



PUSHING  
THE FRONTIERS  
OF INNOVATIVE  
RESEARCH



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University of Amsterdam

Universitat de Barcelona

University of Cambridge

University of Edinburgh

University of Freiburg

Université de Genève

Universität Heidelberg

University of Helsinki

Universiteit Leiden

KU Leuven

Imperial College London

University College London

Lund University

University of Milan

Ludwig-Maximilians-Universität München

University of Oxford

Université Paris-Sud 11

Pierre & Marie Curie University

Université de Strasbourg

Utrecht University

University of Zurich

# Research Intensive Universities (Networks) : Leading by Example

***Prof Dr Kurt Deketelaere***  
***Secretary-General***

League of European Research Universities  
***Professor of Energy, Environmental and Climate Law***  
University of Leuven

KDK 170915

University of Amsterdam

Universitat de Barcelona

University of Cambridge

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University of Freiburg

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# Overview

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*LERU*

# Who we are (I)

- An association of **European research-intensive universities**;
- Committed to the values of **high quality teaching**;
- Within an environment of **internationally competitive research**.



# Who we are (II)

- Non-profit organisation
- Founded in 2002
- 21 members



# Members (I)



- Based in 10 European countries
- Membership only upon invitation
- Research-Intensive, Comprehensive



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**LERU members:**

University of Amsterdam  
Universitat de Barcelona  
University of Cambridge  
University of Edinburgh  
University of Freiburg  
Université de Genève  
Universität Heidelberg  
University of Helsinki  
Universiteit Leiden  
KU Leuven  
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University of Oxford  
Pierre & Marie Curie University  
Université Paris-Sud  
University of Strasbourg  
Utrecht University  
University of Zurich





# Members (III)

<b>Belgium</b>	KU Leuven	<b>Spain</b>	Universitat de Barcelona
<b>Finland</b>	<i>University of Helsinki</i>	<b>Sweden</b>	<i>Lund University</i>
<b>France</b>	Pierre & Marie Curie University (UPMC) Université Paris-Sud University of Strasbourg	<b>Switzerland</b>	Université de Genève University of Zurich
<b>Germany</b>	<i>University of Freiburg</i> <i>Universität Heidelberg</i> <i>LMU München</i>	<b>United Kingdom</b>	<i>University of Cambridge</i> <i>University of Edinburgh</i> <i>Imperial College London</i> <i>University College London</i> <i>University of Oxford</i>
<b>Italy</b>	University of Milan		
<b>Netherlands</b>	<i>University of Amsterdam</i> <i>Leiden University</i> <i>Utrecht University</i>		

# Commitment

- **Encourage education** through an awareness of the frontiers of human understanding;
- **Foster the creation of new knowledge through basic research** as the ultimate source of innovation in society;
- **Promote research across a broad front**, which creates a unique capacity to respond to new opportunities and problems.



# Purpose

- **Influence policy at European Union (EU) and Member State (MS) level**
  - EU (EC, EP, ECo, ERC, EIT, JRC, ERAC, ERIAB, etc.)
  - MS (prime ministers, ministers of research, ministers of finance)
- **Develop best practices**
  - Between 21 members
  - Institutional reflection, exchange of experience, collaborative actions
- **Relevance for all Research-Intensive Universities**
  - EU
  - Global



# Facts and Figures

+ 550,000  
students

+ 50,000  
PhD students

55,000 academic  
staff

55,000  
non-academic staff

+ 20% of ERC  
grants

+ € 5 BN total  
research budget

+ €300 M EU  
projects / year

+ 12,000 PhD  
degrees / year

+ 55,000 MA  
degrees / year

+ 230 Nobel  
Prizes & Field  
Medals

# Organisation

Rectors' Assembly

Board of Directors

LERU Office

Policy Committee

Communitie  
s

Working  
Groups

Expert  
Groups

# *Economic Contributions*

# Study Objective

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*To quantify the economic contribution of each LERU University and the combined group of LERU Universities to the European economy*



# Framework

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- Universities

- create intellectual capital
- provide leadership, knowledge infrastructure & a social environment for regional development
- create human capital
- transfer knowledge
- facilitate technical innovation
- attract capital investment

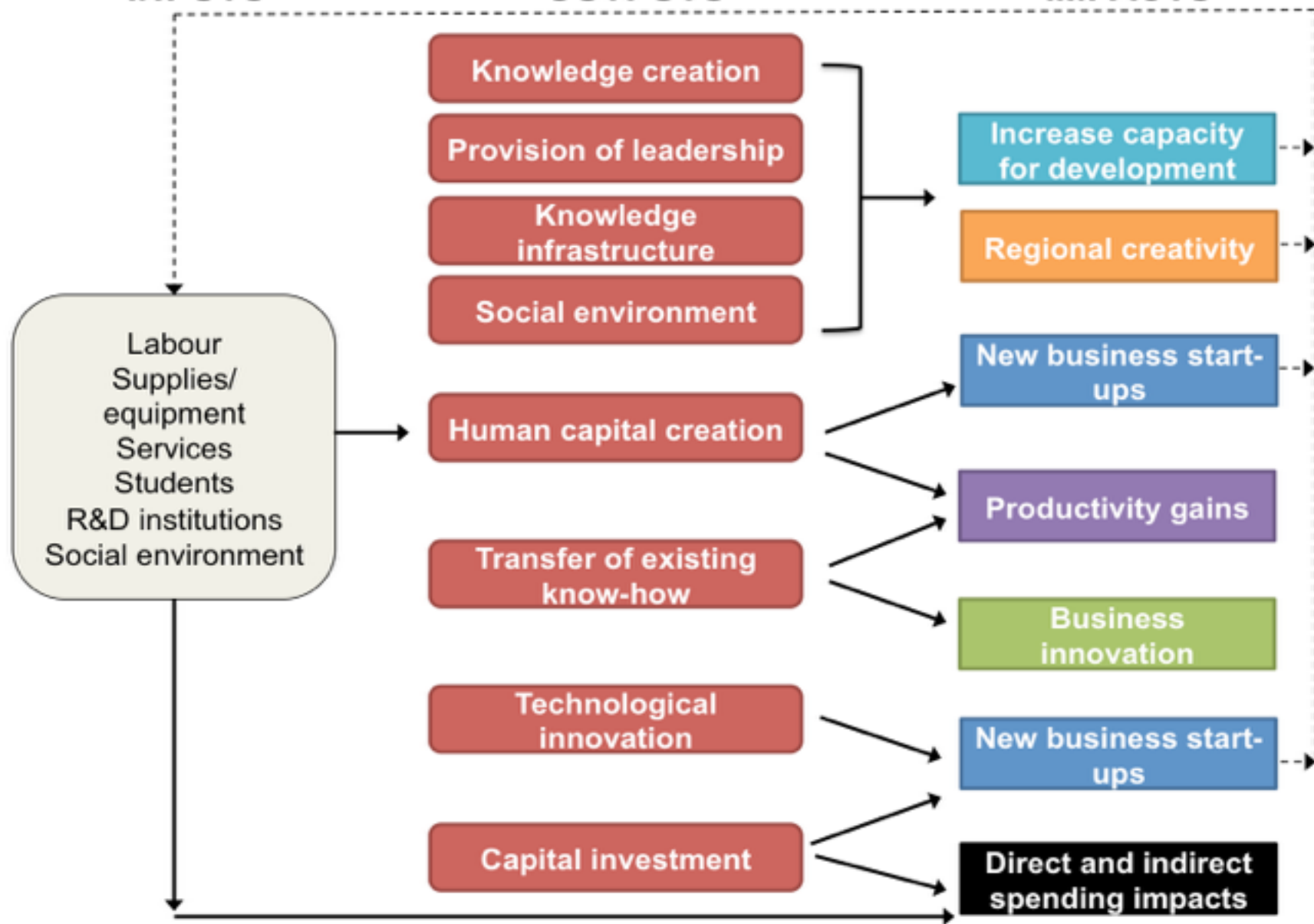
- Which leads to a range of economic impacts



## INPUTS

## OUTPUTS

## IMPACTS



# Sources of Contribution

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- Core contribution
  - direct effect
  - supplier effect
  - staff spending
  - capital spending
- Student contribution
  - student spending
  - student employment
  - student volunteering
  - student placements
- Knowledge transfer
  - licensing
  - consultancy
  - collaborative research
  - start-ups and spin-outs
  - science parks
  - workforce training (CPD)
  - staff volunteering
- Tourism
  - visits to staff and students
  - conferences and events
- Graduate productivity

# Research Methods

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- Data supplied by the Universities
- Economic assumptions
  - Eurostat Economic Ratios 2013/14 (GVA/turnover and turnover/employment)
  - Input-Output Tables for Economic Multipliers, 2011
  - Multipliers – Leontief Type 1 and Type 2
  - Exchange rates (2014 levels)
- Previous in-house experience
- Visits to the Universities

# Measures of Economic Contribution

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- Economic contribution measured in terms of:
  - Gross Value Added (GVA) – a measure of the value that an organisation, company or industry adds to the economy through its operations. GVA is equal to the value of production less the value of inputs used
  - Employment – jobs supported

# Headline Economic Contribution

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- Economic contribution
  - €55.7 billion GVA
  - 900,065 jobs
- Economic contribution *including future graduate productivity*
  - €71.2 billion GVA
  - 900,065 jobs
- Wider impact on regional economic growth

# Return on Investment

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- Every **€1** direct GVA in the LERU Universities generate almost **€6** GVA in the European economy
- Every **1** person employed directly in the LERU Universities supports almost **6** jobs across the European economy

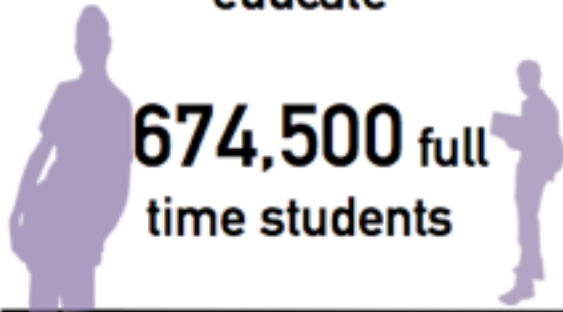
# Economic Contribution by Source

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- Core
- Student
- Knowledge transfer
- Tourism
- Graduate productivity

LERU members...

educate



**674,500** full  
time students

employ



**186,600**  
staff  
across 21  
Universities

earn

**€16.3 billion**  
turnover

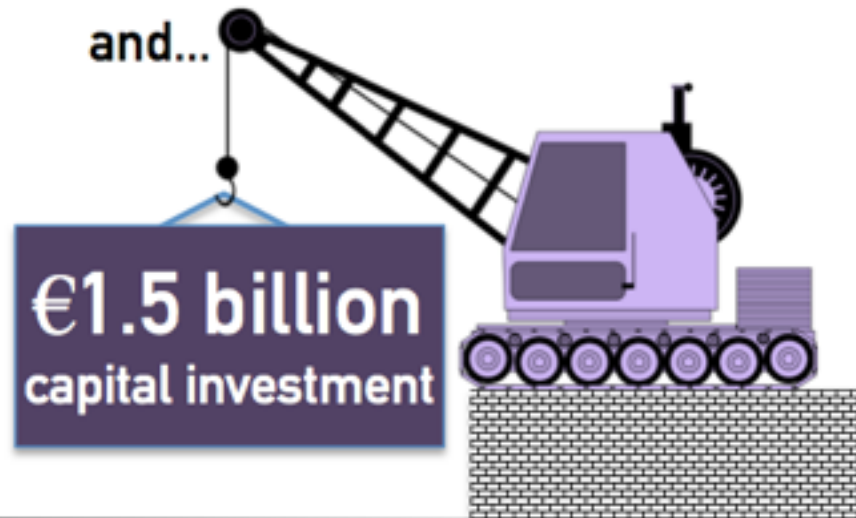
Have Core Impacts of...

**€23.9 billion**  
GVA  
&  
**375,700 jobs**

from...

direct  
operations,  
supplier chain  
expenditure,  
staff spending

and...



LE  
RU

**BiGGAR Economics**



The students  
of LERU  
members  
generate

€9.7  
billion  
GVA

and support

220,200  
jobs

LE  
RU

Outside the University,  
students spent an  
average of



which supported  
93,100 jobs  
throughout Europe  
and generated  
€5.2 billion  
GVA

43% of full time  
students worked  
part time during  
term time



These students  
worked an average  
of 11.5 hours  
per week,  
contributing to the  
local labour  
markets

**BiGGAR Economics**

## Research and Knowledge Transfer...

activities supported **298,500 jobs** throughout Europe and generated **€21.9 billion GVA**



Research had supported the creation of **1,065** active spin out companies, which employed **12,700 people**

LE  
RU



LERU members undertook **€1.5 billion** of contract research for private and third sector organisations



and won **€334 million** of consultancy contracts

**BiGGAR Economics**

# Graduate Productivity

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In 2014,  
**172,300**  
students graduated  
from LERU member  
institutions



On average these  
graduates will go on  
to earn an additional  
**€89,700** over  
their working lives  
as a result of their  
University degree

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Graduate productivity contribution = **£15.4 billion** GVA

# Extrapolating the Impact

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- Based on the study findings, estimate the impact of entire European Research Universities
  - based on ERC data & CWTS Leiden rankings LERU = 23.4% of sector, so
  - European Research Universities sector contributes
    - Over **€300 billion GVA**
    - supports **3.8 million jobs** across Europe
- Equivalent to 1.8% of all employment in the EU and 2.2% of GVA

# Wider Benefits

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- Wider economic, societal, cultural, environmental, health and civic benefits of Research Universities:
  - stronger social cohesion
  - improved social mobility
  - better health & well-being
  - greater civic engagement
  - wider benefits for society from medical research
  - overall character and vibrancy of the cities the Universities are located in

# Wider Benefits

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Research Universities are drivers of long term sustainable economic growth:

- By pushing the boundaries of academic discovery they increase the pool of knowledge available to society
- Equally important, they diffuse this knowledge throughout society through their commercialisation activities and high quality graduates
- This diffusion of knowledge provides the basis for productivity improvements and therefore economic growth
- They also create knowledge and innovation ecosystems which form major clusters of economic activity, attract inward investment and create the knowledge sectors of the future

# *EU Collaboration*

## European Research Area (I)

- » ERA Communication 2012
- » ERA MoU (LERU-EC) 2012
- » ERA JS (LERU-EC) 2015
- » ERA Platform
- » ERA SHO (LERU/EARTO/EUA/SE/CESAER)
- » 2014 LERU BP “An ERA of Change”





# European Research Area (II)

## » ERA Priorities 2012 :

- » An open labour market for research
- » Gender equality and mainstreaming in research
- » Optimal circulation, access to and transfer of scientific knowledge including via digital ERA
- » More effective national research systems
- » Optimal transnational cooperation and competition



# European Research Area (III)

## » ERA Priorities 2014 (LERU) :

- » Anchoring ERA in a strong international strategy
- » Linking education, research and innovation
- » Including the Humanities and Social Sciences
- » Understanding science 2.0
- » Promoting the enhancement of research integrity
- » Fostering effective science and society interactions
- » Strengthening the development, organisation and coordination of research, innovation and education policy



## European Research Area (IV)

- » ERA Progress Report 2013
- » ERA Progress Report 2014
- » 2015 ERAC ERA Roadmap
- » 2016 MS ERA Roadmaps
- » European Semester



# European Research Area (V)

- » ERA Realisation :
  - » ERA Framework Directive
  - » ERA Topical Technical Directives
  - » BAU + European Semester
  - » BAU



# Horizon 2020



# Erasmus +



Erasmus+

# Open Science Open Innovation Open to the World

» Commissioner Carlos Moedas



# *UN Collaboration*



# UN Academic Impact

» LERU goes global (RA May 2015)



# Consultative Status ECOSOC

» LERU goes global (RA May 2015)



# *Global Council of RIU Networks*

# GCRIUN (I)

- 2012 Idea : Establishment of a network of networks of research-intensive universities
- 2012 Barcelona Meeting : LERU &
  - Association of American Universities (AAU)
  - Consortium of China 9 Research Universities (C9)
  - Group of Eight Australia (Go8)



## GCRIUN (II)

- » 2013 Hefei Meeting
  - » Presidents C9
  - » Annual Meeting
  - » LERU, Go8, AAU invited
  - » Hefei Statement on Characteristics of Research Intensive Universities
  - » 4 signatories



# GCRIUN (III)

- Other **similar networks** invited to sign up :
  - Association of East Asian Research Universities (AEARU)
  - Russell Group (RG)
  - U15 Canada
  - German U15
  - RU 11 Japan
  - Hong Kong 3



## GCRIUN (IV)

- » 2014 Leiden Meeting
  - » Hosted by LERU & Leiden University
  - » Leiden Statement on Characteristics of Social Sciences & Humanities Research
  - » 10 signatories



# GCRIUN (V)

- » 2015 Berlin Meeting
  - » Hosted by German U15
  - » Deepening of the collaboration between 10 RIU networks
  - » Follow up Hefei & Leiden Statements
  - » Concrete actions





## GCRIUN (VI)

- Goal : **Global Council of Research-Intensive Universities Networks**, comparable and complimentary to the Global Research Council



# *Examples*

# Open Access Publications

» Green/Gold/Offsetting/Big Deals



## » Storage/Access/Sharing/Security/Use



# Research Integrity

» Increased attention; EU/MS action ?



# Copyright and Text & Data Mining



## » EU/MS Level Playing Field



# Research Funding

» Efficient & Effective Use of Research Funding





# *Conclusions*

## » Considerations on :



# Education

» Considerations on :



## » Considerations on :

