

Industry-Academia cooperation as a driving force for wealth and jobs creation

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AIPQR 's experience.**
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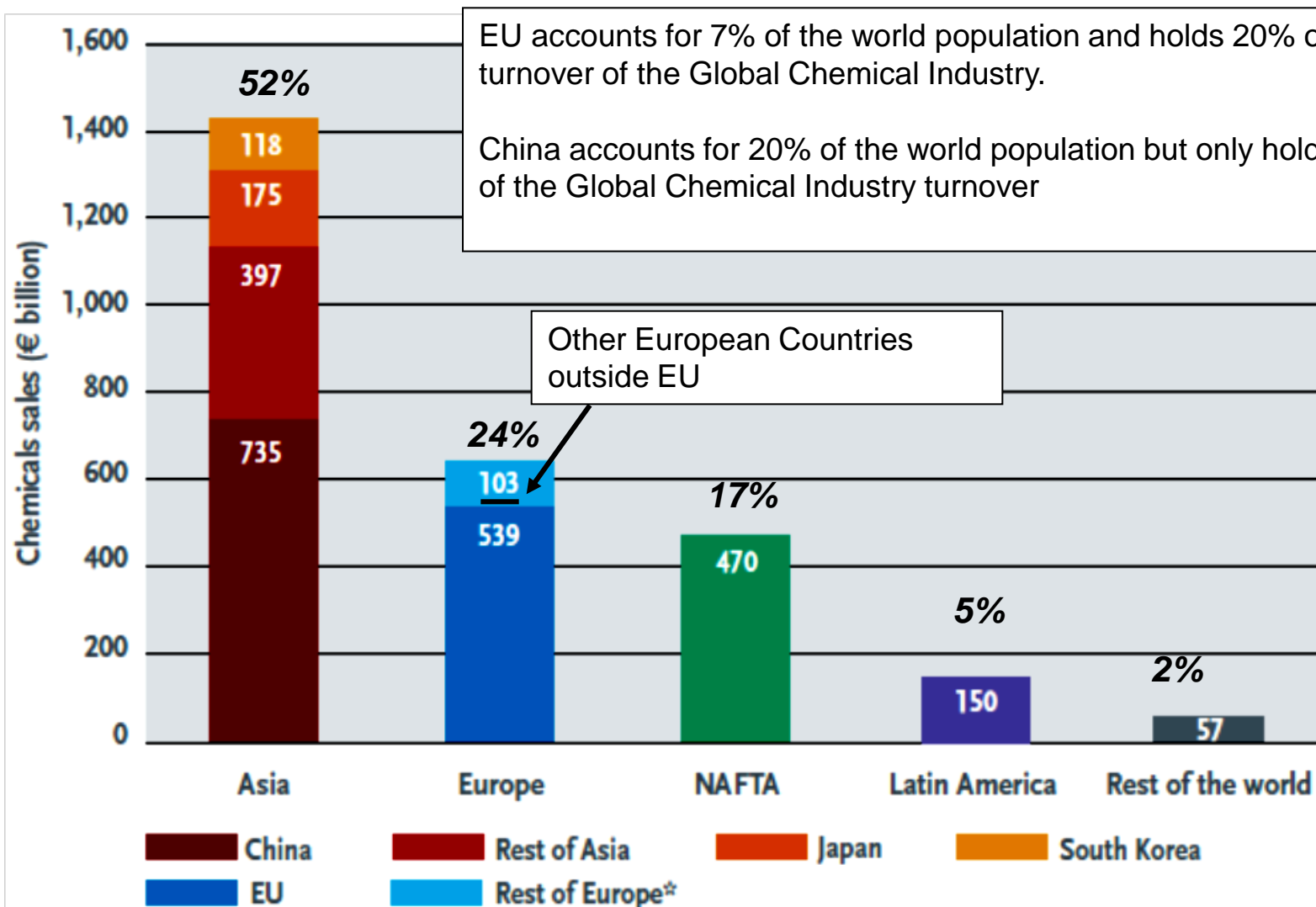
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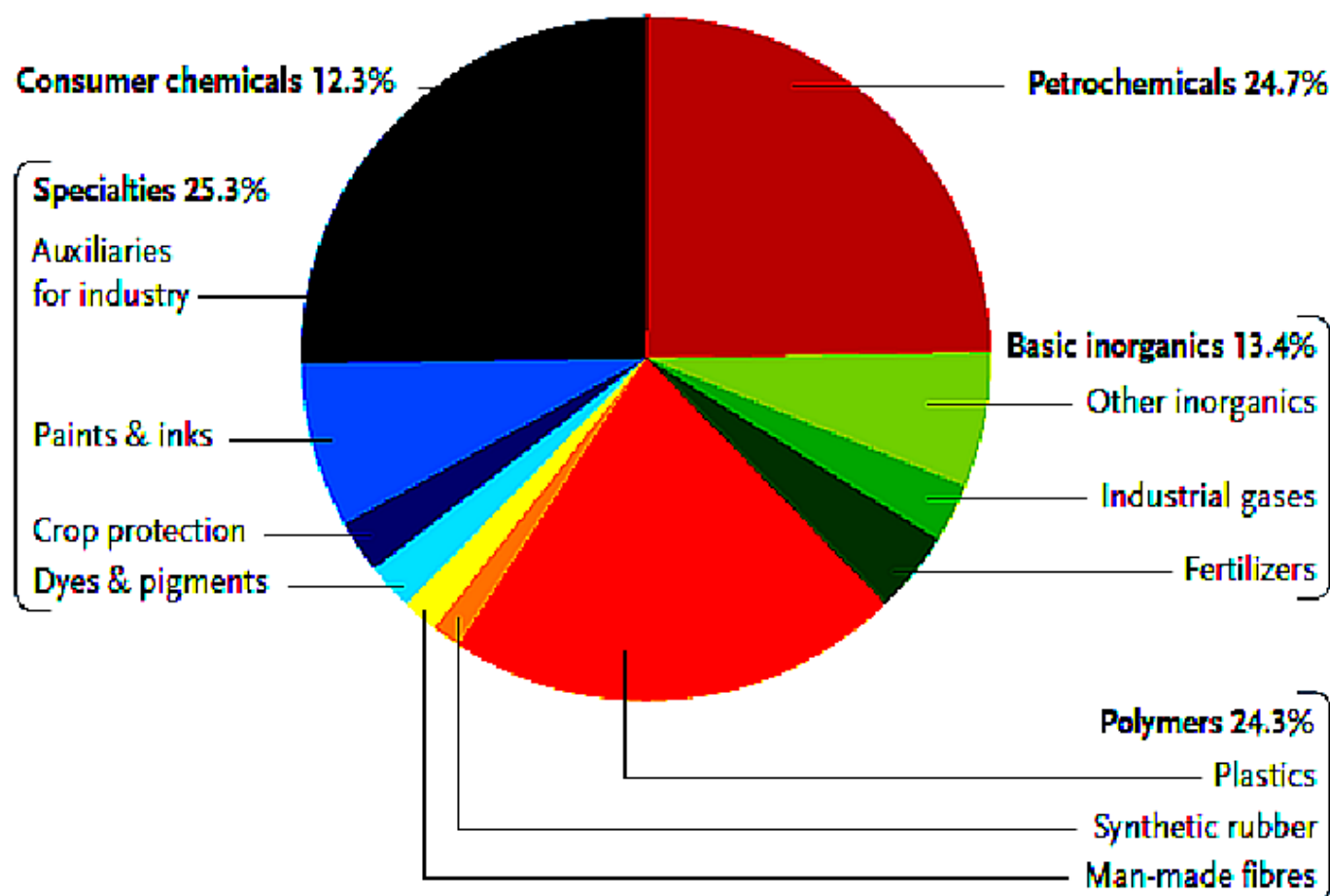
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1. Chemical Industry and R&D: a brief overview

WORLD CHEMICAL SALES: 2 744 Thousand Million Euros



Global Chemical Industry: Percentage of sales by sub-sector



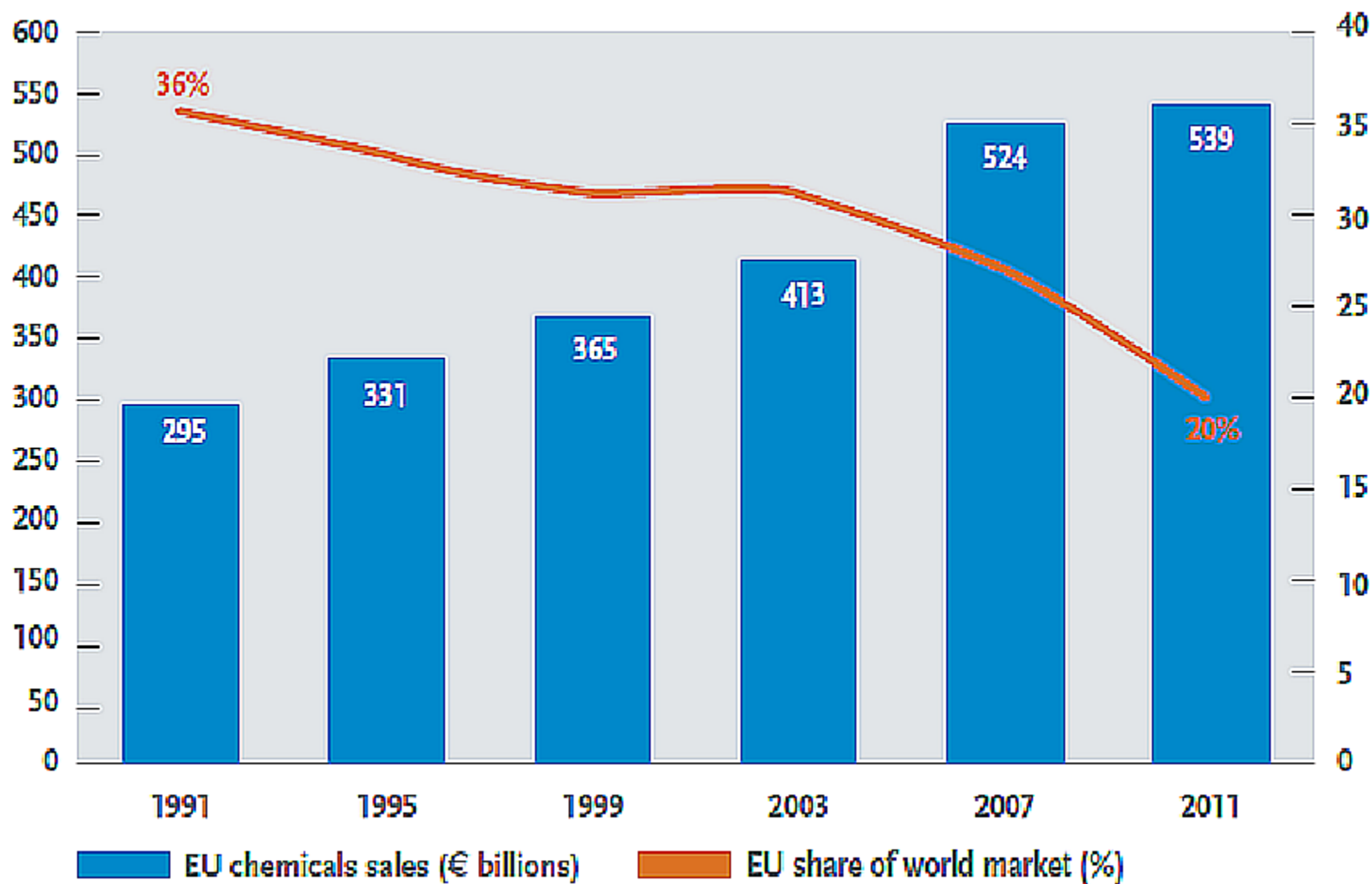
Portuguese Chemical Industry

	Total Sales (Euros)
Turnover	8.000 a 10.000 million
Refined oil products	5.000 a 6.000 million
Chemicals	3.000 a 4.000 million
Exports (% of sales)	40-45%
Gross Value Added (Euros)	2.500.000.000
Direct Jobs (employees)	17.300

Source: INE and portuguese chemical companies

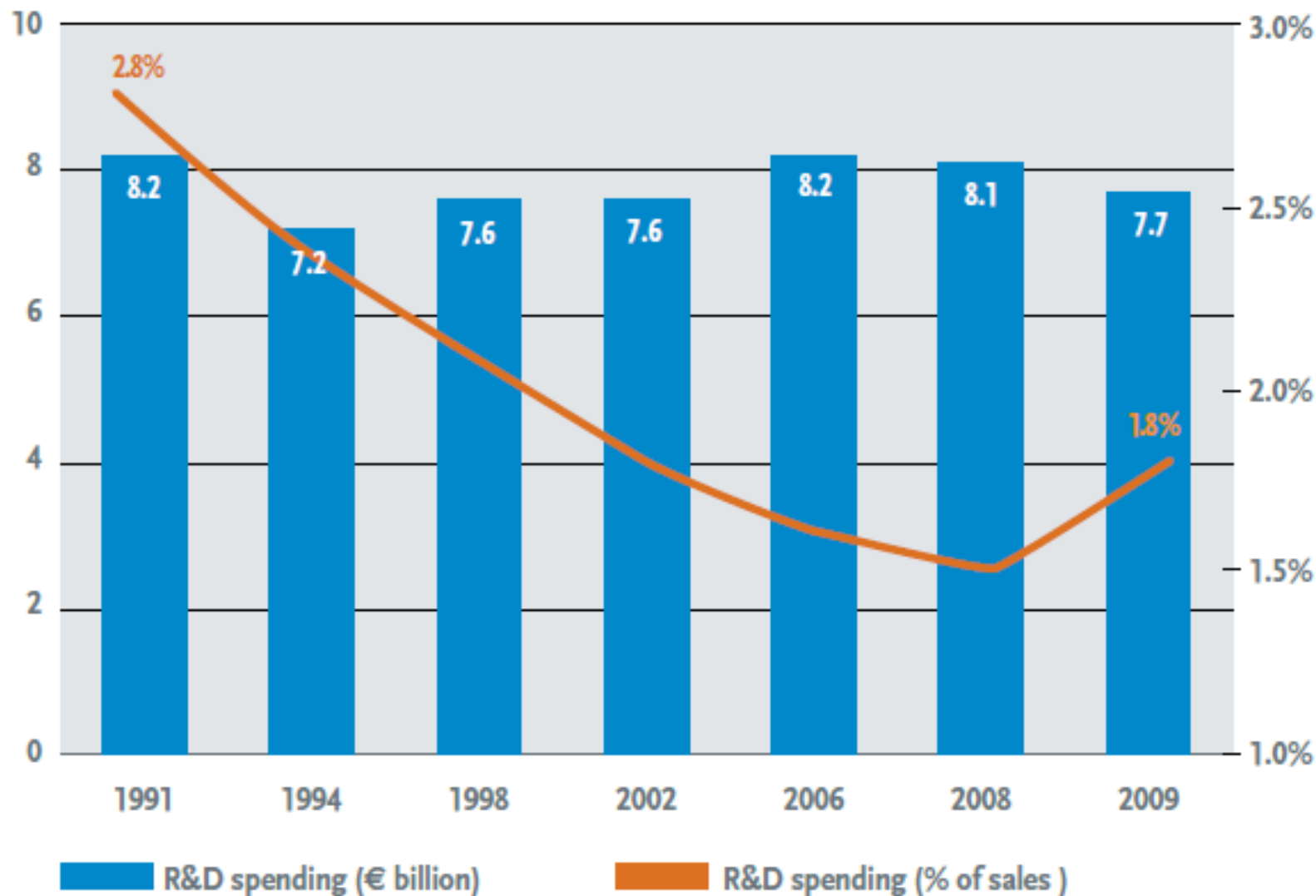
EU Chemicals Market Share

Source: CEFIC and EUROSTAT



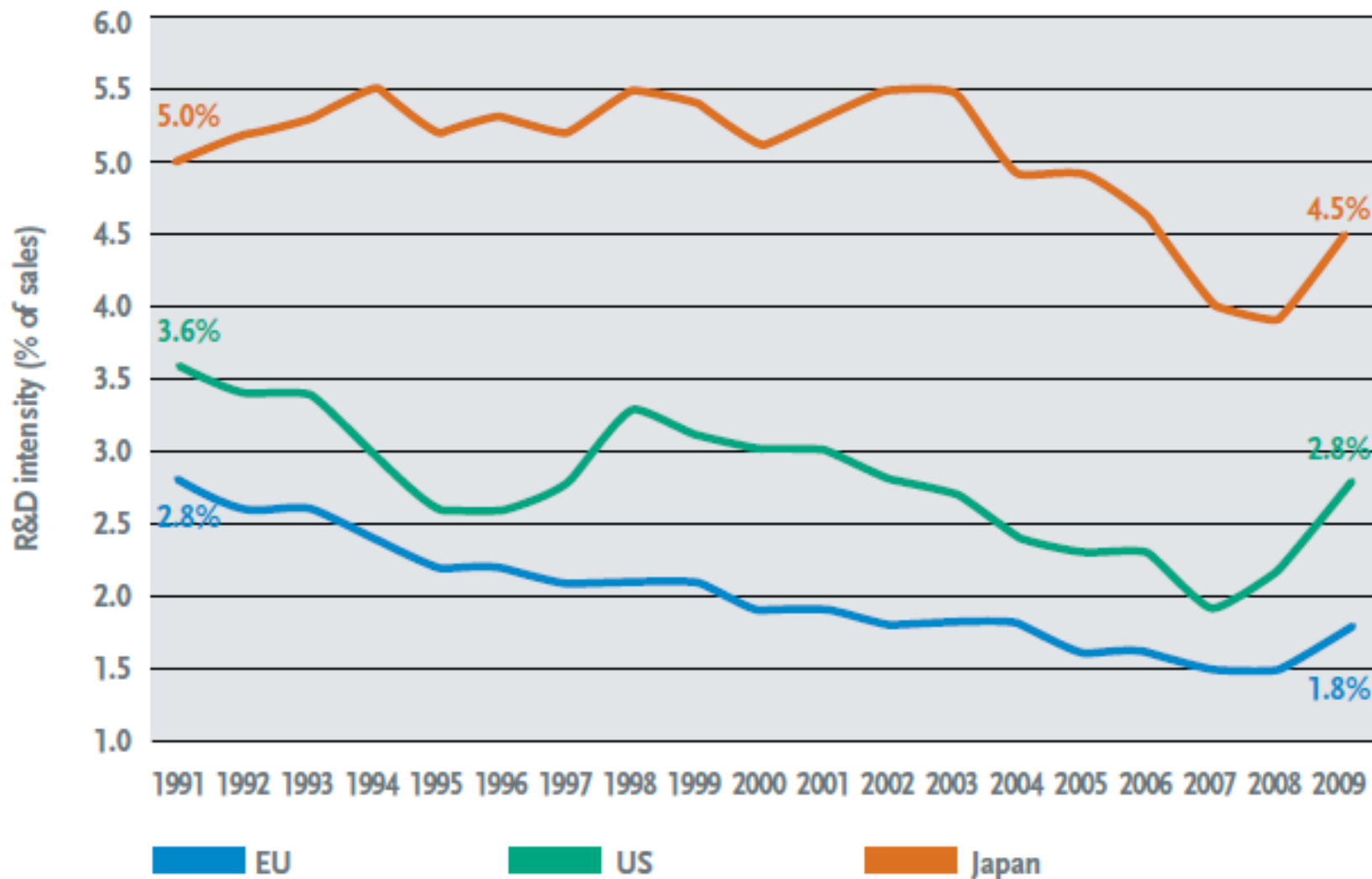
EU Investment in R&D (thousand million Euros)

Fontes: CEFIC e EUROSTAT



R&D spending intensity by region (% of sales)

Fontes: CEFIC e EUROSTAT



2. Industry-Academia cooperation. AIPQR's experience.

**EnglQ - Advanced Training Course and PhD Program in Refining,
Petrochemical and Chemical Engineering.**

EnglQ is conducted under a partnership between AIPQR, its Member Companies and five of the more relevant Portuguese universities:

University of Aveiro

University of Coimbra - Faculty of Science and Technology

Universidade Nova de Lisboa

University of Porto - Faculty of Engineering

Universidade Técnica de Lisboa - Instituto Superior Técnico

EngIQ promotes R&D within industrial environment in areas of relevance for the competitiveness of companies involved. At the same time, EngIQ provides to Industries high skilled professionals with appropriate capabilities for innovation, R&D, entrepreneurship and leadership in engineering.

EngIQ was launched in 2009 and offers three educational options:

- (i) PhD
- (ii) Advanced Training Course
- (iii) Individual Modules.

Since 2009, 23 doctoral students have attended this Course and more than fifty have attended other educational options.

3. Conclusions

Next slides show some guidelines and main conclusions taken from practice of partnerships industry-academia ⁽¹⁾

(1) Source: AIPQR – EngIQ and www.sciencebusiness.net/ (01/10/13)

1) Start with a shared vision and develop a strategy

- Build partnerships on a set of principles. Spend time on the agenda of each party.***
- Industry-university collaboration works best with big framework agreements based on broad principles.***
- Partnerships need to be flexible.***
- Develop win-win partnerships.***
- However, don't overlook the benefits of non-strategic partnerships if they seem to be able to give promising results – they can grow and develop into strategic partnerships over time.***

2) Long-term partnerships generate the largest benefit.

- However, companies are often averse to invest over the very long term.***
- Universities usually are not well-suited for doing research that business immediately needs.***
- Strategic partnerships should be based*** on a kind of complementary relationship where companies go to university to do something with the ability that they don't possess, rather than for using a cheap source of research.

3) Put the right people in charge. Academics with understanding of industry researchers and company researchers opened to engage with the Institute on a regular basis

4) *Don't let intellectual property become a problem for partnership*

5) *Don't measure results of a strategic alliance by using metrics such as papers published or patent applications filed.*

6) *Know your partner's needs.* Companies don't like projects that do not generate internal support in their organisations,

7) *Devote time and leadership to partnerships.* It takes work and leadership from the top to create and maintain good relationships between companies and academia

In what concerns policymakers and regulation:

The System should be predictable, notably in terms of funding and regulation.

Activist and collaborative universities and Institutes should be rewarded so that others can be encourage to be that way.