

# DAY 2

# WELCOME AND SUMMARY FROM DAY 1

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## Summary day 1

- Reasons to be here: make it operative, beyond bla bla, balancing basic science
- Logic models which show that there is more than just chance between research and impact (which is not evident)
- Stakeholder engagement, Impact Pathways,
- Create impact culture: by setting objectives, by starting with a clear mission
- Today:           how to report on impact, nationally and as organisations  
                      how to implement the plan  
                      where to start
- Assignment



## OVERVIEW OF 3 DAY PROGRAMME

- Day 1 Introductions (presenters and yourselves)  
Introduction to your Case Study  
*Presentations*
- Day 2 ***Presentations***  
**Work on your Case Study and prepare your  
presentation**
- Day 3 Feedback, main issues & questions, close

## Impact Assessment Frameworks as Policy Instrument

David Sweeney

*Executive Chair of Research England*



Research  
England

# Impact assessment frameworks as policy instrument: the example of the REF

*AESIS, November 2019*

David Sweeney, Research England

# Research Contributing to Society

- **Why** we did it
- **What** we did
- **How** it has turned out
- **Evaluation**
- **What** has happened since

# Outline

- The challenge from the UK government
- The economic context –
- Issues to consider in the international context
- The universities and academics response
- Progress



# The Challenge from HM Treasury

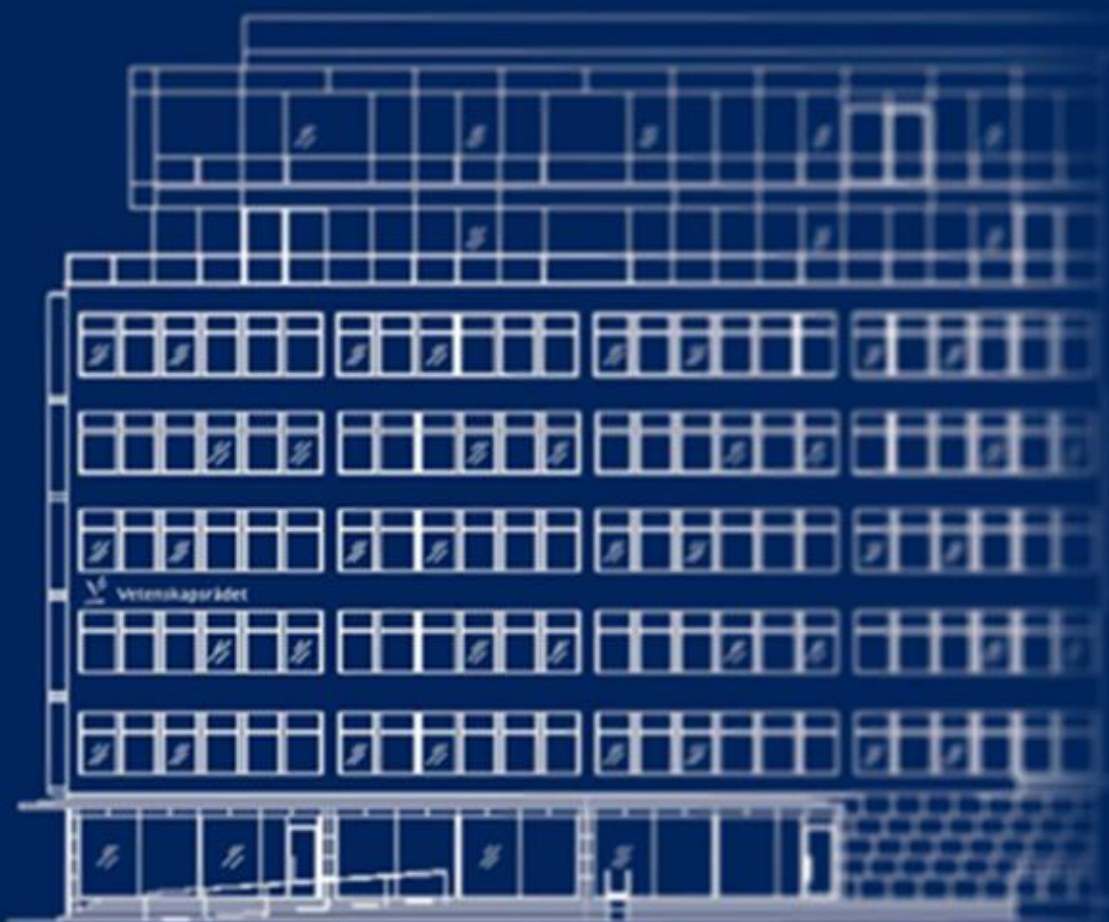
- ‘Convince us that increased research investment is worthwhile’
  - From their point of view – a reasonable question!
  - Playing back senior policy-makers arguments for investment
  - A rational economic argument (not a rhetorical political argument)
  - A question we thought we could answer
  - But to many academics it was a difficult question
  - Broaden the definition of ‘best’
  - Evaluation vs impact

# What kind of research impact

- Impact not evaluation
- Assessment not measurement
- Institutions (not universities) not projects
- Retrospective not prospective (can't predict impact...)
- All disciplines, not some
- Comparative, not absolute

# FOKUS – Research evaluation in Sweden

19 December 2014



# Opposition to research assessment grows in Sweden

The Swedish Association of University Teachers (Sulf) has said that it won't provide input to a government consultation on a proposed research evaluation system, in protest against the plan.

## [1 Comment](#)

On 7 October, Sulf reiterated its position that the performance-based evaluation system—which would be used to determine how much basic funding universities would receive—should not be introduced.

The move follows a decision by the Association of Swedish Higher Education (Suhf) in September to abstain from the public consultation. The association, which represents Sweden's rectors, said that—while the government was presenting the plan as minor adjustments to the funding model, the plan would mean "big changes for individual universities".

"The most serious criticism Suhf want to convey is that the proposals put forward lack a thorough impact assessment," the association said.

The Swedish Research Council proposed the FOKUS evaluation system in December 2014, after the government asked it to come up with a proposal to increase national research quality. Under the plan, research excellence and impact would be evaluated through academic peer review every six years, and the results used to direct 20 per cent of university block grants.

Sulf first outlined its opposition to the model in January this year, stating that the costs of running the evaluation—estimated at 170 million Swedish kronor (€17.5m) per evaluation round—would not improve research quality to a sufficient extent to justify its cost.

"The union believes that institutions' basic grants allows for their long-term operations and should not be exposed to competition," Sulf said in its latest statement. Commenting on possible amendments would serve no purpose, the union said: "Sweden should not be forced to choose between two evils, but should free basic grants entirely from this kind of competition."

In a statement, Sulf said that institutions already have internal peer review systems for evaluating research quality. Instead of creating confidence, the model would lead to a perception of mistrust in researchers and universities, it said.

The Swedish government is expected to make its amended proposal for the evaluation system as part of its 2017 research bill, to be presented this month.

*Image: [opensource.com](#) [CC BY-SA 2.0], via Flickr*

> Home > Topics > Quality

## QUALITY ASSESSMENT OF SCIENTIFIC RESEARCH



The Academy monitors the quality of scientific pursuit in the Netherlands. The aim of its quality assurance and assessment activities is to enable the system of science and scholarship to function efficiently, effectively and in line with the stated research targets and societal objectives.

The Academy is involved in quality assessment in several ways:

- ♦ It gives advice about quality assessment in separate disciplines.
- ♦ Together with the Netherlands Association for Scientific Research (NWO) and the Association of Universities in the Netherlands (VSNU), it is responsible for the Standard Evaluation Protocol.

### Academy advice on quality indicators

Scientific quality cannot be assessed only on the basis of scientific publications and citation impact. That is far from sufficient for many disciplines. The standard methods for quality assessment disregard important parts of the research field. Examples include designs and software in the construction disciplines, or Dutch-language books and articles that are not taken into account in the citation statistics. The Academy advises on proper assessment criteria in a wide range of disciplines. There are reports about the design and construction disciplines, the humanities, and the social sciences.

[Quality assessment in the design and construction sciences](#) >

[Quality indicators in the humanities](#) >

[Quality assessment in the social sciences](#)

### Accreditation of research schools

[Research School Accreditation Committee \(ECOS\)](#) >

[Accredited research schools](#)

### Standard Evaluation Protocol

The Academy, the NWO and the VSNU have adopted the Standard Evaluation Protocol 2015-2021 – (SEP) for evaluating research. The protocol is suitable for broad research assessments, including researcher training. The SEP provides guidelines for evaluating and improving research and research policy. An assessment according to the SEP 2015 - 2021 consists of an external evaluation conducted once every six years and involving a self-evaluation report and a site visit. The three organisations are responsible for the SEP and any subsequent protocol in 2021.

### Protocol

[Standard Evaluation Protocol \(SEP\) 2015-2021](#)

### For more information about SEP

[Rapport 'Kwaliteitszorg in de wetenschap'](#) >

[Report 'Quality assurance in scientific research'](#) >

[E-va-lu-e-ren' report of the Meta Evaluation Committee](#) >



## Science and Technology for America's Reinvestment Measuring the Effects of Research on Innovation, Competitiveness and Science

STAR METRICS® is a federal and research institution collaboration to create a repository of data and tools that will be useful to assess the impact of federal R&D investments. The National Institutes of Health (NIH) and the National Science Foundation (NSF), under the auspices of Office of Science and Technology Policy (OSTP), are leading this project.

[About STAR METRICS®](#)

### News

#### Level I Process Guide Released

STAR METRICS® has released a Level I Process Guide to help interested parties better understand the methods and procedures supporting Level I activities, available in the [Resources section of this website](#). This guide explains the underlying structure of the Level I database, coding, and technical specifications.

#### Announcement on Level I Activities

The STAR METRICS® Consortium has decided to redirect STAR



### Federal RePORTER

Federal RePORTER is an initiative of STAR METRICS® to create a searchable database of scientific awards from federal agencies and make this data available to the public.

## Societal impact of research to be evaluated

Society is investing more and more resources in research, and research results are being implemented in constantly new ways. From now on, the societal impact of research will be a key element of the Research Council of Norway's evaluations of subject fields and research institutes.

Previous subject-specific evaluations have primarily focused on the quality of the research. Now this perspective is being expanded to include evaluation of the various ways and extent to which the research yields returns for society.

"We need to obtain an accurate, up-to-date picture of the role of research in society," says Anders Hanneborg, Executive Director of the Division for Science at the Research Council. "To accomplish this we need more knowledge about the actual interaction between research and society. Our subject-specific and research institute evaluations are an important tool in this regard."



We need more knowledge about the actual interaction between research and society, says Anders Hanneborg. (Photo: Sverre Jarild)

### Methods depend on the discipline

The societal impact of research spans a wide range, from short-term economic gain to influencing how human identity is formed.

"It is clear that the interaction between research and society is different for the technology disciplines, for example, than for the humanities and social sciences," adds Mr Hanneborg. "To evaluate the societal impact of the research, we apply different methods tailored to the distinctive features of the respective disciplines."

The Research Council will soon be concluding its evaluation of the technical-industrial institutes ([read more in Norwegian here](#)). Evaluations of the social science institutes ([more in Norwegian here](#)) and of humanities research ([more in Norwegian here](#)) will begin in late 2015.

"For the technology disciplines, we can more precisely calculate the socio-economic impact in the short and long term, although these are complex calculations," explains Christen Krogh, Director of the Department for Humanities and Social Sciences at the Research Council. "In our evaluation of the technical-industrial research institutes, we calculate the financial added value generated for the research contractors. Among other things, we ask companies whether procurement of services from the institutes yields higher revenues."

### Measuring the unquantifiable

At the opposite end of the spectrum are the social science disciplines and particularly the humanities. Humanities research contributes in many ways that are often less visible – such as developing tests for child language disorders or enhancing cultural understanding of



# The nature, scale and beneficiaries of research impact

An initial analysis of Research Excellence  
Framework (REF) 2014 impact case studies

King's College London and Digital Science

Prepared for the Higher Education Funding Council of England, Higher  
Education Funding Council for Wales, Scottish Funding Council,  
Department of Employment and Learning Northern Ireland, Research  
Councils UK and the Wellcome Trust



March 2015





NATIONAL  
INNOVATION &  
SCIENCE AGENDA



Australian Government  
Australian Research Council  
Department of Education and Training



**Engagement and Impact Assessment  
Consultation Paper**



Research  
England



The Challenges of Impact Assessment

Working Group 2: Impact Assessment

# BMJ Open Understanding the relative valuation of research impact: a best-worst scaling experiment of the general public and biomedical and health researchers

Alexandra Pollitt,<sup>1</sup> Dimitris Potoglou,<sup>2</sup> Sunil Patil,<sup>3</sup> Peter Burge,<sup>3</sup> Susan Guthrie,<sup>3</sup> Suzanne King,<sup>3</sup> Steven Wooding,<sup>3</sup> Jonathan Grant<sup>1</sup>

**To cite:** Pollitt A, Potoglou D, Patil S, *et al.* Understanding the relative valuation of research impact: a best-worst scaling experiment of the general public and biomedical and health researchers. *BMJ Open* 2016;**6**:e010916. doi:10.1136/bmjopen-2015-010916

► Prepublication history and additional material is available. To view please visit the journal (<http://dx.doi.org/10.1136/bmjopen-2015-010916>).

Received 18 December 2015

## ABSTRACT

**Objectives:** (1) To test the use of best-worst scaling (BWS) experiments in valuing different types of biomedical and health research impact, and (2) to explore how different types of research impact are valued by different stakeholder groups.

**Design:** Survey-based BWS experiment and discrete choice modelling.

**Setting:** The UK.

**Participants:** Current and recent UK Medical Research Council grant holders and a representative sample of the general public recruited from an online panel.

**Results:** In relation to the study's 2 objectives: (1) we demonstrate the application of BWS methodology in the quantitative assessment and valuation of research impact. (2) The general public and researchers provided similar valuations for research impacts such as improved life expectancy, job creation and reduced

## Strengths and limitations of this study

- This study contributes to the evidence base on how different stakeholder groups (researchers and the general public) value different types of research impact, an area in which there is a lack of methodological and empirical research.
- This study is important because research funders are increasingly interested in measuring (and rewarding) the societal (or non-academic) impact of research.
- We demonstrate the first application of survey-based best worst scaling methodology in the quantitative assessment of research impact and show that the general public and researchers value research impacts in different ways.
- There are limitations related to the samples used, in that the general public sample was not fully representative of the population and the drop-out

# European Union

- Setting out his vision for Framework 9 for the first time at a conference on the European Research Area in Berlin on 10 October, Carlos Moedas said that impact was one of three 'core values' that he thinks the programme should have. The other two – excellence and openness – have already received a great deal of attention in Horizon 2020.

# European Union (2)

- In his speech, Moedas said that the Commission and researchers “have an obligation and an incentive to be much better at understanding and communicating the impact of what we do”. He said that more could be done to “capture and measure different kind of outputs – including the unexpected ones”, and that he hoped the next Framework programme could have a “more sophisticated approach” to impact’.

# European Union (3)

- ‘Moedas didn’t specify what this approach would be. But national government, mostly in northern Europe, that have implemented ‘impact agendas’ have called on grant applicants to draw up plans for ensuring impact in areas such as policy, public understanding, publications, patents and industrial application.’

# Different approaches

- UK – Knowledge Transfer metrics (HE-BCI and HEIF, income based)
- Australia – ‘engagement and impact’
- USA – Star Metrics (intervention-based)
- EU – Moedas – Prospective to assess grants (cf UK Research Councils)
- UK Health Research – Best/Worst
- Grants for USA – Measuring research – A guide to research evaluation frameworks and tools

# Government response

- Acknowledged that impact was now a major driver (which was win for us long before we assessed impact)
- Because of impact the whole frame of reference around research had shifted – far more important than the mechanics of assessment
- Science and Research investment protected while the rest of public investment cut by at least 30%
- At enormous political cost, investment in education was protected by passing the cost to the graduate
- Universities declared to be at the heart of business recovery, particularly outside London and the South East
- University investment used to unlock the capital which big business was sitting on



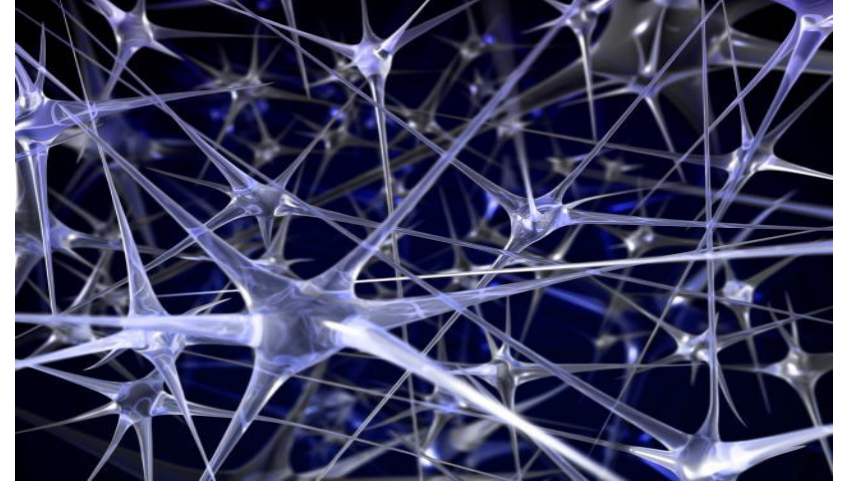
# What it was & what it wasn't

- Demonstrating the contribution to society:
  - Not about conceding the authority to dictate research directions
  - Not about moving to lots more applied research, but about validating the contribution of 'fundamental' research – although equally about recognising and rewarding applied work alike
  - Not about favouring one discipline over another – equality of opportunity on this
  - Not about replacing academic excellence by societal impact, but complementary and an opportunity to demonstrate the impact of academically excellent work
  - Equally not about pretending that academic impact is societal impact

# National objectives

Intellectual leadership in the development of new knowledge

- ‘International comparative performance of the UK research base’– ‘better than world average in all subject fields based on field-weighted citation impacts
- ‘Well-rounded portfolio’



# National objectives (2)

- Optimal contribution to society from that new knowledge – ‘Impact’
  - Culture change & broad engagement of universities/academics
  - Greater investment from business, not just to capture cash, but to support shared objectives
- ‘When do we want it’ – now, of course, but recognising that is based on past investment
- Long-term success e.g. e-infrastructure, graphene





# Determining a strategy

- Performance-based funding
  - Past success is a good guide to future success in a stable environment with long cycles
  - A mixture of metrics, peer judgement and expert advice to determine 'excellence'
- Public funding to unlock private funding
- Investing now for long-term success

# Research Assessment (UK)

- Research Assessment Exercise – RAE
  - Periodically since 1986
  - Primarily a peer review exercise for all disciplines – metrics play a strictly limited part
  - Carries the confidence of academics and universities
  - A selective exercise, not an assessment of all UK research
  - The single most important driver for academics and universities in the United Kingdom.
  - Liked by Government as allows funding based on quality, unlike teaching.
  - Now the Research Excellence Framework - REF

# REF: A UK-Wide Framework

- *‘Aiming to maintain the capacity of higher education to undertake world-leading research across a range of academic disciplines, promote economic growth and national well-being and the expansion and dissemination of knowledge’*
- Delivered by the REF team on behalf of the four funding bodies
- Drives our selective allocations of research funding, supporting excellence wherever it is found, with strong performance incentive
- Provides international benchmarks and reputational yardsticks
- Provides accountability and demonstrates the benefits of public investment in research
- Evidence base for strategic decisions at national level
- Used by universities and others for resource allocation decisions
- It provides a periodically updated reputational benchmark, which is based on rigorous peer judgement by fellow academics

# How it works

**REF assesses the quality of research in all UK universities, in all disciplines. It is carried out by 36 expert panels, grouped into 4 main panels.**

Main Panel A: **Medical and life sciences**

Main Panel B: **Physical sciences and engineering**

Main panel C: **Social sciences**

Main Panel D: **Arts and humanities**

**2011-12**

## **Preparation**

Panels were appointed. Guidance and criteria were published.

**2012-13**

## **Submissions**

Universities made submissions in whichever subjects they chose to.

**2014**

## **Assessment**

36 expert panels reviewed the submissions, guided by the 4 main panels.



They made **1,911** submissions including:

- **52,061** academic staff
- **191,150** research outputs
- **6,975** impact case studies

The **overall quality** of submissions was judged, on average to be:

★★★★★ **30%** world-leading (4\*)

★★★☆☆ **46%** internationally excellent (3\*)

★★☆☆☆ **20%** recognised internationally (2\*)

★☆☆☆☆ **3%** recognised nationally (1\*)



Overview:  
**Timetable**

**2011**

- Panels appointed (Feb)
- **Guidance on submissions published (Jul)**
- Draft panel criteria for consultation (Jul)
- Close of consultation (5 Oct)

**2012**

- **Panel criteria published (Jan)**
- HEIs submit codes of practice (by Jul)
- Pilot of submissions system (Sep)
- HEIs may request multiple submissions (by Dec)
- Survey of HEIs' submission intentions (Dec)

**2013**

- Launch REF submissions system (Jan)
- Additional assessors appointed to panels
- Staff census date (31 Oct)
- **Submissions deadline (29 Nov)**

**2014**

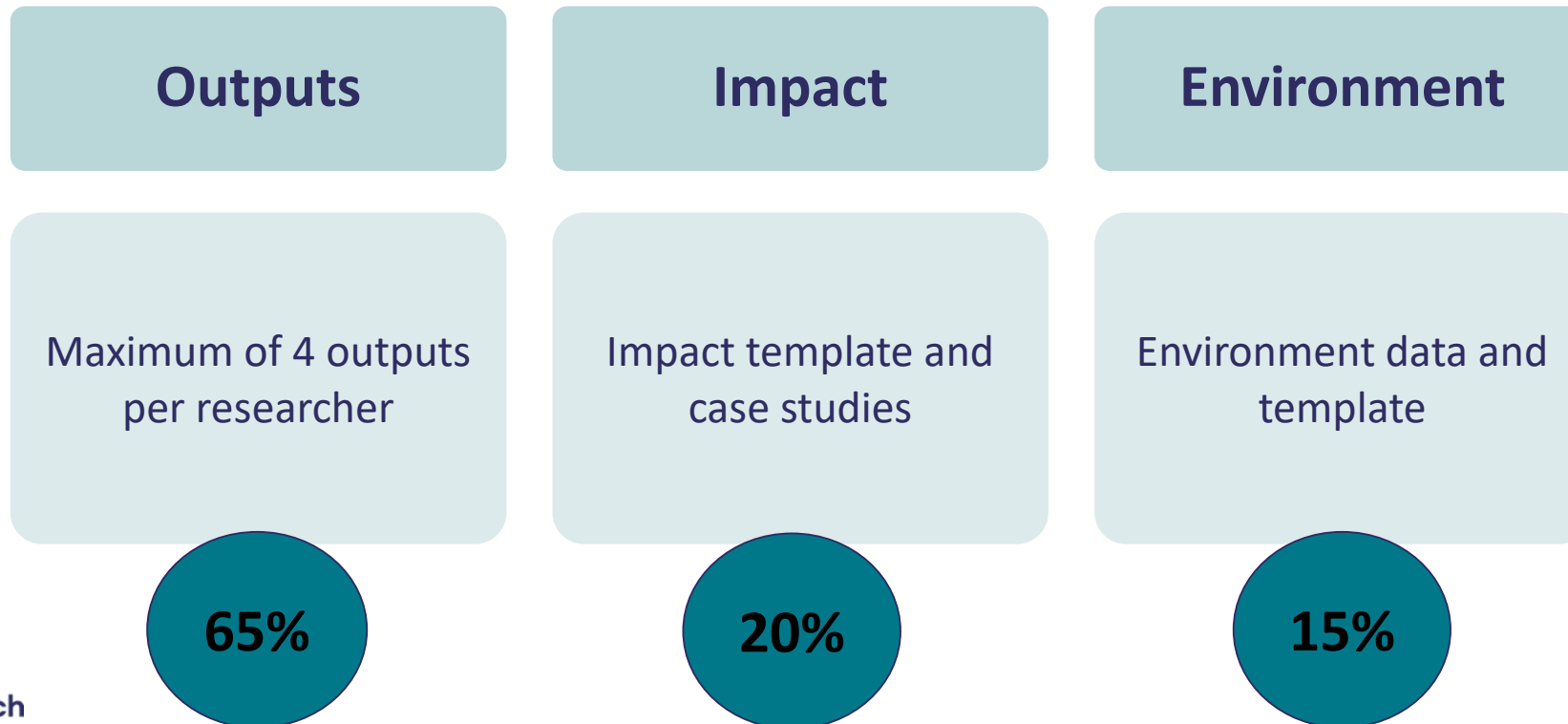
- Panels assess submissions
- **Publish outcomes (Dec)**

**REF2014**

Overview:

# The assessment framework

## Overall quality



Overview:

# Timetable

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## 2014

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# For the first time, REF has demonstrated the impact of UK research in all subjects

- Over 250 research users judged the impacts, jointly with academic panel members.
- **44%** of impacts were judged outstanding (4\*). A further **40%** were judged very considerable (3\*).
- Impressive impacts were found from research in all subjects.
- REF shows many ways in which research has fuelled economic prosperity, influenced public policy and services, enhanced communities and civic society, enriched cultural life, improved health and wellbeing, and tackled environmental challenges.

# Impact: Submissions

## Impact template (REF3a)

- Sets out the submitted unit's general approach to enabling impact from its research
- One template per submission – with a page limit depending on the number of staff submitted
- Covered the period 1 Jan 2008 to 31 Jul 2013
- Contributed 20% to the impact sub-profile

## Case studies (REF3b)

- Specific examples of impacts that were underpinned by the submitted unit's research
- The number of case studies required depends on the number of staff submitted
- Impacts during 1 Jan 2008 to 31 Jul 2013; underpinned by research since 1 Jan 1993
- Contributed 80% to the impact sub-profile

# Impact: Template (REF3a)

- The unit's approach to enabling impact from its research:
  - Context for the approach
  - The unit's approach during 2008-2013
  - Strategy and plans for supporting impact
  - Relationship to the submitted case studies
- Provided additional information and context for the case studies, and could take account of particular circumstances that may have constrained a unit's selection of case studies
- Assessed in terms of the extent to which the unit's approach was conducive to achieving impact of 'reach and significance'

# Impact: Case studies (REF3b)

- In each case study, the impact described needed to:
  - Meet the REF definition of impact
  - Have occurred between 1 Jan 2008 and 31 July 2013 (could have be at any stage of maturity)
  - **Be underpinned by excellent research (at least 2\* quality) produced by the submitting unit between 1 Jan 1993 to 31 Dec 2013**
- Submitted case studies needed **not** be representative of activity across the unit: pick the strongest examples

# Impact: Case studies (REF3b)

- Each case study was limited to 4 pages and must have:
  - Described the underpinning research produced by the submitting unit
  - Referenced one or more key outputs and provide evidence of the quality of the research
  - Explained how the research made a 'material and distinct' contribution to the impact (there are many ways in which this may have taken place)
  - Explained and provided appropriate evidence of the nature and extent of the impact: Who / what was affected? How were they affected? When?
  - Provide independent sources that could have been used to verify claims about the impact (on a sample audit basis)



# What about Metrics

- [http://www.hefce.ac.uk/rsrch/REFreview/evaluation/What we did](http://www.hefce.ac.uk/rsrch/REFreview/evaluation/What%20we%20did)
- <http://www.kcl.ac.uk/sspp/policy-institute/publications/Analysis-of-REF-impact.pdf>
- 'The quantitative evidence supporting claims for impact was diverse and inconsistent, suggesting that the development of robust impact metrics is unlikely'

# Impact Background (2)

- Definition: 'Research impact is the demonstrable contribution that research makes to the economy, society, culture, national security, public policy or services, health, the environment, or quality of life, beyond contributions to academia.'
- REF definition: 'Effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life beyond academia'

# Research contribution

- Our starting point was that an optimal submission should include a portfolio of excellent research **and** build on that excellent research to deliver benefits which contribute to society.
- Contribution must be linked to high quality research
- Assessed at the level of whole units (not individual outputs or researchers)
- Equally demanding standards to the assessment of outputs

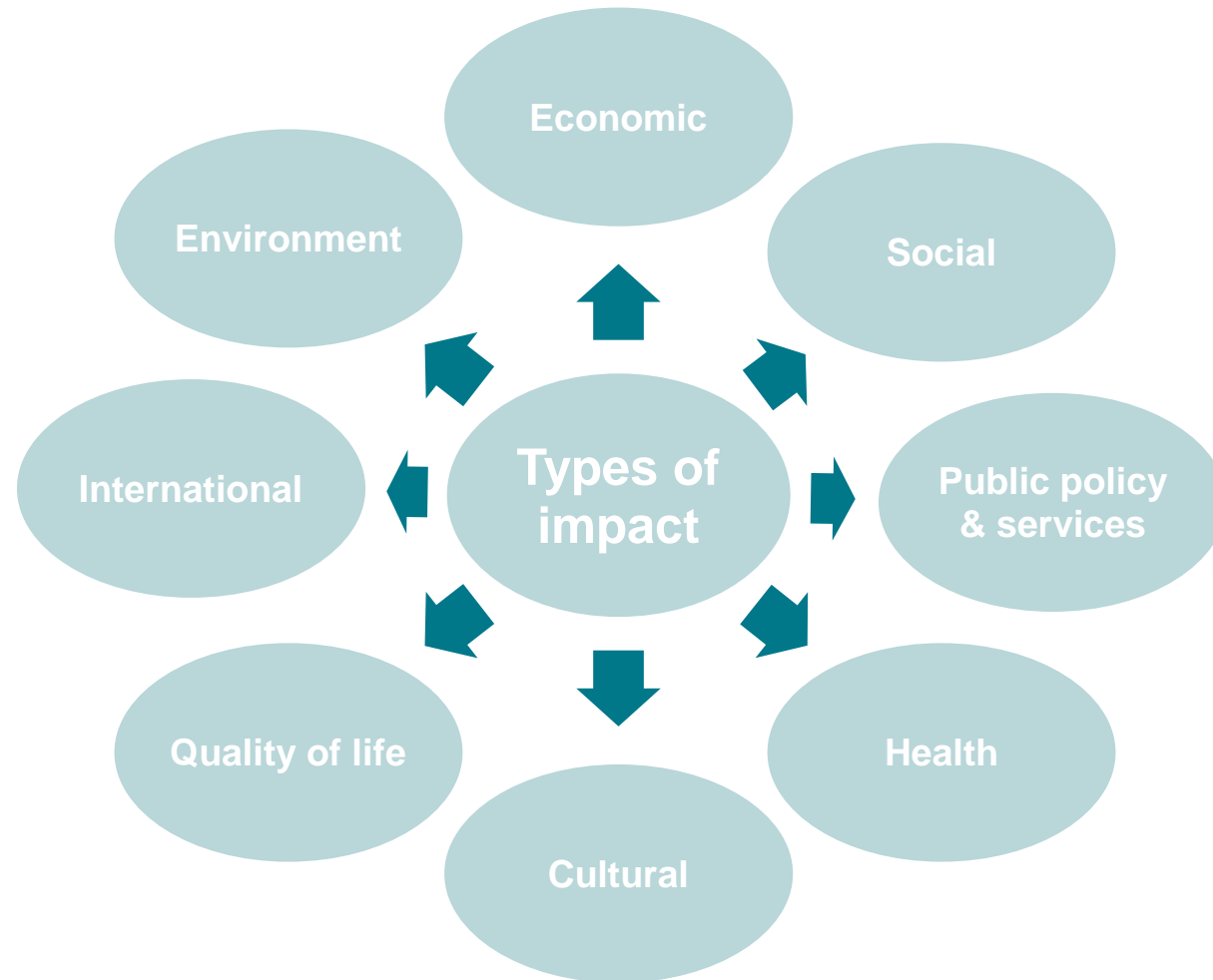
# Assessing quality – ‘Impact Agenda’

*To identify and reward the contribution that high quality research has made to the economy and society:*

- Making these explicit to the Government and wider society
- Creating a level playing field between applied and theoretical work, but recognising only impact based on excellent research
- Encouraging institutions to achieve the full potential contribution of their research in future
- Intellectually coherent with the historical purposes of universities

# A wide view of impact

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# Impact: Definition for the REF

- 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 **includes** an effect, 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
- It **excludes** impacts on research or the advancement of academic knowledge within HE; and impacts on teaching or other activities within the submitting HEI

# Challenges of assessment

- ***Time lags*** – we looked at impacts that were evident during REF period (from 2008-2012), underpinned by research over a longer timeframe
- ***Attribution*** – case studies to tease out how the research *contributed* to the impacts
- ***Limitations of metrics*** – expert panels assessed rather than *measured* impact; indicators were used as supporting evidence
- ***Corroboration*** – there was scope for third party verification, and expert panels to judge credibility of the evidence

# Assessment criteria

- Expert panels assessed benefit in terms of their 'reach' and 'significance'
- All panels included substantial user representation – we suggested user members focus on the impact element, with reviewing outputs as 'optional'



# This was not about

- Quantifying impact
- Focusing narrowly on economic impact
- Assessing impact of every researcher or output
- Trying to predict future impact
- Discouraging curiosity-driven research
- Trading-off impact and excellence

# Culture and society

## **A 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

## **B 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

## **C 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

## **D Civil society**

Influencing the form and content of associations between people or groups to illuminate and challenge cultural values and social assumptions.

## **D 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.

**D 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 and Commercial

## **A Commercial impacts:**

Impacts where the beneficiaries are usually companies, either new or established, or other types of organisation which undertake activity that creates wealth

## **A Economic impacts:**

Impacts where the beneficiaries are usually the NHS or private health care or agricultural activity

## **B 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

## **C Economic, commercial, organisational impacts:**

Impacts where the beneficiaries may include new or established businesses, or other types of organisation undertaking activities which create wealth

## **D Economic prosperity**

Applying and transferring the insights and knowledge gained from research to create wealth in the manufacturing, service, creative and cultural sectors.

# Health and welfare

## **A Health and welfare impacts:**

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

## **B 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

## **C 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

# Public policy and services

## **A 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

## **B 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

**C 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

**D Education** 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.

**D 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.

**D Policy making** Influencing policy debate and practice through informed interventions relating to any aspect of human or animal well-being

# Environment

## **A Impacts on the environment:**

Impacts where the key beneficiary is the natural or built environment

## **B 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

## **C 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

# Practitioners and services

## **A 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

## **A Production impacts:**

Impacts where the beneficiaries are individuals (including groups of individuals) whose production has been enhanced

## **B Impacts on practitioners and professional services**

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

## **C 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

# REF Case Studies: Outcomes

- Universities and academics galvanized due to the importance of REF
- 6975 case studies
- Many focused on the long-term contribution of research to society
- Teased out the way in which impact arises
- Offered every discipline the opportunity to make its case in its own terms
- Stunning opportunity to build multi-disciplinary work into an exercise based around disciplines
- Evaluation by Rand Europe completed



# Detail or Big Picture

- Easy to criticise the detail which may or not work in other contexts
- Arguing over detail misses 'the wood for the trees'
  - Do we want universities to be central to society?
  - How does that sit with our traditional mission?
  - Universities are already major economic actors – where do we sit with our consequent social responsibility?

# REF: the evidence

The image displays a grid of 15 document covers related to the REF 2014 process. The covers are arranged in three rows and five columns. The top row includes documents on preparing impact submissions, evaluating impact submissions, and an accountability review by Technopolis. The middle row features 'The Metric Tide' reports, a correlation analysis of REF2014 scores, and reports on the nature and characteristics of high-performing research units. The bottom row contains the four main panels of the Research Excellence Framework 2014 overview reports, each with a table of contents.

**Row 1, Column 1:** Preparing impact submissions for REF 2014: An evaluation. Findings and observations. Authors: Catherine Mansfield, Melly Morgan Jones, Michael Pearson, Sophie Coakle-Clarke, Maria-Louise Henken, Sall Ganeshaiah and Jonathan Ouse. REF2014 EUROPE.

**Row 1, Column 2:** Assessing impact submissions for REF 2014: An evaluation. Authors: Catherine Mansfield, Susan Guhrke, Marie-Louise Henken, Bryn Garrod, Soria Sivas, Anne Kirley, Sophie Coakle-Clarke and Tam Ling. REF2014 EUROPE.

**Row 1, Column 3:** Evaluating the 2014 REF. Feedback from participating institutions. Authors: hfcce, Scottish Funding Council, hfcw, Employment and Learning. REF2014.

**Row 1, Column 4:** REF Accountability Review: Costs, benefits and burden. Report by Technopolis to the four UK higher education funding bodies. REF2014.

**Row 1, Column 5:** Interdisciplinary Research in REF 2014 Submitted Publications. Report to the UK HE funding bodies and MFC by REF2014. REF2014.

**Row 2, Column 1:** The Metric Tide. Report of the Independent Review of the Role of Metrics in Research Assessment and Management. July 2015. REF2014.

**Row 2, Column 2:** The Metric Tide. Literature Review. Supplementary Report I to the Independent Review of the Role of Metrics in Research Assessment and Management. July 2015. REF2014.

**Row 2, Column 3:** The Metric Tide. Correlation analysis of REF2014 scores and metrics. Supplementary Report II to the Independent Review of the Role of Metrics in Research Assessment and Management. July 2015. REF2014.

**Row 2, Column 4:** The nature, scale and beneficiaries of research impact. An initial analysis of Research Excellence Framework (REF) 2014 impact case studies. King's College London and Digital. REF2014.

**Row 2, Column 5:** Characteristics of high-performing research units. A preliminary analysis. Authors: Catherine Mansfield, Saba Hussain, Sarah Price, Adam Kempster, Sall Ganeshaiah, Jennifer Wilkinson, and Jonathan Grant. REF2014.

**Row 3, Column 1:** Research Excellence Framework 2014: Overview report by Main Panel A and Sub-panels 1 to 15. Manager's report. REF2014.

**Row 3, Column 2:** Research Excellence Framework 2014: Overview report by Main Panel B and Sub-panels 16 to 26. REF2014.

**Row 3, Column 3:** Research Excellence Framework 2014: Overview report by Main Panel C and Sub-panels 27 to 35. REF2014.

**Row 3, Column 4:** Research Excellence Framework 2014: Overview report by Main Panel D and Sub-panels 36 to 45. REF2014.

**Row 3, Column 5:** Research Excellence Framework 2014: Overview report by Main Panel E and Sub-panels 46 to 55. REF2014.

# Myths and Anxieties

- Some impact is negative (Yes, but Panels can handle)
- All research must have impact (No)
- Only economic impact counts (No)
- The best impact does not come from the best research (Perhaps, but we need to know that)
- Arts and Humanities cannot demonstrate impact (No)
- Impact cannot be 'measured' (Yes, but it can be assessed)
- It takes time for happen (Yes, so allow for it)
- The expectation of impact is a threat to academic freedom (No)
- Impact will become an industry (Only if you let it be so)
- Measures will become targets (Depends if you own the agenda)

# Challenges

- Assessing impact isn't perfect – but we can learn and make it better
- There will be opposition from vested interests - uncomfortable change for university leaders and for academics
- We don't have enough to offer to make it worthwhile
- Our traditional purposes will be eroded and .....
- Our research policies are already optimal – perhaps we will indeed discover that
- We can do the same thing with a few simple metrics

# What have we learnt

- Case studies are a lot of work – but why?
- The attitude to impact has been transformed in universities
- The understanding of impact is much enhanced and – by analysing the case studies as a whole – was even greater than anticipated
- It was costly

# What we don't know yet

- Is research excellence highly correlated with research impact (and what are the implications)?
- How difficult is it to assess case studies across all disciplines?
- Which of the difficulties in assessment were particularly challenging?
- Will the revitalised approach to impact persist?

# Next Steps

- ‘If only the government would take the lead’
- ‘There needs to be a funding reward for impact’
- Or should universities own and shape their futures?
- Cannot our best brains craft the solution which makes universities more central to societal futures?
- Or is collective action beyond us in the same way it sometimes seems to be beyond government?

# Conclusion

- Government should be clear about its values
- Research instruments should recognise and reward what is valued so that incentives are provided
- Value judgements should not be a solely internal affair
- Methodology to do this was developed in Australia
  - Taken forward and piloted successfully in the UK
  - Implemented on large scale in the UK and will be evaluated
  - Further refined and piloted successfully in Australia
- Education & Research directions and outcomes driven by understanding of societal needs and contributing to societal outcomes





Research  
England

# Questions?



Research  
England

Thank you



@ResEngland

Coffee/tea break

*We will start again at 11.00*

## UP NEXT....

### **How to set up an impactful research program**

- ▶ Continuing to set the foundations for integrating and implementing societal impact
- Assessing and measuring the impact of your research strategy
- Communicating the societal impact

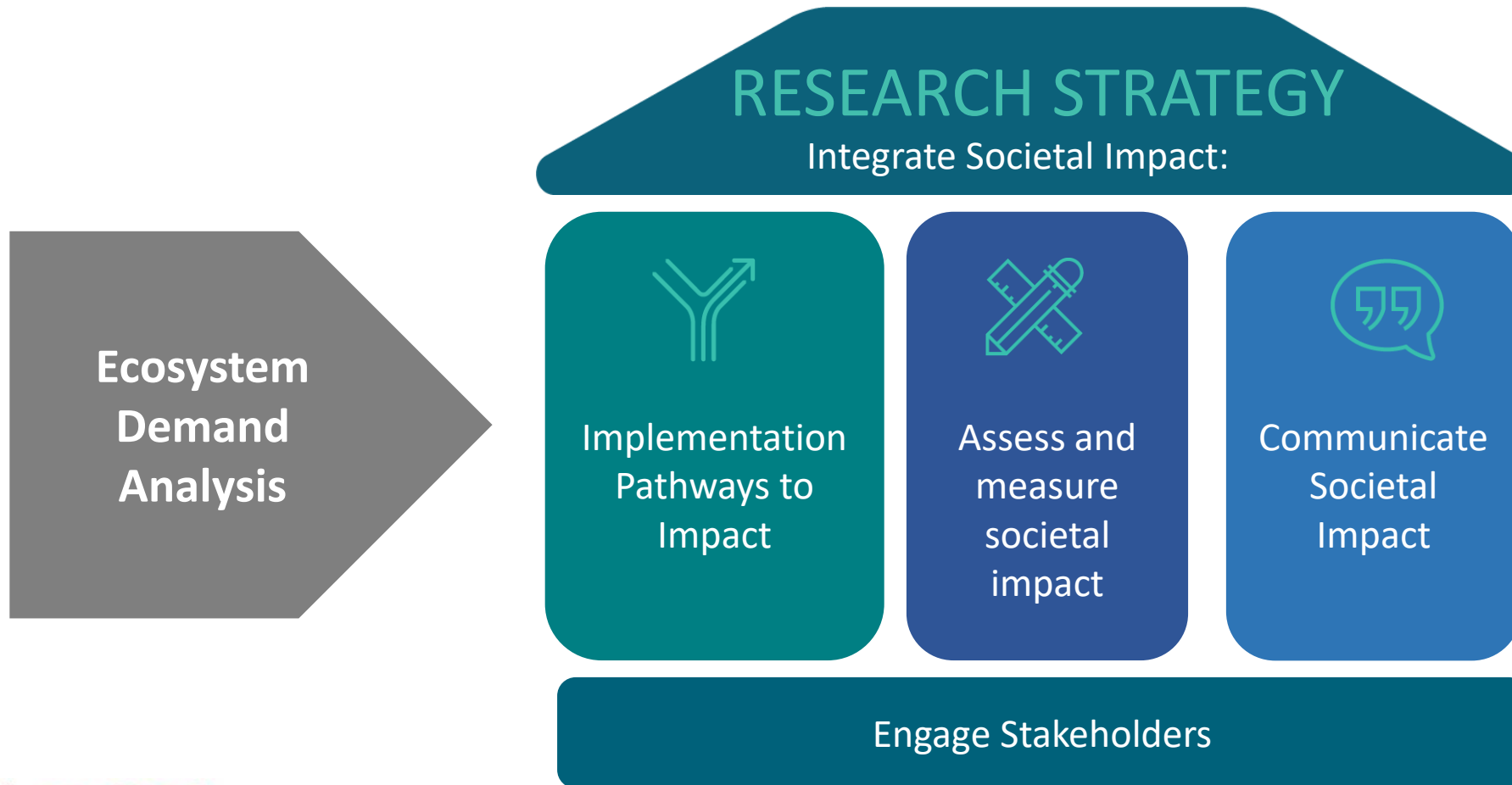
*Barend van der Meulen & Kathryn Graham*

## LEARNING OUTCOMES

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- ▶ Think about assessing and measuring progress to achieving your societal impact strategy
- ▶ Consider how to communicate your impact to your key stakeholders
- ▶ Review hands on examples and discuss lessons of implementation experiences

# INTEGRATING AND IMPLEMENTING IMPACT



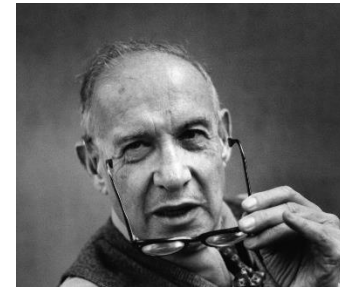


Assess and  
measure  
societal  
impact

# ASSESS AND MEASURING SOCIETAL IMPACT: EVIDENCING IMPACT



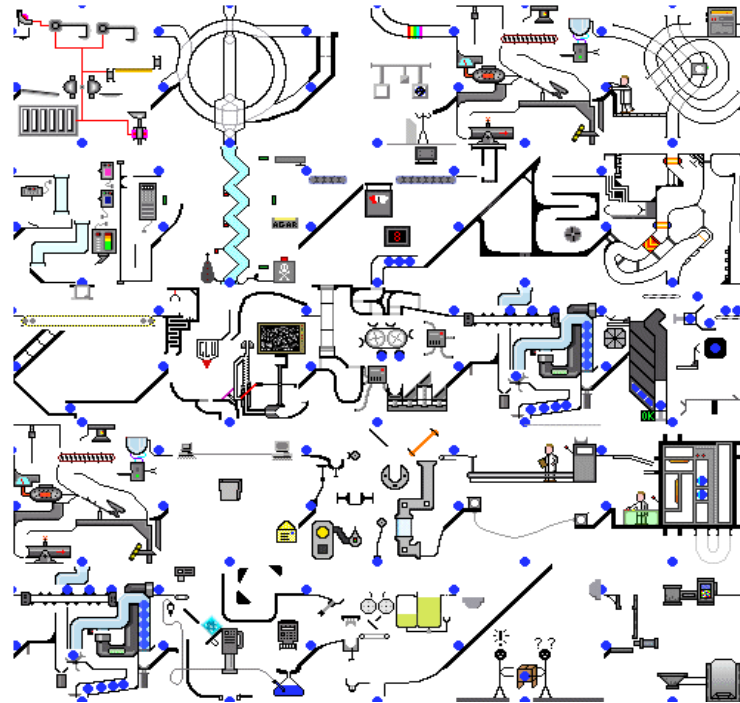
*“What gets measured  
gets improved”*



Peter Drucker



# ACHIEVING SOCIETAL IMPACT REQUIRES CONTRIBUTION FROM MANY ACTORS



# PERENNIAL CHALLENGES...

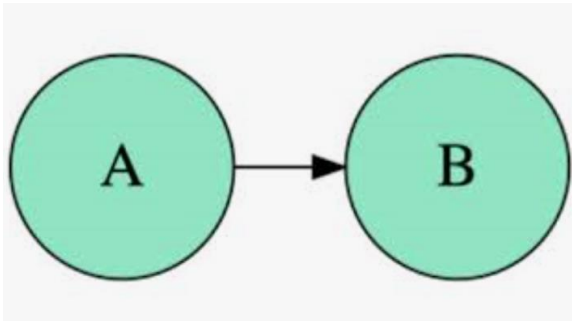
Time lags



Transaction costs



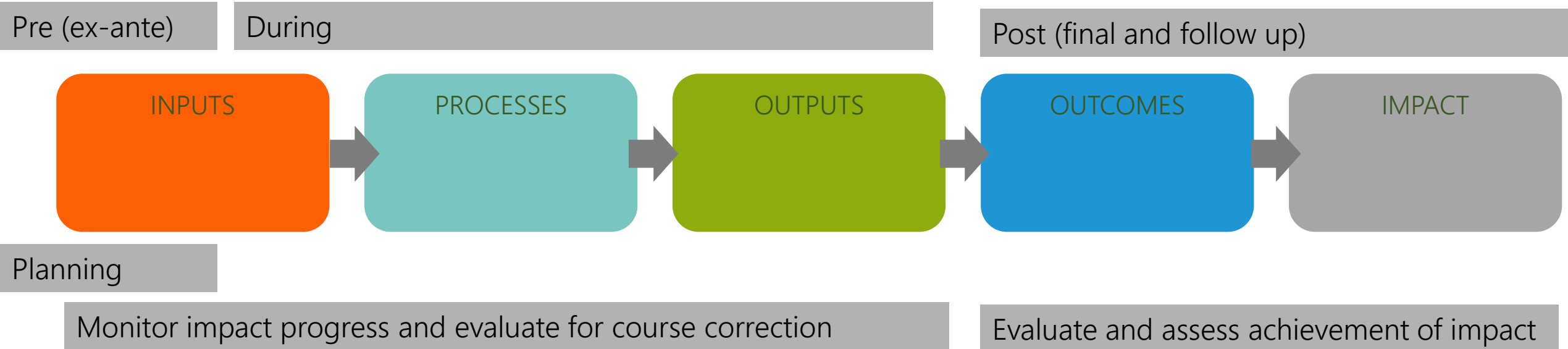
Attribution & Contribution



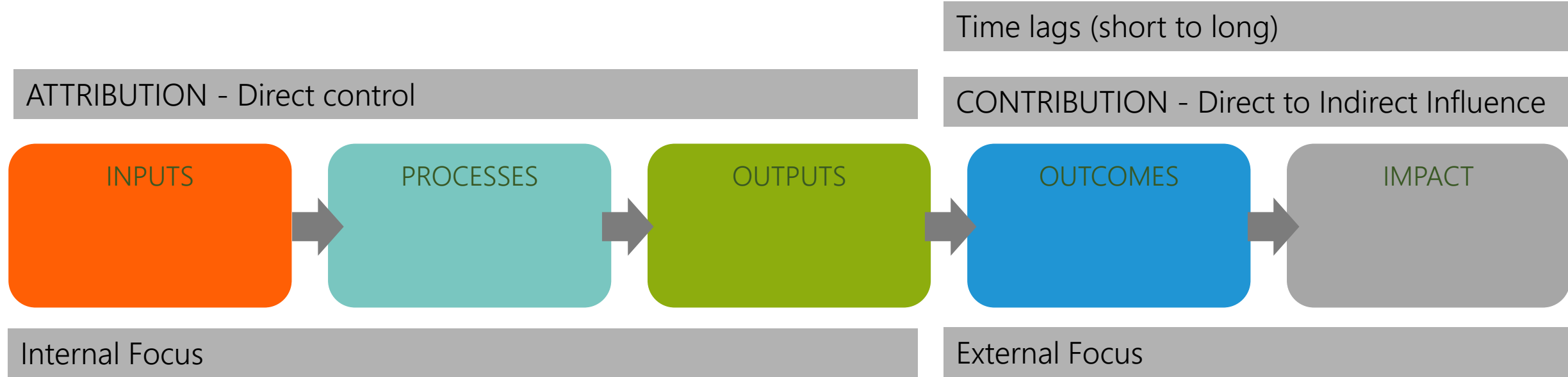
Unit of assessment



# TIMING CONSIDERATIONS FOR TRACKING IMPACT



## WHAT ELSE SHOULD WE CONSIDER?





## HOW DO WE CAPTURE THE EVIDENCE REQUIRED? INDICATORS DEFINED

### Measure, metric and indicator often used interchangeably

- ▶ Indicator: The particular characteristic or dimension used to determine change (e.g. speed)
- ▶ Measure/metric: The unit of measurement (e.g. km/hr)

## ENGAGE STAKEHOLDERS AND STRATEGICALLY ALIGN TO GENERATE AND SELECT INDICATORS



### Strategically align

- Research vision
- Organization's mission
- Organizational and/or external mandatory requirements

### Participative approach

- Ask stakeholders about their intended societal impacts
- Identify indicators of interest

**Stakeholders can value different impacts – the challenge is prioritization and agreement**



## DEVELOP QUESTIONS AND INDICATORS ALONG IMPACT PATHWAY

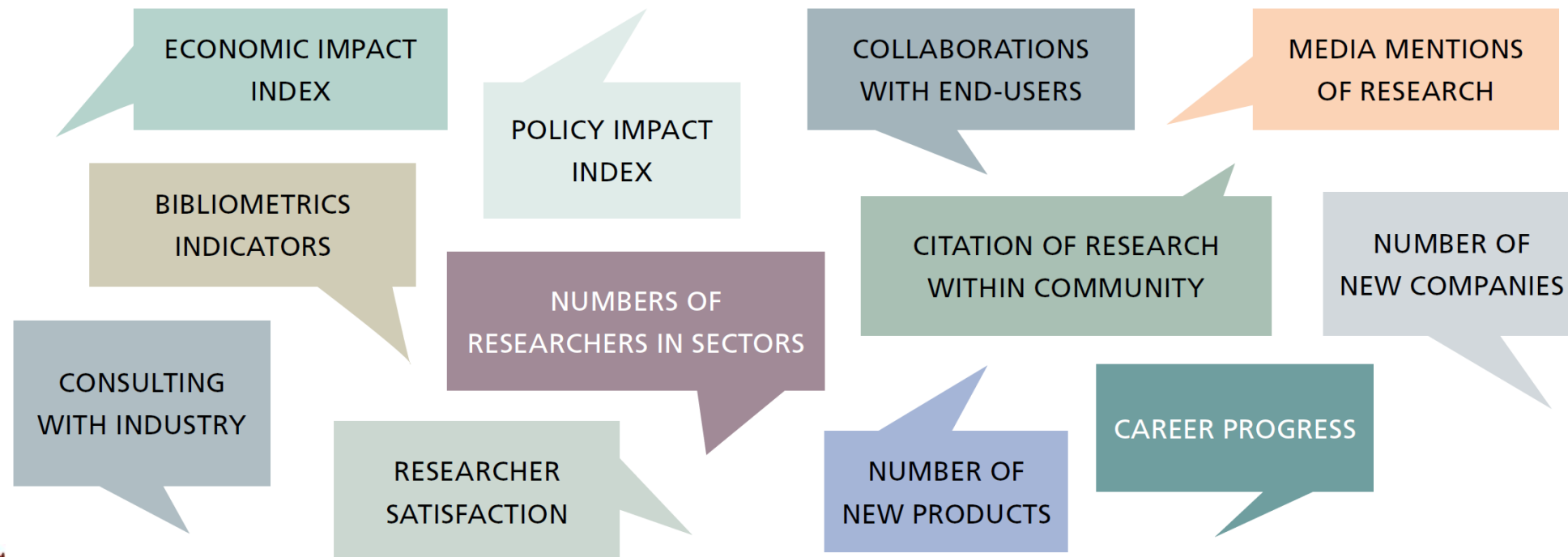
Develop impact questions and ask stakeholders what they need to know



Indicators

Gives the evidence to answer their questions

# USE THE CONCEPT OF INDICATORS TO THINK THROUGH WHAT COUNTS AS EVIDENCE





# NEXT WE MEASURE AND EVIDENCE IMPACT

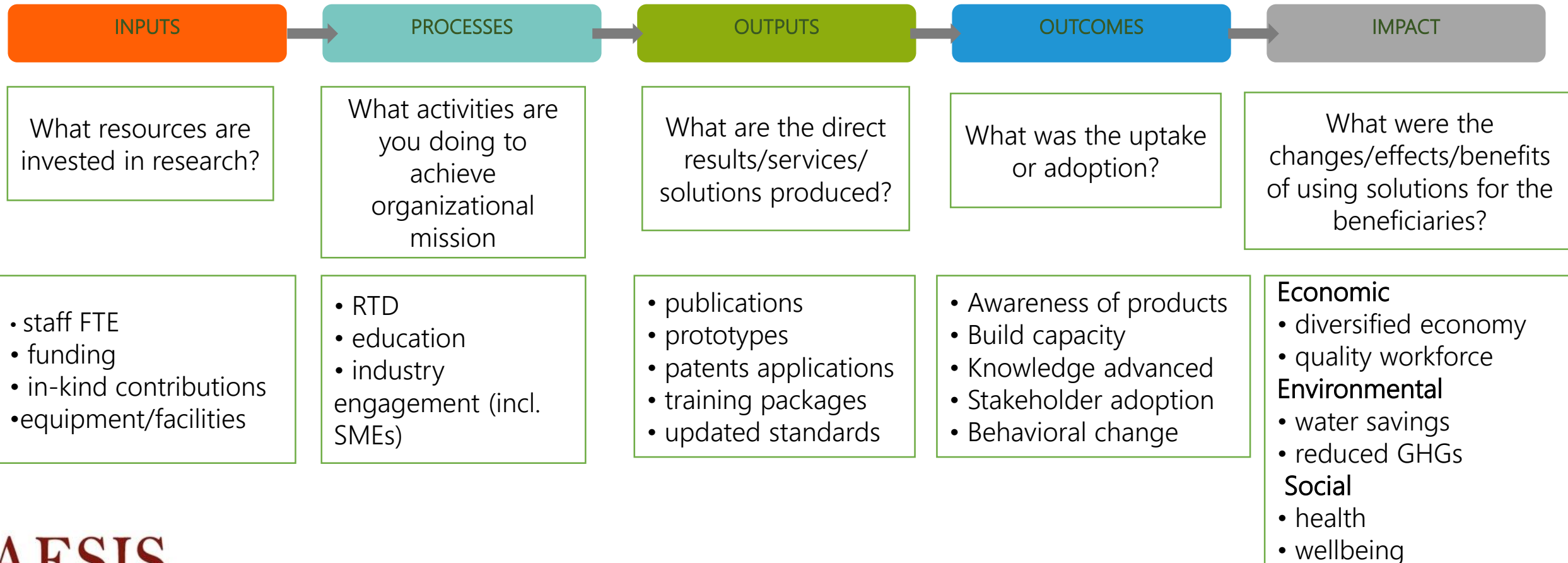


**IMPACT**

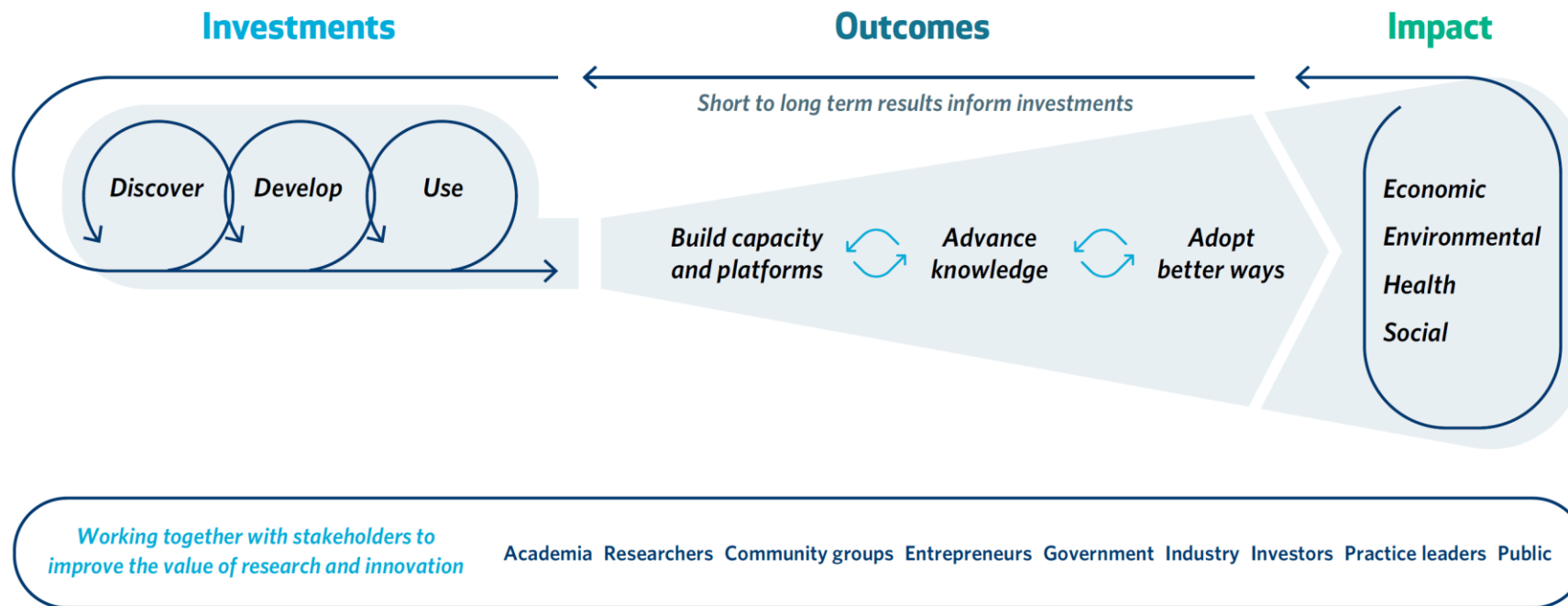


The background is a blue wall covered in white hand-drawn sketches of business and technology concepts. The sketches include arrows, lightbulbs, gears, charts, and various icons. The word 'IMPACT' is written in large, bold, black letters on a white arrow that points from left to right. A hand on the left points towards the arrow, and a hand on the right has fingers spread, as if gesturing or presenting.

## HOW DO WE CAPTURE THE EVIDENCE REQUIRED TO ANSWER STAKEHOLDER QUESTIONS?



## EXAMPLE ALBERTA INNOVATES IMPACT



\* Research and Innovation Impact Framework V1.0, Jan. 07, 2019 (will be further refined)

## EXAMPLE OF FIT FOR PURPOSE INDICATORS



## EXAMPLE OF STANDARD INDICATORS

| ENVIRONMENTAL IMPACT CATEGORIES      | SOCIAL IMPACT CATEGORIES                                   | ECONOMIC IMPACT CATEGORIES                        |
|--------------------------------------|--|---|
| 1. Air quality                       | 1. Health and wellbeing                                    | 1. National economic performance                  |
| 2. Ecosystem health and integrity    | 2. Access to resources and opportunities                   | 2. Trade and competitiveness                      |
| 3. Climate                           | 3. Quality of life (material security and livelihoods)     | 3. Productivity and efficiency                    |
| 4. Natural hazards mitigation        | 4. Safety  | 4. Management of risk and uncertainty             |
| 5. Energy generation and consumption | 5. Security (e.g. cyber, biological, civil and military)   | 5. Policies and programs                          |
| 6. Land quality                      | 6. Resilience  | 6. New services, products, experiences and market |
| 7. Aquatic environments              | 7. Indigenous culture and heritage                         | 7. Securing and protection existing markets       |
| 8. Built environments                | 8. Innovation and human capital (creativity and invention) |   |
|                                      | 9. Social cohesion   |   |

| NAPHRO indicators                            |
|--|
| Provincial share of national & other funding |
| Research & Innovation (R&I) GDP              |
| Pharmaceutical R&I spending                  |
| Biotechnology R&I spending                   |
| Federal-level funding success rates          |
| Patents                                      |
| Licensing                                    |
| Spin-offs                                    |
| Employment                                   |
| Educational impacts                          |

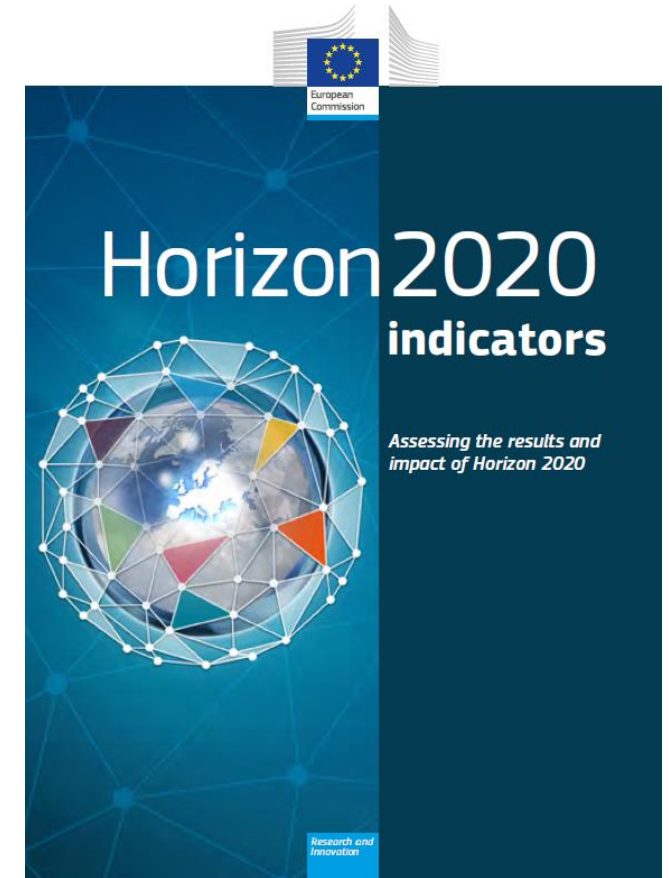
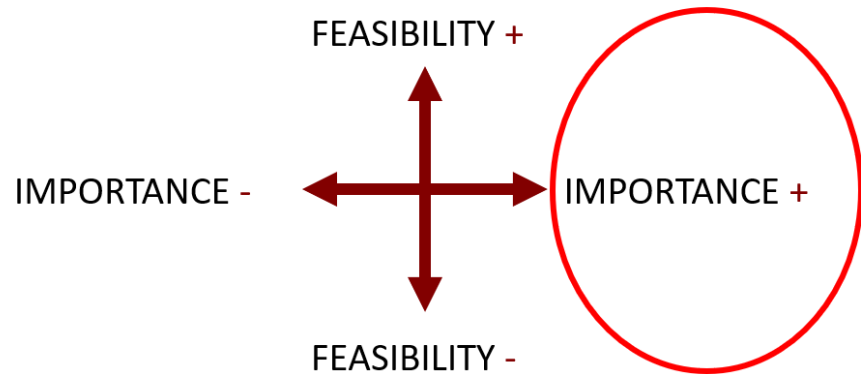
## MULTI DATA COLLECTION



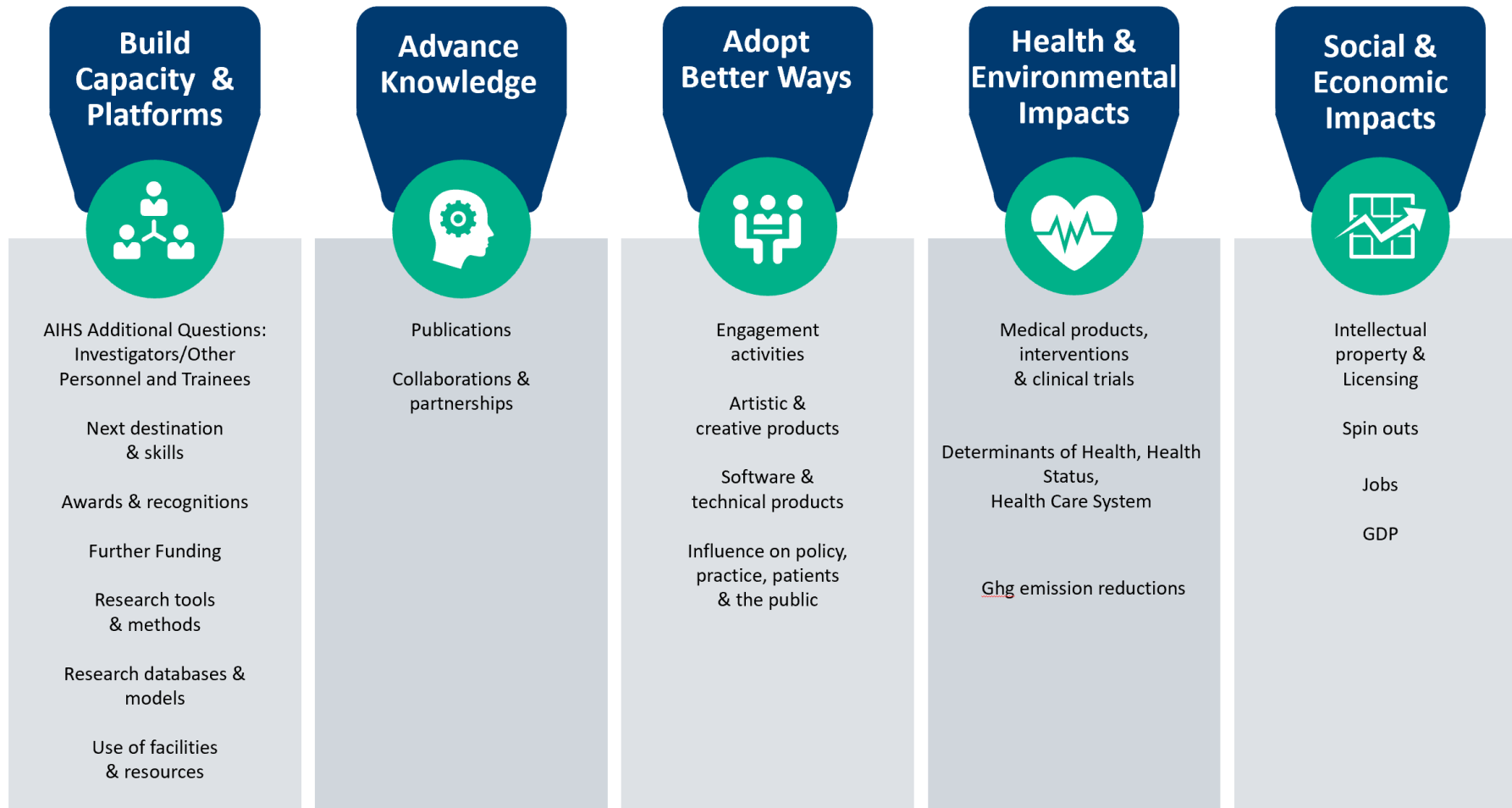
- Interviews
- Bibliometrics
- Focus groups
- Document analysis
- Surveys / questionnaires
- Economic analysis
- Case studies
- Text mining

## SELECTING INDICATORS

### INDICATOR QUADRANT TECHNIQUE



## EXAMPLE OF KEY PERFORMANCE INDICATORS



## BEST PRACTICE GUIDELINES

### Guidelines, Manifesto, Standards, Professional Organizations

#### EC GUIDELINES

European Commission

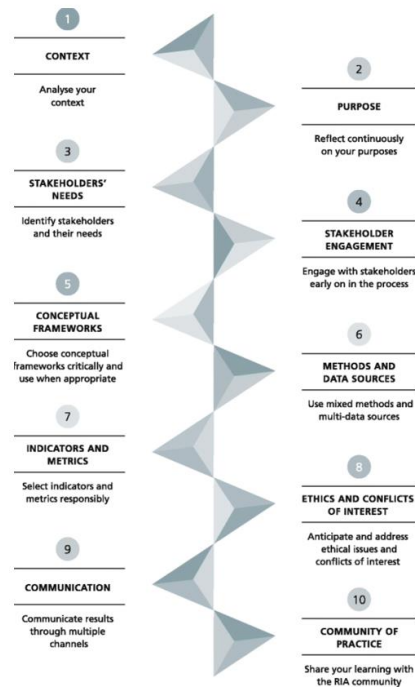


**IMPACT ASSESSMENT GUIDELINES**

15 January 2009

SEC(2009) 92

#### ISRIA IMPACT STATEMENT



- CONTEXT**  
Analyse your context
- PURPOSE**  
Reflect continuously on your purposes
- STAKEHOLDERS' NEEDS**  
Identify stakeholders and their needs
- STAKEHOLDER ENGAGEMENT**  
Engage with stakeholders early on in the process
- CONCEPTUAL FRAMEWORKS**  
Choose conceptual frameworks critically and use when appropriate
- METHODS AND DATA SOURCES**  
Use mixed methods and multi-data sources
- INDICATORS AND METRICS**  
Select indicators and metrics responsibly
- ETHICS AND CONFLICTS OF INTEREST**  
Anticipate and address ethical issues and conflicts of interest
- COMMUNICATION**  
Communicate results through multiple channels
- COMMUNITY OF PRACTICE**  
Share your learning with the RIA community

#### RESEARCH METRICS STANDARDS RECOMMENDATIONS



**COMMENT**

**The Leiden Manifesto for research metrics**

The basic requirements to guide research evaluation, says Hans-Martin Paulsen and others



**What does DORA say?**

DORA makes one general and 17 specific recommendations.

**General recommendation:**  
Do not use journal-based metrics, such as Journal Impact Factors (JIF), as surrogate measures of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions.

- For Organizations That Supply Metrics**
  - Be transparent
  - Provide access to data
  - Discourage gate-keeping
  - Provide different metrics for primary literature and reviews
- For Publishers**
  - Close or prohibit journals for Impact Factor outside an array of metrics
  - Focus on article-level metrics
  - Identify different author contributions
  - Open the bibliographic citation data
  - Encourage primary literature citations
- For Research Institutions**
  - When hiring and promoting, state that scientific careers are assessed on the set of the overall effort in research and in which metrics are generated by research
- For Funding Agencies**
  - State that scientific content of a paper, outside of the journal where it is published, is the metric
  - Consider value from all outputs and outcomes generated by research
- For Researchers**
  - Prefer to publish
  - Use primary literature
  - Use a range of metrics to show the impact of their work
  - Change the culture

San Francisco **DORA** Declaration on Research Assessment

See the full text of DORA at [www.ascb.org/SFdeclaration.html](http://www.ascb.org/SFdeclaration.html). Sign the Declaration!





**FINALLY WE COMMUNICATE THE IMPACT**



Communicate  
Societal  
Impact

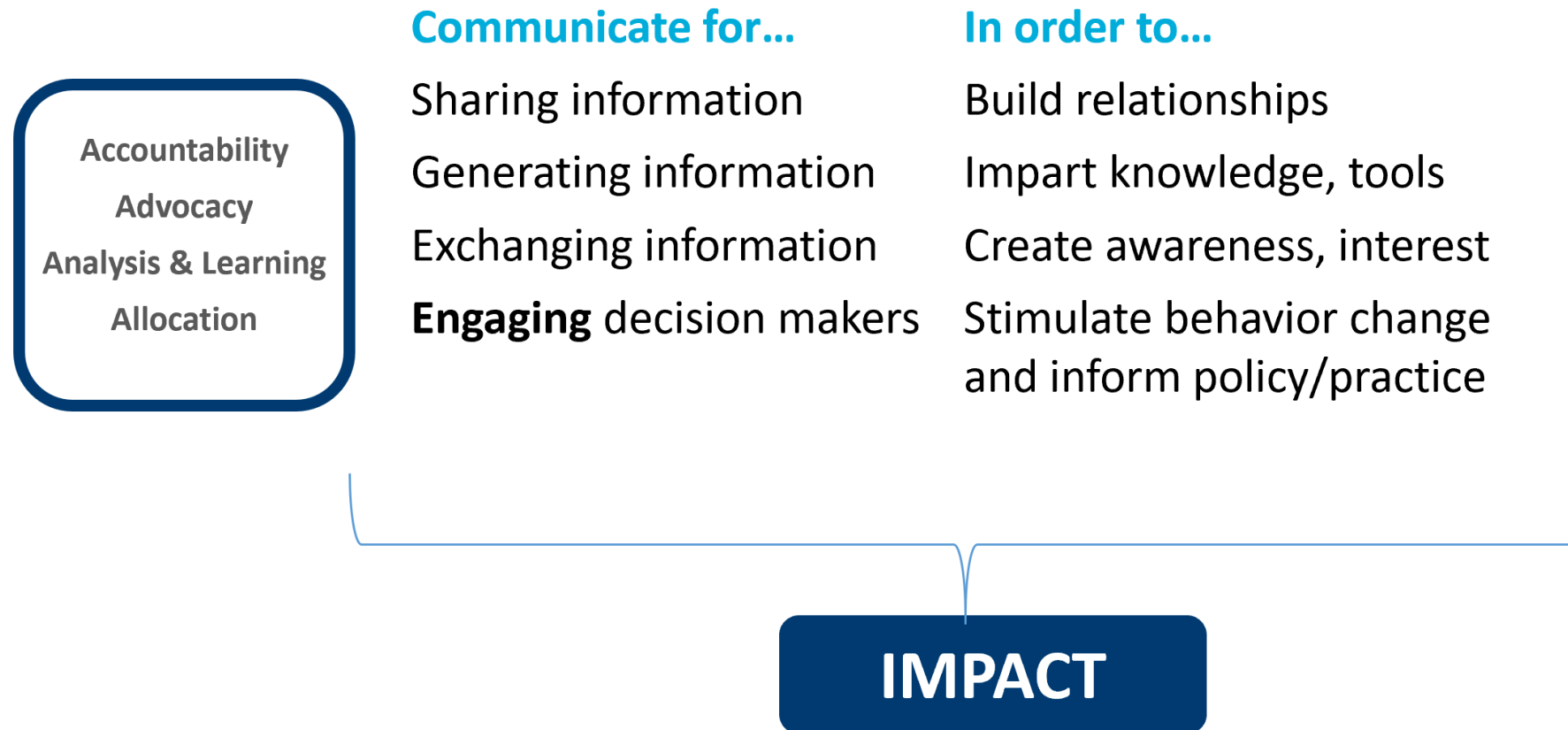
# COMMUNICATE SOCIETAL IMPACT



*“We have an obligation and an incentive to be much better at understanding and communicating the impact of what we do. Not only to ministers of finance, but to the general public!”*

*- Carlos Moedas, European Commissioner for Research and Innovation*

# PURPOSE OF COMMUNICATIONS

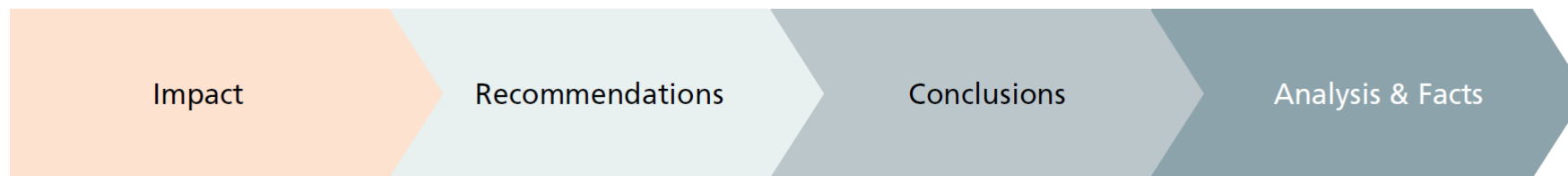


# MESSAGE-DRIVEN COMMUNICATION

## DESCRIBING RESEARCH



## DESCRIBING THE IMPACT



## Key Considerations

- **Reach:** Extent and diversity of communities, environments, individuals and others that have benefited or been affected
- **Significance:** Degree to which impact has enriched, influenced, informed or changed policies, opportunities, perspectives, or practices of communities, individuals or organizations

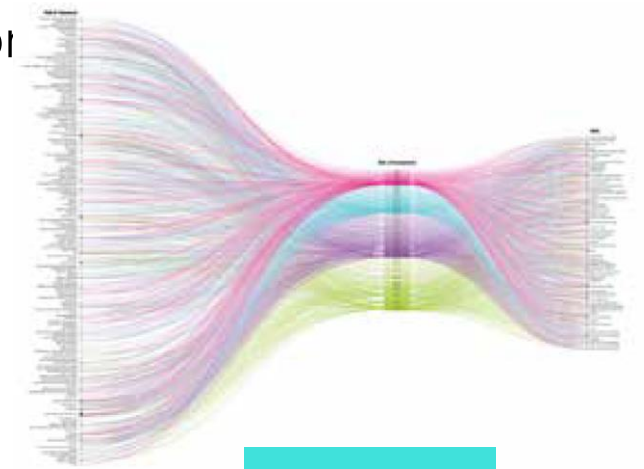
Source: Public Policy Group, London School of Economics and Political Science

## COMMUNICATE IMPACT TO STAKEHOLDERS

- 1 Pager
- Presenting key findings at strategic meetings
- Complex data made clear
- Influencing positively
- Links back to strategic themes

## WHAT CHANNELS DO I NEED TO USE?

- ▶ Advisory board invitation
- ▶ Briefing notes
- ▶ Infographics
- ▶ Visualizations
- ▶ Blogs
- ▶ Twitter campaigns



## EXAMPLE USE OF REPORTS AND SCORECARDS

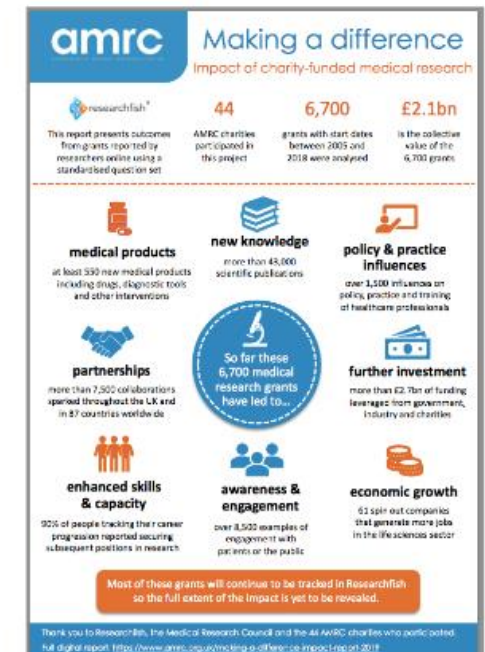
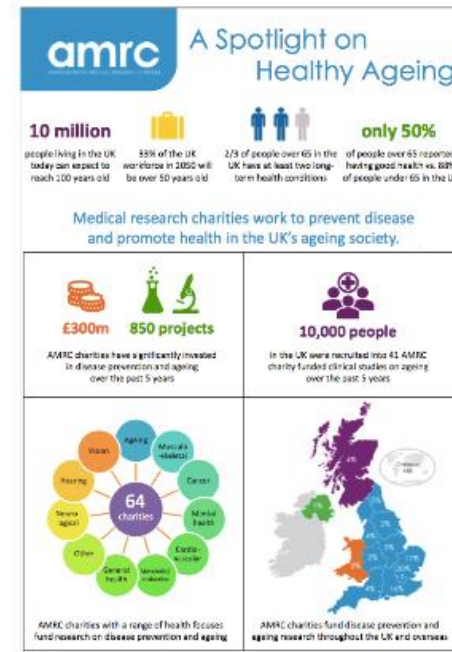
NOVO  
nordisk  
fonden



Societal impact of  
Novo Nordisk Foundation  
Grants 2017



\*The reported results are a sample of key investments





# Integrating societal impact in a research strategy

27th – 29th November, Oslo

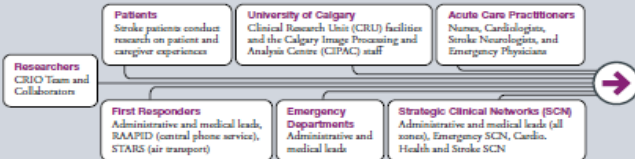
## EXAMPLES OF FUNDERS USING IMPACT NARRATIVES TO COMMUNICATE SOCIETAL IMPACT



### Collaborating from 'Door to Needle' to Implement New Stroke Therapy



A team of researchers led by Dr. Michael Hill is using an endovascular treatment (ET) to improve the quality of stroke care. Stroke patients receive ET treatment during transport on specialized ambulances to improve health outcomes. This is integrated health service delivery in action.



**HEALTH IMPACTS**

Early treatment of stroke will improve recovery outcomes for patients and reduce death from strokes. This new therapy is accessible to rural areas, potentially reaching 25% of stroke patients.

*"The overall mortality rate was reduced from two in 10 patients for standard treatment of care to one in 10 patients – a 50 per cent reduction with ET."*

*– (AIHS news release, Feb. 11, 2015)*

**SOCIAL AND ECONOMIC IMPACTS**

*"For every stroke you convert from a severe stroke to a mild stroke, you save the health system a million dollars in lifetime costs, and you save the patient (from having) a lot of disabilities and return them back to their life."*

*– Dr. Tom Jarakathil (Edmonton Journal article, July 8, 2015)*

The team leveraged \$6 million in funding to support this work.

**PROVINCIAL APPROACH**

Collaboration with Emergency SCN and Cardiovascular Health and Stroke SCN has supported this research with connections, infrastructure, data access, and resources.

**INTERNATIONAL REACH**

*Canadian Best Practice Recommendations for Stroke Care published internationally.*

*"This breakthrough has the potential to improve the lives of the 15 million people who suffer strokes worldwide each year."*

*– Ed McCauley, PhD, vice-president (research), University of Calgary, (AIHS news release, Feb. 11, 2015)*



### Classification and prognostification of colorectal cancer

Colorectal cancer is known to have great inter-tumour diversity which means that the cells in the tumors can be very different. Tumours at the same stage can equally be very diverse and unpredictable. Due to this great diversity in colorectal cancer prognosis and response to treatment can be difficult to predict leading to both under- and overtreatment.

The research group under Jesper Bertram Bramsen has found a molecular-subtype-specific biomarker that can be used to improve the prognosis for patients with colorectal cancer. The research group has analysed 1,100 colorectal cancer samples, discovered three different cancer cells and five tumour archetypes and made it possible to find specific subtype-biomarkers. This subtyping-framework and the newly discovered biomarkers can be an important factor in improving the treatment and prognostics for colorectal patients.

There is annually 4,500 new cases and 1,900 deaths of colorectal cancer in Denmark, which accounts for 3.7% of all deaths. The findings are published and thereby other researchers can use the new subtypes-framework in their research.



National Institute for Health Research

Search



Home → Research and impact → Making a difference → The beautiful game



### The beautiful game

#### The challenge

Being obese can increase the risk of many illnesses. It increases chances of having high blood pressure, diabetes, coronary artery disease and stroke - and after smoking, is the most preventable cause of cancer. Male obesity is more prevalent in the UK than in the rest of Europe and is set to increase at a faster rate than female obesity in the next 40 years. Current trends suggest that 60 percent of men will be obese in England by 2050, with figures for Scotland likely to be similar, and it is predicted that the link between obesity and socioeconomic deprivation, already evident in women, will soon appear in men.

Recognising the need for more research-based evidence, and in response to the publication of 'Healthy Weight, Healthy Lives: A cross-government research and surveillance plan for England', the NIHR issued an Obesity Themed Call in 2009, and the Football Fans in Training (FFIT) evaluative study was funded as a result.

## ILLUSTRATION: Political impact: from Vision to Measurement

Rathenau Instituut

### Challenges

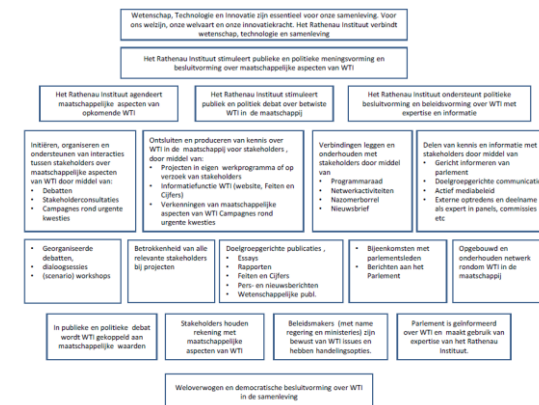
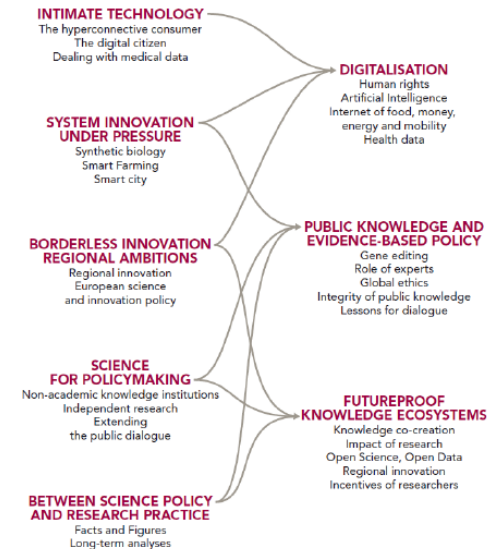
- Many activities, publications
- Political debate issue oriented
- No control on political arena
- Outcomes and impacts difficult to trace
- Attribution difficult

### What we did

- Focus on 3 themes (12 -> 5 -> 3)
- Link impact to vision
- Communication department responsible for media content and contact
- Liaison officer for parliament
- Dedicated publications for parliament
- Monitoring direct results
- Narratives for annual reports and evaluation for long term impacts

WORK PROGRAMME 2015-2016

WORK PROGRAMME 2017-2018



|                       |   |   |  |  |   |
|-----------------------|---|---|--|--|---|
| <i>Our vision</i>     |   | Science, Technology, and Innovation (STI) are essential for society, for our well-being, prosperity and innovativeness.<br>The Rathenau Instituut connects science, technology, and society.  |  |  |   |
| <i>Our mission</i>    |   | The Rathenau Instituut encourages public and political opinion formation and decision-making on the social aspects of STI.  |  |  |   |
| <i>Our objectives</i> | The Rathenau Instituut puts the social aspects of emerging STI on the agenda.   | The Rathenau Instituut encourages public and political debate on disputed STI within society.   |  | The Rathenau Instituut provides expertise and information in support of political decision-making and policy-making regarding STI.   |   |
| <i>What we do</i>     | Initiate, organise and support interaction between stakeholders about social aspects of STI through: <ul style="list-style-type: none"> <li>• Debates</li> <li>• Stakeholder consultation</li> <li>• Campaigns about urgent issues</li> </ul> | Disclose and produce knowledge about STI in society for stakeholders, through: <ul style="list-style-type: none"> <li>• Projects within own work programme or at request of stakeholders</li> <li>• STI information function (website, Facts and Figures)</li> <li>• Exploration of social aspects of STI</li> <li>• Campaigns about urgent issues</li> </ul> | Create and maintain links with stakeholders by means of: <ul style="list-style-type: none"> <li>• Programme Panel</li> <li>• Network activities</li> <li>• Late summer social event</li> <li>• Newsletter</li> </ul> | Share knowledge and information with stakeholders through: <ul style="list-style-type: none"> <li>• Specific information for Parliament</li> <li>• Targeted communication</li> <li>• Active media policy</li> <li>• External appearances and participation as expert on panels, commissions, etc.</li> </ul> |   |
| <i>Direct results</i> | <ul style="list-style-type: none"> <li>• Organised debates</li> <li>• Dialogue sessions</li> <li>• (Scenario) workshops</li> </ul>  | Involvement of all relevant stakeholders in projects  | Targeted publications <ul style="list-style-type: none"> <li>• Essays</li> <li>• Reports</li> <li>• Facts and Figures</li> <li>• Press releases and news reports</li> <li>• Scientific publications</li> </ul>       | <ul style="list-style-type: none"> <li>• Meetings with MPs</li> <li>• Reports to Parliament</li> </ul>   | Network about STI in society constructed and maintained |
| <i>Outcomes</i>       | In public and political debate, STI is linked to social values  | Stakeholders take account of societal aspects of STI  | Policy-makers (specifically the government and ministries) are aware of STI issues and have options for action.  | Parliament is informed about STI and makes use of expertise of Rathenau Instituut.   |   |
| <i>Our impact</i>     |   | Well-considered, democratic decision-making on STI within society   |  |  |   |

Figure 1 From vision to outcomes. Logical Framework Analysis for the Rathenau Instituut

## Political Impact

### Lessons learned

1. Focus, focus, focus
2. Be ambitious, and realistic
3. Organize those impact paths that really matter
4. Monitor at level of organization or organization unit
5. Narratives at level of long term issue

### • Public debate

- N stakeholder activities
- N public lectures
- Mentions in newspapers
- Website visitors, downloads
- Social media followers
- Monitoring public image

### • Political debate

- mentions in debates
- mentions in all parliamentary documents
- meetings with MoP
- invitations by parliament,

## KEY MESSAGES

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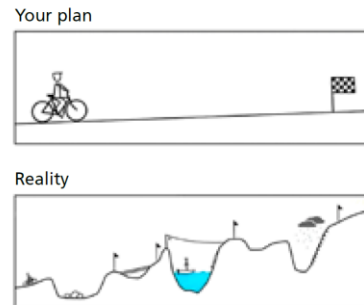
- ▶ Use monitoring and evaluation **evidence** to trace progress and make course correct to achieve impact
- ▶ Impact pathway help guide selection of a balance set of indicators that can answer stakeholder questions
- ▶ Measure responsibly
- ▶ Communicate to your stakeholder by leading with your impact

## FURTHER READING

- ▶ American Evaluation Association (AEA), Research, Technology and Development (RTD) Evaluation Topical Interest Group. 2015. *Evaluating outcomes of publicly-funded research, technology and development programs: Recommendations for improving current practice. Version 1.0.* [https://higherlogicdownload.s3.amazonaws.com/EVAL/271cd2f8-8b7f-49ea-b925-e6197743f402/UploadedImages/RTD%20Images/FINAL\\_RTDPaper\\_20150303.pdf](https://higherlogicdownload.s3.amazonaws.com/EVAL/271cd2f8-8b7f-49ea-b925-e6197743f402/UploadedImages/RTD%20Images/FINAL_RTDPaper_20150303.pdf)
- ▶ Wilsdon J, et al. 2015. *The metric tide: Report of the independent review of the role of metrics in research assessment and management.* HEFCE. <http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463,en.html>
- ▶ HM TREASURY, CABINET OFFICE, NATIONAL AUDIT OFFICE, AUDIT COMMISSION, and OFFICE FOR NATIONAL STATISTICS, 2001. *Choosing the Right FABRIC: A Framework for Performance Information.* London, UK: HM Stationary Office. <https://www.nao.org.uk/wp-content/uploads/2013/02/fabric.pdf>

# UP NEXT....

*“Everyone has a plan  
until they get punched  
in the face”*



## Case Study Session 2 Lessons Learned

*Barend van der Meulen  
Kathryn Graham*

# Lunch break

*We will start again at 13.30*



## Aligning Multiple Research Strategies Within Impact Mapping

David Budtz Pedersen

*Director of the Humanomics Research Centre, Denmark*



@HumanomicsMap

# Responsible and responsive university impact assessment

David Budtz Pedersen PhD  
Professor of Impact Studies & Science Communication  
Aalborg University Copenhagen

28 November 2019  
AESIS Winter Course on Societal Impact | Oslo



AALBORG UNIVERSITET

# Professor, Aalborg University

Director of Humanomics Research Centre  
AAU Department of Communication & Psychology

VELUX FONDEN



Mapping the Dynamics and Public Value of Humanities 2012-2020

Responsible Impact (ReACT) 2016-2020

Open Research Analytics (OPERA) 2017-2019

ACCOMPLISSH H2020 EU 2016-2019

**cost**  
EUROPEAN COOPERATION  
IN SCIENCE AND TECHNOLOGY



Danish Government's Commission on Rewards in Research  
Danish Government's Expert Group on Open Science



Ministry of Higher Education  
and Science – Denmark

David Budtz Pedersen



VELUX FONDEN



**cost**  
EUROPEAN COOPERATION  
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**DET FRIE  
FORSKNINGSRÅD**  
DANISH COUNCIL  
FOR INDEPENDENT  
RESEARCH

CARLSBERG FOUNDATION



Innovation Fund Denmark  
RESEARCH, TECHNOLOGY & GROWTH



Ministry of Higher Education  
and Science – Denmark





# European universities' impact agenda

- Universities and research units are expected to establish **an ex post record for impact** (for careers, funding, accountability etc.)
- In several countries, **societal impact** becomes obligatory component of research (EU, SIAMPI, IMPACT-EVT, REF, NSF, SEP etc.)
- University management often lacks **strategic data** about impact activities / third mission / social / cultural / regional impact
- Nordic model of impact: No uniform model or national framework, myriad of initiatives & indicators, TTO, rewards, incubators, etc.

# 1. Investments

# The Institutional Challenge

---



## **PARTNERSHIP**

- Build a sustained institutional partnership with a public agency or nonprofit organization



## **RESEARCH**

- Pursue a joint research agenda to reduce inequality in youth outcomes



## **INSTITUTIONAL CHANGE**

- Create institutional change to value research-practice partnerships and their work



## **CAPACITY**

- Develop the partners' capacity to collaborate, and to produce and use high-quality relevant research + knowledge exchange capacity



# Impact Investing

- Investments "made into companies, organizations, and funds with the intention to generate measurable, beneficial social or environmental impact" alongside and beyond financial return." (2017 Annual Impact Investor Survey)
- Provides resources for researchers to create companies, collaborate or co-create solutions, which fall within the university's attempt to address societal challenges.
- Impact investing can help organizations carry out their projects and initiatives without having to rely heavily on subsidies or venture capital e.g. external funding.



“Missions around societal challenges are more complex than going to the moon and must be **open, bottom up, flexible, adaptable and engage with citizens** from the beginning”

Mariana Mazzucato 04.03.2018



# SUSTAINABLE DEVELOPMENT GOALS

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| <b>1</b> NO POVERTY<br>                  | <b>2</b> ZERO HUNGER<br>                     | <b>3</b> GOOD HEALTH AND WELL-BEING<br>              | <b>4</b> QUALITY EDUCATION<br>                       | <b>5</b> GENDER EQUALITY<br>                     | <b>6</b> CLEAN WATER AND SANITATION<br>              |
| <b>7</b> AFFORDABLE AND CLEAN ENERGY<br> | <b>8</b> DECENT WORK AND ECONOMIC GROWTH<br> | <b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE<br> | <b>10</b> REDUCED INEQUALITIES<br>                   | <b>11</b> SUSTAINABLE CITIES AND COMMUNITIES<br> | <b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION<br> |
| <b>13</b> CLIMATE ACTION<br>             | <b>14</b> LIFE BELOW WATER<br>               | <b>15</b> LIFE ON LAND<br>                           | <b>16</b> PEACE, JUSTICE AND STRONG INSTITUTIONS<br> | <b>17</b> PARTNERSHIPS FOR THE GOALS<br>         | <br>SUSTAINABLE DEVELOPMENT GOALS                    |

# Reward research that changes society

*Tracking societal impacts encourages academics to pursue them. The launch of three new Nature journals should also help.*



Work to improve water quality in northern England shows how science has direct impact on society. Credit: ERM/Photographica/Getty

[PDF version](#)

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#### RELATED ARTICLES

[How to avoid glib  
interdisciplinarity](#)

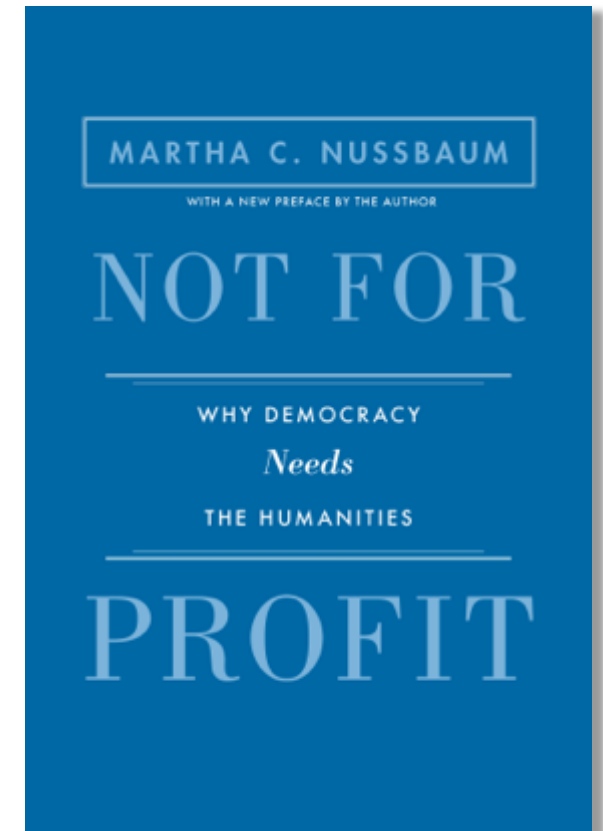
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[UK releases world's  
largest university  
assessment](#)

## 2. Incentives

# Incentives, Rewards and Purpose

- Building an impact culture / impact literacy
- Getting researchers onboard in entrepreneurial activities incl. support, incubation, acceleration
- Strong identity of public good character of knowledge production (e.g. Open Science)
- Alignment of research portfolio, reward system and institutional culture





## Fewer numbers, better science

Rinze Benedictus, Frank Miedema & Mark W. J. Ferguson

26 October 2016

Scientific quality is hard to define, and numbers are easy to look at. But bibliometrics are warping science — encouraging quantity over quality. Leaders at two research institutions describe how they do things differently.



PDF



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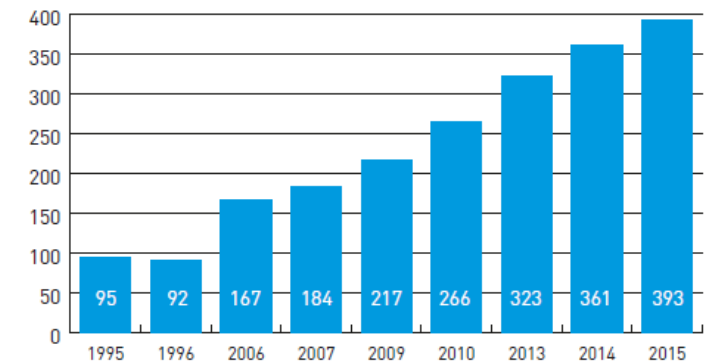
Subject terms: [Research management](#)

“Publications that directly influence patient care are weighted no higher in evaluations than any other paper, and less if the work appears in the grey literature (official reports rather than in scientific journals). Researchers are actively discouraged from pursuing publications that might improve medicine but would garner few citations. ... Publication pressure is keeping scientists from doing what really matters”

# Mobility of researchers

- Different ways of producing tangible societal impact
- **Interactions with society**: start-ups, fellowships, special grants, visits, consultancy, joint appointments, co-creation, cost-sharing, collaboration, alliances, research parks etc.
- New positions tailor-made for collaborative research: “clinical” professor, knowledge brokers.

Bilag 2, Figur 10: Udviklingen i antal kliniske professorater



Kilde: Uddannelses- og Forskningsministeriet

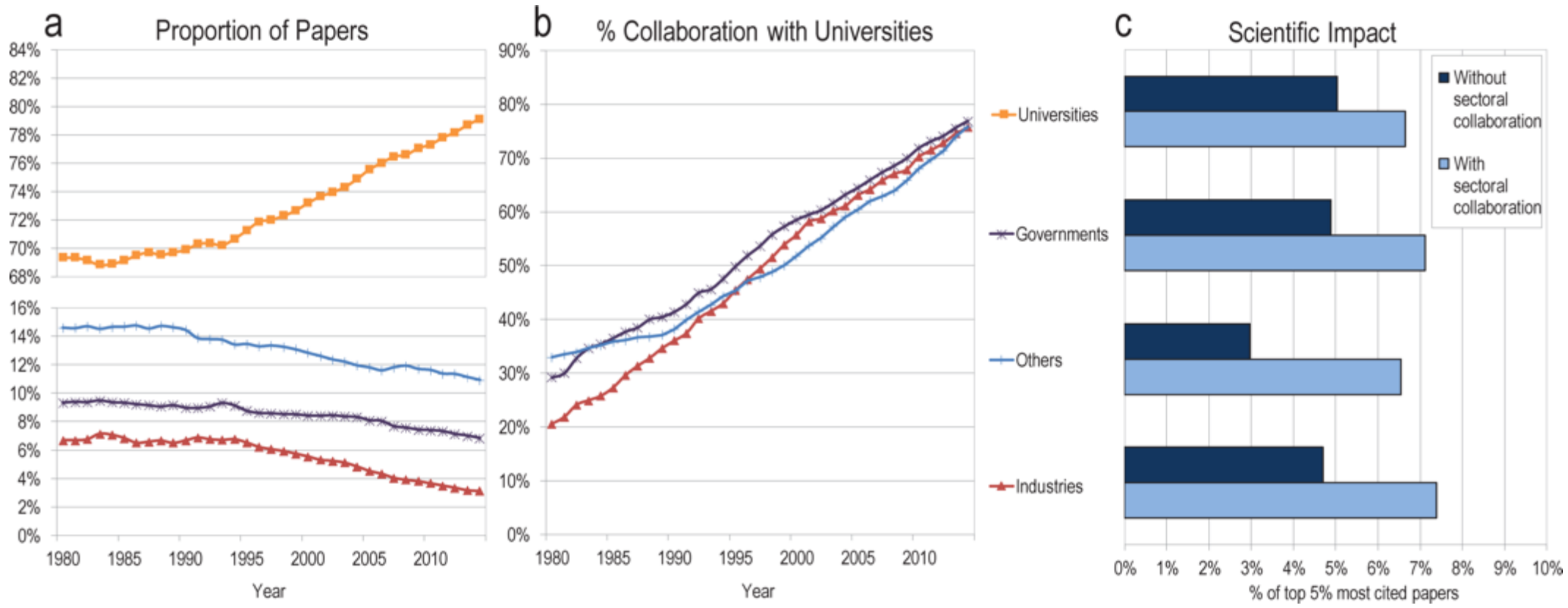
## Matrix for sector mobility

|        | Full mobility | Shared positions | Longer visits | Part time affiliation | Shorter visits |
|--------|---------------|------------------|---------------|-----------------------|----------------|
| NAT    |               |                  |               |                       |                |
| HUM    |               |                  |               |                       |                |
| SOC    |               |                  |               |                       |                |
| HEALTH |               |                  |               |                       |                |
| VET    |               |                  |               |                       |                |
| ENGI   |               |                  |               |                       |                |



Kilde: bilag 2



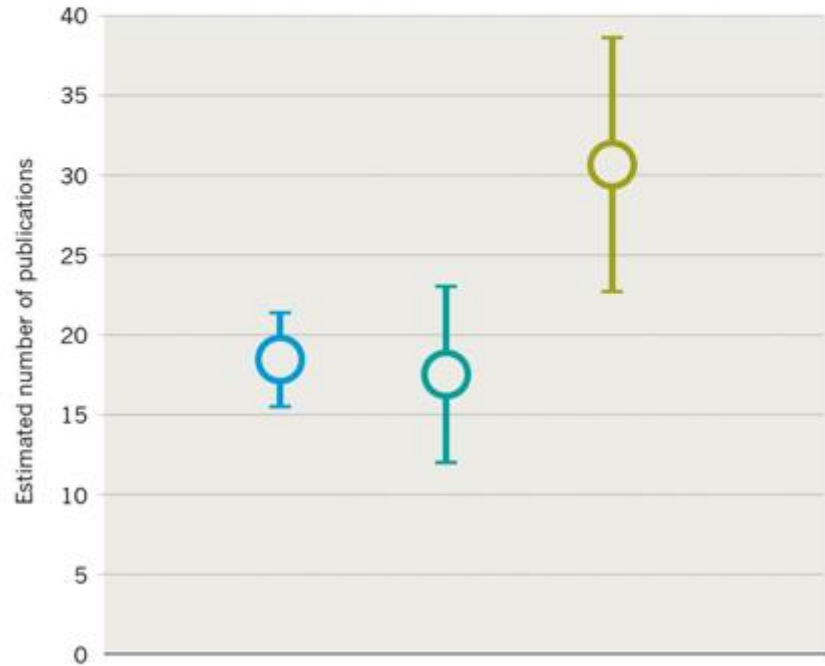


Larivière V, Macaluso B, Mongeon P, Siler K, Sugimoto CR (2018)

## PUBLICATION BOOST

Academic scientists who collaborate with large established firms publish more papers.

- No industry collaboration
- Collaboration with a startup
- Collaboration with an established company



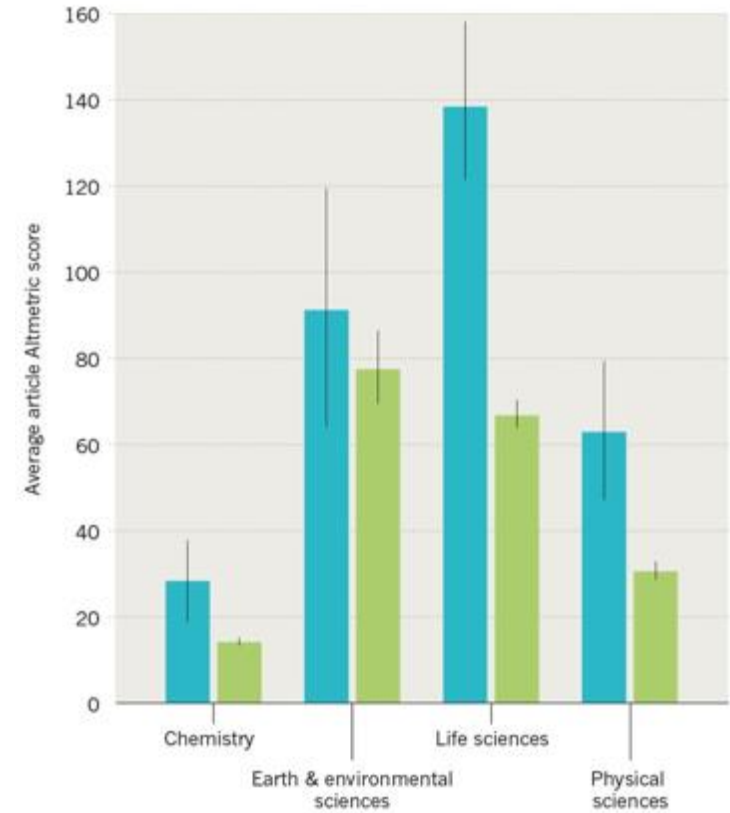
©nature

Nature 552, S11-S13 (2017)

## INCREASED CHATTER

Papers authored by academic researchers in 2016 were more widely publicised when they had a corporate co-author, as measured by their Altmetric Attention Score. The Altmetric score tracks the discussion around a published paper, from news articles to blog posts and tweets.

- With a corporate co-author
- Without a corporate co-author



Error bars show the 95% confidence interval around each estimated point

©nature

# Instruments for making universities drivers of **dual impact**

# The permeable university

Permeability is the new lens which should reframe the purpose of universities in the 21st century

The permeable university is one where all barriers to engagement are removed, both within the institution and around it.



UNIVERSITY OF  
LINCOLN

21<sup>st</sup> Century Lab





*The Discovery Themes provide Ohio State with an unprecedented opportunity to find durable solutions to today's—and tomorrow's—most compelling global issues.*



### Chronic Brain Injury

Advancing the prevention, detection, and treatment of brain injuries to relieve the human and economic burdens they cause.

[LEARN MORE](#)



### Foods for Health

Integrating food, nutrition and metabolomics for a healthier future.

[LEARN MORE](#)



### Food and AgriCultural Transformation (InFACT)

New thought for sustainable systems to produce and distribute food as we confront climate change, shrinking resources and a growing population.



### Global Arts + Humanities

Breaking down barriers to meaningful collaboration and creating an inclusive culture that empowers faculty, staff and students to foster social change

[LEARN MORE](#)



### Infectious Diseases

Toward a world free from the threat of infectious diseases.

[LEARN MORE](#)



### Materials and Manufacturing for Sustainability

New materials and manufacturing innovation accelerating global sustainability.



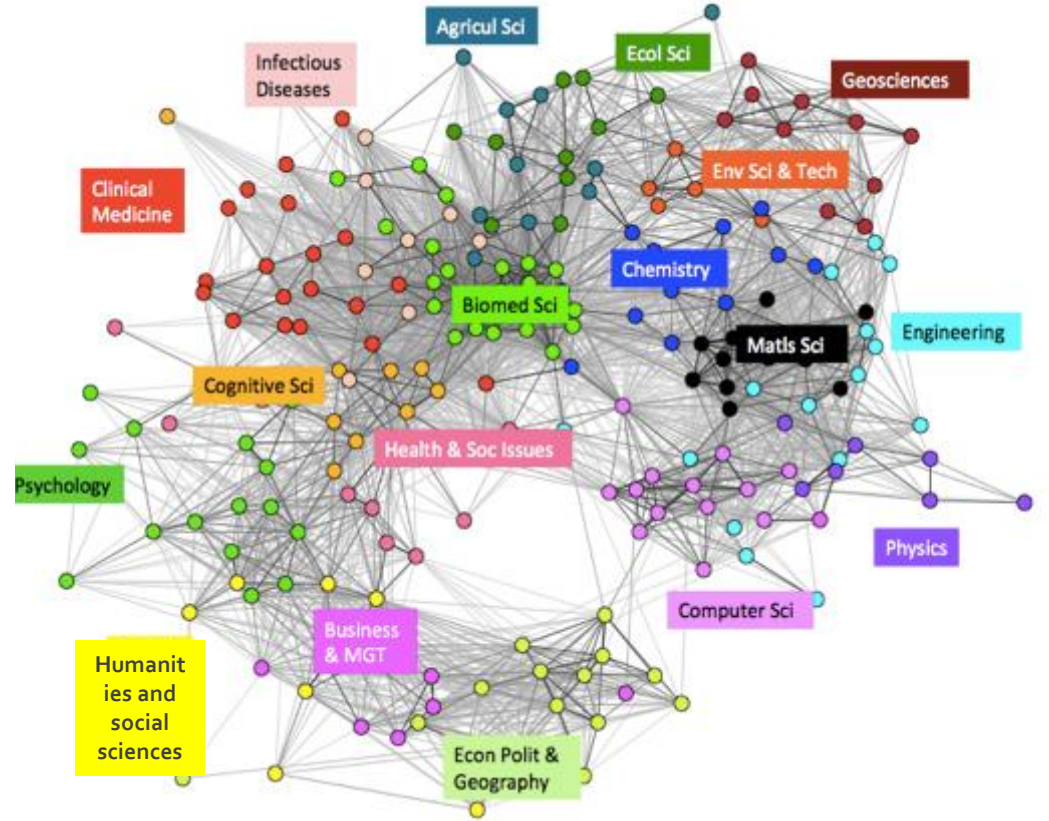
### Sustainable and Resilient Economy

Integration of science, engineering, humanities and the arts to enable a global transition to an equitable and prosperous society.



### Translational Data Analytics

Connecting complex data sets to advance education, business, and communities.



**IMC**  
Interacting Minds Centre

**Interacting Minds**  
@interact\_minds

The Interacting Minds Centre (IMC) provides a transdisciplinary platform to study human interaction.

📍 Århus, Denmark 🌐 [interactingminds.au.dk](http://interactingminds.au.dk) 📅 Joined August 2010

452 Following **3,000** Followers

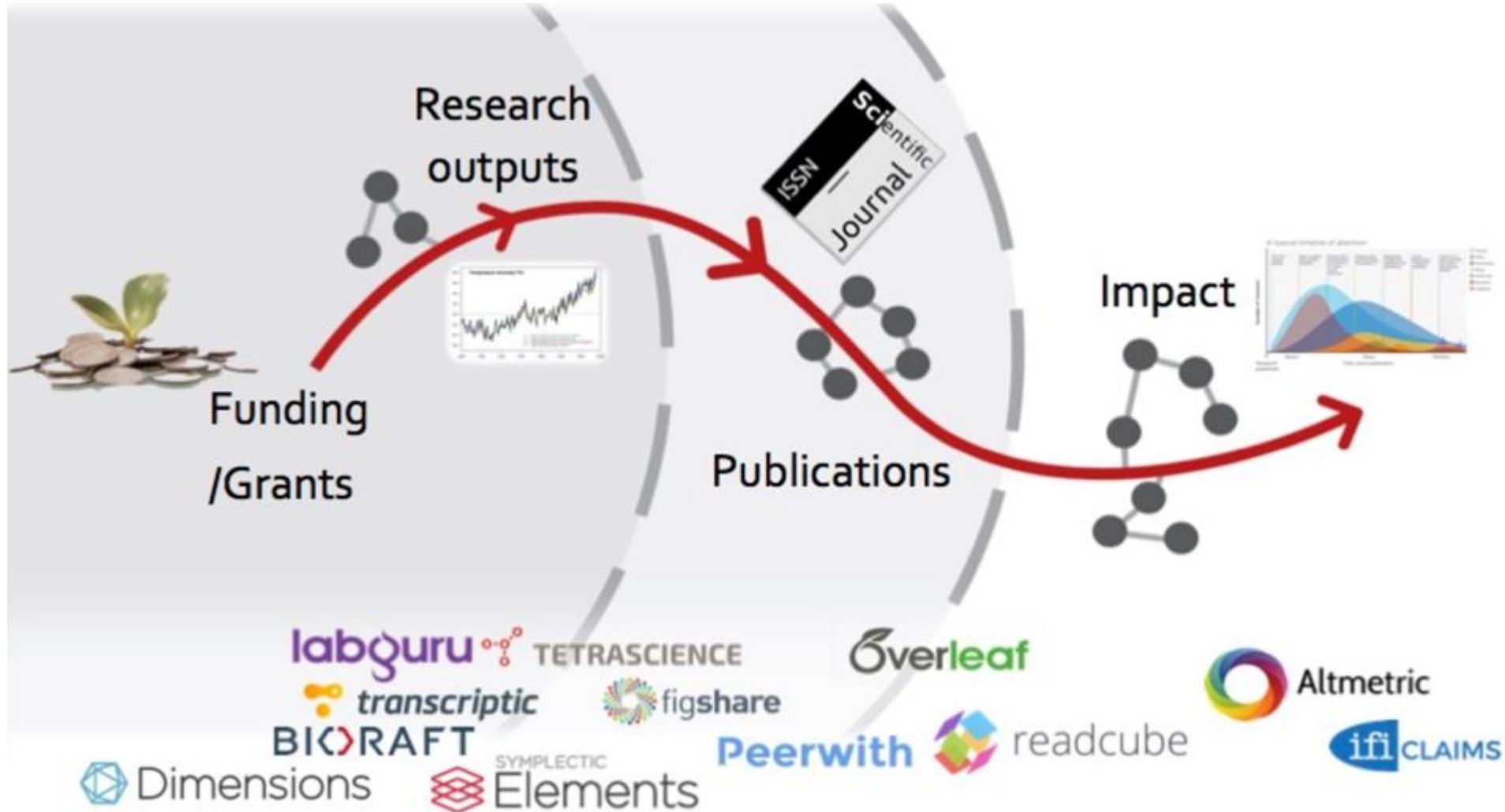
[Edit profile](#)



Indicators



# Realizing the impact value chain





# ReAct Impact Assessment Platform

Budtz Pedersen et al. (2018). 'Narratives by Numbers'

## PRODUCTS

- blogs
- e-newsletter/brief
- educational material
- data analysis
- software
- fact sheet
- handbook
- journal article
- newspaper article
- press release
- physical artefacts
- reports
- research testimony
- video, audio, film
- product development

## EVENTS

- annual meeting
- awards ceremony
- conference
- debate
- forum
- interactive workshop
- guest lecturing
- media event (e.g. TV or radio segment)
- panel / debates
- presentation
- symposium
- policy advice

## NETWORKS

- policy network
- community of practice
- discussion board
- listserv
- online forum
- social media
- media contacts
- Incubators
- partner pitch

## EX ANTE

e.g.

- Impact Planning
- Match-making & partner search
- Shared definitions of research problem
- Clarify expectations
- Incentives & rewards

Contracts, grant applications, impact strategies, technology transfer agreements etc.



## EX POST

- Direct observable impacts
- Media / public awareness
- Socio-economic benefits
- New research questions
- Behavioural / institutional change

e.g.

- Change in policy
- New practices

Changes in policy, organisation, business, practice etc. described in collaboration with non-academic partners

Resources, inputs and planning

Research and engagement

Outputs

Outcomes

Impact

## EX ANTE

## RESEARCH BENEFITS

## INTERACTIONS

## IMPLEMENTATION

## EX POST

e.g.

- Impact Planning
- Match-making & partner search
- Shared definitions of research problem
- Clarify expectations
- Incentives & rewards

e.g.

- Co-production of new knowledge
- Deeper partnerships
- New methods
- New tools
- New research questions

e.g.

- Publications
- Conferences and seminars with stakeholders
- Social media
- Media & public awareness
- Artefacts & exhibits
- IP including patents

e.g.

- Contextualizing results
- Best practices established
- Practical recommendations
- Networks and relationships
- Science & Policy Advise

- Direct observable impacts
- Media / public awareness
- Socio-economic benefits
- New research questions
- Behavioural / institutional change

e.g.

- Change in policy
- New practices

Contracts, grant applications, impact strategies, technology transfer agreements etc.

Openness, accessibility, increased knowledge base, sharing findings,

Dissemination of outputs through scholarly & non-scholarly channels

Benefits for stakeholders, enhanced Impact Readiness, contributions to practice

Changes in policy, organisation, business, practice etc. described in collaboration with non-academic partners

Resources, inputs and planning

Research and engagement

Outputs

Outcomes

Impact

EX POST

RESEARCH BENEFITS

INTERACTIONS

IMPLEMENTATION

EX POST

- e.g.
- Impact Planning
  - Match-making & partner search
  - Shared definitions of research problem
  - Clarify expectations
  - Incentives & rewards

- e.g.
- Co-production of new kno
  - Deeper p
  - New met
  - New tools
  - New research questions

- e.g.
- Publications

- e.g.
- Contextualizing
  - ..

- Direct observable impacts
- Media / public awareness
- Socio-economic benefits
- New research questions
- Behavioural / institutional change

- e.g.
- Change in policy
  - New practices

Academic institution

- Social media
- Media & public awareness
- Artefacts & exhibits
- IP including patents

- Practical recommendations
- Networks and relationships
- Science & Policy Advise

Stakeholder partnerships

Contracts, grant applications, impact strategies, technology transfer agreements etc.

Openness, access, increased knowledge base, sharing files

Stakeholders, Impact Readiness, to practice

Changes in policy, organisation, business, practice etc. described in collaboration with non-academic partners

Resources, inputs and planning

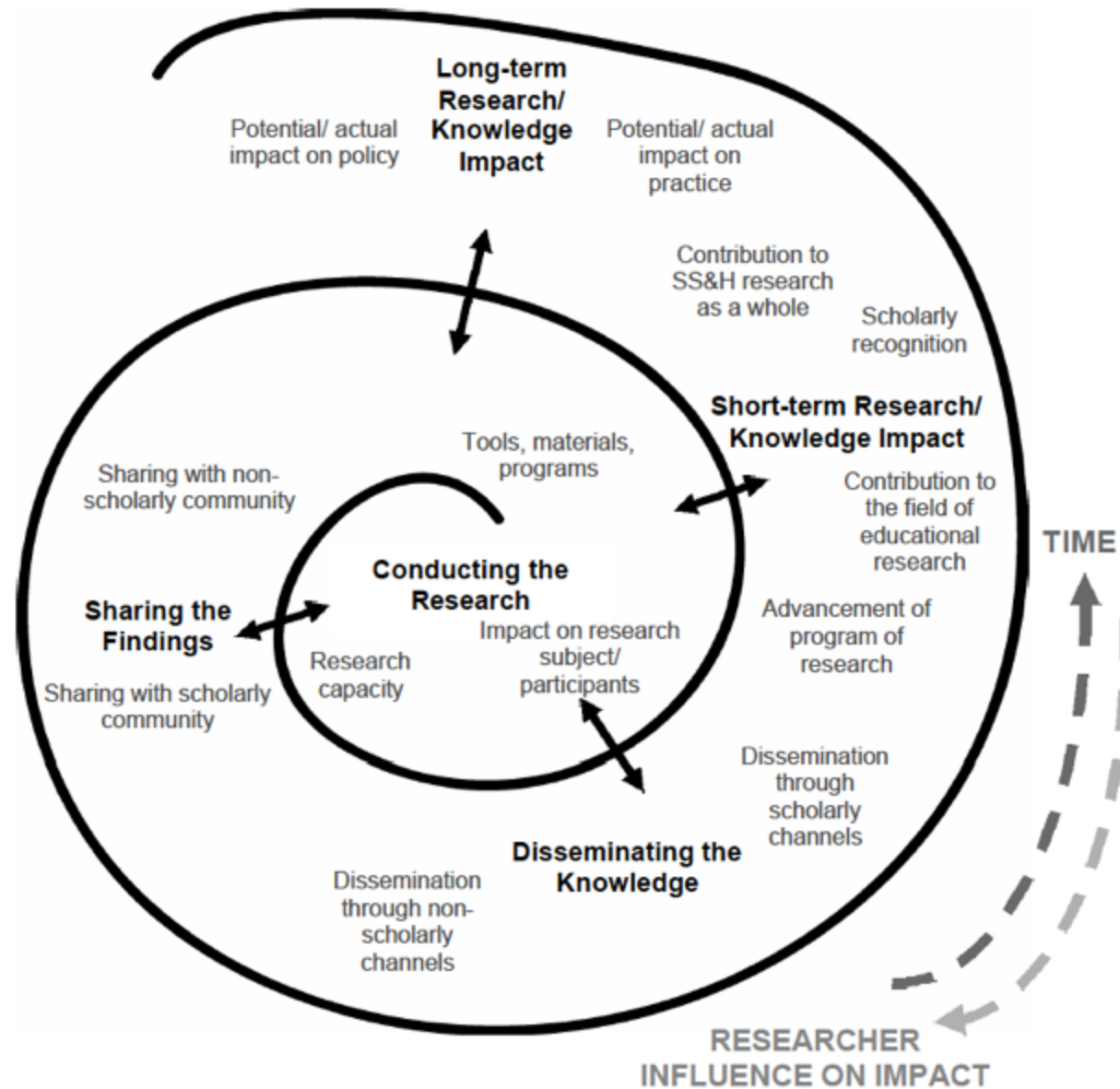
Research and engagement

Outputs

Outcomes

Impact

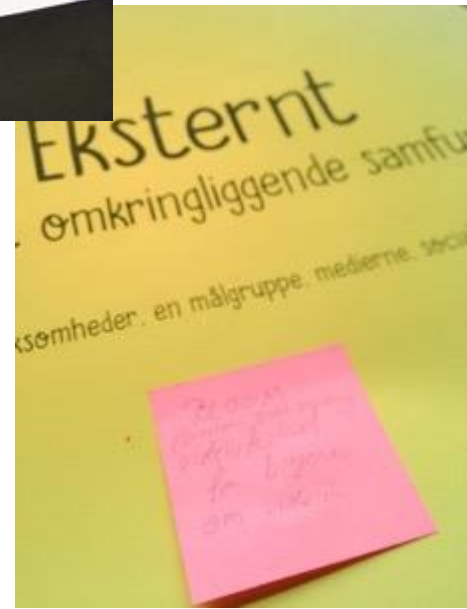
**Figure 1**  
**Conceptual Framework of Research Impact in the Field of Education**



# Responsible & Open Impact Indicators (ReACT)

Aalborg University, Department of Communication and Psychology, 2017-2020

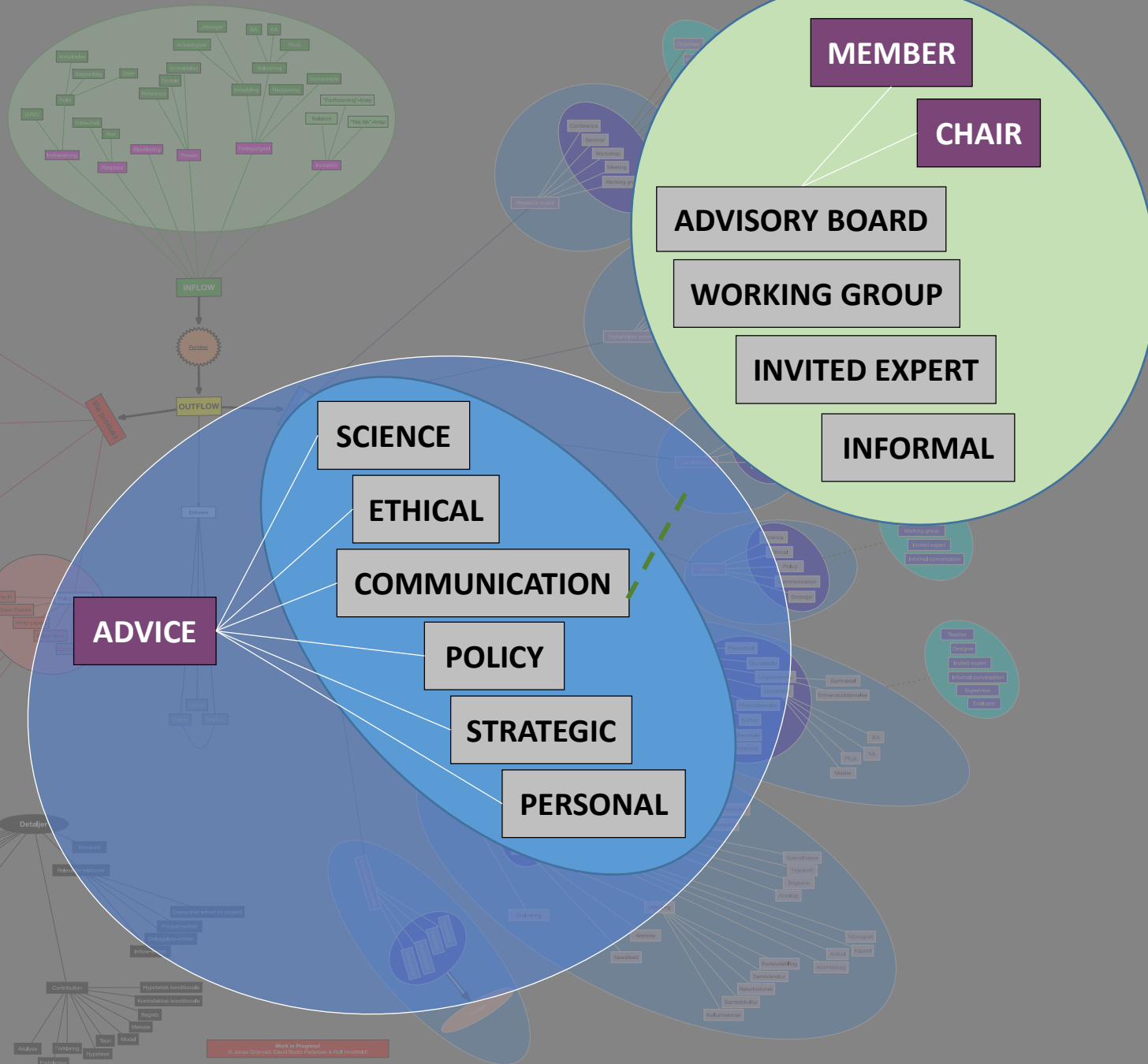
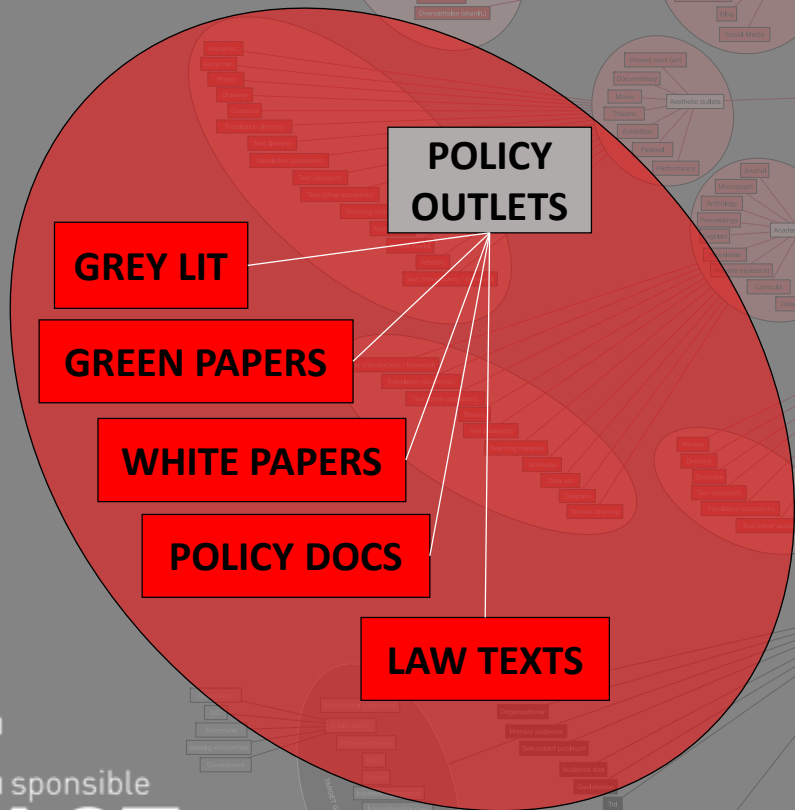
- Create a conducive institutional environment, e.g. re-engineering the academic reward system, funding, infrastructure and culture.
- When designing indicators, a one-size-fits-all solution is unlikely to work (high domain-specificity across disciplines).
- Open Science offers multiple data sources for tracking impact – but should be complemented with case studies and narratives.







# CATEGORIES MOST DIRECTLY RELATED TO POLICY INFLUENCE



# ViVO ReACT Impact Platform

The screenshot shows a web browser window with three tabs open, all pointing to <https://vivo.aau.dk/admin/spa>. The active tab is titled "Hvidtfeldt, Rolf". The browser address bar shows <https://vivo.aau.dk/display/n360>. The page header features the "REACT" logo and navigation links for "Home", "People", "Input", and "Log out".

The main content area displays an "Admin Panel" for the individual "Hvidtfeldt, Rolf". It includes an "Edit this individual" link, a toggle for "Verbose property display is off | Turn on", and the "Resource URI: http://vivo.mydomain.edu/individual/n360". A circular profile picture of Rolf Hvidtfeldt is shown, along with his name and affiliation: "Postdoc, Aalborg University | 1. January, 2017 -".

Below the profile information are four tabs: "Participation", "Products", "Inflow", and "Other". The "Participation" tab is selected, showing a list of "Academic Event"s:

- seminar**
  - Research seminar m. Rolf Hvidtfeldt (05.12), Speaker 2018
  - ReAct: Internat (16.-17.08), Participant 2018
- meeting**
  - Gruppemøde, Public Value of the Humanities d. 02.11.18, Participant 2018
  - Meeting with Associate Vice Chancellor at UC Davis (12.06.), Participant 2018
  - Meeting with professor at UC Berkeley (09.06), Participant 2018
  - Gruppemøde, Public Value of the Humanities d.13.04.18, Speaker 2018
- presentation**
  - Oplæg v. Brook Struck (10.09), Participant 2018

# Conclusions

- We need healthy, connected institutions
- Create infrastructures and incentives to enable knowledge exchange
- Build your impact strategy from mapping key institutional contributions, audiences, stakeholders and values ✓
- Align university mission/strategy with impact indicators, skills, incentives, co-design metrics with staff and stakeholders ('theory of change')

# HOW TO ORGANISE IMPACT PATHWAYS?

| Questions  | Policy priorities  | Practices  |
|--|--|--|
| value-for-society of SSH research  | Skill sets for impact & co-creation<br>Research Readiness<br>Independent research + Honest broker                      | timely advise<br>Merit & Incentives<br>More societal allies (industry/policy)  |
| changes in the e/valuation systems   | Keeping diversity in eval. criteria<br>Develop Open Indicators / Evaluation<br>Transparency – in <i>infrastructure</i> | Train reviewers for epistemic diversity<br>From outcome- to process-oriented   |
| (role) models and forms of leadership  | Importance of research group<br>Diversification of career paths  | Focus on 'collectives' rather individuals<br>Learned societies & alliances – more involved in expert groups / statements                     |
| interaction with existing value systems and strategies (SDGs, ...)               | Collect better evidence for SSH involvement in policy-making (incl. SDG, missions etc.)                                | Alignment of values, practices, incentives and indicators<br><br>Involve NEW 'concerned' stakeholders in mission at all levels (more chairs) |
| role models and leadership of SSH in mission oriented and participatory settings | Permanent positions for Honest brokers (science attaches, boundary spanners).  | Change agents / brokers / Impact Management<br><br>Impact literacy<br><br>SSH should make 'topics' more relevant for SSH research            |



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#SS  
#

# Thank you for the attention

David Budtz Pedersen: [davidp@hum.aau.dk](mailto:davidp@hum.aau.dk)

Twitter: @HumanomicsMap

Website: <http://mapping-humanities.dk>

Contributions from Rolf Hvidtfeldt & Jonas Grønvad

**COST**  
EUROPEAN COOPERATION  
IN SCIENCE AND TECHNOLOGY



Coffee/tea break

*We will start again at 15.45*

**UP NEXT....**

**Case Study Session 3**  
**Preparing the presentations in groups**

**UP NEXT**  
RECAP AND REMAINING  
QUESTIONS

---





# Up next

|          |  |                             |
|----------|--|-----------------------------|
| 18.00    | Elias mat & sânt<br>(Kristian Augusts gate 14) | Course dinner               |
| Tomorrow |  |                             |
| 8.30     | OsloMet  | Coffee and Tea              |
| 9.00     | OsloMet  | Start of the course – day 3 |