

Europejska Przestrzeń Badawcza (ERA)

Grzegorz Karwasz

Zakład *Dydaktyki* Fizyki

UMK Toruń

Handel zagraniczny

Uniwersytet Gdański 1982

31 maja 2012 r., Aula UMK w Toruniu

9:00	-	9:20	Wykład inauguracyjny pt. „Europejska Przestrzeń Badawcza” prof. dr hab. Grzegorz Karwasz
9:20	-	9:40	„TEORIA W PRAKTYCE – JAK FIZYCY POMAGAJĄ W PROJEKTOWANIU NOWYCH METOD DIAGNOSTYCZNYCH” prof. dr hab. Wiesław Nowak
9:40	-	10:00	„EKOSYSTEM INNOWACJI W DOLINIE KRZEMOWEJ” Piotr Szewczykowski
10:00	-	10:30	UROCZYSTE OTWARCIE FORUM
10:30	-	11:00	Prezentacje Wydziałów Collegium Medicum UMK: Wydział Farmaceutyczny Wydział Lekarski Wydział Nauk o Zdrowiu
11:00	-	11:10	Prezentacja firmy: Farmaceutyczna Spółdzielnia Pracy FILOFARM®
11:10	-	11:50	Prezentacje jednostek uczelnianych: Wydział Biologii i Nauk o Ziemi UMK Interdyscyplinarne Centrum Nowoczesnych Technologii BIBLIOTEKA UNIWERSYTECKA W TORUNIU Wydział Chemii UMK
11:50	-	12:30	Prezentacje firm: Alchem Grupa Sp. z o.o.



Why we need ERA?

WHY DO WE NEED ERA?

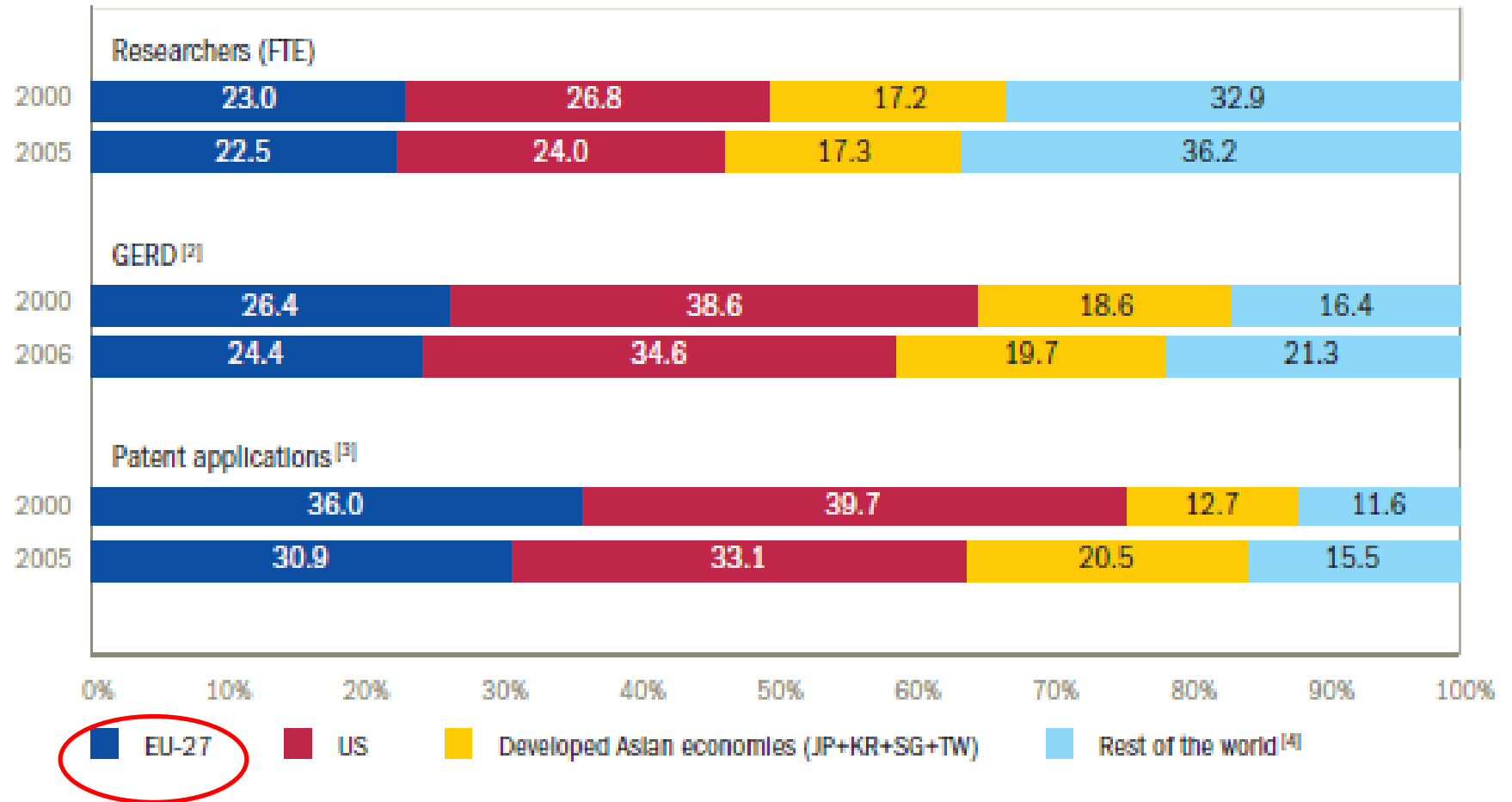
The development of ERA is needed to overcome the fragmentation of research in Europe along national and institutional barriers. Fragmentation prevents Europe from fulfilling its research and innovation potential, at a huge cost to Europeans as taxpayers, consumers, and citizens.

In particular:

- Researchers still see their career opportunities reduced by legal and practical barriers, which limit their possibilities to move between institutions, sectors and countries.
- Businesses often find it difficult to cooperate and enter into partnerships with research institutions in Europe, particularly across borders.
- National and regional research funding remains largely uncoordinated. This leads to a dispersion of resources, excessive duplications, and more generally a poor use of the resources that we collectively devote to research and innovation in Europe.

R + D Global shares

FIGURE 1 Participation in global R&D - % shares^[1]



Potrzebne nowe mechanizmy!

„Eksport licencji z Polski” (1982)

UNIWERSYTET GDAŃSKI

Wydział Ekonomiki Transportu

Institut Ekonomiki Handlu Zagranicznego

Grzegorz Krawiec

Nr albumu - 25810

EKSPORT LICENCJI Z POLSKI

W LATACH 1971 - 1980

Praca magisterska

Promotor:
Prof. dr hab.
Zygmunt Dmowski

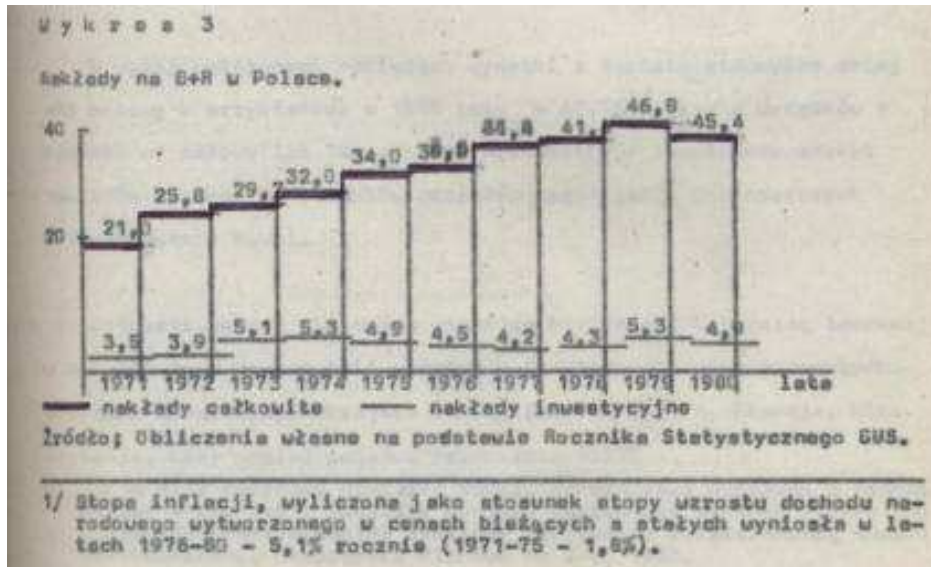
S O P O T 1 9 8 2

Sprzedaż licencji w latach 1971-80 według przedsiębiorstwa handlu zagranicznego

Lp.	Nazwa	Rok										RAZEM
		1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	
1.	Polinax-Cokop	-	-	2191,0 1	244,1 1	-	-	2530,4 2	-	5980,0 1	30,0 1	10975,5 5
2.	PolSERVICE	2309,6 8 xx/	1110,3 8	5204,9 7	526,2 7	7919,2 4	9316,1 6	8657,5 7	12752,9 12	9488,3 11	5167,6 12	58958,7 82
3.	Ciech	-	-	-	-	-	4995,0 1	442,8 2	1863,4 2	2319,9 2	4451,9 3	14033,0 10
4.	Uniwersal	-	-	-	-	-	-	-	-	162,0 1	-	162,0 1
5.	Varimex	-	-	-	-	-	-	-	-	144,3 2	-	144,3 2
5a	Metalexport	-	-	-	-	-	-	44,4 1	-	-	-	44,4 1
7.	Metronex	-	-	-	-	-	-	398,4 1	-	-	-	398,4 1
8.	Kopex	-	114,5 1	-	49,8 1	-	199,2 1	-	-	-	-	363,5 3
9.	Centromor	28,4 1	-	32,4 2	-	-	-	-	-	-	-	60,8 3
10.	Energopol	-	-	-	-	488,8 1	-	-	-	-	-	488,8 1
	RAZEM	2338,0 9	1224,8 9	5428,3 10	620,1 9	2808,0 5	14470,3 8	12073,5 13	14616,3 14	18094,5 17	7649,1 16	80523,3 110

Źródło: Zestawienie zbiorcze Centralnego Rejestru Licencji MZT i G^x wartości w tys. zł dew. xx/ ilość

Polska: R+D (1982)



Tablica 6

Wydatki i zatrudnienie w sferze B+R wybrane w krajach w 1976 roku.

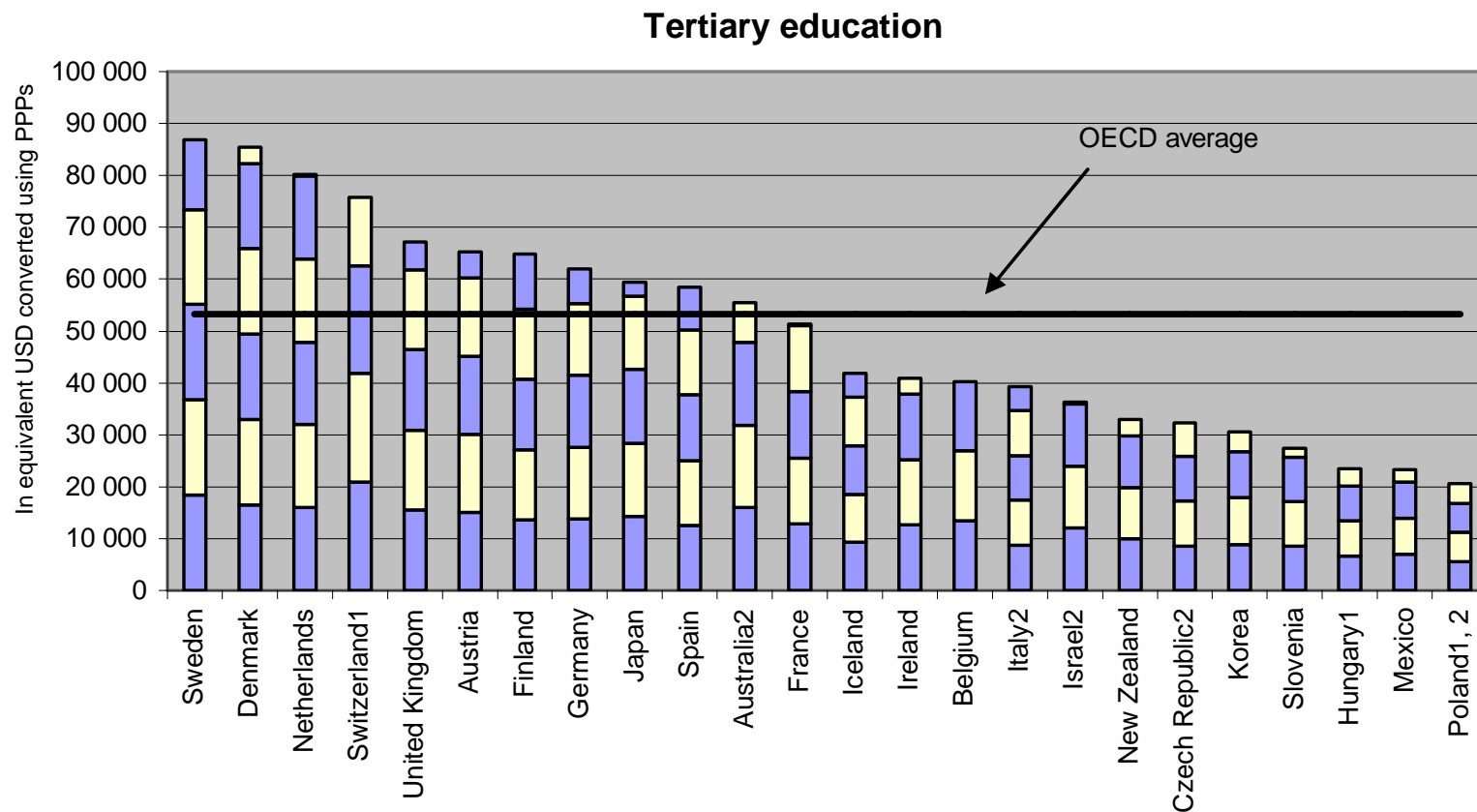
Kraj	Udział wydatków na B+R w dochodzie narodowym (%)	Zatrudnienie w sferze B+R na 1000 mieszk. (x)
Polska	2,3	5,3
Węgry	3,3	4,7
Czechosłowacja	4,0	7,0
ZSRR	4,6	6,6
USA	2,6	2,7
Wlk. Brytania	2,3	2,8

(x) tylko pracownicy naukowi i technicy.

Dane: Obliczenia własne na podstawie Rocznika Statystycznego GUS Warszawa, 1979 rok, s. 549, 472 i 488.

Chart B1.5. Cumulative expenditure by educational institutions per student over the average duration of tertiary studies (2007)

Annual expenditure by educational institutions per student multiplied by the average duration of studies, in equivalent USD converted using PPPs



Note: Each segment of the bar represents the annual expenditure by educational institutions per student. The number of segments represents the average number of years a student remains in tertiary education.

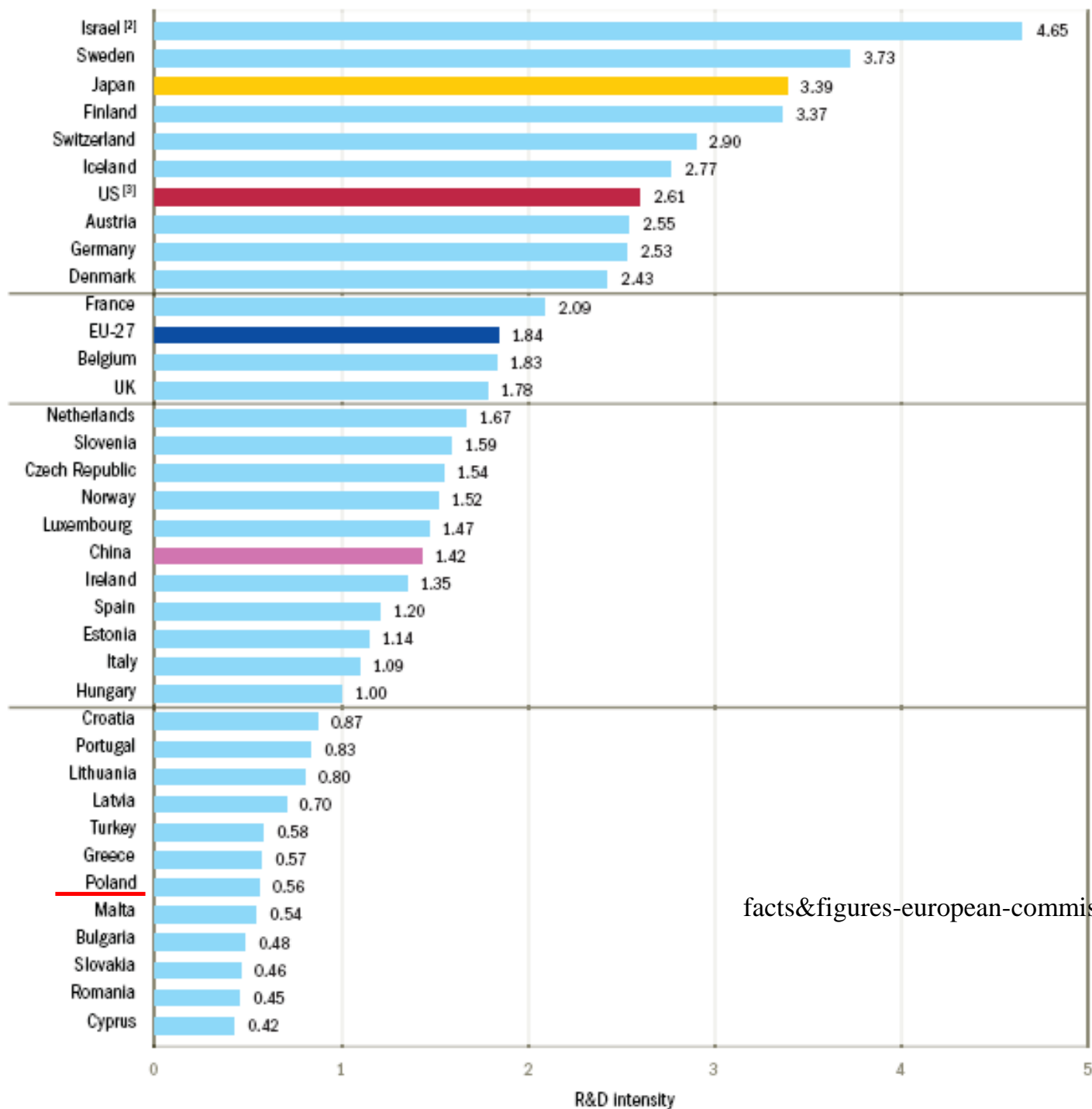
1. Public institutions only.

2. Tertiary-type A and advanced research programmes only.

Countries are ranked in descending order of the total expenditure by educational institutions per student over the average duration of tertiary studies.

Source: OECD. Table B1.3b. See Annex 3 for notes (www.oecd.org/edu/eag2010).

FIGURE I.1.3 R&D intensity (GERD as % of GDP), 2006^[1]

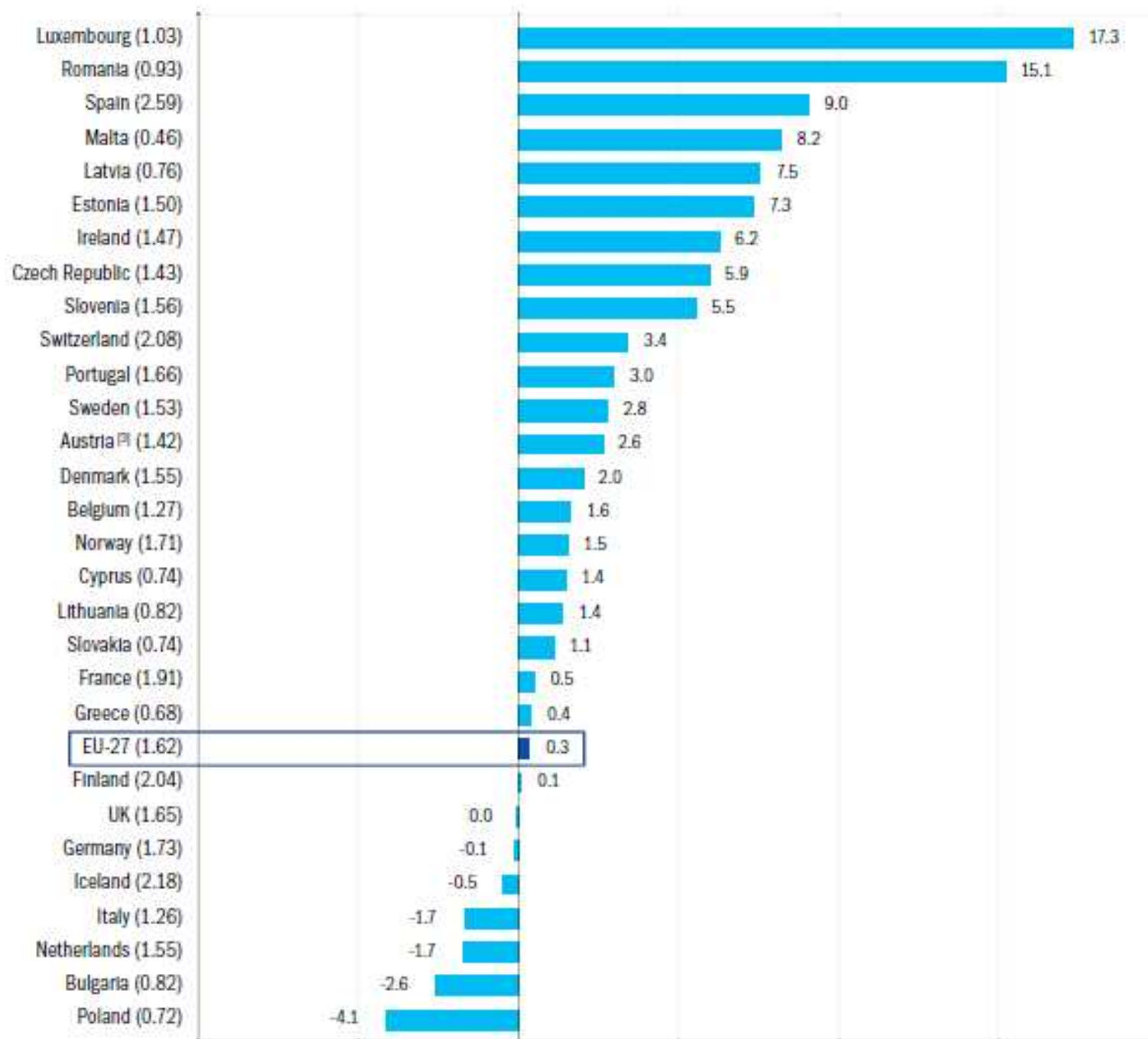


(R+D)/ GNP

facts&figures-european-commission-key-figures2008-2009-en.pdf



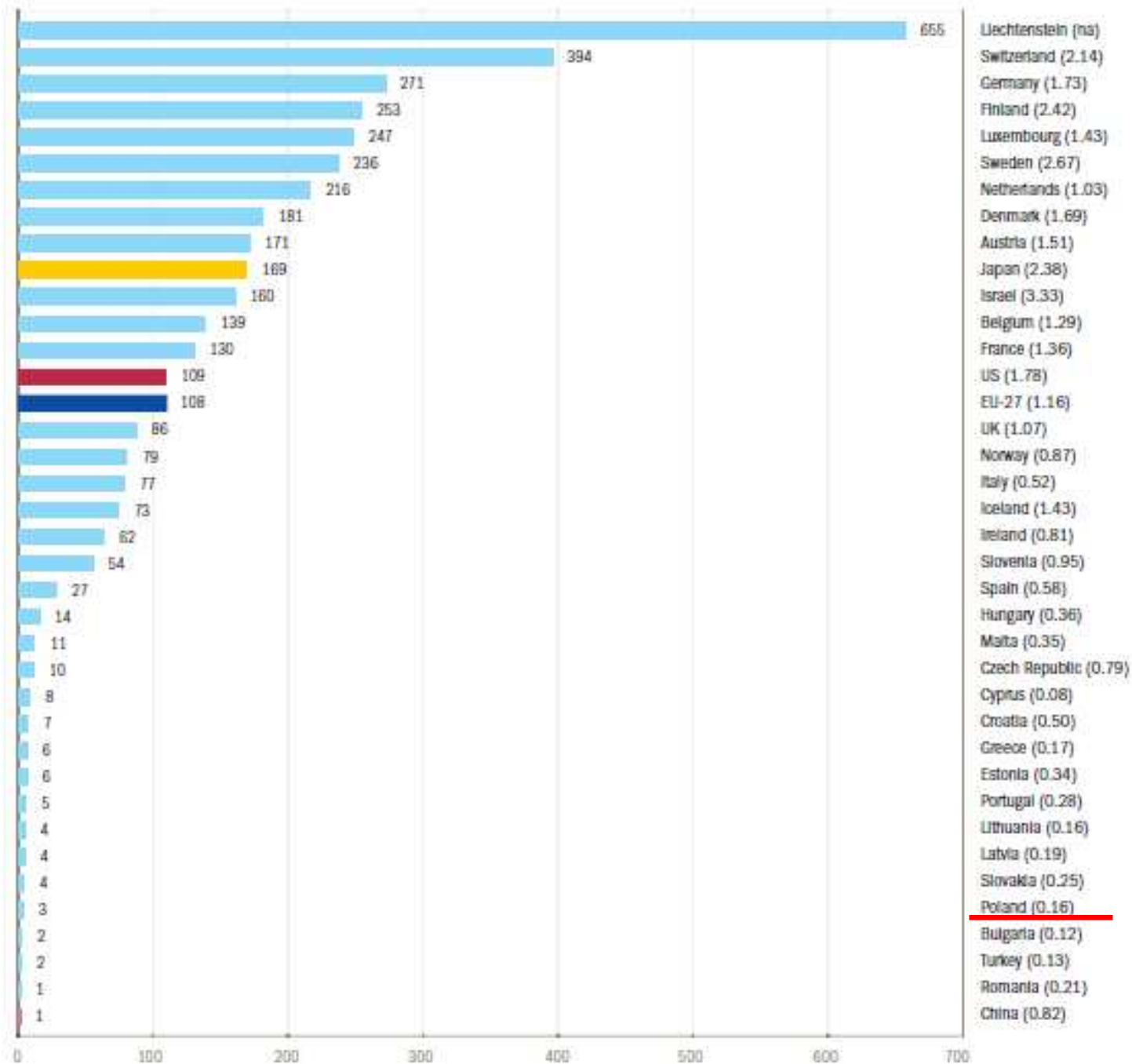
FIGURE I.1.8 GBAORD as % of general government expenditure – average annual growth, 2000-2007 ^[1]
 in brackets GBAORD as % of general government expenditure, 2007 ^[2]



Wzrost
wydatków
2007/2000

FIGURE I.3.7 EPO patent applications per million population, 2004^[1]; in brackets: business R&D intensity, 2004^[2]

EPO patents



High-tech export

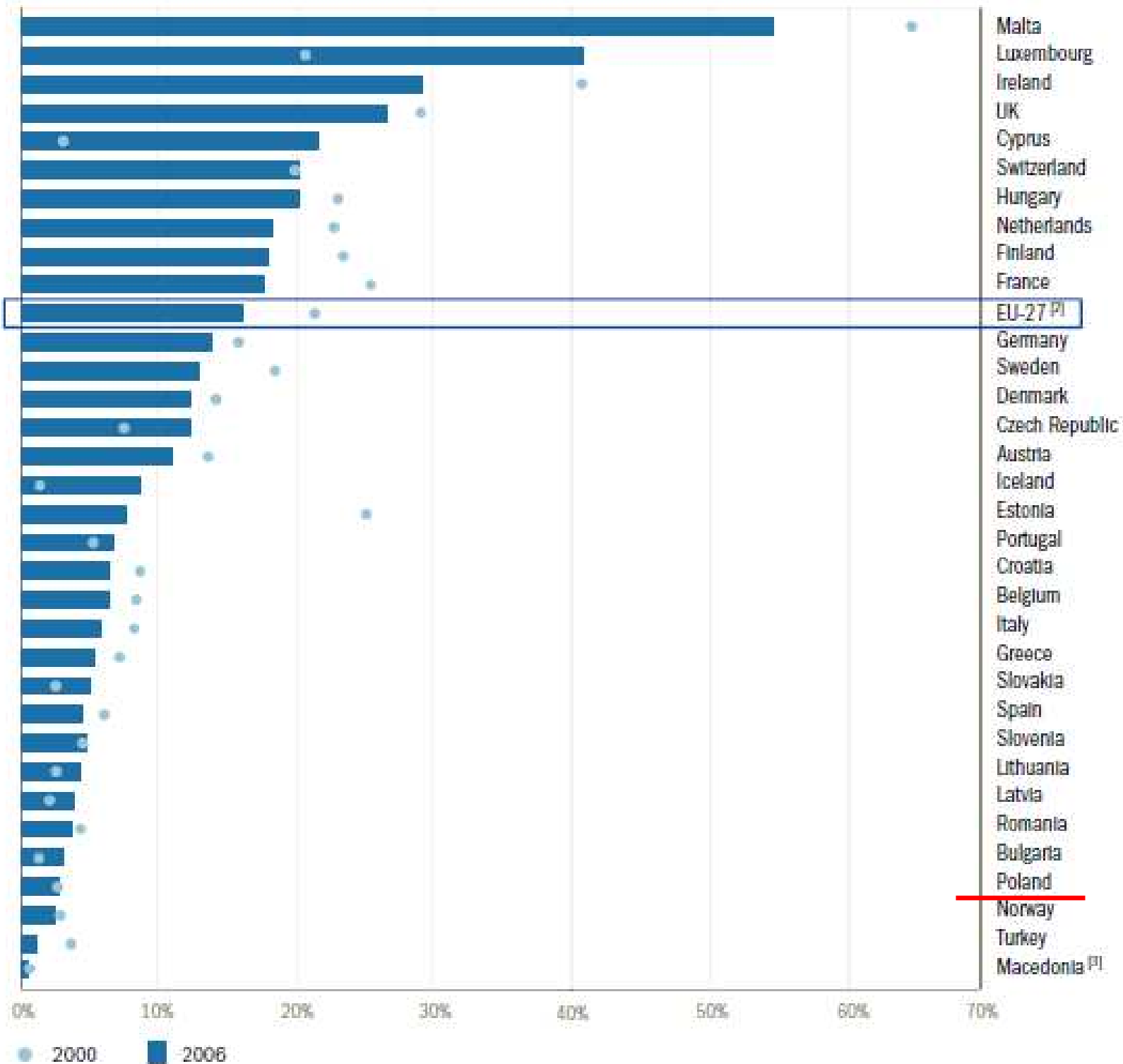
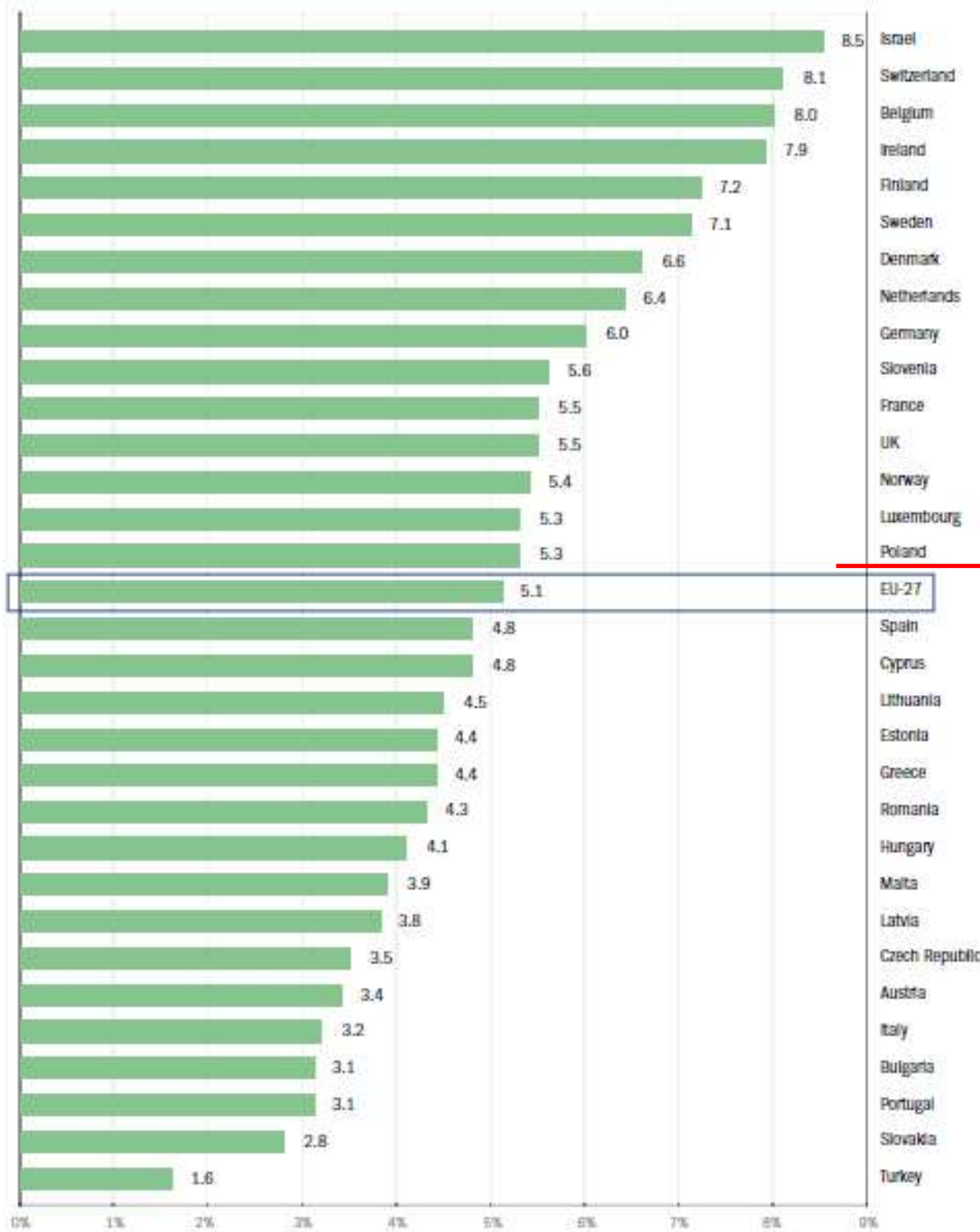
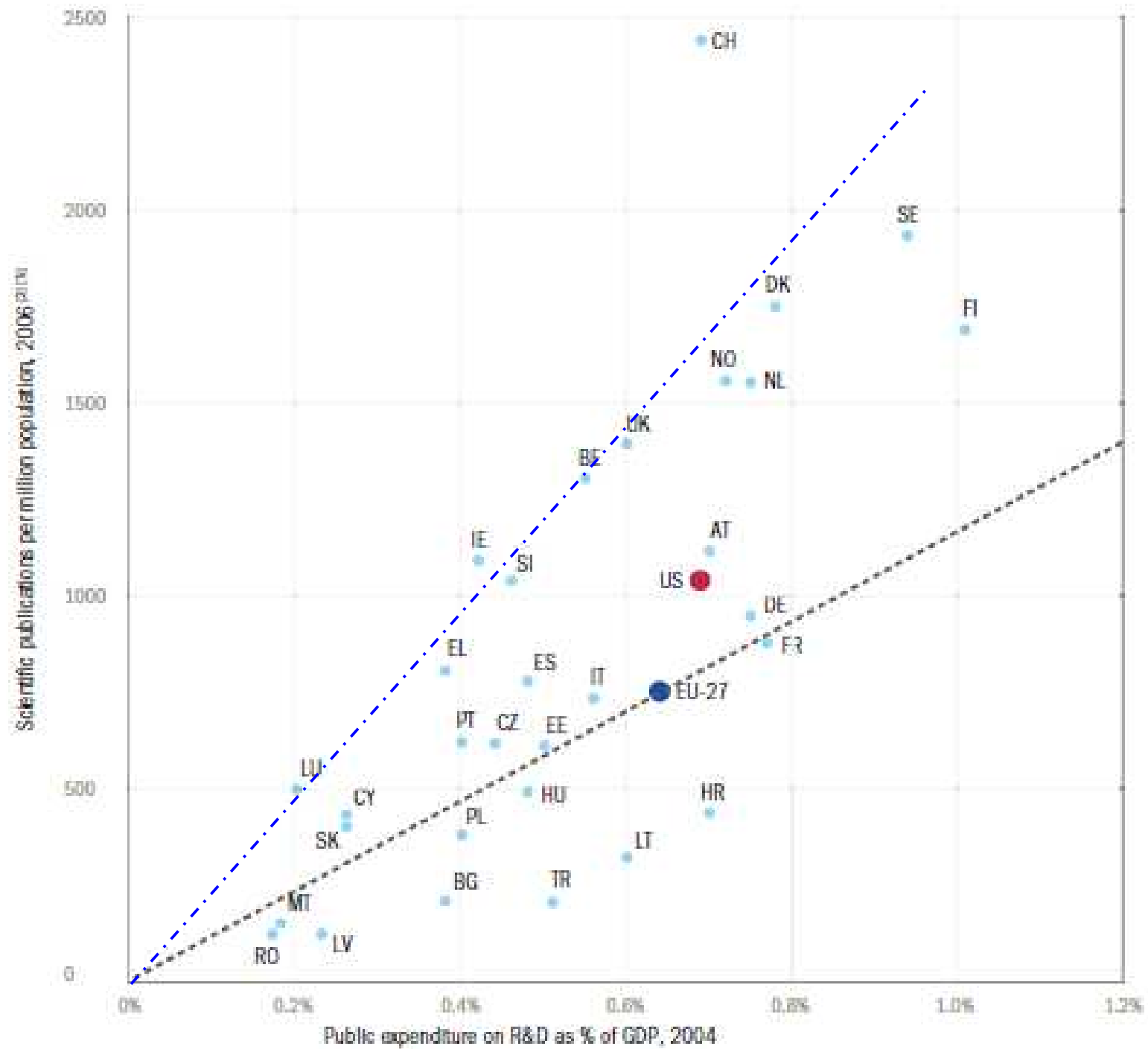


FIGURE I.2.2 Scientists and engineers as % of labour force, 2006



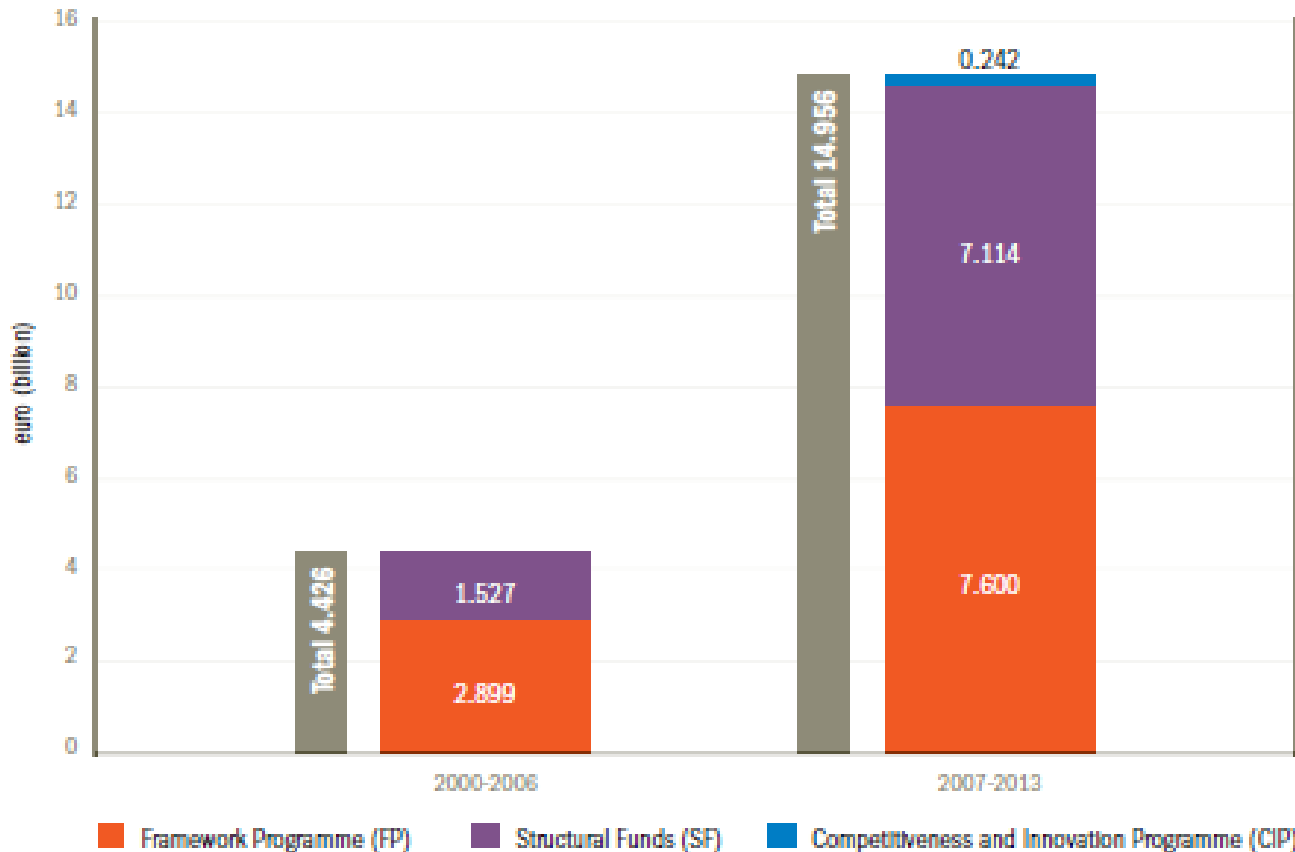
Zatrudnienie w R+D

FIGURE I.3.2 Scientific publications in relation to public expenditure on R&D ⁽¹⁾⁽¹⁴⁾



EU funding

FIGURE II.2.3 EC funding for research and Innovation (annual average funding)



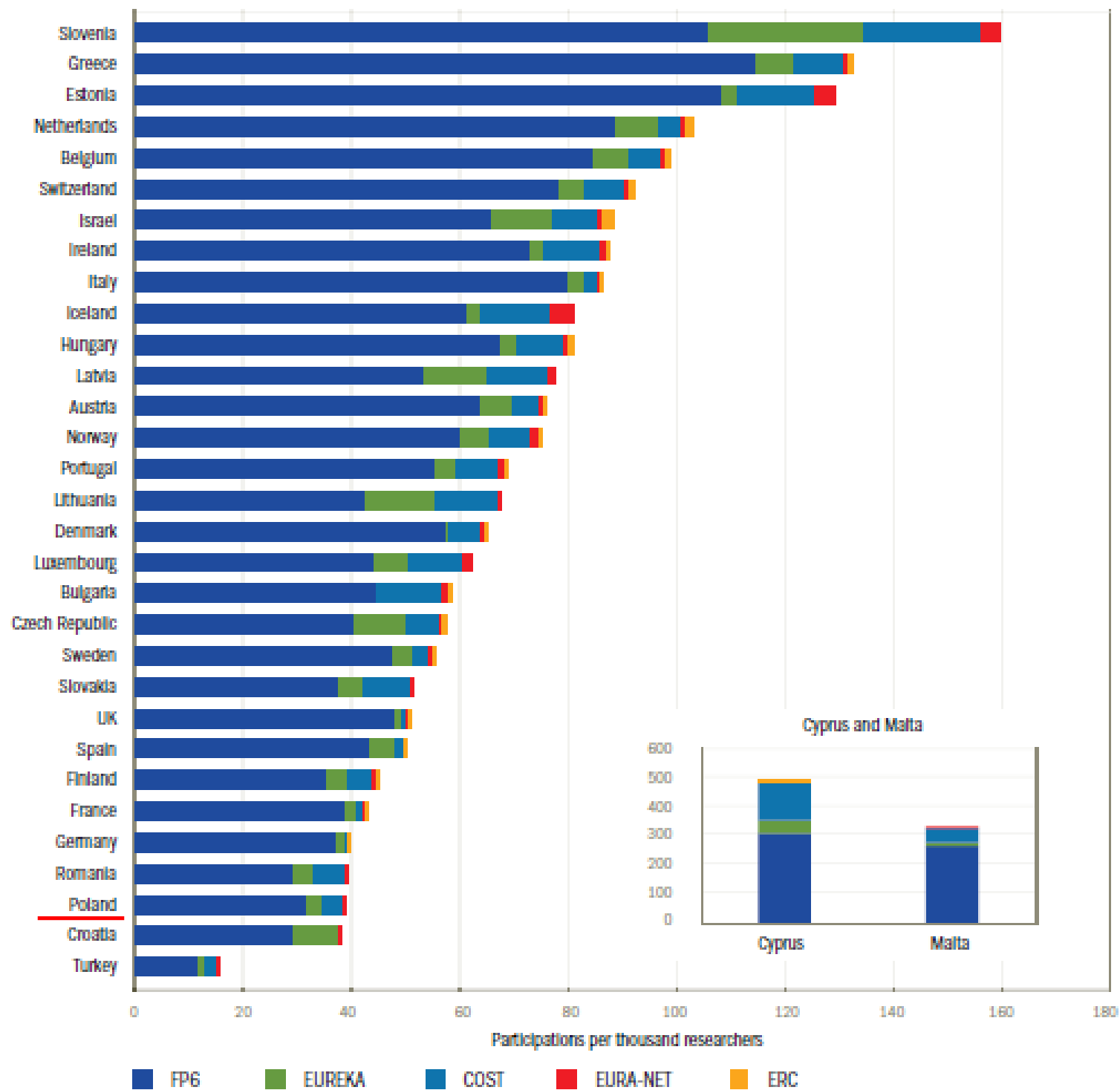
2009 total EU budget:
119 mld €

VIIth total budget:
54 mld €

Poland EU funds 2007-13
89 mld €

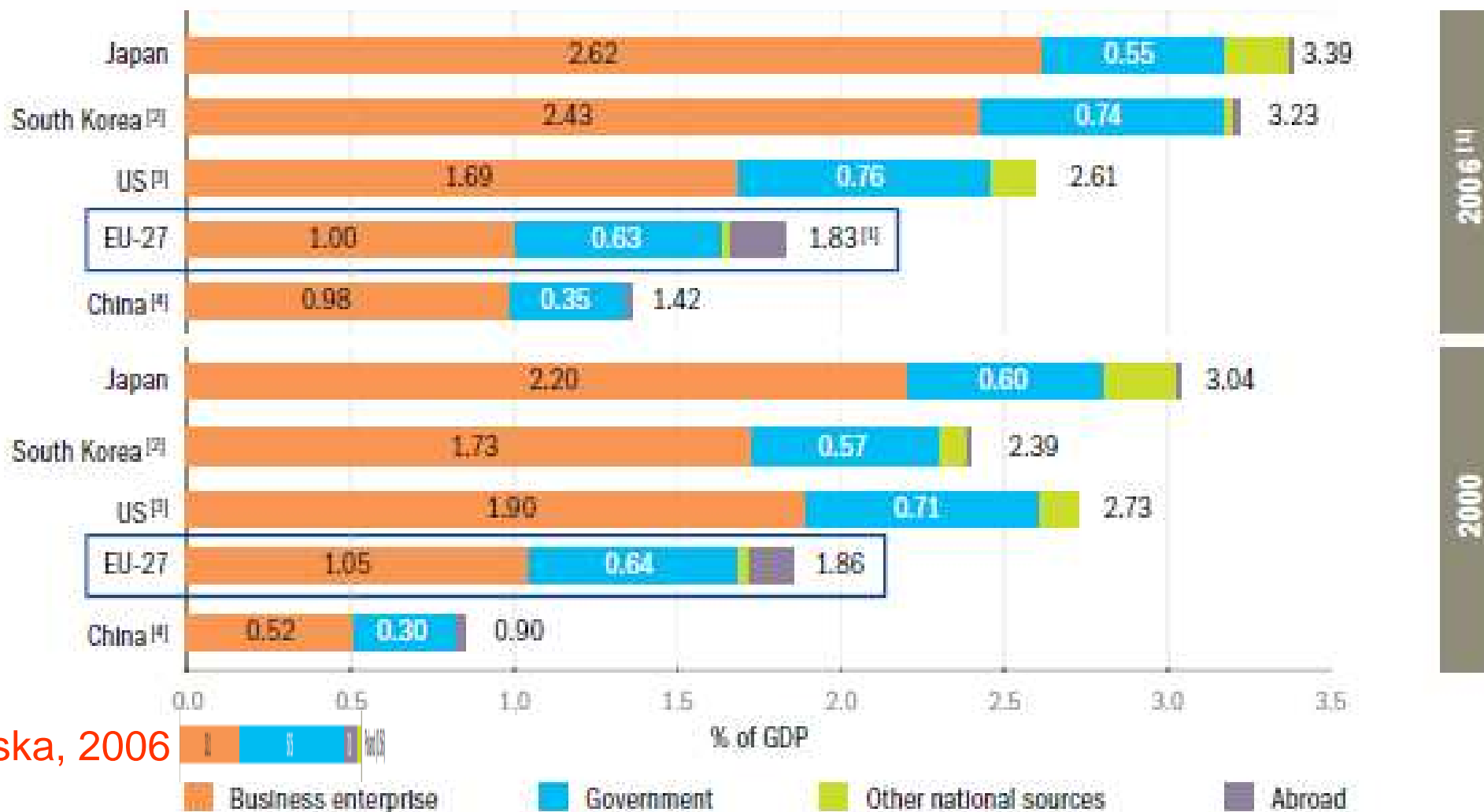
Poland science + education
14 mld €

FIGURE II.2.4 Number of participations in European programmes per thousand researchers



Mechanizmy/ recepty

FIGURE I.1.7 R&D intensities for the four sources of funds, 2000 and 2006 ^[1]



Joint technological platform

SEMICON[®] Europa2012

October 9-11, 2012
Messe Dresden, Germany

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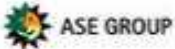
SEMICON Europa 2011 Gallery



Advanced Packaging Conference



"Understanding the new technology and the direction where it is going. As a supplier it is important to get in contact with the customers. In the conference you get in depth technical data and you understand that collaboration is better than competition."
Graham Jones, Sales Director Europe, Henkel



"Hochinteressante Konferenz! Man muss in dem Bereich immer am Ball bleiben. Wer nicht hier ist, verschläft die Trends. Für viele Probleme gibt es hier Lösungen."
Kay Essig, Technical Account Manager, ASE Group

Co-located with
PE 2012 EXHIBITION & CONFERENCE
SEMICON Europa

The 8th Plastic Electronics Conference and Exhibition is the leading international convention focused on Plastic, Organic, Printed, Large Area and Flexible Electronics. It includes OLED, PV and Smart System Integration.
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AIR PRODUCTS

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AVL



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DAIMLER



Dantherm
Power



diversenergy

e-on

electro
power systems



ENEL
L'ENERGIA CHE TI ASCOLTA.

Uczelnie strategiczne

The screenshot shows the website of École Centrale Paris. At the top, there is a navigation bar with the school's logo, name, and tagline "Leader, entrepreneur, innovateur". It also includes links for "Access plan", "Contacts", and "Press Release", along with a search bar and an "Advanced Search" button. Below the navigation is a large banner image of the school's modern building. A horizontal menu below the banner lists categories: CENTRALE PARIS, ACADEMICS, RESEARCH, CORPORATE, INTERNATIONAL, and ADMISSIONS. The main content area features a breadcrumb trail "home > news" and a list of news items. The featured article is titled "Air Liquide, École Centrale Paris and CNRS sign an industrial chair in oxy-combustion" with a date of 18/05/2012. The article text describes the creation of an educational and research industrial chair in oxy-combustion, funded by ANR. The Air Liquide logo is displayed next to the article. To the right, there is a "CALENDAR & EVENTS" section with a date picker showing "11 Jul" and a photo of a summer school event titled "Blomedical Imaging Summer School".

News

École Centrale Paris
Leader, entrepreneur, innovateur

Access plan | Contacts | Press Release

Advanced Search

CENTRALE PARIS ACADEMICS RESEARCH CORPORATE INTERNATIONAL ADMISSIONS

home > news

News

CENTRALE PARIS
EDUCATIONAL PROJECT
RESEARCH - INNOVATION
PARTNER CORPORATIONS
INTERNATIONAL

Archives
2012

Air Liquide, École Centrale Paris and CNRS sign an industrial chair in oxy-combustion

18/05/2012

Air Liquide, Ecole Centrale Paris and CNRS announce the creation of an educational and research industrial chair in oxy-combustion.

Initially planned for a six-year period, this Chair has received a funding from ANR (French National Research Agency), a proof of both the project's excellence and the willingness to support Public-Private Partnerships.

AIR LIQUIDE

CALENDAR & EVENTS

11 Jul

Blomedical Imaging Summer School

All events

Forum regionalne

FP7 & CIP Portal North Rhine-Westphalia - Mozilla Firefox

http://www.frp.nrw.de/frp2/en/fpa/evt/aga/?v=619&lce=EN

Wydział Fizyki, Astronomii i Informa... x FP7 & CIP Portal North Rhine-We... x

Die Landesregierung Nordrhein-Westfalen


Home Contact Sitemap Imprint

FRP & CIP Portal North Rhine-Westphalia

Your Partners: Universities Research Centres Industry

Current page: > Home EN > Framework Programme Activites > Partnering events > Agenda

Event agenda



08.03.2012 - 09.03.2012
Successful R&D in Europe: 4th European Networking Event
+++ Booked out +++ More than 350 registered participants +++
Duesseldorf International Airport, Conference Center, Duesseldorf

Show event information

The registration has been closed. We welcome more than 350 participants.
Results of the call for presentations are online. Free participation for speakers in the sessions!

1st Day: 8.03.2012 "Energy", "ICT" and "NMP"


- Session 1: Parallel Workshops - NRW projects seeking partners in Europe
- Session 2: Parallel Workshops - European projects seeking partners in NRW

North Rhine-Westphalia

Framework Programme Activities


- Successful EU projects
- Partner search in NRW's FP7 database
- Partner search in NRW's FP6 database
- **Partnering events**
- NRW players in European initiatives
- NRW's performance in FP7

Practical Tips



Successful R&D in Europe 2012

Event Flyer



Documentaion of Successful R&D in Europe 2012

Impressions of the 2012 edition

University/ industry joint projects

Consortium

Adaptive metal cutting



▪ In numbers

- 12 Partners
- 4 OEMs
- 5 SMEs
- 3 Universities
- 7 countries

▪ Industrial sectors

- Automotive
- Printing machinery
- Aerospace

Centra badawcze – technologie materiałowe



Organization- Departments



Photonics



Si- Microsystem
and Nanostructure
Technology

Micro- and
Nanotechnology of
Wide Bandgap
Semiconductors



Materials and
Semiconductor
Structures
Research

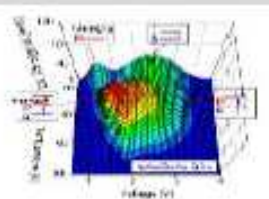
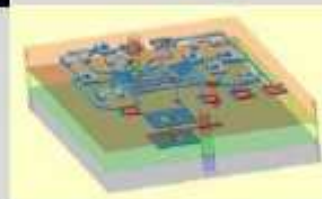


Integrated
Circuits
and Systems



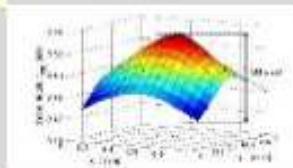
Certification

Microelectronics



Analysis of
Semiconductor
Nanostructures

Instytut Techniki Elektronowej
Warszawa



Characterisation
of Nanoelectronic
Structures





Oferta pomiarowa

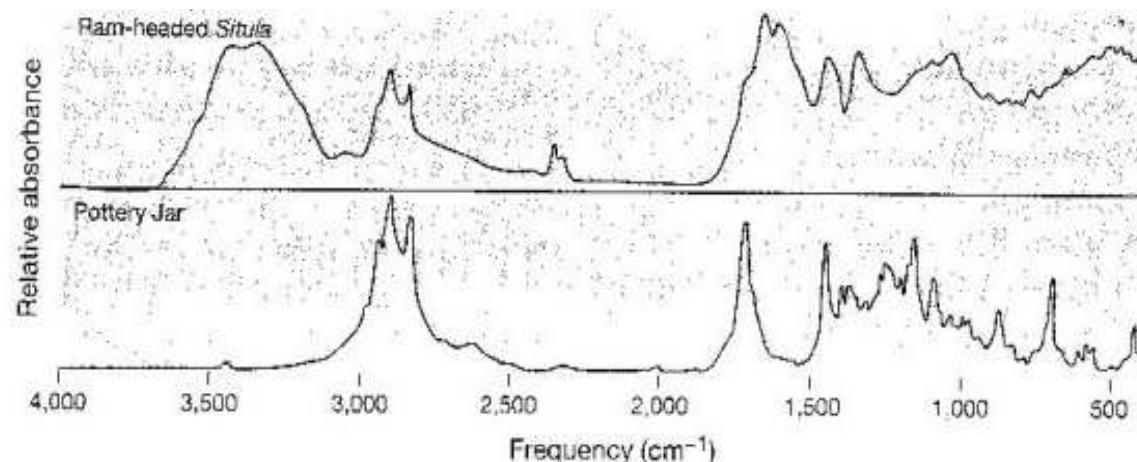
Wydział Chemii

Pracownia Analiz Instrumentalnych
Spektroskopia w Podczerwieni
ul. Gagarina 7, 87-100 Toruń
tel.: +48 (56) 611-48-32
e-mail: ir@chem.umk.pl

FT-IR
Fourier Transform Infrared Spectrometer



Pracownia wykonuje zlecane badania ciał stałych i roztworów za pomocą spektrometru FT-IR Spectrum 2000 firmy Perkin-Elmer.



Podstawowe parametry aparatury i możliwości pomiarowe:

- możliwość pracy w pełnym zakresie podczerwieni, podzielonej
 - bliska podczerwień (NIR), zakres: 13000 - 4000 cm^{-1}
 - średnia podczerwień (MIR), zakres: 4000 - 200 cm^{-1}
 - daleka podczerwień (FIR), zakres: 700 - 30 cm^{-1}
- interferometr Dynascan
- rozdzielczość: standard powyżej 0,3 cm^{-1} , opcjonalnie 0,15 cm^{-1}
- szybkość skanowania: od 0,05 do 5,0 cm/s
- pełna komputerowa obróbka widm z możliwością zastosowania odpowiednich transformacji widma (absorbancja, transmitancja, Kubelk-Munk) i automatycznej identyfikacji widm
- możliwość wykonywania widm następującymi technikami: DRIFT, pastylki (KBr, polietylen), płytki (KBr, NaCl, polietylen), kuwety kwarcowe

Oplaty za wykonanie analiz są uzgadniane indywidualnie w zależności od: liczby próbek, ilości wykonanych widm, specyfiki przygotowania próbki do analizy itp.

Spin-offs (humanities)

The Institute for Development of Educational Achievement

Director: Dr. Edward J. Kame'enui

The Institute for the Development of Educational Achievement (IDEA) in the College of Education is committed to the development of research and outreach activities to improve the academic and social achievement of children and young adults. Through a broad coalition of scholars, educators, and research groups, IDEA supports research and service activities designed to meet three broad goals:

- Establish, promote, and sustain a culture and community of scholarship, collaboration, and connoisseurship at the University of Oregon and in the State of Oregon to improve the academic and social achievement of children and young adults;
 - Produce, collect, synthesize, and disseminate information related to the academic and social achievement of children and young adults;
 - Provide outreach and research services designed to enhance the knowledge and competence of educators, students, and parents about the educational achievement of children and young adults.
-

Research Units Within IDEA

- **Behavioral Research and Teaching (BRT)**

BRT's research focus includes large-scale assessment, student accommodation and educational technology applications. In conjunction with federal, state, and local educational interests, BRT conducts research and implements solutions in the special and general education student populations.

- **Center for Educational Policy Research (CEPR)**

CEPR was founded in 2000 in response to the need for better policy analysis in a time of unprecedented governmental activity in the area of education policy. Major changes in the role of the state and federal governments, in the financing of education, and in the expectations for schooling have created a tidal wave of policy initiatives over the past two decades. The pace and quantity of policy has overwhelmed traditional avenues for policy development, interpretation, and implementation.

CEPR seeks to help policy makers and policy implementers alike do a better job of using educational policy as a tool to improve schooling and student learning. The current emphasis on redesigning education offers a rare opportunity to examine long-held beliefs and traditional practices to determine if there are better ways to organize and conduct schooling, at the local, state, and national levels.

- **Center on Teaching and Learning (CTL)**

Spin-offs (humanities)

The image shows a screenshot of the EPIC Online website in a Mozilla Firefox browser window. The browser's address bar shows the URL <https://www.epiconline.org/>. The website's header features the EPIC logo (Educational Policy Improvement Center) and a navigation menu with the following items: ABOUT EPIC, PUBLICATIONS, TOOLS, SERVICES, and PROJECTS.

The main content area is dominated by a large blue banner with the text "Think. Know. Act. Go." and "Explore the Four Keys to College and Career Readiness". The banner also features a diagram of four keys arranged in a 2x2 grid:

- think** (top-left): Includes "Problem Solving, Reasoning, Communication, and Collaboration".
- know** (top-right): Includes "Depth of Knowledge, Challenge Level, and Attribution".
- act** (bottom-right): Includes "Diverse and Effective Learning Strategies".
- go** (bottom-left): Includes "Personalized Academic Pathways, Work-based Learning, and Industry-Related Learning".

The central intersection of the four keys is labeled "Key Cognitive Strategies", "Key Content Knowledge", "Key Learning Skills and Techniques", and "Key Transition Knowledge and Skills".

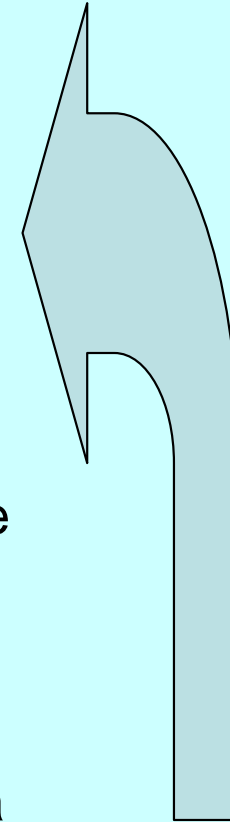
Below the banner, the website is divided into three columns:

- Spotlight:** Features the article "Join EPIC: Project Director for Curriculum Studies" with a sub-headline "The project director designs, conducts, and manages research studies that compare standards and assessment systems as they relate to college and career readiness standards; designs, implements, and manages programs that".
- Latest News:** Features the article "EPIC analyzes relationship between Asia Society's Global Learning System and the Common Core" with a sub-headline "The Educational Policy Improvement Center (EPIC) just released an analysis of how the Common Core State Standards relate to the outcomes of Asia Society Graduation".
- Upcoming Events:** Lists two events:
 - May 23-24, 2012:** CCSSO Innovation Lab Network: State Planning Meeting, Washington D.C.
 - June 5, 2012:** Webinar: The Complexity of College and Career Readiness

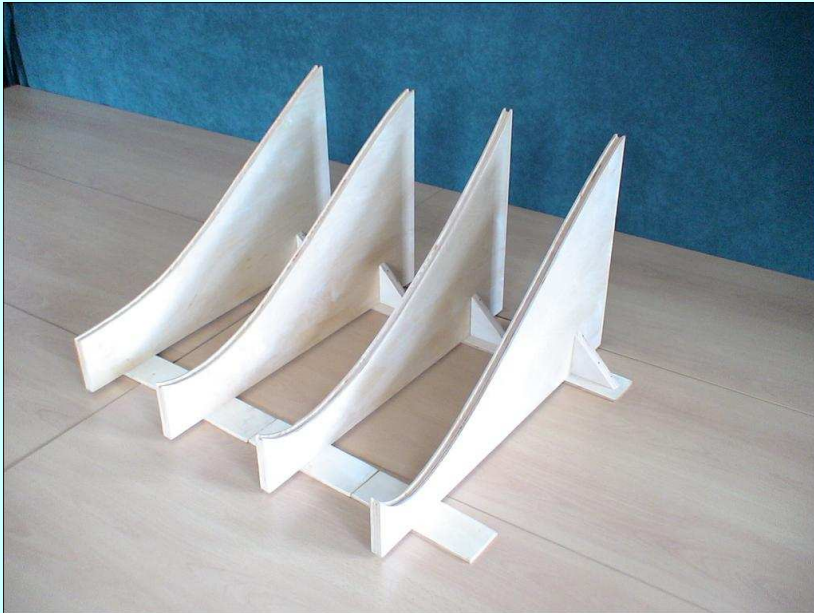
Mechanizmy?



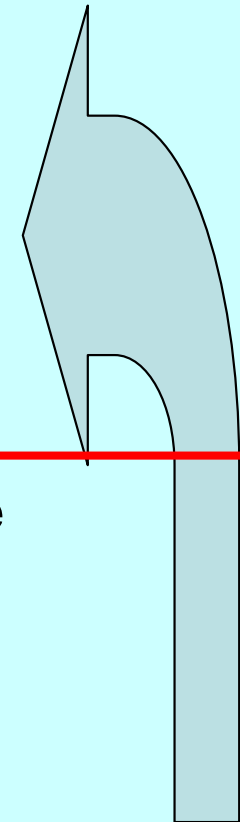
1. pomysł
2. prototyp
3. realizacja
4. wprowadzenie
5. testy
6. marketing
7. inżynieracja



Mechanizmy?



1. pomysł
2. prototyp
3. realizacja
4. wprowadzenie
5. testy
6. marketing
7. inżynierozacja



Recepty

- High-tech industry (Finlandia, Detroit)
- Pan-European research structures
- Great university/ industry consortia
- Free exchange of researchers („Marie-Curie”)
- Interdisciplinary research
- Science & Society: public understanding of science
- Polityka edukacyjna: właściwe kompetencje na właściwych szczeblach nauczania

Ale mechanizmów brak !

Forum 2012

31 maja 2012 r., Aula UMK w Toruniu

9:00	-	9:20	Wykład inauguracyjny pt. „Europejska Przestrzeń Badawcza” prof. dr hab. Grzegorz Karwasz
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11:50	-	12:30	Prezentacje firm: Aichem Grupa Sp. z o.o.

<http://dydakyka.fizyka.umk.pl>

Dziękuję za uwagę!

IMPREZA ORGANIZOWANA W RAMACH PROJEKTU
"WIOSNA INNOWACJI I PRZEDSIĘBIORCZOŚCI"



2012 FORUM
PRZEDSIĘBIORCZOŚCI
AKADEMICZKIEJ

**TOMOGRAF
OPTYCZNY
ZESTOŁ FIZYKI
MEDYCZNEJ UMK (2002)**
Badowa pierwszego na świecie
urządzenie do niewyjądnego
stwierdzenia obecności przekroju
światła u pacjenta, do precyzyjnej
współczesnej diagnostyki
onkologicznej.

*A JAK OSIĄGNIĘCIA WSPÓŁCZESNEJ NAUKI MOGĄ ZMIENIĆ BIZNES?
PRZYJDŹ I SPRAWDŹ!

31 MAJA 2012 R.
OD 9:00 DO 16:00

AULA UMK

WSTĘP WOLNY