AESIS WINTERCOURSE 2018

ANIKA DUUT VAN GOOR, AESIS NETWORK

BORBALA SCHENK, EARMA

AESIS

EARMA
EUROPEAN ASSOCIATION OF RESEARCH MANAGERS AND ADMINISTRATORS

AESIS WINTERCOURSE 2018

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AESIS WINTERCOURSE 2018

BAREND VAN DER MEULEN, Rathenau Instituut

KATHRYN GRAHAM, ALBERTA INNOVATES

DAY 1

OPENING OF THE COURSE

BART MOTMANS, KU LEUVEN, BELGIUM

KU LEUVEN

AESIS

KU LEUVEN

AESIS

Winter Course 2018

Integrating societal impact in a research strategy

28 - 30 November, Leuven

Leuven

» Capital of the province of Flemish Brabant
» 100,764 inhabitants (in 2017)
» Area of 5,751.25 ha
» A stone’s throw away from Brussels

LEUVEN

KU LEUVEN

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

2013
KU Leuven expands to include academic degree programmes hosted at university colleges within KU Leuven Association

Mission

Excellence in academic education

Excellence in research

Distinguished service to society

A highly ranked university

#7

in the **Reuters** World Ranking of Most Innovative Universities (2018);

the highest-ranked European university

#48

in the **Times Higher Education** World University Ranking (2019)

#81

in the **QS** World University Ranking (2019)

#5 The fifth university in the European Commission **Horizon 2020** programme (HEI only)

#10 The 10th university in the **ERC** grants programme with over 110 projects (HEI only)

Eminent scholars and scientists

Pope Adrianus VI
(1459-1523)

Desiderius Erasmus
(1466-1536)

Andreas Vesalius
(1514-1564)

Gerardus Mercator
(1512-1594)

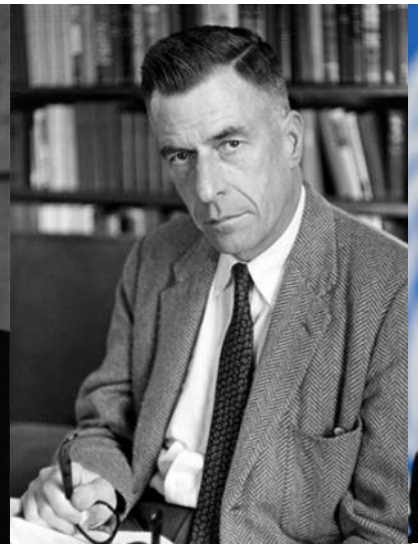
Doctores honoris causa

Winston Churchill
1945

Politician and author

British Prime Minister (1939-1945)

Nobel Prize for Literature (1953)



John K. Galbraith
1972

Economist

Harvard University

Carla Del Ponte
2002

Lawyer

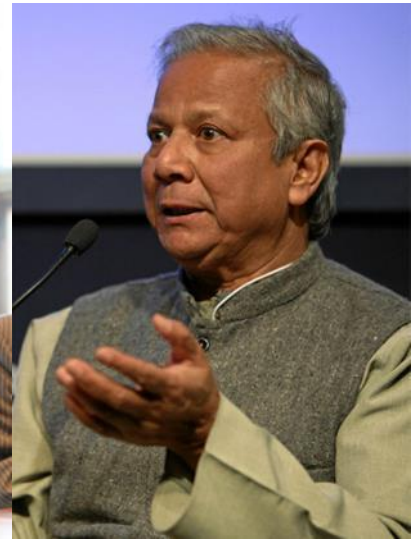
Chief prosecutor of the Yugoslavia Tribunal (1999-2007) and the Rwanda Tribunal (1999-2003)

Rosemary Nyirumbe 2018

takes care of hundreds of female victims of war violence on a yearly basis. Via the Sewing Hope Foundation, she teaches them various skills,

Umberto Eco
1985

Author of e.g.
The Name of the Rose



Muhammad Yunus
1998

Economist and banker

Founder of the Grameen Bank (1983)

Nobel Peace Prize (2006)

Some of our alumni

Herman Van Rompuy

» First permanent president of the European Council
» Doctoris honoris Causa (2012)
» Master of Business and Economics (1971)
» Baccalaurus of Philosophy (1968)

Sophie Vandebroek

» COO IBM Research
» Master of Engineering (1985)

Mathias Cormann

» Leader of the Government in the Senate (Australia)
» Master of Law (1994)

Some of our alumni

Paul Bulcke

» Former chairman Nestlé SA
» Master of Commercial Engineering (1976)

Severine Caluwaerts

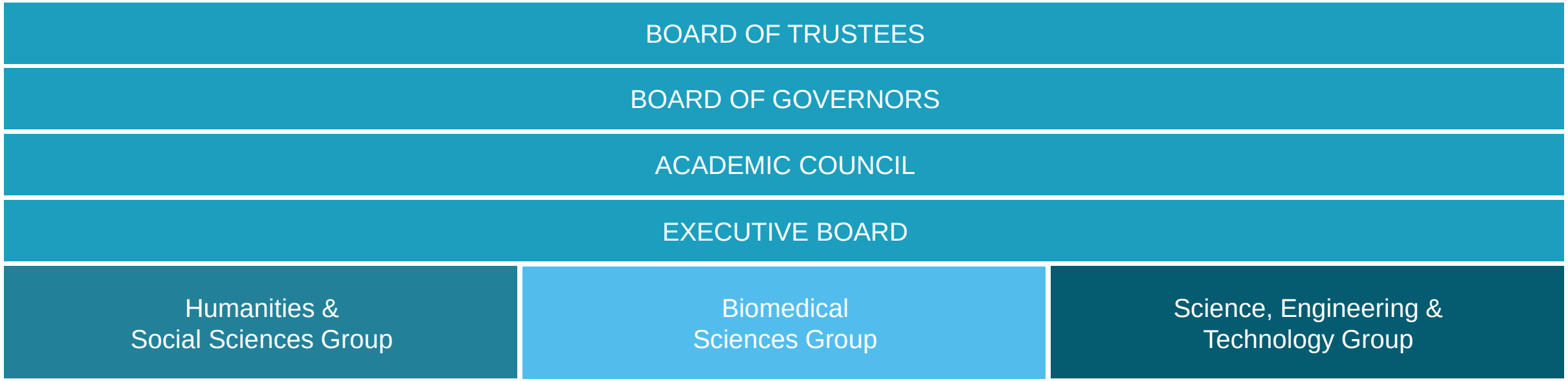
» Gynaecologist, Doctors without Borders
» Master of Medicine (2001)
» Master of Specialised Medicine (Gynaecology and Obstetrics (2006)

Jos Delbeke

» Director General of the European Commission's DG for Climate Action
» Master of Economics (1977)
» Doctor of Economics (1986)

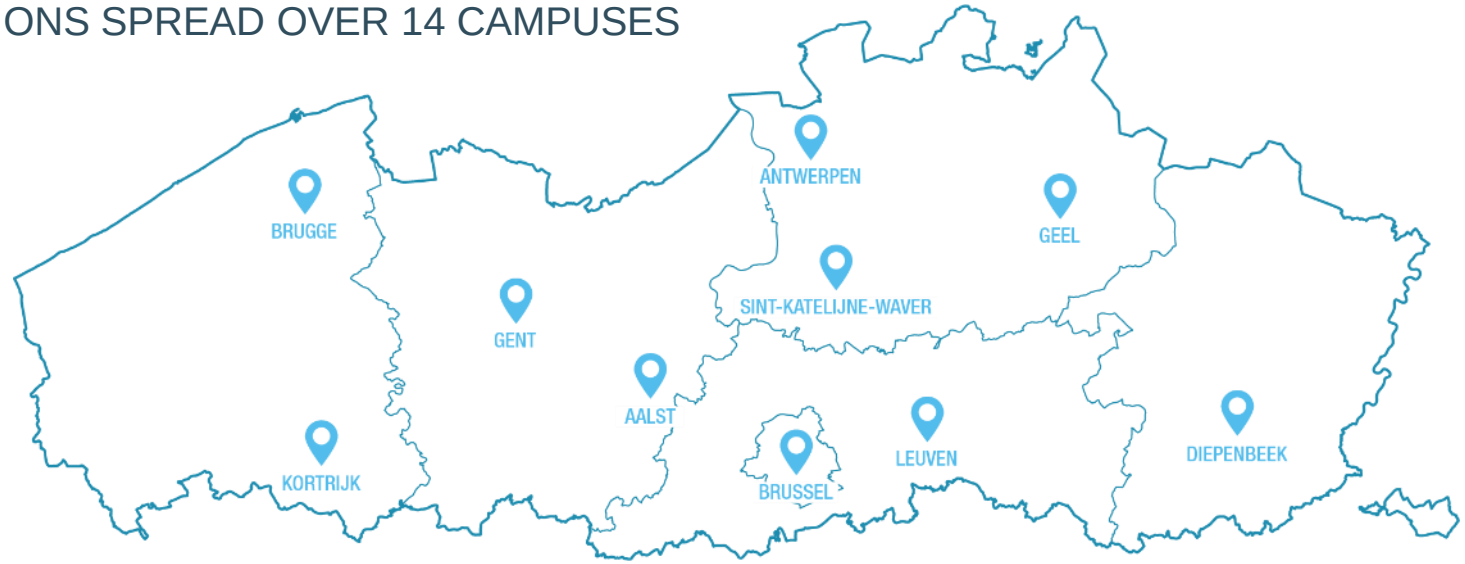
Organisation

15 faculties organised into 3 groups



KU Leuven expands across Flanders

KU LEUVEN IN 10 LOCATIONS SPREAD OVER 14 CAMPUSES



Leuven	Sint-Lucas Campus, Ghent
Group T Campus, Leuven	Sint-Lucas Campus, Brussels
De Nayer Campus, Sint-Katelijne Waver	Brussels Campus
Geel Campus	Ghent, Technology Campus
Carolus Campus, Antwerp	Bruges Campus
Sint-Andries Campus, Antwerp	Kulak Campus, Kortrijk
Aalst Campus	Diepenbeek Campus*

* The degree programme in Diepenbeek is jointly offered by Hasselt University and KU Leuven.

KU LEUVEN

Programmes

49 different Bachelors’s programmes

127 different Master’s programmes

40 different advanced Master’s programmes

Characteristics

- Distinctive vision of education and learning
- Culture of quality
- Innovative learning environment
- Flexibility
- Internationalisation
- Extensive range of education facilities

Figures: 2018-2019 academic year

International programmes

In English:

About 3,000 courses

65 Master's and 21 advanced Master's programmes

4 Bachelor's programmes

1 Master's programme in French
1 advanced Master's programme in Spanish

7 Erasmus Mundus programmes

ECTS label: transparent and transferable credits (European Credit Transfer System)

Co-operative programmes:
» 39 joint degree programmes
» 28 double degree programmes
» 43 programmes organised with international partners

Figures: 2018-2019 academic year

Research: input

RESEARCH FUNDING EXPENSES 2017 € 475 MILLION

Internal funds	19.0%
Special Research Fund (BOF)	17.0%
Industrial Research Fund (IOF)	2.0%

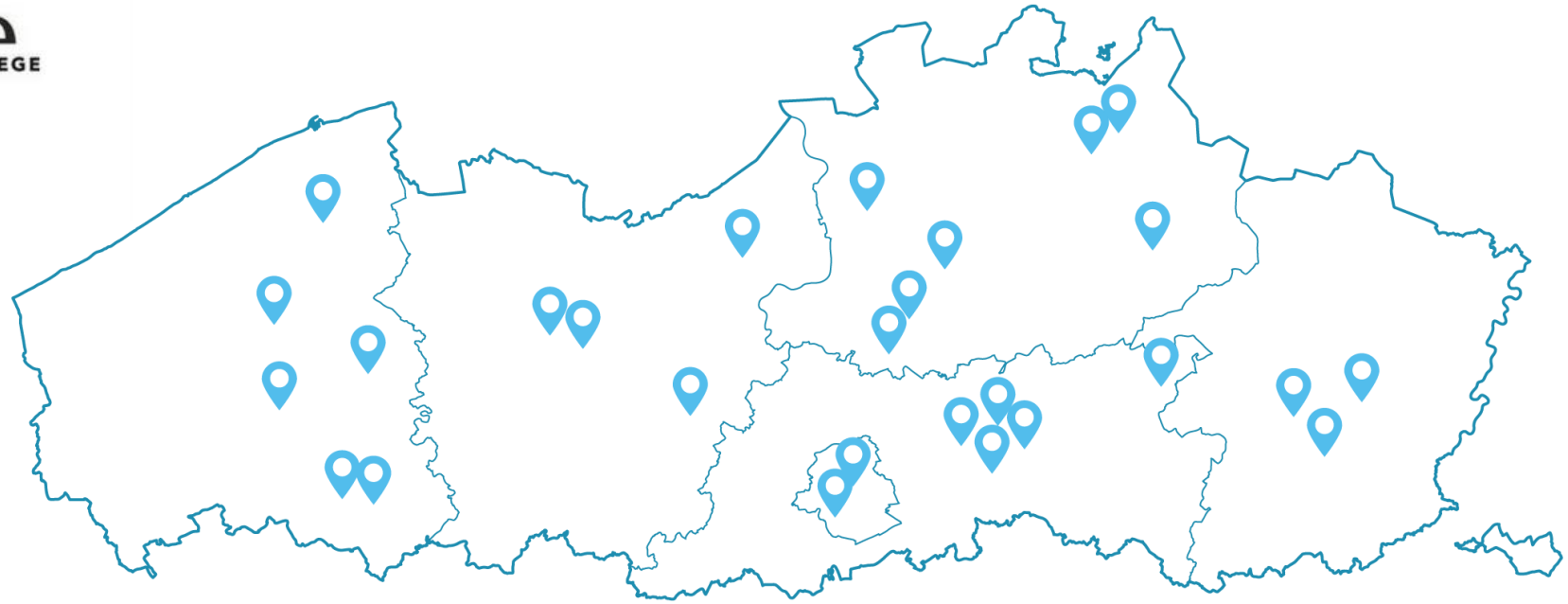
leverage to

basic research

applied research

External funds	81.0%
Flemish Science Fund (FWO)	20.1%
Other government funds	14.5%
International/EU	8.1%
Flemish Science & Innovation Fund (IWT)	6.7%
Industrial contracts	26.9%
Flemish Institute for Biotechnology (VIB)	4.8%

KU Leuven Association



Cooperative network linking KU Leuven and 5 university colleges across Flanders

Over 100,000 students	Largest higher education association in Flanders	43% of the university-level student population in Flanders

International networks

Prominent position in European higher academic education

One of the leading research institutions in Europe

LERU	EUA	Coimbra Group
23 European research universities Established in 2002	Approximately 850 institutions in 47 countries Established in 2001	37 European multi-disciplinary universities Established in 1985

University hospitals

UZ Leuven

UZ Leuven
Acute hospital: Gasthuisberg Campus
Chronic care and rehabilitation: Pellenberg Campus

Core figures (2017)	
Laboratory tests: 15,305,954	Hospital admissions: 58,607
Consultations: 717,405	Kidney dialyses: 28,557
Radiological examinations: 416,692	Staff members: 9,329
Emergencies: 60,727	Physicians: 1,593
Surgical procedures: 59,067	Transplants: 322

UZ Leuven

KU LEUVEN AND UZ LEUVEN ARE BUILDING A HEALTH SCIENCES CAMPUS

Two main campuses in the future

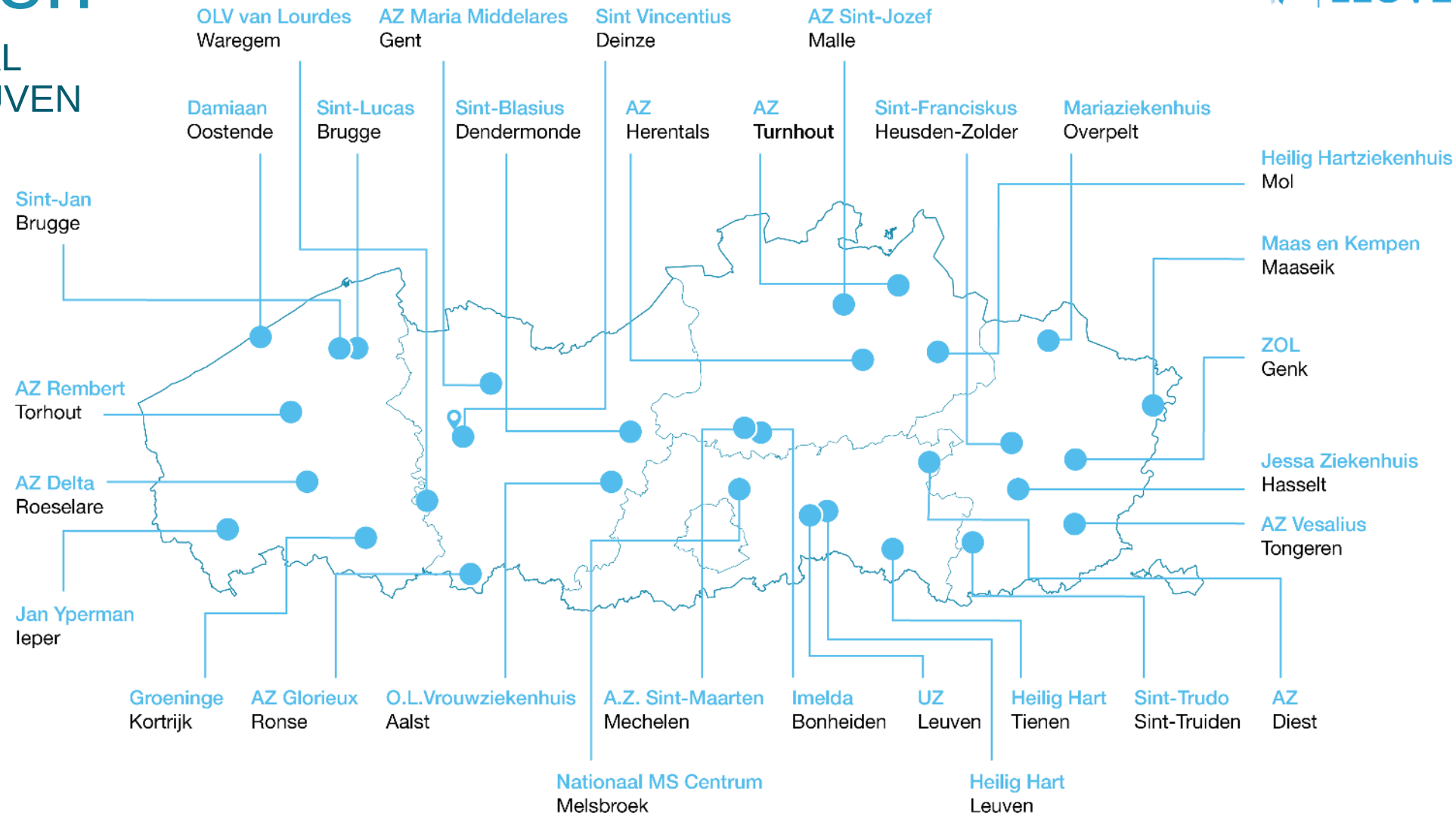
Gasthuisberg Campus for all acute cases

Pellenberg Campus for rehabilitative care

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

UZ Leuven

FLEMISH HOSPITAL NETWORK KU LEUVEN



KU Leuven: General info

- KU Leuven
  - 57,551 students (2017-2018), of whom 17% international students
  - 10,388 FTE employees (2016)
    - 1,223 professors and 5,753 researchers
    - 3,412 administrative & technical staff
- Leuven University Hospitals
  - 2,000 beds
  - 7,904 FTE employees (2017)
- 5 university college clusters
  - 51,926 students (2017-2018)

Europe’s most innovative university

KU Leuven is named Europe’s most innovative university by Reuters. In this study, Reuters aims to identify which institutions contribute the most to science and technology, and have the greatest impact on the global economy.

Reuters top 100: Europe’s Most Innovative Universities

1. **KU Leuven**
2. Imperial College London
3. University of Cambridge
4. École Polytechnique Fédérale de Lausanne
5. University of Erlangen-Nuremberg
6. Technical University of Munich
7. University of Manchester
8. University of Munich
9. Technical University of Denmark
10. Swiss Federal Institute of Technology Zurich

Reuters’ study is based on:

» Number of publications

» Patent application (number of applications, patents granted, ...)

» Number of citations of patents and publications (in other patents and publications)

» Number of industrial cooperations

»...

Tech transfer: LRD

KU Leuven Research & Development

ESTABLISHED IN 1972
ONE OF THE FIRST UNIVERSITY TECHNOLOGY TRANSFER OFFICES IN EUROPE

LRD advances the impact of research results on people's lives around the globe by means of:

- Contract research
- Managing intellectual property rights
- Founding spin-off companies
- Promoting entrepreneurship and innovation
- Supporting regional development

LRD in figures

- 2017: 3,106 new contracts concluded
- 2017: € 72 million revenue from intellectual property, 145 mio euro income from research collaboration
- 2005-2017: € 927 million external capital investment in spin-off portfolio

Examples of technology transfer

Research collaboration: examples

Intellectual property: examples

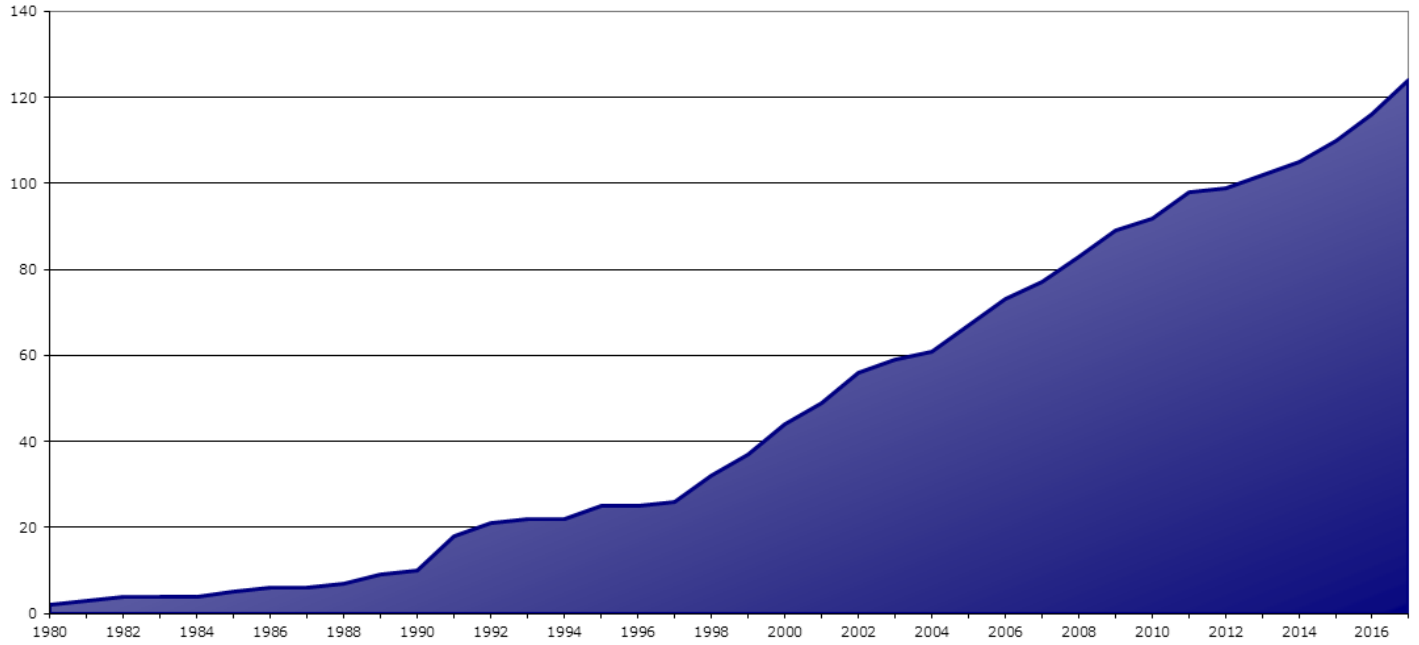
Means to define and secure the rights on the results of intellectual labor:

- Patents: any technical invention
- Copyright: software
- Database protection act
- Design rights
- Trademarks

Spin-off companies

As of late 2017
124 spin-off companies
6,700 direct jobs
7 IPO’s (Initial Public Offering)

Cummulative number of spin-offs created



Figures: 2017

Spin-off companies: examples

- Engineering & chip design

- Data mining & data analysis

- Biomedical

- Consultancy

Success factors

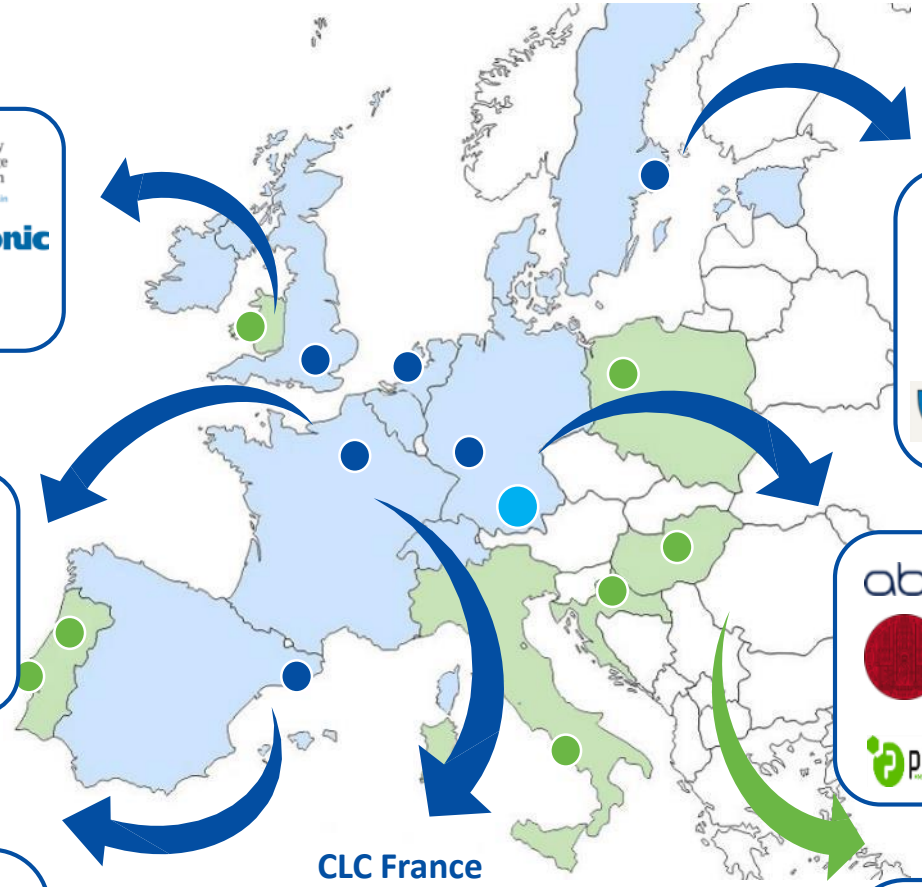
- Critical mass of high quality research
- Multidisciplinary team & high value support
- Clear incentives to encourage researchers
- Favourable entrepreneurial climate within the university
- Legal context in Flanders
- Instruments and networks that further professionalise technology transfer support

EIT Health

Together for healthy lives in Europe

eit Health

A strong partnership across Europe



CLC UK/Ireland

Newcastle University · Imperial College London · Trinity College Dublin · west midlands · Medtronic · University of Oxford

CLC Scandinavia

Karolinska Institutet · ThermoFisher Scientific · KTH · novo nordisk · RISE Institutes · University of Copenhagen · Stockholms stad · LEO · Uppsala Universitet

CLC Belgium/Netherlands

KU Leuven · achmea · TU/e · Philips · Erasmus MC · imec embracing a better life

CLC Germany

abbvie · Siemens Healthineers · RWTH Aachen University · Universität Heidelberg · FAU · SAP · ucb · profil · Roche · Technische Universität München

CLC Spain

Abbott · ferrer · IESE Business School · Atos · Universitat de Barcelona · IBEC · IBV

CLC France

Air Liquide · Bull · cea · SEB · Institut Mérieux · Inria · Université Grenoble Alpes · Inserm · Sanofi · BD · UPMC

InnoStars

Bial · Celon Pharma · CHUC · GE Healthcare · Genera · SDN · IPN · E-Group · Universidade de Évora · Medical University of Lodz · iit · Lisboa · glintt · synlab · Nofer Institute of Occupational Medicine

Challenges

- Fragmentation and rigidity of health systems
- Training of future health workforce
- Burden of chronic diseases
- Investment in prevention is stagnating

Opportunities

- Technological and medical innovation
- Digitalization
- Integration of care
- Patient self-management

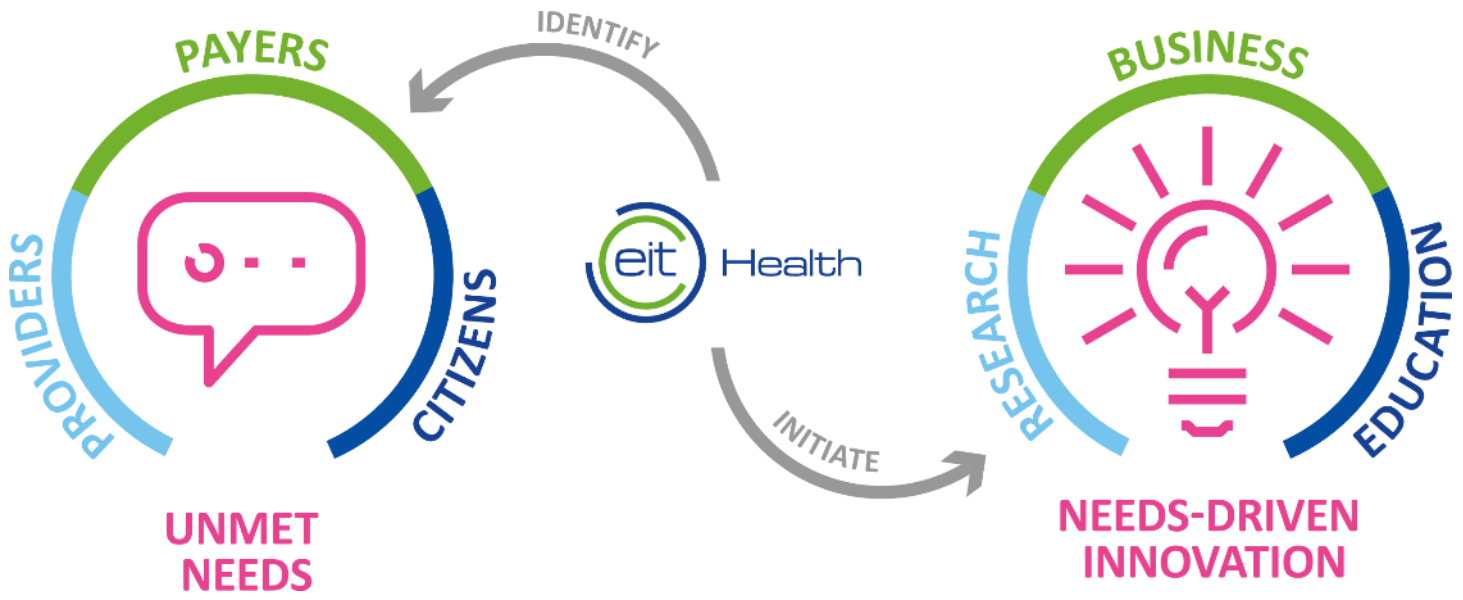
Demand

- Thought leaders, entrepreneurs, and experts who put ideas into action
- Efficient ways to bring innovative healthcare solutions to market
- Prepare the future health workforce through education and training

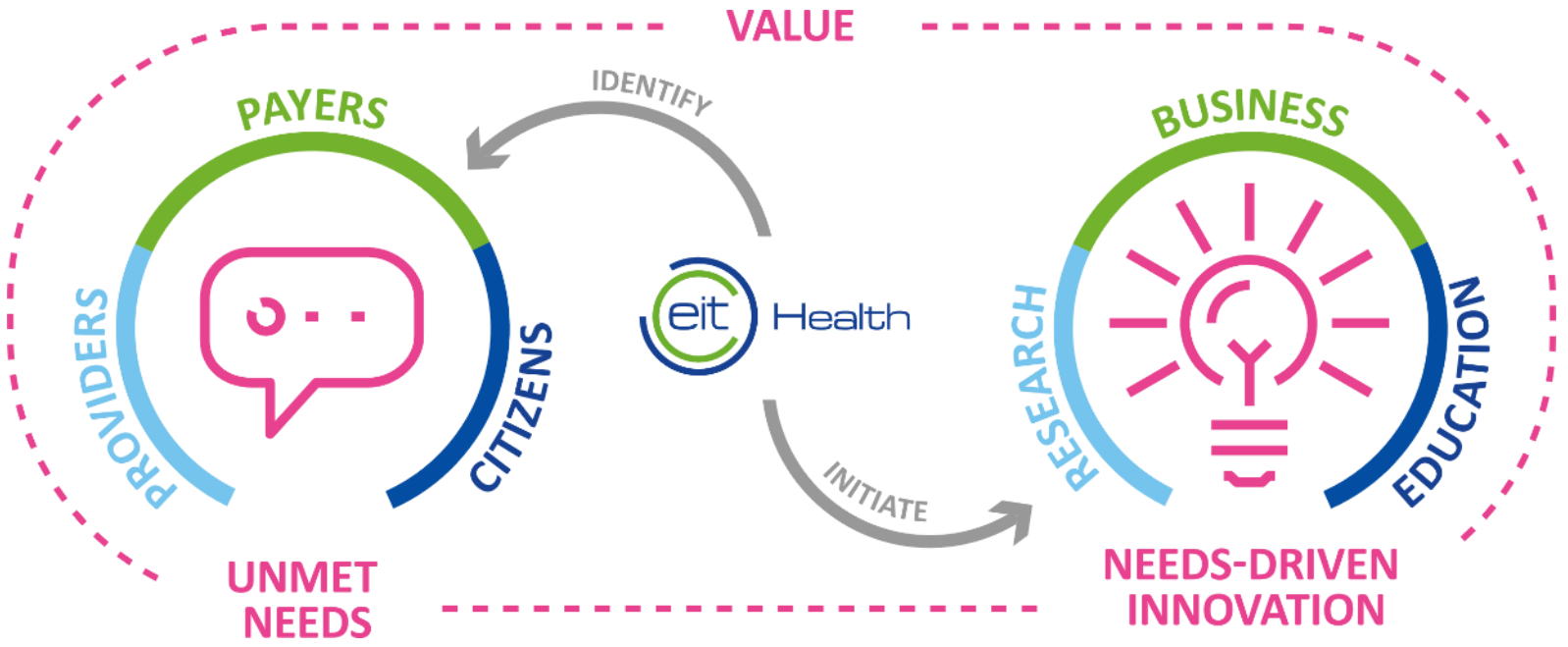
eit Health

We identify unmet clinical and economic needs within complex healthcare systems.

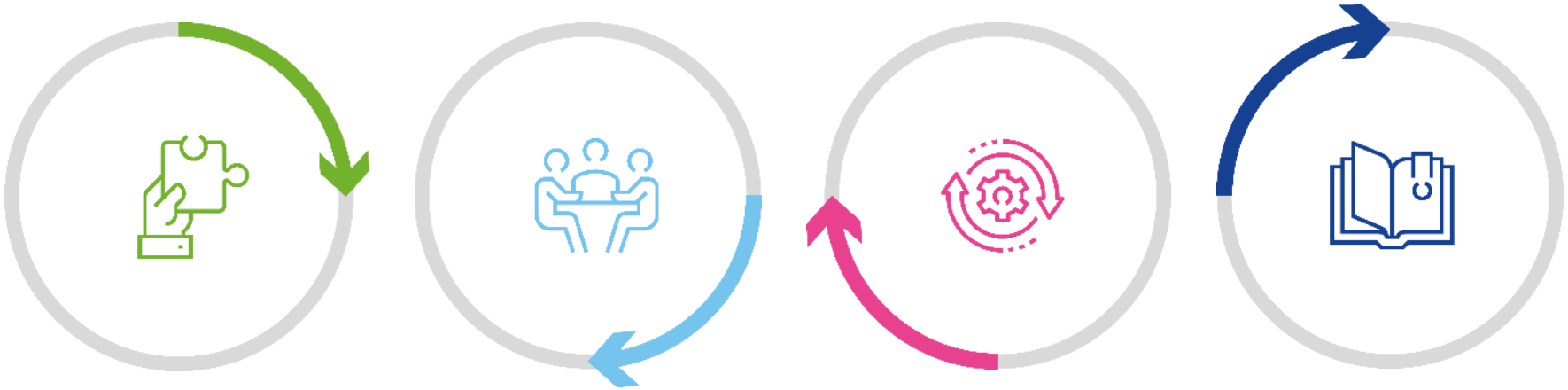
Based on these needs, we **initiate innovation** by bringing together education, business, and research.



Our value: ensuring that innovation **always addresses the needs of the market and society.**



What does this mean in practice?

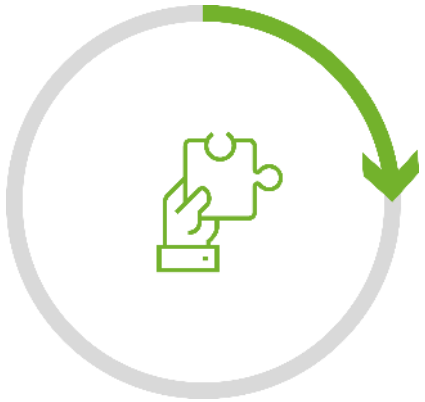


We facilitate. We collaborate. We create. We educate.

Example in practice:

Health Movement

We facilitate.



- Project to prevent chronic diseases such as type 2 diabetes
- Screening undiagnosed patients and connecting existing health services
- Attracting investors into the health system
- First trial project in Stockholm in 2018

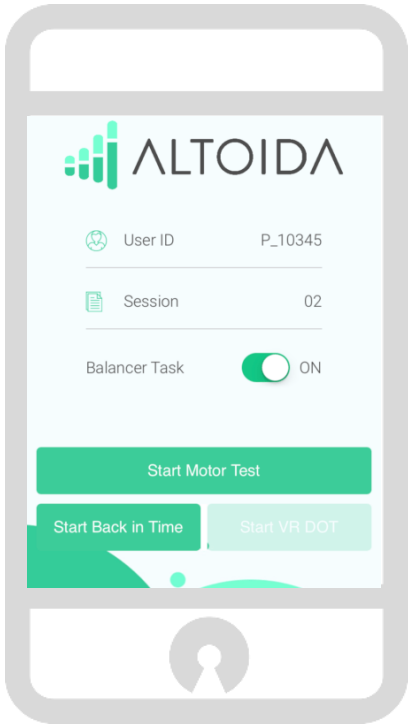
Karolinska Institutet
Stockholms läns landsting
Stockholm County Council
west midlands
Agència de Qualitat i Avaluació Sanitàries de Catalunya
IESE Business School
University of Navarra
MSD
RI.SE INSTITUTES

eit Health

Example in practice:

Alzheimer's Disease Prediction Service

We create.



- Pre-symptomatic computational biomarker to predict Alzheimer's risk for people over 50
- App-based test with an accuracy of 94%
- One of the first validated solutions to enter the EU market

Trinity College Dublin
The University of Dublin

IDIBAPS
Institut D'Investigacions Biomèdiques August Pi i Sunyer

Universitat de Barcelona

gmv
INNOVATING SOLUTIONS

eit Health

Example in practice:

Innovation Fellowships

We educate.

- Eight- to ten-month programmes, including six to eight weeks of clinical immersion
- For transdisciplinary teams of experts developing entrepreneurial solutions
- Training entrepreneurs on the needs in the healthcare sector

biocat

KTH VETENSKAP OCH KONST

BIOINNOVATE IRELAND

eit Health

One of our success stories:

Stockholm 3 – a blood-based prediction test for prostate cancer

Basic facts:

- 58,818 men recruited (one of the largest prostate cancer studies)
- 6,777 men biopsied
- Conducted 2012-2015

Key successes:

- 20% increase in aggressive cancers found
- Identifying men with increased genetic risk
- 50% reduction of unnecessary biopsies
- Providing clear recommendation based on risk score

Strategic impact:

eit Health

University Medical Center Groningen · Erasmus MC University Medical Center Rotterdam · Karolinska Institutet · FAU Friedrich-Alexander Universität Erlangen-Nürnberg · ThermoFisher Scientific The world leader in serving science · KU Leuven · Janssen Johnson & Johnson

Together for healthy lives in Europe – EIT Health concludes 3rd Year (2018)

A strong organisation with excellent Partners & Assets

60+

Professionals

800

Active individuals in projects

48%+ women

146

partners

+ in industry Stakeholders

+ healthcare providers & payers

Strong commitment: Membership fees increased for 2019

First tangible successes

400+

Start-ups supported in 2018

€50m+

Investment attracted

40+

Products and services launched

Most InnoVEIT awards in 2017 and 2018

A trusted network in health innovation in Europe

Looking ahead to 2030

2030
1000+

Products, services, new business models and processes

Longer and healthier lives and more sustainable health systems

2030
>€1bn

Investment for high impact start-ups and scaleups

Crowdfunding Platform
Investors Network
EIF collaboration

Globally recognised Education programmes

Touching more than a million professionals and citizens / year

Think health innovation, you will think EIT Health.

Focus areas will help us build critical mass

2019/2020

Bringing care home

Harnessing the power of real world data

2020

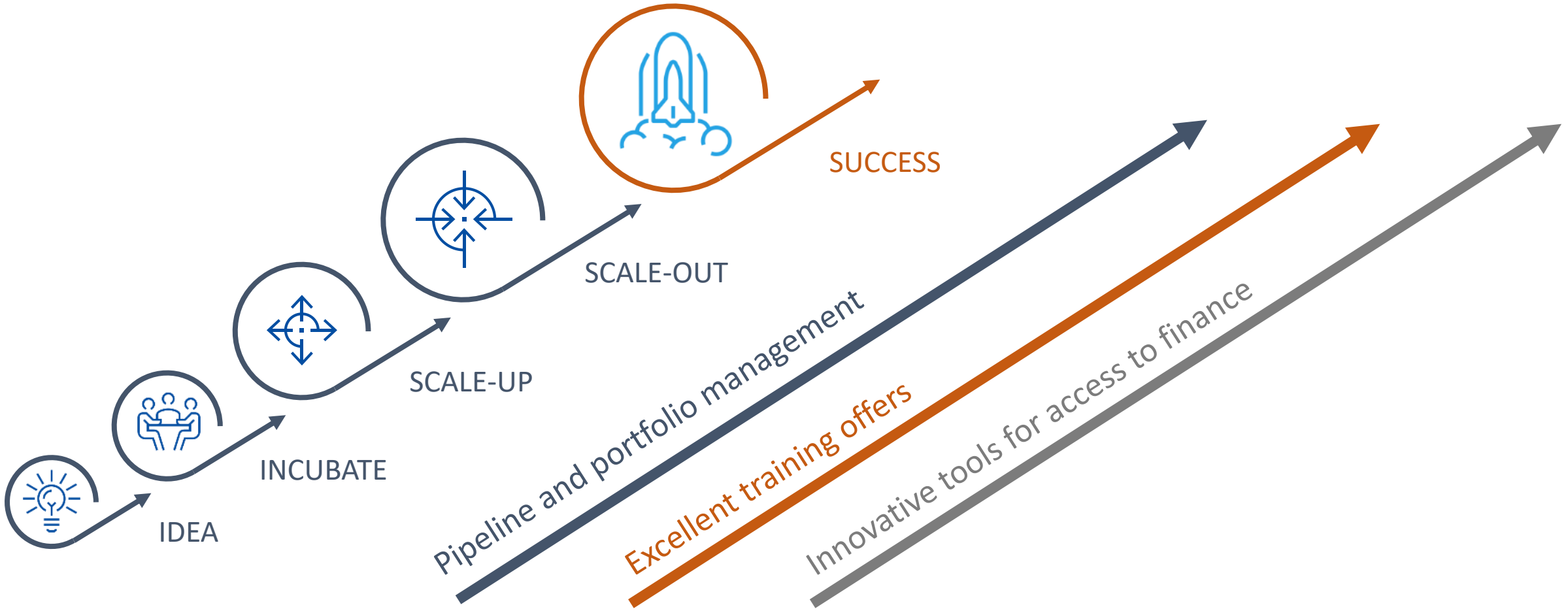
Towards health continuum care pathways

Creating the enabling environment for health transformation

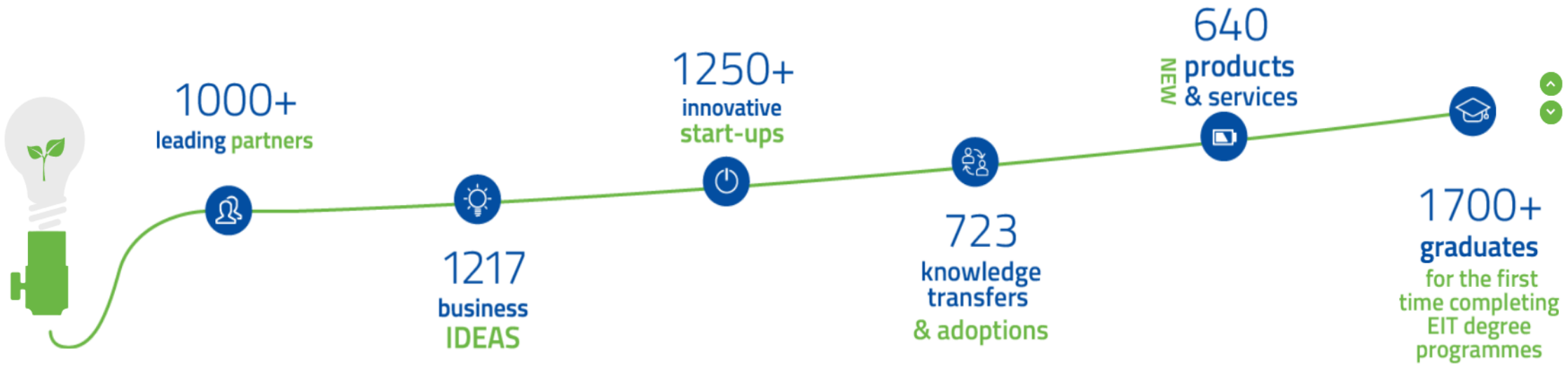
From the workplace to the health place

Fostering healthy lives by introducing behavioural change

Integrated approach to Business Creation



EIT Impact – all KICs
InnoEnergy – Climate – Digital – Health – RawMaterials - Food



EIT Health

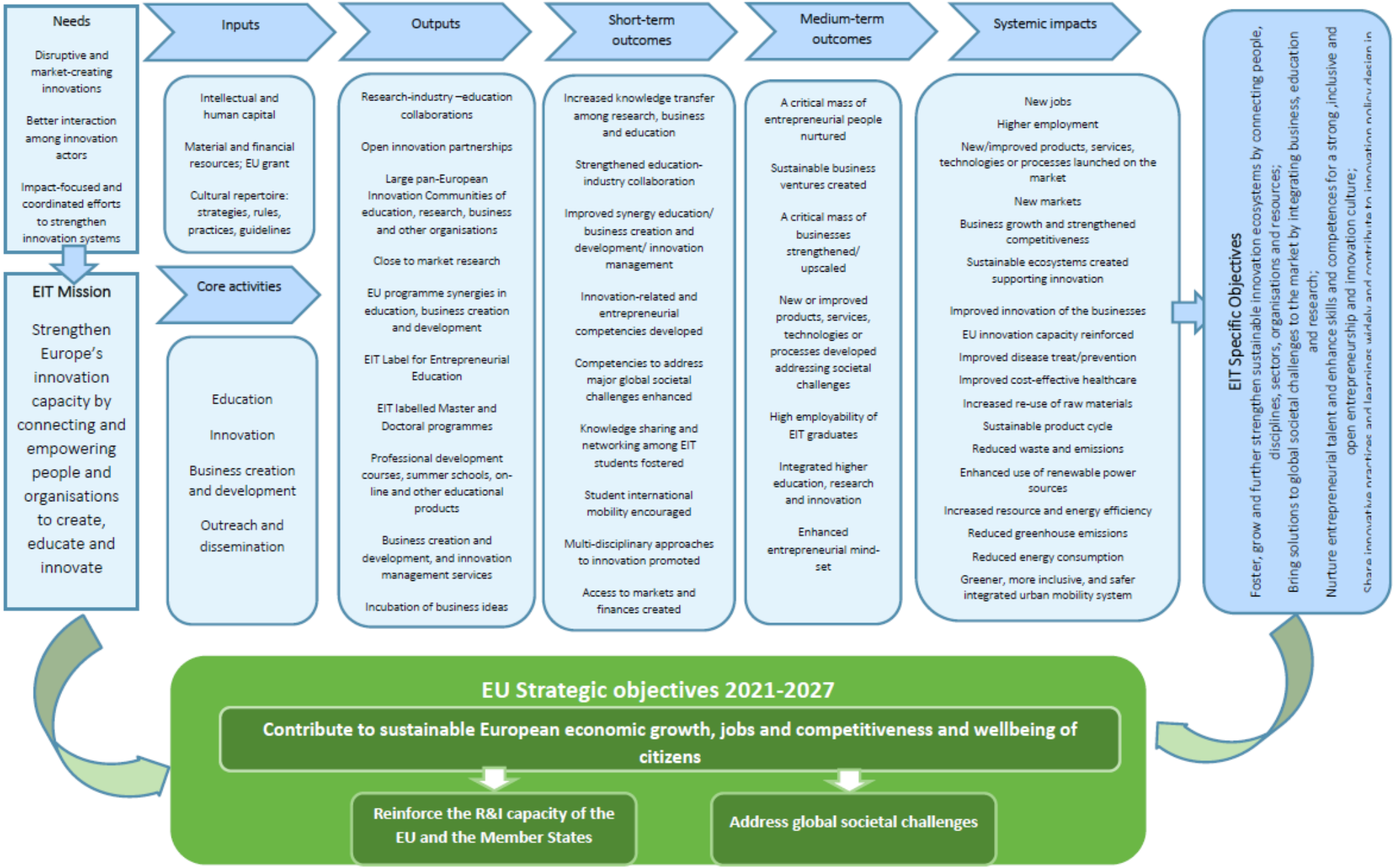
Framework for performance and outcome measurement

DRAFT – 18 October 2018

eit Health

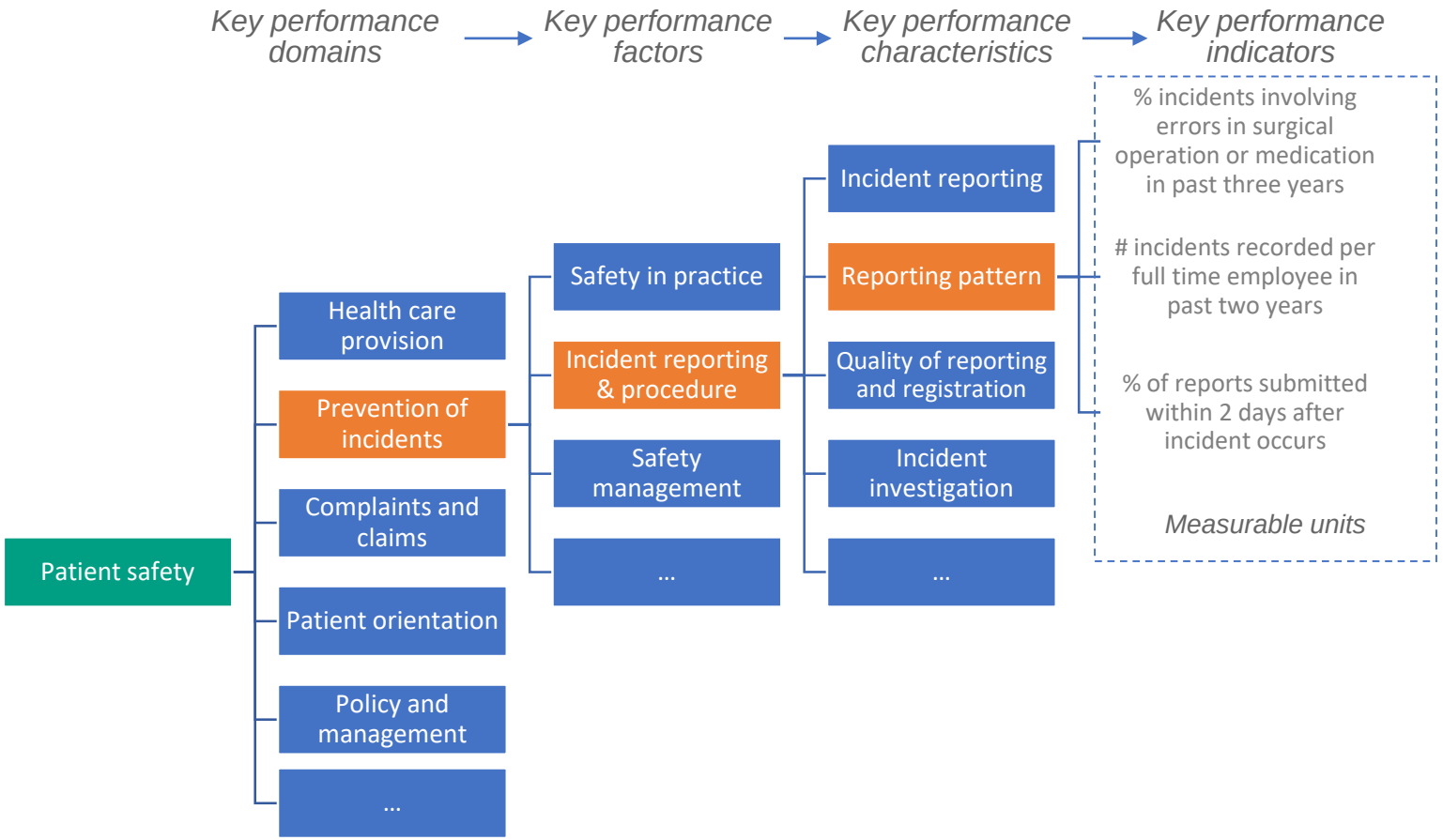
EIT Health is supported by the EIT,
a body of the European Union

The EIT Impact Pathway (simplified model)

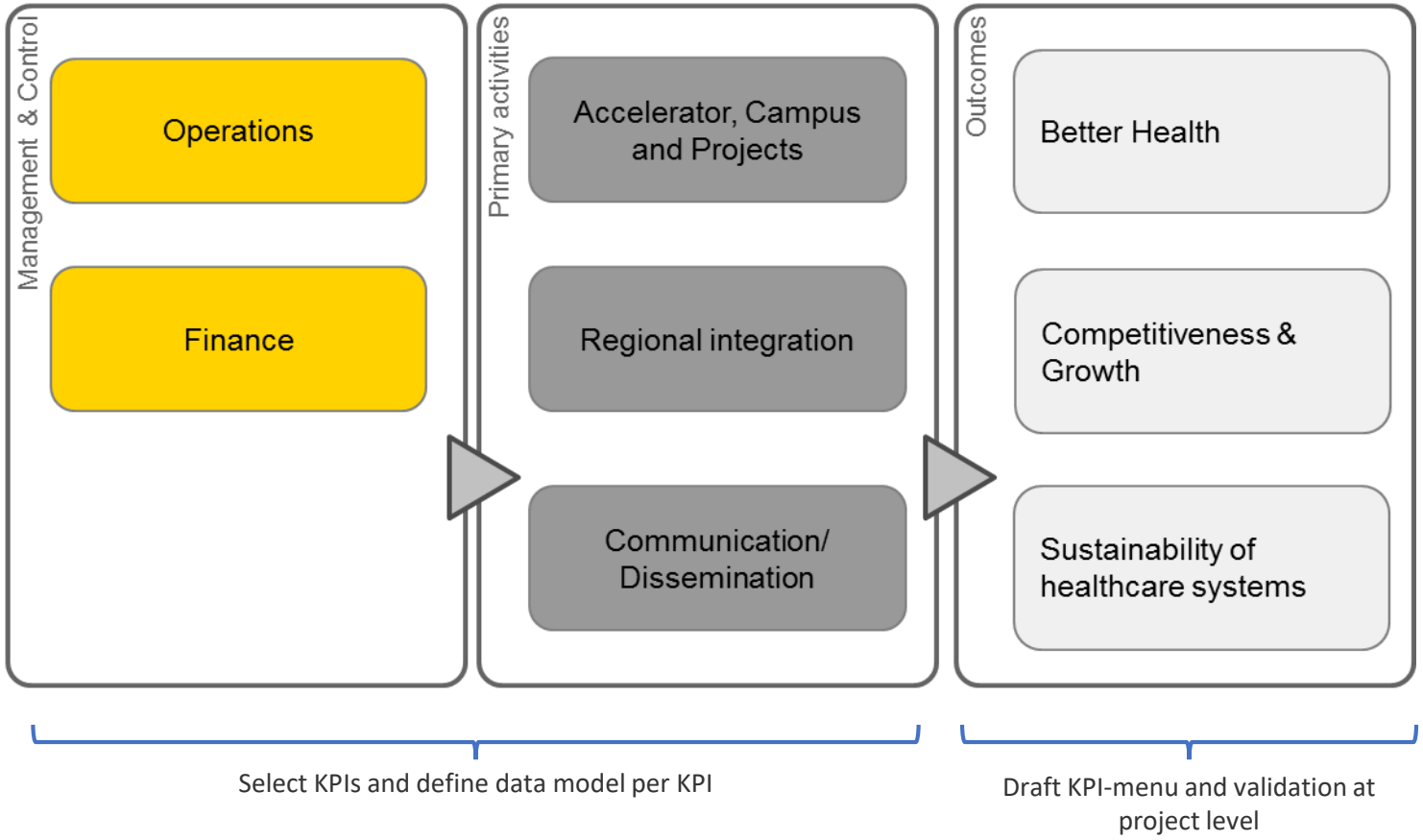


LEUVEN

Logic tree: from domain to KPI (Example!)



Performance domains



Domain: Accelerator, Campus & Projects

Key performance factor	Key performance characteristic	KPI
Provide skills, knowledge & awareness	Attractiveness	Number of applicants in EIT Health activities/available spots (%)
		Number of courses/programmes that have been continued by the market without EIT funding after X years
		Customer Loyalty (Net Promotor Score)
		Number of universities participating in the EIT-labelled Master or PhD Programmes during year n
	Knowledge transfer	Number of exchange of participants between sectors and regions
		#participants who moved from CAMPUS to Innovation Projects or Accelerator Activities (or vice versa)
		% of innovation projects utilizing LL / TB
	Outreach to wider public	Number of participants in EIT Health novel education/ outreach formats (MOOC sessions, festivals) during year n
		% of innovation projects actively engaging citizens
		"Touched Patients (Approved for Clinical Use)" □ For projects entering the market □ For projects that are organizational innovation or cost-saving projects "Number of patients in clinical trials" "Number of citizens involved in the innovation projects"
Research-driven disruption	Disruptive Innovation	% of innovation projects target at disruptive innovation and/or disruptive business model

Outcome Domains

Outcome domains: KPI-menu

EIT Health Outcome monitoring

Name project	
Date	

Please select the following outcome domains applicable to your project

Domain	Applicable?	
Better health	Yes	*Please fill in sheet 'Better health'*
Sustainable healthcare systems	Yes	*Please fill in sheet 'Sustainable healthcare systems'*
Competitiveness & growth of the European health and healthcare industry	Yes	*Please fill in sheet 'Competitiveness & growth'*

For examples of the KPIs in the three domains please take a look at the other tabs in this document with corresponding titles.

	Domain: Better Health					
3	Key performance factor	Applicable?	Key performance characteristics	Applicable?	Key performance indicator	Applicable?
4	Self_reliance	Yes				
5			Mobility			
6					Age at which citizens no longer can drive themselves	
7					Age at which citizens no longer can access public transport	
8					Other (defined by project): …	
9			Disabilities			
13			Independent_living			
20			Other (defined by project):…			
21					Other (defined by project):…	
22	Citizen_empowerment					
50	Employability					
66	Health_of_the_population					
91	Access_to_care					
106	Other (defined by project):…					

Better Health

Key performance factor	Key performance characteristic	KPI
Self-reliance	Mobility	2
	Disablities	2
	Independent living	5
Citizen empowerment	Engagement in decision making	-
	Access to own data	2
	Health education	2
	Habit awareness	-
	Literacy linked to EIT Health	-
	Knowledge of self-monitoring tools	-
	Adherence to methodologies or offered solutions	-
	Tailored value proposition for external stakeholders	-
Employability	Age at retirement	2
	Sick vs healthy days	2
	Work place flexibility	3
Health of the population	Longevity	1
	Development of chronic diseases	2
	Population education on health related matters	1
	Disease prevention	2
	Healthy years	2
Access to care	Access to primary care	4

Example data model

Indicator	Degree to which health status limits a citizen to do daily activities
Definition	Degree to which health status limits a citizen to do daily activities
Key performance domain	Better Health
Key performance factor	Disabilities
Type of indicator	Outcome
Explanation	The indicator is covered in the RAND SF-36-Item Health Survey 1.0 Questionnaire and includes the Medical Outcomes Study Physical Function Measures (MOS PF-10), which is a 10 item, uni-dimensional scale that assesses physical functioning. The SF-36 is a measure of health status and is commonly used in health economics as a variable in the quality-adjusted life year calculation to determine the cost-effectiveness of a health treatment. The original SF-36 came out from the Medical Outcome Study, MOS, done by the RAND Corporation.
Value	Three Point-Likert score
Numerator	n/a
Denominator	n/a
Scope	All participants directly affected by / involved in the project
Source(s)	No public source available. Question 3 to 12 of SF-36 Questionnaire. Available through http://www.rand.org/health/surveys_tools/mos/36-item-short-form.html
Period	A survey period of 4 weeks in month X (e.g. November)
Frequency	Yearly

Sustainable health systems

Key performance factor	Key performance characteristic	KPI
Resource efficiency	Care for chronic disease	1
	Healthcare workforce health	7
Management of health services	Integrated care	-
	Primary vs hospital care	6
	Data migration between departments/specialists	2
	Home vs institutionalized care	3
	Local service provision	-
Value vs cost of treatments	Cost of treatments	1
	Disease outcome[1]	1
	Quality vs affordability	-
	Outcome for a given cost	2
Data to monitor efficiency	ICT solutions	1
	Cost data	2
	Electronic Health Records	2
New technologies	Diagnostics	1
	DNA testing	-
	Individualized medicine	-

eit Health

LEUVEN

DAY 1

WELCOME
FROM THE DIRECTORS

BAREND VAN DER MEULEN, RATHENAU INSTITUUT
KATHRYN GRAHAM, ALBERTA INNOVATES

OUR PRESENTATION TODAY

- Introductions and learning about you
- Overview of AESIS, the course, and presenters
- Enjoy the journey!

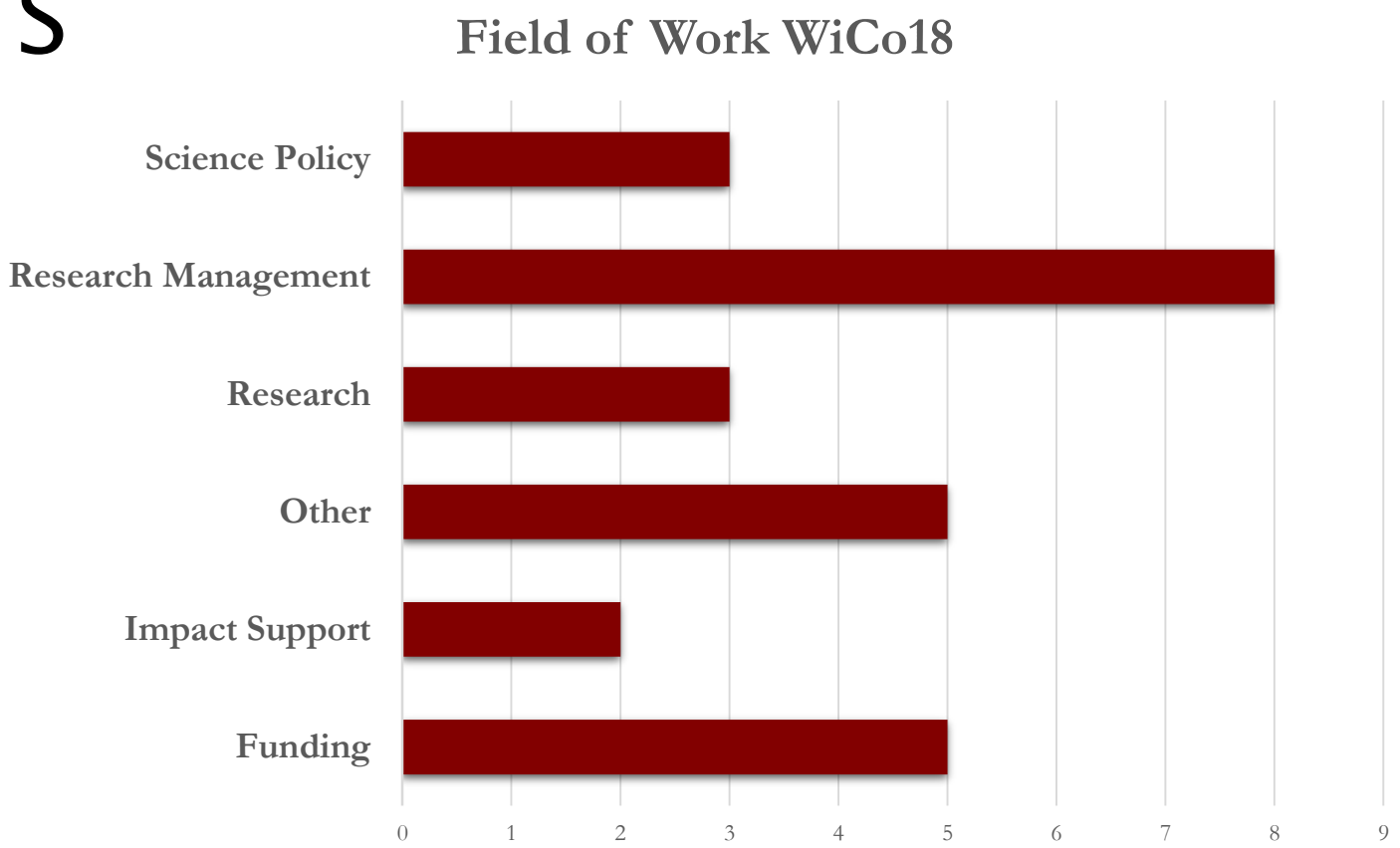
ABOUT YOU

- 11 different countries.
- 55.5% Female, 45.5% Male

MOST PARTICIPANTS

Are directly engaged in

Research



GENERAL INTRODUCTIONS

- *B*riefly state your name, organization, role and where you are from
- Reasons for attending the course

GROUP EXERCISE

- Imagine you are part of a team plotting to steal priceless diamonds and gems from vaults in the Antwerp Diamond Centre

What is your role on the team?

Why did you choose this role?

OVERVIEW OF AESIS

The AESIS network was founded in 2015 with the aim of creating an international, open community for various types of professionals working on stimulating and demonstrating the impact of science on economy, culture and well-being.

This the fourth annual Winter course:

2018

2017

2016

2015

AESIS

AIM OF THE COURSE

- To bring together:
  - Experiences of experts and organisations in managing societal impacts of research
  - Insights into strengthening societal impacts of research
  - Lessons learned and opportunities to improve practice

- We do not present fit-for-all-tools, but suggested frameworks and approaches to develop societal impact strategies
  - Strategies must be customized according to context, purpose and stakeholders questions

OVERVIEW OF 3 DAY PROGRAMME

Day 1 Introductions (presenters and yourselves)
Introduction to your Case Study
Useful frameworks to understand impact
Presentations

Day 2 *Presentations*
Work on your Case Study and prepare your presentation

Day 3 Feedback, main issues & questions, close

SPEAKERS

BAREND VAN DER MEULEN
Head of Research Assessment
Rathenau Institute NL
Prof Evidence for Science Policy
CWTS, Leiden University NL

KATHRYN GRAHAM
Executive Director of Performance Management and Evaluation
Alberta Innovates CA

BART MOTMANS
Innovation Policy Officer and Innovation Manager
KU Leuven BE

MIKE SMITH
Chairman at the Institute of Knowledge Transfer, Managing Partner at Harper Keeley & Dean of Research
University of Leeds UK

GRAEME ROSENBERG
Head of TEF at the Office for Students England UK

BORBALA SCHENK
Head of the Office of the Director-General
Centre for Social Sciences of Hungarian Academy of Sciences
EARMA Representative HU

MARIE CLAIRE VAN DE VELDE
Senior Policy Advisor
Ghent University BE

DAVID BUDTZ PEDERSEN
Associate Professor and Co-Director of the Humanomics Research Centre, University of Copenhagen & former Strategic Adviser to the Danish Ministry of Higher Education and Science DK

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UP NEXT

Break

10.30 – 11.00

M.M van Hamaele Hall

UP NEXT....

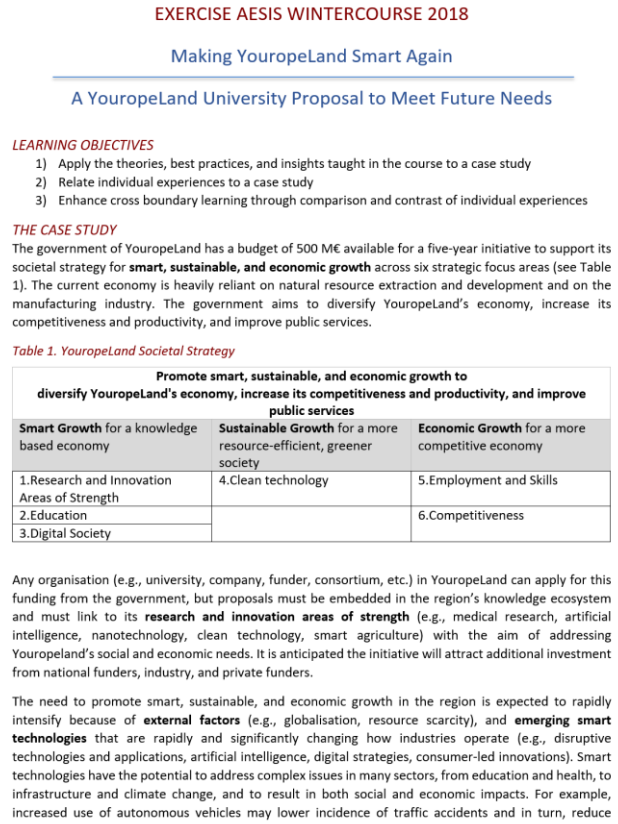
CASE STUDY SESSION 1:

INTRODUCING THE CASE STUDY

GROUP FORMING

AIM OF CASE STUDY EXERCISE

- Apply the theories, best practices, and insights taught in the course to a case study
- Relate individual experiences to a case study
- Enhance cross boundary learning through comparison and contrast of individual experiences
- Today's aim: share your experiences of creating impact strategies



EXERCISE AESIS WINTERCOURSE 2018

Making YouropeLand Smart Again

A YouropeLand University Proposal to Meet Future Needs

LEARNING OBJECTIVES

1) Apply the theories, best practices, and insights taught in the course to a case study
2) Relate individual experiences to a case study
3) Enhance cross boundary learning through comparison and contrast of individual experiences

THE CASE STUDY

The government of YouropeLand has a budget of 500 M€ available for a five-year initiative to support its societal strategy for **smart, sustainable, and economic growth** across six strategic focus areas (see Table 1). The current economy is heavily reliant on natural resource extraction and development and on the manufacturing industry. The government aims to diversify YouropeLand's economy, increase its competitiveness and productivity, and improve public services.

Table 1. YouropeLand Societal Strategy

Promote smart, sustainable, and economic growth to diversify YouropeLand's economy, increase its competitiveness and productivity, and improve public services		
Smart Growth for a knowledge based economy	**Sustainable Growth** for a more resource-efficient, greener society	**Economic Growth** for a more competitive economy
1.Research and Innovation Areas of Strength	4.Clean technology	5.Employment and Skills
2.Education		6.Competitiveness
3.Digital Society		

Any organisation (e.g., university, company, funder, consortium, etc.) in YouropeLand can apply for this funding from the government, but proposals must be embedded in the region's knowledge ecosystem and must link to its **research and innovation areas of strength** (e.g., medical research, artificial intelligence, nanotechnology, clean technology, smart agriculture) with the aim of addressing Youropeland's social and economic needs. It is anticipated the initiative will attract additional investment from national funders, industry, and private funders.

The need to promote smart, sustainable, and economic growth in the region is expected to rapidly intensify because of **external factors** (e.g., globalisation, resource scarcity), and **emerging smart technologies** that are rapidly and significantly changing how industries operate (e.g., disruptive technologies and applications, artificial intelligence, digital strategies, consumer-led innovations). Smart technologies have the potential to address complex issues in many sectors, from education and health, to infrastructure and climate change, and to result in both social and economic impacts. For example, increased use of autonomous vehicles may lower incidence of traffic accidents and in turn, reduce

CASE STUDY INTRODUCTION (Cont'd)

- The government of Youropeland will fund a 5-year initiative with a maximum budget of 500M€ to support **smart, sustainable, and economic growth**
- The initiative must be embedded in the knowledge ecosystem and linked to research and innovation areas of strength
- Your organisation, Youropeland University, has brought stakeholders together (i.e., the Smart Strategy Group) to develop a funding proposal focused on **smart public services** and **education and training on smart technology**.

CASE STUDY INTRODUCTION (Cont'd)

- Your group is supporting the Smart Strategy Group in preparing their funding proposal to the government of Youropeland
- Prepare a presentation of how the Smart Strategy Group will create impact through the initiative, including an **impact vision** and an **impact strategy**
- Make it a clear and convincing presentation!
- Add a reflection on the process at the end

CASE STUDY INTRODUCTION (Cont'd)

- Familiarize yourself with the material and your group members
- Exchange and use your own experiences, knowledge, and, of course, the lectures today and tomorrow.
- Enjoy!

UP NEXT…

- PRAGMATIC APPROACH TO UNDERSTANDING IMPACT
  1. Understanding impact in the context of the research ecosystem
  2. What is societal impact of research and who is impact?
  3. Why and how are societal impacts integrated into research?
  4. Review of impact frameworks, impact pathways and engaging stakeholders

IMPACT STRATEGY

The proposal is that integrating a societal impact strategy upfront will increase the likelihood of achieving impact

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1

UNDERSTANDING THE RESEARCH ECOSYSTEM AND INTEGRATING SOCIETAL IMPACT STRATEGY

INTEREST IS NOT NEW
IN THE IMPACT OF RESEARCH

1620

"There is another powerful and great cause of the little advancement of the sciences, which is this: it is impossible to advance properly in the course when the goal is not properly fixed. But the real and legitimate goal of the sciences is the endowment of human life with new inventions and riches."

Francis Bacon Novum Organum

1945

As long as [universities] are vigorous and healthy and their scientists are free to pursue the truth wherever it may lead, there will be a flow of new scientific knowledge to those who can apply it to practical problems in Government, in industry, or elsewhere."

Vannevar BushScience the Endless Frontier

1993

"The understanding and application of science are fundamental to the fortunes of modern nations. Science, technology and engineering are intimately linked with progress across the whole range of human endeavour: educational, intellectual, medical, environmental, social, economic and cultural."

Chancellor of the Duchy of Lancaster Realising our potential White Paper

Source: Jonathan Grant, ISRIA

WHAT IS IMPACT?

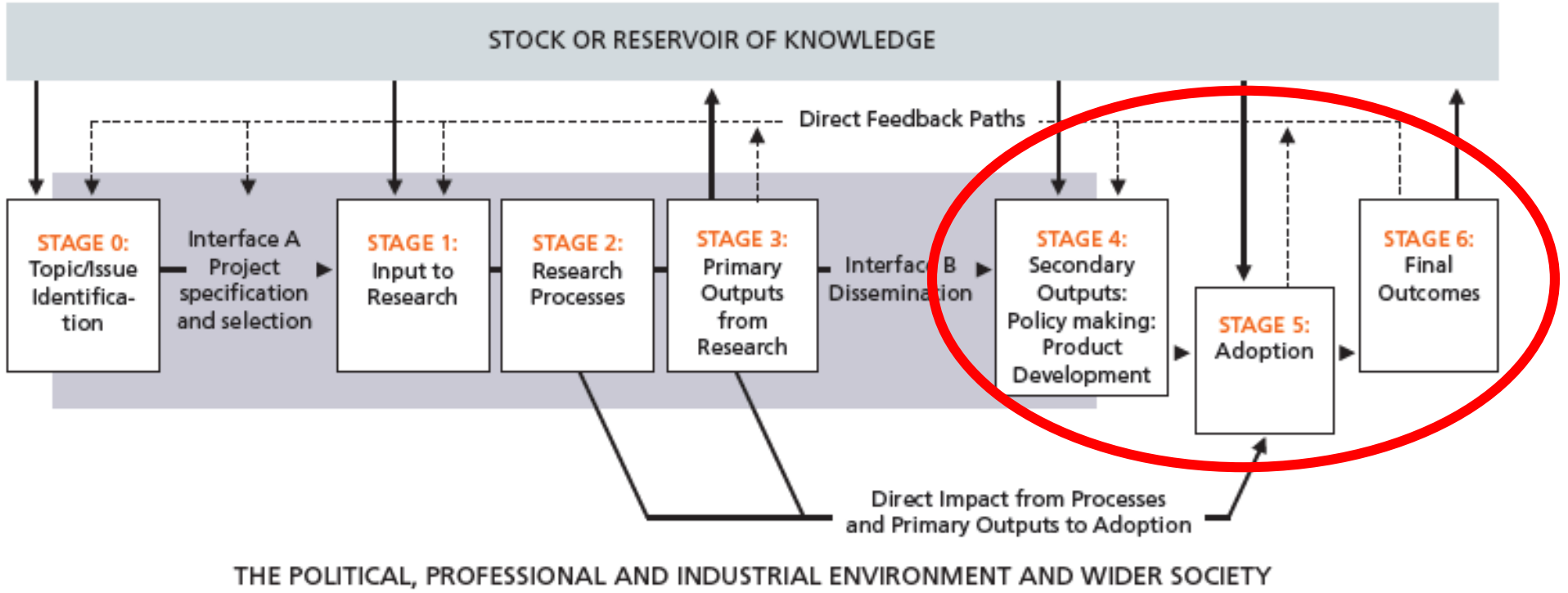
THERE ARE MANY DIFFERENT DEFINITIONS.....

- "... Positive and negative, primary and secondary long-term effects produced by a development intervention, directory or indirectly, intended or unintended" (OECD, 2002)

- "An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia" (REF, UK)

ULTIMATELY

IMPACT
IS ABOUT THE
NON-ACADEMIC
BENEFITS TO
SOCIETY



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WHO IS IMPACTED?

Public, Policy Makers, Patients, Community Groups.....

WHY INTEGRATE SOCIETAL IMPACT?

THE 4A'S

BE CLEAR ON PRIMARY PURPOSE

- **ACCOUNTABILITY**
  To promote responsible management of funds to taxpayers, donors, etc.
- **ADVOCACY**
  "Make the case" for research funding
- **ANALYSIS**
  What works in research funding?
- **ALLOCATION**
  What to fund (institution, field, people, etc.)

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Source: Morgan Jones, M., Grant, J. Making the Grade: Methodologies for assessing and evidencing research impact *in Dean et al (Eds) (2013) 7 Essays on Impact. DESCRIBE Project Report for Jisc. University of Exeter.*

LEARNING ACTIVITY

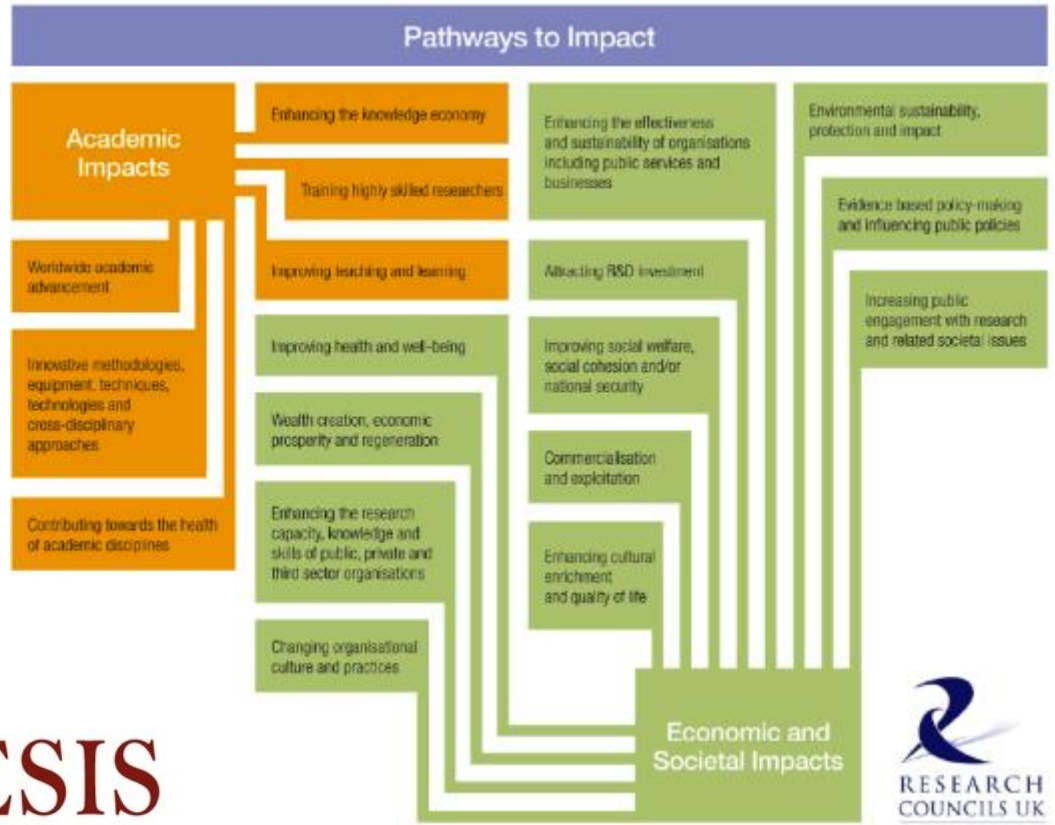
15 MINUTES

IN SMALL GROUPS

1. At your table, review the 4A's for integrating impact.
2. Individually read the case study.
3. In your group, discuss the primary purpose of integrating societal impact in the SSG initiative.
4. Might the purpose vary for other stakeholders? If so, how?

REVIEW OF IMPACT FRAMEWORKS

MANY FUNDING BODIES
ARE ASKING FOR PATHWAYS TO IMPACT



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RESEARCH COUNCILS UK

- **Europe: Horizon 2020 Framework**
  - Wider, societal, economic, environmental
  - Impact is on the application forms
  - Impact assessment reports – PF9
  - Horizon 2020 indicators
- **UK: Research Excellence Framework**
  - Primarily at grant proposal stage
  - Also in final reporting in some cases
- Move to impact strategies (planning) and desired impacts
- Focus on impact assessment

HOW DIFFERENT FRAMEWORKS CAPTURE IMPACT

- Research Excellence Framework (REF), UK – assesses performance of UK universities to determine funding allocation

- National Science Foundation, US – assesses intellectual merit (advancing knowledge) as well as the broader impacts (societal benefits)

- Excellence in Research for Australia (ERA), AU – uses bibliometrics, and other quantitative indicators, to map R&D output

- Canadian Academy of Health Science (CAHS), CA – aims to provide consistency and comparability while retaining flexibility

- Productive Interactions, EU – flexible approach to help institutions learn and improve their performance against their own goals

REF USED CASE STUDIES TO ASSESS IMPACT

PANELS JUDGED THE OVERALL QUALITY OF EACH SUBMISSION

65%	20%	15%
Quality of research OUTPUTS	IMPACT of research on society	The research ENVIRONMENT
191,150 research outputs by 52,061 staff were reviewed	16,975 impact case studies were reviewed	The review was based on data and information about the environment

Impact case studies were assessed on the Reach and Significance of the impacts

Impact was assessed on how far the strategy and approach were conductive to achieving impact

CASE EXAMPLE OF REF CASE STUDY

ELEPHANT AND THE BEES EXAMPLE

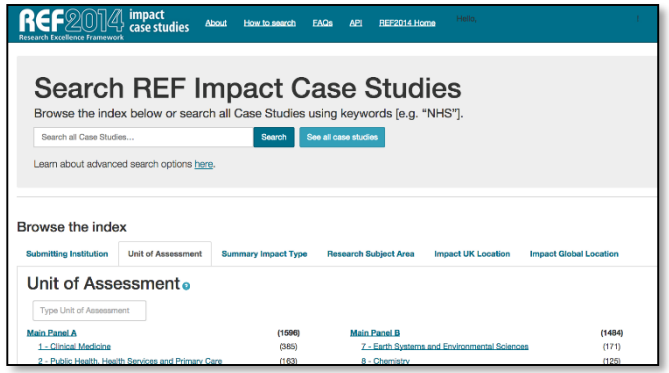
While increasing African elephant numbers in the last 20 years has been a success for conservation efforts, it creates problems for farmers when the elephants raid their crops.

Building on local anecdotal evidence, zoologists from the University of Oxford published a study in 2002 reporting that elephants avoided feeding on acacia trees hung with beehives. Partnering with a bio acoustician from Disney's Animal Kingdom, the team went on to show that the buzz of aggressive bees caused elephants to emit a low frequency rumble, causing other nearby elephants to retreat.

Using honey bees as an effective deterrent for crop-raiding elephants', REF 2014 IMPACT CASE STUDYhttp://impact.ref.ac.uk/CaseStudies/CaseStudy.aspx?Id=17588

They went on to develop and test a novel elephant-deterring beehive fence, built using low-tech, easy to maintain materials. The fences reduced raids on farmers' crops, improving their food security. In tandem, sales of 'elephant friendly' honey from the beehives offset the costs of building the fence.

UNESCO and the World Bank have since backed the use of beehive fences as a means to reduce human-elephant conflict. Projects are now running in farms across Kenya, Botswana, Tanzania, Mozambique and Uganda.



http://impact.ref.ac.uk

THREE KEY LESSONS ON GETTING A 4* RATING

- Articulate and evidence significant impact
- Provide evidence that impacts are far-reaching
- Submit the impact not [just] the pathway to impact

"To ensure you are submitting the actual impact, and not just the pathway to impact, keep asking "what was the benefit and why was this important?" and describe the benefits.....If you don't know why it was important, ask the ***beneficiaries*** *to tell you what was meaningful or valuable to them"*

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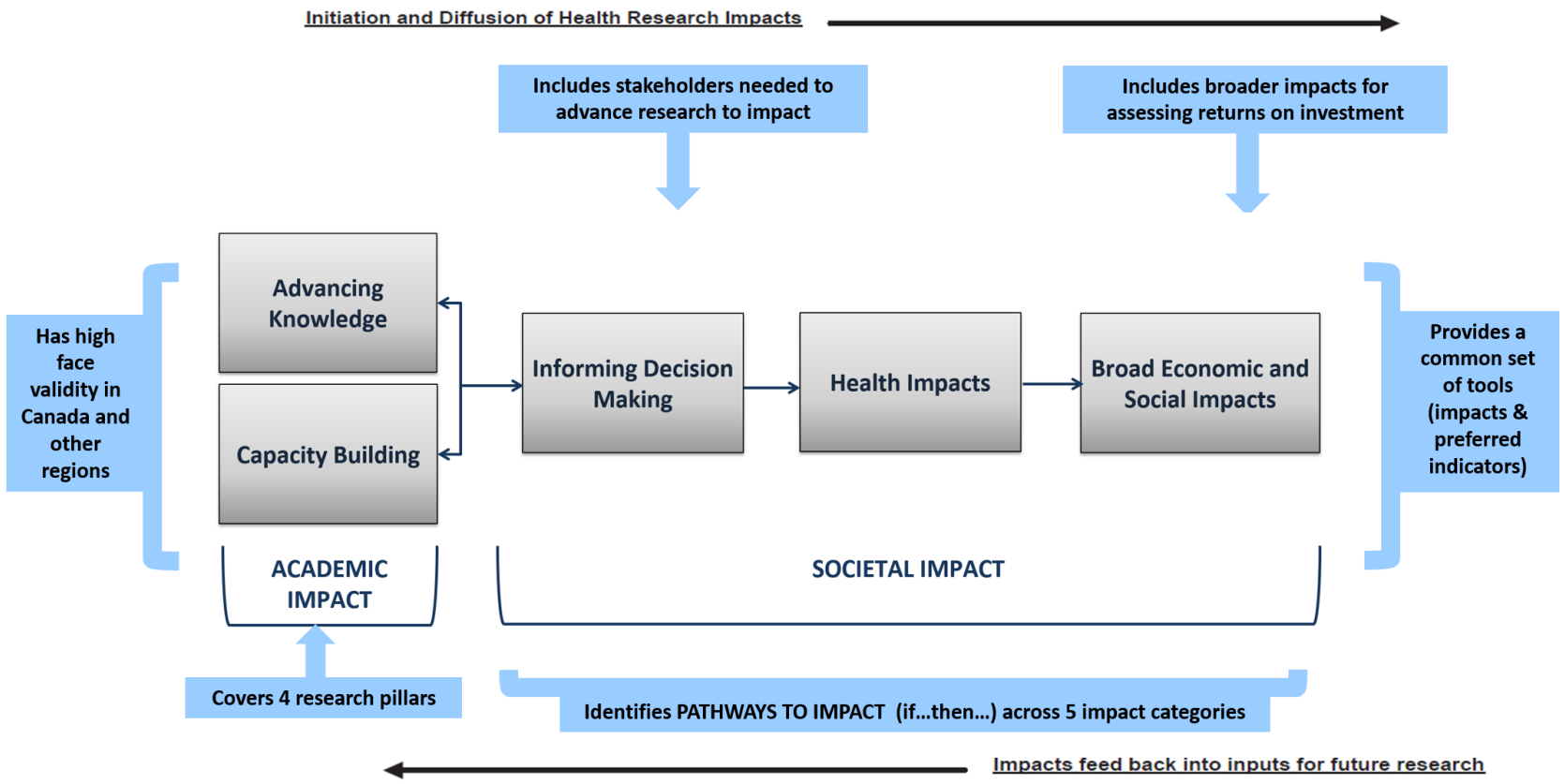
Source: What makes a 4 research impact case study for REF2021? Mark Reed, 2017*

CANADIAN ACADEMY
OF HEALTH SCIENCES (CAHS)



*Canadian Academy of Health Sciences (2009) Making an Impact http://www.cahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf

CAHS OFFERS A MENU OF INDICATORS - SAMPLE

Academic Impact

Advancing Knowledge

- Relative citation impact
- Highly cited publications
- Publications in high quality outlets
- Co-author analysis
- Field analysis of citations

Capacity Building

- Graduated research students in health related subjects
- Number of research and research related staff in Canada
- Levels of additional research funding
- Infrastructure grants ($)

Wider Impact

Informing Decision Making

- Use of research in guidelines
- Consulting to policy
- Number of patents licensed

Health Impacts

- Adherence to clinical guidelines
- QALYs
- PROMs
- Wait times

Broad Economic & Social Impacts

- Licensing returns ($)
- Product sales revenues ($)
- Valuation of spin out companies ($)
- Happiness
- Socio-economic status

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EXCELLENCE IN RESEARCH FOR AUSTRALIA

- An assessment system, administered by the Australian Research Council, which evaluates the research quality of all Australian universities
- Defines Impact as: the contribution that research makes to the economy, society, environment and culture beyond the contribution to academic research
- Will use both narrative statements, impact case studies and a small set of indicators

Sample of Engagement Indicators

- Cash support from end-users
- Research commercialization income
- Patents granted
- Proportion of total research outputs available via open access

ERA PILOT 2017 – ENGAGEMENT AND IMPACT

Unit of Assessment
Pilot FoRs: 03, 11, 21, 22

Engagement

- Suite of Metrics/ Indicators
- Narrative

→ Rating for Engagement

Unit of Assessment
Pilot FoRs: 05, 07, 09, 13, 19, 20, interdisciplinary and Indigenous

Impact

- Impact Studies

→ Rating for Impact

Standard Evaluation Protocol | Netherland

- Research Evaluation Protocol developed to assess academic research on a regular base
- Combination of "self evaluation reports" and "evaluation panel"
- Impact defined as "relevance to society", indicated by
  - Outputs and outreach activities for society
  - Uses of research by societal groups
  - Marks of recognition by society groups
- Indicators should be supported by a narrative of 3-5 pages which indicates the relevance, or even impact or added value the group had during the assessment period.

IN SUMMARY

- A review of how national impact frameworks integrate societal impact with research excellence
- Need to consider such frameworks in terms of requirements in your organization and research ecosystem

2 IMPACT PATHWAYS – FOCUS ON IMPACTS

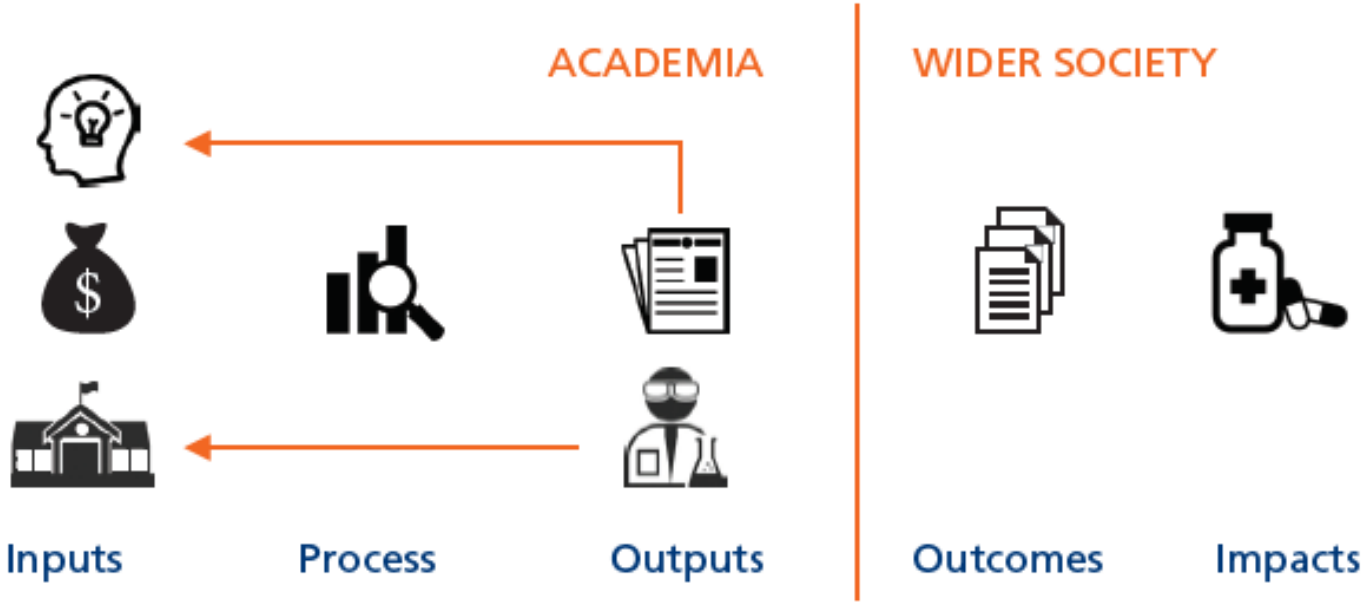
LEARNING OUTCOMES

- Describe components of pathways to impact (aka logic model)
- Using the components to link research to impact
- Know what to consider when creating your impact strategy

IMPACT PATHWAYS: TRACING RESEARCH TO IMPACT

- A tool that describes the theory of change underlying strategy
- A picture of how your strategy works from the point of linking inputs to achieving desired impacts
- It characterizes your strategy through a system of components with context being important
- Used to identify causality and expose gaps in a strategy
- Serves as a guide for your impact strategy, assessment and communicating (desired) impacts

MAPPING RESEARCH TO SOCIETAL IMPACT



Source: Jonathan Grant, ISRIA

LEARNING ACTIVITY

10 MINUTES

IN SMALL GROUPS

CREATING *IMPACT* WITHIN A WIDER RESEARCH ECOSYSTEM: Where are you positioned?

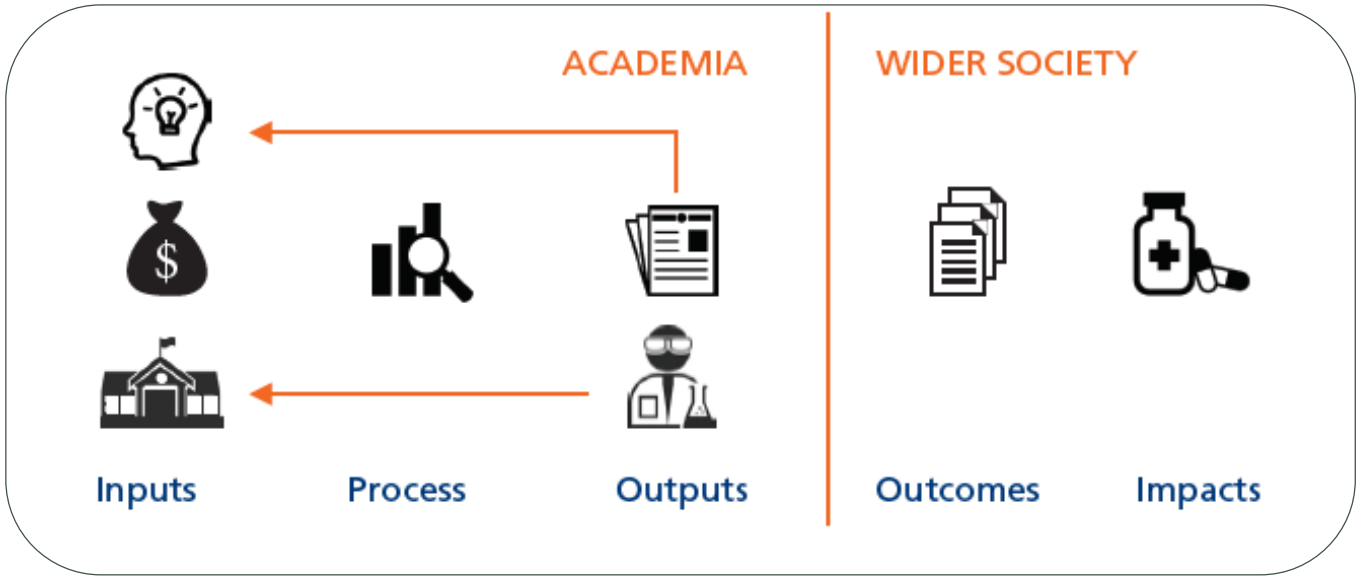
Funding process

Making funding available

Applying for funding

Distributing funds

Research process



Funding
Knowledge
Space

Research
Engagement
Dissemination & Writing
Report back to funder

Non-academic comms
Stakeholder engagement
Capturing impact (REF)
Report back to funder

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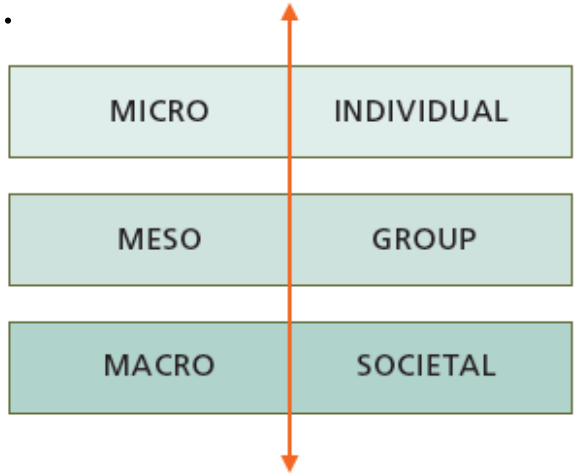
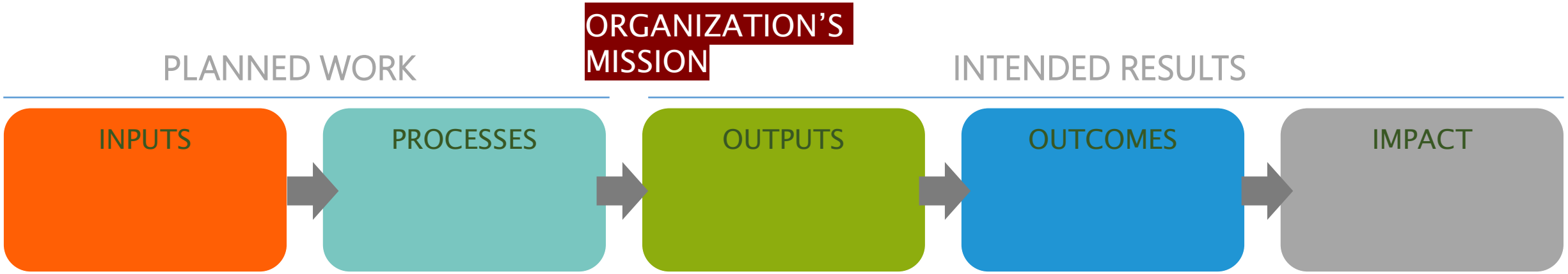
STRATEGIC ALIGNMENT CONSIDERATIONS

- Align societal impact strategy with your organization's mission and research strategy
- Identify the level(s) of aggregation you are interested in:



THE SIMPLE PATHWAYS TO IMPACT

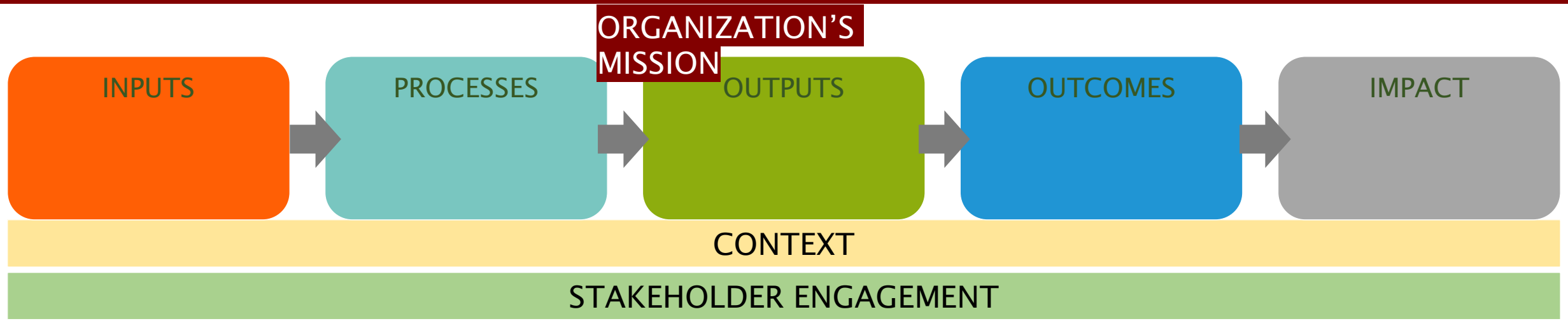


Inputs are the resources (human, financial) needed to execute the strategy, meaning to undertake the activities

Processes describe the actions undertaken to attain the outcome (to reach the strategic purpose)

Outputs are directly linked to the activities and illustrate immediate results of one or several activities

Outcomes describe the change the strategy intends to produce, if the theory of change is appropriate. You may distinguish between short-term, medium-term, and long-term outcomes



Context considers the important features (social, political, economic aspects) of the environment where a strategy is undertaken. Context is important if one wants to generalise findings of a specific intervention

Engagement interaction between researchers & research end-users (e.g. individual, organization) in achieving of impact

Impact describes "the effect of the strategy on a larger system" "Impact is the fundamental intended or unintended change occurring in organizations, communities or systems as a result of program activities within 7 to 10 years. Impact often occurs after the conclusion of program funding

THE "IF . . . THEN" APPROACH AS A USEFUL TOOL

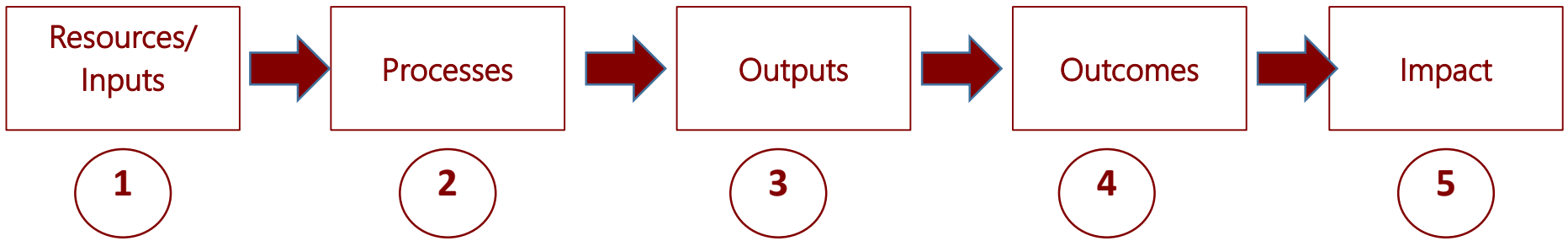
Certain resources are needed to operate your program

If you have access to them, *then* you can use them to accomplish your planned processes/activities

If you accomplish your planned processes/activities, *then* you will hopefully deliver the amount of product and/or service that you intended

If you accomplish your planned activities to the extent you intended, *then* your participants will benefit in certain ways

If these benefits to participants are achieved, ***then*** certain changes in organizations, communities, or systems might be expected to occur



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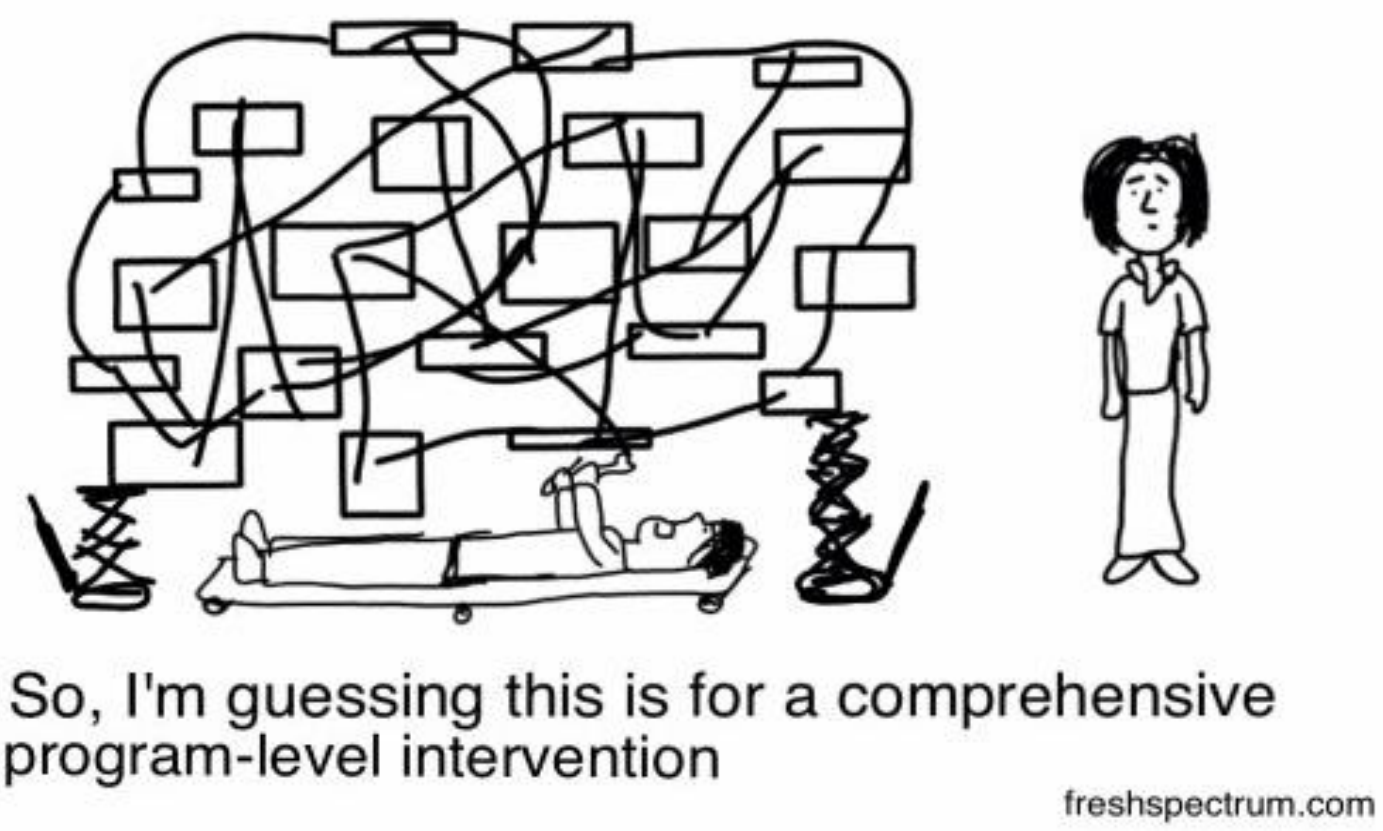
LIMITATIONS

"Don't fall in love with your pathways to impact"

- Tricky to apply to turbulent strategies and programs
- Cannot capture the counterfactual
- Dynamic and time-limited
- Must be continually updated or it becomes obsolete
- Might miss feedback loops
  - Capture these somehow, but do not complicate it!

AT THE IMPACT PATHWAYS

REPAIR SHOP



3 ENGAGE STAKEHOLDERS

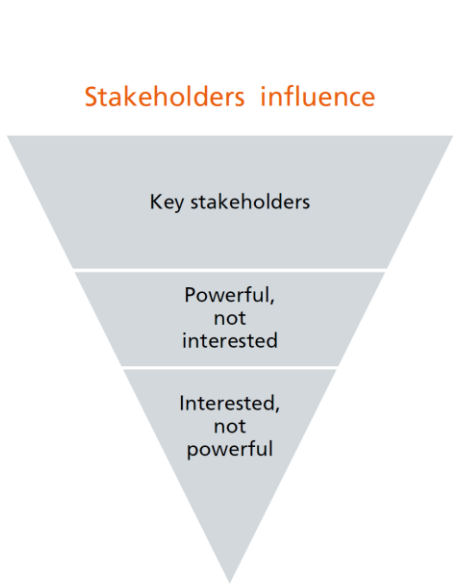
IDENTIFY STAKEHOLDERS

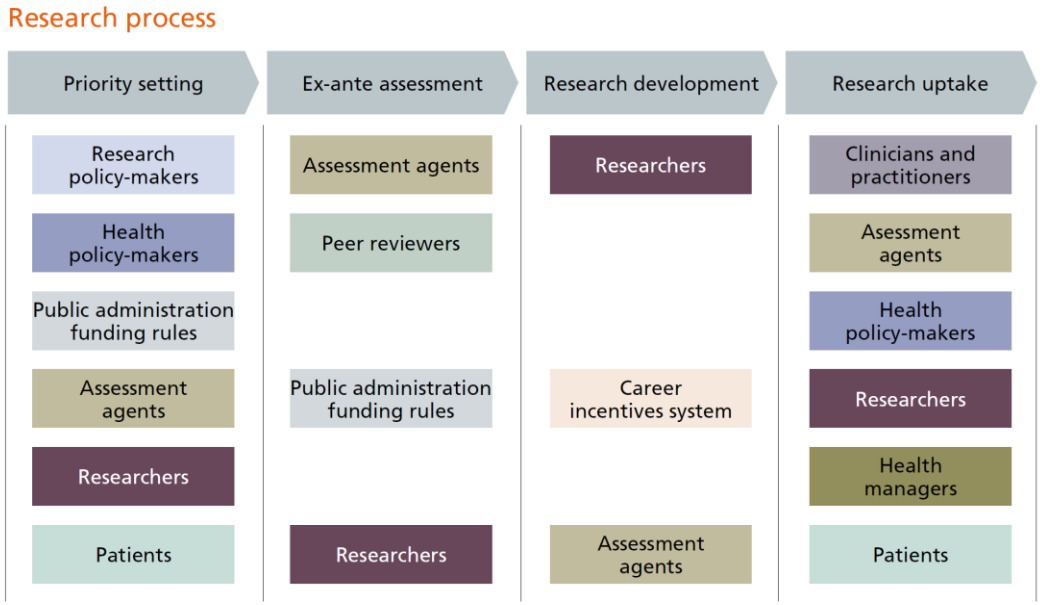
ENGAGE STAKEHOLDERS TO UNDERSTAND PERSPECTIVES

Types of Stakeholders	Perspectives
Funders of research • the public; government; research funding bodies; universities/institutes	• Demonstrate money well spent; make the case for more money; learning how to improve outcomes through allocation
Doers of research • Universities/institutes; departments; teams; researchers	• Demonstrate research effort and career well spent; make the case for more money; demonstrate personal achievement for career advancement
Beneficiaries • Patients; professional organizations; policy analysts; citizens	• Demonstrate benefits of research and impacts

ENGAGE STAKEHOLDERS TO ACHIEVE IMPACT

EXAMPLE HEALTH RESEARCH ASSESSMENT IN SPAIN





Source: Paula Adam ISRIA

STAKEHOLDER QUESTIONS

EXAMPLE OF QUESTIONS

- Is the research strategy achiveing anticipated societal impacts?
- What is the economic impact of the University to the region?
- Are there any unintended impacts as a result of the research strategy?

LEARNING
ACTIVITY

10 MINUTES

IN SMALL GROUPS

In your groups, discuss who the Smart Strategy Group needs to engage to achieve:

- smart public services?
- smart technology education and training programs?

From your experience, what challenges do you anticipate in engaging these stakeholders? what has worked well?

KEY MESSAGES

- Know the motivations for integrating societal impact
- Impact frameworks and pathways are tools for:
  - Organizing information and concepts
  - Clarify thinking about strategy linkages
- Tradeoffs and choices need to be made for developing your impact strategy. Need to consider:
  - Research eco-system context
  - Purpose for integrating societal impact
  - Engaging stakeholders to achieve impact (understand their perspectives and questions)

FURTHER READING

- Greenhalgh, Trisha, and Nick Fahy. "Research impact in the community-based health sciences: an analysis of 162 case studies from the 2014 UK Research Excellence Framework." BMC medicine 13.1 (2015): 1
- Bornmann, L. (2013) What is societal impact of research and how can it be assessed? a literature survey. Journal of the American Society for Information Science and Technology, 64(20:217-233).
- Guthrie, S, Wamae, W, Diepeveen, S, Wooding, S and Grant, J (2013). Measuring research: a guide to research evaluation frameworks and tools. RAND Europe, Cambridge (MG-1217-AAMC)
- King's College London and Digital Science (2015). The nature, scale and beneficiaries of research impact: An initial analysis of Research Excellence Framework (REF) 2014 impact case studies. Bristol, United Kingdom: HEFCE.
- Logic model development guide (by Kellogg foundation) http://www.smartgivers.org/uploads/logicmodelguidepdf.pdf

THANK YOU

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UP NEXT

Lunch

12.30 – 13.30

M.M van Hamaele Hall

The Next Events by AESIS

3-5 April 2019
Bilbao, Spain

International Course:
Implementing a National Research Impact Strategy

Quantitative and qualitative criteria for designing an effective policy framework for impact measurement

6 & 7 June 2019
Berlin, Germany

Annual Conference:
Impact of Science

Finding shared approaches to assess, enable and accelerate impact on society

UP NEXT....

Implementing Societal Impact in New Policy Initiatives

Marie Claire Van de Velde

Dr. Marie Claire Van de Velde

Senior policy-advisor to the vicerector Ghent University, Belgium

Implementing societal impact in new policy initiatives

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@ugent
Ghent University

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Overview

Defining (research) impact

- REF 2014 – REF 2021
- @ UGENT
- Supporting impact

New policy initiatives and impact

- Citizen Science projects (+ exercise impact vision)
- Co-creation hub (Helsinki & Ghent experience)

Sharing experiences

- Accomplissh
- Emerald publishing
- AESIS, ISRIA

Demystifying (research) impact

Academics are no longer confined to their university campuses

All of us are working with diverse external communities such as business leaders, health agencies, government bodies, policy makers and citizens.

Collaborating with external partners is facilitating economic or societal benefit beyond traditional academic outputs, fostering a culture of trust, expertise and influence, is leading to what is known as impact.

How to identify and evidence impact?

Recently, impact, as a term, has become so overanalyzed and so overemphasised that it seems to assume these gigantic proportions overshadowing every other priority. Impact is not a new task separate to research and teaching, competing with those things for your limited time and resource, and generally causing stress. It coexists with those things.

Inspired on Rose-Marie BARBEAU, University of Glasgow

What is it about research impact?

The research impact agenda has become increasingly important since REF 2014.
Many funding bodies since then require a statement of research impact as part of the grant application process.

Research impact: **the demonstrable contribution that research makes to society – that is, to communities beyond academia.**

It should be an evidenced and measurable effect, change or benefit to:

- Activities, attitudes, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding
- An audience, beneficiary, community, constituency, organisation or individuals beyond Higher Education
- In any geographic location whether locally, regionally, nationally or internationally

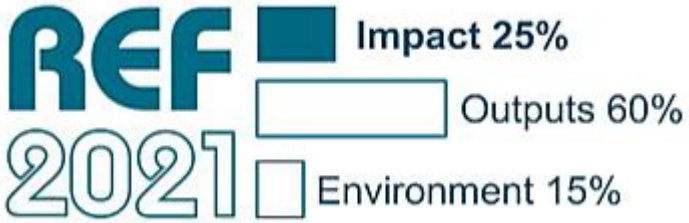
Research impact grows out of academic work, by engagement with research users: from specialist groups to companies or the general public.

Impact is partly driven by the results of the research, and partly by how that research is then used/shared/communicated.

REF2014
Research Excellence Framework

Impact: 20 per cent of the overall results

Definition for the REF	'Impact' is any effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.
Information provided in submissions	Each submission included: **Impact case studies**. These four-page documents described impacts that had occurred between January 2008 and July 2013. The submitting university must have produced high quality research since 1993 that contributed to the impacts. Each submission included one case study, plus an additional case study for every 10 staff. **An impact template**. This document explained how the submitted unit had enabled impact from its research during the period from 2008 to 2013, and its future strategy for impact.
Assessment criteria	Impact case studies were assessed in terms of the '*reach and significance*' of the impacts. Impact templates were assessed in terms of how far the approach and strategy are conducive to achieving impacts.

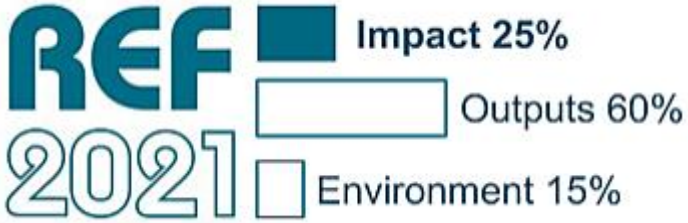


Impact	An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.

292. Impact **includes**, but is not limited to, an effect on, change or benefit to:

- the activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding
- of an audience, beneficiary, community, constituency, organisation or individuals
- in any geographic location whether locally, regionally, nationally or internationally.

293. Impact **includes** the reduction or prevention of harm, risk, cost or other negative effects.



295. Impacts will be assessed in terms of their 'reach and significance' regardless of the geographic location in which they occurred, whether locally, regionally, nationally or internationally. The UK funding bodies expect that many impacts will contribute to the economy, society and culture within the UK, but equally value the international contribution of UK research.

297. The REF aims to assess the impact of excellent research undertaken within each submitted unit. This will be evidenced by specific examples of impacts that have been underpinned by research undertaken within the unit over a period of time. The focus of the assessment is the impact of the submitted unit's research, not the impact of individuals or individual research outputs, although they may contribute to the evidence of the submitted unit's impact.

298. Each submission must include **impact case studies (REF3)** describing specific impacts that have occurred during the assessment period (1 August 2013 to 31 July 2020) that were underpinned by excellent research undertaken in the submitted unit. The underpinning research must have been produced by the submitting HEI during the period 1 January 2000 to 31 December 2020[18].

Clinical Medicine

Public Health, Health Services and Primary Care

Allied Health Professions, Dentistry, Nursing and Pharmacy

Psychology, Psychiatry and Neuroscience

Biological Sciences

Agriculture, Veterinary and Food Science

Impacts on health and welfare:

Impacts where the beneficiaries are individuals and groups (both human and animals) whose quality of life has been enhanced (or potential harm mitigated)

- Outcomes for patients or related groups have improved.
- Public health and well-being has improved.
- A new clinical or lifestyle intervention (for example, drug, diet, treatment or therapy) has been developed, trialled with patients, related or other groups (for example, prisoners, community samples), and definitive (positive or negative) outcome demonstrated.
- A new diagnostic or clinical technology has been adopted.
- Disease prevention or markers of health have been enhanced by research.
- Animal health and welfare has been enhanced by research.
- Care and educational practices have changed.
- Clinical, dietary or healthcare guidelines have changed.
- Healthcare training guidelines have changed.
- Decisions by a health service or regulatory authority have been informed by research.
- Public awareness of a health risk or benefit has been raised.
- Public engagement/involvement in research has improved.
- Public behaviour has changed.
- The user experience has improved.
- Animal health and welfare has been enhanced by research.
- The control of diseases has changed.

REF2014
Research Excellence Framework

- Clinical Medicine
- Public Health, Health Services and Primary Care
- Allied Health Professions, Dentistry, Nursing and Pharmacy
- Psychology, Psychiatry and Neuroscience
- Biological Sciences
- Agriculture, Veterinary and Food Science

Impacts on society, culture and creativity: Impacts where the beneficiaries are individuals, groups of individuals, organisations or communities whose knowledge, behaviours or practices have been influenced	• Public understanding has improved. • Public debate has been stimulated or informed by research. • Changes to social policy have been informed by research. • Changes to social policy have led to improved social welfare, equality or social inclusion.
Impacts on the economy: Impacts where the beneficiaries are usually the NHS, private health care, or agriculture activity.	• Policies have been introduced which have had an impact on economic growth or incentivising productivity. • The costs of treatment or healthcare have changed as a result of research-led changes in practice. • Gains in productivity have been realised as a result of research-led changes in practice. • The roles and/or incentives for health professionals and organisations have changed, resulting in improved service delivery.
Impacts on commerce: Impacts where the beneficiaries are usually companies, either new or established, or other types of organisation which undertake activity that creates wealth	• A spin-out or new business has been created and established its viability by generating revenue or profits. • Industry (including overseas industry) has invested in research and development. • The performance of an existing business has been improved. • A business or sector has adopted a new technology or process. • The strategy, operations or management practices of a business have changed. • A new product or service is in production or has been commercialised. • Highly skilled people have taken up specialist roles (including academic consultancy) in companies or other organisations. • Jobs have been created or protected. • Social enterprise initiatives have been created.

Supported by TTO services

Clinical Medicine

Public Health, Health Services and Primary Care

Allied Health Professions, Dentistry, Nursing and Pharmacy

Psychology, Psychiatry and Neuroscience

Biological Sciences

Agriculture, Veterinary and Food Science

Impacts on public policy and services: Impacts where the beneficiaries are usually government, public sector, and charity organisations and societies, either as a whole or groups of individuals in society, through the implementation of policies	• Policy debate has been stimulated or moved forward by research evidence. • Policy decisions or changes to legislation, regulations or guidelines have been informed by research evidence. • The implementation of a policy (for example, health, environment or agricultural policy) or the delivery of a public service has changed. • A new technology or process has been adopted. • The quality, accessibility, acceptability or cost-effectiveness of a public service has been improved. • The public has benefitted from public service improvements. • Control measures for infections have improved.
Impacts on production: Impacts where the beneficiaries are individuals (including groups of individuals) whose production has been enhanced	• Production, yields or quality have increased or level of waste has been reduced. • Decisions by regulatory authorities have been influenced by research. • Costs of production, including food, have been reduced. • Husbandry methods have changed. • Management practices in production businesses have changed.
Impacts on practitioners and services: Impacts where beneficiaries are organisations or individuals, including service users involved in the development of and delivery of professional services	• Professional standards, guidelines or training have been influenced by research. • Practitioners/professionals have used research findings in conducting their work. • The quality or efficiency of a professional service has improved. • Work force planning has been influenced by research. • Forensic methods have been influenced by research. • Educational or pedagogical practices and methods have changed outside of the submitting unit. • Law enforcement and security practices have changed.

Clinical Medicine

Public Health, Health Services and Primary Care

Allied Health Professions, Dentistry, Nursing and Pharmacy

Psychology, Psychiatry and Neuroscience

Biological Sciences

Agriculture, Veterinary and Food Science

Impacts on the environment:

Impacts where the key beneficiary is the natural or built environment

- Policy debate on climate change or the environment has been influenced by research.
- Environmental policy decisions have been influenced by research evidence.
- Planning decisions have been informed by research.
- The management or conservation of natural resources has changed.
- The management of an environmental risk or hazard has changed.

Impacts on international development:

Impacts where the beneficiaries are international bodies, countries, governments or communities

- International policy development has been influenced by research.
- International agencies or institutions have been influenced by research.
- Quality of life in a developing country has improved.

Earth Systems and Environmental Sciences

Chemistry

Physics

Mathematical Sciences

Computer Science and Informatics

Aeronautical, Mechanical, Chemical and Manufacturing Engineering

Electrical and Electronic Engineering, Metallurgy and Materials

Civil and Construction Engineering

General Engineering

Economic impacts

Impacts where the beneficiaries may include businesses, either new or established, or other types of organisation which undertake activity that may create wealth

- The performance of an existing business has been improved through the introduction of new, or the improvement of existing, products, processes or services; the adoption of new, updated or enhanced technical standards and/or protocols; or the enhancement of strategy, operations or management practices.
- A spin-out or new business has been created, established its viability, or generated revenue or profits.
- A new business sector or activity has been created.
- A business or sector has adopted a new or significantly changed technology or process, including through acquisition and/or joint venture.
- Performance has been improved, or new or changed technologies or processes adopted, in companies or other organisations through highly skilled people having taken up specialist roles that draw on their research, or through the provision of consultancy or training that draws on their research.
- Potential future losses have been mitigated by improved methods of risk assessment and management in safety or security critical situations.

Impacts on public policy and services

Impacts where the beneficiaries may include government, non-governmental organisations (NGOs), charities and public sector organisations and society, either as a whole or groups of individuals in society

- A policy has been implemented (including those realised through changes to legislation) or the delivery of a public service has changed.
- (Sections of) the public have benefited from public service improvements.
- In delivering a public service, a new technology or process has been adopted or an existing technology or process improved.
- Policy debate has been stimulated or informed by research evidence.
- Policy decisions or changes to legislation, regulations or guidelines have been informed by research evidence.
- Changes to education or the school curriculum have been informed by research.
- Risks to the security of nation states have been reduced.
- The development of policies and services of benefit to the developing world has been informed by research.

Earth Systems and Environmental Sciences

Chemistry

Physics

Mathematical Sciences

Computer Science and Informatics

Aeronautical, Mechanical, Chemical and Manufacturing Engineering

Electrical and Electronic Engineering, Metallurgy and Materials

Civil and Construction Engineering

General Engineering

Impacts on society, culture and creativity

Impacts where the beneficiaries may include individuals, groups of individuals, organisations or communities whose knowledge, behaviours, creative practices and other activity have been influenced

- Public discourse has been stimulated or informed by research.
- Public interest and engagement in science and engineering has been stimulated, including through the enhancement of science and engineering-related education in schools.
- The awareness, attitudes or understanding of (sections of) the public have been informed, and their ability to make informed decisions on issues improved, by engaging them with research.
- The work of an NGO, charitable or other organisation has been influenced by the research.
- Research has contributed to community regeneration.

Health impacts

Impacts where the beneficiaries may include individuals (including groups of individuals) whose health outcomes have been improved or whose quality of life has been enhanced (or potential harm mitigated) through the application of enhanced healthcare for individuals or public health activities

- A new drug, treatment or therapy, diagnostic or medical technology has been developed, trialled with patients, or adopted.
- Patient health outcomes have improved through, for example, the availability of new drug, treatment or therapy, diagnostic or medical technology, changes to patient care practices, or changes to clinical or healthcare guidelines.
- Public health and quality of life has been enhanced through, for example, enhanced public awareness of a health risk, enhanced disease prevention or, in developing countries, improved water quality or access to healthcare.
- Decisions by a health service or regulatory authority have been informed by research.
- The costs of treatment or healthcare have reduced.
- Quality of life in a developed or developing country has been improved by new products or processes.

Earth Systems and Environmental Sciences

Chemistry

Physics

Mathematical Sciences

Computer Science and Informatics

Aeronautical, Mechanical, Chemical and Manufacturing Engineering

Electrical and Electronic Engineering, Metallurgy and Materials

Civil and Construction Engineering

General Engineering

Impacts on practitioners and professional services Impacts where beneficiaries may include organisations or individuals involved in the development of and delivery of professional services	• Changes to professional standards, guidelines or training have been informed by research. • Practitioners/professionals/lawyers have used research findings in the conduct of their work. • The quality or efficiency or productivity of a professional service has improved. • Professional bodies and learned societies have used research to define best practice. • Practices have changed, or new or improved processes have been adopted, in companies or other organisations, through the provision of training or consultancy. • Expert and legal work or forensic methods have been informed by research.
Impacts on the environment Impacts where the key beneficiaries are the natural environment and/or the built environment, together with societies, individuals or groups of individuals who benefit as a result	• The environment has been improved through the introduction of new product(s), process(es) or service(s); the improvement of existing product(s), process(es) or services; or the enhancement of strategy, operations or management practices. • New methods, models, monitoring or techniques have been developed that have led to changes or benefits. • Policy debate on the environment, environmental policy decisions or planning decisions have been stimulated or informed by research and research evidence. • The management or conservation of natural resources, including energy, water and food, has been influenced or changed. • The management of an environmental risk or hazard has changed. • The operations of a business or public service have been changed to achieve environmental (green) objectives. • Direct intervention, based on research evidence, has led to reduction in carbon dioxide or other environmentally damaging emissions.

Architecture, Built Environment and Planning

Geography, Environmental Studies and Archaeology

Economics and Econometrics

Business and Management Studies

Law

Politics and International Studies

Social Work and Social Policy

Sociology

Anthropology and Development Studies

Education

Sport and Exercise Sciences, Leisure and Tourism

Impacts on creativity, culture and society: Impacts where the beneficiaries are individuals, groups of individuals, organisations or communities whose knowledge, behaviours, practices, rights or duties have been influenced	• Enhancements to heritage preservation, conservation and presentation; the latter including museum and gallery exhibitions. • Production of cultural artefacts, including for example, films, novels and TV programmes. • Public or political debate has been shaped or informed; this may include activity that has challenged established norms, modes of thought or practices. • Improved social welfare, equality, social inclusion; improved access to justice and other opportunities (including employment and education). • Improvements to legal and other frameworks for securing intellectual property rights. • Enhancements to policy and practice for securing poverty alleviation. • Influential contributions to campaigns for social, economic political and/or legal change. • Enhanced cultural understanding of issues and phenomena; shaping or informing public attitudes and values.
Economic, commercial, organisational impacts: Impacts where the beneficiaries may include new or established businesses, or other types of organisation undertaking activities which create wealth	• Changed approach to management of resources has resulted in improved service delivery. • Development of new or improved materials, products or processes. • Improved support for the development of 'small scale' technologies. • Improved effectiveness of workplace practices. • Improvements in legal frameworks, regulatory environment or governance of business entities. • Better access to finance opportunities. • Contribution to improved social, cultural and environmental sustainability. • Enhanced corporate social responsibility policies. • More effective dispute resolution. • Understanding, developing and adopting alternative economic models (such as fair trade).

Architecture, Built Environment and Planning

Geography, Environmental Studies and Archaeology

Economics and Econometrics

Business and Management Studies

Law

Politics and International Studies

Social Work and Social Policy

Sociology

Anthropology and Development Studies

Education

Sport and Exercise Sciences, Leisure and Tourism

Impacts on the environment:

Impacts where the key beneficiaries are the natural, historic and/or built environment, together with societies, individuals or groups of individuals who benefit as a result

- Specific changes in public awareness or behaviours relevant to the environment.
- Improved management or conservation of natural resources or environmental risk.
- Improved management of an environmental risk or hazard.
- Operations or practice of a business or public service have been changed to achieve environmental objectives.
- Improved design or implementation of environmental policy or regulation.
- Changed conservation policy/practice or resource management practices.
- Changes in environmental or architectural design standards or general practice.
- Influence on professional practice or codes.
- Changes in practices or policies affecting biodiversity.

Health and welfare impacts:

Impacts where the beneficiaries are individuals and groups (human or animal) whose quality of life has been enhanced (or harm mitigated) or whose rights or interests have been protected or advocated

- Development or adoption of new indicators of health and well-being.
- Development of policy and practice with regard to medical ethics, health services or social care provision.
- Influence on CPD.
- Influence or shaping of relevant legislation.
- Influencing policy or practice leading to improved take-up or use of services.
- Improved provision or access to services.
- Development of ethical standards.
- Improved standards in training.
- Improved health and welfare outcomes.

Architecture, Built Environment and Planning

Geography, Environmental Studies and Archaeology

Economics and Econometrics

Business and Management Studies

Law

Politics and International Studies

Social Work and Social Policy

Sociology

Anthropology and Development Studies

Education

Sport and Exercise Sciences, Leisure and Tourism

Impacts on practitioners and professional services:

Impacts where the beneficiaries may include organisations or individuals involved in the development and/or delivery of professional services and ethics

- Changed practice for specific groups (which may include cessation of certain practices shown to be ineffective by research).
- Influence on professional standards, guidelines or training.
- Development of resources to enhance professional practice.
- Use of research findings in the conduct of professional work or practice.
- Influence on planning or management of services.
- Use of research findings by professional bodies to define best practice, formulate policy, or to lobby government or other stakeholders.
- Practitioner debate has been informed or stimulated by research findings.
- Research has challenged conventional wisdom, stimulating debate among stakeholders.

Impacts on public policy, law and services:

Impacts where the beneficiaries are usually government, public sector and charity organisations and societies, either as a whole or groups of individuals in society through the implementation or non-implementation of policies, systems or reforms

- Legislative change, development of legal principle or effect on legal practice.
- Forms of regulation, dispute resolution or access to justice have been influenced.
- Shaping or influence on policy made by government, quasi-government bodies, NGOs or private organisations.
- Changes to the delivery or form of any service for the public.
- Policy debate has been stimulated or informed by research evidence, which may have led to confirmation of policy, change in policy direction, implementation or withdrawal of policy.
- Effect on the quality, accessibility, cost-effectiveness or efficiency of services.
- Impact on democratic participation.
- Influencing the work of NGOs or commercial organisations.
- Improved public understanding of social issues.
- Enabling a challenge to conventional wisdom.

Area Studies

Modern Languages and Linguistics

English Language and Literature

History

Classics

Philosophy

Theology and Religious Studies

Art and Design: History, Practice and Theory

Music, Drama, Dance and Performing Arts

Communication, Cultural and Media Studies, Library and Information Management

Table D1 Indicative range of impacts

Civil society	Informing and influencing the form and content of associations between people or groups to illuminate and challenge cultural values and social assumptions.
Cultural life	Creating and interpreting cultural capital in all of its forms to enrich and expand the lives, imaginations and sensibilities of individuals and groups.
Economic prosperity	Applying and transferring the insights and knowledge gained from research to create wealth in the manufacturing, service, creative and cultural sectors.
Education	Informing and influencing the form or the content of the education of any age group in any part of the world where they extend significantly beyond the submitting HEI.
Policy making	Informing and influencing policy debate and practice through interventions relating to any aspect of human or animal well-being or the environment.
Public discourse	Extending the range and improving the quality of evidence, argument and expression to enhance public understanding of the major issues and challenges faced by individuals and society.
Public services	Contributing to the development and delivery of public services or legislation to support the welfare, education, understanding or empowerment of diverse individuals and groups in society, including the disadvantaged or marginalised.

Area Studies

Modern Languages and Linguistics

English Language and Literature

History

Classics

Philosophy

Theology and Religious Studies

Art and Design: History, Practice and Theory

Music, Drama, Dance and Performing Arts

Communication, Cultural and Media Studies, Library and Information Management

- Generating new ways of thinking that influence creative practice.
- Creating, inspiring and supporting new forms of artistic, literary, linguistic, social, economic, religious, and other expression.
- Contributing to innovation and entrepreneurial activity through the design and delivery of new products or services.
- Contributing to economic prosperity via the creative sector including publishing, music, theatre, museums and galleries, film and television, fashion, tourism, and computer games.
- Informing or influencing practice or policy as a result of research on the nature and extent of religious, sexual, ethnic or linguistic discrimination.
- Research into the languages and cultures of minority linguistic, ethnic, religious, immigrant, cultures and communities used by government, NGOs, charities or private sector to understand and respond to their needs.
- Helping professionals and organisations adapt to changing cultural values.
- Contributing to continuing personal and professional development.
- Preserving, conserving, and presenting cultural heritage.
- Developing stimuli to tourism and contributing to the quality of the tourist experience.
- Influencing the design and delivery of curriculum and syllabi in schools, other HEIs or other educational institutions where the impact extends significantly beyond the submitting HEI, for example through the widespread use of text books, primary sources or an IT resource in education.
- Contributing to processes of commemoration, memorialisation and reconciliation.
- Contributing to a wider public understanding of basic standards of wellbeing and human rights conceptions.
- Informing or influencing the development of expert systems in areas such as medicine, human resources, accounting, and financial services.
- Influencing the methods, ideas or ethics of any profession.
- Providing expert advice to governments, NGOs, charities and the private sector in the UK and internationally, and thereby influencing policy and/or practice.
- Engaging with and mediating between NGOs and charities in the UK and internationally to influence their activities, for example in relation to health, education and the environment.
- Contributing to widening public access to and participation in the political process.

Area Studies

Modern Languages and Linguistics

English Language and Literature

History

Classics

Philosophy

Theology and Religious Studies

Art and Design: History, Practice and Theory

Music, Drama, Dance and Performing Arts

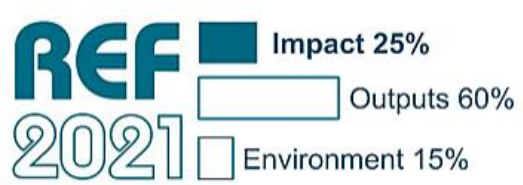
Communication, Cultural and Media Studies, Library and Information Management

Table D2 Examples of evidence of impact

Quantitative indicators	• Publication and sales figures both in the UK and overseas, audience or attendance figures (including demographic data where relevant), broadcasting data and other forms of media, download figures, or database and web-site hits over a sustained period. • Funding from public or other charitable bodies. • Evidence of use of education materials arising from the research (where they extend significantly beyond the submitting HEI). • Tourism data, including audience figures and visitor numbers at exhibitions, events, performances. • Growth of small businesses in the creative industries. Generation of new products. Sales figures and income generated. Employment data (for example, evidence of jobs created).
Critiques or citations in users' documents	• Citations in reviews outside academic literature. Independent citations in the media, including in online documents. Reviews, blogs and postings. Programme, exhibition or catalogue notes. Prizes. Translations. Recorded feedback. • Inclusion in teaching materials or teaching bibliographies. Replication of work in structure of courses. • Evidence of uptake of research in documents produced by public or commercial bodies; citations in policy documents and reviews, or other published reports on policy debates.
Public engagement	• Information about the number and profile of people engaged and types of audience. Follow-up activities or media coverage. Evidence of sales, downloads of linked resources or access to web content. • Descriptions of the social, cultural or other significance of the research insights with which the public have engaged. Evaluation data. User feedback or testimony. Critical external reviews of the engagement activity. Evidence of third party involvement, for example how collaborators have modified their practices, contributions (financial or in-kind) by third parties to enhance services or support for the public, or evidence of funds from third parties to enhance or extend the engagement activity. Evidence of sustainability, through, for example, a sustained or ongoing engagement with a group, a significant increase in participation in events or programmes, continuing sales, downloads, or use of resources.
Policy engagements	• Evidence of influence on a debate in public policy and practice through membership of or distinctive contributions to expert panels and policy committees or advice to government (at local, national or international level). • Formal partnership agreements or research collaboration with major institutions, NGOs and public bodies. Consultancies to public or other bodies that utilise research expertise. • Evidence of engagement with campaign and pressure groups and other civil organisations (including membership and activities of those organisations and campaigns) as a result of research. • Changes to professional standards and behaviour.
Independent testimony	• Acknowledgements in annual reports or other publications of NGOs, charities and other civil society organisations. Testimony of experts or users who can attest to the reach and/or significance of impact. Third-party evidence of changed policies, practices, processes, strategies.
Formal evaluations	• Professional evaluations of exhibitions, performances or other outputs. Formal peer reviews of funded impact-relevant research. Studies on the social return on investment.

REF2014
Research Excellence Framework

Take away from the REF experience



Impact agenda is here to stay!

Scientists are supposed to predict it in fund applications H2020
QA is assessing it (for REF amongst others)

Impact = the demonstrable real world benefit of research

Key words: attributable, change, non-academic, evidence

Critical remarks voiced by the research community remain

- Assumption of linear process between research and benefit
- Collaborative and co-creative aspects are overlooked
- Predicting impact is impossible, planning for it is worthwhile
- Undervalued meaningful interactions

Methodological challenges of Research Impact Assessment (RIA)

Morgan Jones M, Grant J, et al. Making the grade: methodologies for assessing and evidencing research impact.
In: Dean A, Wykes M, Stevens H, editors. Seven
Essays on Impact. DESCRIBE project report for JISC. Exeter: University of Exeter; 2013. p. 25–43.

Five common methodological challenges

- Time lags: how do we assess the impact of research if it usually takes a long time for impact to occur? When is the right timing?
- Attribution and contribution: how do we attribute particular impacts to particular research projects and researchers (and vice-versa) if research is often incremental and collaborative?
- Marginal differences: how do we distinguish between high and low impact if there is no shared understanding of impact or assessment standards yet?
- Transaction costs: how do we ensure that the benefits of RIA outweigh its costs if the assessment process can be costly and burdensome?
- Unit of assessment: how do we determine an appropriate unit of assessment if research can be multi-disciplinary and multi-impactful?

Ghent University institutional impact policy

MISSION STATEMENT

Ghent University wants to be a **creative community** of staff, students and alumni, connected by the values the university carries out: **engagement**, **openness** and **pluralism**.

Our motto is **Dare to Think**: we encourage students and staff members to adopt a critical approach.

GHENT UNIVERSITY

Societal impact policy statement issued in 2014

Ghent University institutional impact policy

Engagement of Ghent University staff members implies that they are committed to demonstrating the vital role of Ghent university in contributing to society, in terms of education and training, the production and dissemination of new knowledge, and the sustained engagement with societal stakeholders facing the national and international challenges (SDG).

Impact, therefore, is an integral part of what Ghent University does.

Confusion in terms: (societal) value creation (in Belgium and the Netherlands often referred to as ‘valorisation’) is creating added value of scientific knowledge and expertise outside academia. But economic added value seems to be isolated form the societal impact.

If the created added value is aimed at or is of specific importance to a community of external stakeholders (ranging from the general public to very specific groups of stakeholders) the value creation is deemed ‘societal’.

Research impact versus economic contribution – purposeful benefits

The Economic Contribution of the Flemish Universities

A report to

VLIR Vlaamse Interuniversitaire Raad

University of Antwerp · KU LEUVEN · VUB Vrije Universiteit Brussel · Ghent University · UHASSELT

December 2017

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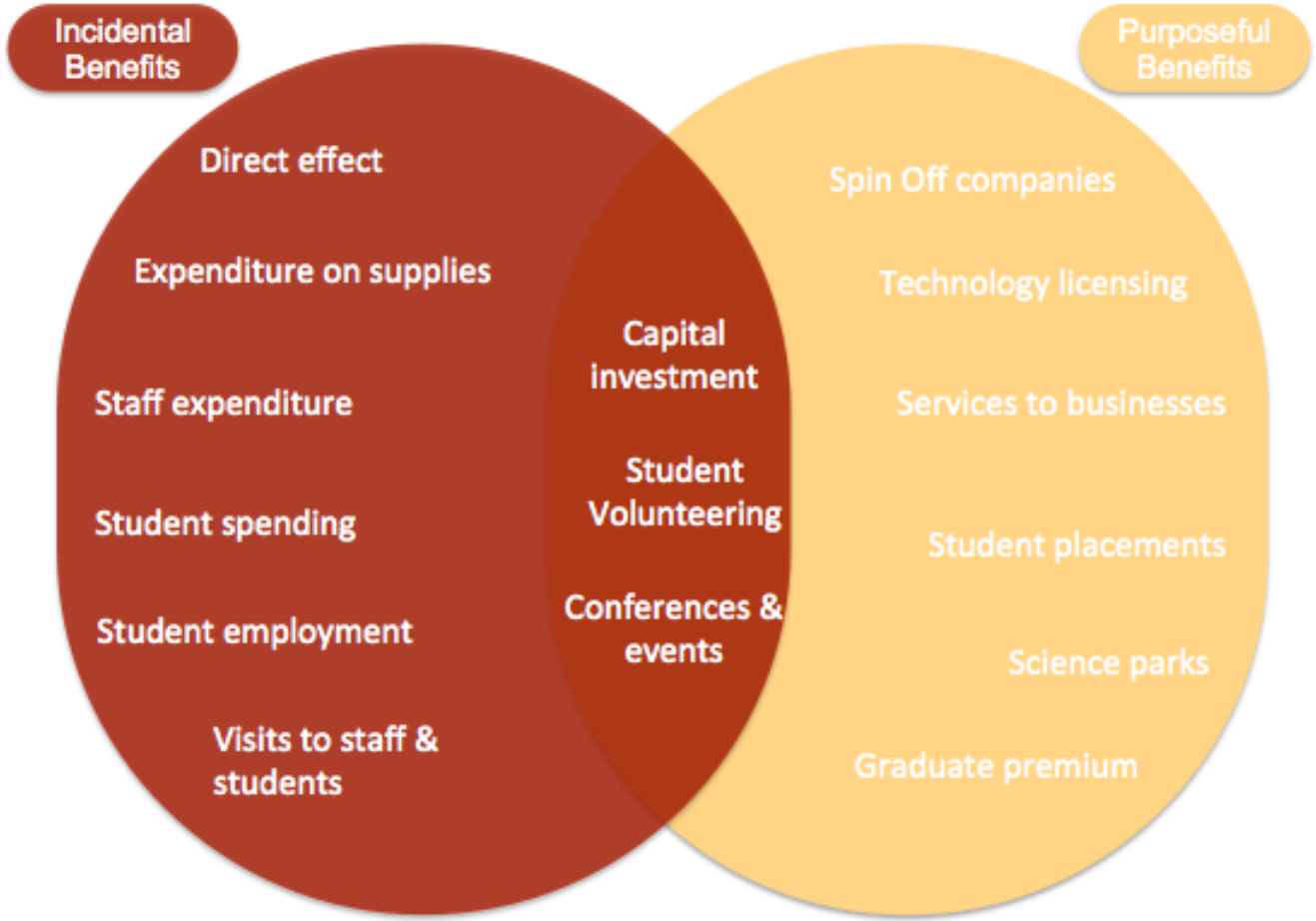
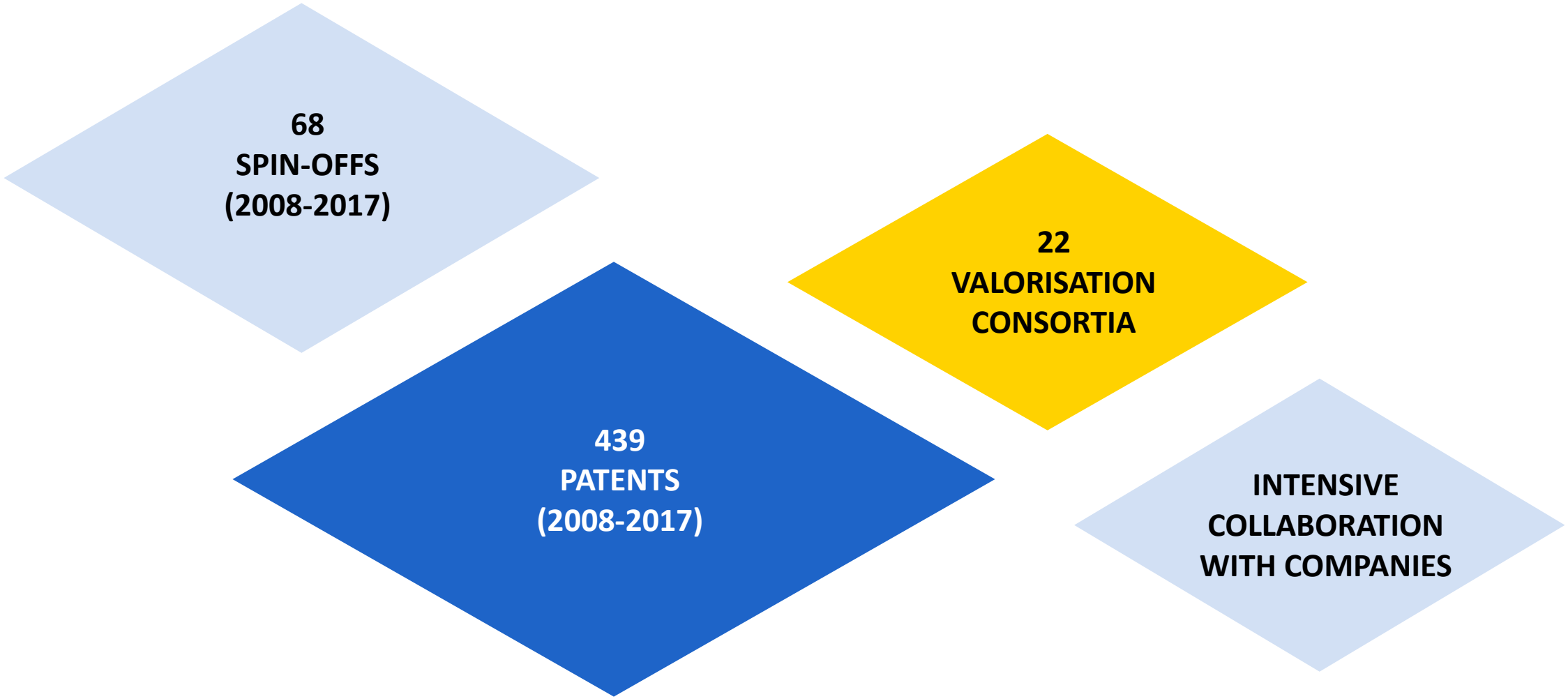


Ghent University institutional impact policy



Ghent University institutional societal impact policy

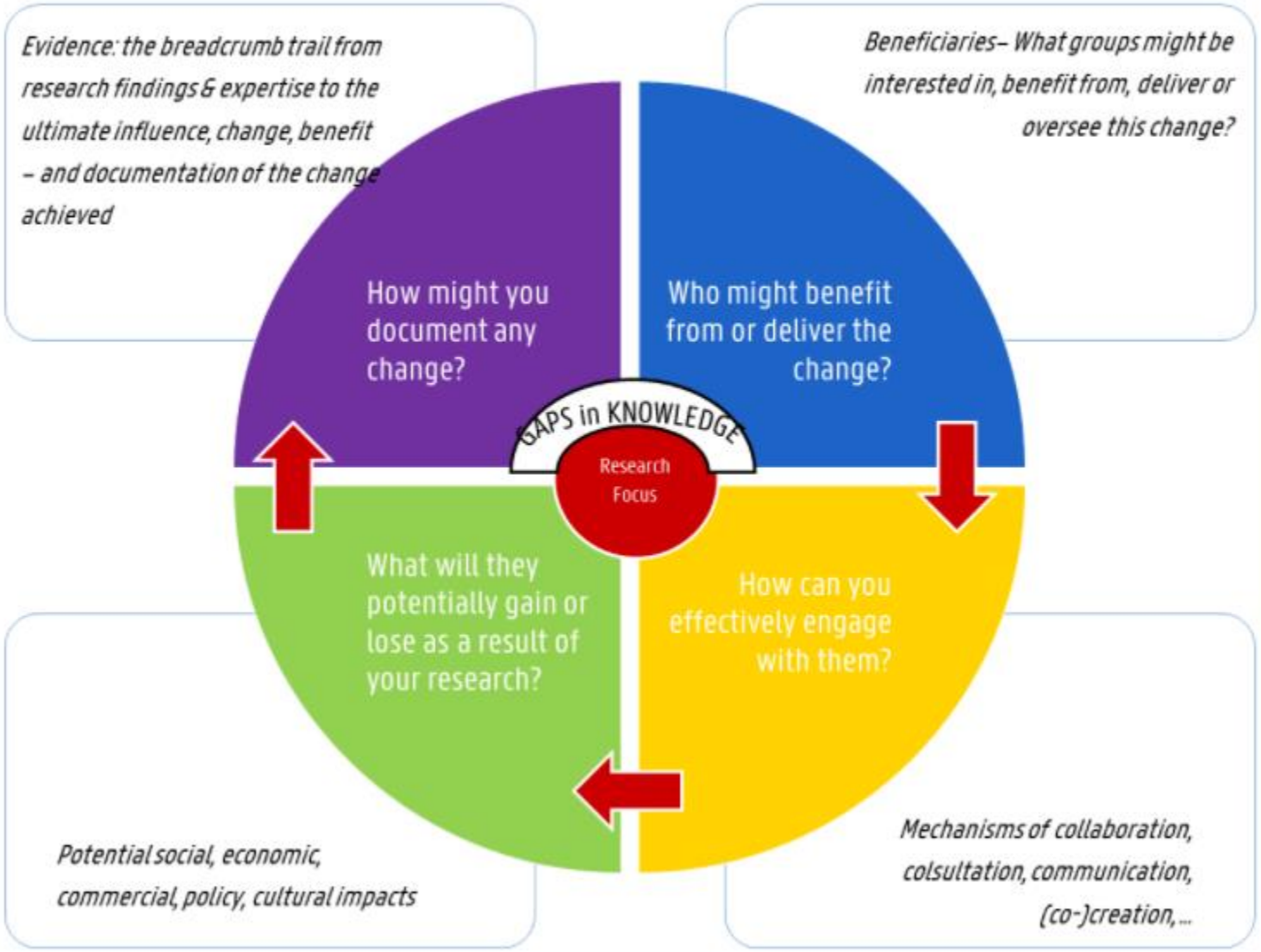
In its mission to stimulate and incentivise the contributions of Ghent University's research community to society, the university adopted a **policy plan**, putting forward an approach:

- Which is relevant to all fields of science
- Which respects basic fundamental research
- Which takes into account the individuality and talent of researchers
- Which recognises societal value creation as an iterative process: from the initial research question to the methods used and the dissemination of the results

The policy plan focuses on creating an academic environment within Ghent University conducive to societal value creation via a set of actions:

- Showcasing success stories
- Decentralised community of practice
- Science Communication, e.g. mandatory lay summary of PhD thesis, awards
- Recognition in recruitment and personalized career progression criteria

Ghent University institutional impact policy – support planning for it

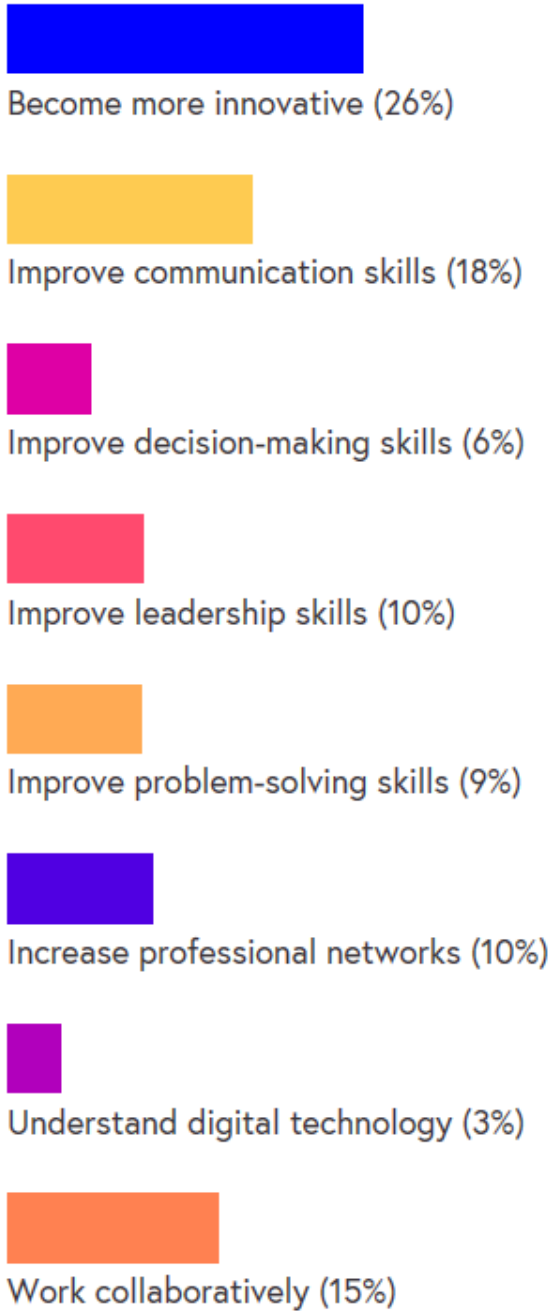


1. Start from your research focus
2. Identify what is happening (or not) 'out there that you think your research findings may help to change
3. Stakeholder analysis
4. Who might you want to consult, work with or communicate to in order to drive your expertise out there and achieve change?
5. Why should they care? Identify the potential impacts
6. How might you evidence not only any impacts achieved, but how these link back to your research?

GHENT UNIVERSITY

PLANNING IMPACT – BROAD APPROACH

What is in it for the individual scientist?



How can participating in the research impact agenda enhance future career progression?

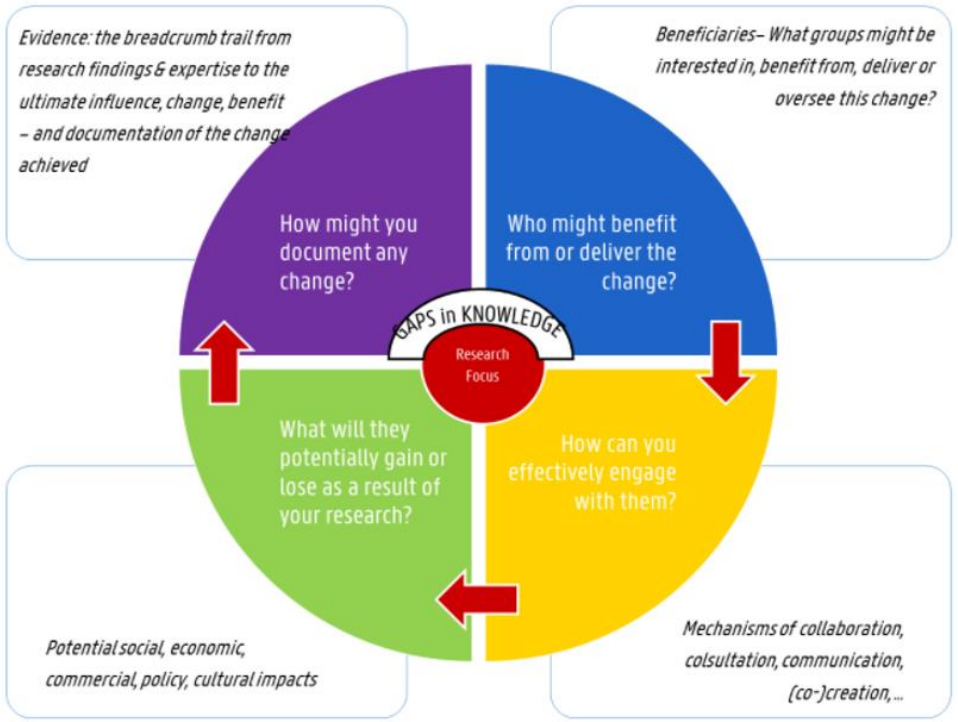
Accepting and understanding research impact within your area of academic interest – as well as engaging in external activities – translates into multiple benefits for professional development and helps to keep your work relevant.

For example, you might:

- Learn skills that can be transferred to the academic research and teaching environment
- Cultivate new relationships that generate unexpected opportunities
- Improve your ability to communicate effectively with a diverse range of individuals who have different perspectives and experiences to share
- Increase your confidence levels and inspire others to fulfill their potential or reach their goals
- Raise your profile and reputation

Inspired on Rose-Marie BARBEAU, University of Glasgow, survey results based on participants of open acces course: Research Impact: Making a Difference

Research impact vision – identify the gap



1. Summarise your core goal in one or two sentences. Be specific (for example, “to develop a novel treatment for patients with bone cancer”) and avoid making sweeping statements (for example, “to cure cancer”)

2. Examine your goal from an external perspective. What’s happening (or not happening) beyond academia that your findings might change?

3. Make a list of anyone who could be directly affected by the change (primary beneficiaries)

4. Make a list of individuals or groups connected to the primary beneficiaries who might also be affected by the change (secondary and tertiary beneficiaries)

5. Articulate what these various communities will gain from the change

6. Consider how you’ll engage with these various communities to facilitate the change (communicate, collaborate or consult)

Research impact vision template derived from open access course: Research Impact: Making a Difference

Research impact – evidence 1 of 3

Building up an evidence trail that links the societal or economic change back to your original research is a key feature of this process, providing robust evidence of measurable change to support research impact is already required by many funding bodies worldwide. It is divided into three interconnected categories: **dissemination** of your research, **relationships** with external stakeholders and **substantiation** of the outcomes.

Dissemination: you can:

- Work with institutional communications officers, journal editors, publishers and the popular media: TV, radio, newspapers, or digital platforms
- Make yourself known to directories of media experts if you can speak or write about a subject likely to be of interest to the general public
- Use social media platforms and public engagement activities to disseminate information about your research to a wide audience
- Join online forums and interest groups relevant to your research impact vision
- Track dissemination of your research using digital tagging and analytical tools (e.g. ORCID and Altmetric)

Inspired on Rose-Marie BARBEAU, University of Glasgow

Research impact – evidence 2 of 3

Relationships:
Disseminating your research will raise your profile and reputation as an expert in the field, which in turn will create opportunities to engage with external stakeholders.

In terms of the evidence trail, these relationships are often the key supporting link between your original research and its eventual societal or economic benefit.

Therefore, it is important to save all documentation pertinent to engagement for future reference. For example:

- Formal invitations to participate in events, meetings or committees
- Contracts or other legal documents that outline the nature of the relationship
- Testimonials from representatives within stakeholder organisations (preferably from an individual who holds a position of authority)
- Posts, tweets, comments, and other digital outputs that provide evidence of new or ongoing relationships

Inspired on Rose-Marie BARBEAU, University of Glasgow

Research impact – evidence 3 of 3

Substantiation:

- Annual reports
- Guidelines
- Media coverage of events or product launches
- Meeting minutes
- Patent applications
- Policy documents
- Position statements
- Professional training manuals
- Programs for public talks, exhibitions or events
- Recommendations of regulatory bodies
- Training manuals

Specific examples of material that was used to substantiate research impact as part of a UK-wide assessment can be found in the Research Excellence Framework 2014 database of research impact case studies. This database is considered to be the benchmark for identifying and substantiating research impact.

Inspired on Rose-Marie BARBEAU, University of Glasgow

Research impact – working with industry

Inspired on Malcom Skingle, director Academic Liason GlaxoSmithKline

Research impact – working with industry

Key messages

- The academic–industrial collaboration requires a programme of research with clearly defined objectives and timelines, as well as the participation of motivated individuals with a willingness to work together
- Ensuring that a budget is in place is also a key success factor for any academic partnership with industry
- Academics should review the published literature, as well as the company's website and annual report, to determine what the industrial collaboration would bring to their research programme
- Academics should identify competitors working within the Higher Education sector and highlight the unique selling points of their own research and the specifics of what they can offer the company
- Academics should use their networks to find a suitable individual within the company to help negotiate the partnership (for example, someone with access to funds or a champion for the research area)
- A successful industrial collaboration needs regular communication, honesty and transparency from both parties; however, academics must appreciate that the relationship could break down owing to external issues (for example, a shift in company strategy or changes in personnel)

Inspired on Malcom Skingle, director Academic Liason GlaxoSmithKline

Research impact – working with Health Service

Inspired on Karen Bell Head of Research and Development and Innovation Champion for a regional health board within the Scottish National Health Service

Research impact – working with Health Service

Key messages

- Health services are seeking innovations from academics that can be rapidly implemented, modified to meet their particular needs and extended to other clinical areas
- The shared goals should be clearly mapped out as achieving tangible results (particularly in the short term) can enhance motivation among participating healthcare staff
- Research programmes should be practical, yet fun, to maintain high levels of staff engagement in the process
- Early engagement, planning, flexibility and taking the time to build relationships are all vital for a successful partnership between academia and health services
- Both sides must have perseverance and optimism: some aspects of the research might not work out as expected but failure could be a stepping stone to future success

Inspired on Karen Bell Head of Research and Development and Innovation Champion for a regional health board within the Scottish National Health Service

Research impact – working with charity funding

Research impact – working with charity funding

Working with charity funding agencies

Find A Better Way is a UK charity committed to helping countries and individuals affected by the legacy of landmines. This organisation has funded a large multidisciplinary research programme at the University of Glasgow. Co-led by Matthew Dalby (Professor of Cell Engineering) and Manuel Salmeron-Sanchez (Chair of Biomedical Engineering) – and involving researchers with backgrounds ranging from stem cell biology to nanoscale technology – the project is exploiting various tools to promote regeneration of bone lost as a consequence of blast injury.

Key messages

- The support of a funding agency from outside your usual field of interest could broaden the scope of your research impact vision and facilitate unexpected interdisciplinary collaborations
- Coming up with a timely and practical solution to a specific problem posed by the funding agency could secure support for your research programme
- The outcomes and lessons learned from one project might be applied to other situations or populations and so potentially extend the reach of the research impact

Inspired on Lou McGrath Chief Executive Officer of Find A Better Way

Research impact – working with the public

Research impact – working with the public

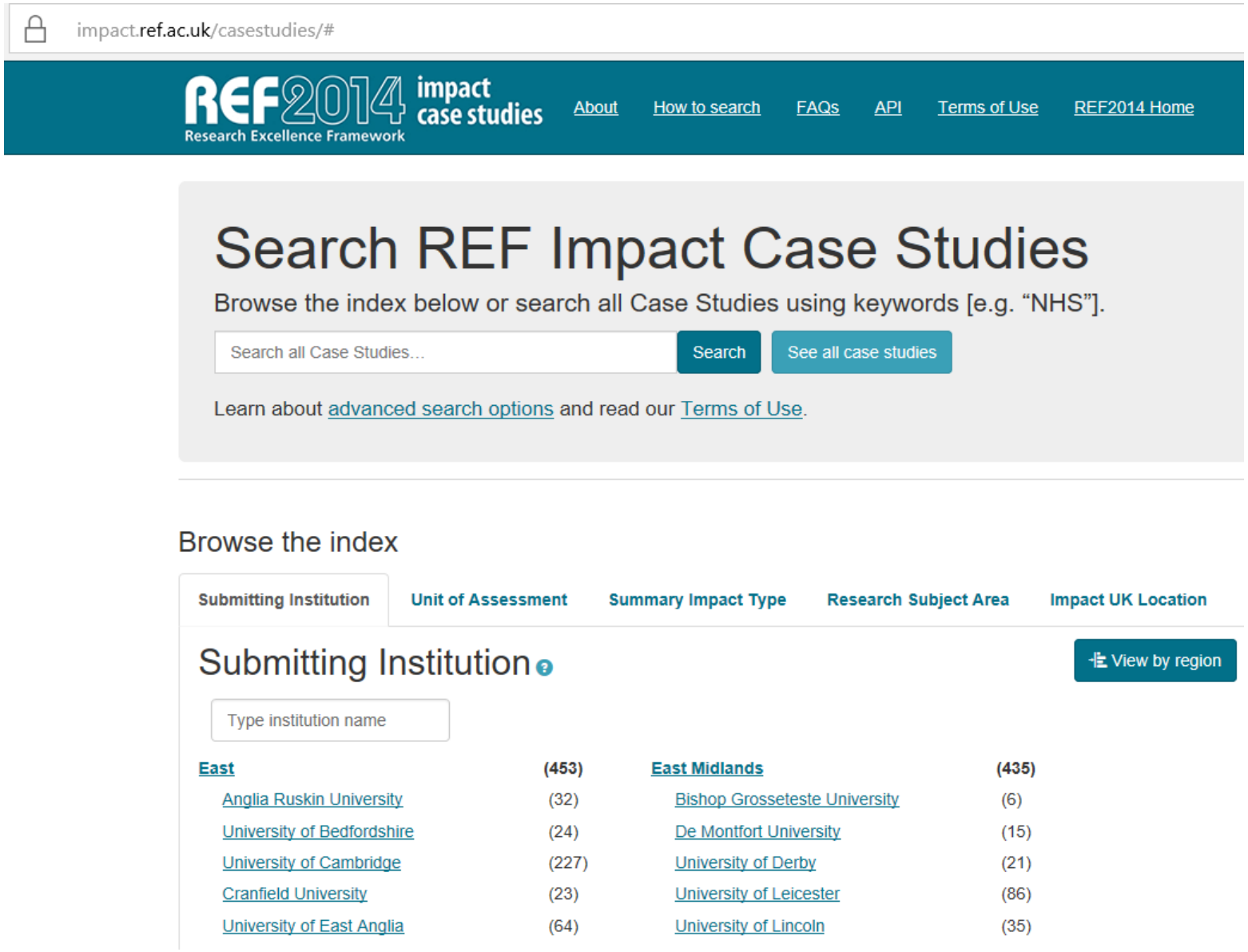
Interaction with the general public is increasingly acknowledged as a route to maximise research impact because citizens are often the direct beneficiaries of societal and economic change

Key messages:

- Members of the public bring a new perspective, differing life experiences and a wealth of transferable skills to the research impact process
- Public representatives can help set the agenda, frame key questions and find solutions because they understand what's important to the end-users of your work
- Members of the public tend to be highly motivated as they want to make a difference

Inspired on Elspeth Banks and Iaim MacPherson Clinical Senior Lecturer in Medical Oncology, University of Glasgow

Research impact – connecting to Citizen Science



National Co-ordinating Centre for Public Engagement

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Case studies

Public engagement case studies featuring a range of different purposes, methods and people.

Search

Search

Case study category

- [ ] NCCPE Award Winners

SMASHfestUK

A narrative-driven festival with a specific mission to widen participation and build diversity in STEM, through the arts.

Heart and Lung Shops

Scientists collaborated with designers to develop interactive experiences around cardiovascular and respiratory research.

Impact case study (REF3b)

Institution: University of Birmingham
Unit of Assessment: UoA 17 – Geography, Environmental Studies and Archaeology
Title of case study: Biodiversity in Cities: public engagement with the urban environment
1. Summary of the impact Urban biodiversity supports the functioning of the urban ecosystem and provides recreational opportunities. This is a West Midlands-based public engagement case study demonstrating both environmental and social impact through a five-year BIG Lottery-funded project based on research into urban biodiversity led by Professor Jon Sadler. The project - OPALWM – focused much of its public engagement activity on some of the most economically-deprived areas of Birmingham and the Black Country, locations that the scientific research had identified as having unrealised environmental opportunities. OPALWM achieved extensive recorded reach (122 organisations; 26,000 people; 60,000 website hits) and active engagement from schools, volunteers and wildlife groups. It has a sustainability plan designed to maintain its impact after its BIG Lottery funding ends in November 2013.
2. Underpinning research Urban biodiversity provides recreational opportunities and supports the functioning of the urban ecosystem, providing potentially valuable, if as yet poorly quantified, ecological services. The research underpinning this case study was led by Jon Sadler (Professor of Biogeography) and focused on the relationships between cityscape habitats and their biodiversity. Although

The OPAL programme also has led to the development of a European Citizen Science Association (formed March 2013), which seeks to engage 5 million people across Europe over the next 4 years in citizen science.

5. Sources to corroborate the impact (indicative maximum of 10 references)

1. OPAL Community Environment Report (2013) http://www.opalexplorenature.org/CEreport
2. OPALWM MEV returns to the BIG Lottery; available from the University.
3. Information on bees on "Bang Goes the Theory" (http://www.opalexplorenature.org/BangGoesTheoryNews) and Midlands today (http://news.bbc.co.uk/local/birmingham/hi/front_page/newsid_8703000/8703839.stm)
4. External interviews / focus group responses collected by Dr Glyn Everett to evaluate the impact of OPALWM activities available from the University
5. OPALWM Year end (3) report to the BIG Lottery. Case Study 1; Appendix III
6. Testimonials to OPALWM on the value and impact of their activity; available from the University
7. Total number of national survey results uploads/returns to the OPAL national website for the West Midlands region. Spreadsheet created by OPAL Dec 2011
8. Film – [redacted]: http://www.youtube.com/watch?v=eEfKlKaTGT0 and local films made by children at Castle Vale: http://www.environmentaltrust.org.uk/Media.html

Research impact – considering Citizen Science further

Citizen Science: ordinary citizens become active participants in scientific research.

Citizen Science may well be the most important new trend in the scientific world: it enables citizens to collaborate on scientific projects regardless of their backgrounds. Citizen Science means they are no longer just the audience for science communication. They are also involved in the science itself – and actively.

The best known example: the Galaxy Zoo project, started in 2007 - astronomers from Oxford University website involved citizens in the classification of nebulas.
Since then, more than a quarter of a million users have contributed to more than 60 million classifications, resulting in several scientific publications.

Research impact – considering Citizen Science further

Pyramid: as the levels of complexity (or activity) increase, the number of available projects and number of people participating decreases. Even if someone wants to participate at a high level, they need many people collecting data and performing the initial analyses that they can build on for their expert level analysis.

Categories and Participation Levels

Image Courtesy: OpenScientist

Research impact – considering Citizen Science further

Contributory: Generally designed by scientists and for which members of the public primarily contribute data; also includes studies in which scientists analyze citizens' observations, such as those in journal and other records, whether or not those citizens are still alive.

Collaborative: Generally designed by scientists for which members of the public contribute data but may also help to refine project design, analyze data, or disseminate findings.

Co-created: Designed by scientists and members of the public working together and for which at least some of the public participants are actively involved in most or all steps of the scientific process; also includes research wholly conceived and implemented by amateur (non-professional) scientists.

Exercise: what could be the impact vision of a CS project?

2 examples

Vespa-Watch

Monitoring of Vespa velutina

Research Impact Vision Template

This template has been designed to help you build up a picture of your potential research impact. The format provides a quick and easy way to capture ideas, activities and outcomes as they evolve.

1. What is your core goal?
Summarise the specific question that your work seeks to answer (ideally in one or two sentences).

2. What might change?
Scrutinise your work from an external perspective to identify areas of unmet need. For example, a gap in knowledge or understanding among specific groups or sectors; a gap in knowledge or understanding about a specific process or technology; a requirement to identify, respond to, and solve a specific problem; a demand in the market that your findings could address; or policy that is either non-existent or not fit for purpose.

3. Who are the primary beneficiaries?

List anyone who will be directly affected by the change (e.g. businesses, consumers, patients, etc).

4. Who are the secondary and tertiary beneficiaries?
List individuals, organisations or sectors connected to the primary beneficiaries that might also be affected by the change (e.g. carers, charities, cultural organisations, energy suppliers, family members, financial services, global security, governments, health services, industry, justice systems, non-governmental organisations, policy makers, regulatory bodies, social services, tourism, urban planners, etc).

5. What will the beneficiaries gain from the change?
Consider why potential beneficiaries might be interested in your work. Will they be getting new or improved policies, understanding, practice, products, processes or systems? Are there additional benefits? For example, if your findings influence policy, are you able to provide support and/or guidance to individuals and groups delivering the new policy? If the findings change practice, could they also be of interest to other populations or sectors?

6. How will you engage with these beneficiaries?
Think about the most effective ways to reach each beneficiary. Whichever method you choose, be sure to build in mechanisms that enable beneficiaries to engage with you directly, whether to provide views, ask questions or supply additional information.

Research impact – fostering @ co-creation hubs

Co-creation hubs , academics look externally to forge productive relations with stakeholders.

Bringing together different groups (53%)

Cultural (talks and exhibitions) (5%)

Educational (evening classes/workshops) (11%)

Flexible work spaces (7%)

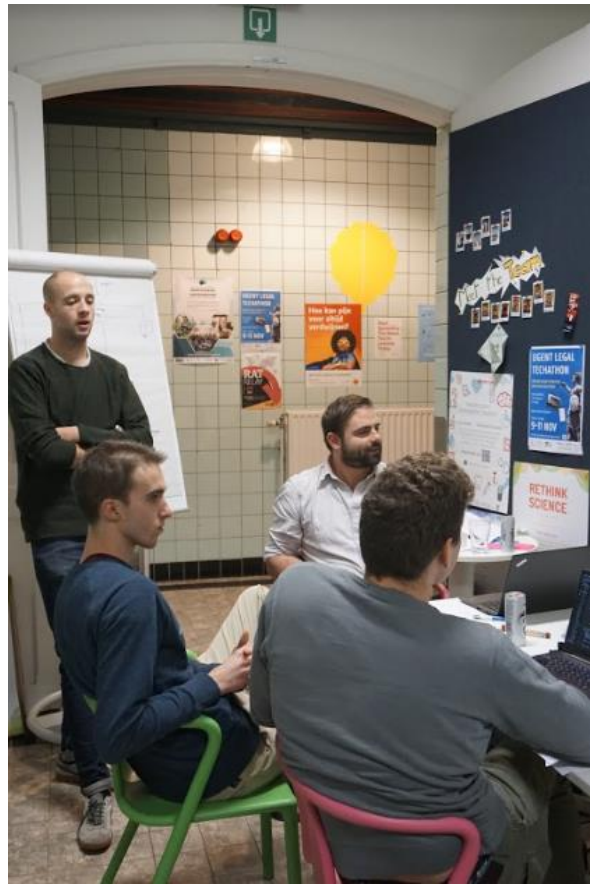
Café (2%)

Neutral place to meet (5%)

Social environment (8%)

Space for start-up companies (5%)

Library and digital resources (2%)



GHENT : the Foundry: location / space to stimulate creativity, innovation & entrepreneurship
2 activities: DO!: our centre for entrepreneurship and Ghent Design Factory: to promote design thinking and going from problem to solution

Survey results based on participants of open acces course: Research Impact: Making a Difference

Research impact – fostering @ co-creation hubs

Key messages:

A co-creation hub that is embedded within the university campus builds an innovative ecosystem with tangible benefits for everyone involved. For example, such facilities can:

- Raise the reputation of the university within the wider community as an place where societal and economic change is high on the agenda
- Provide space and support for start-up companies
- Enable product development and testing in a real-world setting
- Help students to develop an entrepreneurial spirit
- Provide a conduit to engage the public in research impact (for example, talks and special events)

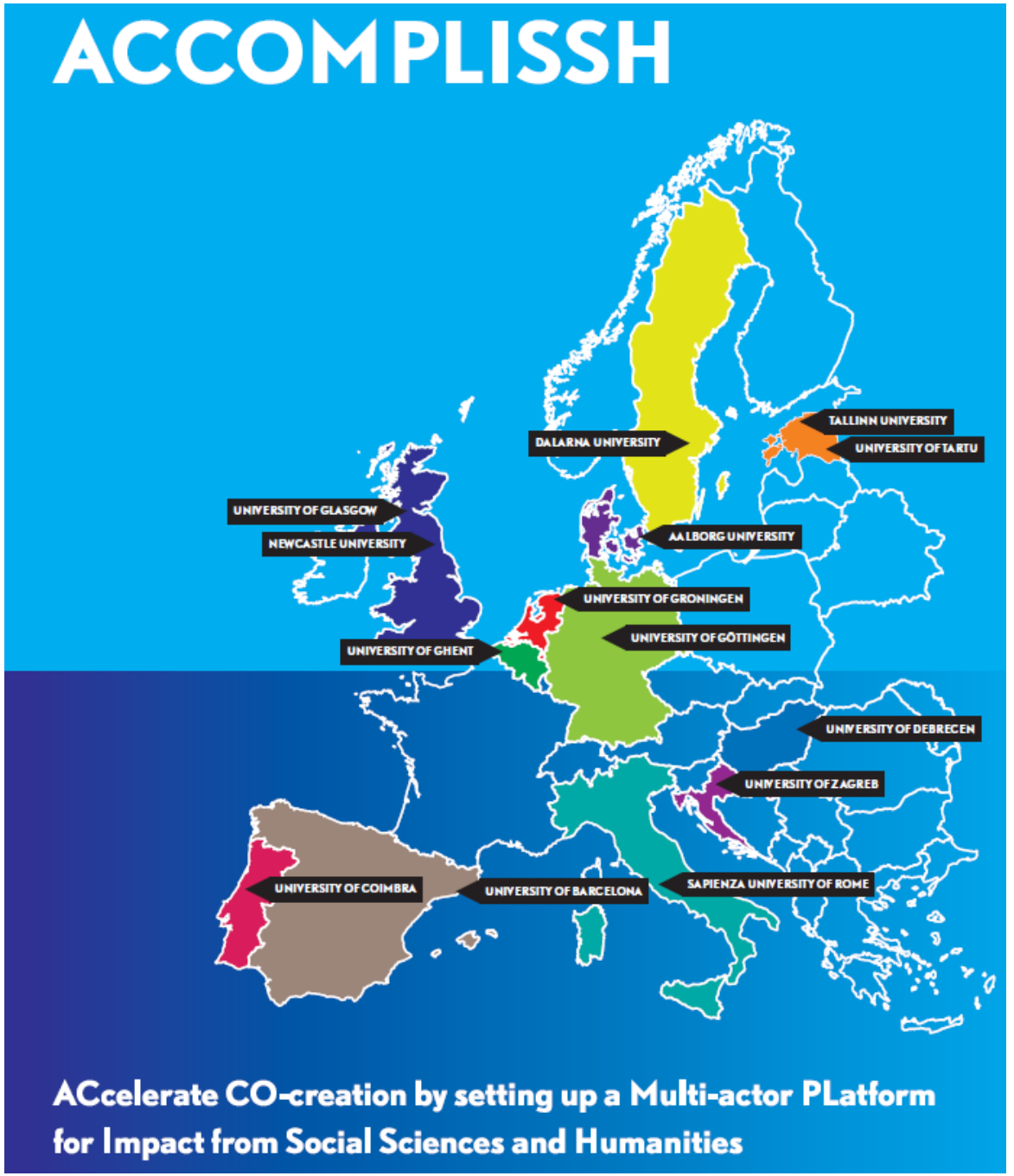
ACCOMPLISSH co-creation and research impact in the social sciences and humanities

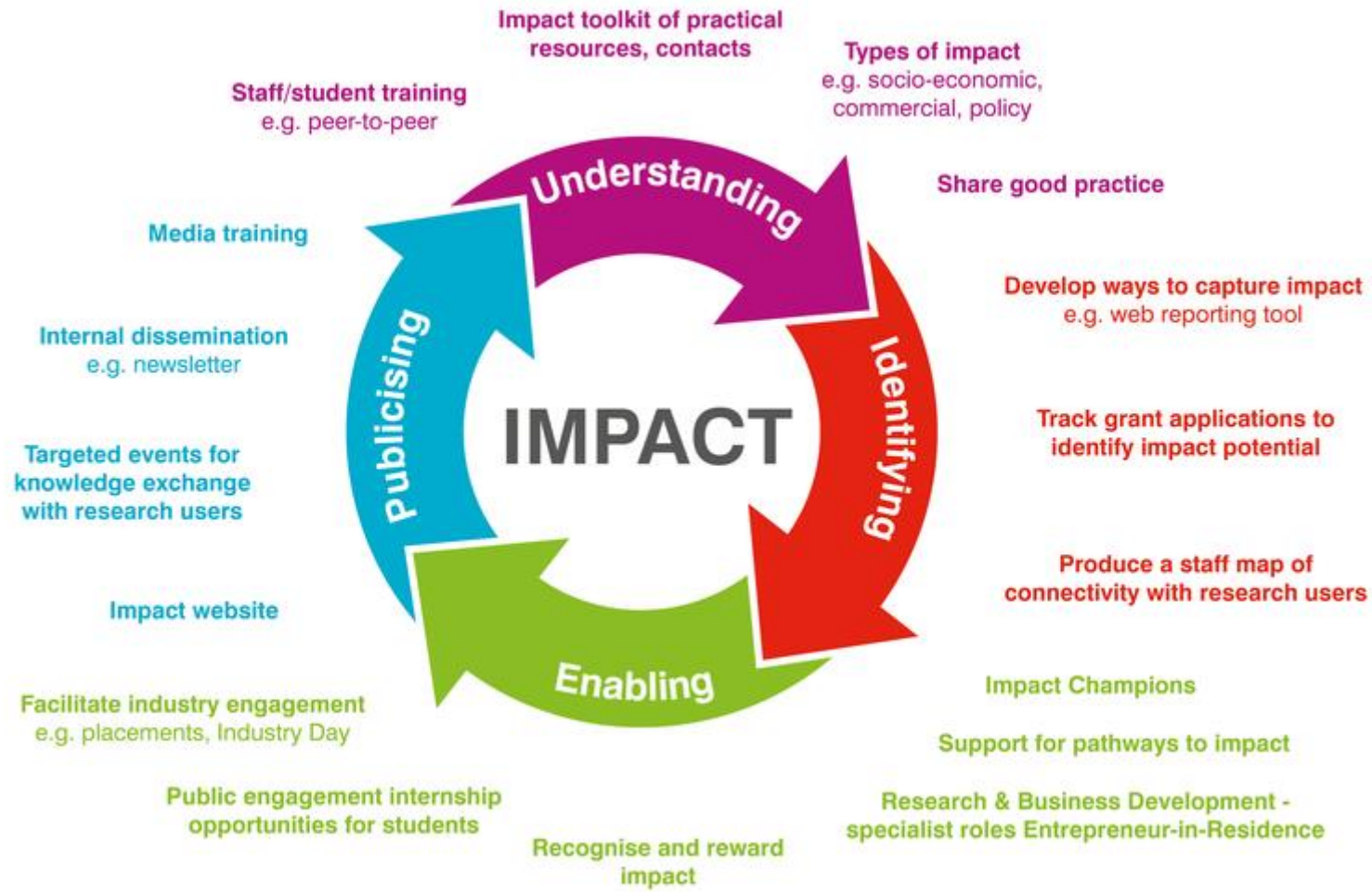
Quadruple Helix partners - different expectations

- Academic partners - represent their institutions as credible participants in co-creation, responsibility to promote societal change
- Industrial partners, besides medical or technological projects for financial return, show an increasing appetite to build partnerships in the social sciences and humanities
- Government partners prioritise the public interest and needs of their citizens
- Societal partners have limited resources available to participate in co-creation; however, they can offer access to relevant communities and so promote public engagement

Recommendation: offer spaces for interactions to occur, whether in the real world or online

e.g co-creation hub Helsinki




Impact toolkit of practical resources, contacts
Types of impact
e.g. socio-economic, commercial, policy
Staff/student training
e.g. peer-to-peer
Understanding
Share good practice
Media training
Develop ways to capture impact
e.g. web reporting tool
Internal dissemination
e.g. newsletter
Publicising
IMPACT
Identifying
Track grant applications to identify impact potential
Targeted events for knowledge exchange with research users
Produce a staff map of connectivity with research users
Impact website
Enabling
Impact Champions
Facilitate industry engagement
e.g. placements, Industry Day
Support for pathways to impact
Public engagement internship opportunities for students
Research & Business Development - specialist roles Entrepreneur-in-Residence
Recognise and reward impact

roduct
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Journals
Books
Case Studies
Open Access
Regional information

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Licensing Solutions
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Emerald news

Dr Julie Bayley and Emerald partnership to help strengthen 'impact literacy' in the academic community

Dr Julie Bayley and Emerald will accelerate the impact debate and deliver tangible tools and training to build capacity and skill within the impact community

Bingley, United Kingdom, 29 March 2018 – We're pleased to announce a new partnership with Dr Julie Bayley – incoming Direct of Research Impact Development (University of Lincoln), champion of the ARMA Impact Special Interest Group and one of the mo influential voices in research impact.

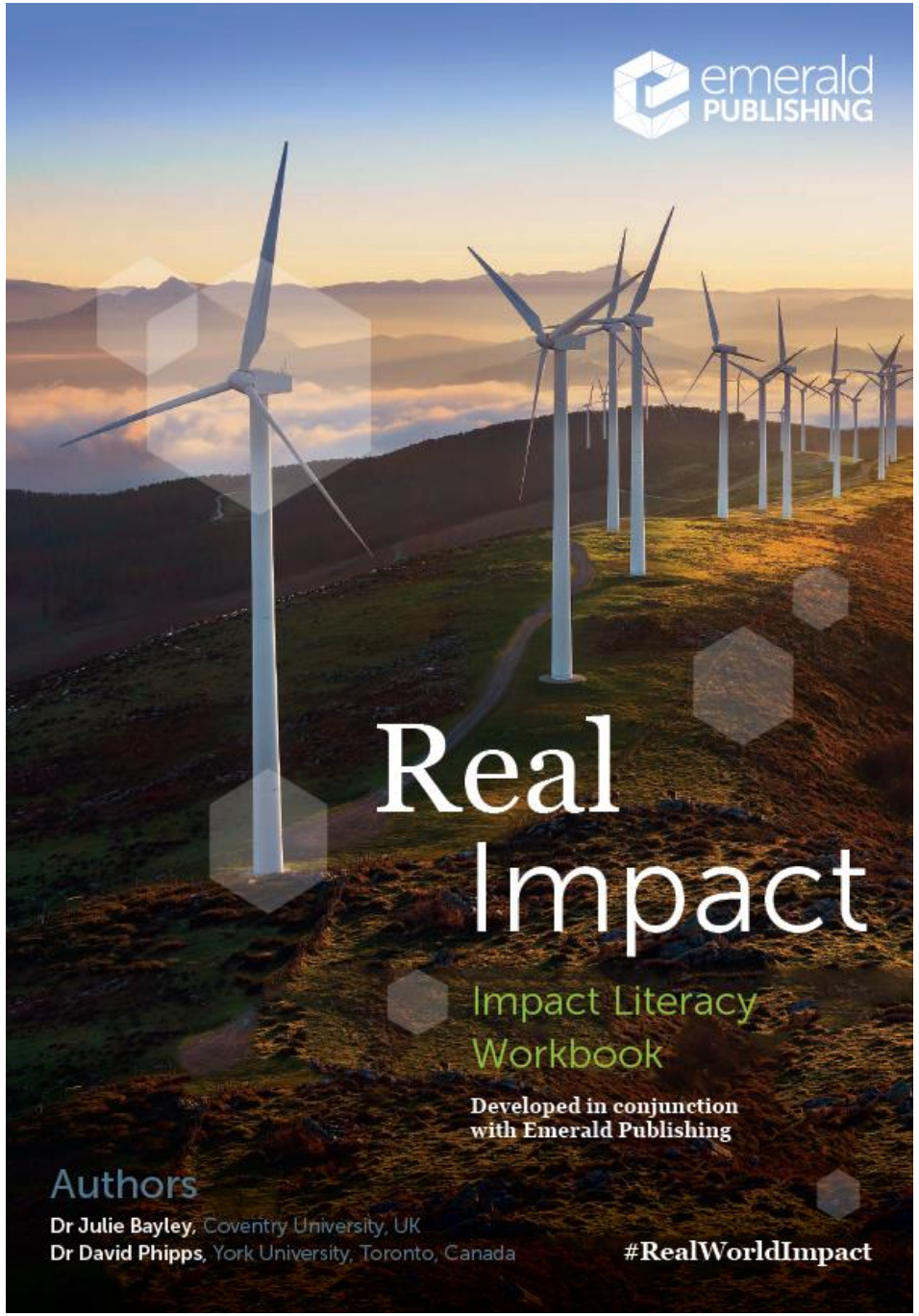
The research sector is increasingly tasked with demonstrating impact, and at Emerald we recognize the challenges for colleagues within the UK and internationally.

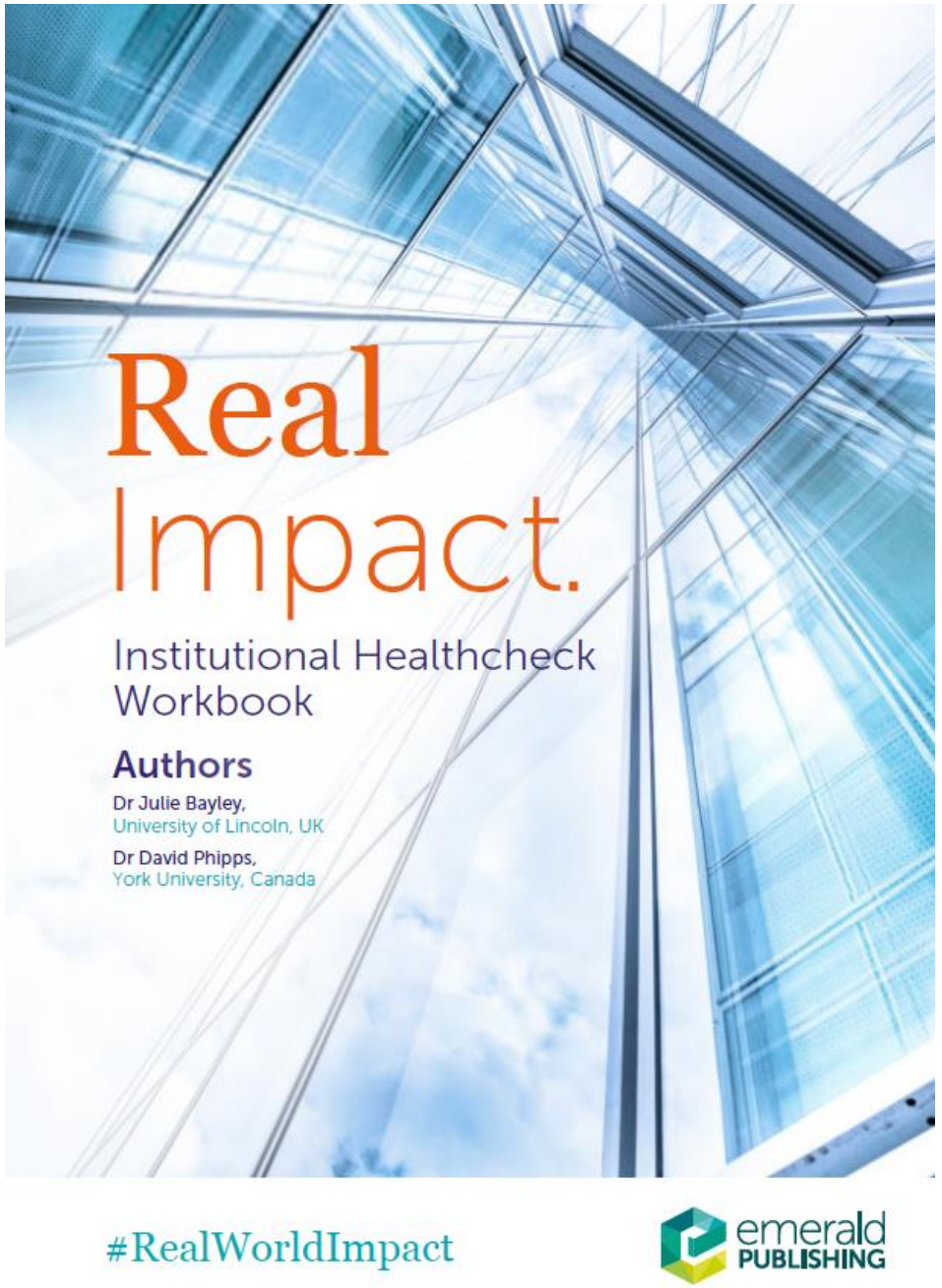
Alongside national assessment exercises (e.g. Research Excellence Framework 2014, 2021), there is growing recognition that traditional metrics cannot fully demonstrate the value of academic research. For example, seven of the UK's research councils recently signed up to DORA (the San Francisco Declaration on Research Assessment), heralding a call to shift from blunt journal impact factors towards more comprehensive indicators of influence. This move has added further heat to an already lively debate on the importance of academic research delivering real impact, extending beyond citations and other established scholarly metrics.

There is a genuine need to help researchers prove their work is making a meaningful difference at a time when funding is increasingly dependent on demonstrating influence on practice, policy and society. Julie and Emerald will work together to build tools and training, helping the academic community to navigate these challenges by becoming more 'impact literate'. Our

Figure 2: Impact literate institutions

From Bayley, J. and Phipps, D. (2017) Building the Concept of Impact Literacy, Evidence and Policy (available online) https://doi.org/10.1332/174426417X15034894876108


emerald PUBLISHING
Real Impact
Impact Literacy Workbook
Developed in conjunction with Emerald Publishing
Authors
Dr Julie Bayley, Coventry University, UK
Dr David Phipps, York University, Toronto, Canada
#RealWorldImpact


Real Impact.
Institutional Healthcheck Workbook
Authors
Dr Julie Bayley,
University of Lincoln, UK
Dr David Phipps,
York University, Canada
#RealWorldImpact
emerald PUBLISHING

Ten guidelines for Research Impact Assessment

International School on Research Impact Assessment (ISRIA)
http://theinternationalschoolonria.com

Adam et al. Health Research Policy and Systems (2018) 16:8
DOI 10.1186/s12961-018-0281-5

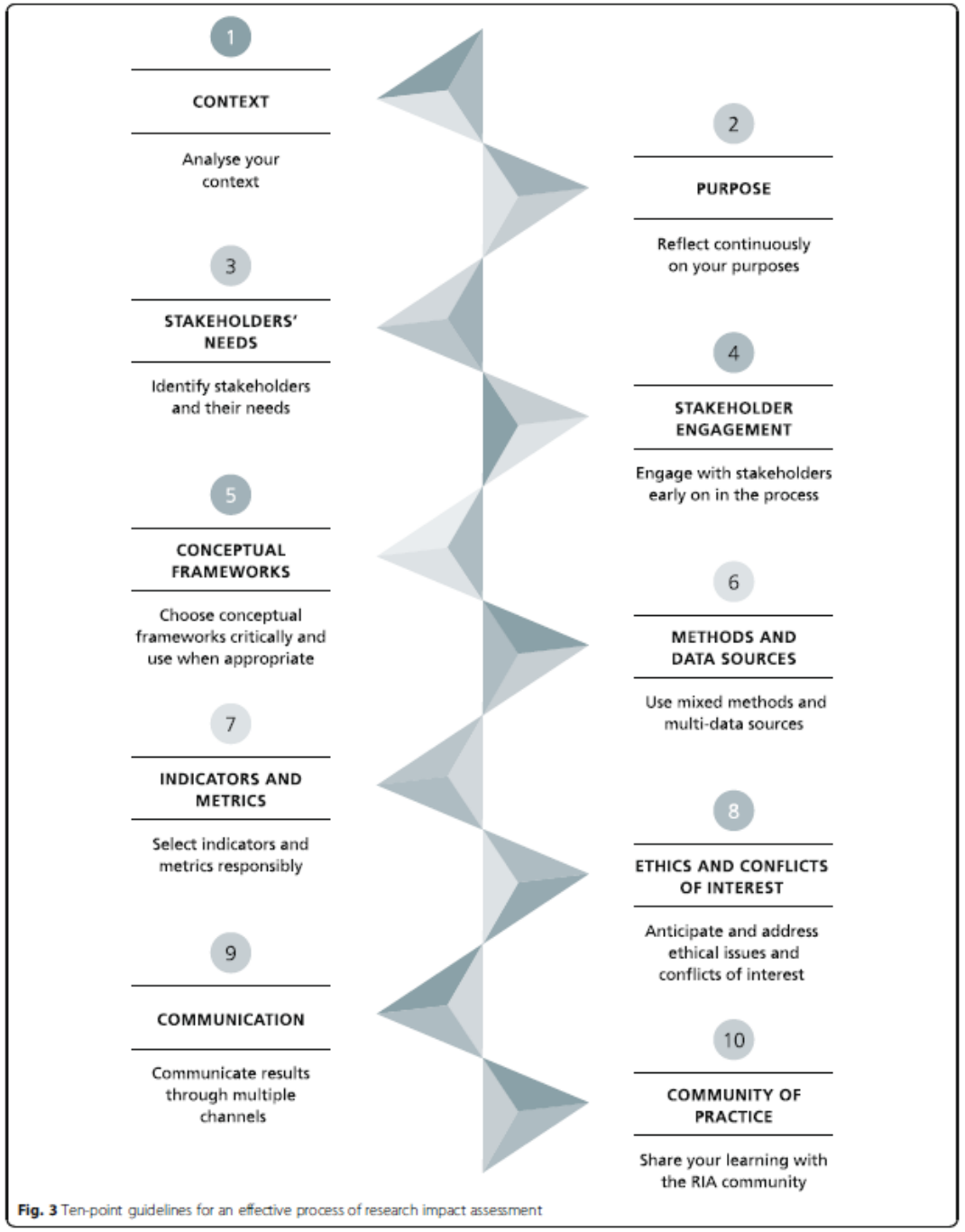


Fig. 3 Ten-point guidelines for an effective process of research impact assessment

AESIS

NETWORK FOR
ADVANCING & EVALUATING THE SOCIETAL IMPACT OF SCIENCE

to search, type and hit enter Search

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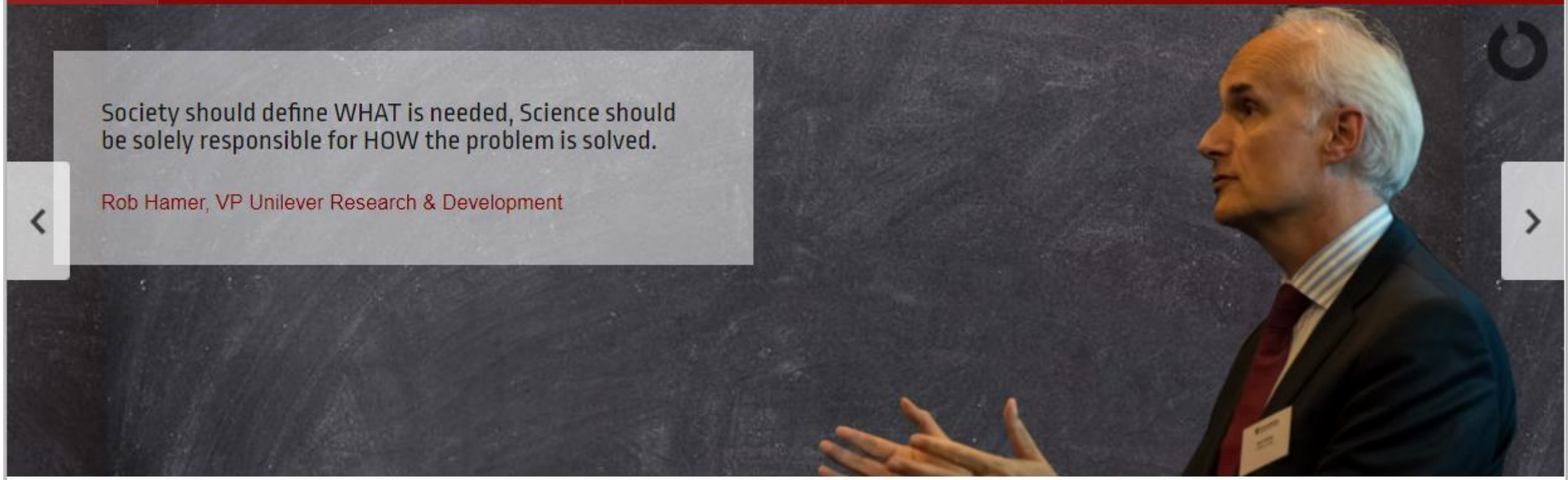

AESIS: Network for Advancing & Evaluating the Societal Impact of Science

The Network for Advancing and Evaluating the Societal Impact of Science (AESIS Network) is an international, open community for various types of professionals

scientific rigour

Look for the productive balance between thinking/controlling and spontaneous reactions. The added value of Citizen Science is that balance between citizens and scientists, between creativity and representativeness.

4 There's no such thing as too much communication

Citizen Science projects are driven by open and frequent communication through a variety of media, and even through the press (e.g. websites, Facebook, email, media, information sessions). Situations involving confidential or sensitive information call for early communication with all parties. Think about whether it is possible or desirable to outsource or delegate such communication.

Provide sufficient time to answer questions and motivate volunteers. Organise informal sessions, hold meetings in public locations and create a community.

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Provide sufficient time to answer questions and motivate volunteers. Organise informal sessions, hold meetings in public locations and create a community.

maybe frame the research question what's really important for the patients? The kind of problems clinical trials can run into is really thinking outside the box. And so having people actually of diverse backgrounds in the mix, throwing ideas in, really lends itself to finding solutions that maybe a bunch of cancer researchers on their own may not have come with.
1:42Skip to 1 minute and 42 secondsELSPETH BANKS: That's right. I actually have an arts background. I then taught music, became principal teacher, and for the last 12 years of my career, I was a headteacher of a secondary school in the west of Scotland. But does it matter that I don't have a science background? Because I think what's really important is that patients bring with them a wealth of experience from other types of careers, and I brought with me a number of transferable skills, for example in leadership, and the ability to communicate, to listen, to prioritise, to analyse, and so on. And these are all skills that have been really vital in my work to date, have really supported me in my quest to learn.
2:34Skip to 2 minutes and 34 secondsAnd I think in many ways it's good that I've come from another background, and I have no preconceived notions about the kind of work I would be involved in, and I continue to find it really stimulating, and really enjoyable. The great reward of being there when the study goes to publication, and all this great work is disseminated, and also making sure that those patients who've

Finding MEETING the perfect partner

Finding external stakeholders who are a good fit for your research impact vision is vital, so it’s worth investing time and effort in researching potential partners and what they could bring to the project.

At this point, we’d like you to identify and research an external stakeholder who you feel could help to move your research impact vision forward. Think about how the proposed collaboration fits with the stakeholder’s current interests and strategy. Also, it’ll be important to define what you want from the collaboration with the stakeholder and what they’ll gain in return.

Please share your experiences of the research process, along with any tips for gathering information on potential stakeholders, in the comments.

Successful co-creation of research impact

Another approach to driving research impact via co-creation is for universities to work together in a multinational setting to achieve common societal and economic goals.

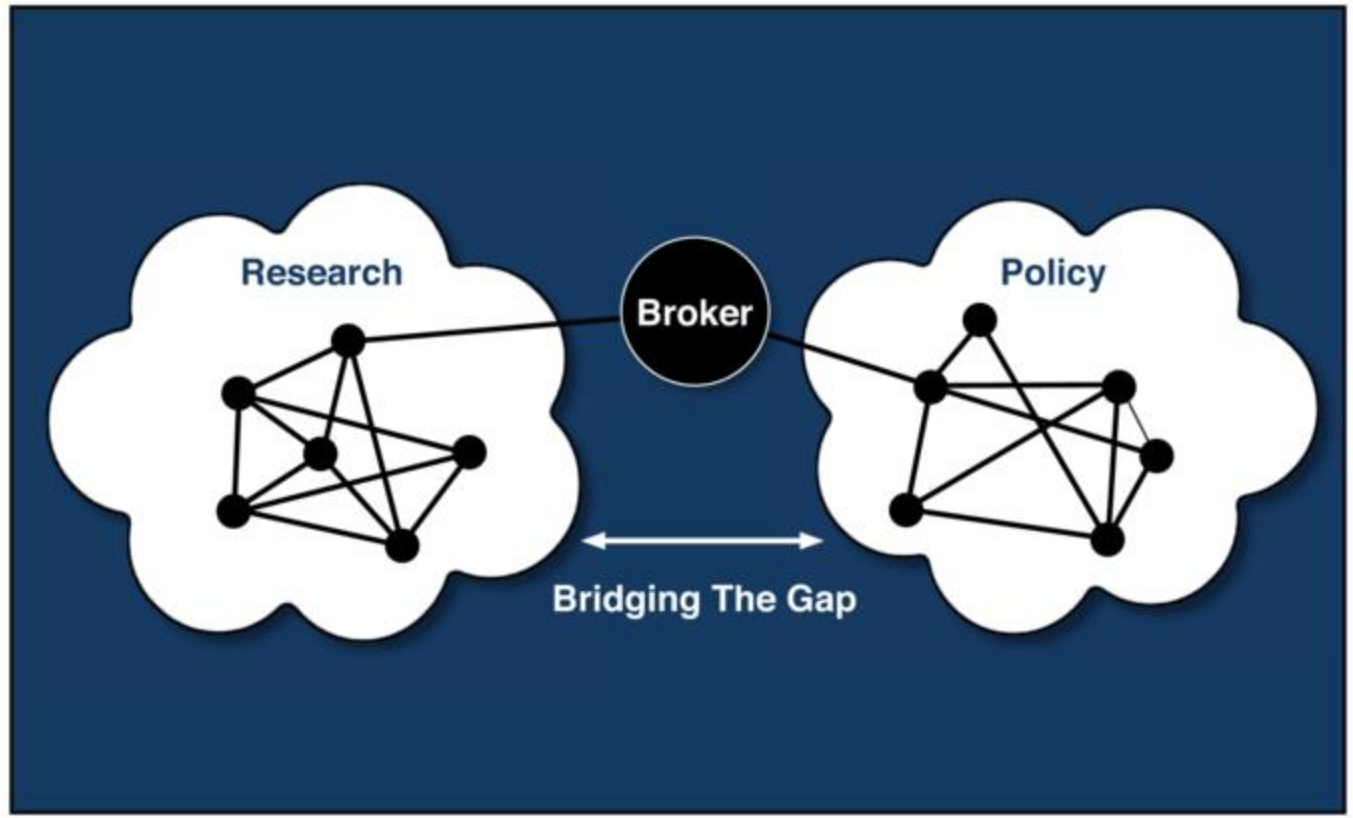
ACCOMPLISSH is an initiative that aims to promote co-creation and research impact in the social sciences and humanities among institutions within the European Union. The ACCOMPLISSH consortium comprises 14 universities from 12 countries and is underpinned by interactions between academia, industry, governments and societal stakeholders (a model known as the 'Quadruple Helix').

ACCOMPLISSH conducted focus group interview sessions to capture experiences, practical considerations and lessons learned regarding the Quadruple Helix model of co-creation in this context. A report based on this exercise was complied by Jonas Stier (Head of Research and Professor of Intercultural Studies, Dalarna University) and Peter Dobers (Professor of Management, Södertörn University).

Perhaps unsurprisingly, each sector flagged up different expectations that must be considered by other Quadruple Helix partners if the co-creation process is to work:

- Academic partners need to represent their institutions as credible participants in co-creation, coupled with a responsibility to promote societal change
- Industrial partners have a long tradition of working with academia on medical or technological projects that will see a financial return on the investment made; nonetheless, there is an increasing appetite to build partnerships in the social sciences and humanities
- Government partners must prioritise the public interest and needs of their citizens while working within stringent financial, time, organisational and human resources constraints
- Societal partners might also have limited resources available to participate in co-creation; however, they can offer access to relevant communities and so promote public engagement

A positive attitude towards the value of co-creation and resourcing of engagement activity among top-level


Research
Broker
Policy
Bridging The Gap

leaders; and by involving external specialists such as entrepreneurs and media consultants.

Relevance

With any large organization, it's important to recognise that taking a 'one size fits all' approach to research impact could limit success: what works for senior academics might not necessarily work for students and early career researchers. Therefore, any activities related to research impact, including workshops, events and seminars, should be tailored to meet the specific needs and aspirations of the intended participants.

Taking a thematic approach

The strategy for embedding research impact within the College of Medical, Veterinary and Life Sciences comprises a range of activities that are aligned to four interlinked themes: understanding, identifying, enabling and publicising.

The objectives of each theme are outlined below.

Understanding:

• All students and staff should understand the broadest possible definition of research impact as the generation of societal and economic benefits beyond academia

Identifying:

• Mechanisms should be put in place to capture plans for research impact

• Staff must be actively supported in the development of a research impact vision

leaders; and by involving external specialists such as entrepreneurs and media consultants.

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Identifying:

• Mechanisms should be put in place to capture plans for research impact

• Staff must be actively supported in the development of a research impact vision

the institutional level.

Imagine that your own institution had decided to replicate this strategy for understanding, identifying, enabling and publicising research impact. We'd then like to you consider the four themes listed below. Please select one option from each theme that you feel should be given the highest priority.

Understanding research impact

•Create a toolkit of resources and contacts
•Develop peer-to-peer training programmes
•Highlight the various types of research impact
•Share good practice

Identifying research impact

•Develop methods to capture impact (for example, templates and online tools)
•Produce a staff map to highlight networks with potential stakeholders
•Use grant applications to identify potential research impact

Enabling research impact

•Facilitate engagement with external stakeholders (industry placements, internships, entrepreneurs-in-residence, etc)
•Nominate individuals as 'research impact champions'
•Provide formal recognition of research impact activities during personal performance and development reviews
•Support pathways for research impact

Publicising research impact

KEY CONCEPTS

The value of research impact in the Higher Education sector
- Motivating factors for engaging in the research impact agenda
- The benefits that research impact can bring to the economy and society
- Success factors for driving research impact
- Success factors for collaborating with a wide range of external stakeholders

DISCARD?

jullie

1. Embed impact into the research process • Don’t just bolt it on at the end of a project 2. Recognise ‘one size doesn’t fit all’. • Fundamental research and arts and humanities can particularly struggle with blunt measurements of impact 3. Harness and build skills within institution; build your impact agency • Build impact literacy across the organisation 4. Engage not enrage • Impact is achievable but not simple. Value the effort as well as the result

Gann et al

The report distinguishes three ‘pathways to societal impact’, which resemble the trio of interaction channels of the SIAMPI model:
(1) People: developing, educating and engaging talented people is the largest direct impact that the College has on society, perhaps followed by treating patients at our hospitals; including full-time and part-time students, permanent and temporary staff (professional services and academic), as well as internships, Adjunct Professorships, those in further education, alumni, partners, clients (e.g. of executive education), donors, advisers, and friends;
(2) Knowledge: dominant through scientific publishing, although this may have less direct or immediate impact on society; includes pathways such as consulting and problem solving, data sharing, conferences, influencing policy, outreach, and defining new research domains, and
(3) Technology: the core mission of the College’s TTO includes pathways such as patent filing, licensing,

LERU meaningful interactions

The assessment of the impact of scientific research on society has to take at least three factors into account: (1) contextuality, (2) temporality and (3) contribution (see Spaapen and Van Drooge: 2011).

64. *Contextuality* refers to the fact that processes in which new scientific knowledge is turned into practical applications, differ from sector to sector, and are dependent on different interactions between variegated stakeholders. Medical fields have to deal with hospitals, legislators, the pharmaceutical industry and patient organisations, whereas language fields have to deal with school boards, teacher organisations, publishers, parents, pupils and the general public. All these processes are non-linear.

65. *Temporality*: it takes time between the emergence of a fundamental scientific question and the practical application in society. In some cases this might be a few years, in others it even can be fifteen to twenty years, or

LERU

67. There are two additional problems that have to be faced.
Firstly, the necessary data are often not readily available, because they were not previously collected. Secondly, there is resistance from the side of policy makers who favour simple evaluations with concrete numbers over qualitative, often more complex approaches to impact evaluation.

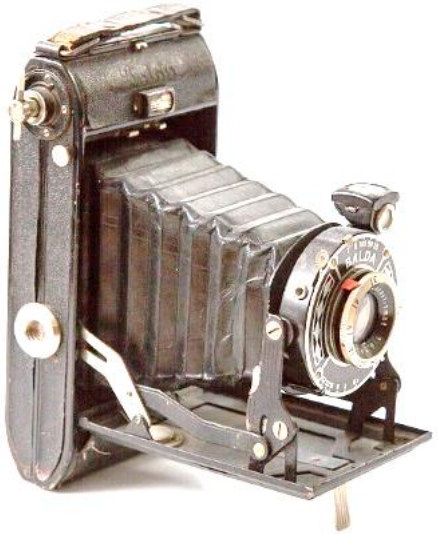
68. Looking at both the research on and practice of impact
evaluation, we can distinguish at least three main new evaluation models: (1) ones that aim at emulating quantitative measurements; a new offshoot being Altmetrics, which focuses to a large extent on output via social media (Facebook and Twitter for example)[14] and other web-based media such as reference managers like Zotero and Mendelay[15]; (2) ones that develop alternative and often qualitative measurements (case studies or narratives), as has been done in the UK REF 2014;
(3) ones that focus on interaction and communication patterns between research and societal context. The latter recognise best that research is part of a broader innovation process, a network involving many parties

Recommendations for others:

LERU urges governments, policy makers and funders, at the
EU, national and other levels, to:

- recognise and endorse the view of impact as a dynamic, open and networked process in a culture of sustained engagement and co-production of knowledge,
- temper their expectations when it comes to the question of predicting the outcome(s) of grant applications, since the production of knowledge is dynamic and thus full of unpredictabilities,
- support and incentivise universities in their endeavours to embrace this broad impact agenda,
- engage with universities in a dialogue to develop sensible impact policies, and
- translate the ideas and recommendations put forward in this paper into innovative approaches and initiatives

UP NEXT....



Break & group picture

M.M. VAN HAMAELE HALL

UP NEXT....

Making Impact: Lessons from the UK's Research Excellence Framework (REF)

Graeme Rosenberg

Impact in the Research Excellence Framework (REF)

Graeme Rosenberg
Head of TEF at the Office for Students
Former REF Manager at the Higher Education Funding Council for England

REF2021

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The UK research funding system

REF2021

Dual support funding of UK research (UK Research and Innovation)

Block grant funding (Research England)

Grant funded research (Research Councils)

Allocated through a periodic REF exercise

Research grant applications

What is the REF?

REF2021

- UK's system for assessing the excellence and impact of research by UK higher education institutions
- First carried out in 2014, replacing the previous Research Assessment Exercise
- It is a process of expert review, carried out by expert panels for each of 34 subject-based units of assessment (UOAs), under the guidance of four main panels
- For each submission, three distinct elements are assessed: the quality of outputs, their impact beyond academia, and the environment that supports research

Who runs the REF?

REF2021

- The REF is undertaken by the four UK higher education funding bodies:

Research England

Scottish Funding Council
Promoting further and higher education

Cyngor Cyllido Addysg Uwch Cymru
Higher Education Funding Council for Wales
hefcw

Department for the Economy
www.economy-ni.gov.uk

- The funding bodies' shared policy aim for research assessment is to secure the continuation of a world-class, dynamic and responsive research base across the full academic spectrum within UK higher education

What is the purpose of the REF?

REF2021

Accountability	Reputation	Funding
• To provide accountability for public investment in research and produce evidence of the benefits of this investment	• To provide benchmarking information and establish reputational yardsticks, for use within the HE sector and for public information	• To inform the selective allocation of funding for research • Ca £2bn p.a.

Background: UK research assessment

The introduction of impact in 2014

REF2021

- A scoping study, pilot exercise and consultation explored:
  - How to define (non-academic) impact?
  - How can impact be evidenced and evaluated?
  - How to address key challenges of attribution and time lags?
  - How much weight should impact carry in the overall REF results?

Quick Quiz!

REF2021

- What's the basic method for assessing impact in the REF?
- What's the weighting of impact in the overall REF results?

Assessing impact in the REF

REF2021

- Key principles were established:
  - A broad definition of impact
  - A case study approach with diverse forms of evidence
  - Contribution not attribution
  - Peer judgement
  - Significant weight
- Impact was first assessed in REF2014
- The approach has been refined for REF2021

Definition of impact

REF2021

an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia

Impact case studies

REF2021

- Examples of the strongest impacts arising from the submitting unit's research

- Four page documents setting out:
  - Details of the underpinning research
  - Explanation of how it contributed to the impact
  - Explanation of the impact and evidence of its 'reach and significance'
  - Sources of corroboration

Impact case studies

REF2021

- For REF2021:
  - Impacts must occur during period 2013 to 2020
  - The underpinning research must be high quality, and carried out since 2000.

- Number of case studies required relates to overall number of staff submitted – but not all staff expected to be included in case studies

Impact – underpinning research

REF2021

The impact described in a case study must have been:

…underpinned by…	• Research made a distinct and material **contribution** to the impact
…excellent research…	• Research as a whole is at least equivalent to two star
…produced by the submitting unit, 1 Jan 2000-31 Dec 2020	• Staff carried out research while working in the submitting HEI

Contribution not attribution

- The research must have made a distinct and material **contribution** to the impact. We do not attempt to apportion how much of the impact was ‘caused’ by the research.
- What are the routes through which research can contribute to a change or benefit to society?

Contribution not attribution

REF2021

- The research must have made a distinct and material **contribution** to the impact. We do not attempt to apportion how much of the impact was 'caused' by the research.
- What are the routes through which research can contribute to a change or benefit to society?

Direct or indirect influence

Intended or serendipitous

Single output or large body of knowledge

Through public engagement, expert advice, etc.

Exploitation by the institution or by third parties

Case study assessment

REF2021

- Assessed by both academics and research users on the REF panels
- Rated on a four-point scale

Reach	Significance
• the extent and/or diversity of the beneficiaries of the impact, as relevant to the nature of the impact.	• the degree to which the impact has enabled, enriched, influenced, informed or changed the performance, policies, practices, products, services, understanding, awareness or well-being of the beneficiaries.

Evidence of impact

REF2021

- Who or what has benefited or been impacted on?
- How have they benefitted or been impacted on?
- What kinds of evidence can demonstrate this?

Submission requirements

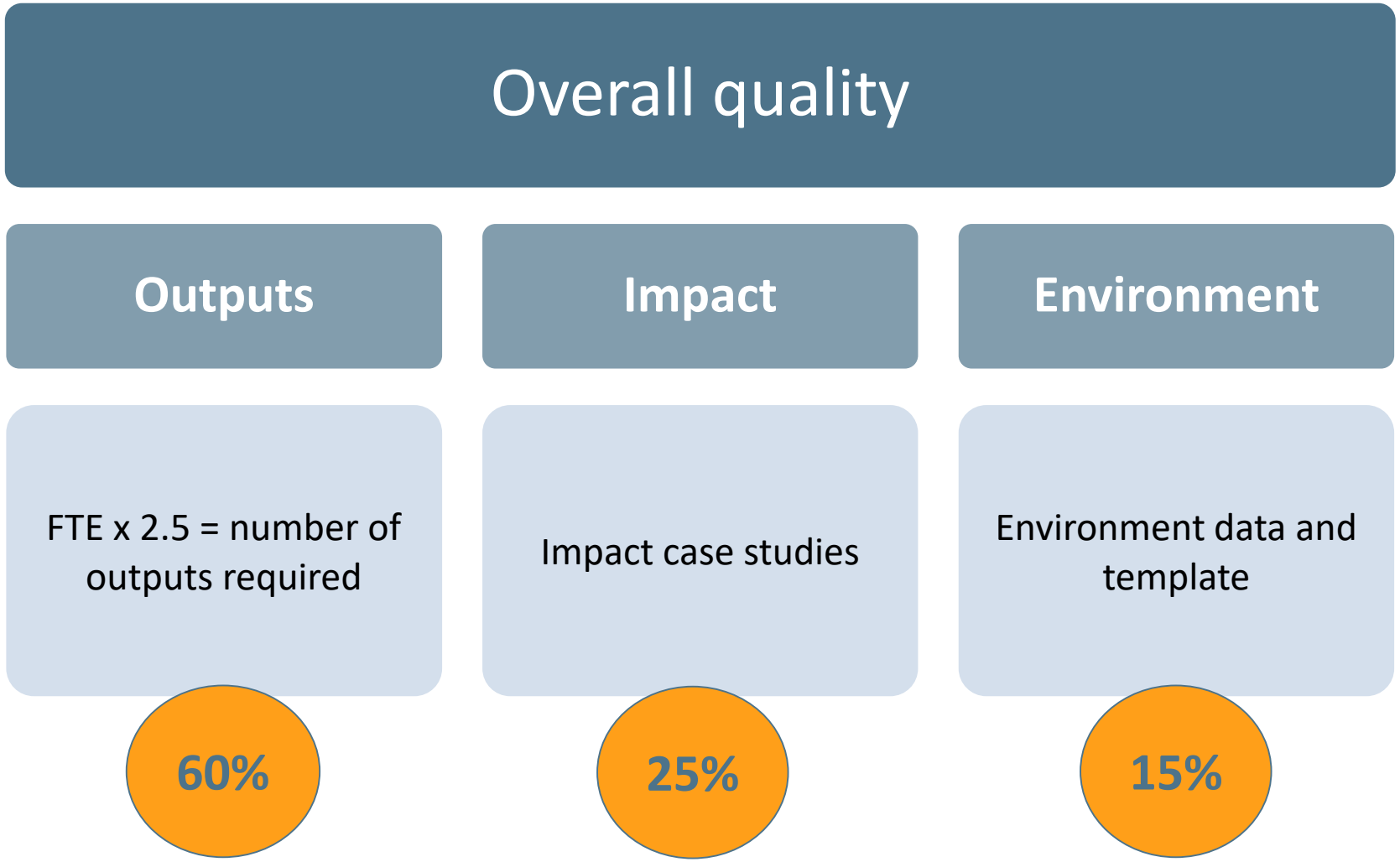
REF2021

- Number of case studies determined by FTE of staff submitted.

Category A submitted staff (FTE)	Required number of case studies
Up to 19.99	2
20-34.99	3
35-49.99	4
50-64.99	5
65-79.99	6
80-94.99	7
95-109.99	8
110-159.99	9
160 or more	10, plus 1 further case study per additional 50 FTE

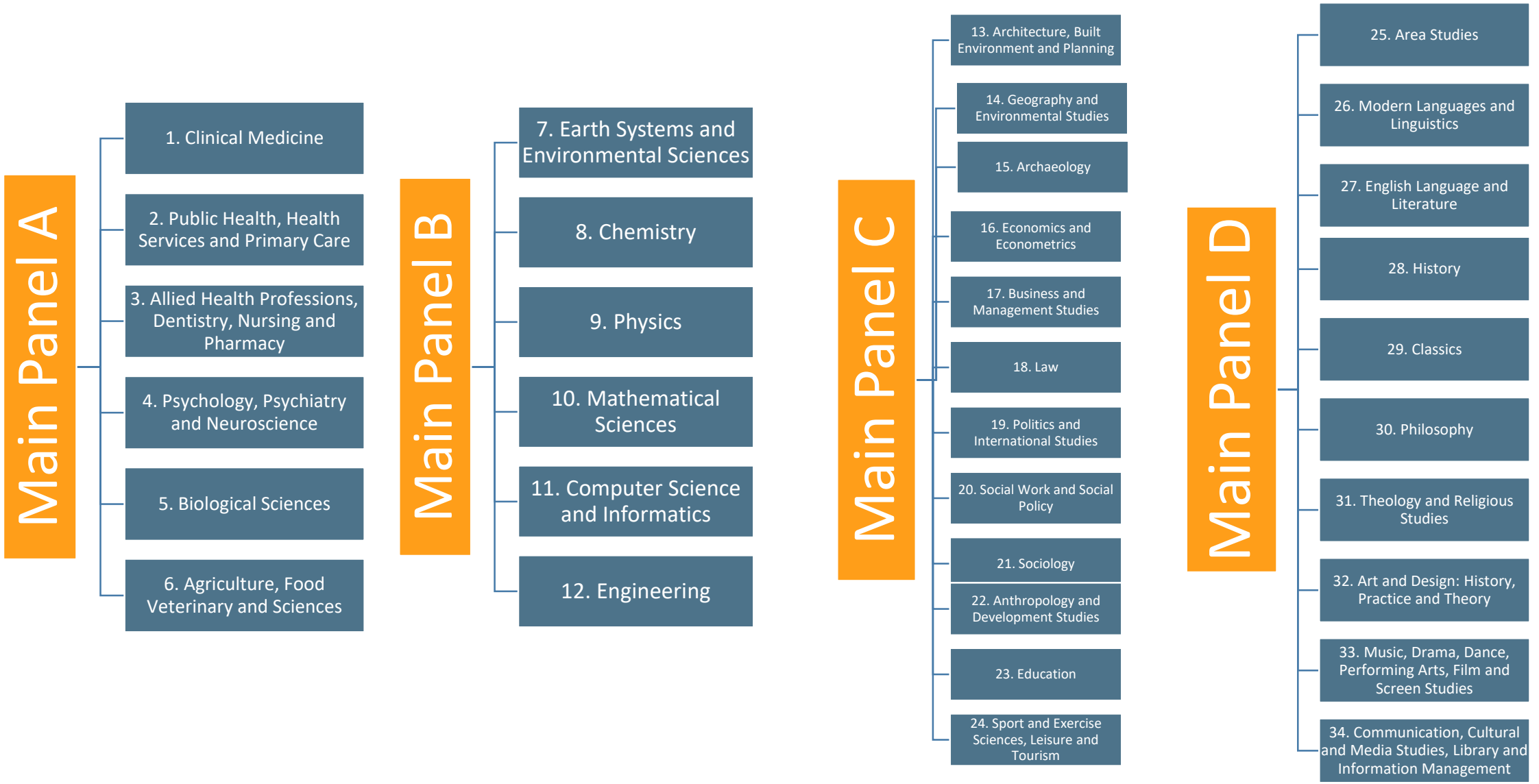
Weighting of impact

REF2021



Units of assessment

REF2021



Impacts submitted in 2014

- How many case studies were submitted to REF 2014?

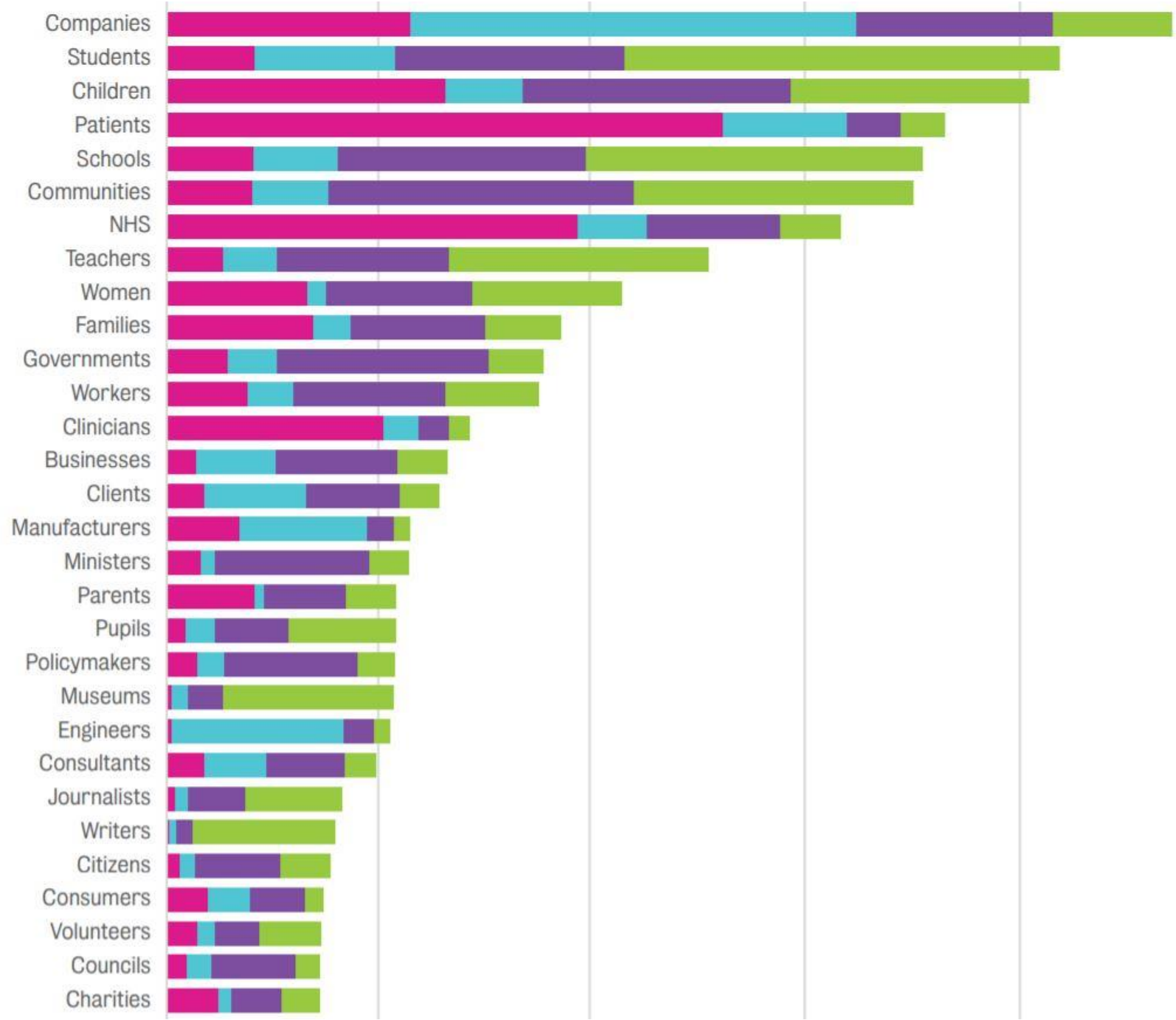
6,975

- What percentage of case studies were judged ‘outstanding’ (4*)?

44%

- How many countries were mentioned in case studies in 2014?

205



REF2021

Beneficiaries cited in case studies

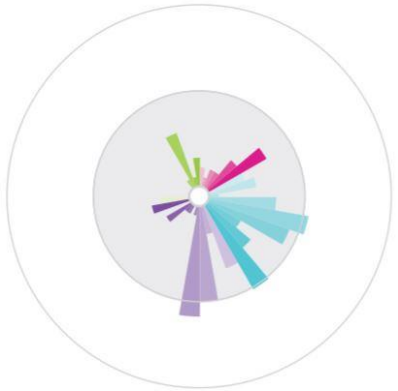
Impacts submitted in 2014

REF2021

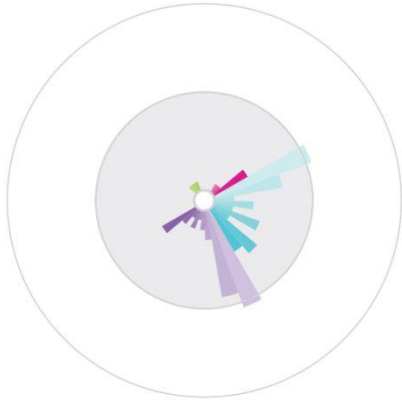
Impact wheels

REF2021

Mental health



Business and industry



Climate change

Informing government policy

Children, young people and families

Cultural and heritage preservation

Impact database

REF2021

A searchable database is available: https://impact.ref.ac.uk/casestudies/

Impact database

REF2021

Impact Global Location

Type country name

Africa	(685)	Asia	(1830)	Europe	(4596)
Algeria	(20)	Afghanistan	(55)	Albania	(22)
Angola	(7)	Armenia	(19)	Andorra	(1)
Benin	(6)	Azerbaijan	(18)	Austria	(215)
Botswana	(20)	Bahrain	(13)	Belarus	(10)
Burkina Faso	(17)	Bangladesh	(73)	Belgium	(249)
Burundi	(8)	Bhutan	(7)	Bosnia and Herzegovina	(23)
Cameroon	(19)	British Indian Ocean Territory	(3)	Bulgaria	(52)
Cape Verde	(3)	Brunei	(11)	Croatia	(50)
Central African Republic	(4)	Cambodia	(2)	Cyprus	(52)
Chad	(7)	China	(603)	Czech Republic	(104)
Comoros	(1)	Georgia	(6)	Denmark	(280)
Democratic Republic of the Congo	(23)	Hong Kong	(128)	Estonia	(52)
Djibouti	(4)	India	(504)	Finland	(175)
Egypt	(74)	Indonesia	(94)	France	(686)
Equatorial Guinea	(2)	Iran	(17)	Germany	(857)
Eritrea	(3)	Iraq	(36)	Gibraltar	(8)
Ethiopia	(54)	Israel	(164)	Greece	(127)
Gabon	(9)	Japan	(451)	Guernsey	(10)
Gambia	(12)	Jordan	(50)	Hungary	(96)
Ghana	(85)	Kazakhstan	(29)	Iceland	(48)

Questions

Interactive Exercise

What makes a strong case study?

REF2021

- Panel overview reports from 2014:

High-scoring	Low-scoring
• Clear and compelling narrative • Clearly identified beneficiaries • Explicit links between research and claimed impact • Self-contained • Verifiable evidence of reach and significance • Evidence of unit's contribution to research • Distinguishes between dissemination and impact	• Lack of objective evidence • Superficial impacts • Vague description of impacts and/or their relationship to the research • Focus on dissemination without explaining outcomes ('so what?')

Examples of impact

REF2021

- Some examples follow, drawn from those coded as ‘societal’ and having an impact in Belgium

For each example, discuss:

1. Is it clear **who** the beneficiaries are? (reach)

2. Is it clear **how** they benefited? (significance)

3. What further evidence is needed?

Example 1

REF2021

In My Shoes: A Software Tool for Professionals assisting Children and Vulnerable Adults

Summary of the impact

This case describes social and health impact which arose as a result of interdisciplinary research at the University of Liverpool and the University of Manchester on the use of computer tools for communication with children and vulnerable adults. This research led to the development of the In My Shoes (IMS) computer program which is now widely used for interviewing children (for example in cases of child abuse) in local authorities across the UK. Since 2008, IMS has been used in the UK by more than 750 practitioners including psychologists, child psychiatrists, other mental health staff, health workers, educational workers, and specialists in forensic services. IMS is also used internationally in Ireland, Belgium, Sweden, and Norway, where more than 100 practitioners are already trained and are using the program in their day to day work.

Example 2

REF2021

Assisting trafficked persons and exploited migrants to access their human rights

Summary of the impact

Trafficked persons have benefitted directly from van den Anker's research at UWE through improved support and legislation. Her policy model on human trafficking prevention assisted changes in the UK, Ireland, Portugal, Czech Republic, Belgium and Sweden and informed local policy development through her training of politicians, civil servants and NGOs in Bristol, Birmingham and Wales. Increased multi-agency working promoted by van den Anker has led to the establishment of new support services like a safe house and the Migrant Rights Centre in Bristol, directly benefiting migrants. International dissemination contributed to agenda changes in international organisations such as the Organization for Security and Co-operation in Europe.

Example 3

The Impact of the Internet on Parliamentary Public Engagement

Summary of the impact

This case study focuses on the impact of the UoA's research on parliamentary public engagement, particularly the body of research on the use of internet-based tools by parliaments, produced by Leston-Bandeira within the Centre for Legislative Studies, This research has been disseminated through national and international `insider' practitioner networks, with the research having both direct and indirect impacts on the way certain parliaments have used these tools to communicate and engage with citizens. This body of research has led parliaments to amend their policies and practice relating to the management and support of web-based tools.

Example 4

Reducing social exclusion through participation in tourism

Summary of the impact

Research at the University of Surrey, has assisted disabled people and low-income groups to access tourism, a significant non-material aspect of well-being. This was achieved by influencing policy and policy recommendations in the UK, Belgium and the EU and by influencing behaviour, action and policy of either demand or supply:

•Demand: Increasing information and support options by establishing `Travel Support Points', exchange schemes and travel facilitating websites

•Supply: Supporting tourism businesses by establishing accessibility tourism networks and influencing the biggest social tourism provider in Wallonia (Belgium) to extend existing inclusion measures, and introduce new initiatives

General observations

Thinking about all four examples, what are some key challenges in:

1. Identifying who the beneficiaries are?
2. Understanding how they benefited?
3. Gathering evidence and demonstrating social impact?

Questions

Further information

- REF 2014 impact case study database: http://impact.ref.ac.uk
- Compare with http://results.ref.ac.uk
- Draft Guidance on submissions and Panel criteria and working methods: www.ref.ac.uk/publications/2018
- REF 2014 Panel overview reports: www.ref.ac.uk/2014/panels/paneloverviewreports/

RECAP AND REMAINING QUESTIONS