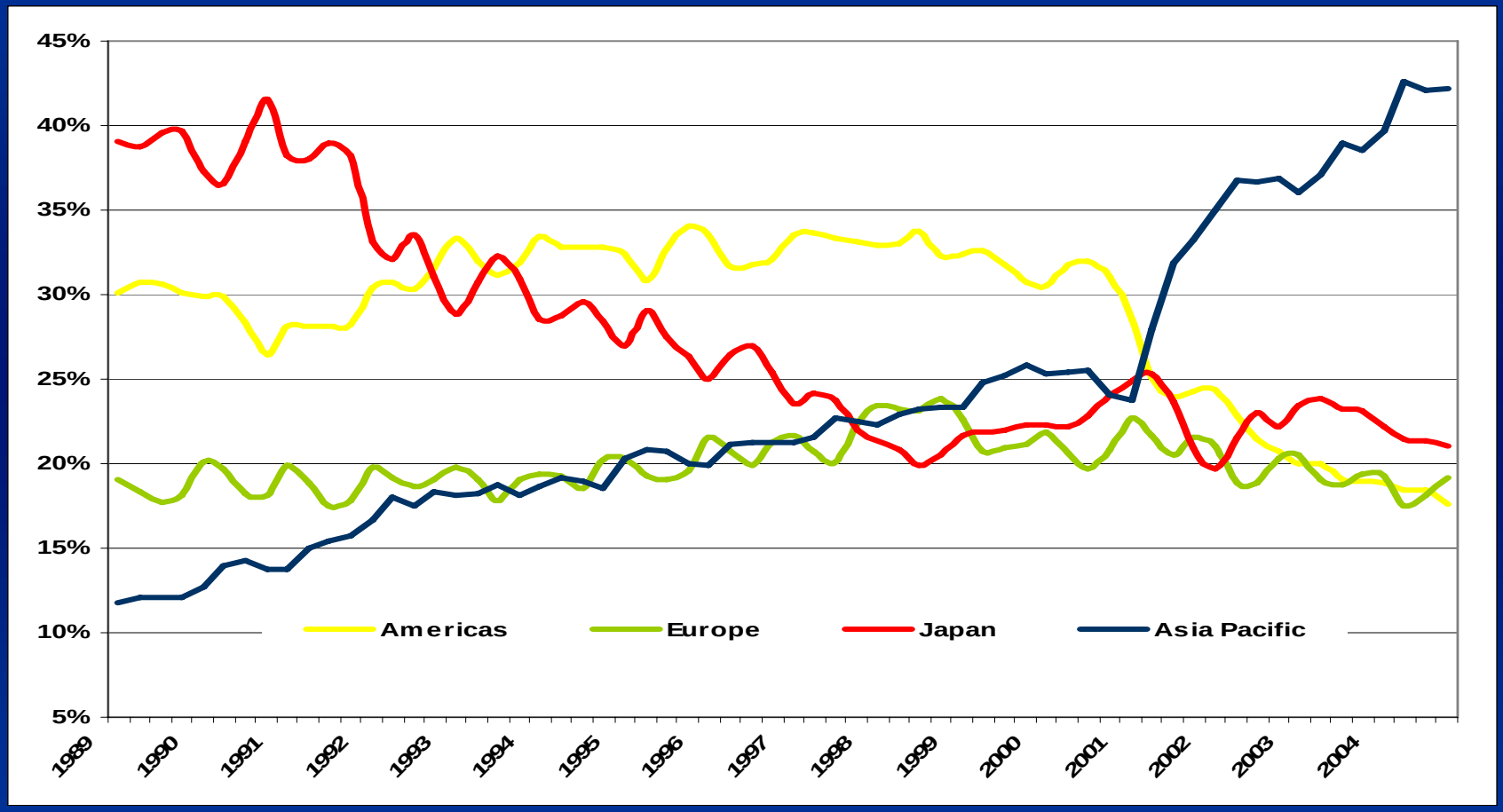
S/c industry in Europe – Research intensity & innovation

S/c leading-edge in innovation

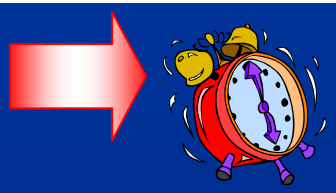


Evolution of the Semiconductor Market 1988-2004 by Regions

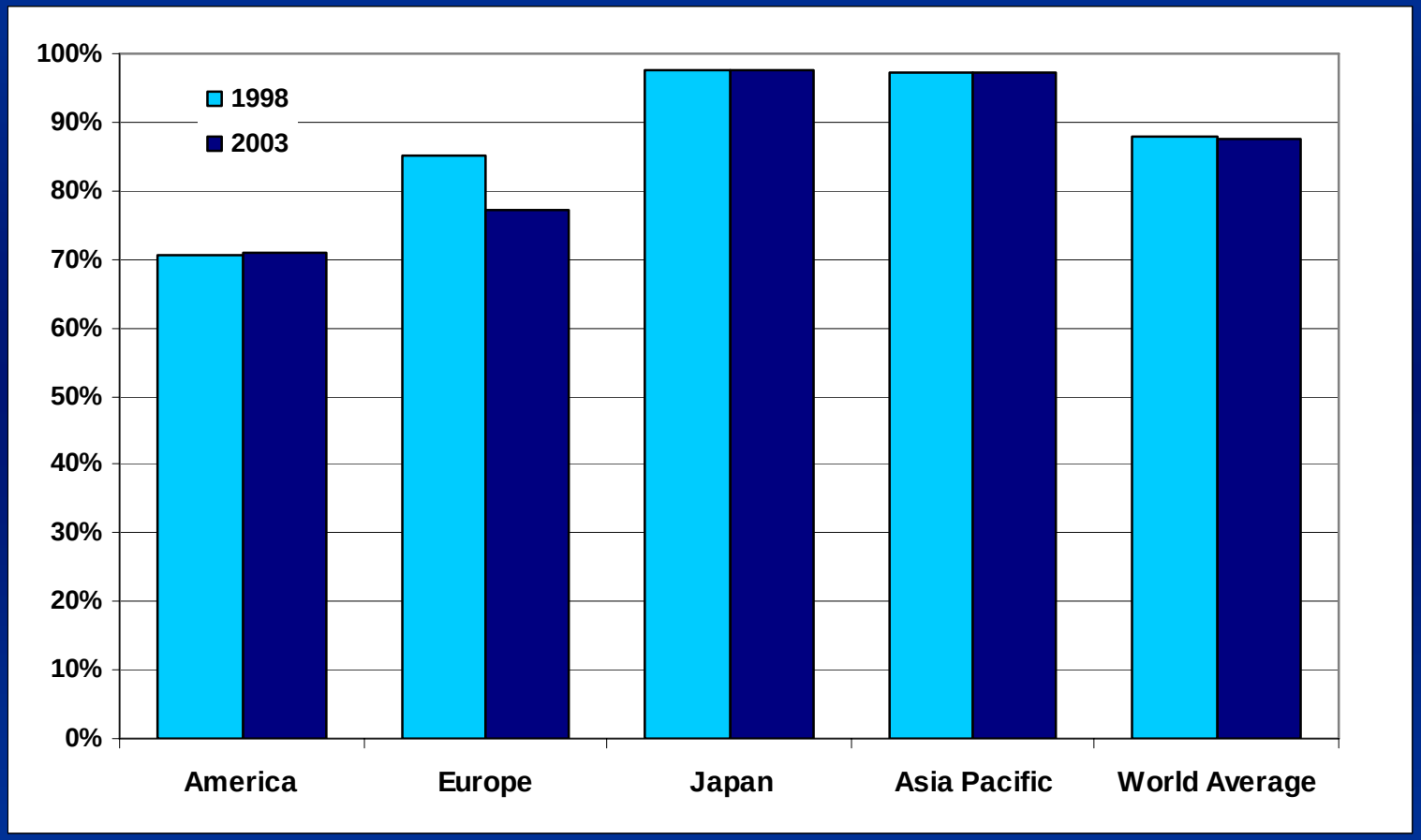
Rise of Asia-Pacific, Europe "stable"



Share of wafer processing capacity in semiconductor manufacturers' home regions by number of wafers (1998, 2003)



Only Europe is decreasing



Key Data for Semiconductors in Europe 2004

- Market size: 18% (of world market)
- Volume produced in Europe: 12% (of world wide wafer production)
- Europe is a net importer of semiconductors

- Investment for waferfabs in Europe: 10% (of worldwide capital expenditure)

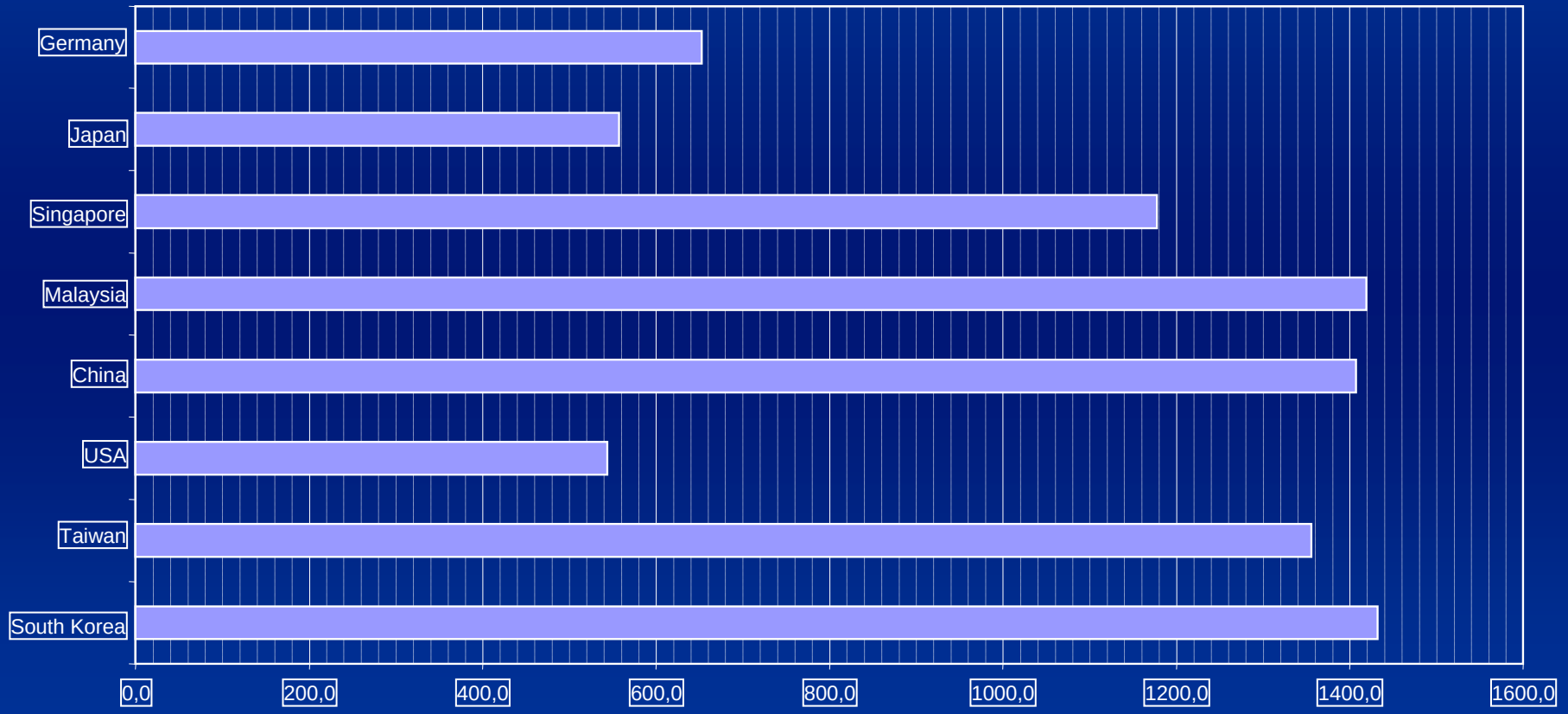
Will we still have s/c manufacturing in Europe in 10 years?

Sectoral approaches to attract the semiconductor industry

- Japan, Singapore, Malaysia, China, USA, Taiwan and South Korea have developed special incentive schemes – many tax relief related – to attract and retain (foreign) semiconductor investment (*details in the Report*)
- EU has revised the Multisectoral Framework and continues to reduce financial support for large investment required for semiconductor manufacturing facilities (*State Aid reform*)
- A dangerous void has been created
- EU is lacking a sectoral approach, which can match other regions ww

Net cumulative income of a leading edge model fab in 2010 *(Mill. Euro)*

The net cumulative income over a period of 5 years in China, Korea and Malaysia is around 220 times higher than for the same fab in Germany



Semiconductors characteristics and competitiveness dimensions

Specific Enterprise-related areas

Semiconductor Industry Profile	
Distinct Characteristics	**Competitiveness Dimensions**
▪Very high, continuous R&D intensity	▪R&D spending capability
▪Very high capital intensity	▪Pre-competitive cooperation / partnership effectiveness
▪**Strong creation and diffusion of innovation**	▪**Importance of effective IP** and IP protection
▪Key enabling function for the industry	▪Proximity to local customer base
▪**Truly global from creation to trade**	▪**Promotion of free and fair trade policies** ●**Consistent and efficient customs operations** ●Globally effective EU monetary policies
▪**Vital role of government support**	▪**Target investment support/incentive levels** ●Sectoral flexibility of European labour policies
▪Cyclical market evolution: High volatility	▪Transparency and access to timely market data
▪More than proportional need for highly-skilled personnel	▪Educational system reinforcement & closer interaction with industry
▪**Production with very high ESH sensitivity and diligence**	▪**EU legislative environment adequacy**
▪Significance of strong market presence for local applications development	▪**Strength of European internal market**
▪Significance of high value added for leading global end-user OEM manufacturers	▪Global strength of European end-user industry

Enterprise-related recommendations to the European Commission

General level:

- Promote a proactive competitiveness agenda in Europe, which takes all dimensions and general approach into account
- Support policies through market data
- Promote awareness for industry

Enterprise-related recommendations to the European Commission

Provide a global level playing field comparable with other regions:

- create a WTO-compatible sectoral framework that offers globally comparable incentive schemes for large investments (*e.g. through Art 87,3b*)
- continue to promote reciprocal free and fair trade through WTO, WSC, WCO, etc
- pool expertise within national & European institutions
- ensure a European legislative environment compatible with the imperatives of competitiveness

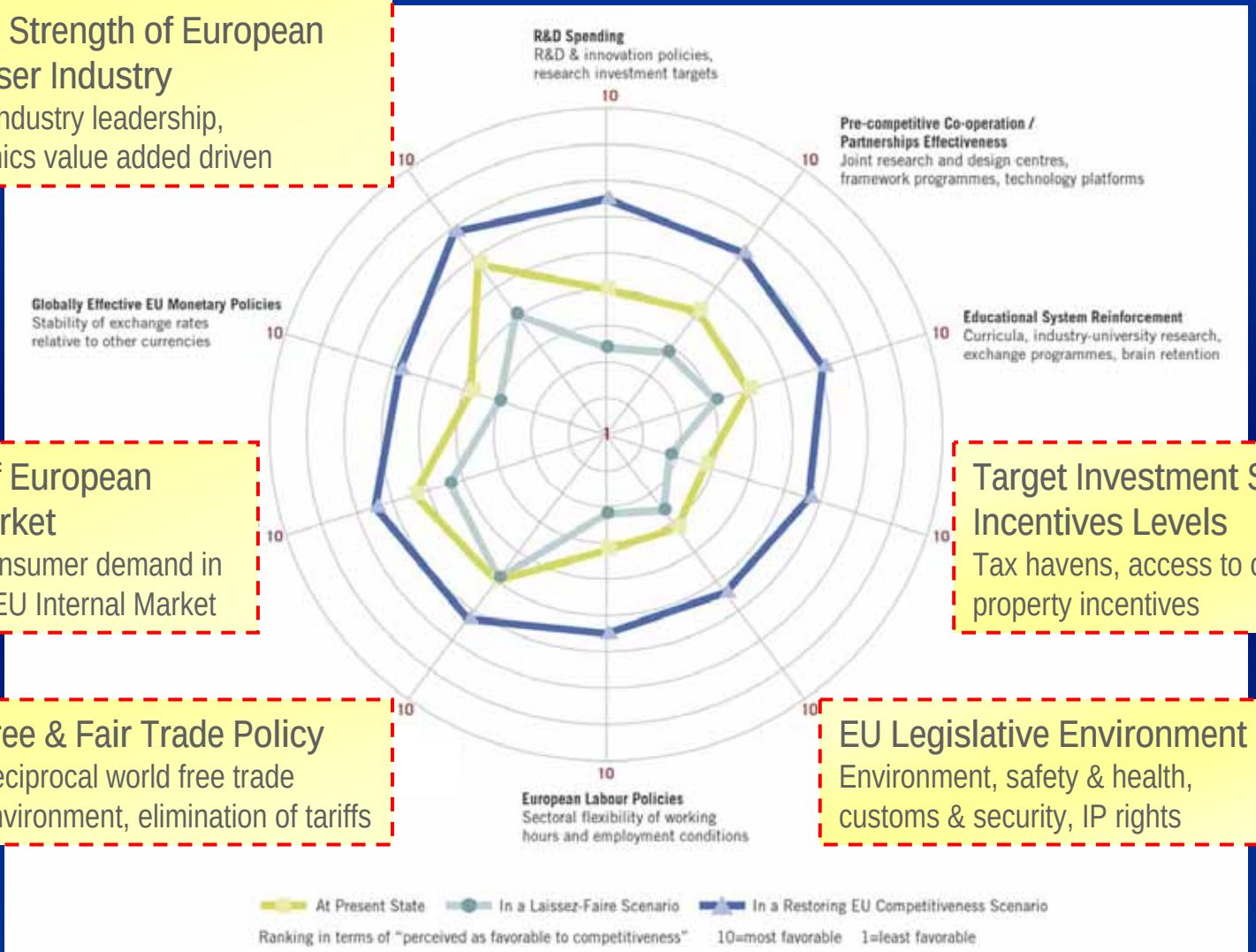
  - *More balanced ESH (PFOS, REACH), harmonized customs & security procedures, rationalize & simplify IP procedures in Europe (e.g. next-best to Single European Patent)*

Alternative scenarios based on an assessment of selected competitiveness factors

Global Strength of European End-User Industry
Global industry leadership,
Electronics value added driven

Strength of European Internal Market
End-user / consumer demand in
Enlarged 25 EU Internal Market

Free & Fair Trade Policy
Reciprocal world free trade
Environment, elimination of tariffs



Target Investment Support / Incentives Levels
Tax havens, access to capital,
property incentives

EU Legislative Environment
Environment, safety & health,
customs & security, IP rights

10 measures for maintaining and enhancing the competitiveness of the European semiconductor industry

Investing for Europe	
▪ Unleash Europe's R&D capabilities: Europe must spend 3% or more of European GDP for R&D	1
▪ Open up the educational system in Europe to work for industry	2
▪ Enable more and stronger multiple partnerships	3
Providing a Global Level Playing Field	
▪ Create a Sectoral Framework for the semiconductor industry	4
▪ Continue actively to promote global free and fair trade for semiconductor products	5
▪ Ensure a European legislative environment compatible with the imperatives of competitiveness	6
▪ Develop a more differentiated Environment, Safety and Health (ESH) legislative process	7
▪ Consistent and effective harmonised customs & security procedures	8
▪ Allow for more flexible labour conditions	9
▪ Rationalize and simplify procedures for effective IP protection in Europe	10