



Welcome to the Interactive Course on

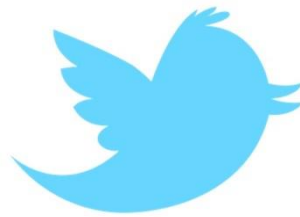
From Societal Impact Strategy to Implementation and Execution

25-28 May, 2021

AESIS

NETWORK FOR
ADVANCING & EVALUATING THE SOCIETAL IMPACT OF SCIENCE

DAY 1

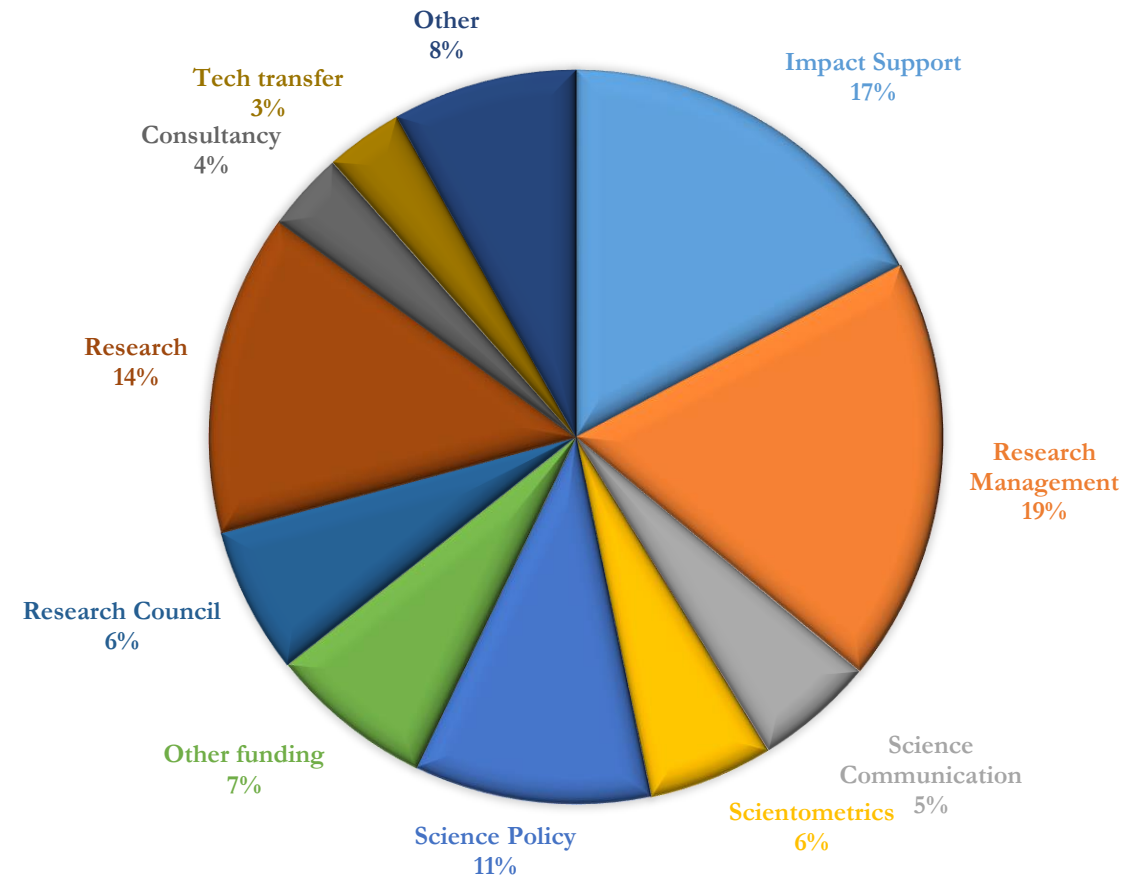


#SISIE21
@AESISNET

OVERVIEW OF AESIS

AESIS 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.

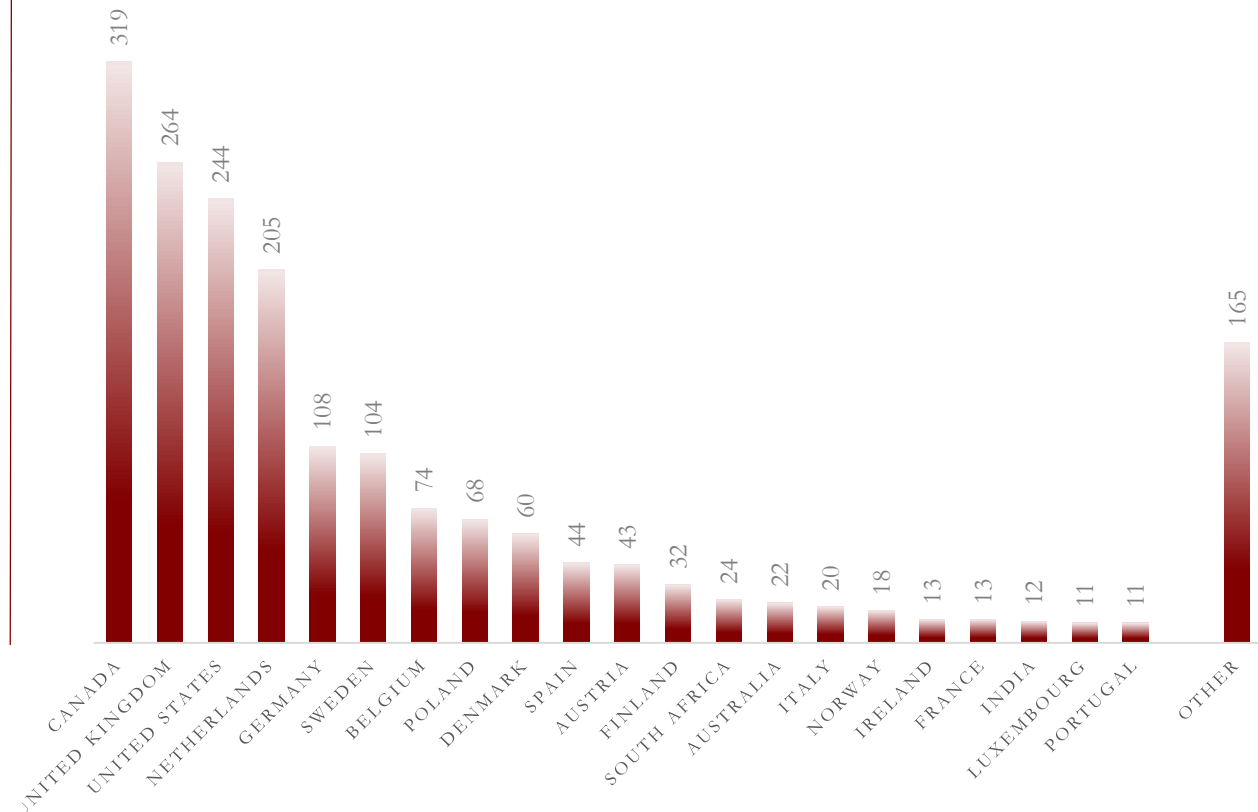
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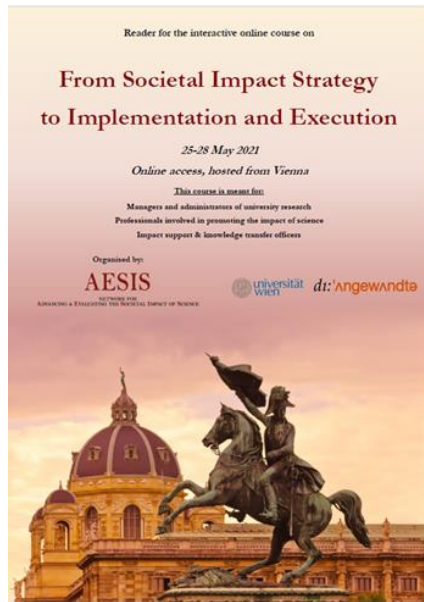
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GEOGRAPHICAL DISTRIBUTION



OVERVIEW OF DAY 1 PROGRAMME



Introductions

What is Impact: defining and demonstrating Impact

Mike Smith

The Impact Lifestyle

- Mission driven research
- Impact planning and assessment & Partnerships for Impact

David Budtz Pedersen

Inclusion of Impact Strategies in research design to support researchers

- Drivers and barriers for planning and implementing internal infrastructure

Antonia Caro Gonzalez

Case Study Exercise

Mike Smith

*Emeritus Professor of Medical Science, Managing Partner of Harper Keeley LLP &
former Pro Vice-Chancellor for Research Enterprise and Knowledge Transfer,
United Kingdom*

What is Impact: Defining and Demonstrating Impact

Professor Mike Smith
Emeritus Professor of Medical Science
Managing Partner, Harper Keeley LLP
Chair, Medipex Ltd



Research, Innovation & Commercialisation

First 20 years:

- Medical scientist working on new medical technology, working in University Hospital Medical Schools, the NHS and with industry
- Published extensively and raised large amounts of grant funding and investment
- Partnership working internationally and with commercial companies
- Researched and developed ideas and solutions that were available for patient benefit and of commercial interest
- Patented and licenced ideas
- Formed two companies to commercialise research and sold one to the US

Research, Innovation and Commercialisation

Recent 30 years:

- Continued impact oriented research plus licensing, start-ups, spin-outs & commercialisation opportunities
- Extended personal commercial innovation activity into a range of technologies and businesses that was wider than medical and health technology
- Panel member for two rounds of the UK research assessment exercise
- Corporate role as Pro Vice Chancellor in Universities and Executive Director in large Teaching Hospitals.
- Non-Executive Director in a range of commercial ventures
- Chair and Founder of Medipex Ltd, a company to commercialise IP emerging from the health sector
- Chair of the Institute of Knowledge Transfer
- Formed investment funds to support the commercialisation of Medical Technology

Definition and Terminology

Impact considers the following

Utilising OECD (Organisation for Economic Co-operation and Development), EU and other governmental definitions

- Will individuals be materially affected by the activity ?
- Will organisations/communities be materially affected by the activity ?
- How will that material change be achieved ?
- Are there outcomes that need to be achieved along the route to impact ?

Magnitude of and nature of impact is important

Terminology

- **Evaluation** – Assessment of whether an activity did what it was meant to do and whether and to what degree it was successful
- **Academic impact** – Positive contribution to the advancement of knowledge, hence impact factor of publications. We are not concerned with this form of impact
- **Economic impact** – The overall long-term, net change in the local/regional/national finances
- **Social or Societal impact** – Non financial indicators such as educational attainment, health, poverty etc

Societal Impact

More

- Stronger economy
- New companies
- Exports
- Jobs
- Stronger society
- Better Health
- Better Education
- Independence in old age

Less

- Inequalities
- Poverty
- Sickness and disease
- Unemployment
- Social care burden
- Crime/violence/terrorism
- Pollution
- Climate change

Personal perspective of impact (1)

- Impact had been used in research for many years, since the 1970s - terms like 'impact factor' were embedded in the vocabulary of research
- In my own research I wanted to improve the health of patients (help them get better quicker or stop them becoming ill) – in the 1970s to 1990s I wasn't aware that I was focussing on impact
- As an assessor for the UK research assessment exercises in 1996 and 2001, and a University lead for submissions, I experienced the then strategy, and problems, of focusing on research *outcome*, as it was called then, rather than impact

Personal perspective of impact (2)

- From the early 2000s the word impact increased in usage – and over-usage
- Narratives and indicators associated with the impact on Economic Transformation particularly in relation to regional/national/European structural funding
- Narratives but fewer indicators around Social Transformation, often presented to counter or complement the emphasis on economic impact
- Increase use of the term in driving wider funding decisions, only in some cases with an increased understanding and acceptance of the difference between impact and evaluation

Personal perspective of impact (3)

- Tendency to concentrate on 'impression management' to convince people of impact, particularly the reliance on good news stories
- Funded organisations (such as Universities) and individuals comply with or object to the measurement of impact – but rarely considered changing what they do or how they do it, to *increase* impact
- Generally little awareness that funding bodies might be wanting to use the measurement of impact as a lever for change and to support their policy agendas

Impact Dichotomies

Research	or	Education
High quality research	or	Any innovative activity
Economic impact	or	Social impact
Short term impact	or	Long term impact
Quantitative indicators	or	Qualitative indicators
Unbiased assessment	or	Marketing information
Rigorous	or	Impression focused
Objective	or	Subjective (opinion lead)
Transparent	or	Defensive
Funded	or	Unfunded

The Impact Journey:
Partial impact consideration arising from
current research

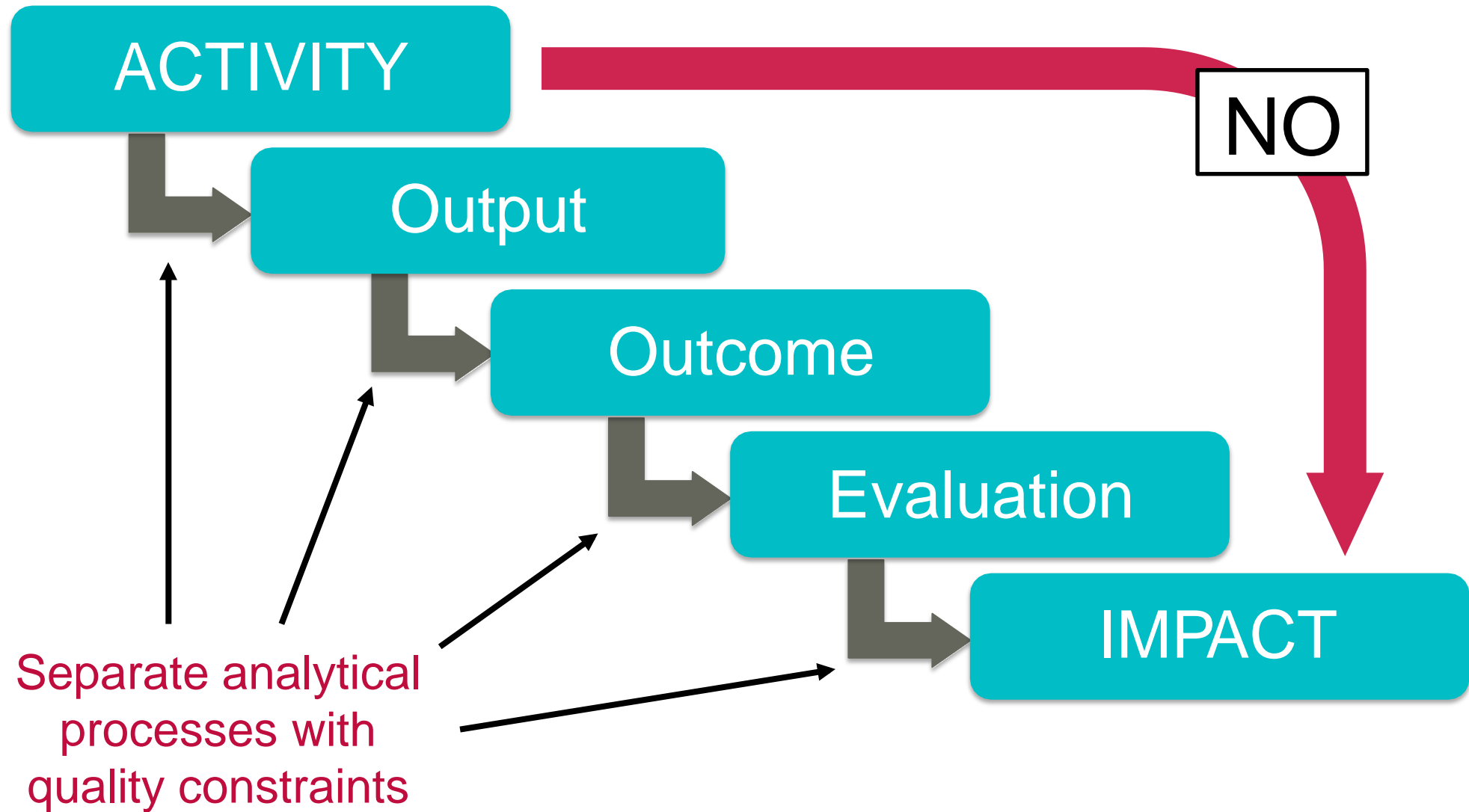
ACTIVITY

Output

Outcome

Evaluation

IMPACT



ACTIVITY

Output

Outcome

Evaluation

IMPACT

The Impact Journey:
Full impact consideration from a
comprehensive research/innovation
programme

- What is the challenge that needs to be resolved?
- How could this challenge be resolved?
- Is there new or emerging understanding, science, methodology or technology which indicates that *now* is the time ?
- Who else is interested; are they partners or competitors?
- What would success look like ? Essentially what parameters would you measure to demonstrate success (and show the impact)?
- If you identify a solution, do you need to undertake further work to ensure it is implemented and becomes widely adopted, to achieve maximum impact ?
- What is the end point and exit strategy?

Clarification of
CHALLENGE

Contextual
understanding

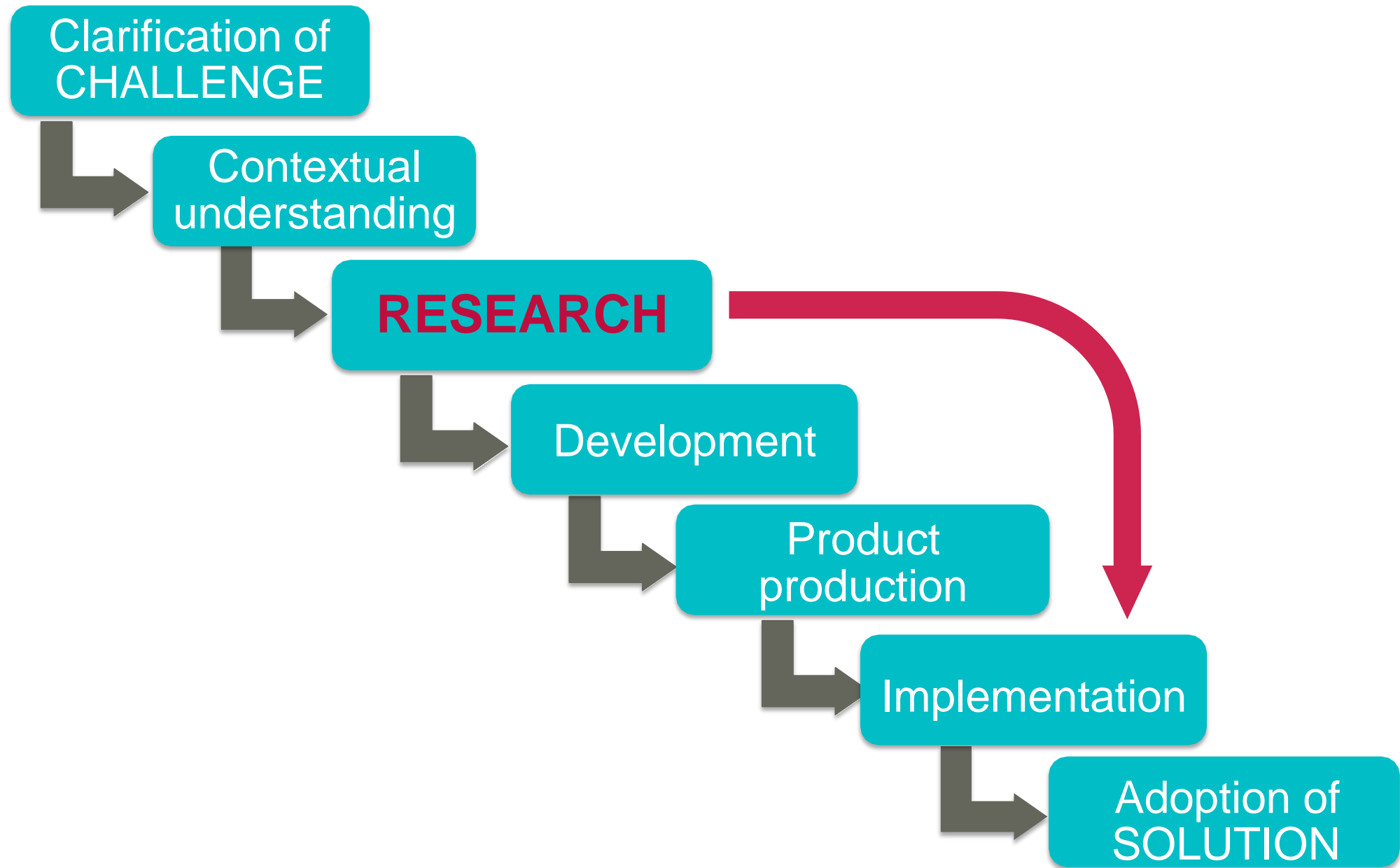
Research

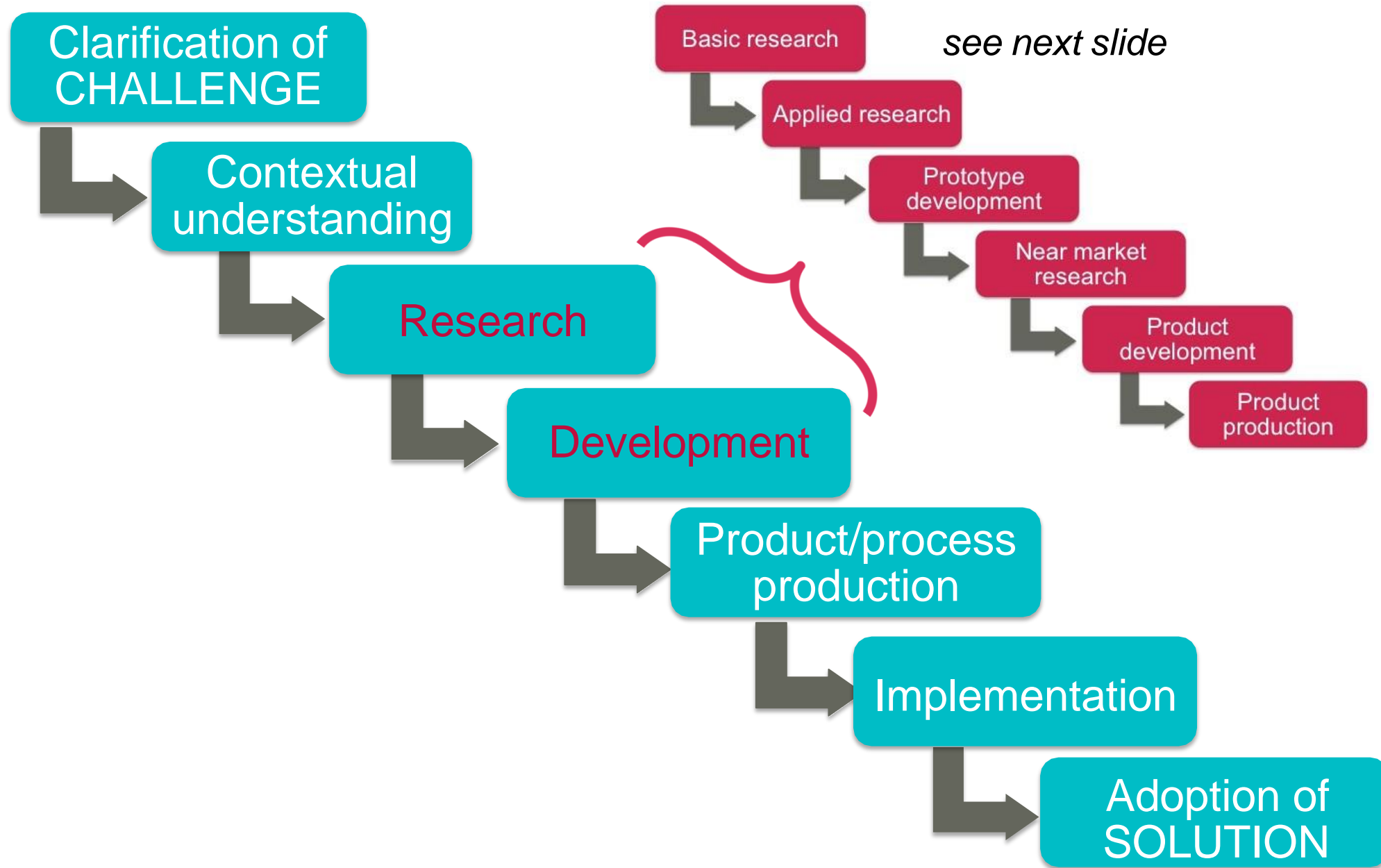
Development

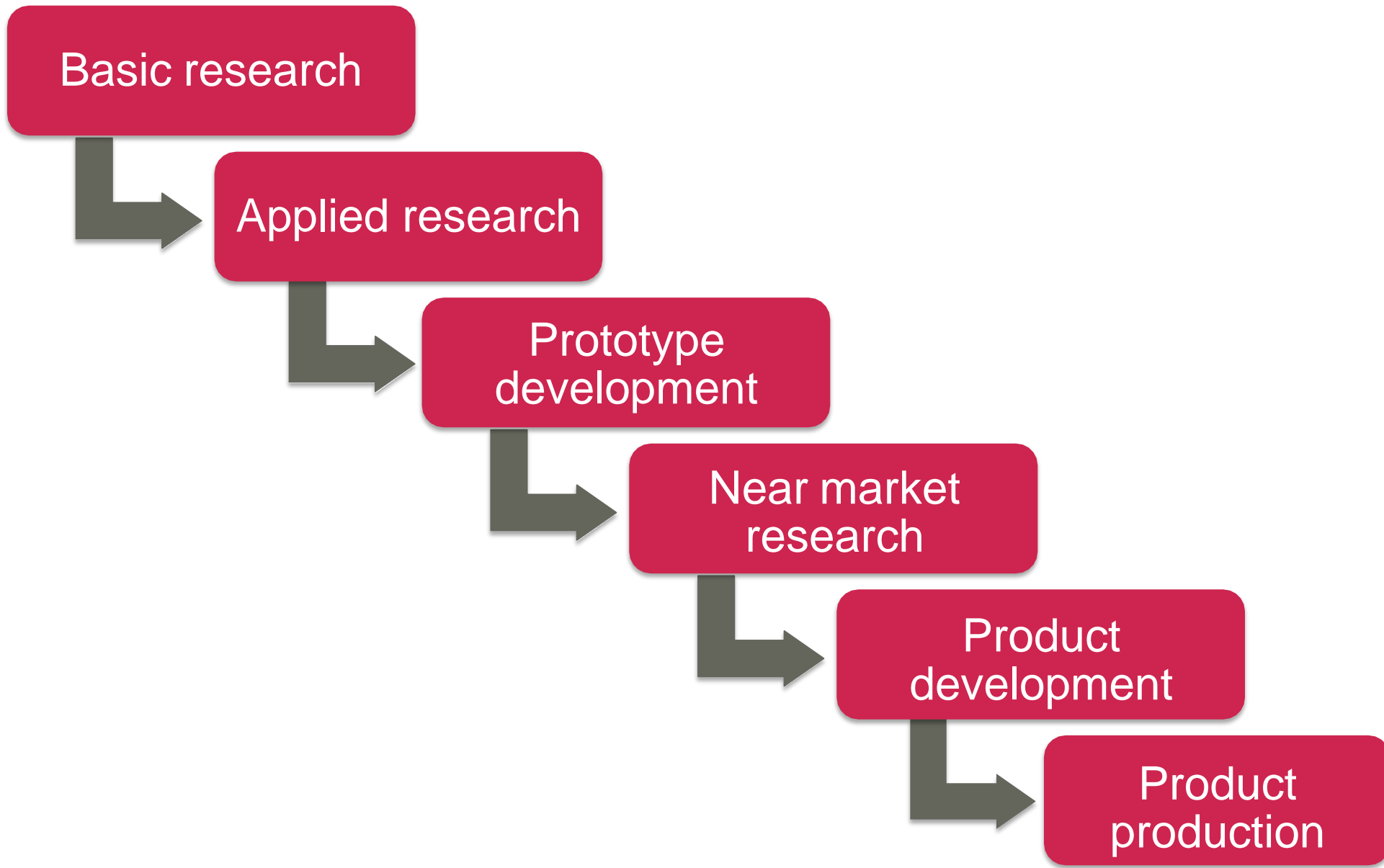
Product
production

Implementation

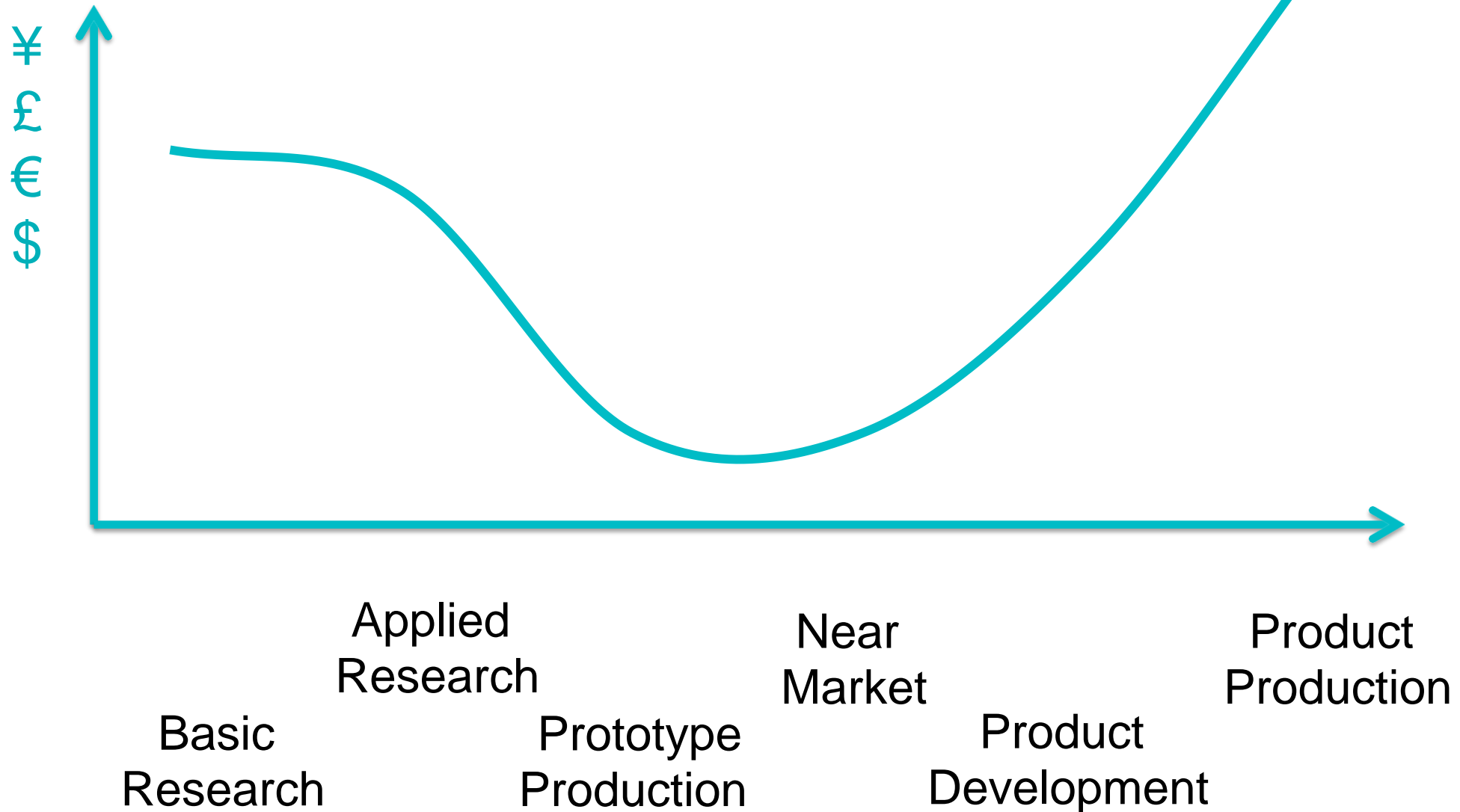
Adoption of
SOLUTION

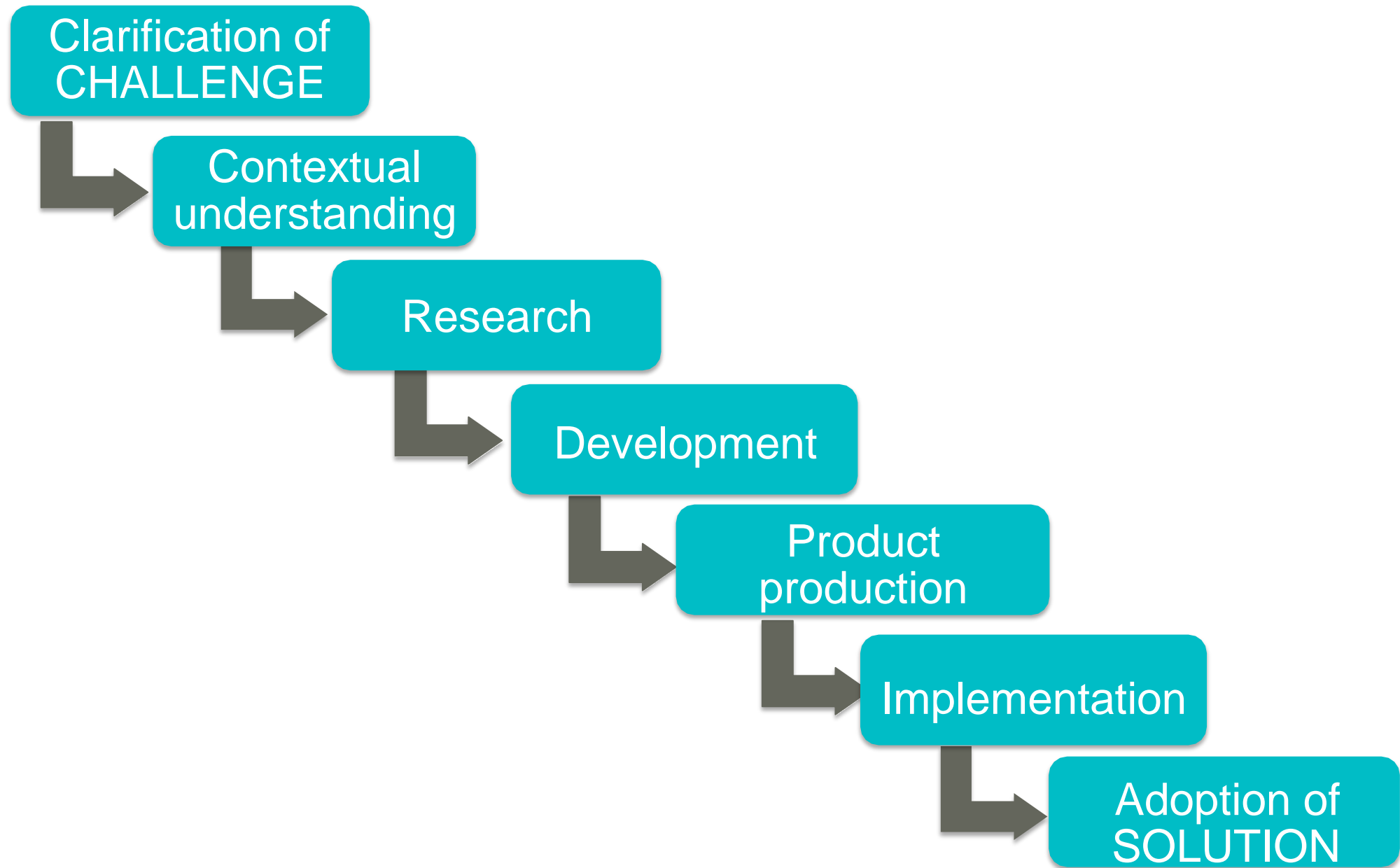






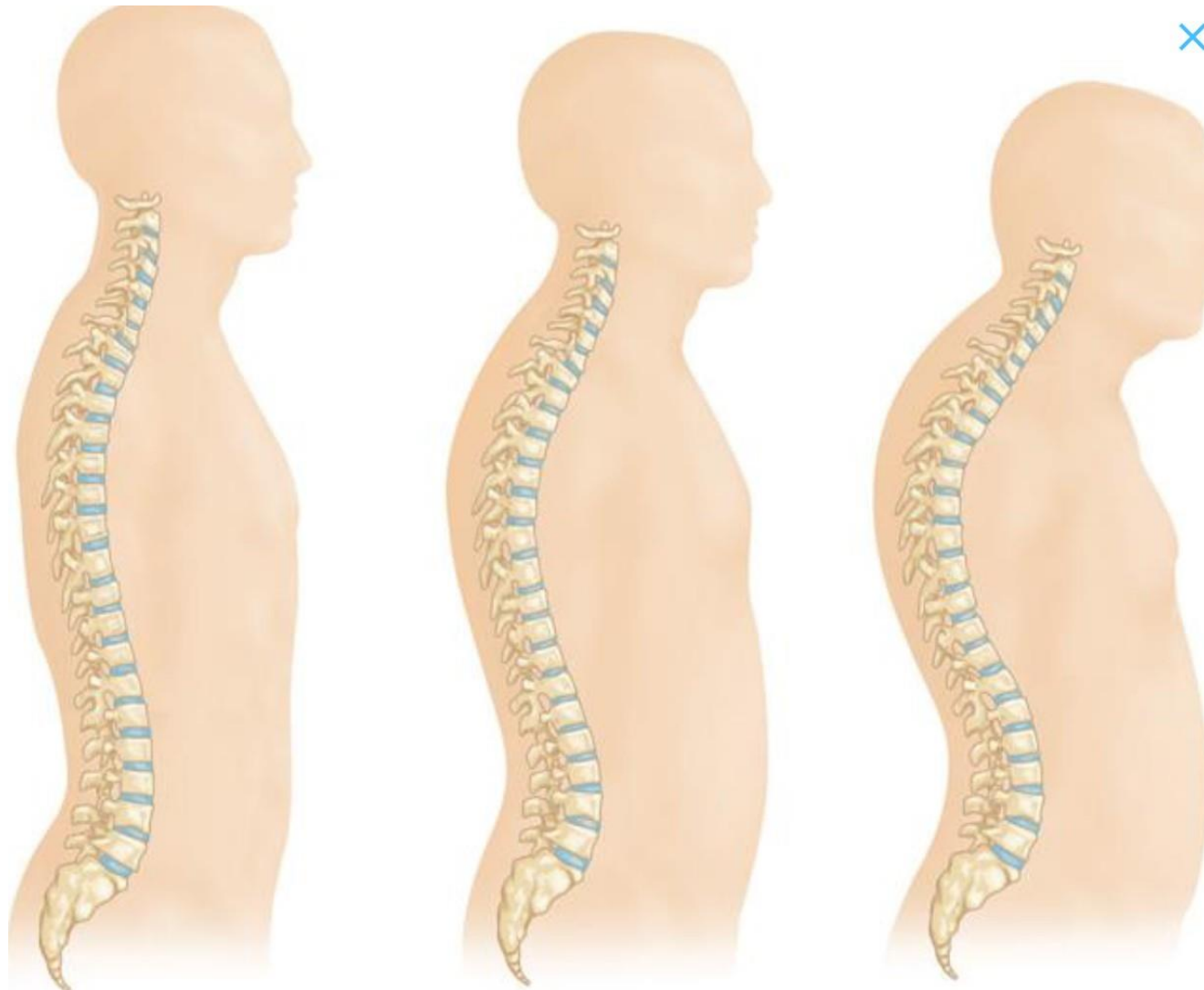
Availability of Finance





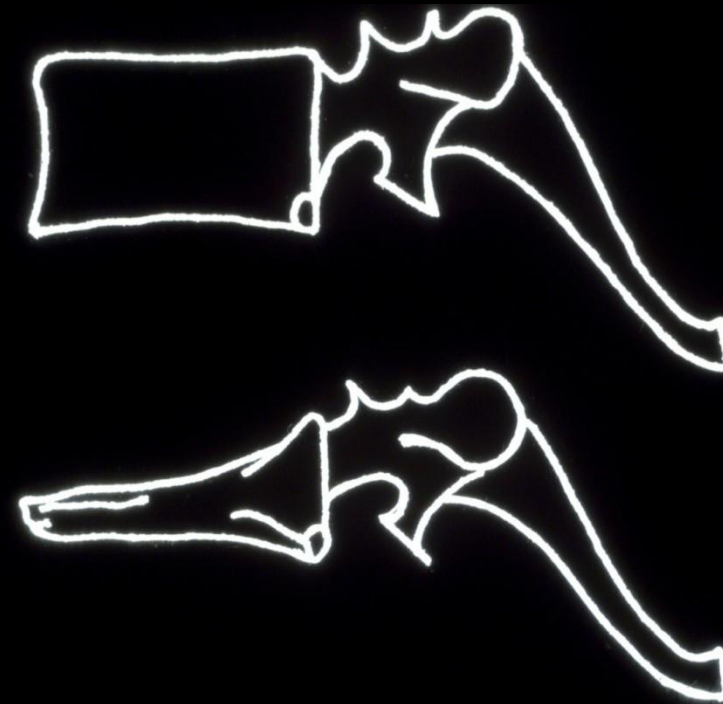
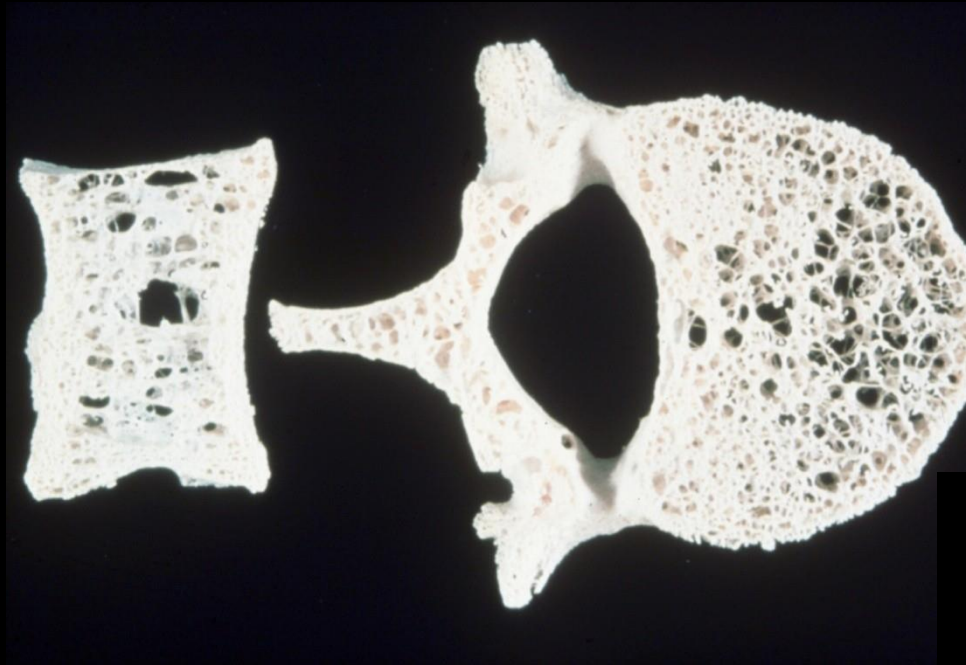
Case Study 1:
Research, Development and Implementation
*Non-invasive bone mineral measurement and the
development of bone scanners for osteoporosis*

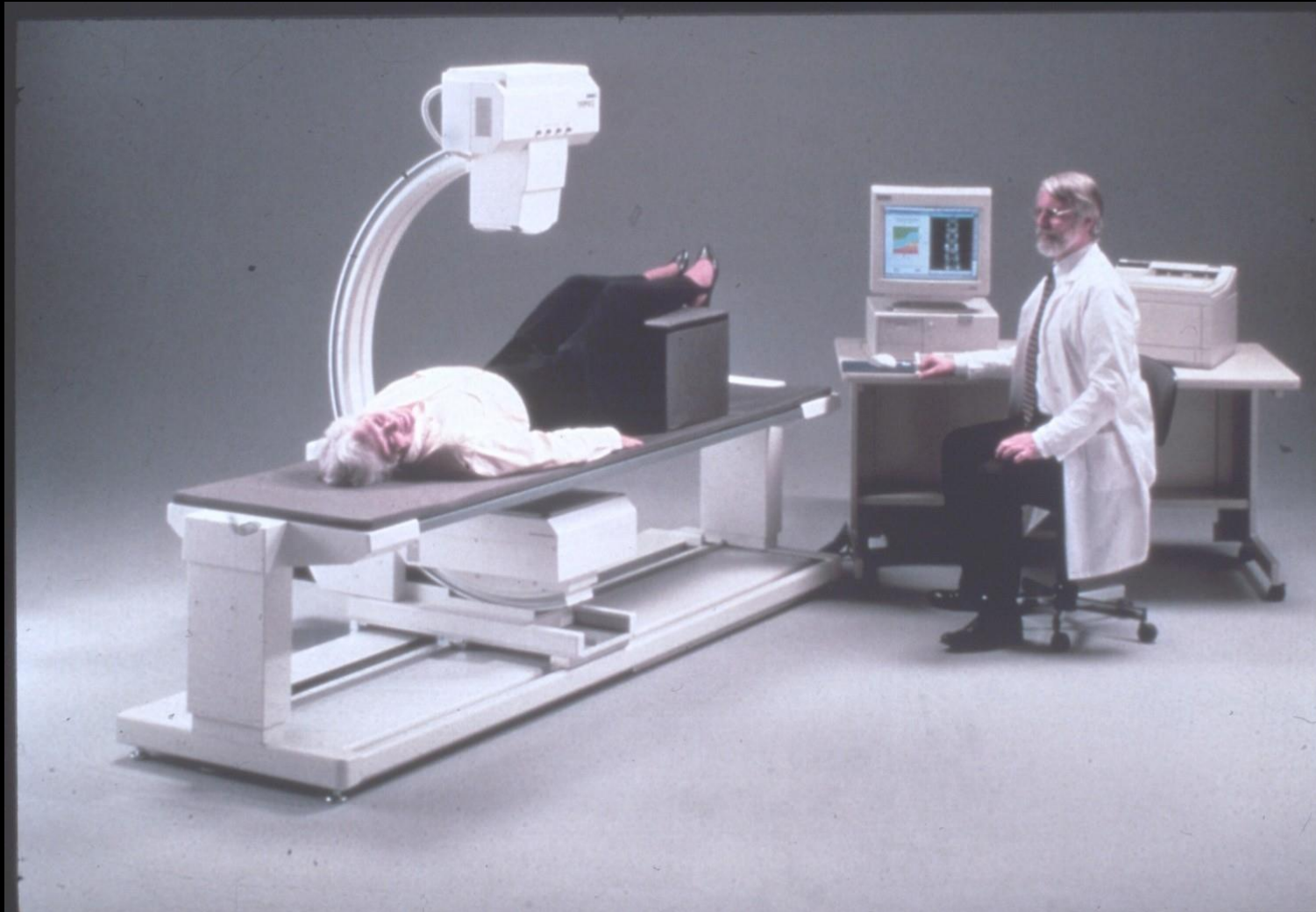
Visual appearance of osteoporosis over time



Osteoporosis - Incidence and burden

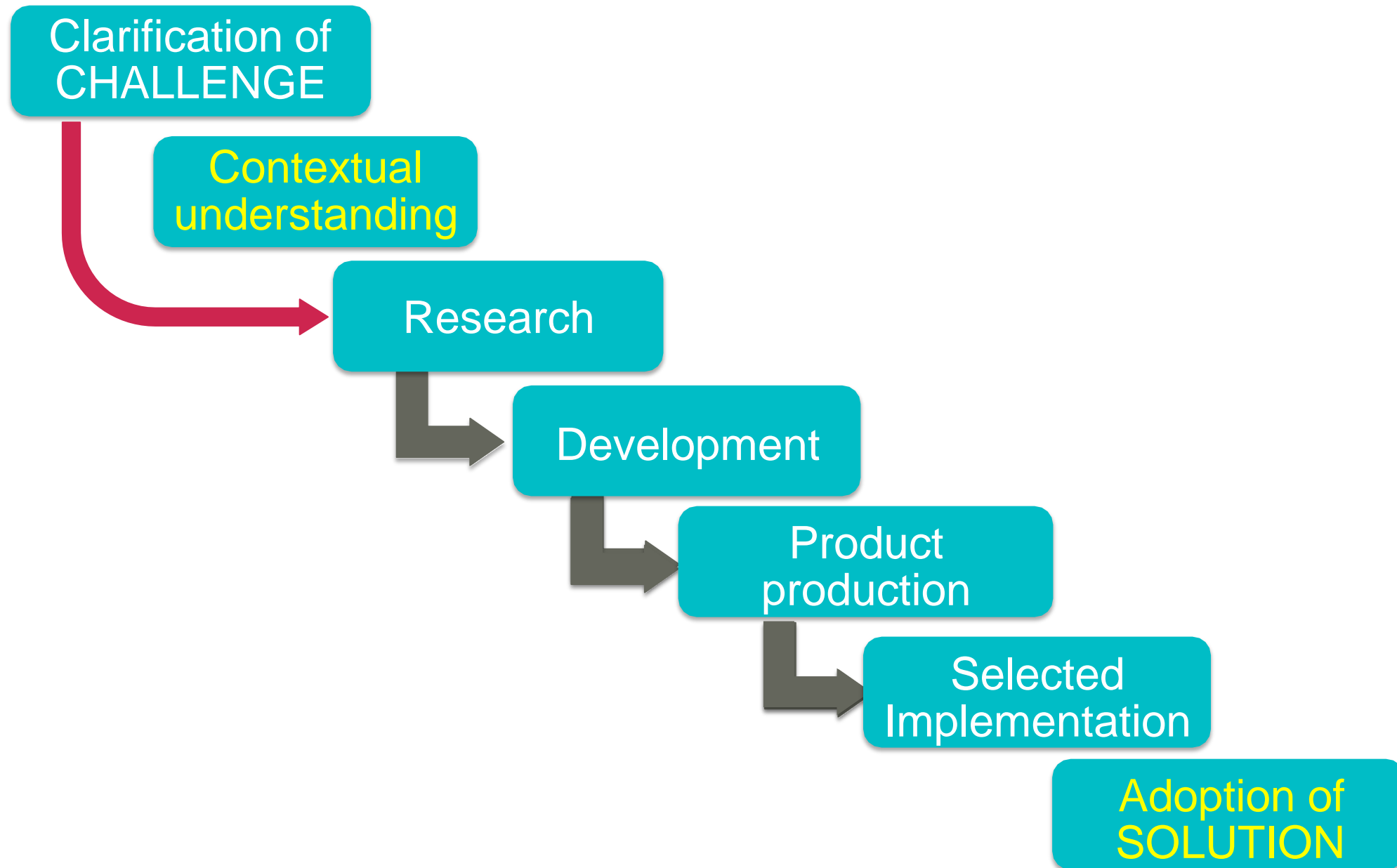
- Osteoporosis affects ~75 million people in Europe, USA & Japan.
- Worldwide, 1 in 3 women over age 50 will experience osteoporotic fractures, as will 1 in 5 men aged over 50.
- In Europe, disability due to osteoporosis is greater than most cancers and is comparable or greater than rheumatoid arthritis, asthma and high blood pressure related heart disease.
- In women over 45 years of age, osteoporosis accounts for more days spent in hospital than many other diseases, including diabetes, myocardial infarction and breast cancer.
- A 10% loss of bone mass in the vertebrae can double the risk of vertebral fractures, and similarly, a 10% loss of bone mass in the hip can result in a 2.5 times greater risk of hip fracture .

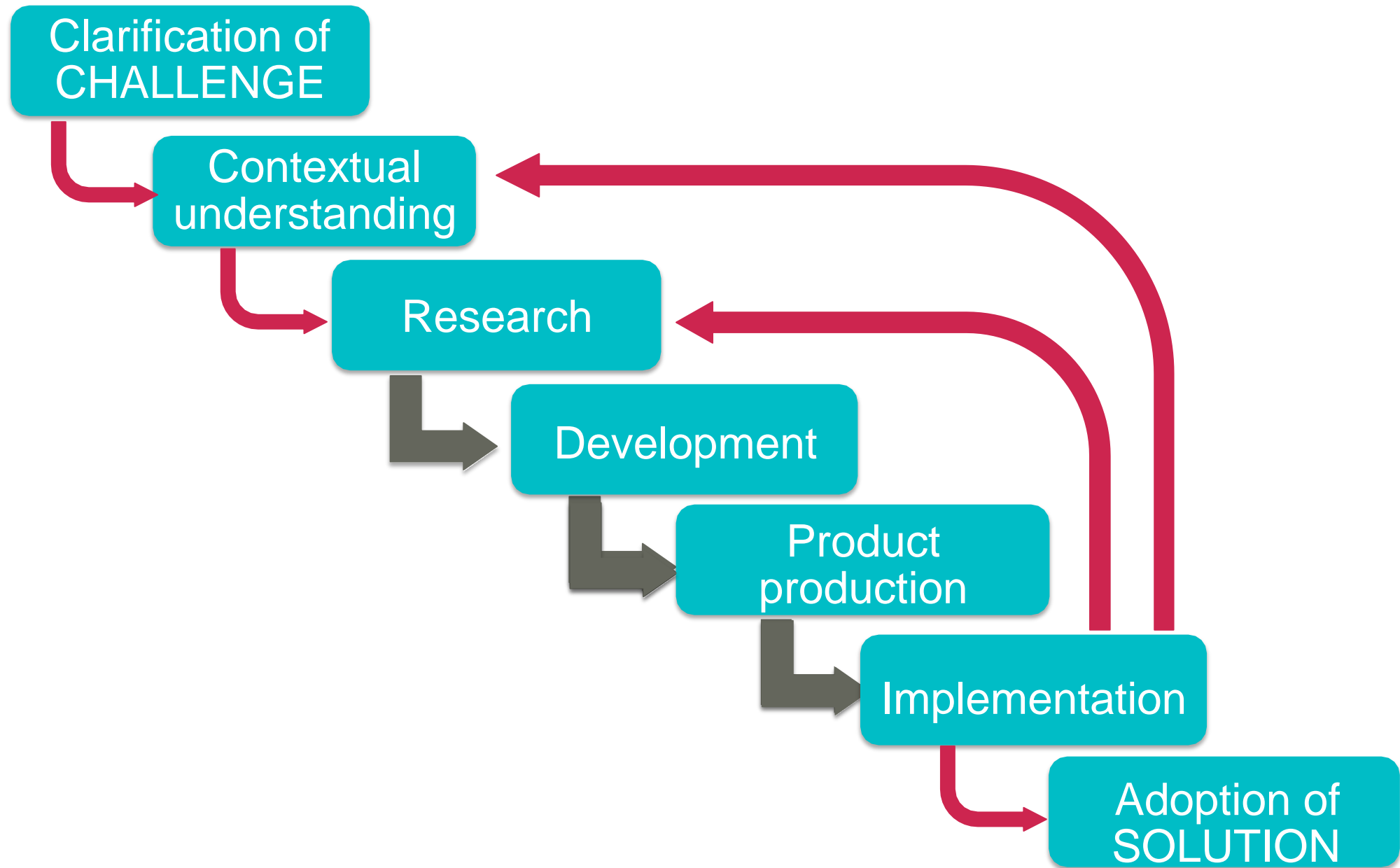




Bone Scanners for Osteoporosis (UK)

- First research abstract published 1963
- Development of equipment 1974 - 1980
- Commercial equipment available 1978 - 1982
- Purchased by research groups 1978 - 1988
- Initial purchase by health systems ~1990
- Questions about cost effectiveness 1994
- Advocacy campaign 1995 - 1998
- Widespread medical and health use 2000
- *Impact on societal health* ?





Case Study 2:
Research through to Commercialisation
Magnetic Resonance Imaging

Stimulated by the success of X-ray computerised tomography



Computerised Tomography (CT)

Tomo~ From the Greek meaning 'a slice'

~graphy adapted from the English/American and meaning:

'a machine for a hospital costing a load of money which will make its manufacturers a fortune'

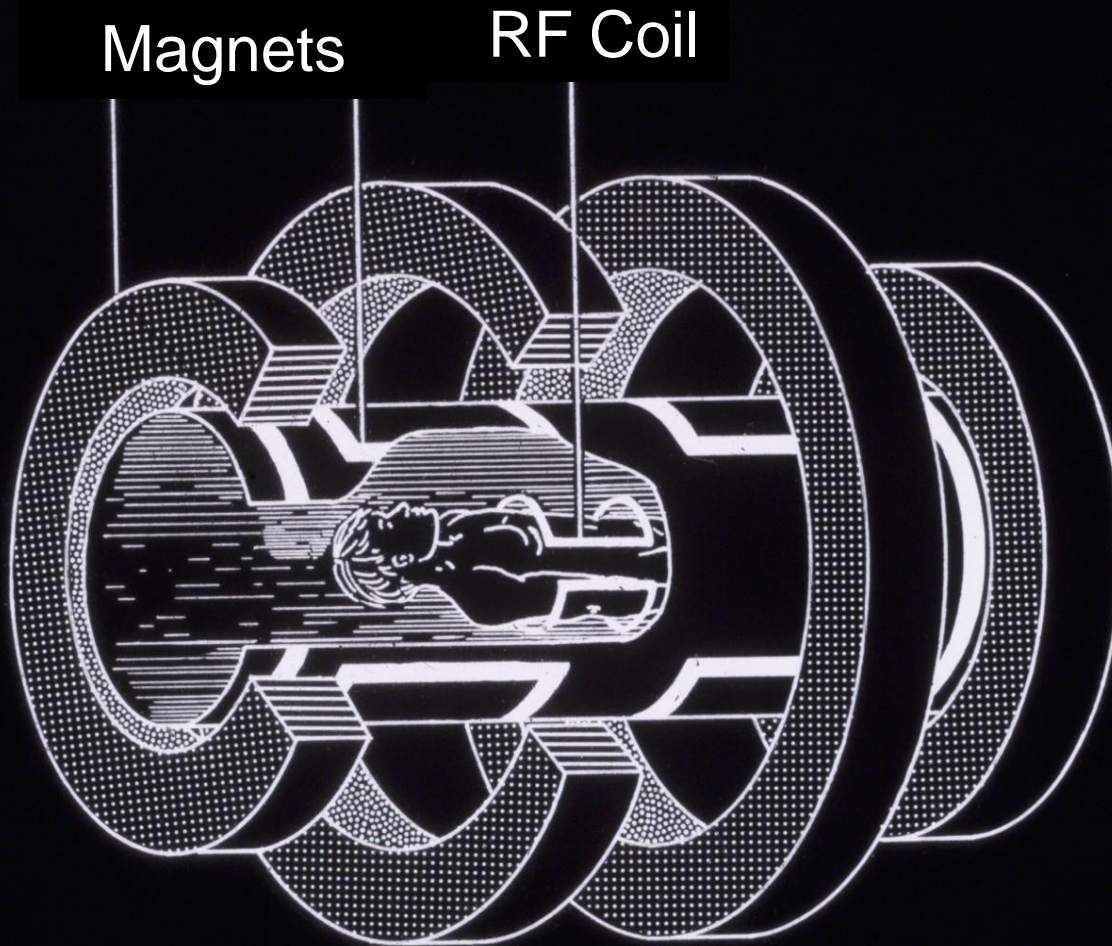
Computerised Tomography (CT)

Developed by EMI in the early 1970s, systems were quickly installed many hospitals. Changed the attitude towards 'scanners'.

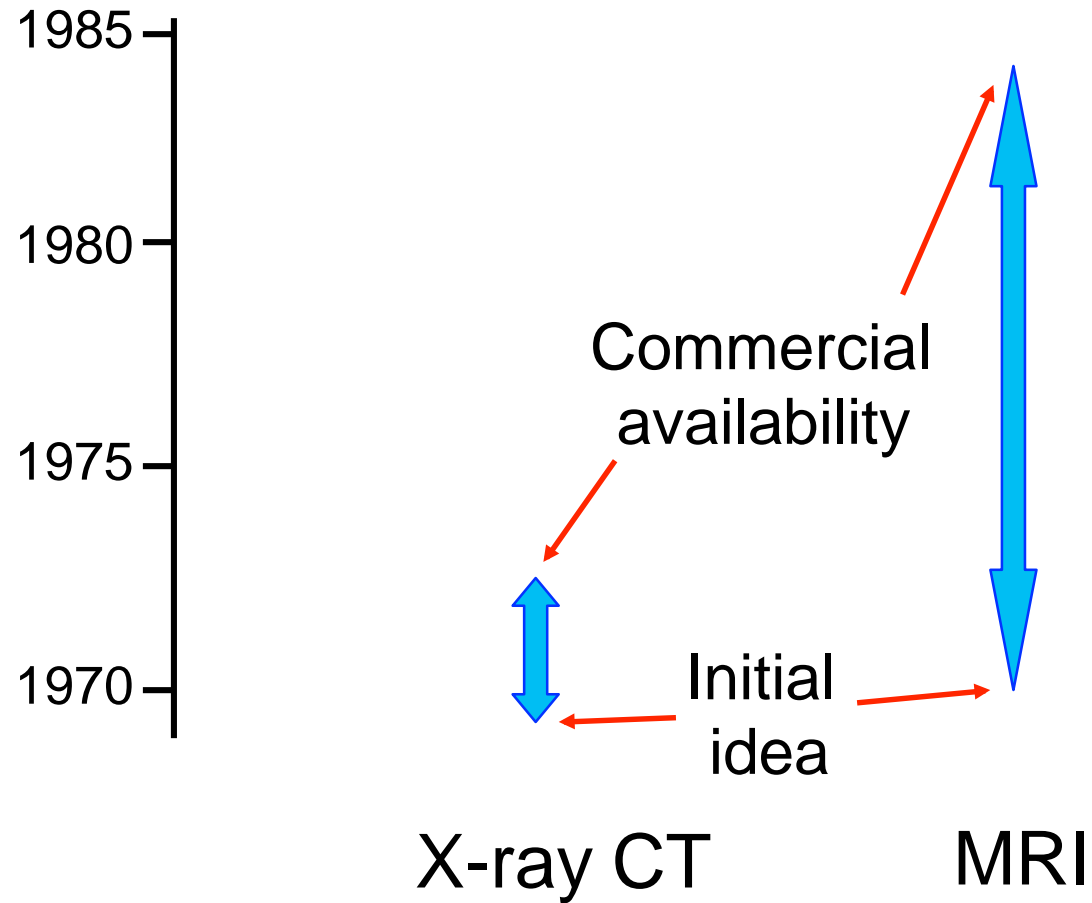
- Back-projection mathematics (1917)
- Semiconductors (1960s)
- Mini-computers (1970s)

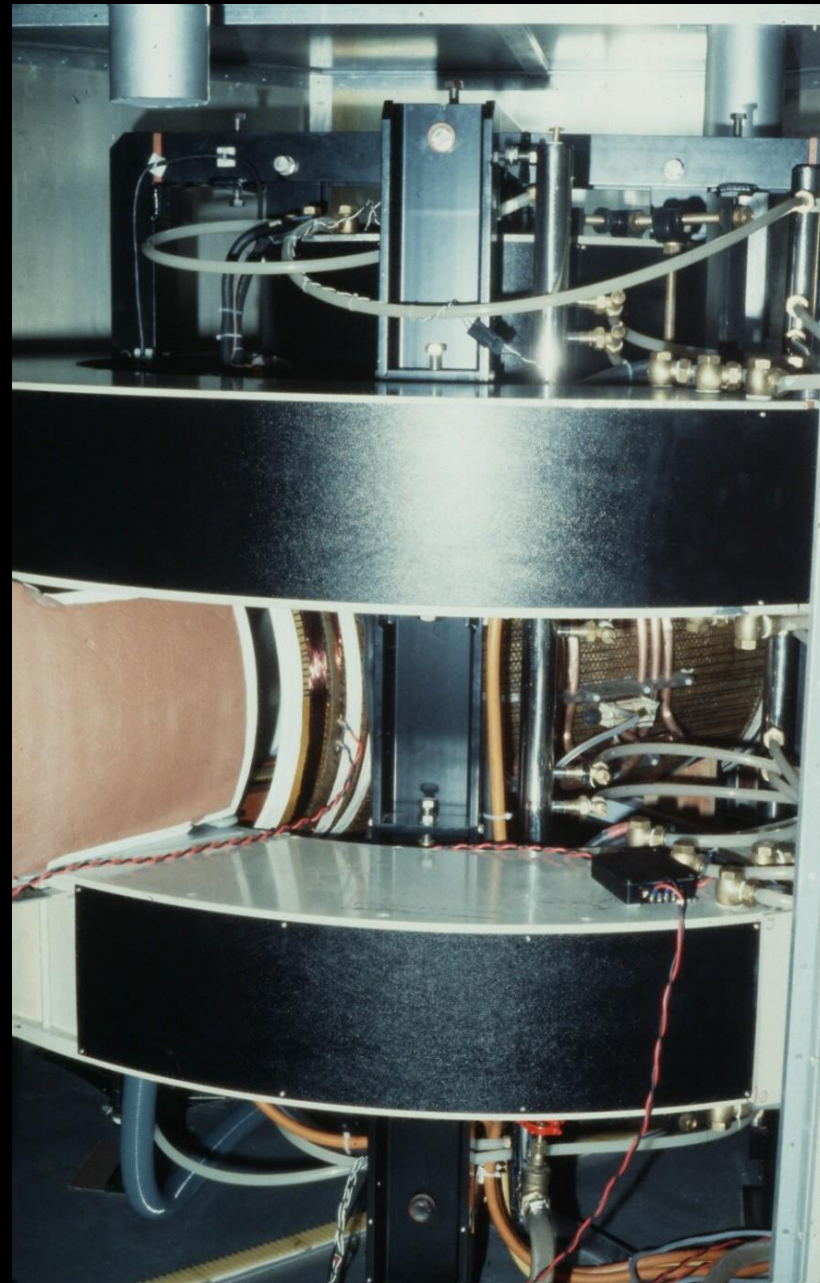
Legislation introduced in the USA to restrict their use.

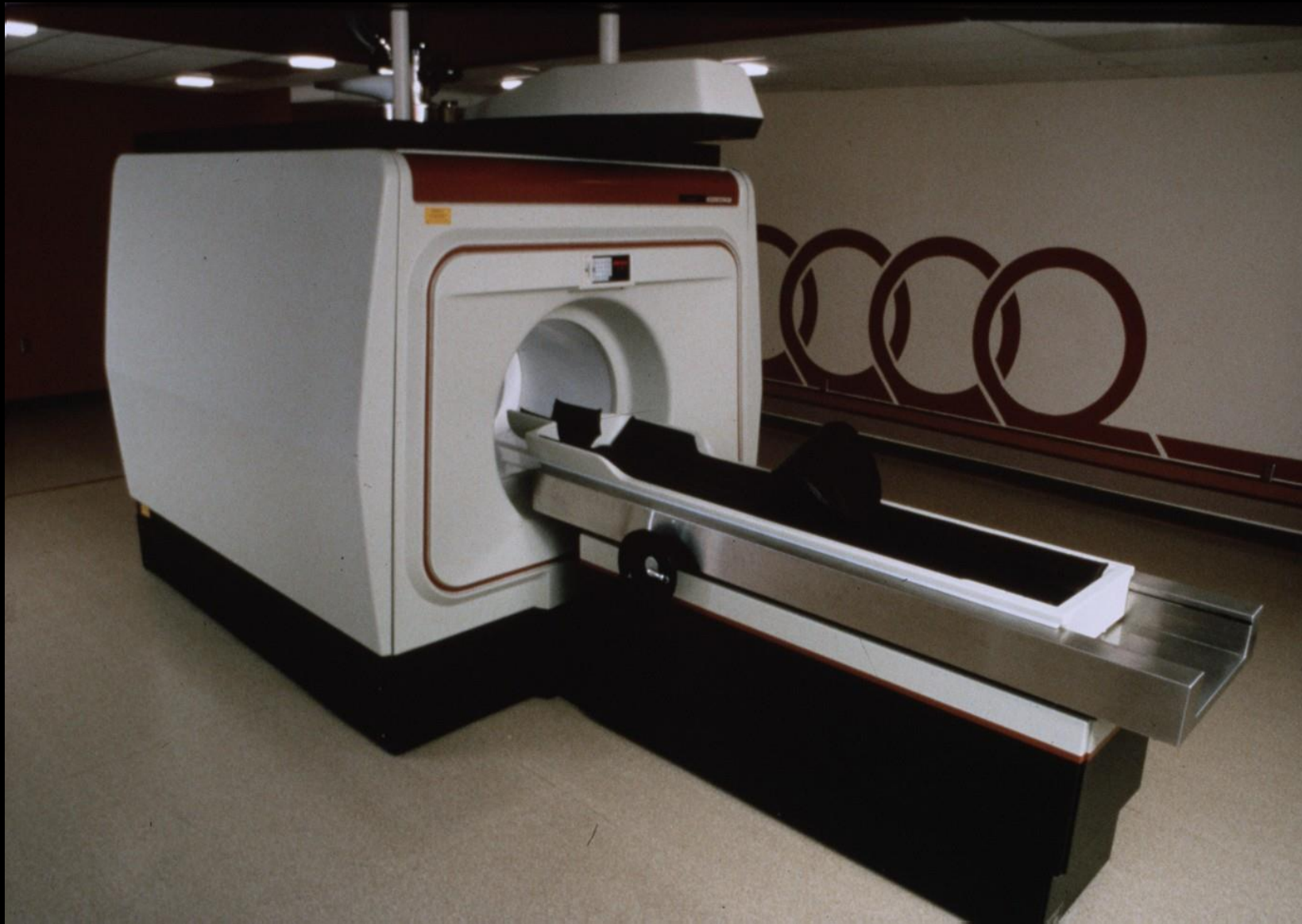
Magnetic Resonance Imaging

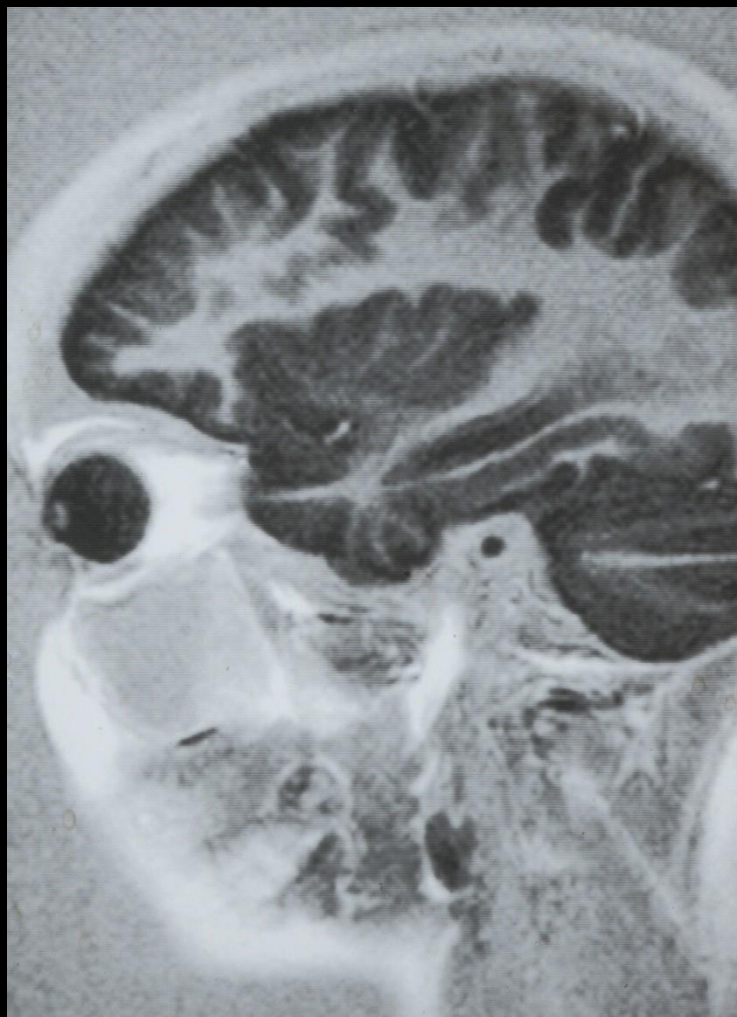


Development of X-ray CT and MRI









cm



Magnetic Resonance Imaging (1)

Following the impact and financial success of CT, the science/engineering of MRI was funded and developed

1974 – 1982

Paper which underpinned the practical approach to clinical MRI

1980

*Development of low field commercial system
(University spin-out)*

1982 - 1985

Development of low field commercial systems from global imaging companies

1983 > 1989

Sale of company

1986

Magnetic Resonance Imaging (2)

Development of high field MRI systems by global imaging companies

1987 > 2010

Wide availability in health systems with an 'impact' on health care and patient management

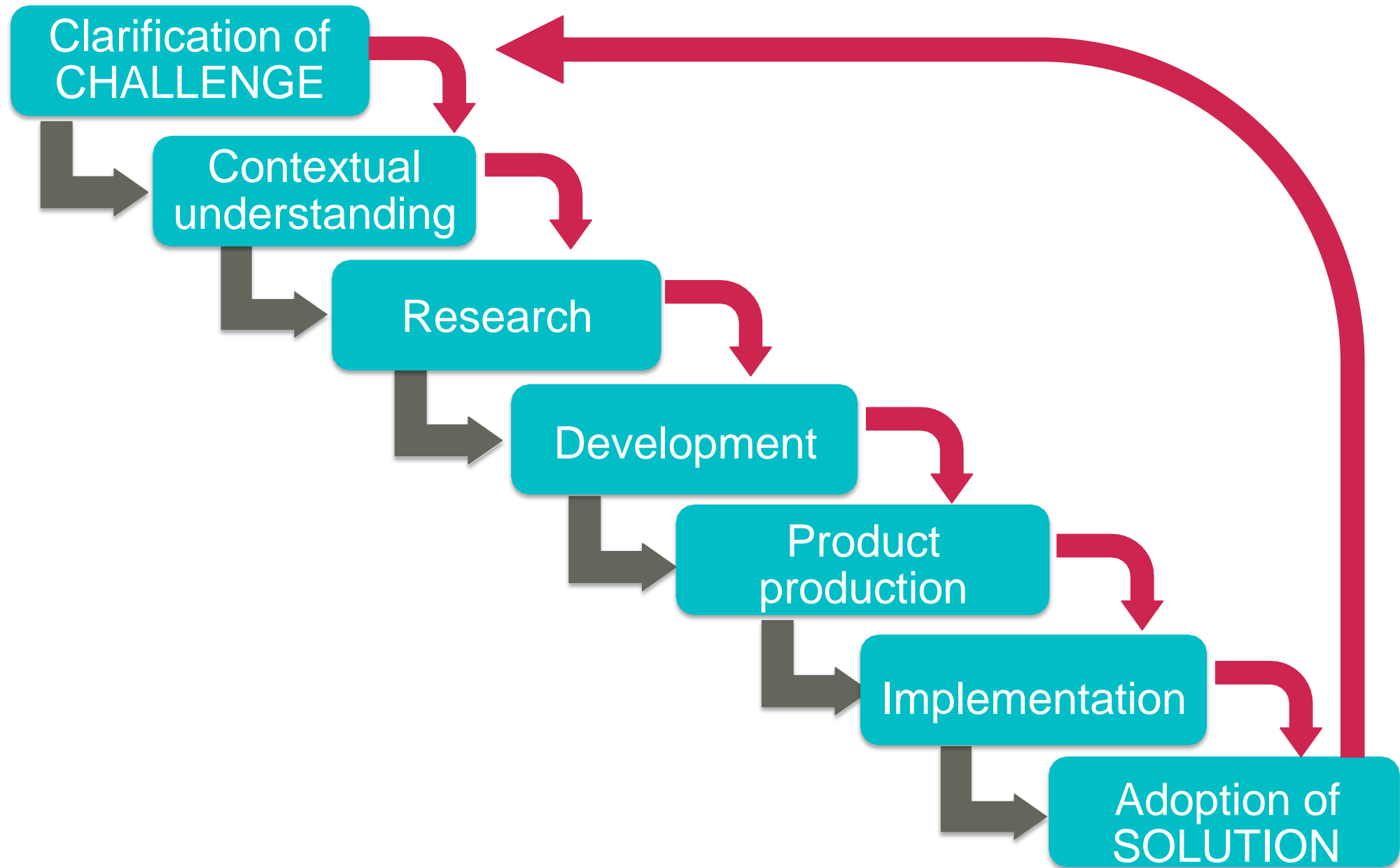
1995 >

Clinical and cost effectiveness (ie everyday use in non-selected patients) started to become clearer

2005 >

Which impact is important?

- Commercial impact
- Health system impact
- Individual patient impact
- Health Economic impact



Case Study 3:
Contextual understanding,
implementation and adoption
Kangaroo Care

Babies and families in neonatal units

- ~10% of babies admitted to neonatal units; about 70,000 annually in UK
- Numbers and length of stay increased almost threefold since mid-1990s
- This is due to improved survival at lower gestation, increased multiple births, increased maternal age

Kangaroo/skin-to-skin care

Significant improvements in the following

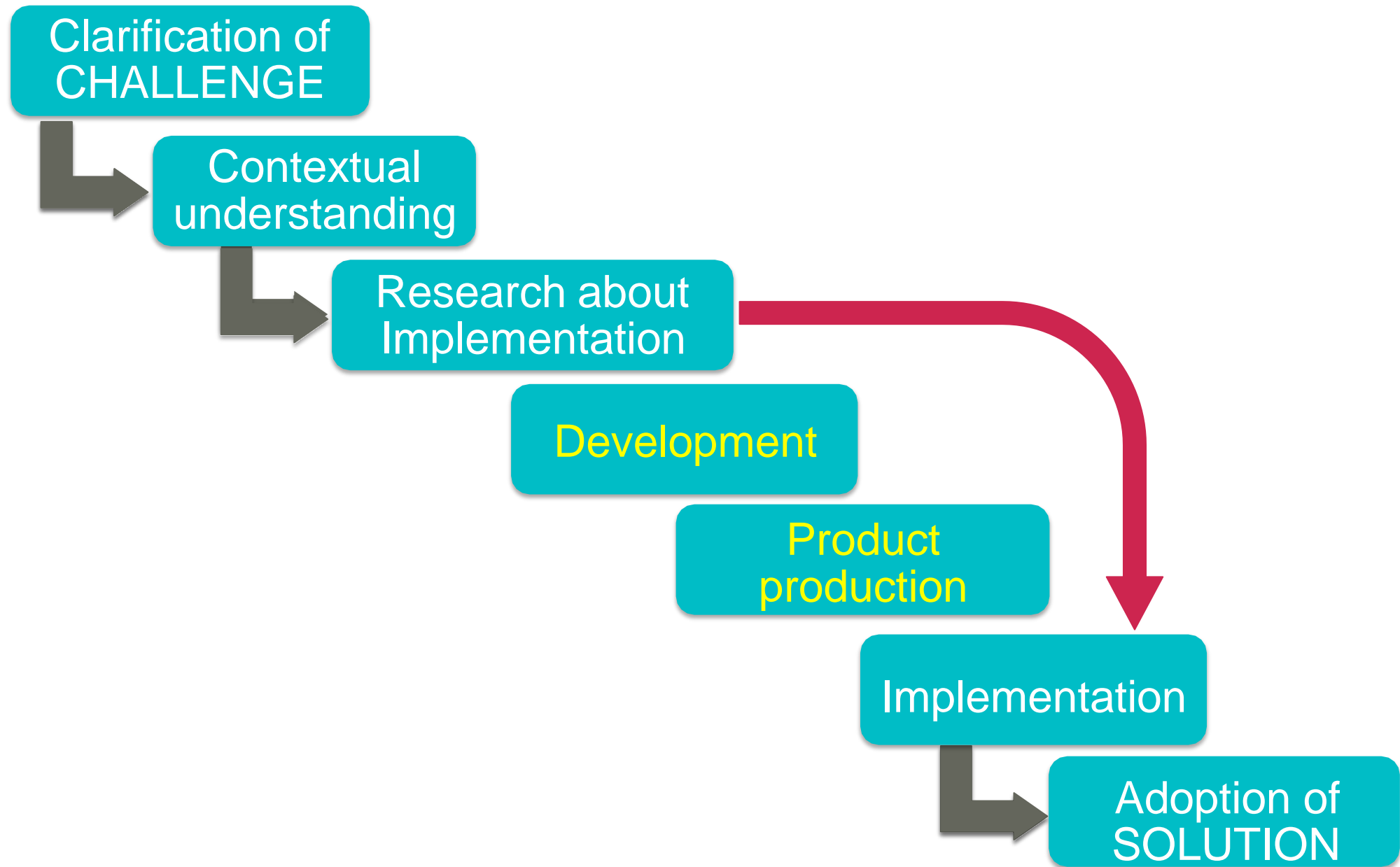
- Breastfeeding
- Head circumference growth
- Oxygen saturation
- Hypothermia
- Serious morbidity at two and six months

With no adverse effects



Health research and impact

- This is much wider than medical research
- Not only can it have a significant impact on population health it can have a greater impact per unit cost than medical research
- A health dividend produces an economic dividend
- Can produce conflict with technological/ commercially focussed interventions which could have a commercial/economic impact



Case Study 4:
Long-Term Strategic Research Programme
*Thin film nanoscience - High Power Impulse
Magnetron Sputtering (HIPIMS) Research Group*



Engineering Research

500,000 researchers



Materials Research

100,000 researchers



Thin Film Research

10,000 researchers



Plasma Vapour Deposition (PVD)

3,000 researchers



High Power Impulse Magnetron Sputtering (HIPIMS)

200 researchers



High Power Impulse Magnetron Sputtering Research Group

- First joint UK/Fraunhofer Centre
- Partnerships with major German and UK global companies
- Extensive patent portfolio



HIPIMS Research Group – 20 years old

- University investment in the best equipment and infrastructure
- Prestigious international quality publications and significant patent portfolio
- The group has raised major funding from EU, Government and Industry
- International leaders in the science and technology of HIPIMS and run the Global Conference on HIPIMS
- First joint UK / Fraunhofer Research Centre
- Major international industrial partners

Case Study 5:
Contextual understanding and implementation
*Contract from an SME to review a manufacturing
process in order to improve business efficiency*

- Business School identified ways to streamline the company's processes
- Engineering identified way to improve the manufacturing process

Consequences:

- Positive response from company and good PR for University ✓
- Income to the University and justification for government funds ✓
- Improved cost-effectiveness for the company ✓
- Staff redundancies so negative job creation ✗
- Company did not re-invest savings to grow company ✗
- Overall economic and societal impact – more ✗ than ✓

Concluding Remarks

Distorting impact

- Increase in 'impression management' by institutions.
 - PR and marketing require 'good' news stories as opposed to stories about strong impact
 - Proof by example of good impact rather than a comprehensive overall assessment of impact
- Over-reliance on surveys and subjective assessment
- Reticence about using rigorous quantitative indicators
- Focus on 'academic impact'
 - Profile on academic social media sites
 - Commercial internet sites set up to 'increase impact'

Impact – General

- Impact can take a long time to become apparent
- Impact is not static – it continues to change with time
- Impact is not always positive – also it can move from positive to negative
- The narrative and presentation of impact has become an industry and may distort actual impact

Impact – Measurement

- Measurement of impact needs to be prospective not retrospective
- Parameters of impact should be determined prospectively to enable measurement and the creation of evidence
- Impact needs to be evidenced, often quantitatively - this may require some cultural adjustment in some academic areas
- Impact requires external independent validation - this often needs to be sought out

Impact – Resource Implications

- The measurement of impact is time consuming
- The accurate measurement of impact is expensive
- Funding is generally not available to demonstrate or measure impact - if it is, too much is expected for too little funding
- The production of evidence to demonstrate impact needs funding to find it and measure it properly
- Everyone thinks its everyone else's responsibility to fund the cost of impact assessment

Impact - Planning

- Choose research problems that *a priori* you expect to have an impact - potential impact could influence an early research strategy
- Impact should be part of the plan

Scenarios

Scenario 1. Impact of an organisation with a high profile focus

- A new Institution for the Natural Environment has been created. Its mission encompasses teaching, research and innovation and it wishes that each of these areas should have a demonstrable impact.
- Your role is to recommend the strategic and operational imperatives for this new organisation, if it is to deliver an impact agenda.
- You may wish to focus on a selected area of the Natural Environment to act as an exemplar (eg sustainable land use, aquaculture, agricultural economics, etc).
- As this is a new organisation there will not be a need to change existing cultures and processes, but staff expectations may need to be addressed.
- You may wish to offer suggestions as to priorities for the evolution of the impact agenda.

Scenario 2. Impact from high quality research

- A department in a STEM subject in a research intensive organisation must identify how it should demonstrate that its research is having an impact, and should also indicate the magnitude of that impact.
- Your role is to recommend the organisational processes and practical changes that need to be put in place to obtain results over a three-year period.
- You may wish to focus on a selected STEM subject area to act as an exemplar (eg engineering, medical school, physics etc)
- What performance indicators would you propose to identify and measure impact?
- What internal changes will need to be made and what change management processes would you recommend?

Scenario 3. Impact from an organisation with a strong external focus

- An existing organisation has self-classified itself as 'entrepreneurial' or 'innovative', and it intends to be widely engaged with external organisations in the private and public sectors.
- Your role is to recommend the organisational processes and practical changes that need to be put in place to achieve this over a three-year period.
- Your recommendations should concentrate on impact which occurs as a consequence of (i) students and education and (ii) innovation and specialty expertise.
- Careful consideration will need to be given to the relationship with external organisations.
- How will impact be recognised, given the role that external organisations may have, and how will you recognise high quality impact activity?

Scenario 4. The consequence that a focus on impact has on internal organisational processes and structures.

- A large general University has a council/governing body which has decided that there should be a greater focus on impact across the organisation.
- Your role is to recommend the internal support department organisational processes and changes that need to be put in place to achieve this over a three-year period.
- You will need to assume that certain activity will be devolved to specialist academic departments; what can be devolved and what can be centrally managed?
- What might the financial consequences be? Can this be done on a cost-neutral basis or will there be a need for investment? If the later would might be the basis for a business case?
- You may wish to offer suggestions as to priorities for the evolution of the impact agenda



Contact details:
Professor Mike Smith
Prof MASmith@gmail.com
m.a.smith@harperkeeley.com
www.harperkeeley.com

Extra Slides to support Q&A

Impact Indicators

Impact Indicators

- Consider whether you wish to just measure research based University activity just from research
- Use accessible data
- Use verifiable data
- Start by measuring some aspect of impact using the easier parameters
- Ideally indicators should be measured prospectively

Lead Indicators and Qualifiers

Basic lead indicators reflect the opportunity to create impact

Example: Number of patents

Qualifiers for the lead indicators will reflect impact

Example: Size of patent portfolio (*income from licences and sales of patents per annum*)

Surrogate Indicators (4)

- Some data relevant to impact are difficult to acquire and are not verifiable (eg job creation)
- Use an accessible and verifiable indicator that is a suitable surrogate for this parameter

Impact Indicator and Surrogate Indicator

The basic lead indicator which reflects the opportunity to create impact

Example: Number of start up companies

Qualifiers for the lead indicator will reflect impact and be a surrogate for new jobs

Example: Number of start-up companies (*with a financial turnover of more than €100k per annum*)

Health Sector Specific Impact Parameters:

Sector Specific Impact Parameters – Health

High Level – Examples

- Epidemiologically adjusted Mortality Rates
- QALYs (Quality Adjusted Life Years)
- Human Development Parameters (IQ etc)
- Clinical Effectiveness (this has a specific definition in medicine and health)
- Economic Cost Effectiveness
- Change in national policy

All supported by high quality evidence

Sector Specific Impact Parameters – Health

Intermediate Level – Examples

- Clinical Efficacy (this has a specific definition in medicine and health)
- Measurable change in clinical practice (and its magnitude)
- Survival rates
- Patient response and reaction (eg reduced discomfort/stress)
- Cost reduction
- Change in local/regional policy

All should be quantifiable and verifiable

Sector Specific Impact Parameters – Health

Preliminary Level – Examples

- Potential clinical efficacy
- Potential change in clinical practice
- Preliminary changes in survival rates
- Preliminary patient response and reaction
- Predicted cost reduction
- Change in departmental/institutional policy

These measures of ‘impact’ are unlikely to be rigorously quantifiable or verifiable

David Budtz Pedersen

*Director, Humanomics Research Centre & Professor of Impact Studies,
Aalborg University Copenhagen, Denmark*



Mapping and Aligning Strategy for Impact

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

26 May 2021
AESIS – Vienna 25-28 May 2021



AALBORG UNIVERSITET

THE VELUX FOUNDATIONS
VILLUM FONDEN ✕ VELUX FONDEN

cost
EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY



David Budtz Pedersen

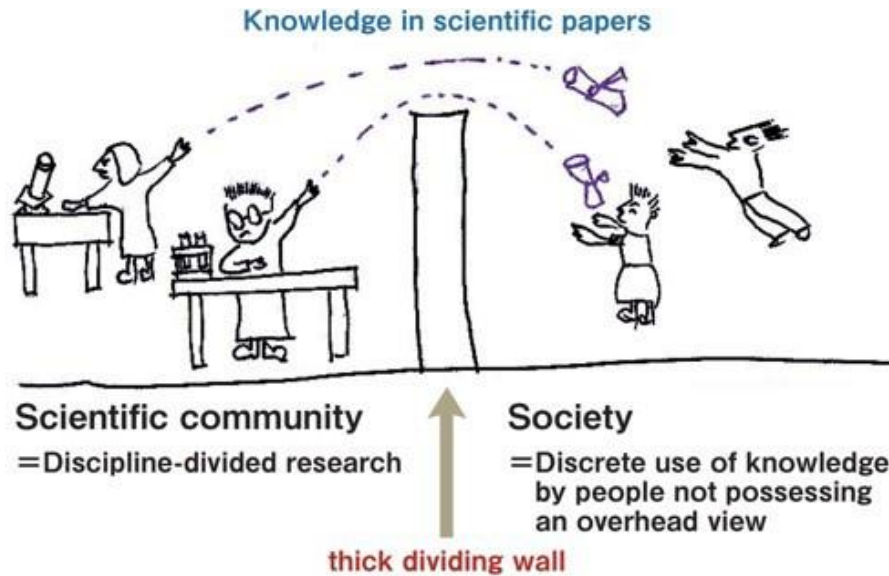
Professor of Science Communication

Aalborg University

Head of Humanomics Research Centre

Science Policy Adviser, Danish Government
Chair of EU COST Expert Group on Science Communication
Science Adviser on Algorithms, Data and Democracy (2021-2030)





“ The value of research is only realized with communication and translation of results into real-world settings.

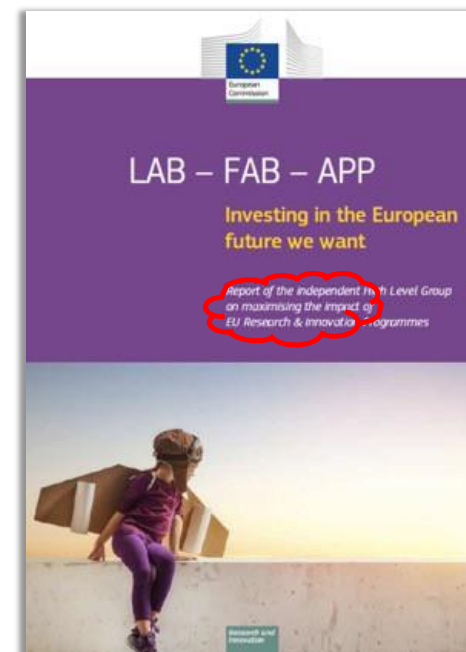
Without closing the loop, there is no beneficiary to all the tireless efforts put in by those dedicating their lives to the advancement of science.

Breanne Everett

agenda

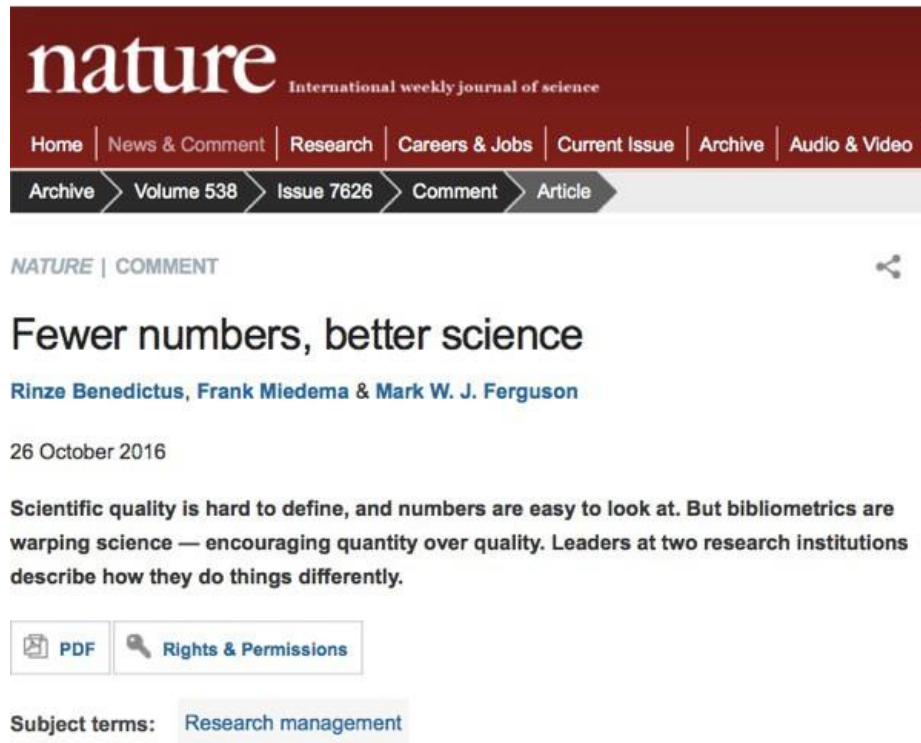
THE IMPACT LIFECYCLE

1. Impact planning and assessment
2. Partnerships for impact
3. Mission-driven research



... part of a broader change in the lifecycle of science

- Increasing dissatisfaction with current (closed) publication models
- Increasing public demands for Responsible **Open Science** & Innovation
- Increasing policy interest in mission- and challenge-driven research (SDGs)
- Increasing importance of research for future employment, competitiveness, growth, well-being and policy-making (“broader impact”)
- Increasing emphasis on reviewing merit & promotion criteria
- Increasing access to new digital tools and metrics that represent and track the dissemination and uptake of research (beyond bibliometrics)



The screenshot shows the top of a Nature journal article page. The header is dark red with the 'nature' logo in white. Below the logo is the text 'International weekly journal of science'. A navigation bar contains links: Home, News & Comment, Research, Careers & Jobs, Current Issue, Archive, and Audio & Video. Below this is a secondary navigation bar with links: Archive, Volume 538, Issue 7626, Comment, and Article. The article title 'Fewer numbers, better science' is prominently displayed, followed by the authors 'Rinze Benedictus, Frank Miedema & Mark W. J. Ferguson'. The date '26 October 2016' is shown. A short abstract follows: '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.' Below the abstract are buttons for 'PDF' and 'Rights & Permissions'. At the bottom, the 'Subject terms' are listed as 'Research management'.

nature International weekly journal of science

Home | News & Comment | Research | Careers & Jobs | Current Issue | Archive | Audio & Video

Archive > Volume 538 > Issue 7626 > Comment > Article



NATURE | COMMENT

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  Rights & Permissions

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”

“The evaluation gap is the phenomenon...
that the criteria in assessments do not
match the character or goals of the
research under evaluation or the role that
the researcher aims to play in society.”

Wouters 2014

The Impact Lifecycle



RE_{imp} sponsible
ACT

Four “I”s of Research Impact

1. **INVESTING IN IMPACT.** Alignment of mission statement and impact strategy (‘theory of change’) at university & funding agency level.
2. **INCENTIVES.** Without emphasis on incentives, recognition and rewards, most societal impact activities will not occur.
3. **INTERMEDIARIES.** Professional support and specialist skill-sets, training and needs to be cultivated and provided by knowledge brokers.
4. **INFRASTRUCTURE.** Reliable and responsible impact assessment depends on data about impact to learn from best practices and shape new strategies





Graham, K. & Budtz Pedersen, D. (2020)

Algorithms, Data & Democracy (ADD)



Open Call for 10 year funding programme

Mission-driven research: to foster closer links between democratic governance and research capacity in CS and SSH

SSH & STEM co-lead: obligatory

Build-in 'impact lifecycle' approach: Special research unit tasked with impact management

15 mill Euro / 100 mill DKK

Kick off: January 2021



When we think of digital technologies, we cannot disregard their social impact, with respect to the ethical values and principles that underpin our societies. If there is friction between these values and principles and technological innovation, the latter will not be adopted and it's also likely that this friction will lead to strict policies and regulation.

In turn, this can hinder innovation. Ethics, when embraced at the beginning of any design process, can help us to avoid this path, limit risk, and to make sure that we foster the 'right' innovation.

Mariarosaria Taddeo, Deputy Director of the
Oxford Internet Institute's Digital Ethics Lab

ADD Impact Lifecycle Approach

1. ADD mission-oriented research and innovation: create closer links between democratic governance and research capacity (STEM & SSH)
2. Mandatory to provide impact plan: should be straightforward and actionable, including stakeholder engagement and partnerships.
3. Steering Group will develop, implement and monitor “theory of change” and adjust research strategy to targeted impact
4. Special grant for **knowledge broker** and real-time impact assessment to continuously track and reshape research agenda

Governing the Impact Lifecycle

Graham, K. & Budtz Pedersen, D. (2020)



Develop competences and strategies for knowledge exchange and research implementation.



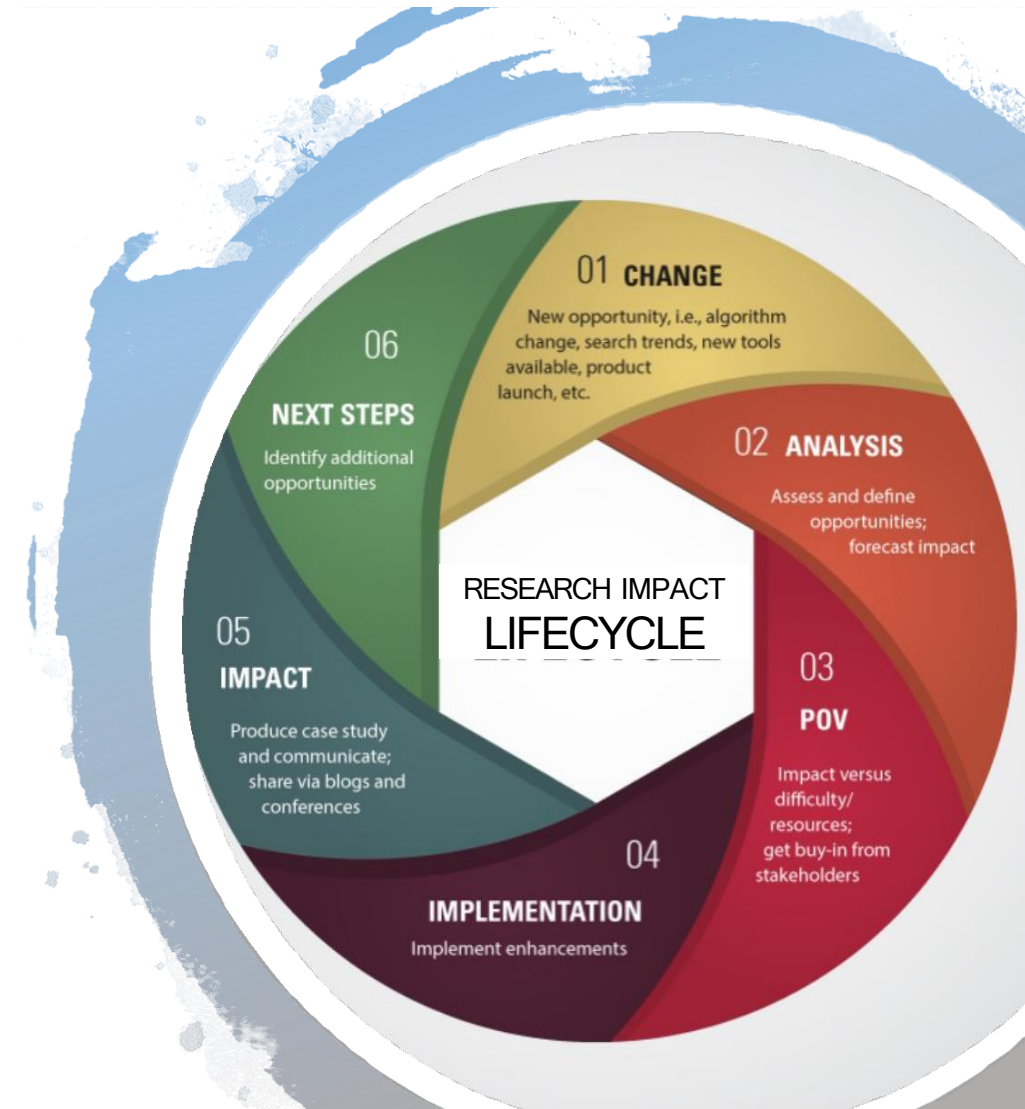
Facilitate exchange between researchers and key policy institutions (toolkits, policy guidelines etc.).



Build partnerships and alliances with practitioners, companies, policy-makers, professional bodies.



Define and implement indicators for impact assessment to continuously adjust research agenda.

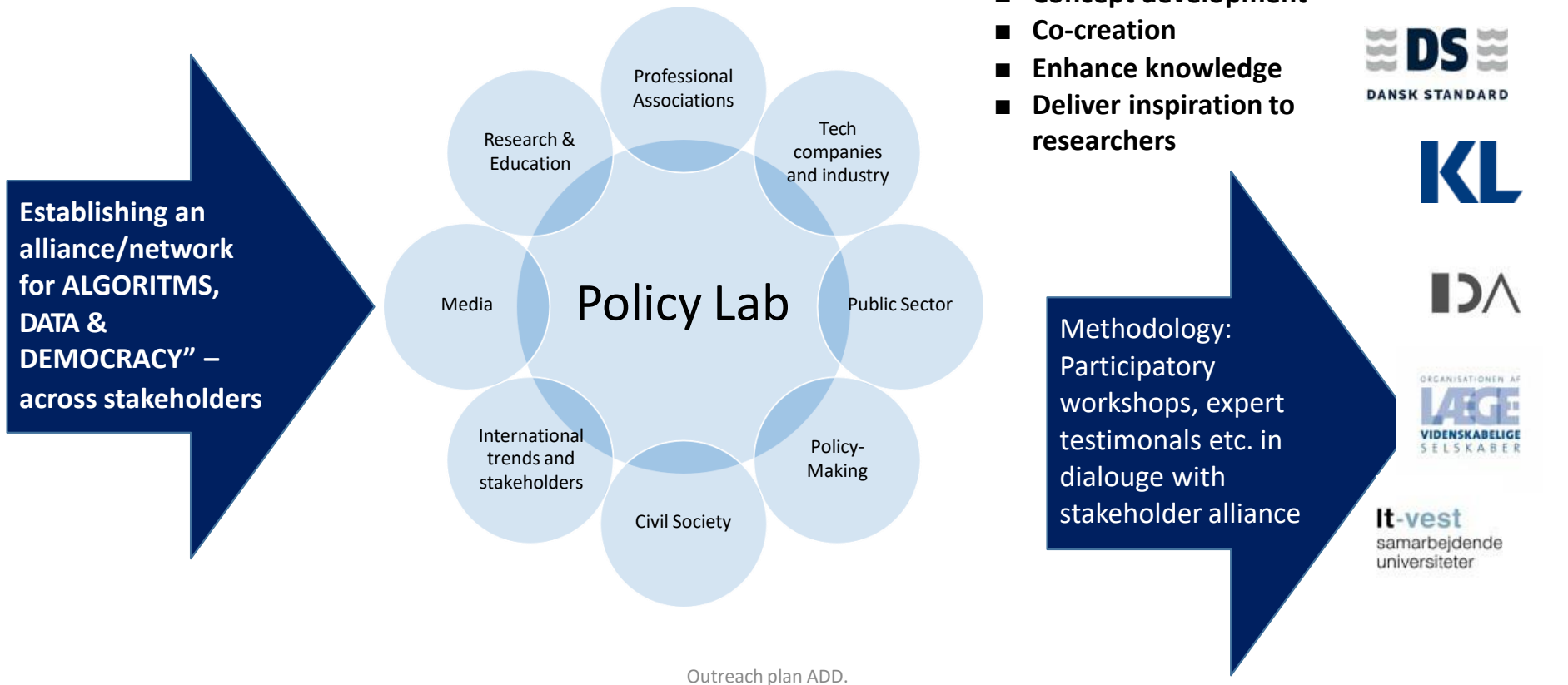


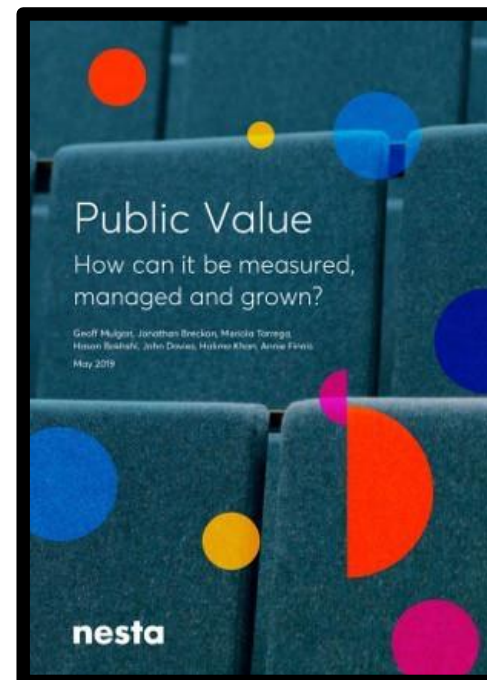
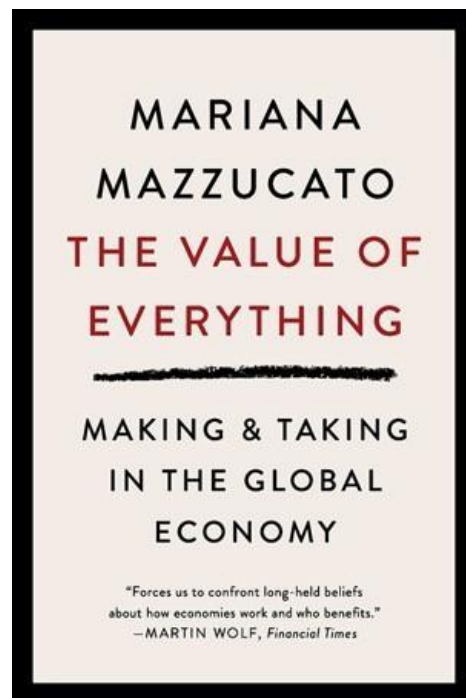
agenda

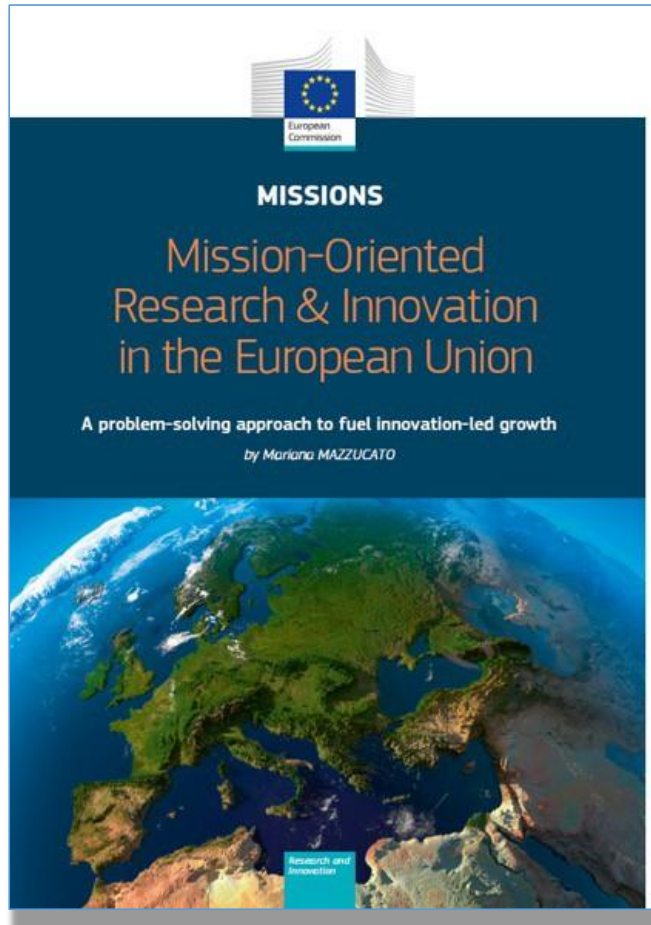
THE IMPACT LIFECYCLE

1. Impact planning and assessment
2. Partnerships for impact
3. Mission-driven research

'Policy Lab'

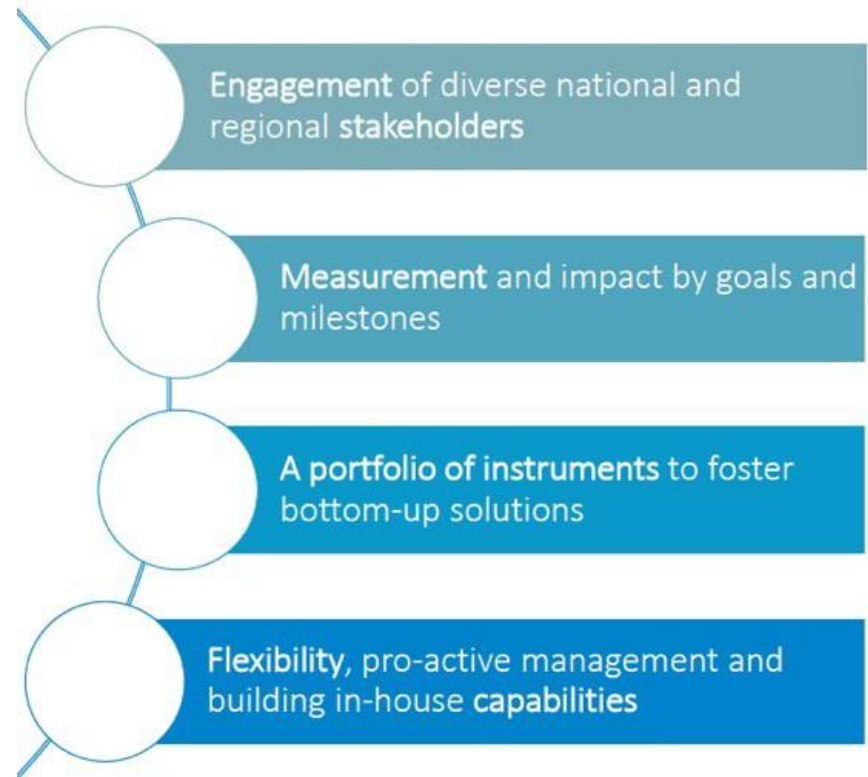
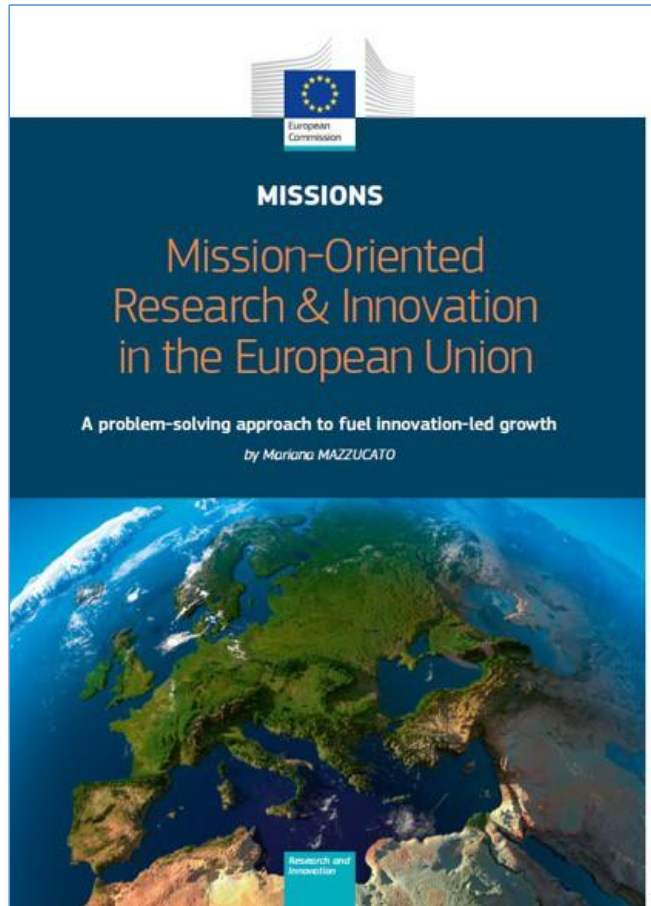






“Missions around societal challenges are more complex than going to the moon and must be **open, bottom up, flexible, adaptable and engage with citizens** from the beginning”

Mariana Mazzucato 04.03.2018



—

The Apollo Program
goal for the 1960s of
"landing a man on the
Moon and returning
him safely to the Earth"
within 10 years





“European research and innovation missions sits between broad challenges and concrete projects. Missions set clear and ambitious objectives that can only be achieved by a portfolio of research and innovation projects and supportive measures.” (Mazzucato 2018)



Political Agenda
Setting and
Civic Engagement



Clear
Targeted
Missions

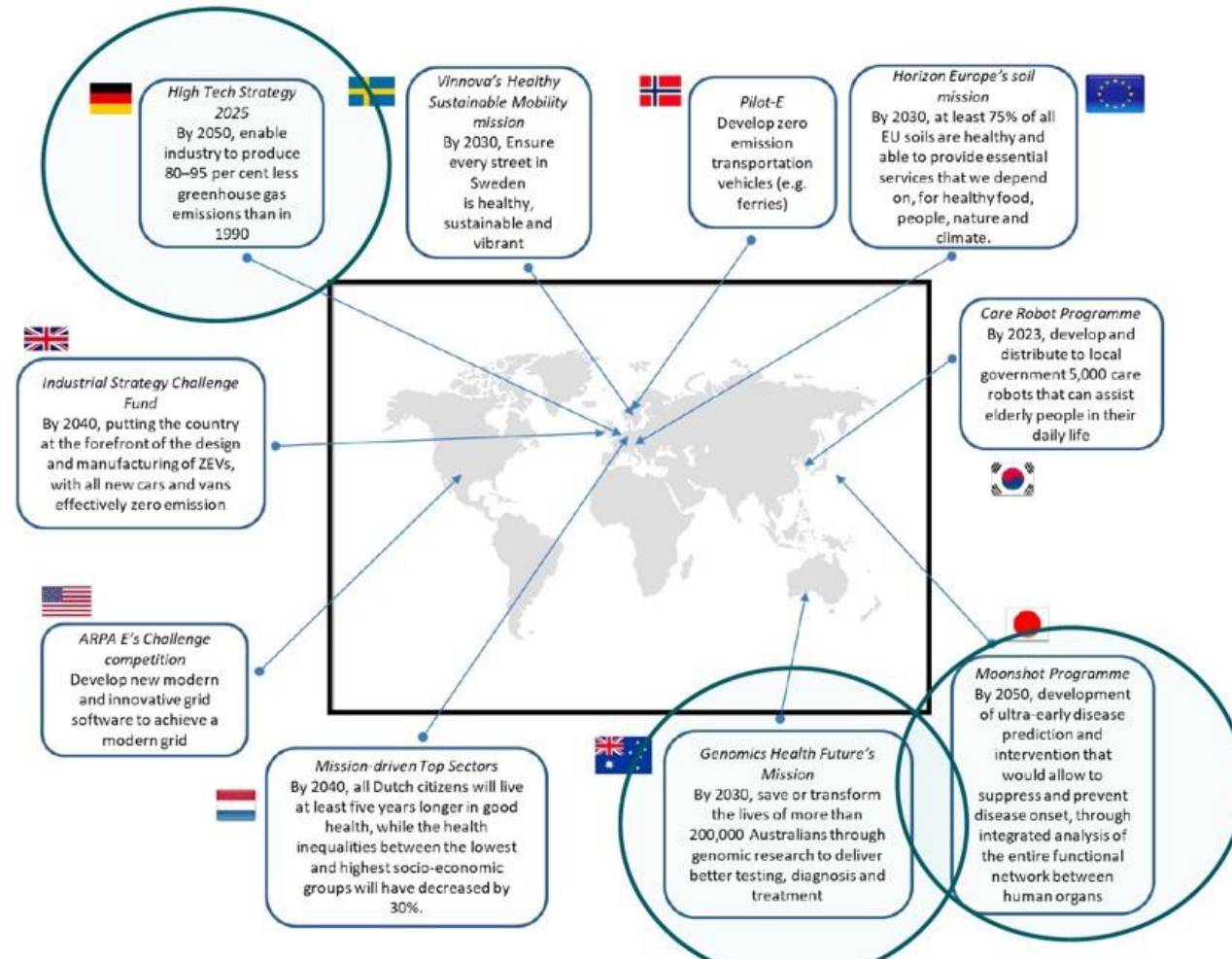


Portfolio of
projects and
bottom-up
experimentation



AALBORG UNIVERSITY
DENMARK

Missions that call on science ...



Missions
(Where to go?)

Design
(How to get there?)



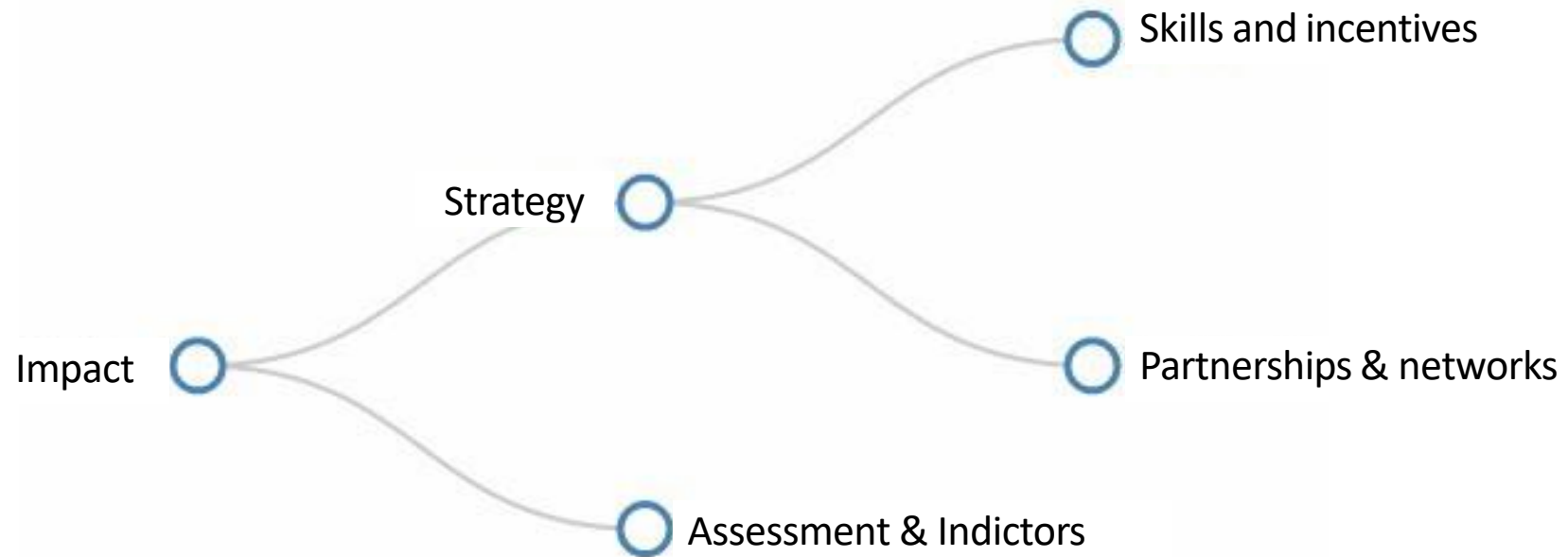
AALBORG UNIVERSITY

Missions and design: key characteristics

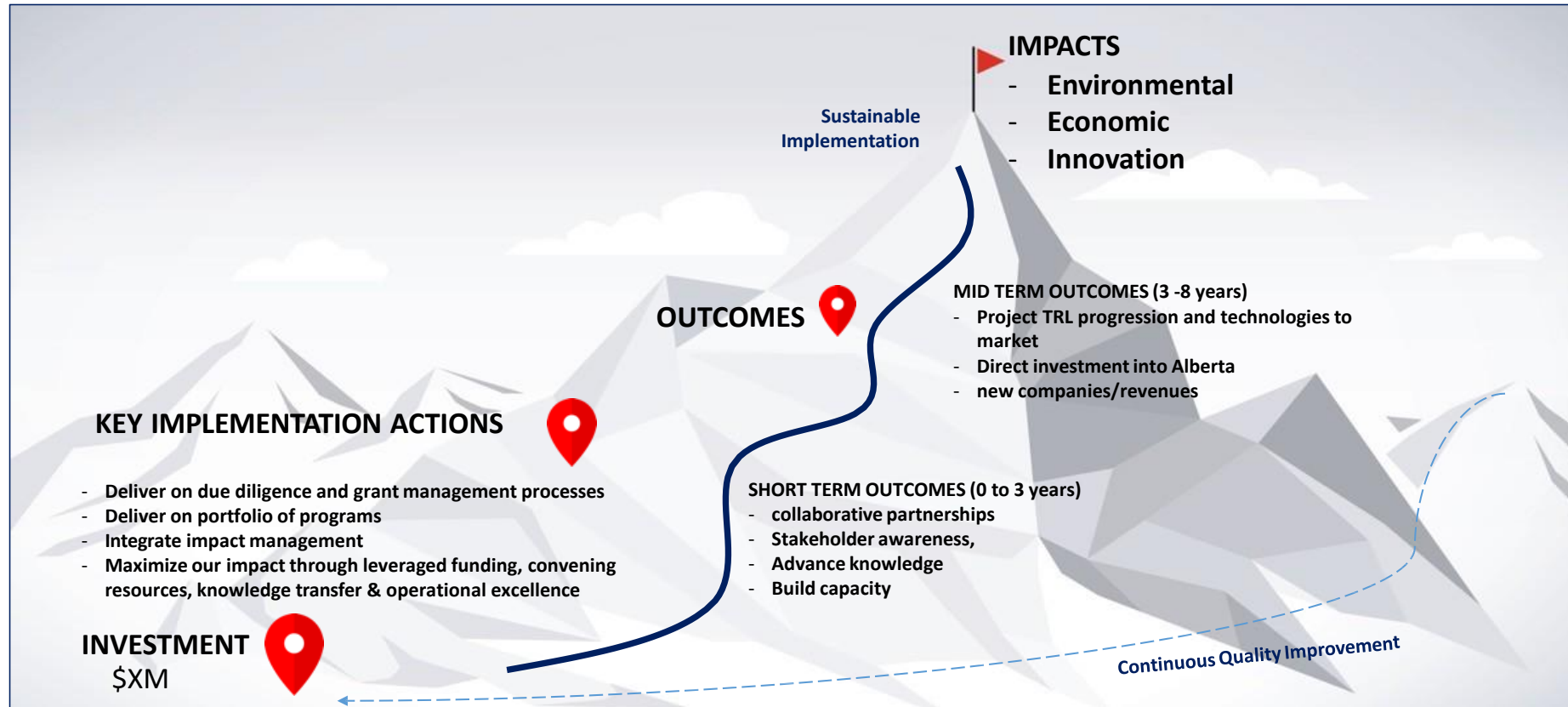


	Missions (where to go?)	Design (how to get there?)
Intervention logic	outcome-based, goal-setting, framing, linear, top-down	human-centred, iterative, bottom-up explorative
Bodies of knowledge	economics, political science, natural, technical and health science	design, humanities, arts, crafts
Key actors	policy-makers, system entities, academia, enterprise	people, citizens, users, employed
Key assumptions	tangible long-term objectives, and measures of impact against them	solutions emerge from co-creations, processes of sense-making at individual and community level
Values	system change, market shaping, public value (economic, social, environmental)	new interactions and interventions human value meaning and sense

Pathways to impact



Starting With the End in Mind



Developing an impact strategy

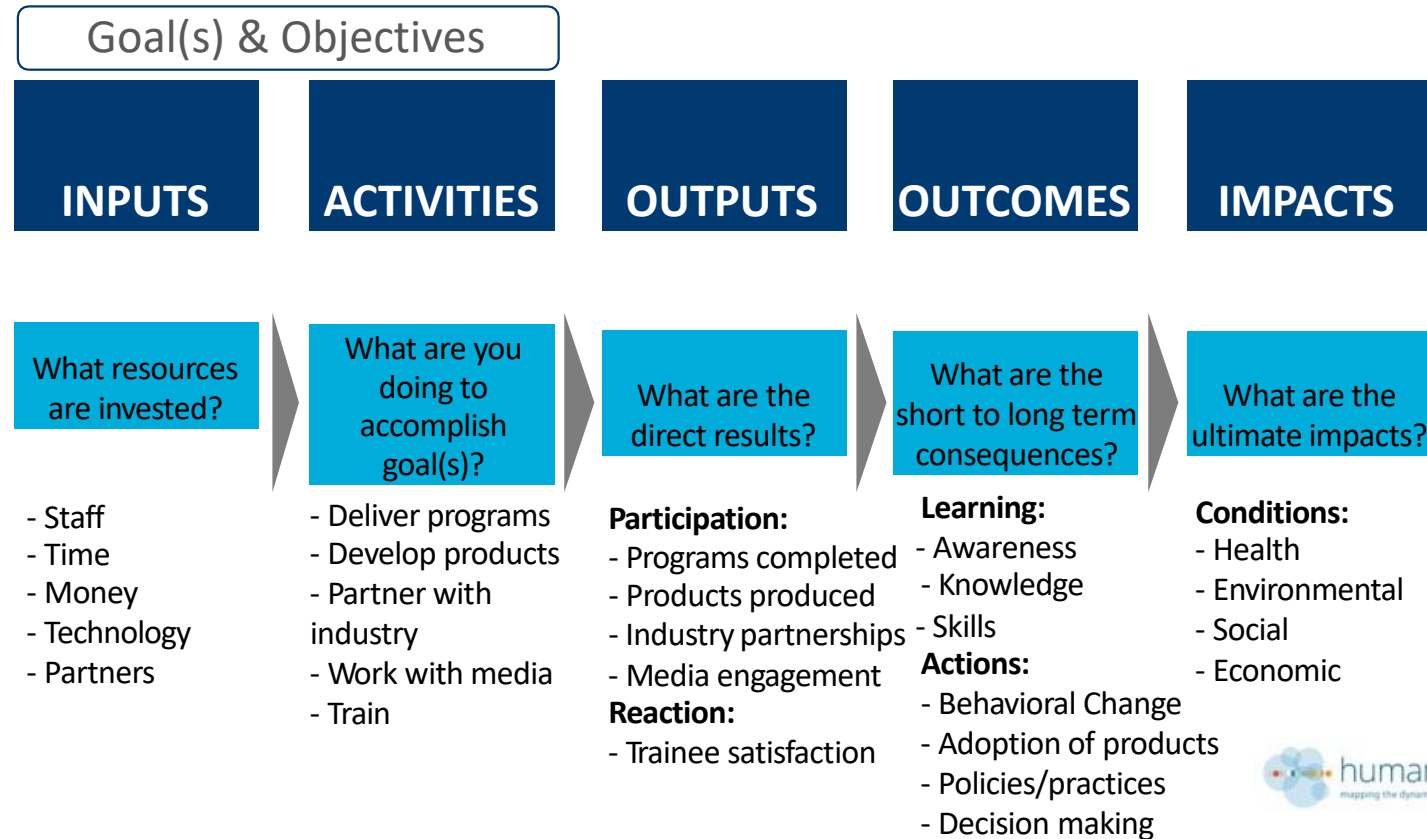
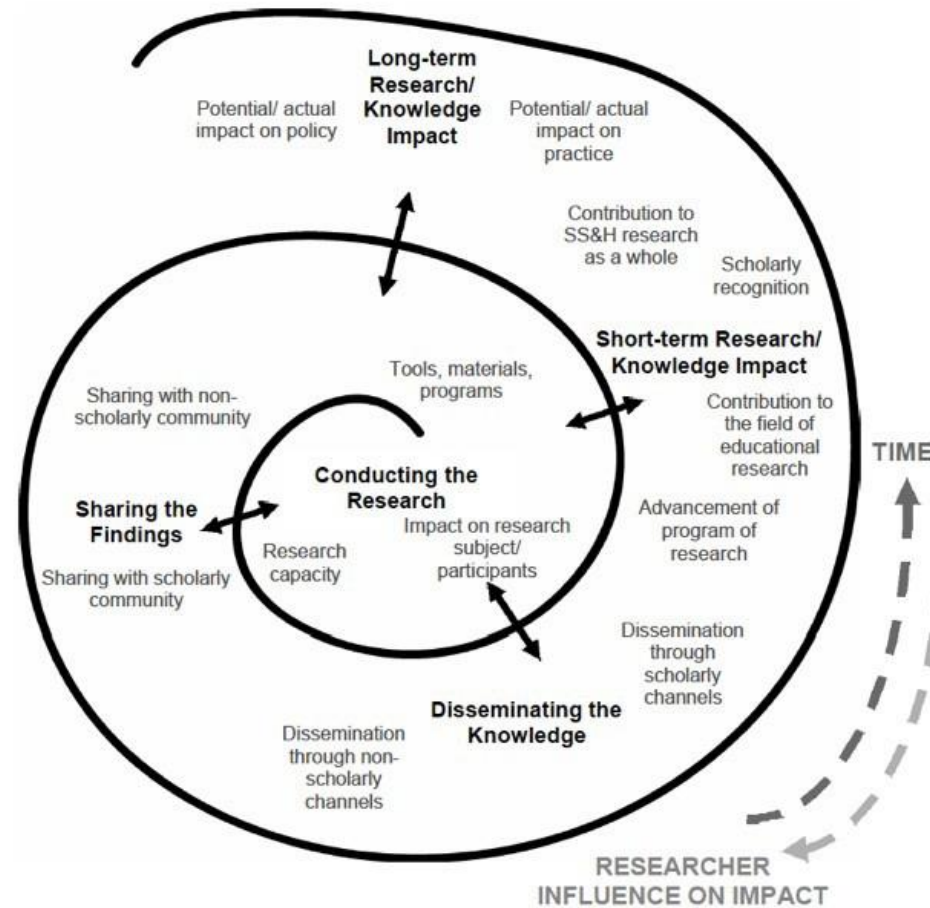


Figure 1
Conceptual Framework of Research Impact in the Field of Education



Amo, C. 2007. Conceptualizing research impact: the case of education research.
 The Canadian Journal of Program Evaluation 22(1):75-98

Key messages

- Developing an impact lifecycle strategy requires:
 1. Holistic design and implementation
 2. Align research mission & strategy with impact indicators
 3. Co-design metrics with stakeholders ('theory of change')
 4. Continuous follow-up and real-time impact assessment
 5. Learning not evaluation (impact is a moving target)

Group discussion 20 minutes

How to make sure all steps along the impact life cycle are aligned (impact planning, implementation, assessment?)

Are mission- and partnership approaches to research and innovation helpful to generate impact (barriers vs. enablers)?

Thank you for the attention

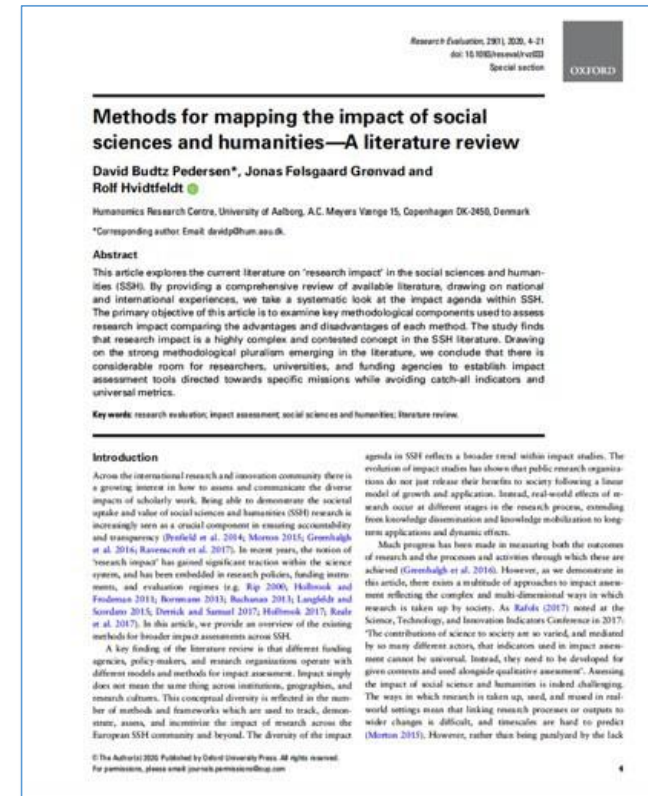
David Budtz Pedersen: davidp@hum.aau.dk

Twitter: @HumanomicsMap

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

Supported by

VELUX FONDEN



Antonia Caro Gonzalez

Head of International Research Project Office, University of Deusto, Spain

STRENGTHENING OUR INTERNAL INFRASTRUCTURE

The 6i Strategy

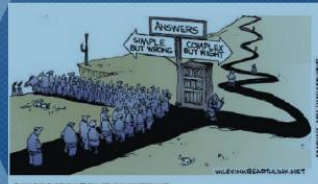
Inclusion of Impact Strategies in Research
Design to Support Researchers

Toni Caro – University of Deusto

Inclusion of Impact Strategies in Research Design to Support Researchers

Why?

IMPERATIVE NEED FOR
DEMOCRATISING INNOVATION
&
BRIDGING THE DEEP HORIZONTAL
AND VERTICAL DIVIDES



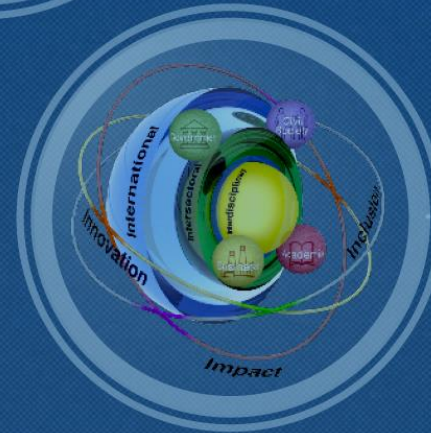
What?

FOR ADDRESSING COMPLEX SOCIETAL
CHALLENGES THERE ARE NOT MAGIC
RECIPES



How?

DESIGNING IMPACT RESEARCH
STRATEGIES THROUGH
SYSTEMIC COLLABORATIVE
APPROACHES

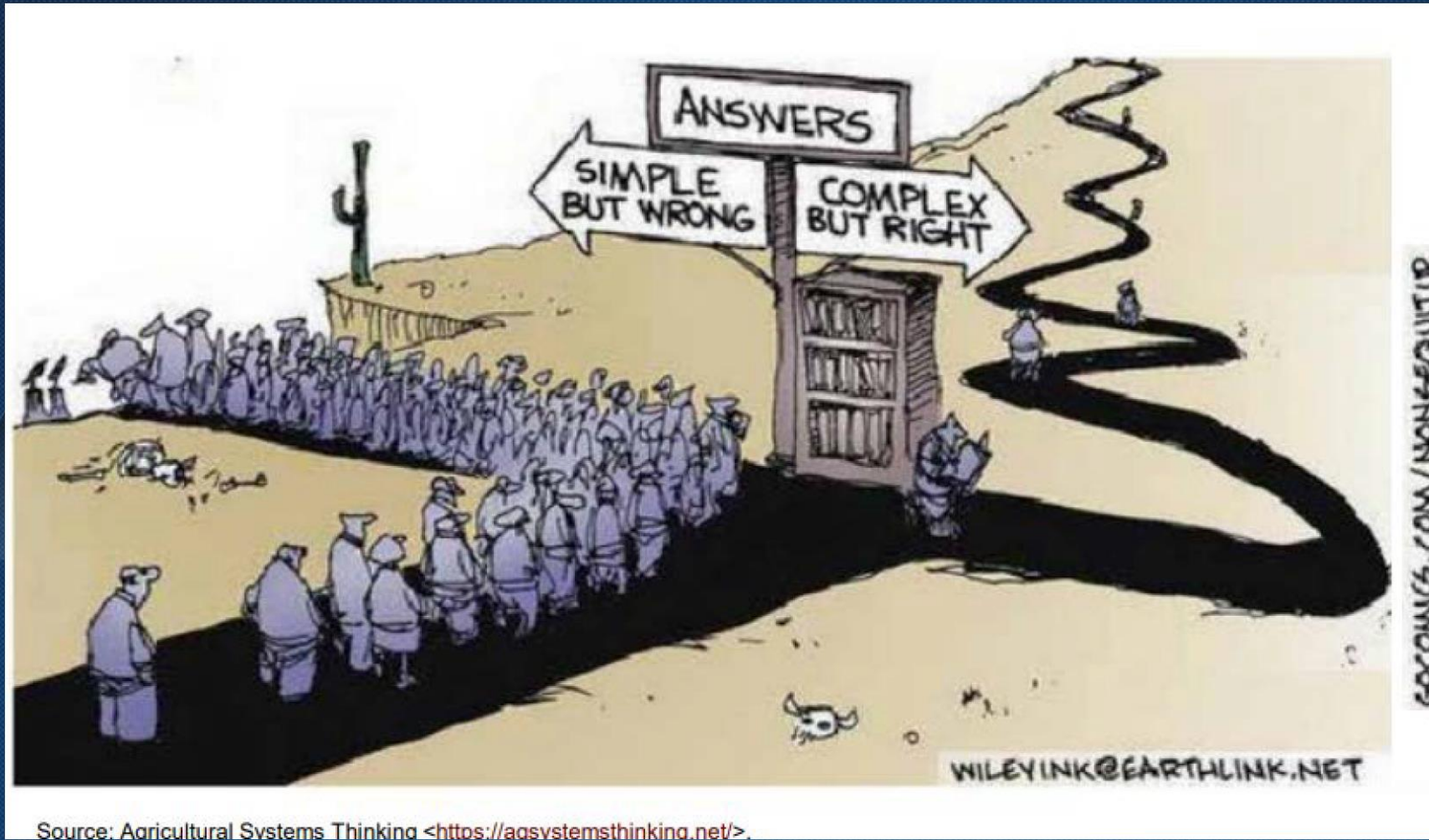


NO MAGIC TRICKS

WHAT?



WHY?

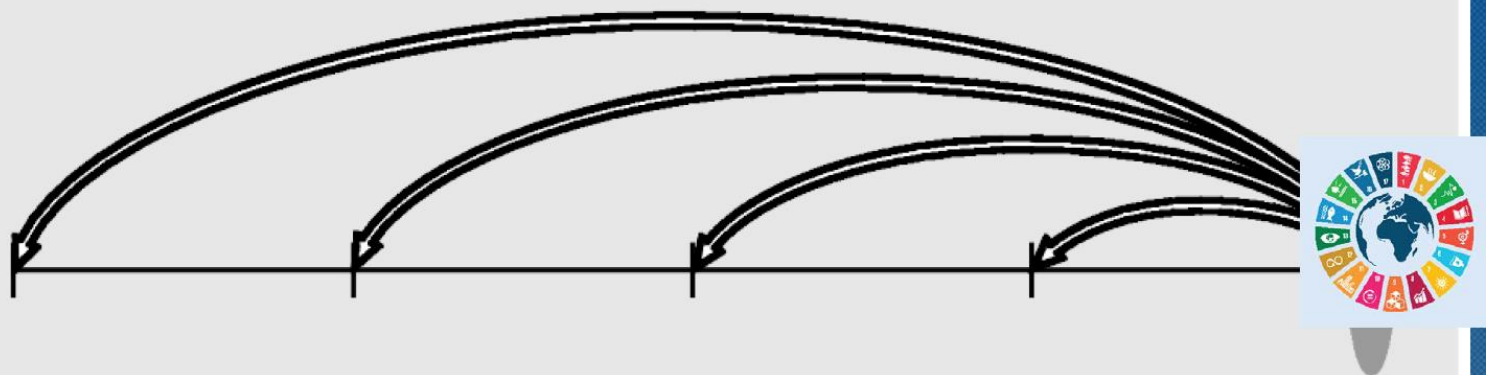


Source: Agricultural Systems Thinking <<https://aagssystemsthinking.net/>>.

Figure 7 Short-term versus long-term policy



Current policy: Flow-orientated and gradual



Transition management: backcasting and then forwards again

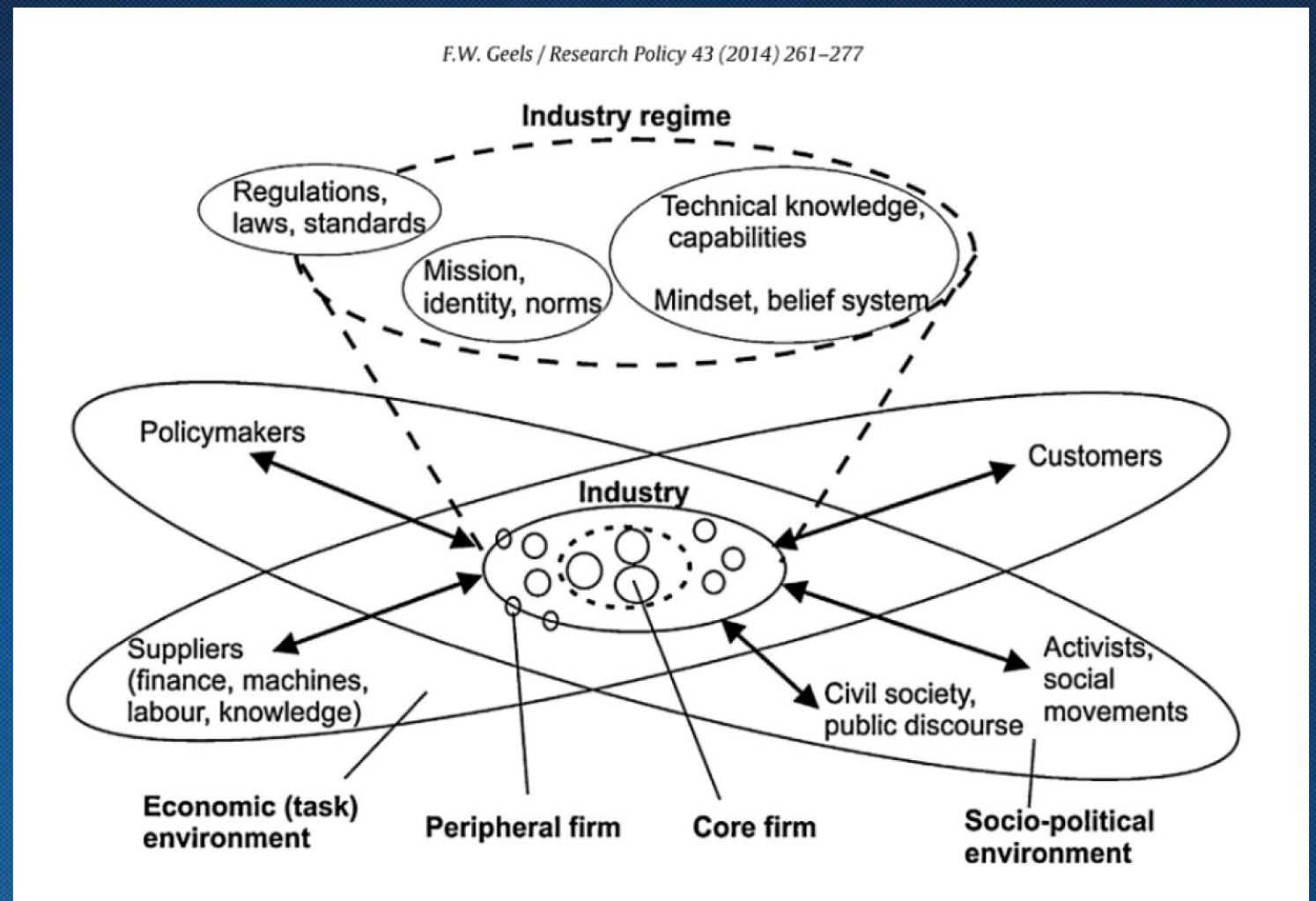
HOW?

WORKING FROM
A LONG TERM &
SHARED VISION

Courageous goal-aligned alternatives, and a shift to new (yet ancient) principles of eco-centric rather than ego-centric behaviour.

HOW?

THROUGH
SYSTEMIC
COLLABORATIVE
APPROACHES

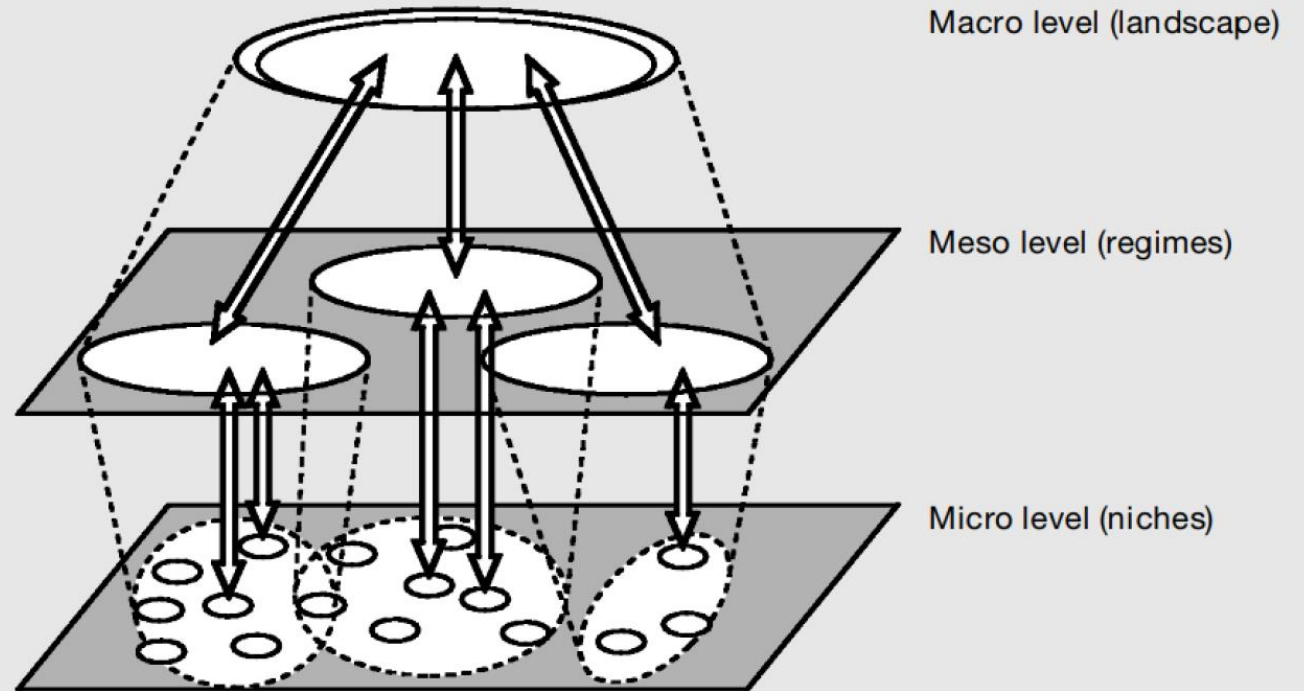


The adoption of 'a complex system mindset' to build up dynamic, context sensitive and holistic approaches

HOW?

BRIDGING THE DEEP
HORIZONTAL AND
VERTICAL DIVIDES

Figure 6 Multi-level perspective



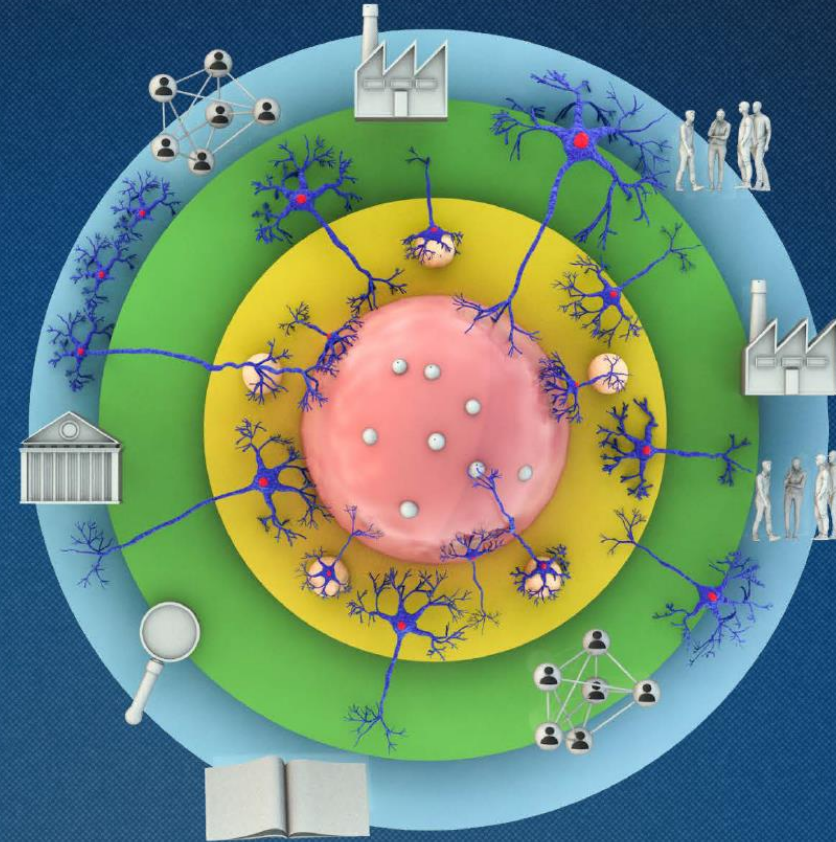
Source: Geels and Kemp.³

Active shared responsive, responsible engagement vs hierarchy as alternative governance and distribution models

HOW?

- Institutional
- Interdisciplinary
- Intersectoral
- International

TRANSITING FROM TRIPLE...
TO N-HELIX COLLABORATIONS



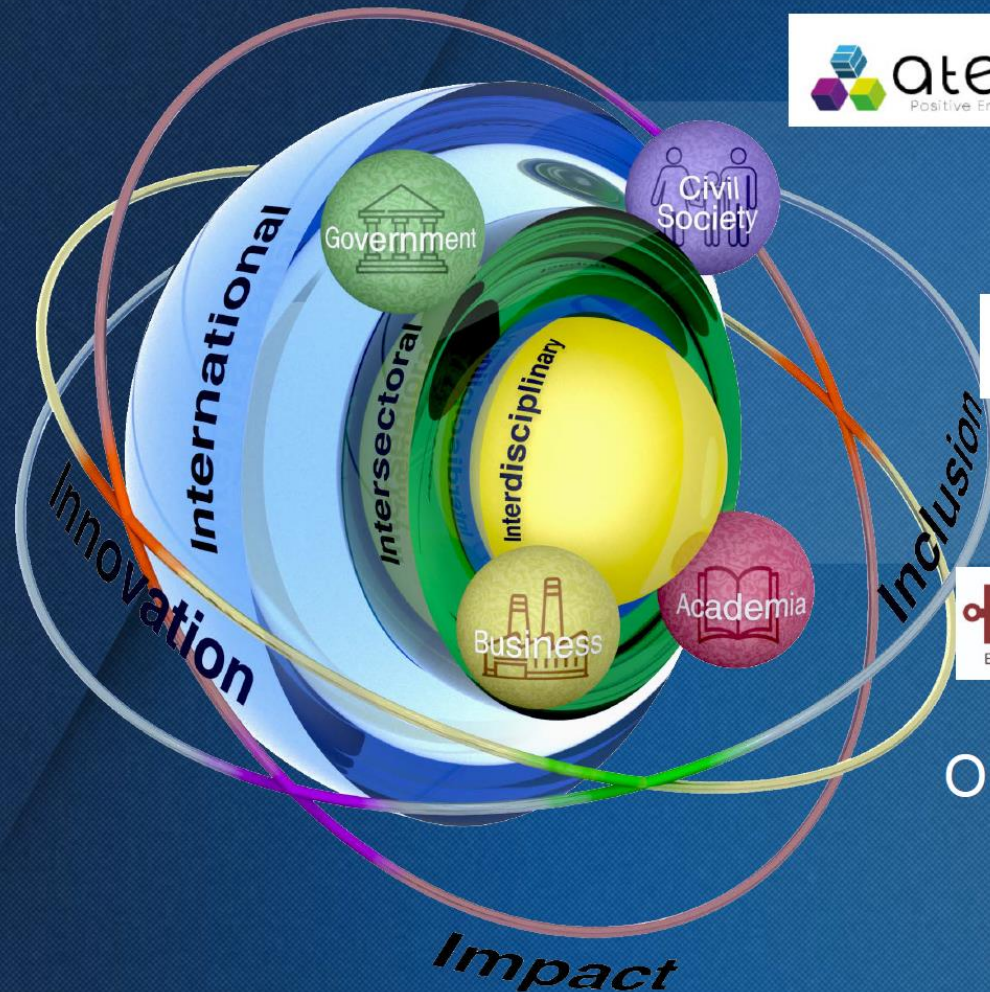
- Citizens
- Network
- Industry
- Public Administration
- Academia
- Research Centres

Igniting the transformative capacity of all forms of collaboration (international, interdisciplinary, intersectoral, intergenerational)

THE 6i STRATEGY: How does it work?

The music machine

The music



Our marbles



But good music!





Deusto

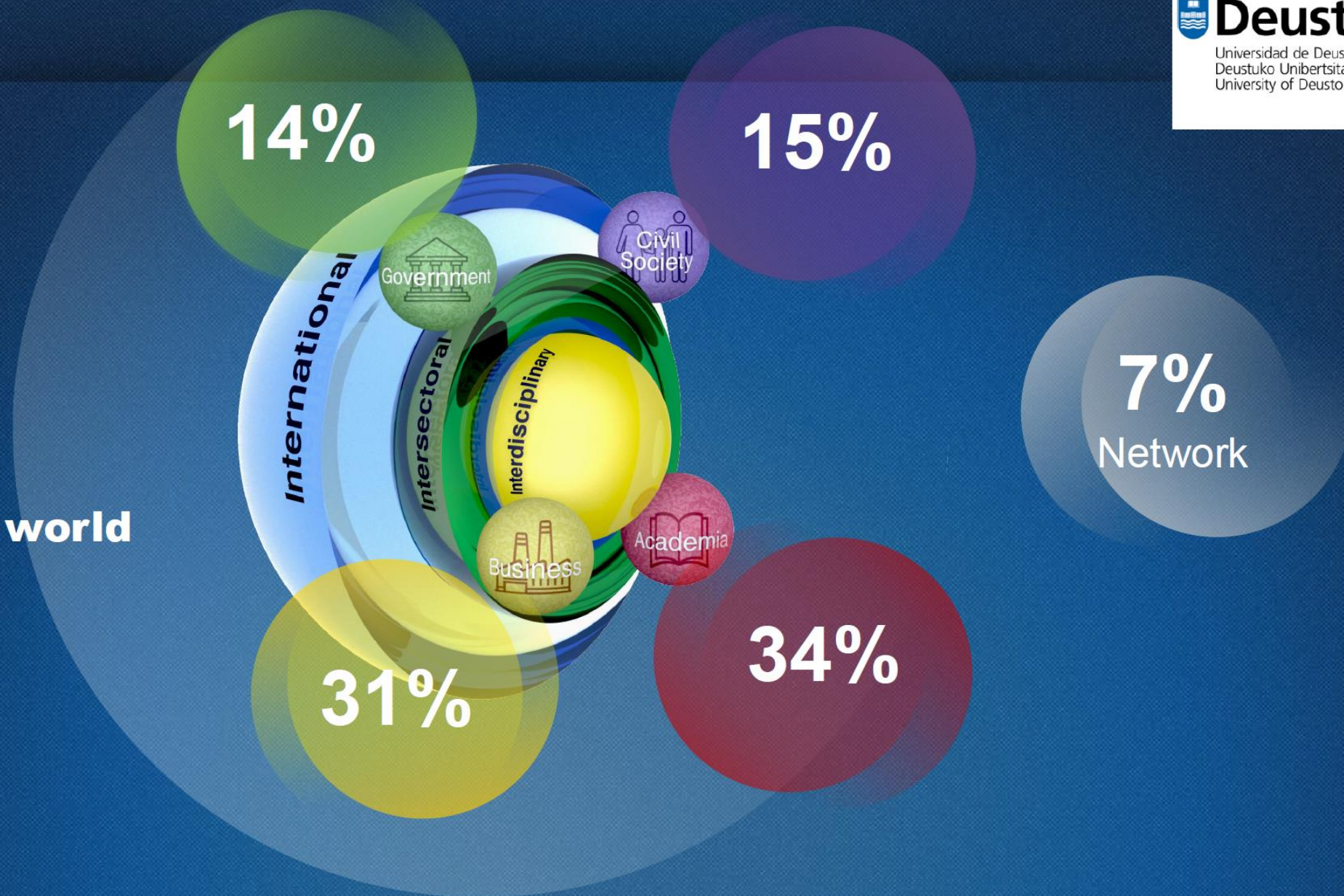
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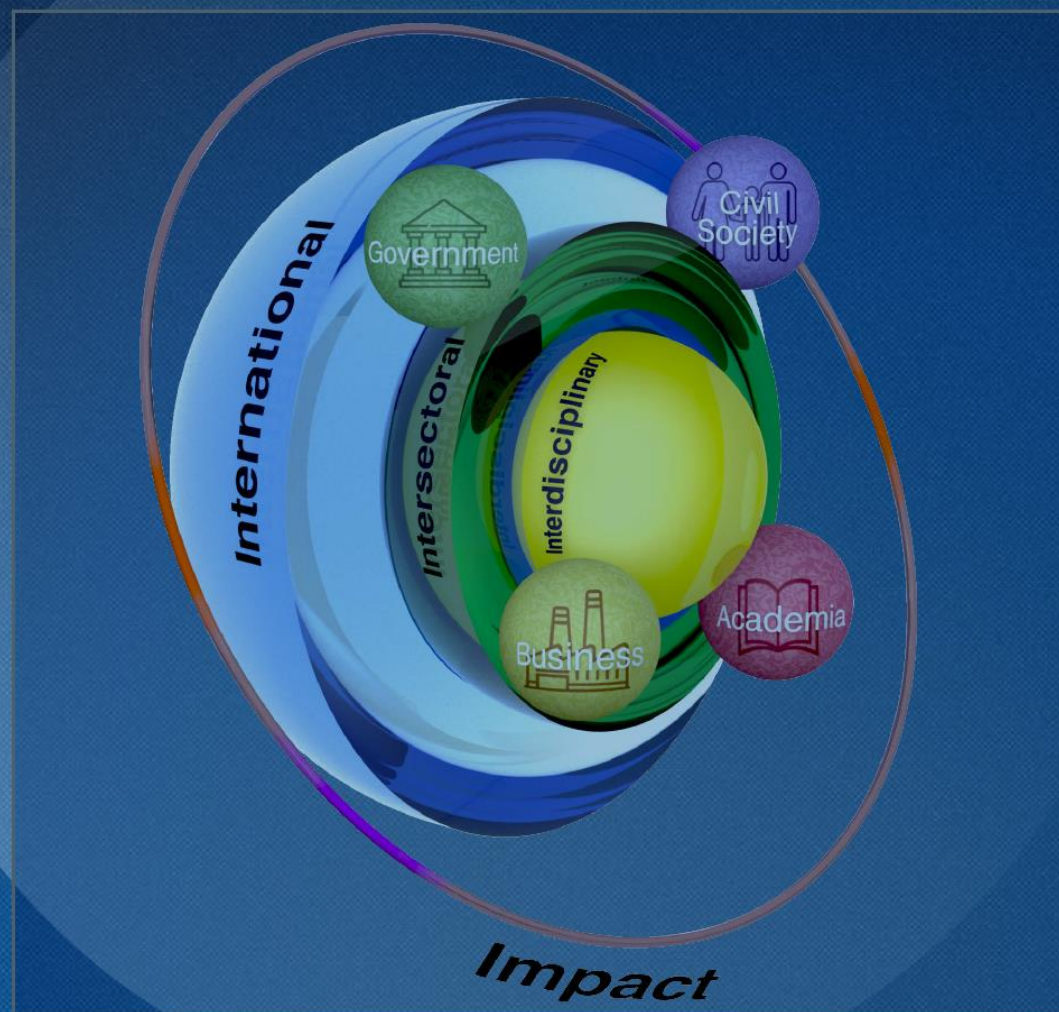
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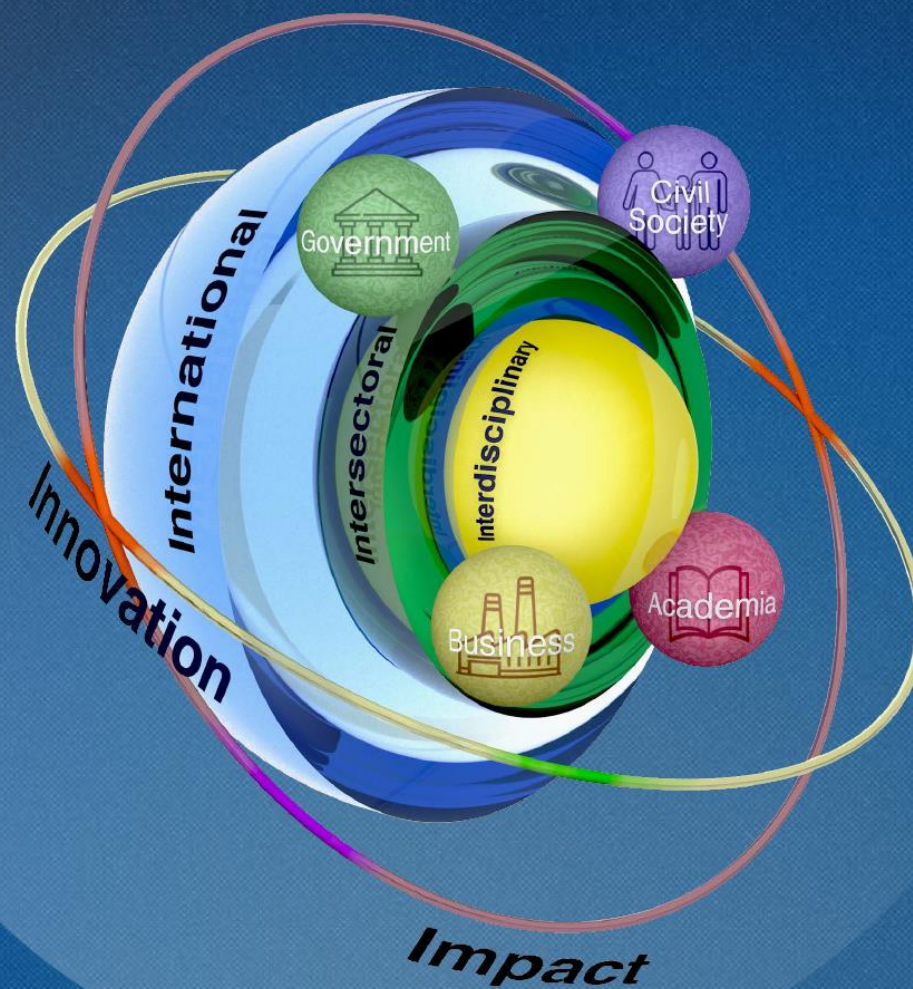
interdisciplinary platforms

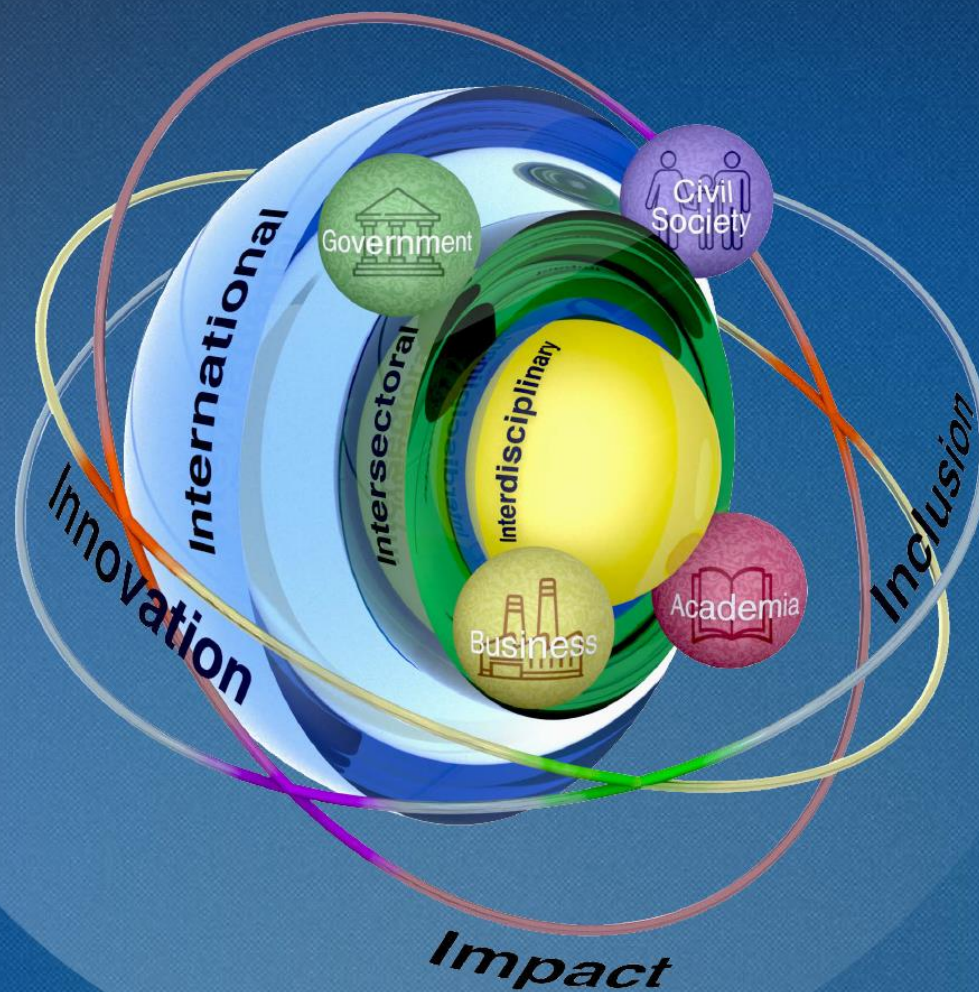


Over
1250
organisations
from all over the world









The design, creation, activation, and sustainment of Research
Impact Strategies to Support Researchers
has never been more important
TO HUMANITY, TO LIFE, TO THIS PLANET.

Thank you!



Toni Caro

- profile -

PhD in International and Intercultural Studies (UDEUSTO, ES)

Director of the International Research Project Office (UDEUSTO, ES)

Ideator, leader and co-developer of the 6i strategy and model - professional & personal passion

European Commission (Horizon 2020, COSME) - Evaluation Expert

Elected member of the Board of Directors for the Covenant on Demographic Change - Voluntary

Member of the Board of Directors of the European School of Social Innovation - Voluntary

Member of the GaragErasmus Ethics, Disciplinary and Private Relations Committee - Voluntary

Appointed full member of the Managing Committee of the Cost Action “International Interdisciplinary Network on Smart Healthy Age-friendly Environments” (NET4AGE-FRIENDLY)

EUvsVirus Scientific framer - Academia and R&D – Voluntary

Research Advisor for the NGO-Education for and Interdependent World - Voluntary



#EUvsVirus
community



**Towards
an Age-Friendly
Europe**
Covenant on Demographic Change



garagERASMUS
Foundation



ESSI European School of
Social Innovation



POSITION PAPER
Towards Social Innovation Ecosystems:
From linear pairwise forms of interaction to common purpose-driven
networks for shared prosperity
CARO-GONZÁLEZ, A., GERRA, A., GONZÁLEZ, L., et al.
Coordinated by Antonio CARO-GONZÁLEZ, Deusto Advanced Research Center, University of
Deusto; and Aránzazu GERRA, Iker, The Internet Research and Innovation Centre of Catalonia /
Contributors and signing parties: A. ALBERCA, J. COLBRANS, M. ENCISO, P. EYRAS, L.
GONZÁLEZ, A. FIDEL, B. GILDOVIC, D. HERNÁNDEZ, A. MEDINA, J. M. PÉREZ, J. POPOV,
B. VIKARI, J. SHALAPIN
February 2020

INTRODUCTION
This paper contributes to a Strategic Research and Innovation Agenda for Social
Innovation Ecosystems in Europe. It is the result of a shared reflection about the nature,
characteristics and evolution of social innovation ecosystems as an emerging
phenomenon. It presents the main messages resulting from the round table panel on
Ecosystems of Social Innovation that took place in Dortmund in October 2019 at the 8th
Global Phenomena Conference: Social Innovation and Socio-Digital Transformation
organised by the European School of Social Innovation (ESSI).

AESIS
NETWORK FOR
ADVANCING & EVALUATING THE SOCIETAL IMPACT OF SCIENCE

End of Day 1

Thank you