



FP7 collaborations Norway – KU Leuven

ICT-2007	TURBINE	HOGSKOLEN I GJOVIK
SEC-2011	FIDELITY	HOGSKOLEN I GJOVIK
HEALTH-2009	BETACELLTHERAPY	NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU
HEALTH-2010	IMPACT	NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU
ENERGY-2013	GARPUR	NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU
PEOPLE-2012-ITN	MARE-WINT	NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU
PEOPLE-2013-ITN	TEMPO	NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU
HEALTH-2011	BAMI	OSLO UNIVERSITETSSYKEHUS HF
HEALTH-2007	DOPPLER-CIP	OSLO UNIVERSITETSSYKEHUS HF
HEALTH-2009	MEFOPA	OSLO UNIVERSITETSSYKEHUS HF
ICT-2009	SCATH	OSLO UNIVERSITETSSYKEHUS HF
KBBE-2012	FORMIT	UNIVERSITETET FOR MILJO OG BIOVITENSKAP
SME-2010	PIGENDEF	UNIVERSITETET FOR MILJO OG BIOVITENSKAP
HEALTH-2007	CHEARTED	UNIVERSITETET I BERGEN
KBBE-2007	FISHPOPTFACE	UNIVERSITETET I BERGEN
SSH-2010	COCOPS	UNIVERSITETET I BERGEN
INFRA-2007	CLARIN	UNIVERSITETET I BERGEN
HEALTH-2010	HEMIBIO	UNIVERSITETET I OSLO
ICT-2007	HATS	UNIVERSITETET I OSLO
ENERGY-2009	THINK	UNIVERSITETET I OSLO
HEALTH-2010	ALPHA-MAN	UNIVERSITETET I TROMSOE
HEALTH-2010	HEMIBIO	UNIVERSITETET I TROMSOE
KBBE-2012	PHARMASEA	UNIVERSITETET I TROMSOE

48 projects with NO
27 unique partners



7 HES
7 private companies
8 research institutes
5 other

Contracts up to Nov.
2013 Source: dep. EWI

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NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU	HES	TRONDHEIM	27 NO partners of KU Leuven in FP7
OSLO UNIVERSITETSSYKEHUS HF	HES	OSLO	
UNIVERSITETET I BERGEN	HES	BERGEN	
UNIVERSITETET I TROMSOE	HES	TROMSOE	
UNIVERSITETET I OSLO	HES	OSLO	
UNIVERSITETET FOR MILJO OG BIOVITENSKAP	HES	AS	
HOGSKOLEN I GJOVIK	HES	GJOVIK	
NORSK SAMFUNNSVITENSKAPELIG DATATJENESTE AS	OTH	BERGEN	
FATLAND JAEREN AS	PRC	HOMMERSAK	
n-Tec A.S.	PRC	OSLO	
FEN MINERALS AS	PRC	OSLO	
STATNETT SF	PRC	OSLO	
GE VINGMED ULTRASOUND AS	PRC	HORTEN	
NORSVIN FORENING	PRC	HAMAR	
SAINT JEAN WHEELS AS	PRC	HOYANGER	
Senter for IKT i utdanningen	PUB	TROMSO	
GEOLOGICAL SURVEY OF NORWAY	PUB	TRONDHEIM	
NORGES FORSKNINGSRAD	PUB	OSLO	
HAVFORSKNINGSINSTITUTTET	REC	BERGEN	
SINTEF ENERGI AS	REC	TRONDHEIM	
STIFTELSEN SINTEF	REC	TRONDHEIM	
NORSK REGNESENTRAL STIFTELSE	REC	OSLO	
NASJONALT FOLKEHELSEINSTITUTT	REC	OSLO	
STATISTISK SENTRALBYRAA - STATISTICS NORWAY	REC	OSLO	
NORSK INSTITUTT FOR FORSKNING OM OPPVEKST, VELFERD OG ALDRING	REC	OSLO	
STIFTELSEN NORSAR	REC	KJELLER	

Contracts up to
Nov. 2013
Source: dep.
EWI

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An example:
KU Leuven

KU Leuven EU-team
www.kuleuven.be/eu
EU-info@kuleuven.be



Overview

- Universities in Horizon 2020
- Short intro to KU Leuven facts
- Research & Innovation Policy
- Towards Horizon 2020
- EU-team

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Universities in Horizon 2020

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THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

The next Framework Programme for Research & Innovation

2014-2020
 79 B€ (current prices)

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<http://ec.europa.eu/research/horizon2020>

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

The next Framework Programme for Research & INNOVATION

Seed funding → new companies, entrepreneurs, technologies

Frontier research → proof of concept
Research careers → companies
Future technologies → use
Infrastructures → SME access

Innovative solutions
 To the "Grand Societal Challenges" → **impact** on society, companies,...

Fast track to innovation → SMEs

Key enabling technologies → benefit for industry, new jobs
Piloting → benefit for companies
Leverage funds → innovative SMEs

Focus on innovation

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<http://ec.europa.eu/research/horizon2020>

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

Success factors for universities in Horizon 2020 (society at large)

Be (at) the heart of the knowledge triangle

- Recruit the best researchers
- Perform the best science
- Educate the best scientists & entrepreneurs
- Create value & transfer knowledge
- Collaborate with society & industry

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www.horizon2020.be

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

The role of universities in Horizon 2020?

I. Excellent Science
 Leader
 Trainer
 Inventor

II. Industrial Leadership
 Co-pilot
 Preferred partner
 Transfer
 (Leader)

III. Societal Challenges
 Leader
 Societal actor
 Liaison
 Transfer

Co-pilot
 Trainer
 Transfer

EIT

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<http://ec.europa.eu/research/horizon2020>

Examples – Innovative Training Network

In natural sciences & medicine...

MIDFREQUENCY: CAE Methodologies for Mid-Frequency Analysis in Vibration and Acoustics

- Spin-out of collaborative project
- 12 partners – 4 companies
- Incl.  (services supplier)
 - *KU Leuven spin-off, multinational*
 - *Most successful BE company, FP7*
 - *19 MCA projects*
 - *Embedded MCA in its HR policy*

...but also in humanities

Translation Research Training: an Integrated and Intersectoral Model for Europe

- 4 universities – 4 public bodies / ngo's – 4 companies
1. *Translation technologies*
 2. *Multimedia and multimodal translation*
 3. *Linguistic diversity and integration in Europe*
 4. *Media representation of political discourse in Europe*

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Examples – Starting Grants

Frontier research > market



Architectural design In Dialogue with disAbility

- Interdisciplinary research project
- Aims to investigate whether and how the spatial experience of people living with a disability can trigger innovation in architecture



RENT-A-SPECIALIST

- Proof of Concept grant

Trans-disciplines

ViralPhylogeography

Evolutionary Reconstruction of Viral Spread in Time and Space



- Full characterization of pathogen spread in space and time via computationally tractable models
- ↓
- Mapping the origins and expansion of the Indo-European language family

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Short intro to KU Leuven

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Introducing KU Leuven

Comprehensive university

Life Sciences & Medical Technologies	Materials Research	Advanced ICT Approaches
Human Diseases & Health Research	Engineering, Technologies & Processes	Economy & Society
Natural Resources (agro-food-biodiversity)	Exploring Fundamentals of Nature	Arts & Culture

2012-2013	number	% international
students	41,255	16
professors	1,022	9 [↑]
research staff	5,657	37
PhD degrees	625	40



Research expenses 2012: 348 M€

KU Leuven Funds: 23% (*bottom-up*)

License income/year: top 0.1%

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www.kuleuven.be

Organisation

15 faculties organised into 3 'groups'

Including an undergraduated campus in Kortrijk



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KU Leuven multi-campus university



Regional cooperation of KU Leuven campus and university colleges
 Driver of regional innovation, local collaboration with companies

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University Hospital

UZ LEUVEN

Damiaan Oostende
 Sint-Lucas Brugge
 Sint-Blasius Dendermonde
 Sint-Elisabeth Herentals
 AZ Turnhout
 Sint-Franciskus Heusden-Zolder
 Marisziekenhuis Overpelt
 Maas en Kempen Maaseik
 ZOL Genk
 Jessa Ziekenhuis Hasselt
 Groeninge Kortrijk
 AZ Glorieux Ronse
 O.L.Vrouwziekenhuis Aalst
 AZ Sint-Maarten Mechelen
 Imelda Bonheiden
 UZ Leuven
 Heilig Hart Tienen
 Sint-Trudo Sint-Truiden
 AZ Diest

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Strategic Research Institutions

imec
nano-electronics

VIB
biotechnology

iMinds
ICT for societal challenges

nerf
 Empowered by imec, K.U.Leuven and VIB
neuro-electronics

Energy Ville
smart grids for smart cities

eit
ICT Innovation Energy

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League of European Research Universities



21 leading Research-Intensive Universities

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www.leru.org

Research Policy

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Research policy: a distinct model

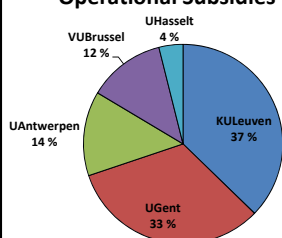
Aiming for excellence at all levels

- Bottom-up, competition-based, no thematic allocation of funding
- Hiring/promotions based on realisations in 3 dimensions:
 - education, research, service to society (e.g. tech transfer)
- Investments in research infrastructure (e.g. Health Sciences Campus)

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Government funds Flanders

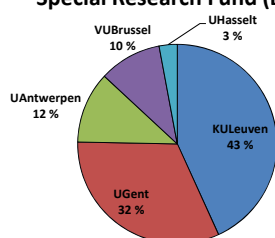
Operational Subsidies



Parameters:
55% Education
45% Science (capacity)

Policy area: Education and Training

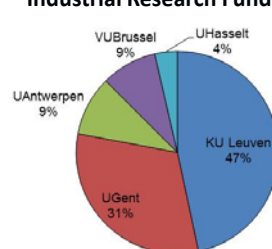
Special Research Fund (BOF)



Parameters:
'Excellence' in Science (output-driven)
- PhD degrees
- Publications / Citations
- Internationalisation and diversity

Policy area: Economy, Science and Innovation

Industrial Research Fund (IOF)



Parameters:
'Excellence' in Innovation (output-driven)
- Patents, spin-offs
- Industrial contracts
- European R&I projects

Policy area: Economy, Science and Innovation

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Internal funds as leverage

Research expenses 2012 € 384 Million

Internal funds	23%	leverage to	External funds	77%
Special Research Fund (BOF)	21%	science-driven	Flemish Science Fund (FWO)	21%
Industrial Research Fund (IOF)	2%		Other government funds	12%
		market-driven	International/EU	8%
			Flemish Science & Innovation Fund (IWT)	7%
			Industrial / private sector contracts	23%

KU Leuven Research Councils

- Independent
- Multi-disciplinary
- 26 members (IOF: incl. entrepreneurs)
- Assisted by international peer review
- Strong tradition – explicit Col rules

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Investing in Research Infrastructures

Example: Health Sciences Campus Gasthuisberg

- Biomedical Education
- Biomedical Research
- University Hospital

Currently 2000 beds, 9000 employees

EIB investment of € 325 million



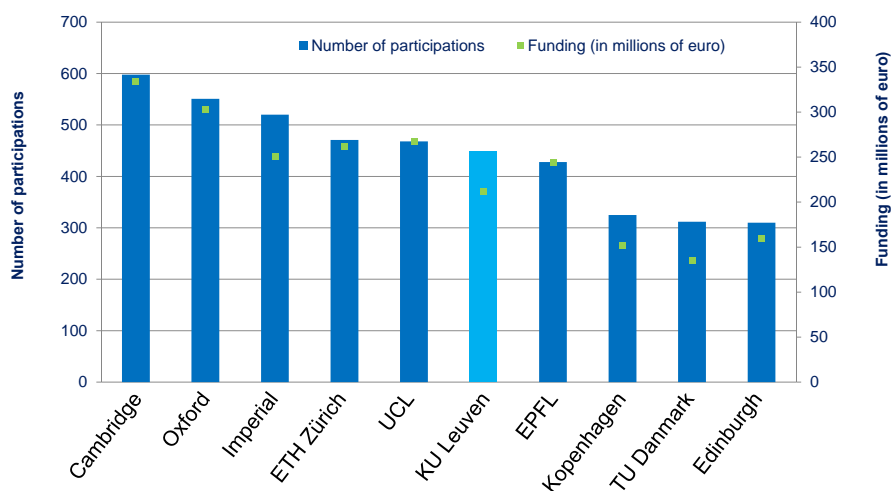
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Ambition...

	KU Leuven in EU university ranking
SIR 2012 (publications, collaboration)	6
Leiden CWTS EU 2013 (P)	6
THES EU ranking 2013	13
ERC grants	8
European competitive funds (FP7)	6
Technology Transfer (ITPEC 2008)	(1)

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Ample experience in FP7 participation (I)



Top 10 HES ranking, contracts up to June 2013 – Source: dep. EWI

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Ample experience in FP7 participation (II)



536 projects
(~250 M€)



129 actions
(56 Training Networks)



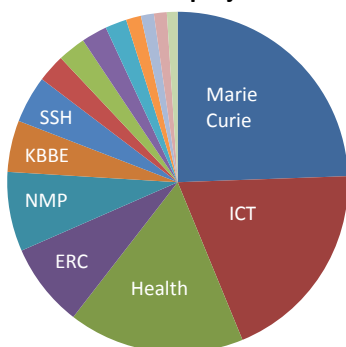
67 grantees
(43 Starting Grants)

Approved applications, November 2013

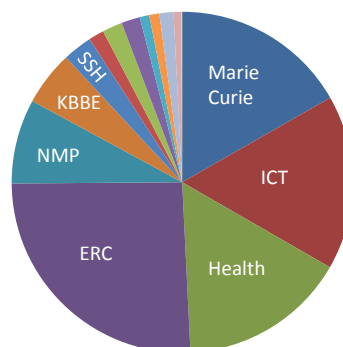
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Ample experience in FP7 participation (III)

Number of projects



Budget

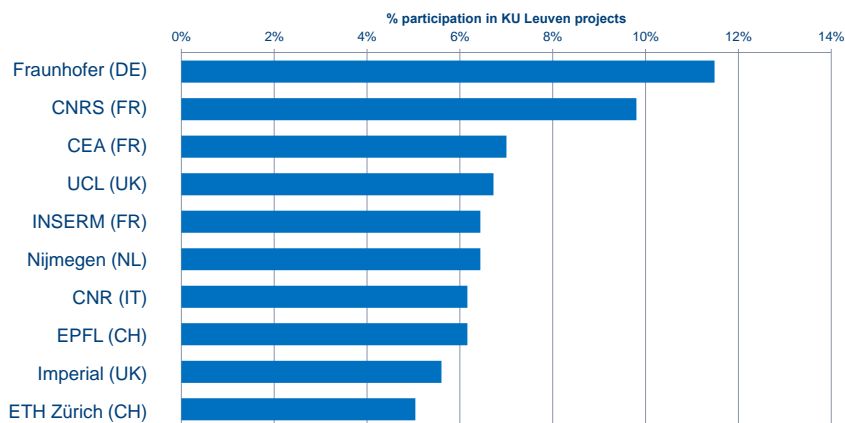


FP7 contracts up to Nov. 2013 – Source: dep. EWI

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Collaboration in FP7 (2007-2013)

Top 10 international partners

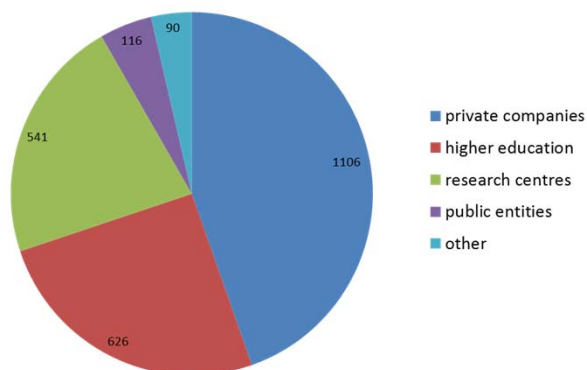


With Norway: 48 projects – 27 partners

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Collaboration in FP7 (2007-2013)

Type of partners in multipartner projects



FP7 contracts up to Nov. 2013 – Source: dep. EWI

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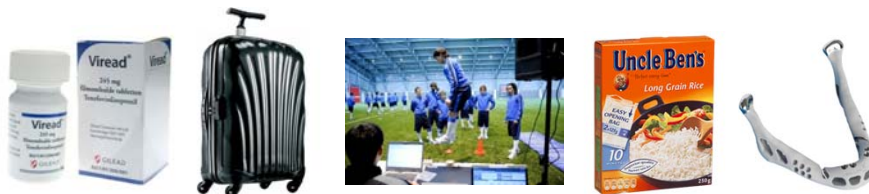
Innovation Policy



Transferring technology & knowledge

KU Leuven Research & Development (LRD) founded in 1972

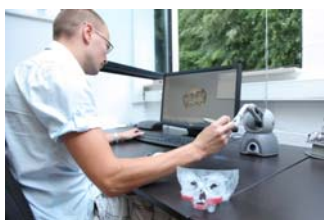
- 101 spin-offs (86 still exist)
- 150 invention disclosures / year
- 1300 new agreements for contract & collaborative research / year
- 2012 license income: \$ 80 Mio



Ird@kuleuven.be – <http://Ird.kuleuven.be>

KU Leuven Research & Development

- Research collaboration with private sector
- Protection and exploitation of intellectual property
- Spin-off creation & regional development
- Networks for entrepreneurship



Targetting $\frac{3}{4}$ professors

lrd@kuleuven.be – <http://lrd.kuleuven.be>



Incentives for researchers

- Research collaboration:
 - Largest part of net profit flows back to research division
 - 50% of net profit can go to individuals (*rarely used*)
 - Used to expand research group, to invest in patents or spin-offs
- Intellectual property (patents, software, materials,...):
 - 40%-10% of net profit for the inventor(s)
 - Incentive decreases with growing net income (*income is rare*)
- Spin-offs
 - Return through shares & warrants (financial gain)



Incubation & seed financing

Specialised incubation instruments for financing projects at an early stage of development

- Researcher-controlled finances
 - Via LRD research divisions
 - Researchers manage their tech transfer activities autonomously
- KU Leuven Patent Fund
 - Financial support for researchers applying for a patent (selection!)
- Gemma Frisius Fund
 - Leverage fund towards venture capital
 - 20% KU Leuven + two banks



Networks for entrepreneurship

- Stimulating knowledge exchange and partnering with other high-tech businesses (both SMEs and large companies) and innovation actors

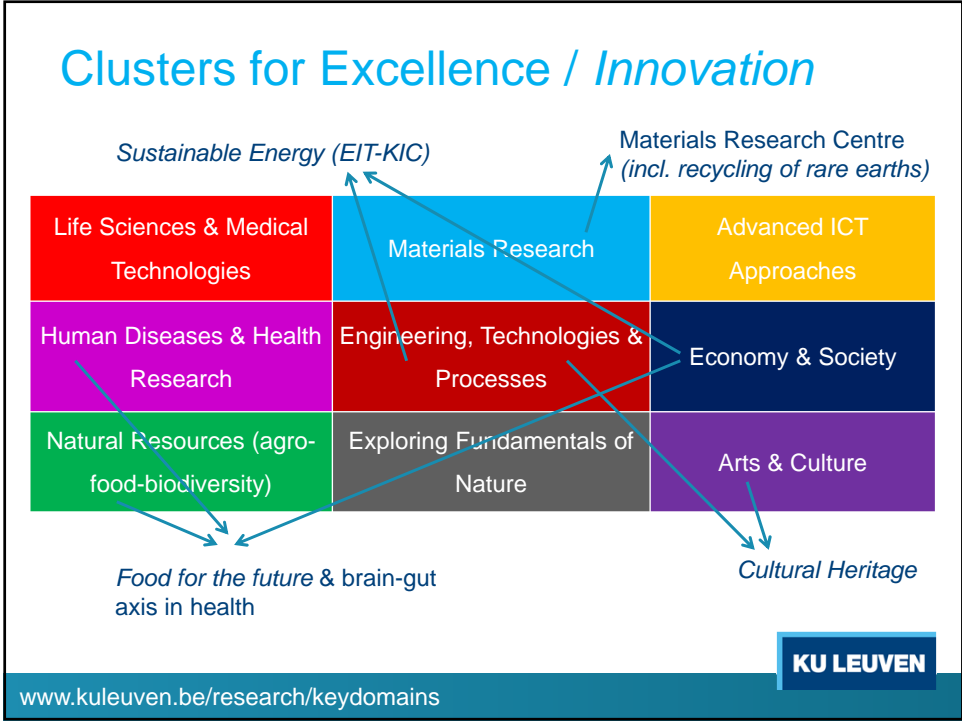
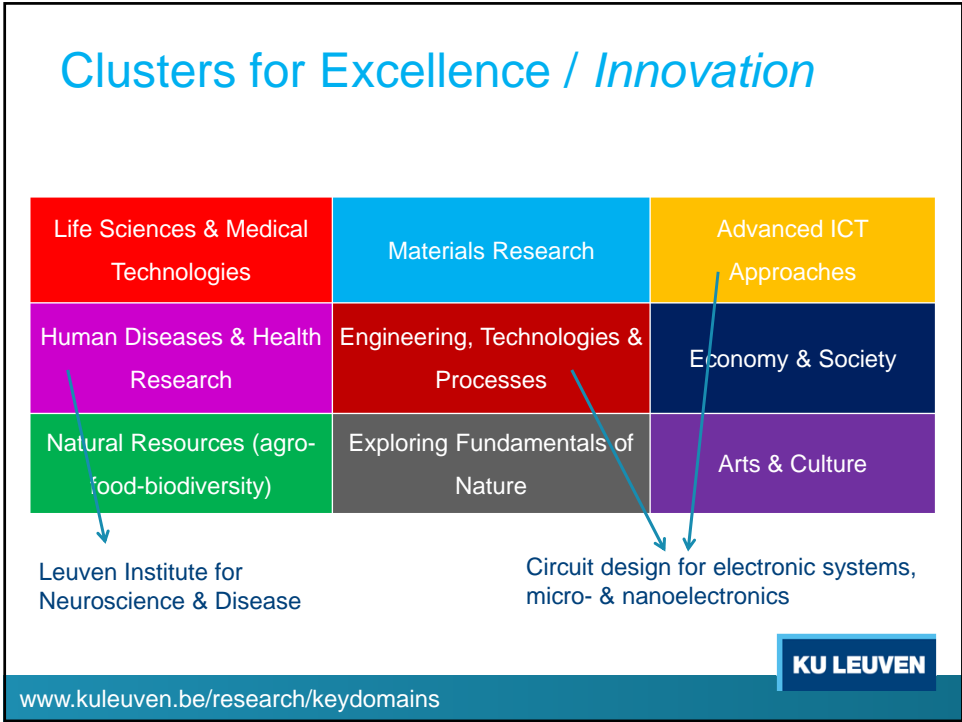




Establishing a favorable climate

- 'Smart Specialisation' (*bottom-up, competition-based*)
 - Interdisciplinary clusters for excellence/innovation
- Industrial Research managers
- Strategic alliances

- Dedicated support service for EU funds



Industrial Research Managers

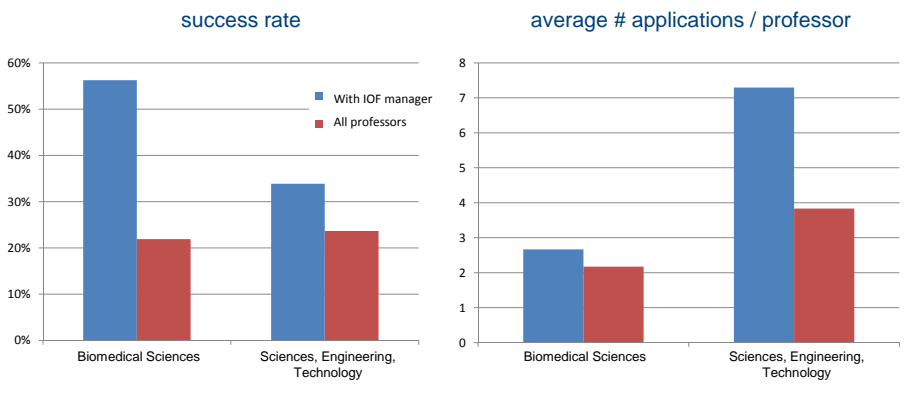
- 28 permanent positions
- Scientists, “business developers” within research groups

- Focus on technology transfer
 - exploitation of research results
 - collaboration with private sector
 - attract new project funding

- Strong private sector network, technology platforms
- Leverage towards collaborative research (incl. EU)



Impact of the IOF Managers on FP7



Strategic alliances, examples



EU officers community
policy level > e.g. SSH



Vision2020: The Horizon Network
thematic clustering & SMEs



Empowered by
imec, K.U.Leuven and VIB
neuro-electronics research flanders
example of creating critical mass

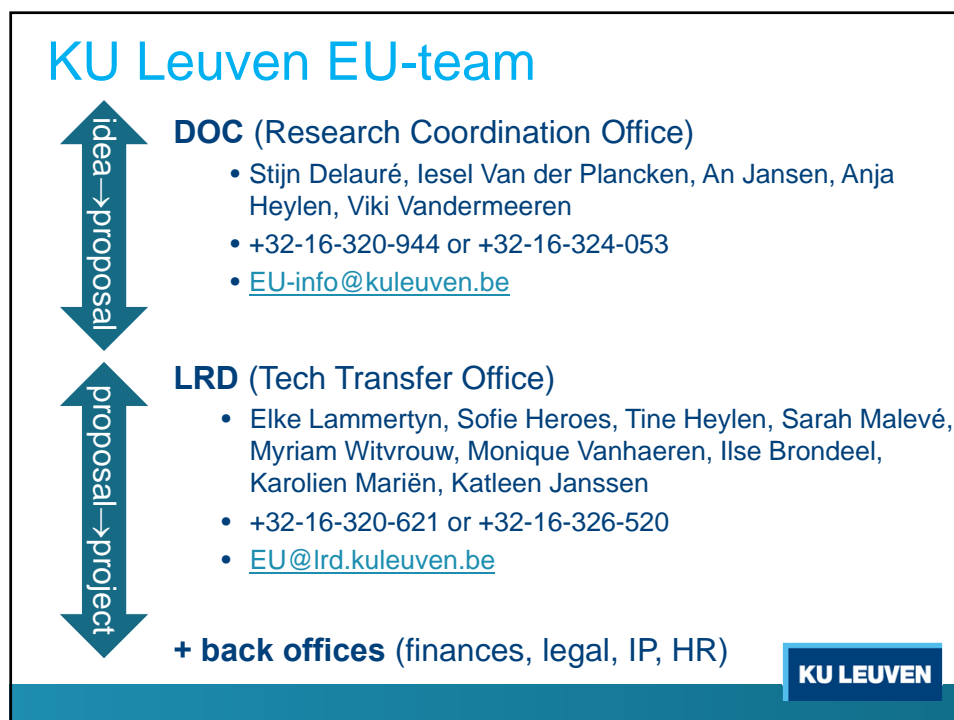
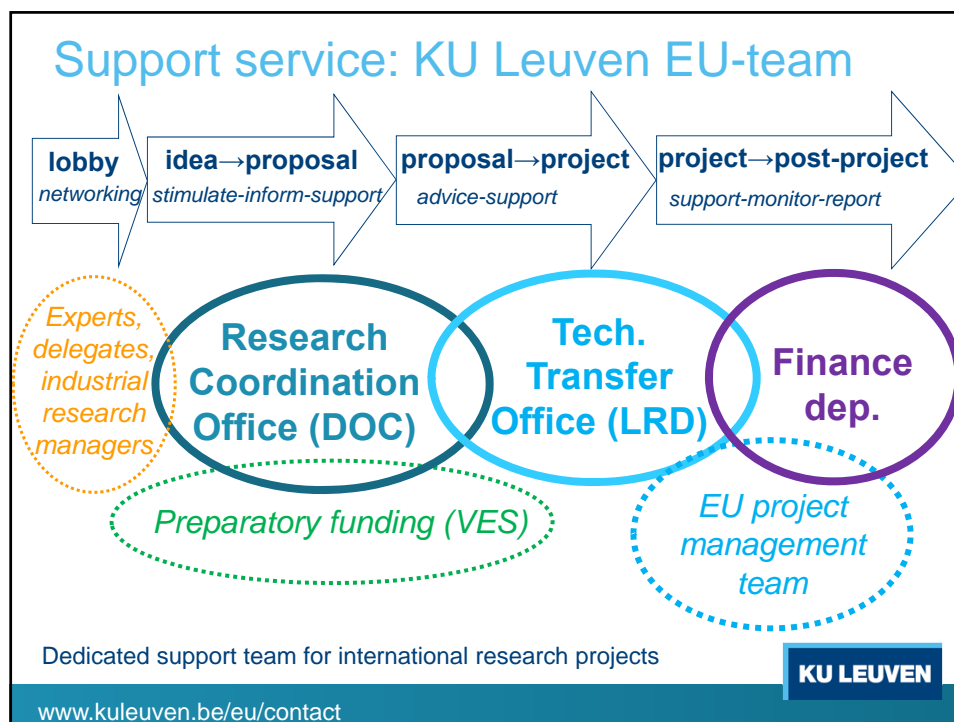


European Institute of
Innovation & Technology
towards KICs for Health, Raw
Materials, Food, Manufacturing

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EU-team

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HORIZON 2020

- Information meetings
 - In each department + bilateral meetings
 - Horizon 2020 launch event
- News letter – website – focussed mailing
- Incentives:
 - Preparatory funding (€15k for coordinators)
 - Top-up on KU Leuven project funding (when successful)
- Training courses
 - Proposal writing, management, mock interviews

H2020@kuleuven.be – www.horizon2020.be



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