



The global impact of research-driven universities

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KU Leuven

De Warande, September 17, 2012

Leuven in Europe





History



1425

Foundation by Papal Bull

1797

Abolition by the French authorities

1816

Refoundation as a state university under Dutch rule

1834

Restoration as a Catholic university

1911

First lectures in Dutch

1965

Foundation of Kulak

1970

Division of the university into KU Leuven and U.C.Louvain

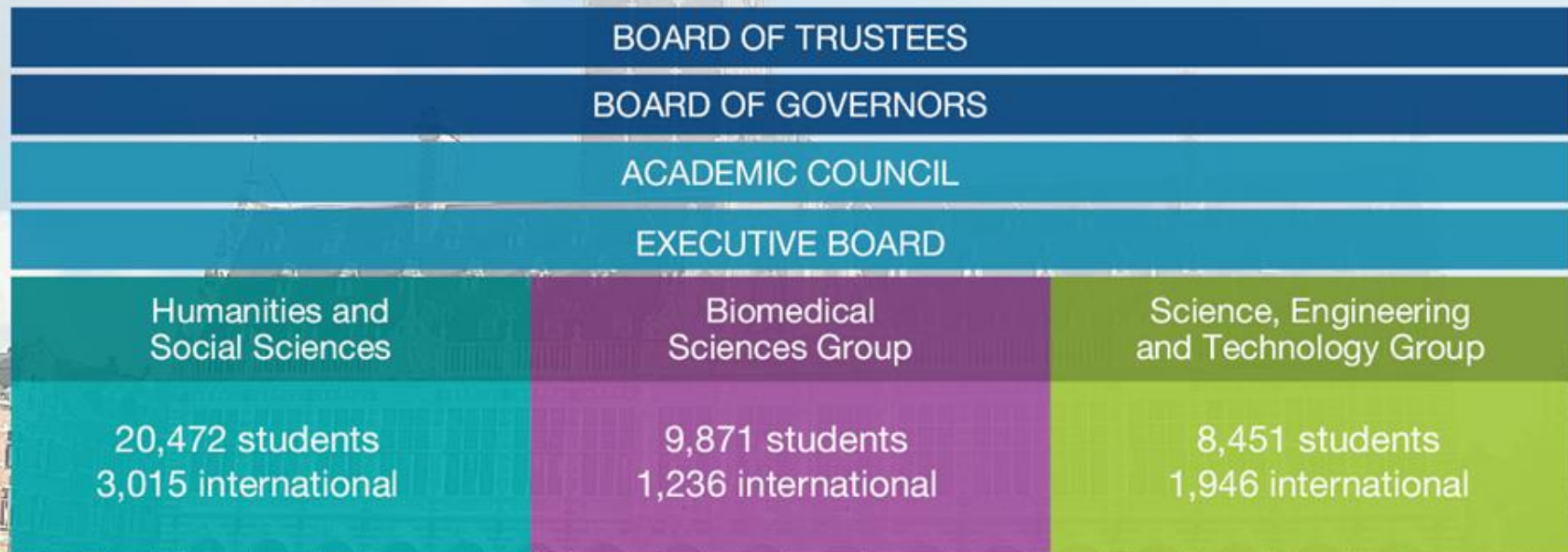
2011

Welcome to KU Leuven, a 'community' of 54,803 people

KU Leuven Organisational Chart

3 groups, 15 faculties

Including the Bachelor's Campus in Kortrijk



3 scientific groups: 3 vice-rectors
 4 cross-group authorities: 4 vice-rectors: Education, Research, Student Affairs, International Policy
 1 vice-rector KU Leuven Kulak

Figures: february 2012

KU Leuven association



Members of the association (black) and their headquarters (red)

Co-operative network between KU Leuven and 12 university colleges across Flanders

Nearly 100,000 students

Largest association in Flanders

42% of the student population
of Flanders

KU Leuven association



GROEP T – Internationale Hogeschool Leuven



Katholieke Hogeschool Leuven



Hogeschool Sint-Lukas Brussel



Katholieke Hogeschool Limburg



Hogeschool-Universiteit Brussel



Katholieke Hogeschool Sint-Lieven



Hogeschool voor Wetenschap & Kunst



Katholieke Hogeschool Zuid-West-Vlaanderen



Katholieke Hogeschool Brugge - Oostende



Lessius Antwerpen



Katholieke Hogeschool Kempen



Lessius Mechelen



KU Leuven

International networks

- Prominent position in European higher academic education
- One of the leading research institutions in Europe



37 European
multi-disciplinary
universities

established in 1985



More than 850 institutions
in 46 countries

established in 2001



21 European
research universities

established in 2002

Student Numbers

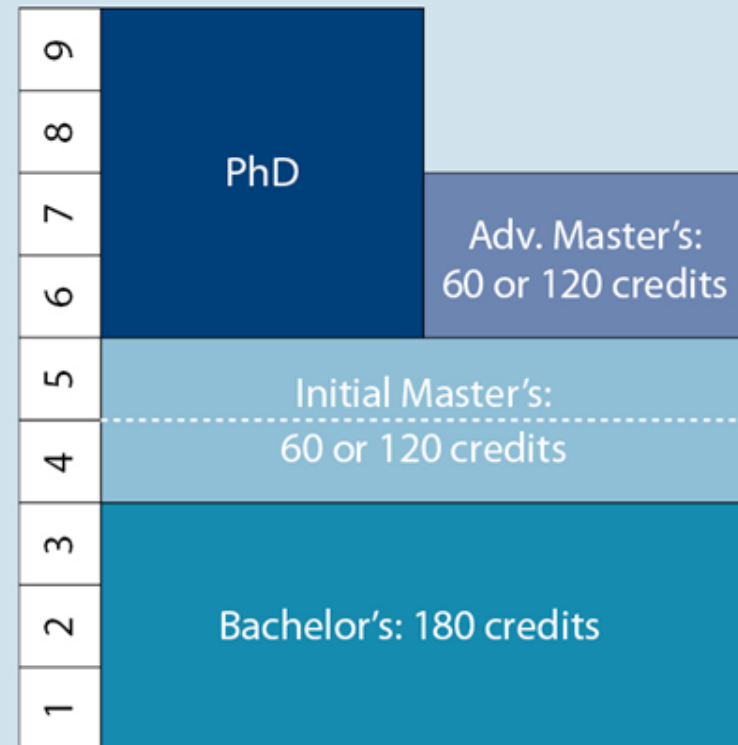
Total number of students: 40,257

• Bachelor	45%
• Initial Master	31%
• Adv. Master	5%
• Doctoral Programmes	11%
• Academic Teacher Training	1%
• Other	7%

Largest student populations:

• Medicine	6,787
• Arts	4,430
• Business & Economics	4,298
• Engineering	4,174
• Psychology & Educational Sciences	7,097

15% first-time students
55% female students



Figures: February 2012

International Students

KU Leuven = more than 140 nationalities

6,248 international students

16% international students

36% advanced Master's and doctoral students

Top 5: EU students

the Netherlands	1,417
Italy	298
Germany	246
Spain	242
Poland	151

Top 5: Non EU students

China	497
India	308
United States	209
Iran	178
Turkey	121

Figures: 1 february 2012



Humanities and Social Sciences Group

Faculties (Education and Research)



Institute of Philosophy



Theology



Canon Law



Law



Business and Economics



Social Sciences



Arts



Psychology and Educational Sciences

Doctoral School Humanities and Social Sciences

- Leuven Centre for Global Governance Studies
- Centre for Premodern Intellectual History (LECTIO)
- Leuven Centre for Irish Studies
- KADOC - Documentation and Research Centre for Religion, Culture and Society



Biomedical Sciences Group

Faculties



Medicine



Pharmaceutical Sciences



Kinesiology and
Rehabilitation Sciences

Leuven International Doctoral
School Biomedical Sciences

Flemish Hospital Network KU Leuven

- 19 Flemish regional hospitals
- 37% of Flemish hospital beds
- Both public and private hospitals

Research Departments

Department of Cardiovascular Sciences

Department of Oral Health Sciences

Department of Pharmaceutical and Pharmacological Sciences

Department of Human Genetics

Department of Imaging and Pathology

Department of Kinesiology

Department of Microbiology and Immunology

Department of Cellular and Molecular Medicine

Department of Neurosciences

Department of Oncology





Department of Clinical and Experimental Medicine

Department of Rehabilitation Sciences

Department of Reproduction, Development and Regeneration

Department of Public Health

Science, Engineering and Technology Group

Faculties	Research Departments
 Science	Department of Earth and Environmental Sciences Department of Architecture, Urbanism and Planning
 Engineering	Department of Biology Department of Biosystems Department of Civil Engineering
 Bioscience Engineering	Department of Chemistry Department of Chemical Engineering Department of Computer Science
 Engineering Technology	Department of Electrical Engineering (ESAT) Department of Metallurgy and Materials Engineering Department of Microbial and Molecular Systems
Leuven Arenberg Doctoral School	Department of Physics and Astronomy Department of Mechanical Engineering Department of Mathematics



Research

RESEARCH – financial input

Research expenditure 2010

K.U.Leuven – Research € 347 Million		Funds with internal evaluation	Funds with external evaluation
Non Directed Research: ~50%	BOF (K.U.Leuven)	24,7%	
	FWO (Flemish)		23,2%
	Governments + other		10,1%
	EU/international		6,8%
Directed/Applied Research: ~50%	IOF (K.U.Leuven)	2,1%	
	IWT (Flemish)		8,6%
	Industrial contracts (K.U.Leuven R&D)		22,0%
		26,8%	73,7%

85%: FP6/FP7

FP6 (2003-06): # 267, 74.4 M€

15 FP7 (2007-11): # 346, ~110 M€

Towards KU Leuven clusters of excellence

Biomedical Sciences

- Angiogenesis and neurovascular links
- Neurodegenerative disorders and the ageing brain (*NERF*)
- Cerebral cortex research – visual perception research
- Virus infections, cancer and inflammatory diseases
- Brain-gut axis in health and disease
- Critical illness and intensive medical care
- Cardiovascular diseases research ...

Physical Sciences & (Bio-)Engineering

- Catalytic sciences – Materials Research Centre
- e-Health research – ICT-security research
- Computational systems biology
- Nanoscale physics and chemistry, superconductivity
- Sustainable energy research (*InnoEnergy EIT-KIC*) ...
- Food research for the future – Biodiversity research

Socio-economic Sciences & Humanities

- Food economics and policy
- Holistic archaeology
- Global governance research centre
- Research institute for work and society ...



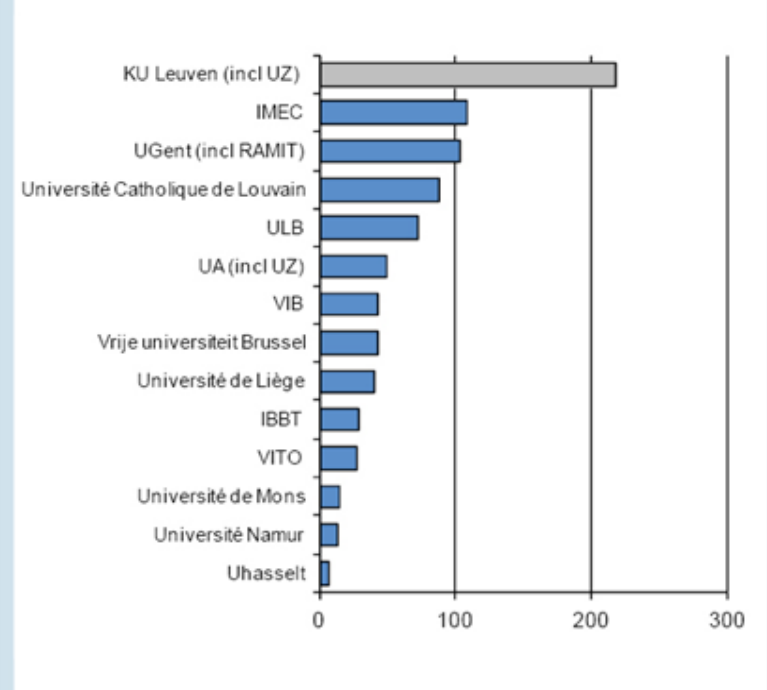
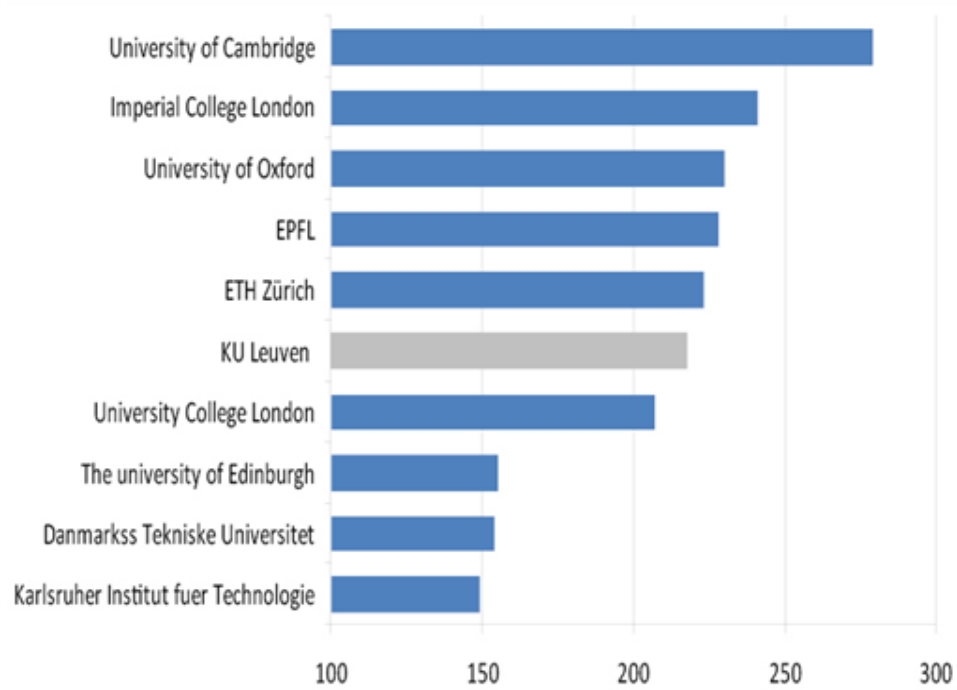
Research: European excellence

Prominent research university in European context



6th place in the HES ranking #FP7 contracts
(2007–Oct 2010)

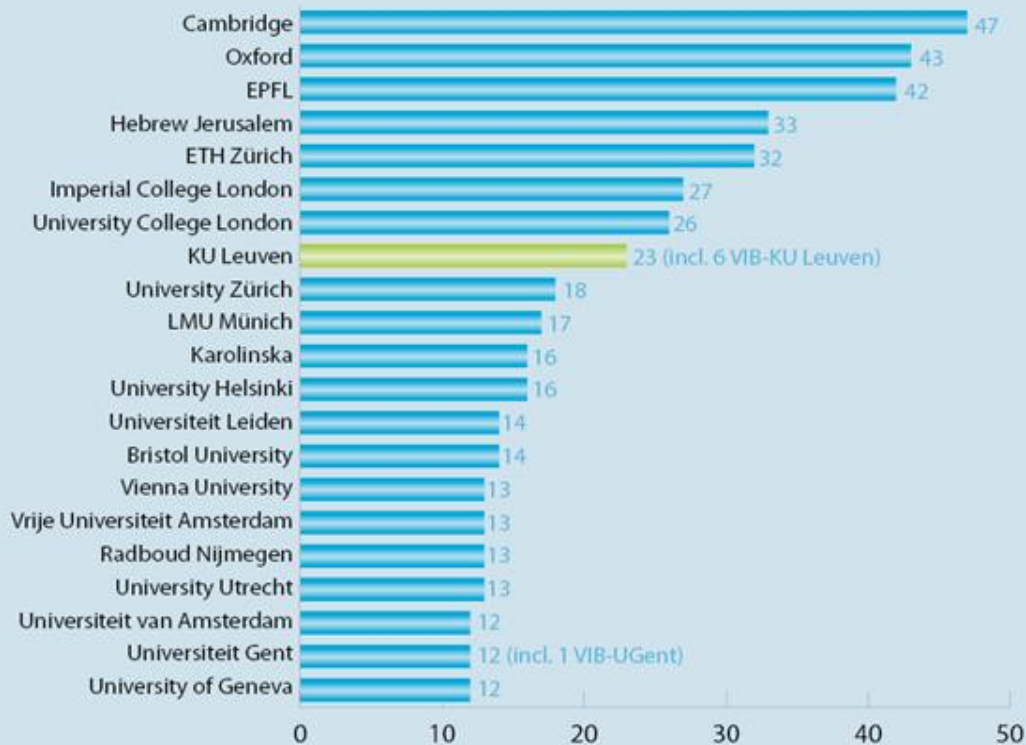
Number of FP7 contracts



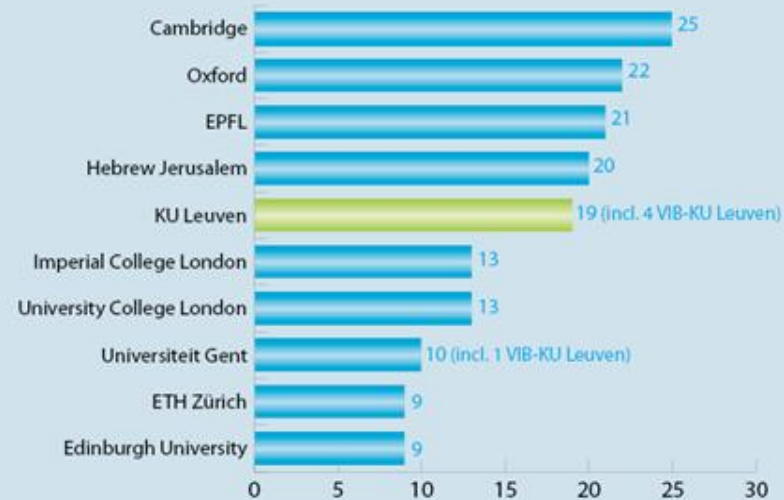
Research: European excellence



Total number of ERC grants
(starting & advanced 2007-2010)



ERC starting grants
(2007-2010)



One of the largest employers in the region

18,635	Members of staff
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9,971	University
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8,664	University Hospitals
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University

1,473	Senior Academic Staff
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4,546	Junior Academic Staff
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798	Other Scientific Staff
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3,154	Administrative and Technical Staff
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Figures: December 2010



University Hospitals

Leuven University Hospitals

Acute hospital: Gasthuisberg Campus

Chronic care + rehabilitation: Pellenberg Campus

Core Figures 2010

Turnover: € 850 million

Beds: 1,955

Staff members (FTE): 6,152

Permanent medical staff: 484

Trainee specialists: 568

Paramedic staff + support staff: 5,100

Nursing days: 533,042

Hospitalised patients: 64,287

Consultations: 635,513

Daycentre: 111,854

Surgical interventions: 46,407

Emergencies: 54,191

Transplants: 288

Number of visitors: > 2,400,000

KU Leuven and UZ Leuven are building a Health Sciences Campus



Two main campuses in the future

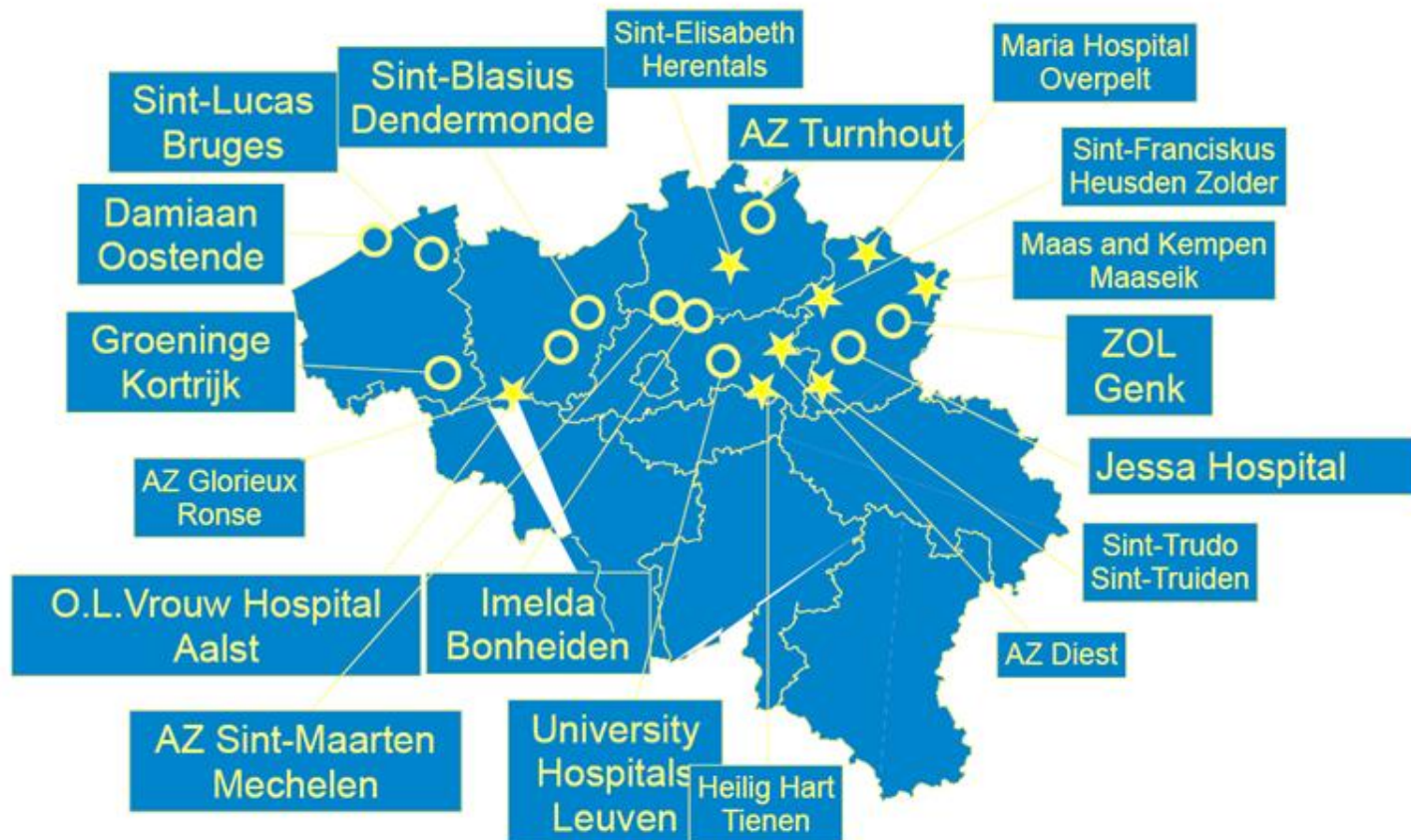
Gasthuisberg Campus for all acute cases

Pellenberg Campus for rehabilitation on a university level

The Sint-Pieter and Sint-Rafaël campuses will be gradually removed and the services they provide will be moved to the Gasthuisberg Campus.



Flemish Hospital Network KU Leuven





Tech transfer: LRD

KU Leuven Research & Development

- Established in 1972
- One of the first university technology transfer offices in Europe

Profitable management of the economic potential of research results by means of:

Contract research

Managing intellectual property rights

Founding spin-off companies

Promoting entrepreneurship and innovation

Supporting regional development



LRD in Figures

2010: 1,263 new contracts managed

2010: € 53 million revenue from intellectual property

2005-2010: € 4.7 million LRD investment in spin-off portfolio

2005-2010: € 476 million external capital investment in spin-off portfolio



Spin-off Companies

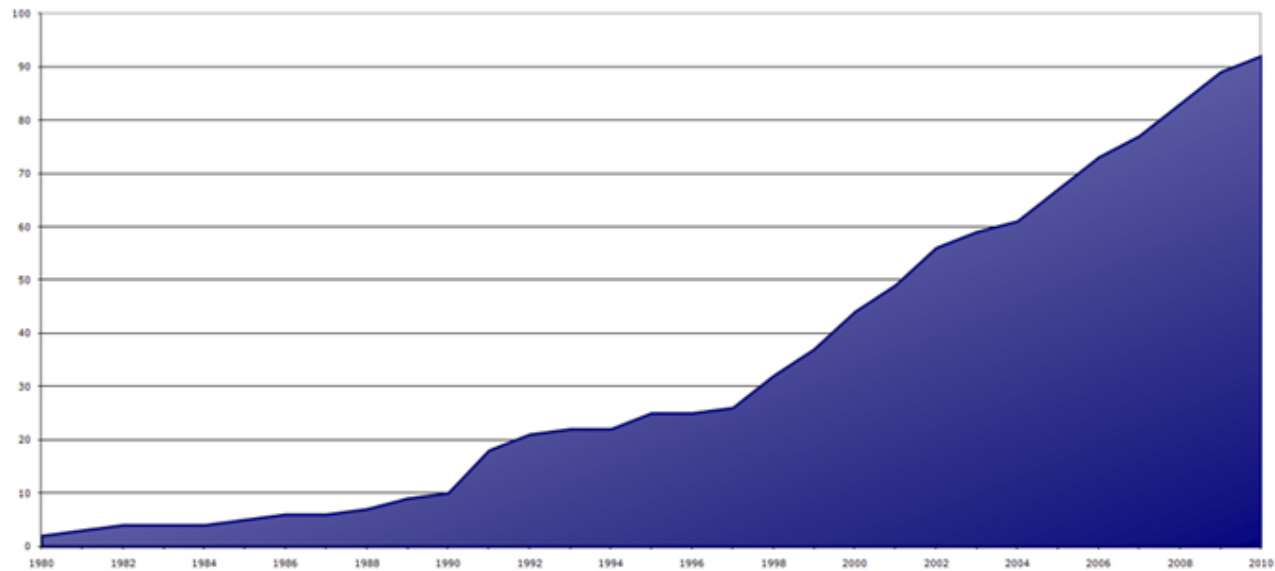
By late-2010

92 spin-off companies

3000 direct jobs

6 IPOs

Cumulative number of spin-offs created



IPTEC Award for LRD

On 13 June 2008, KU Leuven Research & Development (LRD) was awarded the IPTEC Tech Transfer award in Frankfurt in recognition of its excellent achievements regarding tech transfer and knowledge distribution. LRD builds bridges between research and the business world, and ensures that technologies find their way to the market.



2006 Stanford

2007 Tsinghua

2008 Leuven

Runners up:

- Columbia (US)
- Imperial (UK)
- MIT (US)
- Wisconsin (US)



Collaboration with Flanders: Strategic Research Institutes

A world leader in nano-electronics research

Revenue Imec België (P&L):
€ 271 million (incl. € 44 million of Flemish government funding)

Staff: approximately 1,750 worldwide

Belgium, The Netherlands, China, Japan, Taiwan, USA

Approximately 60 nationalities

Worldwide co-operation with numerous partners

Joint R&D

In close collaboration with KU Leuven

Numerous doctoral students, professors and postdocs

300 mm and 200 mm clean rooms:

Deep-submicron scaling of chip technology

Heterogeneous integration

Silicon and organic solar cell pilot lines

Bio-nano labs



Flemish Institute for Biotechnology

Basic research in life sciences

Through partnership with 4 universities

Strong focus on translating scientific results

- Active licensing policy
- Create new companies

1,200 scientists in 72 research groups

VIB-K.U.Leuven: 450 scientists in 3 departments

- Vesalius Research Center (Peter Carmeliet)
- Dept. of Molecular and Developmental Genetics (Bart De Strooper)
- Dept. of Molecular Microbiology (Johan Thevelein)



Flemish research institute: **Promoting ICT innovation**
in response to **social challenges**



Demand-driven, interdisciplinary co-operative research model

- **750+ research partners:** companies & non-profit organisations
- **1000+ researchers in interdisciplinary teams** from 5 departments (incl. 6 KU Leuven research groups)
- **state-of-the-art test facilities:** technical testing (iLab.t) & support of experimental fields (iLab.o)
- **incubation & venturing programme:** training & coaching, logistical & financial support

Research themes:



Energyville

Energyville combines energy research and development and business development: from theory to practice.

We build intelligent energy networks and aim to make Flanders one extensive green energy region by 2020. We thus aim to assume a prominent position in Europe, to contribute to making the EU CO₂-free by 2050 and to develop sustainable energy production.



To achieve the goal of making the EU CO₂-free by 2050:

- joining forces of research, development and business development;
- being a leading European centre: EIT has been allocated;
- supporting Flemish industry to be a leading European and even global player in this field;
- building intelligent energy networks (in which all renewable/sustainable energy sources are given full recognition);
- making Flanders one green region by 2020.



INTERNATIONAL POLICY

10 key elements of international policy

Cross institutional and consistent

Professional service

Corporate identity and branding

Increase mobility

Intercultural awareness and openness

Optimize networks

Numbers

Weigh on policy

Internationalize association wide

International policy

1. Cross institutional and consistent

Advisory board

Balance Top-down & bottom-up



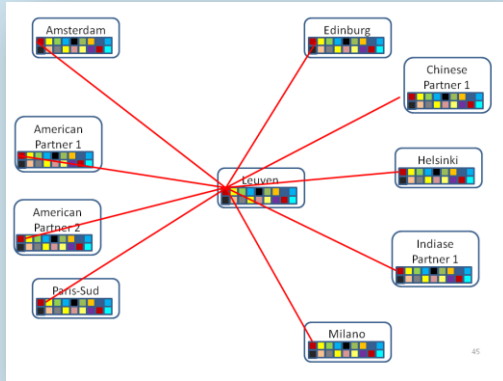
2. Professional service

Data and information management

Mobility risk assessment

Domain expertise (credentials,
programmes, Academic Diplomacy)

International policy



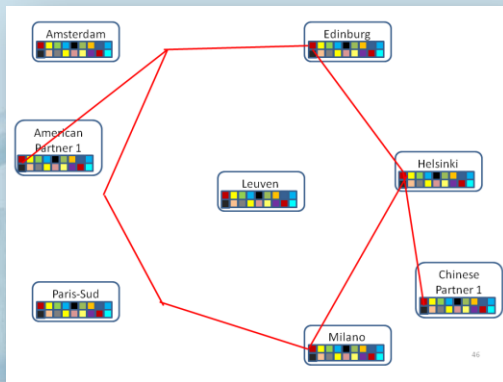
4. Increase mobility

Erasmus, Erasmus Mundus

Selective PhD recruitment

Leuven EDGE

LERU task force on structured mobility



International policy

5. Intercultural awareness and openness

Hospitality, guidance (orientation days, buddy programme)

Leuven international school

Regional approach



6. Networks

Professional networks

Alumni chapters

Countries policy

Neighbouring countries



International policy

7. Numbers

No policy without correct numbers



8. Service to society

Interuniversity development cooperation

Research for development

Broaden participation, financial sources and partnerships with international organisations

International policy

9. Weigh on policy

Flemish, Belgian, European

Interinstitutional cooperation

Academic diplomacy



10. Association Wide

Integration of academic programmes

Consistency in message and operation

Compatibility of expertise

Increase participation





Alumni

Herman Van Rompuy

First permanent Chair of the European Council

Studied at KU Leuven:

Baccalaureus of Philosophy (1968)

Master of Business and Economics (1971)

“ I cherish my student years at KU Leuven.
They helped to pave the way to my
political career.

”



Paul Bulcke

Nestlé SA, founded in 1866, is the largest food and nutrition company in the world. Paul Bulcke started at the company when he was 25 (1979) and worked in various countries, including Switzerland, Spain, Peru, Ecuador, Portugal and Germany. He has been CEO of the company since 2008.

Studies

KU Leuven
Commercial Engineer (1972-1976)

Vlerick Leuven Gent Management School
Post Graduate in Management (1976-1977)



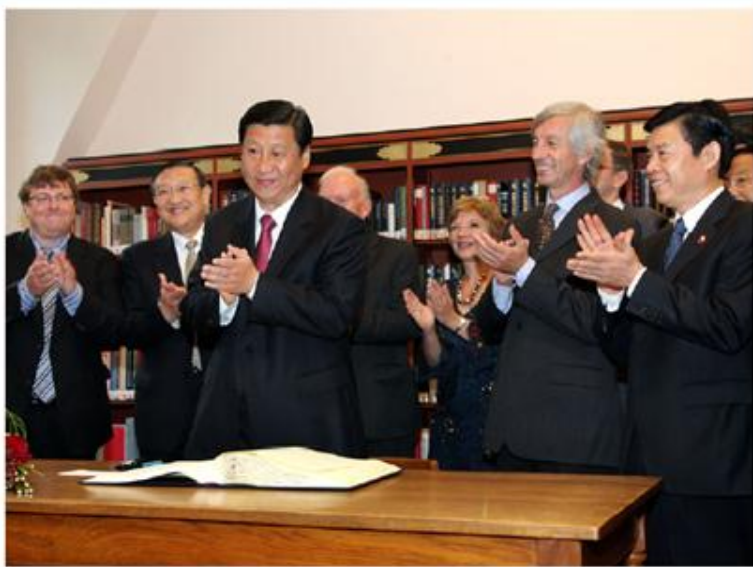


Visits

Xi Jinping

Vice-President Xi Jinping

Vice-President Xi Jinping presented an important donation to the Chinese digital collection of the East Asian Library. Thanks to this donation, the number of Chinese e-books increased considerably, raising the importance of the Leuven collection. Rector Mark Waer and Professor Nicolas Standaert received the donation on behalf of KU Leuven.



KU Leuven has had an important relationship with China for the past 35 years. We have co-operation programmes with leading universities in China and with the Chinese Ministry of Education.

Stephen Hawking

Stephen Hawking, British physicist

Stephen Hawking, one of the most brilliant physicists of our time, visits KU Leuven's Department of Physics and Astronomy in October 2011.



During his visit, he gave a lecture for the university community and the general public entitled 'The Origin of the Universe'. The lecture attracted enormous interest.