



Corporate R&D – The Case of ICT Companies

Main results from "*The 2010 Report on R&D in ICT in the European Union*"

Paul Desruelle – Institute for Prospective Technological Studies (IPTS)

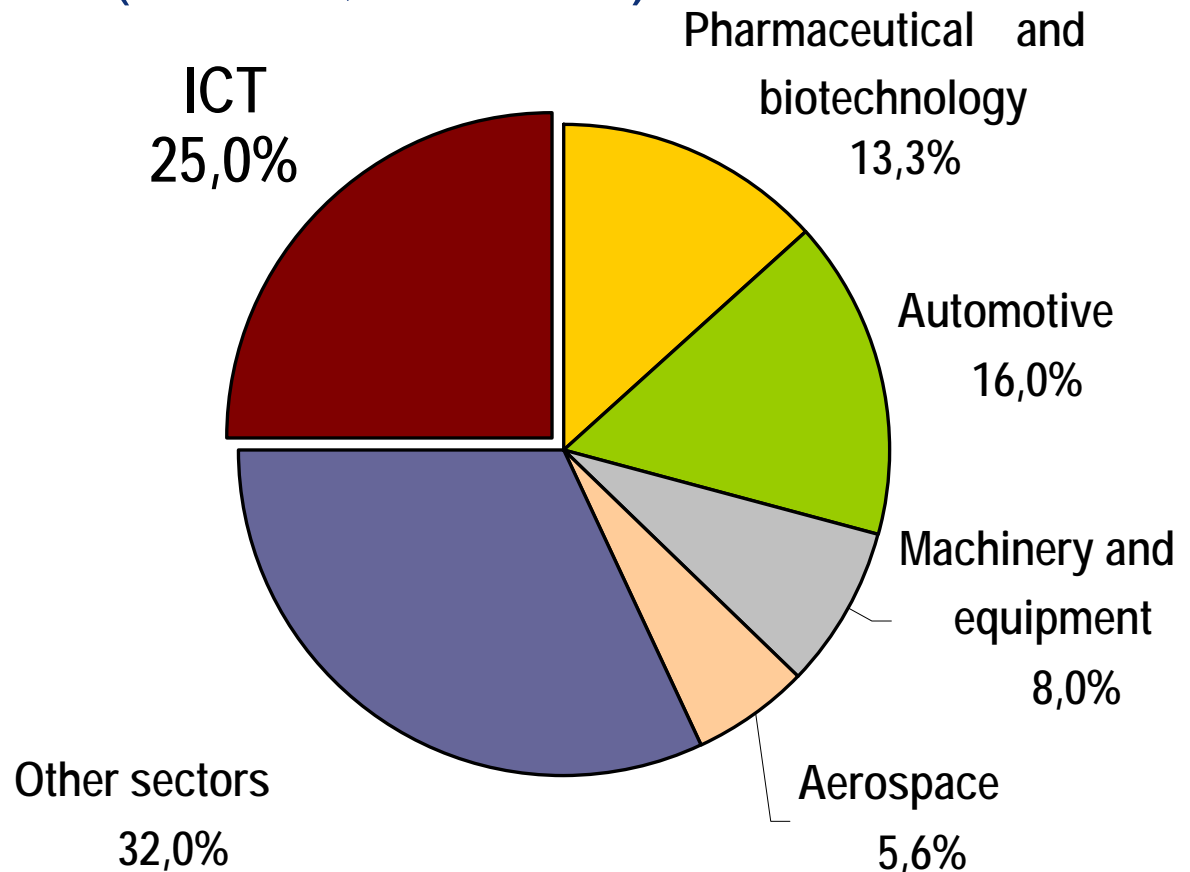
EU Science Journalists Association (EUSJA) visit
ICT in Europe: a socio-economic approach

Seville, 20-21 January 2011

- PREDICT: Prospective insights on R&D in ICT
- Importance of the ICT sector in the EU
- Member States share of ICT Business Expenditure in R&D (BERD) in the EU
- Evolution of BERD by ICT sub-sectors
- ICT Company data
 - International trends by ICT sub-sectors
 - The Computer Services and Software sub-sector
 - R&D/Sales by ICT sub-sectors
- Main conclusions

- Why?
 - Importance of R&D for economic growth – Europe lagging – the 3% target
 - 2% BERD/GDP, from circa 1.2%
 - Importance of ICT (sector) for R&D, innovation and economic growth
 - Lack of systematic mapping of EU ICT R&D
- What?
 - IPTS research project co- financed by JRC-IPTS and DG Information Society & Media (DG INFSO)
 - Mapping and analysis of R&D investments in the EU ICT sector.
 - Series of reports (2008, 2009, 2010, 2011)
 - Project to continue until (at least) 2015
- How?
 - Combines three complementary perspectives:
 - National statistics - private and public R&D expenditures
 - Company data (EU industrial R&D investment Scoreboard)
 - Patent data (EPO) and R&D center locations
 - Latest available official statistics
 - delivered by Member States, Eurostat and the OECD
 - 2010 report (published 05/2010) based on 2007 data (2006 for Patents)

- 4.8% of GDP (€540 billion)
- 3% of employment in the EU (6.1 million)
- 25% of business R&D (BERD, € 34 bn)



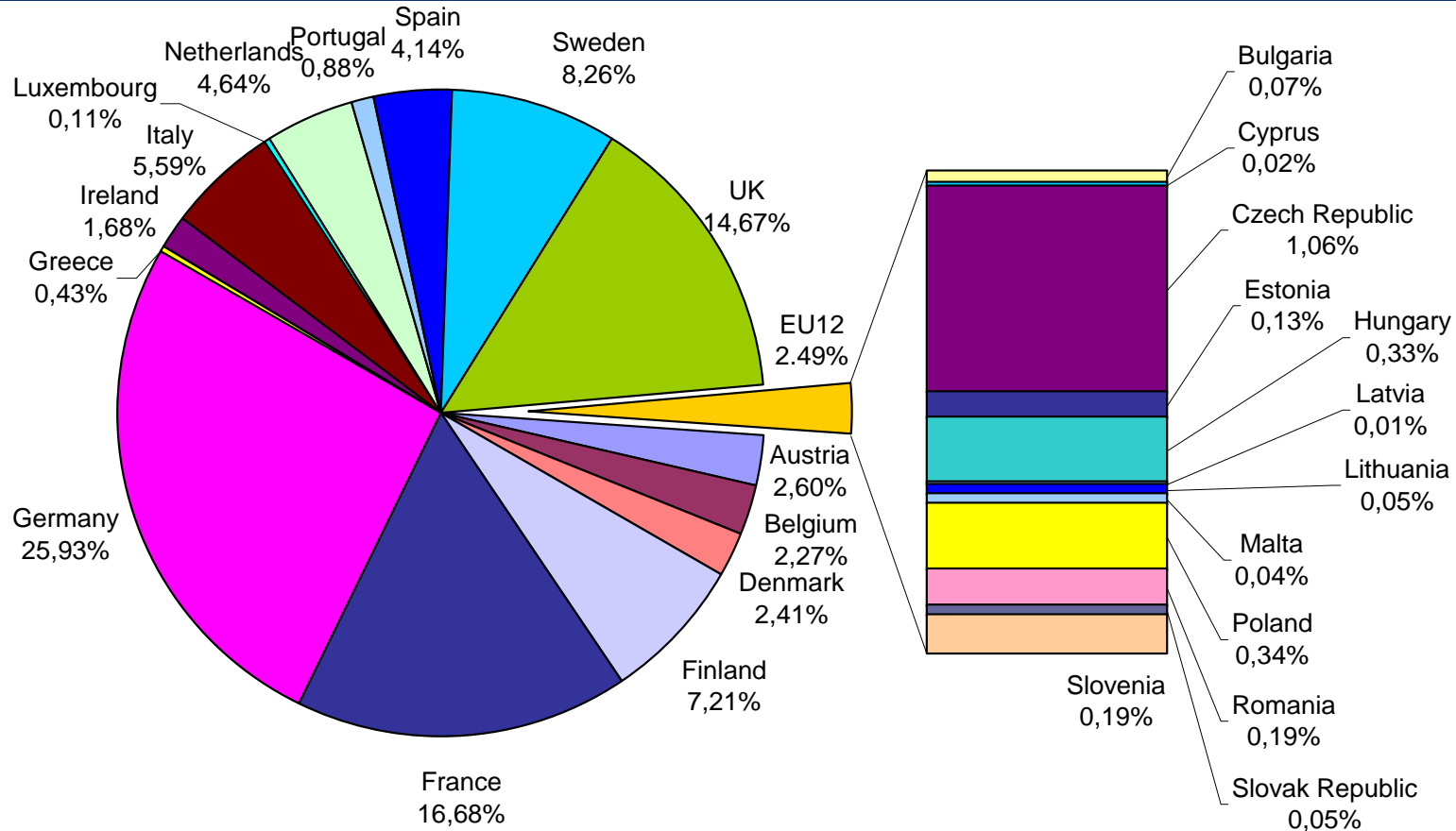
- **ICT Manufacturing**

- IT Equipment (NACE 30): e.g. computers, printers, scanners, photocopiers...
- IT Components, Telecom and Multimedia Equipment (NACE 32):
 - Components (32.1) e.g. semiconductors, displays
 - Telecom Equipment (32.2) e.g. network equipment
 - Multimedia Equipment (32.3): e.g. mobile phones, TVs
- Measurement Instruments (NACE 33):
 - Electronic measurement instruments (33.1 e.g. sensors, readers), excluding industrial process control equipment.

- **ICT Services**

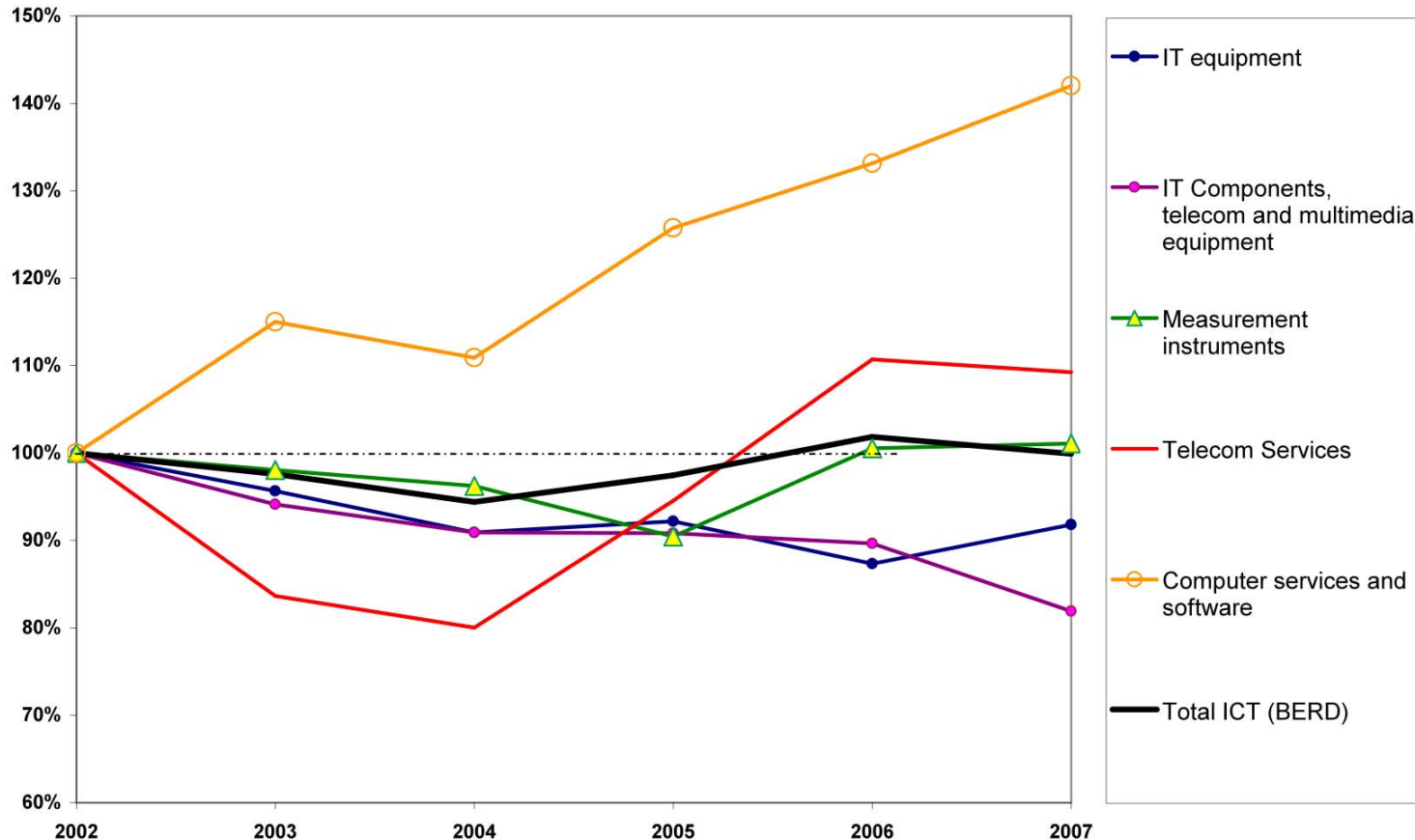
- Telecom services (NACE 64, including also posts)
 - Telecommunication services (64.2)
- Computer Services and Software (NACE 72) (consultancy, software, web services)

- **Does not cover ICT-related activities embedded in other sectors of the economy, (e.g., in automotive or aeronautics)**



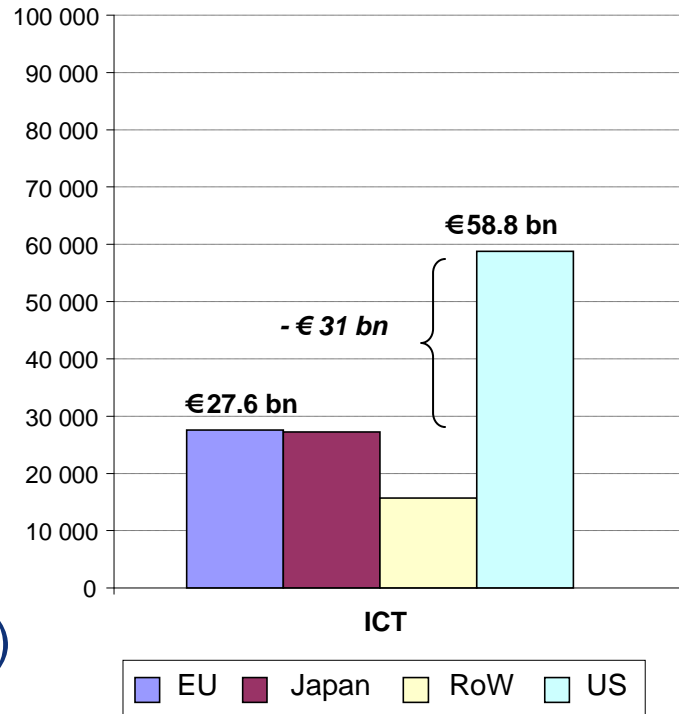
- Germany, France & UK: more than half EU ICT R&D
- Followed by Sweden and Finland
- New Member States – still very small share

Real growth of ICT Business Expenditures in R&D (ICT BERD) in the EU (2002-2007)

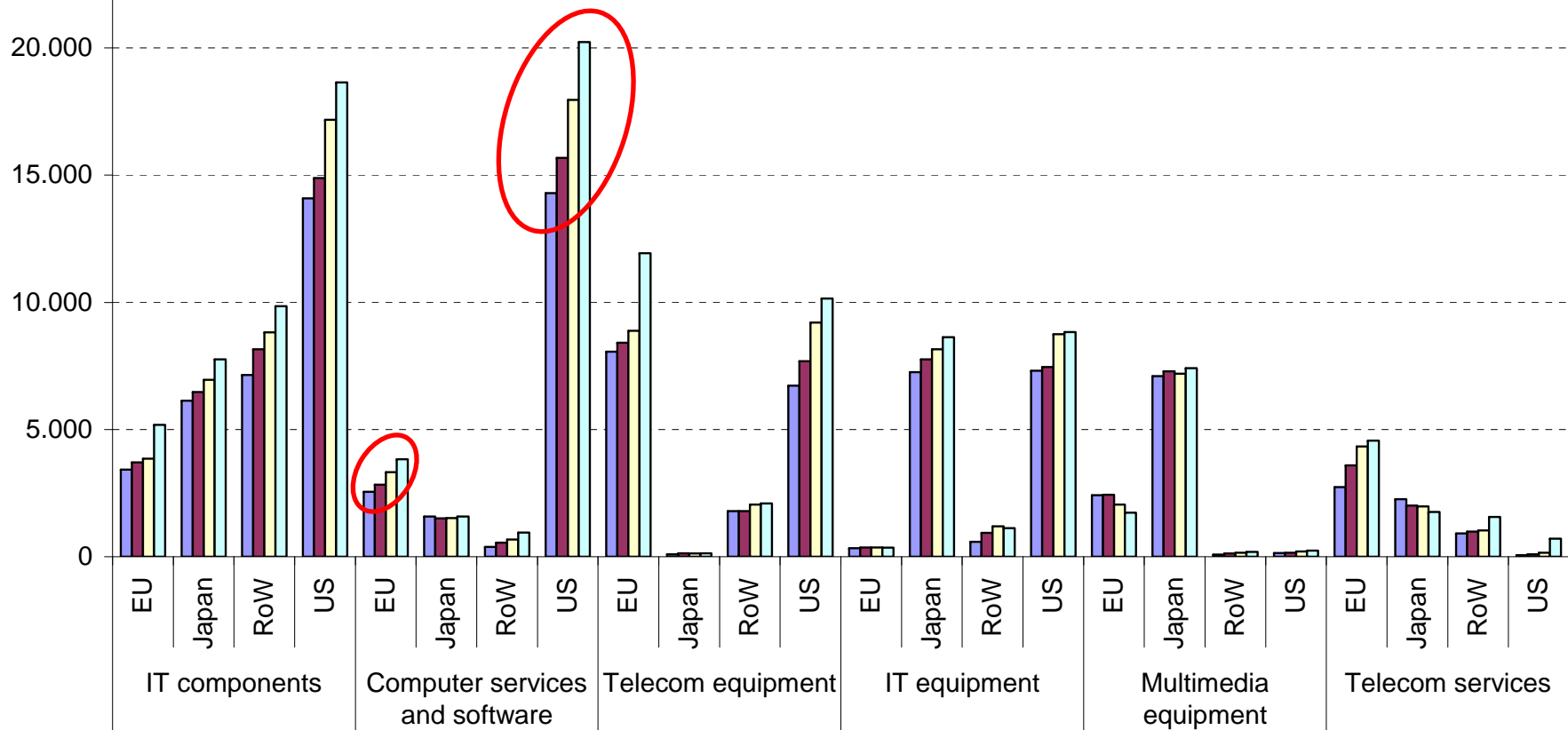


- Computer Services and Software is the only sub-sector with persistent R&D growth

- EU Industrial Scoreboard data:
453 top R&D investing ICT companies worldwide (above € 24 M/year):
 - 231 USA
 - 81 EU
 - 52 Japan
 - 89 Rest of the World (RoW)



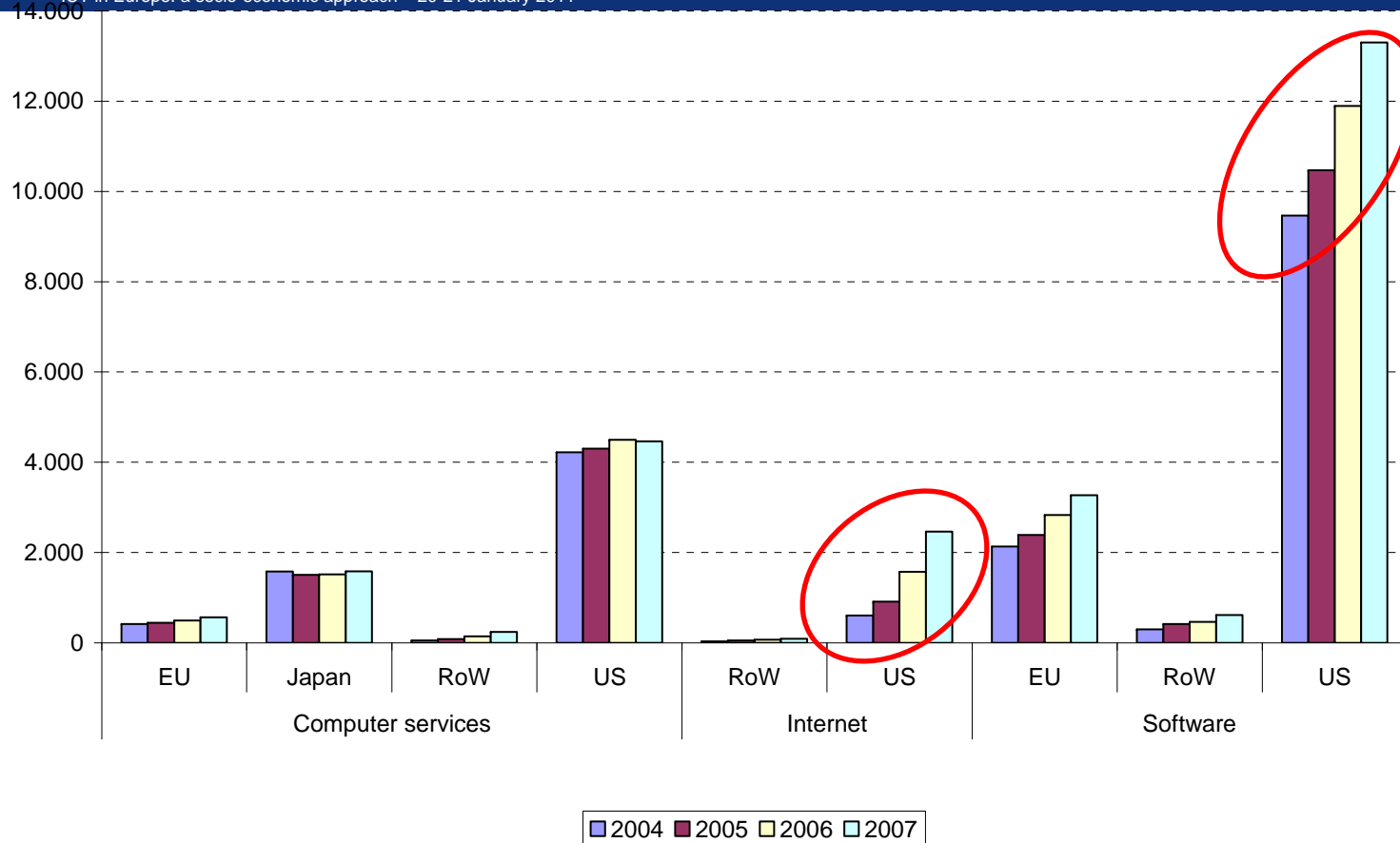
- European ICT companies have (as a whole) lower amount of R&D investment than US companies



- EU weak in all sub-sectors apart from Telecom

■ 2004 ■ 2005 ■ 2006 ■ 2007

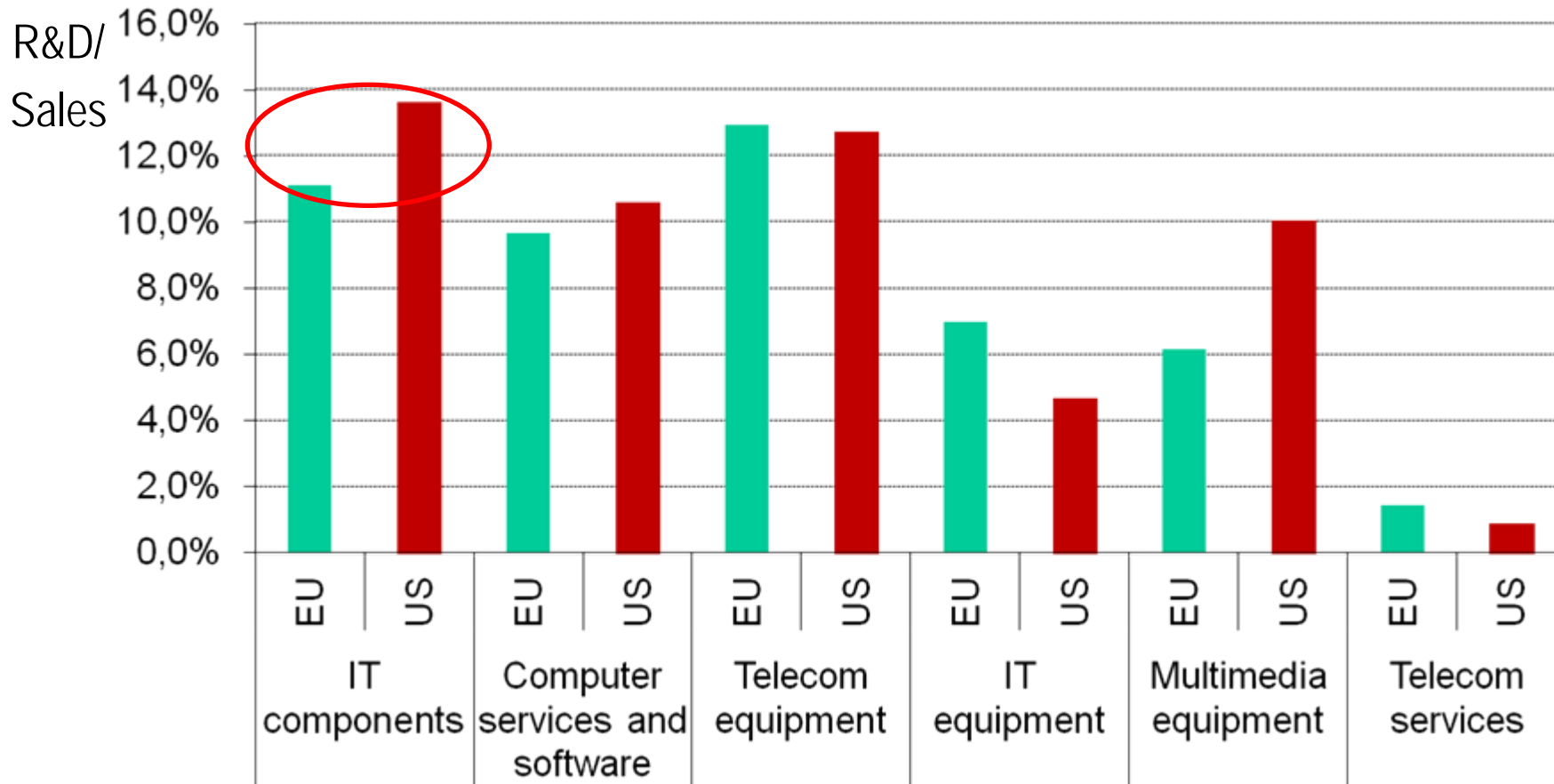
- US is pulling ahead, not the least in the fast growing Computer Services and Software (CSS) sub-sector



- Growth in large Software industry and smaller Internet industry – in the US

US			EU		
Company	R&D Exp. 2007 (€ M)	Age	Cy	R&D Exp. 2007 (€ M)	Age
Microsoft	5,584	35	SAP	1,458	38
IBM	3,931	114	Dassault Syst.	292	29
Oracle	1,875	33	UBIsoft	226	24
Google	1,450	12	Amdocs	158	28
Yahoo!	818	15	Sage	152	29
Symantec	612	28	Fujitsu-Siemens	145	25
CA	430	34	Indra	141	89
Adobe	419	28	Business Obj.	133	20
Intuit	356	27	Symbian	128	29
Cadence Systems	354	28	Misys	98	31
Total	15,829		Total	2,931	

- Young US Internet firms, with very large R&D investments



- EU and US firms equally R&D intensive

- ICT is a leading R&D investing sector
 - Computer Services and Software (CSS) is only ICT sub-sector with persistent growth in R&D
 - Europe lagging behind its main competitors in terms of R&D investments
 - Weakness in all non-telecom segments, including growing ones
 - This lag is largely due to the size and dynamics of European ICT industry
- 2010 “Digital Agenda for Europe” calls for doubling total public and private ICT R&D expenditures in the EU by 2020

Thank you!

Full analysis available at:

<http://is.jrc.ec.europa.eu/pages/ISG/PREDICT.html>

➤ *2011 PREDICT report to be published by May 2011*