International Cooperation / Global Markets and EU Competitiveness: how to ensure win-win partnership through standards?

ETSI Conference « Standards & Interoperability in ICT ETPs »

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Key Discussion Points

- **Global competitiveness -** *The case of the Semiconductor Industry*
- **Competitiveness Scenarios –** *Key Parameters*
- **Relevance of Standards for competitiveness** – *R&D, Innovation and IPR policy challenges*

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Purpose of the 2005 S/C Competitiveness Report

Key findings of the EECA ESIA

The European Semiconductor Industry: 2005 Competitiveness Report

- Create awareness that the European semiconductor 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 semiconductor industry can be maintained and enhanced as part of the Lisbon agenda
- Call for action

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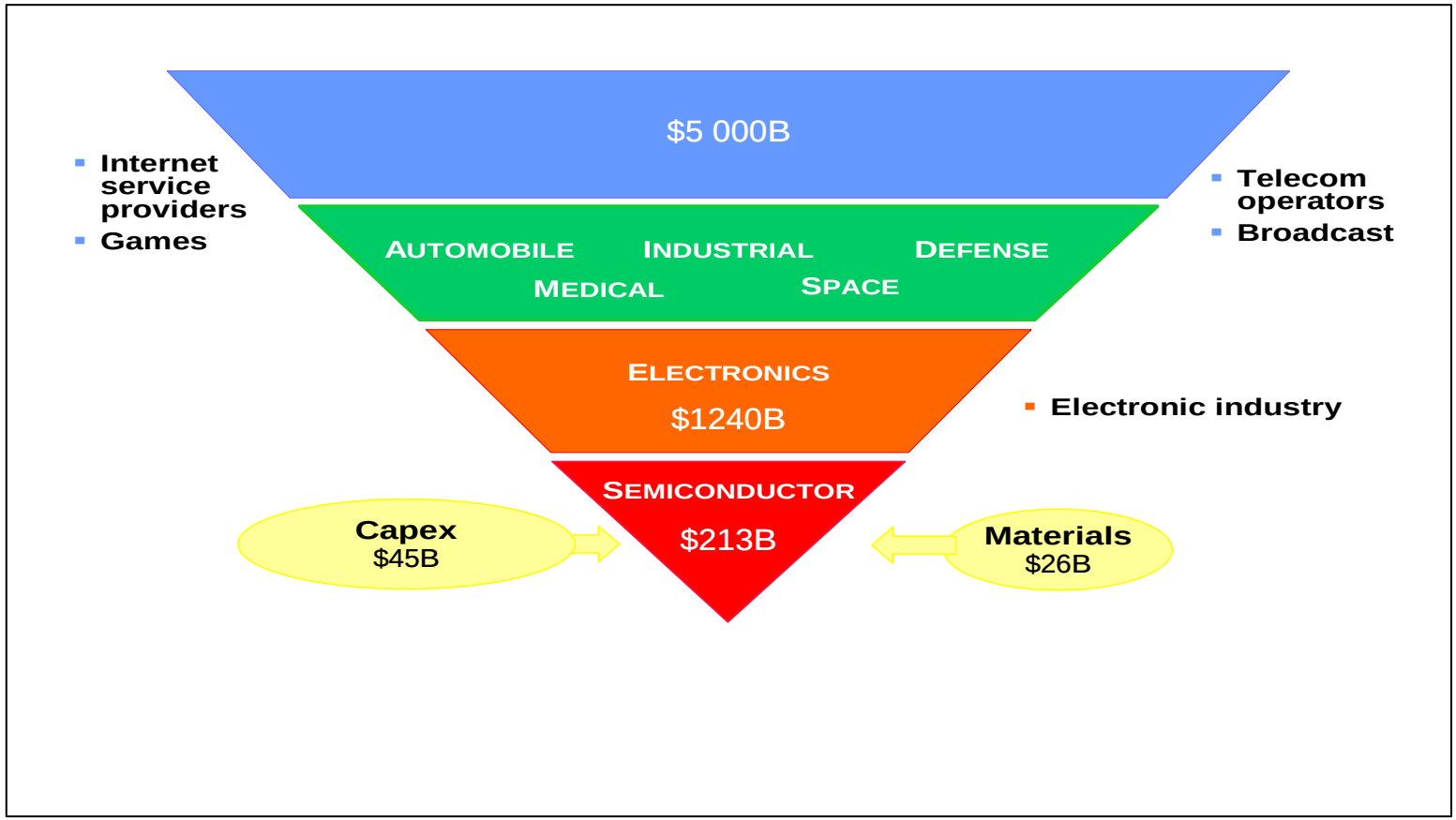
ICT value chain and the economic impact of the semiconductor industry on other key downstream sectors in 2004

Semiconductor as “enabling” industry



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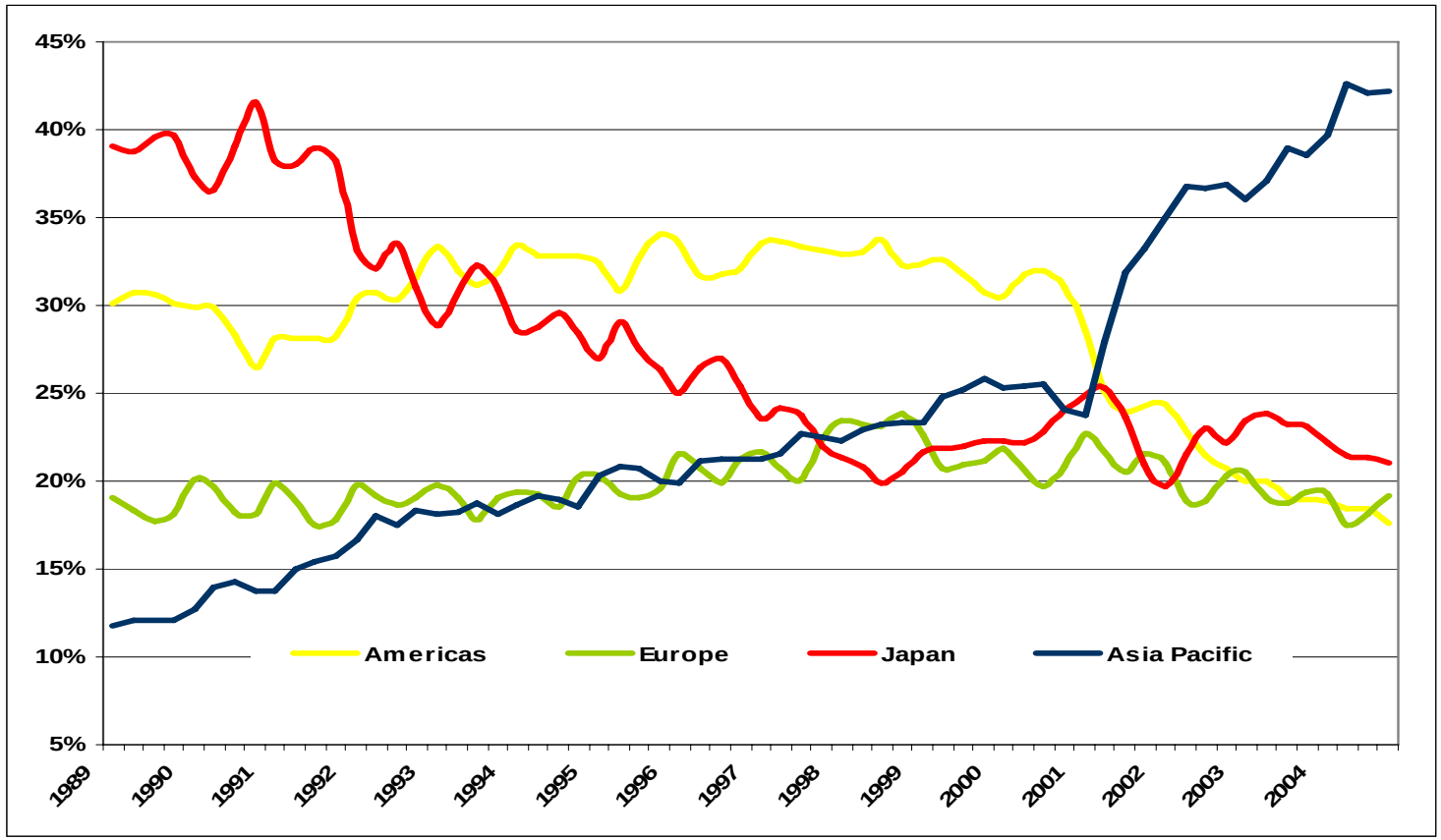
Evolution of the S/C Market 1988-2004 by Region

Rise of Asia-Pacific, Europe “stable”



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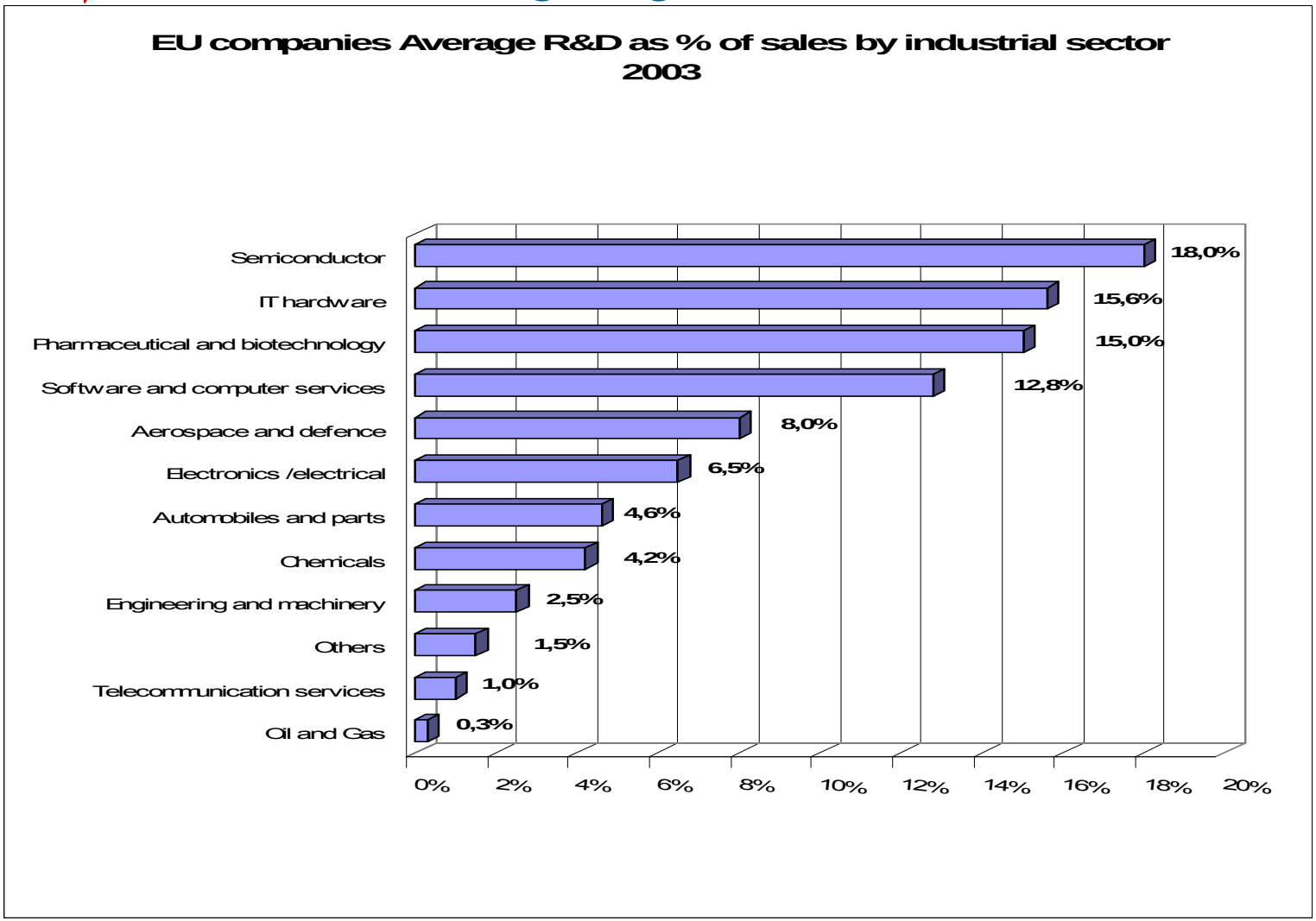
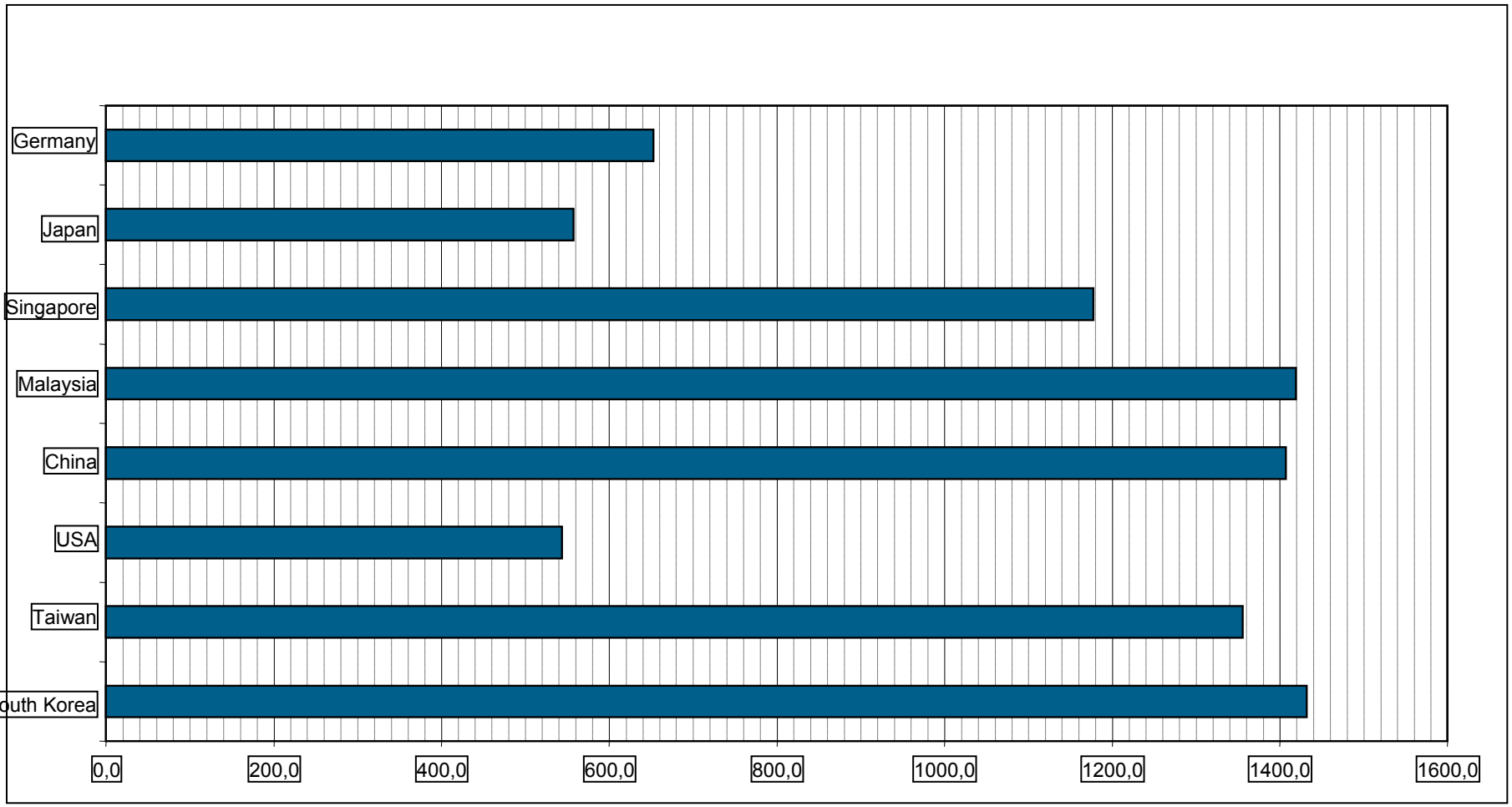
Semiconductor industry in Europe – Research intensity & innovation

S/c leading-edge in innovation



But…are we competing on a global level playing field?

The net cumulative income of a leading edge model fab in 2010 *(Mio. Euro)* over a period of 5 years in China, Korea and Malaysia is around 2.2 times higher than for the same fab in Germany



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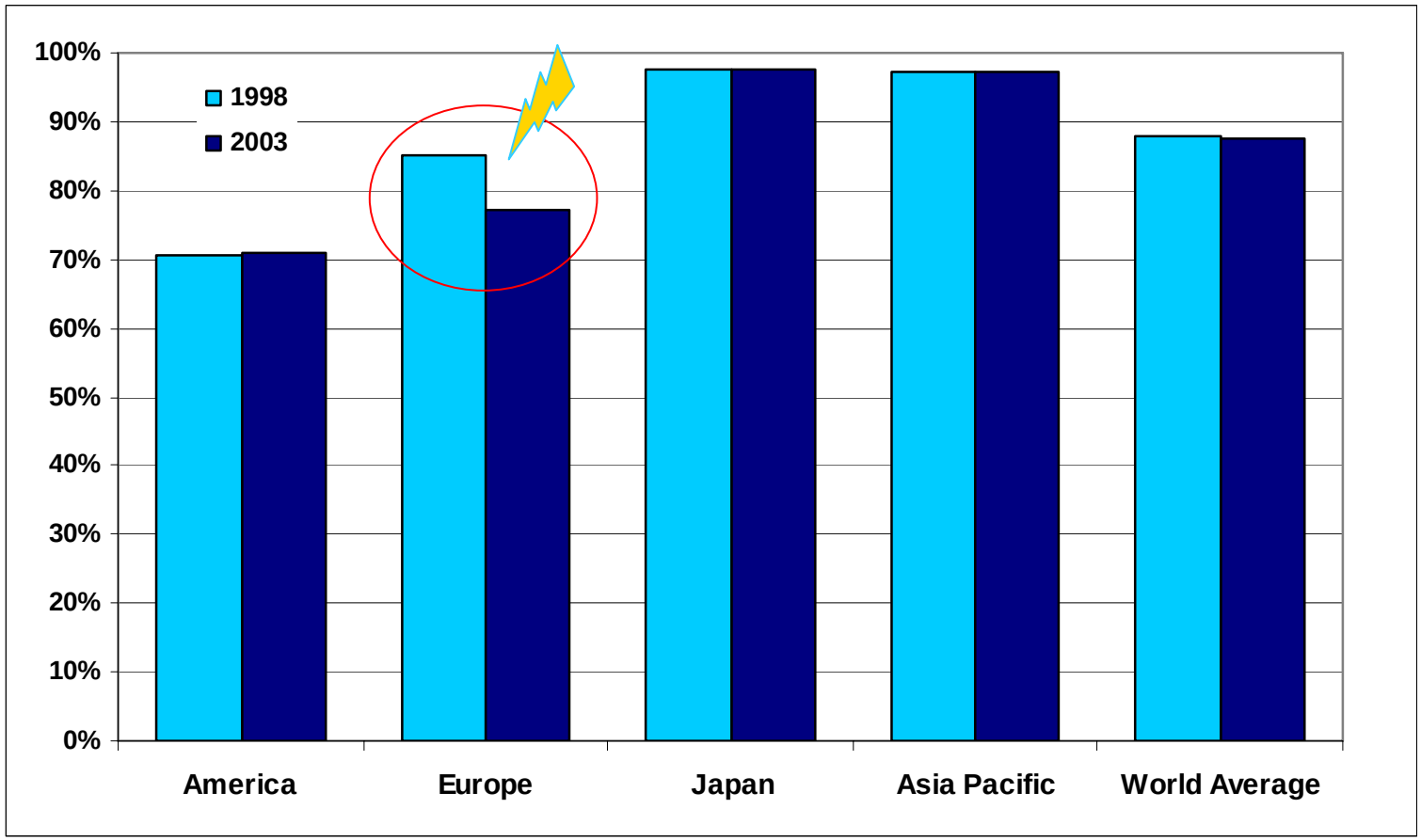
Share of wafer processing capacity in semiconductor manufacturers' home regions by number of wafers (1998, 2003)

Only Europe is decreasing



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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?

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Alternative scenarios based on an assessment of selected competitiveness factors

Standardization opportunity

R&D Spending
R&D & innovation policies, research investment targets

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

Pre-competitive Co-operation / Partnership Effectiveness
Joint research and design centres, framework programmes, technology

Globally Effective EU Monetary Policies
Stability of exchange rates relative to other currencies

Educational System Reinforcemer
Curricula, industry-university research, exchange programmes, brain retention

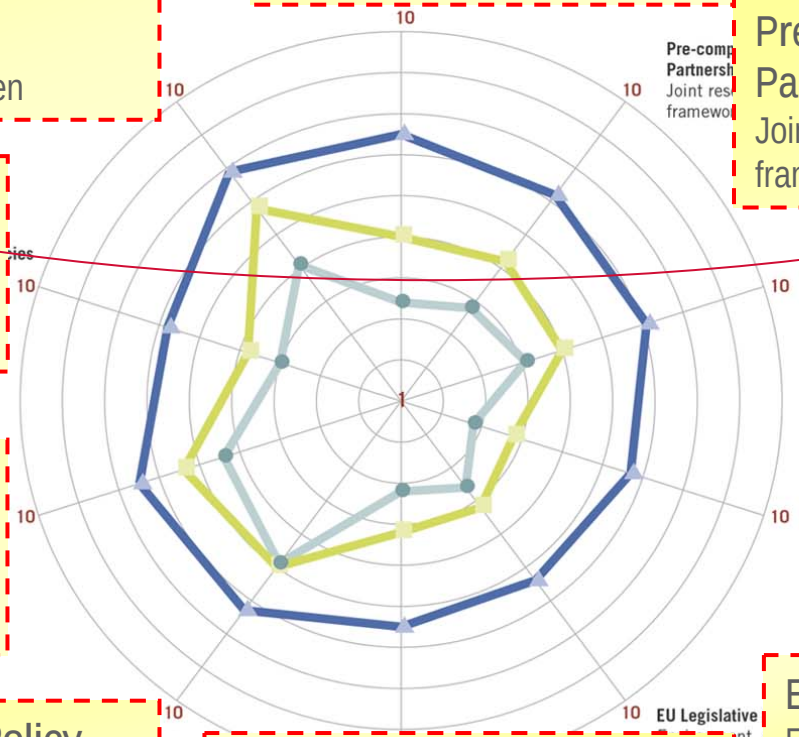
Strength of European Internal Market
End-user / consumer demand in Enlarged 25 EU Internal Market

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

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

European Labour Policies
Sectoral flexibility of working hours and employment conditions

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



At Present State — In a Laissez-Faire Scenario — In a Restoring EU Competitiveness Scenario

Ranking in terms of "perceived as favorable to competitiveness" 10=most favorable 1=least favorable

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Alternative global competitiveness scenarios

The competitiveness factors indicate possible directions for targeted measures or policies that would help enhance the competitiveness of the European semiconductor industry in the future.

- ***Laissez-faire***: The situation is left to the industry players themselves and no additional efforts are undertaken at the EU or national governmental levels to incentivise innovation and restore a level playing field.

- ***Restoring EU competitiveness***: Both the semiconductor industry and the EU and Member States embrace the competitive investment challenge and seek to initiate a virtuous circle throughout the semiconductor and the global end-user industry.

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Relevance of Standards for competitiveness

The Europe-based ICT industry, with S/c as an enabler in particular,

- **can leverage its advantage** in most advanced process technologies to raise awareness regarding state-of-the-art standard requirements and favour the creation of de facto standards for the Nanoelectronics industry.
- **has the potential to set an example** for a balanced standardization process evolving between *interoperability* R&D requirements and *open* standards and that is able to support a more even global level playing field.
- **should support proactive positions** relative to emerging standards as demonstrated by semiconductor systems solutions and applications in European end-user industries (e.g. quality, reliability and environment specifications).
- **should assert the fact that standardization** is a tangible and accepted criteria in the drafting of strategic IP creation and collaborative R&D project agendas.
- **should ensure that standardization remains a critical and strategic success factor** for the long term competitiveness of Europe-based global leading industries (security, health regulations, car safety, communication protocols etc. in automotive, communications, industrial).

Thank You!

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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

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