



KATHOLIEKE UNIVERSITEIT
LEUVEN



Investing in Science, Research & Innovation: an introduction to Flanders

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1425 Foundation

1797 Abolished by the French authorities

1816 Re-established

1911 First lectures in Dutch

1970 Division of the university:

Katholieke Universiteit Leuven

Université Catholique de Louvain

2011 **Welcome to K.U.Leuven, a
'community' of 54 821 people
(including the University Hospitals)**

Contents

- Introduction to K.U.Leuven
- R&D at K.U.Leuven
- R&D in Flanders
- International perspective
- Conclusions



K.U.Leuven: comprehensive university

- 3 groups, 14 faculties, 34 departements
- **Science, Engineering and Technology:**
 - 8 000 students
 - 1 600 international
- **Humanities and Social Sciences:**
 - 20 000 students
 - 2 600 international
- **Biomedical Sciences:**
 - 9 000 students
 - 1 000 international
- **University Hospital**



K.U.Leuven: International Networks

Objective: prominent presence in the field of higher academic education in Europe



Objective: one of the leading research institutions in Europe



1985 :
37 European multi-disciplinary universities



20 European research universities
In 2011: 21 members

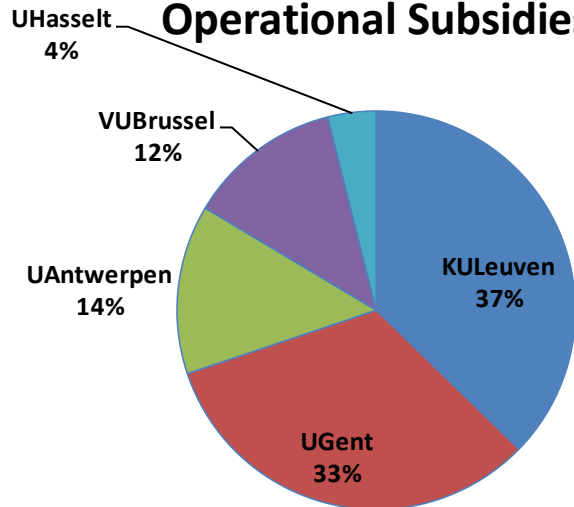


Currently 764 institutions in 46 countries

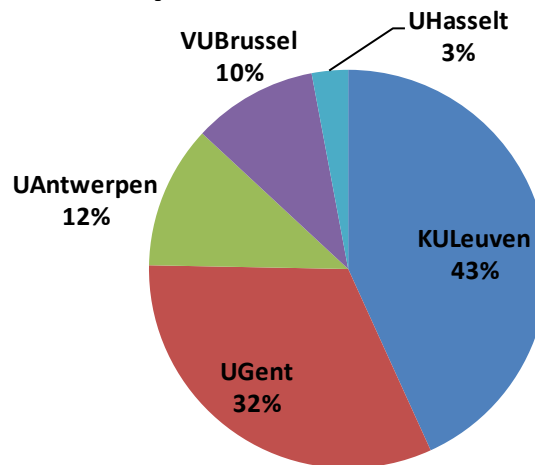
Heidelberg
Freiburg
München

K.U.Leuven in Flanders

Operational Subsidies



Special Research Fund



Parameters:

55% Education

45% Science (capacity)

654 Mio €/year

Policy area: Education and Training

Parameters:

'Excellence' in Science

Diploma's

PhD

Publications / Citations

Internationalisation and diversity

137 Mio €/Year

Policy area: Economy, Science and Innovation

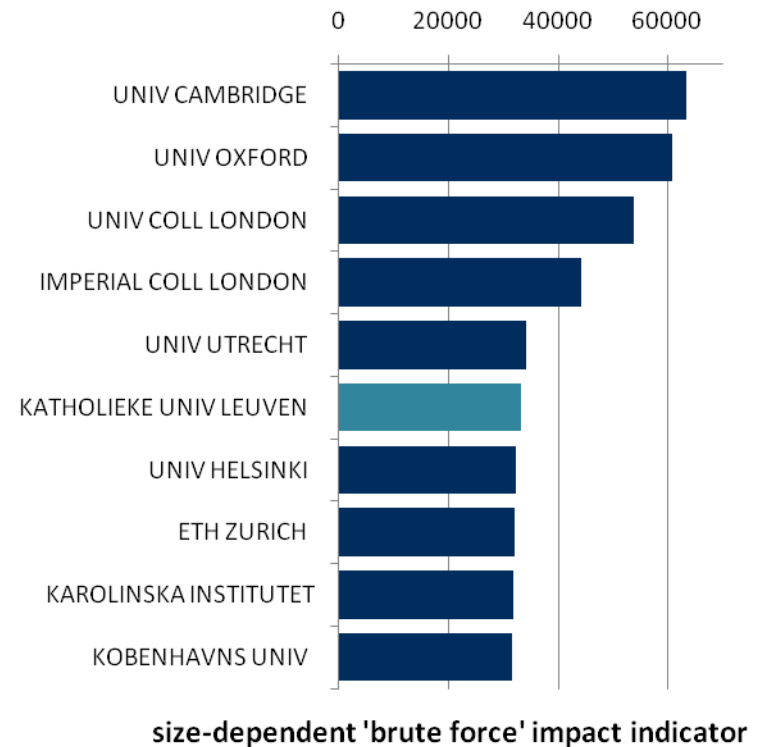
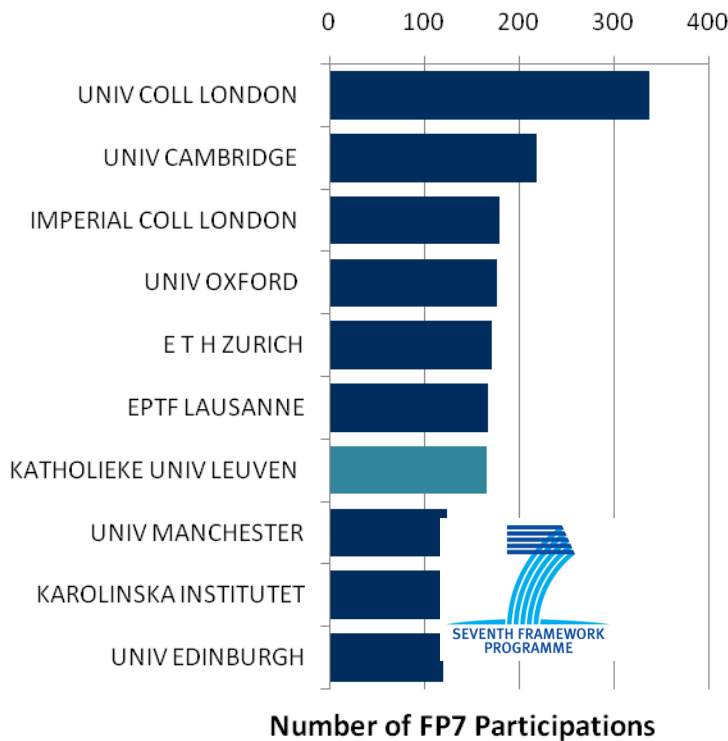
K.U.Leuven Research Financing

Research expenditure 2009

K.U.Leuven – Research € 330 Million		Internal evaluation	External evaluation
Non Directed Research: 50%	Special Research Fund	24,4%	
	FWO (Flemish)		23,6%
	governments		11,8%
	EU		7,2%
Directed Research: 50%	IOF (Flemish)	1,9%	
	IWT (Flemish)		8,1%
	Industrial contracts (K.U.Leuven R&D)		22,9%
		26,3%	73,7%

K.U.Leuven Research: European Excellence

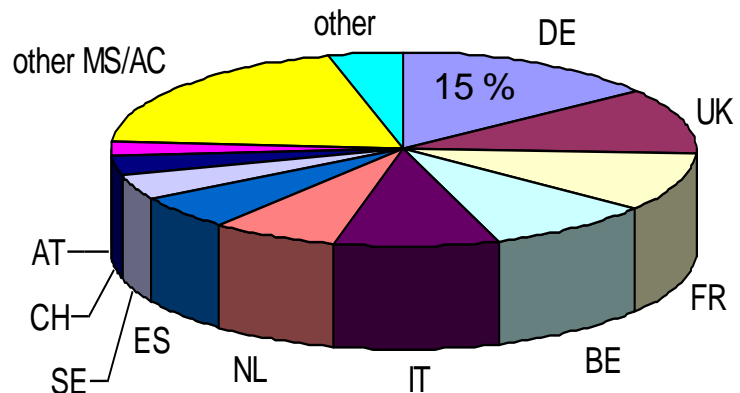
- Prominent research university in a European context
 - 7th place in the number of participations in the FP7 framework programme
 - 6th place in the Leiden Ranking



K.U.Leuven Research: European Excellence

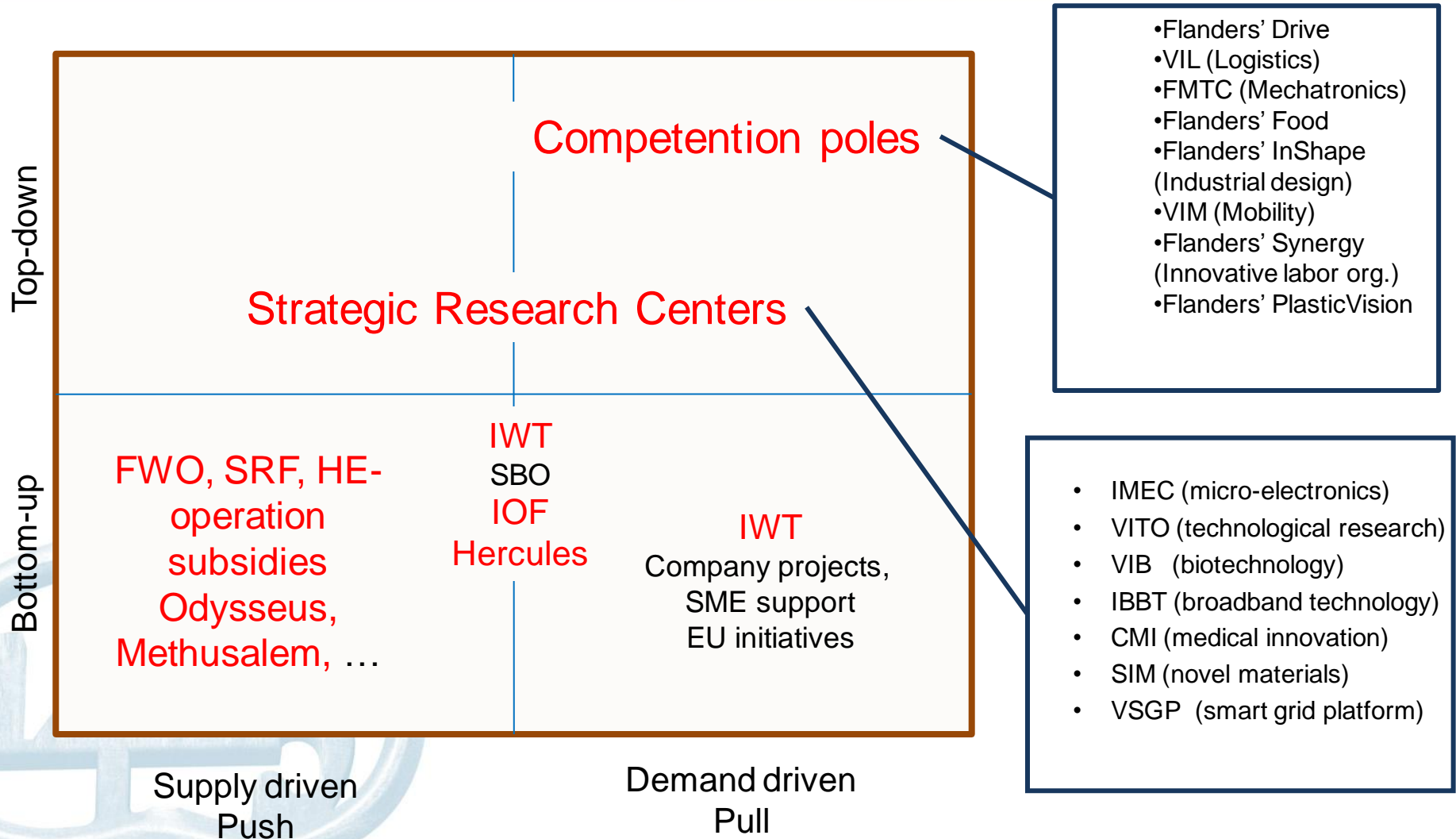
FP6 & FP7 : K.U.Leuven

15% of partnerships with German Institutes (927/6162)



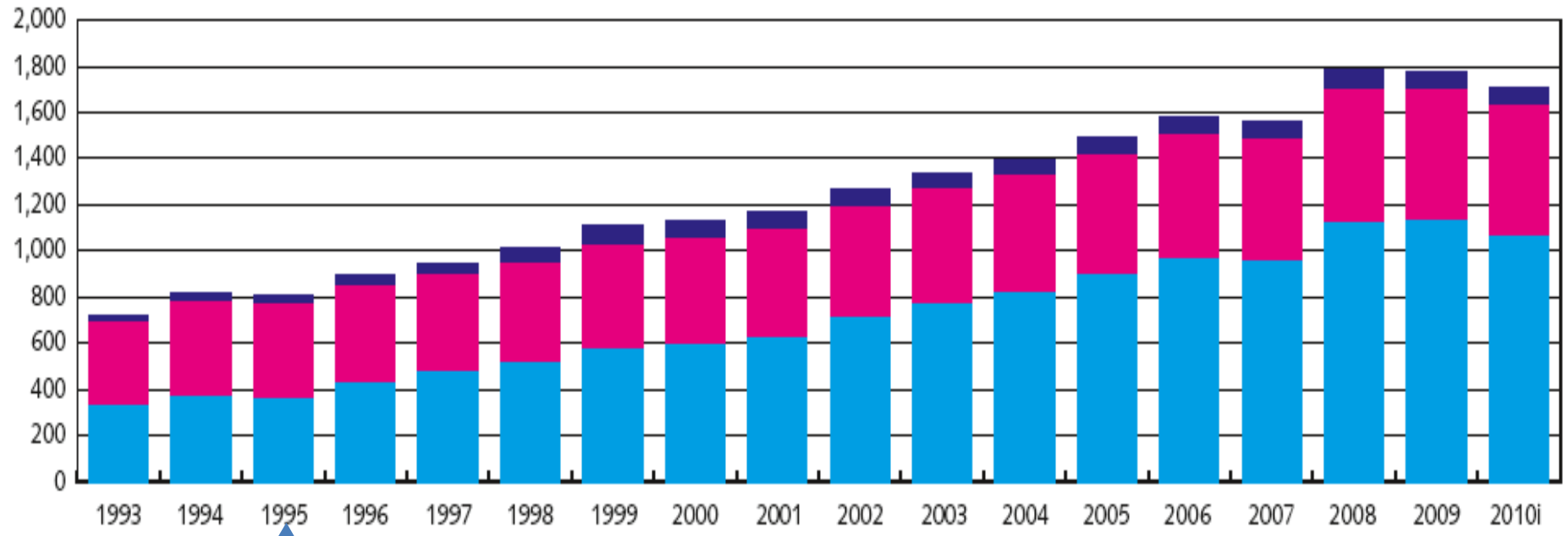
Top 10 German partners in FP6/FP7 projects	KP6	KP7	total
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG	33	16	49
MAX-PLANCK-INSTITUTE FOR NEUROLOGICAL RESEARCH	23	7	30
UNIVERSITAET ZU KOELN	17	8	25
LUDWIG-MAXIMILIANS-UNIVERSITY MUNICH	11	7	18
TECHNISCHE UNIVERSITAET MÜNCHEN	17		17
UNIVERSITY OF STUTTGART	15	2	17
RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN	10	6	16
UNIVERSITAETSKLINIKUM FREIBURG	11	5	16
RUHR-UNIVERSITAET BOCHUM	9	4	13
TECHNISCHE UNIVERSITAET DRESDEN	10	3	13

Flanders R&D policy instruments



Flanders R&D budget

Figure 13. Evolution of the Horizontal Budget Programme for Science Policy (HBPWB) (million EUR)



'Catch up'
Fl. Gov.

R&D STET STS

Innovation Pact 2003
Fl. Gov. endorses 3%
Lissabon norm

Flanders R&D budget: oriented vs non-oriented

Figure 13. Evolution of the Horizontal Budget Programme for Science Policy (HBPWB) (million EUR)

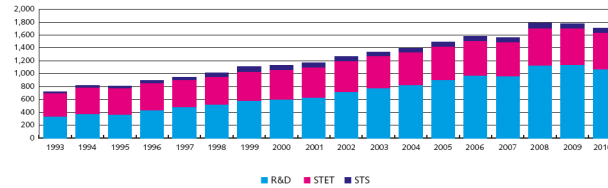
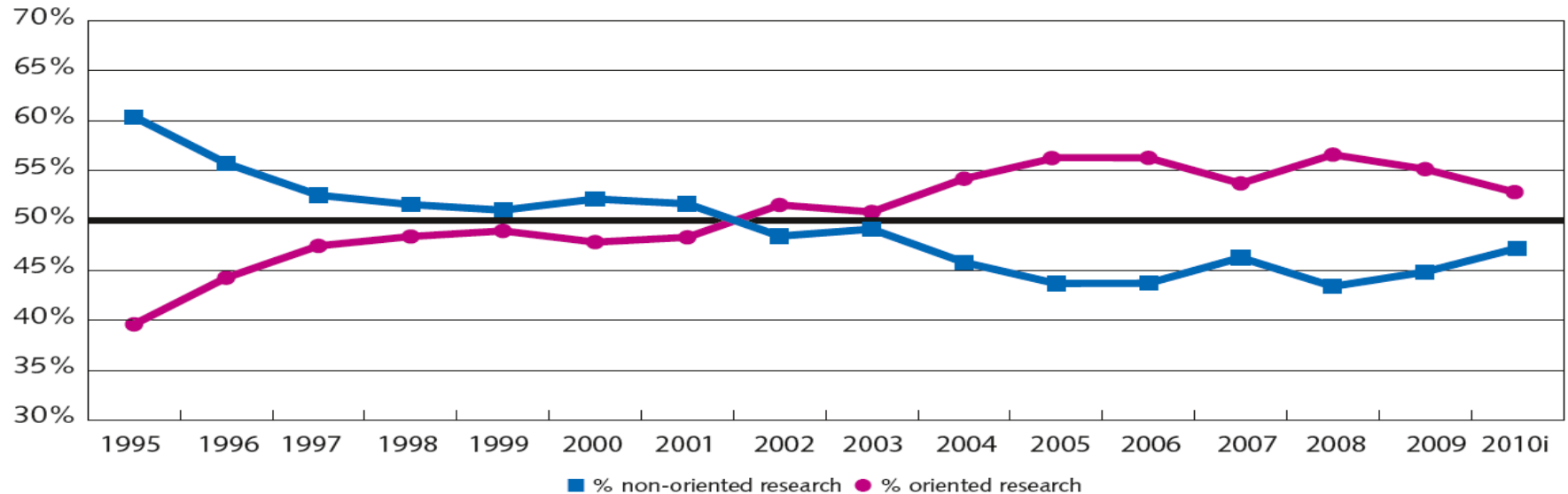


Figure 18. Evolution of the ratio of non-oriented to oriented research, 1995-2010

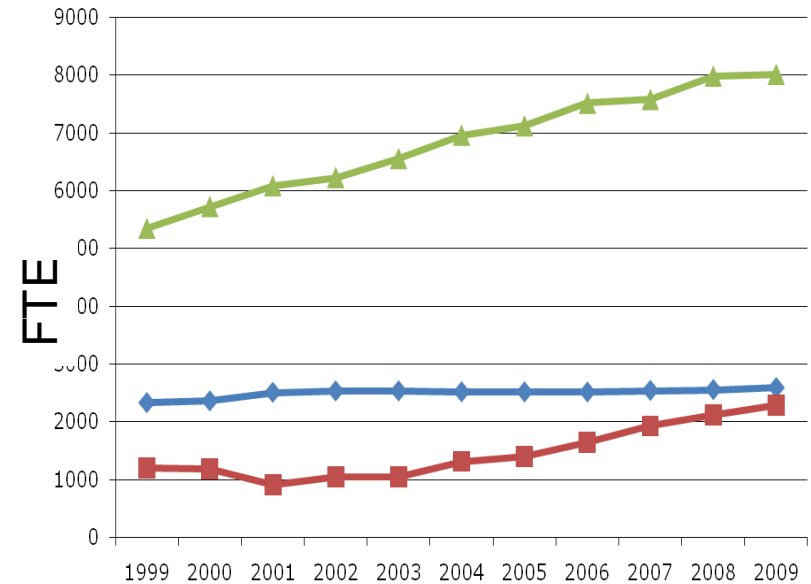
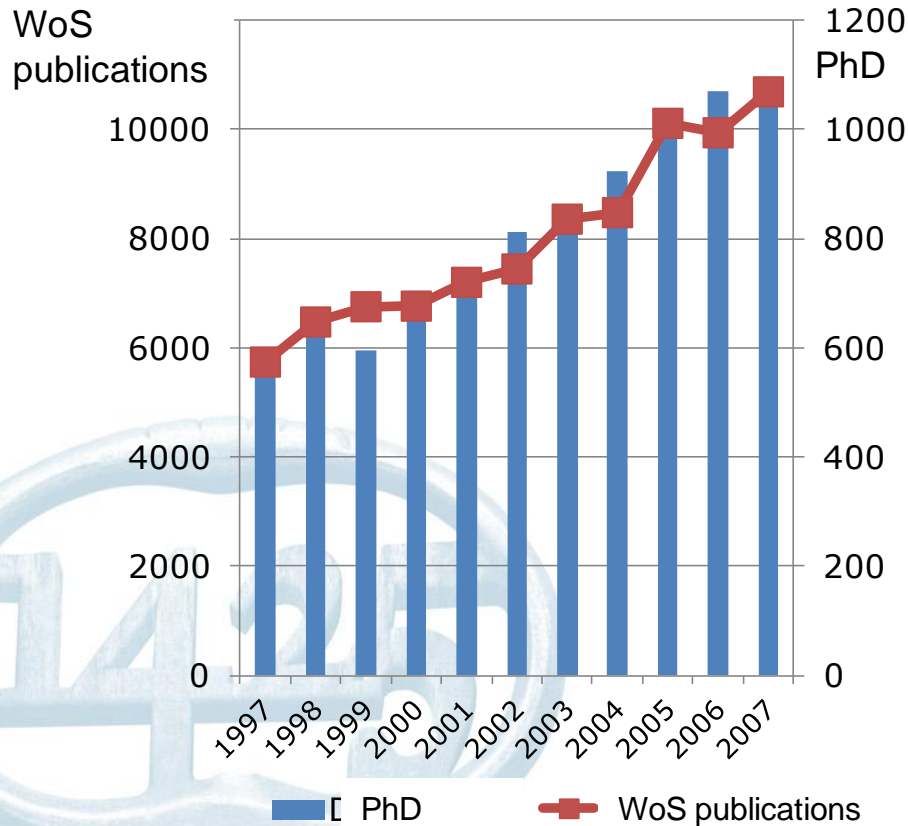
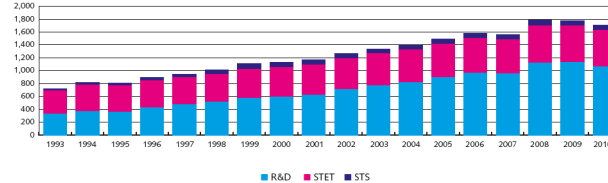


Fundamental research

- formation of future 'knowledge' professionals
- first step for innovation
- expanded knowledge base for big societal challenges
- part of the cultural heritage of a region or state

Flanders R&D budget: Effect on universities

Figure 13. Evolution of the Horizontal Budget Programme for Science Policy (HBPWB) (million EUR)



- Professor (permanent staff)
- Postdoc (temporary staff)
- PhD Student (temporary)

Flanders Government future R&I policy

Challenges for the future: VIA (Flanders in Action)

- Shift from input- to outcome-thinking
- Consolidation and streamlining of instruments
- More attention for the integral innovation cycle - mix of subsidies and fiscal stimuli
- Internationalisation of instruments and players
- Need for significant **breakthroughs**, definition of spearheads

6 Clusters (30 priorities, 10 spearheads) **VRWB**

Transport - Logistics, Services - Supply chain management	ICT and Health Services	Health - Food, - Prevention and Treatment
New materials - Nanotechnology - 'production' industry	Energy and Environment for services and Industry	ICT for Socio- economic Innovation



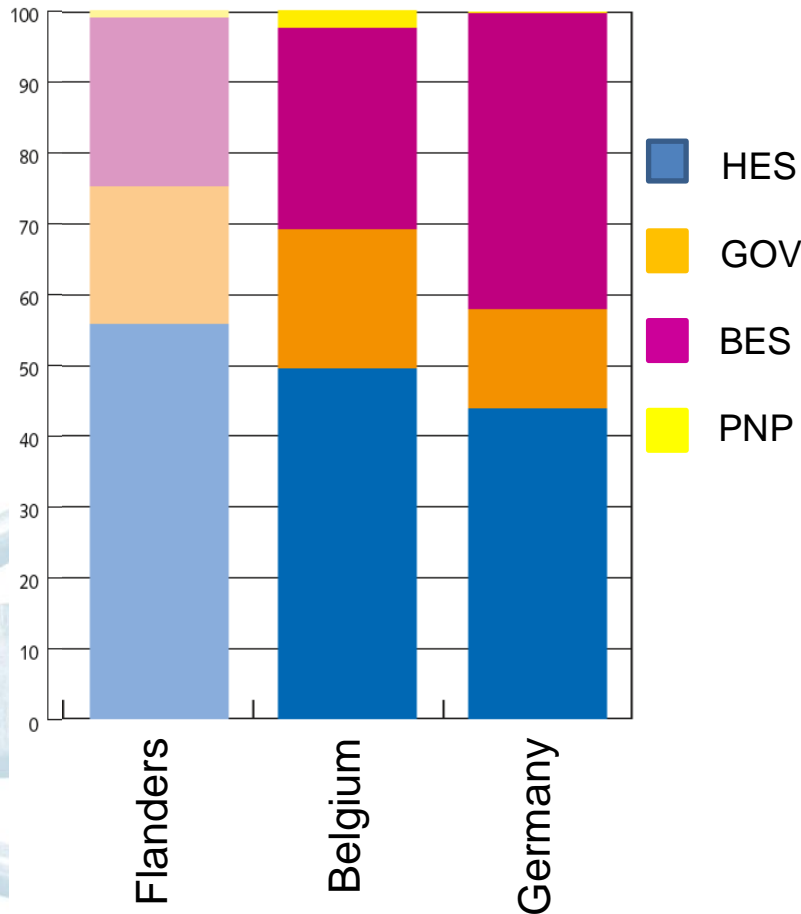
Flanders R&D budget in international perspective

GBOARD expressed as % of GD(R)P

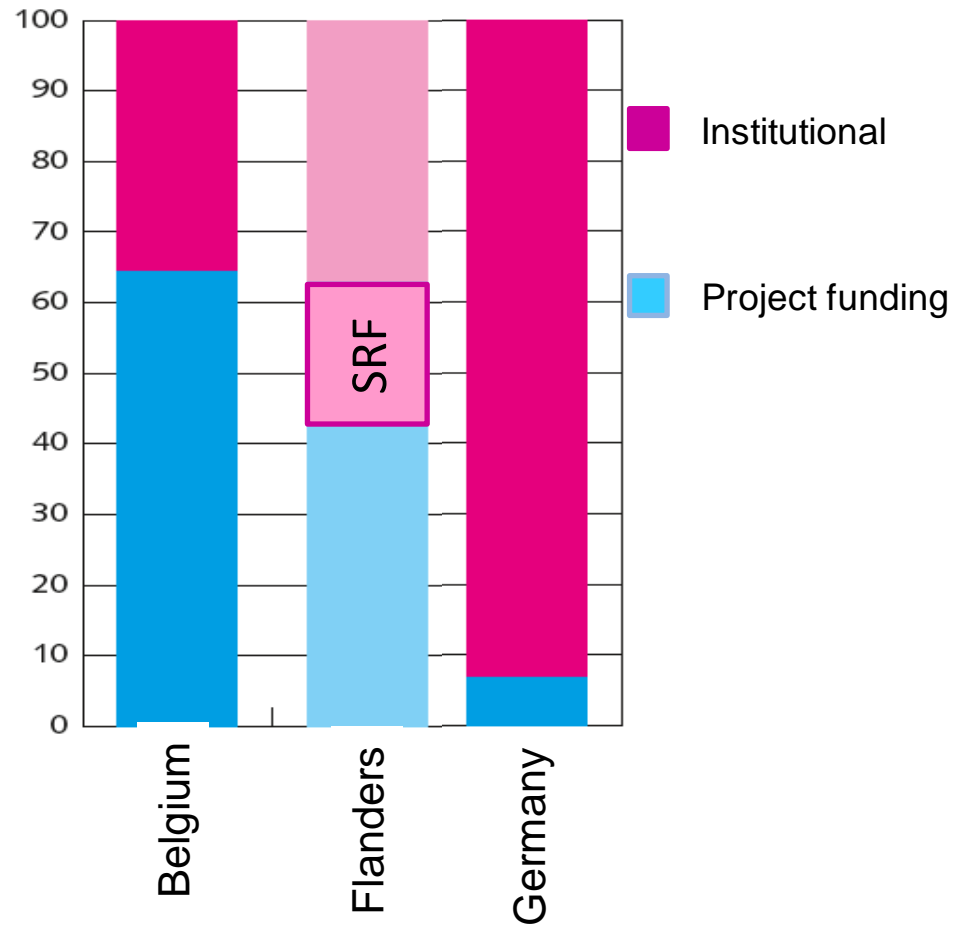
	2006	2007	2008	2009	2010i
Flanders*	0.67%	0.63%	0.70%	0.69%	0.65%
Belgium	0.61%	0.60%	0.69%	no data	
Germany	0.76%	0.77%	0.79%	0.86%	
France	0.81%	0.74%	0.75%	no data	
United Kingdom	0.67%	0.66%	0.64%	no data	
EU-25	0.70%	0.70%	0.70%	no data	
EU-27	0.69%	0.70%	0.69%	no data	

Flanders R&D budget in international perspective

GBAORD by sector of performance 2008



GBAORD for higher education according to funding type, 2008



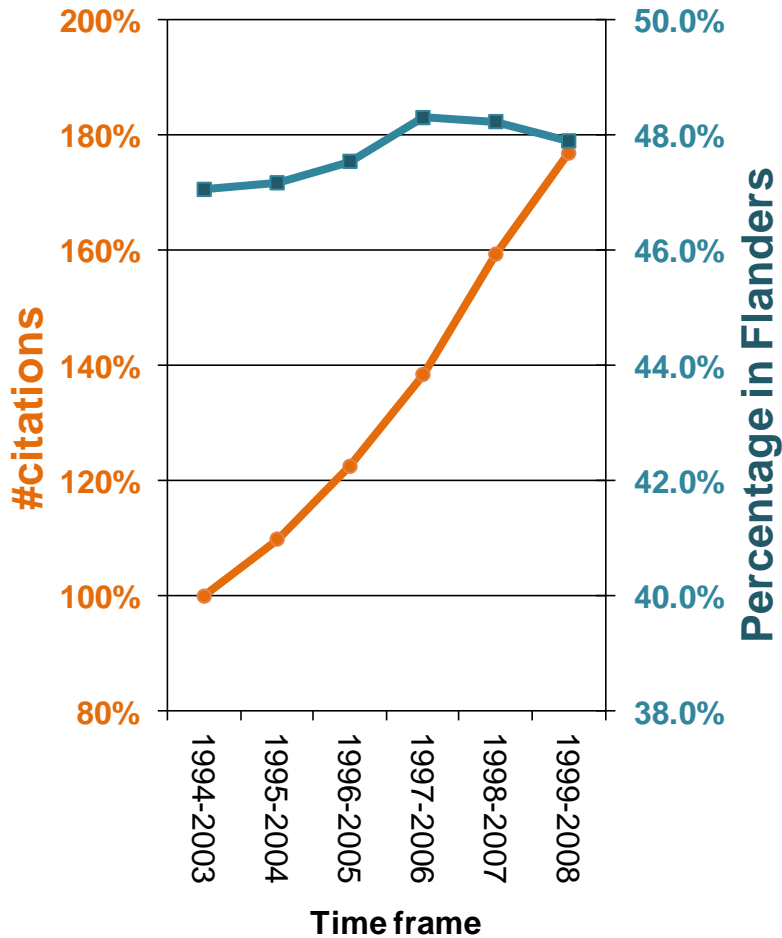
Conclusions

- The substantial effort to increase the R&B budget of Flanders since the mid-nineties resulted in a substantial research capacity building in the universities and a concomitant increase in research output
- At the same time, the lagging of the operational subsidies resulted in an acute shortage of permanent research staff at the universities
- The R&D investments of Flanders are of average intensity compared to other EU countries, and below the Lisbon norm
- The Flemish Government develops a long term strategy to increase its R&D intensity. It is up to the universities to foster and protect un-oriented (bottom-up) research as an essential element for such long term strategy
- At the present, Flanders is not yet selectively investing in R&D budget, as a strategy to preserve our future, in contrast to our surrounding countries



K.U.Leuven : Scientific Output

422 419 citations
in the past 10 years



31 512 publications
in the past 10 years

