



## Parallel Session

# Methods to support challenge-driven research funding



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**Frank Zwetsloot (Chair)**

CEO, ScienceWorks & Strengthening & Transferring

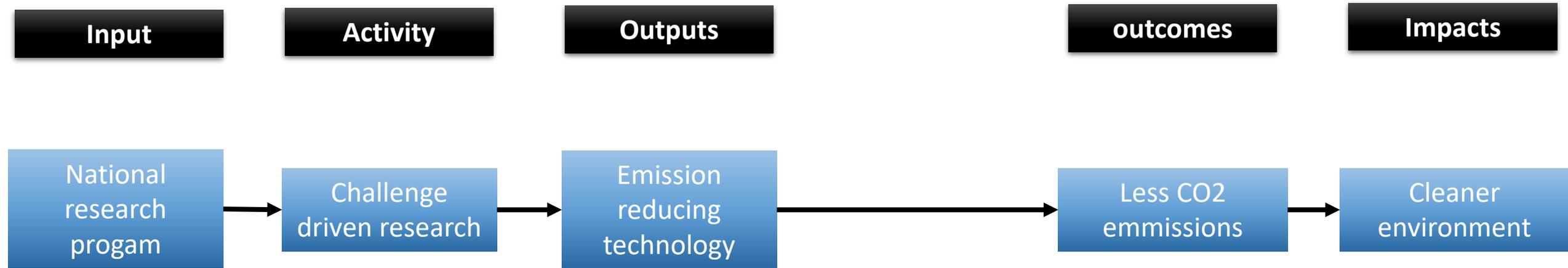
Evidence for Policies & Politics Society, The Netherlands

# Challenge driven research funding: Theories of change & impact in different disciplines

*Frank Zwetsloot, ScienceWorks  
June 19, 2023*

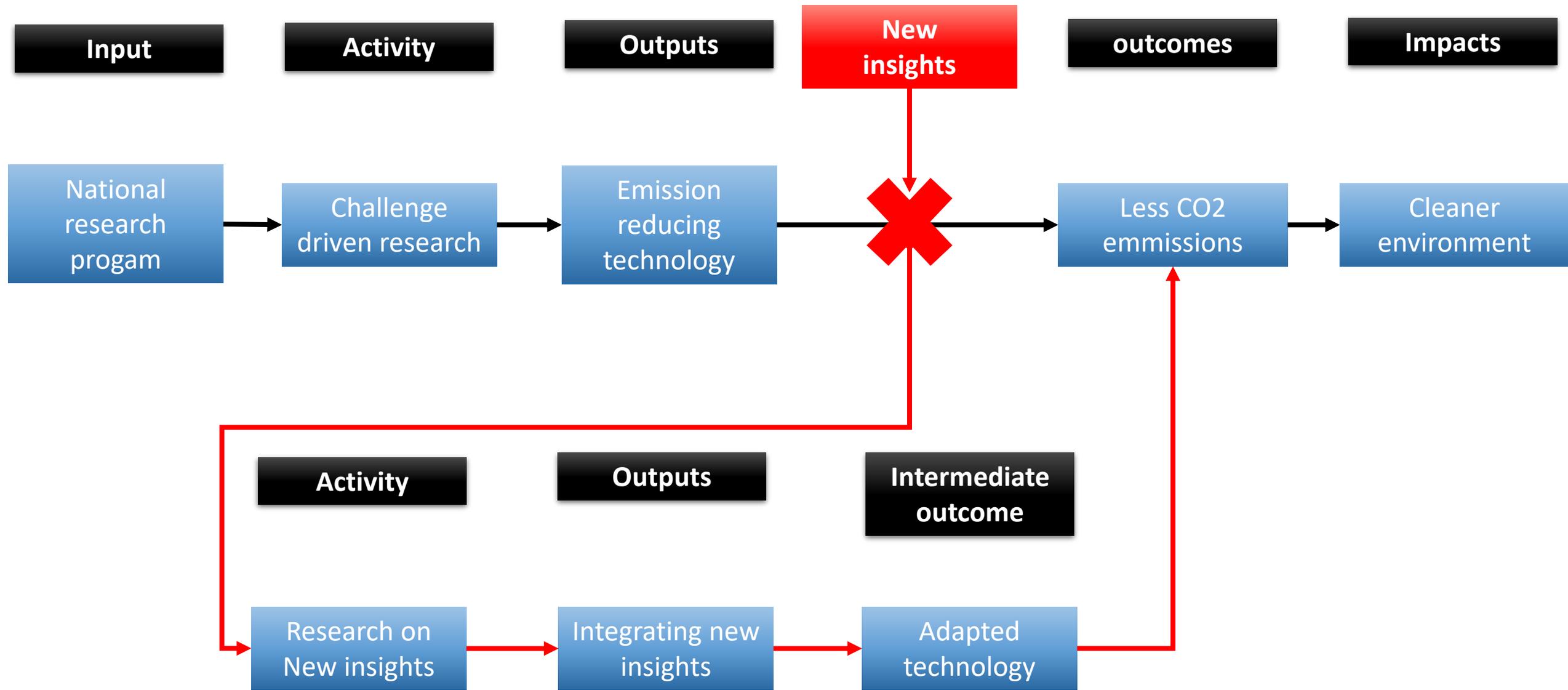
# What does a challenge driven research program aims for?

- The program wants to achieve impact within its challenge- which is change in the involved societal domain
- The research programs should make this impact as predictable (measurable?) as possible
- The applicant should be able to address all kind of external – technical and societal – influences on the predicted impact
- This process is nowadays often described as the “Theory of Change”



## This is how we start

# Béta and technology: Reducing CO2



Input

Activity

Output

outcome

Impact

# This is how we start

National  
research  
program

Scientific  
research on  
reducing  
obesity

Methods to  
reduce obesity

Reduction in  
obesity

Healthier people

# Social Sciences: Reducing obesity

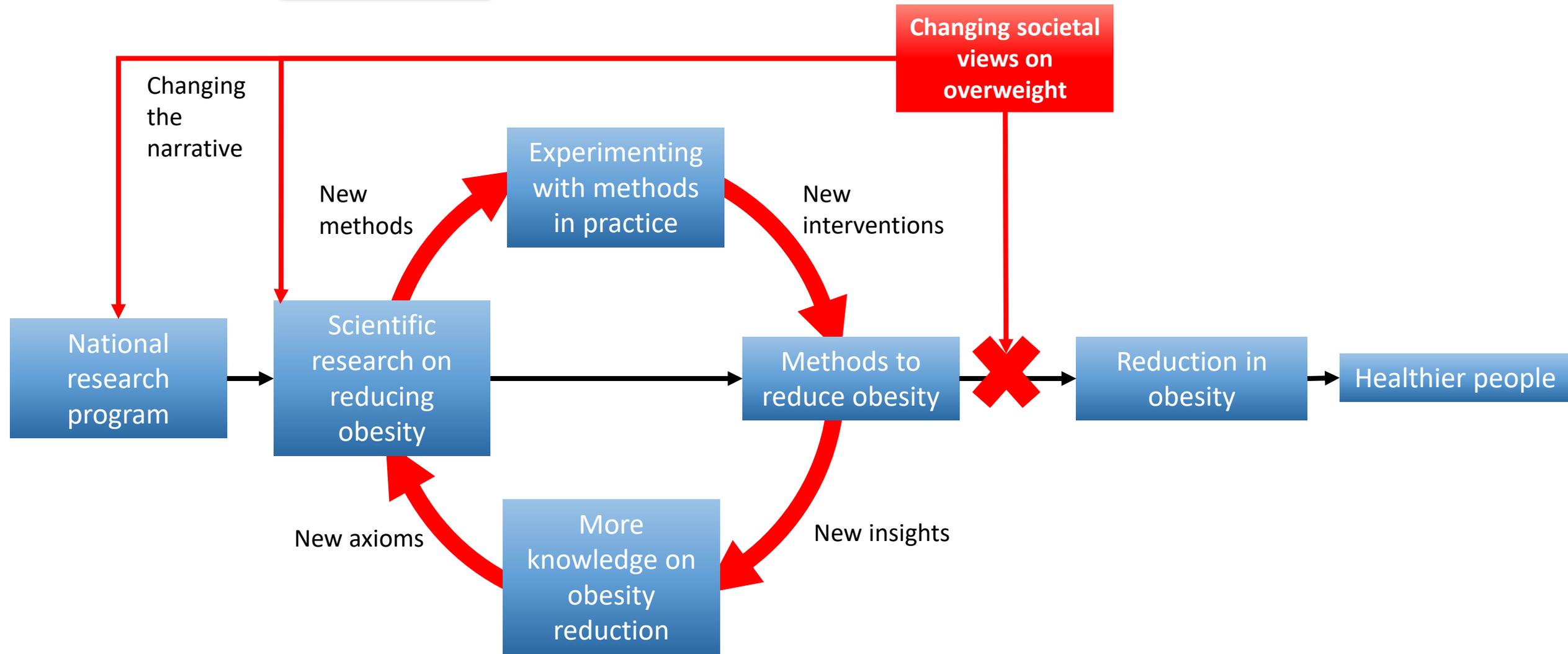
Input

Activity

Output

outcome

Impact



# Social Sciences: Reducing obesity

Input

Activity

Output

outcome

Impact

Changing societal views on overweight

Changing the narrative

New methods

Experimenting with methods in practice

New interventions

National research program

Scientific research on reducing obesity

Methods to reduce obesity

Reduction in obesity

Healthier people

New axioms

More knowledge on obesity reduction

New insights

# Some observations

- Research programs in the hard sciences can be more linear in the Theories of Change they use
- The SSH disciplines need to cope with cultural, societal and political developments and – sometimes – pressure
- In the SSH disciplines these external changes may lead to a new cycle from research to methodology. The hard sciences may restrict its ammendments to technical aspects.
- These situations primarily occur in long term research programs (8-10+ years)

“Reducing obesity is a greater challenge  
than sending a man to the moon”

*Dutch innovation adviser*



## Parallel Session

# Methods to support challenge-driven research funding

**Ole Henning Sørensen**

Chief Consultant, Danish National Research Centre for the  
Working Environment, Denmark

# Methods to support challenge driven research-funding

– perspectives from an applied research institution

Ole H. Sørensen, Ph.D.

Chief Consultant

The National Research Centre for the Working Environment (Denmark)

# The Danish National Research Centre for the Working Environment

Independent research institute  
Legal mandate to conduct applied research  
Part of the Ministry of Employment  
About 130 FTE – 100 FTE researchers  
Funding: 50% research grants  
About 150 research projects  
About 200 peer-reviewed articles annually

## Research to practice:

Newsletter, social media and webinars  
Stakeholder meetings  
Presentations and facilitation

## Research to policy

Policy briefs, orientations...  
Reviews, documentation, standards...  
Social media

## Four occupational health and safety research areas:

Psychosocial  
Ergonomics  
Chemical  
Accident prevention

	 Psycho-social	 Ergonomics	 Accidents and safety	 chemistry
Epidemiological Research				
Intervention Research				
Implementation Research				
Economics				
Digital Solutions				

# NFA's commitment to creating societal impact of research

- A broad definition of societal impact:

“research contributions to addressing current and/or future social, environmental, economic, and other needs outside academia”

Reale, E., et al. (2018) 'A review of literature on evaluating the scientific, social and political impact of social sciences and humanities research', *Research Evaluation*, 27/4: 298-308

- Legal mandate: Should conduct research at the highest international level and
  - advise decision makers
  - perform tasks for the occupational health authorities,
  - conduct development work with a clear societal purpose,
  - transfer of knowledge and technology to relevant stakeholders.
- NFA aims to deliver useful knowledge for policy makers and practitioners that will improve health and safety for workers

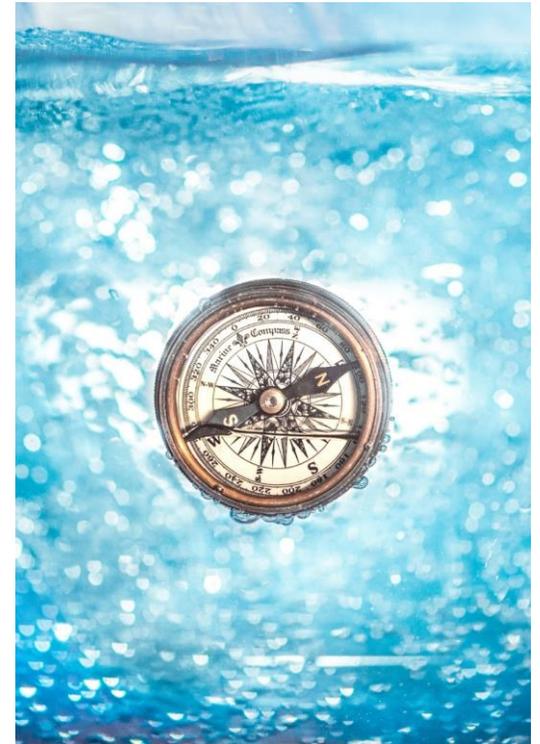
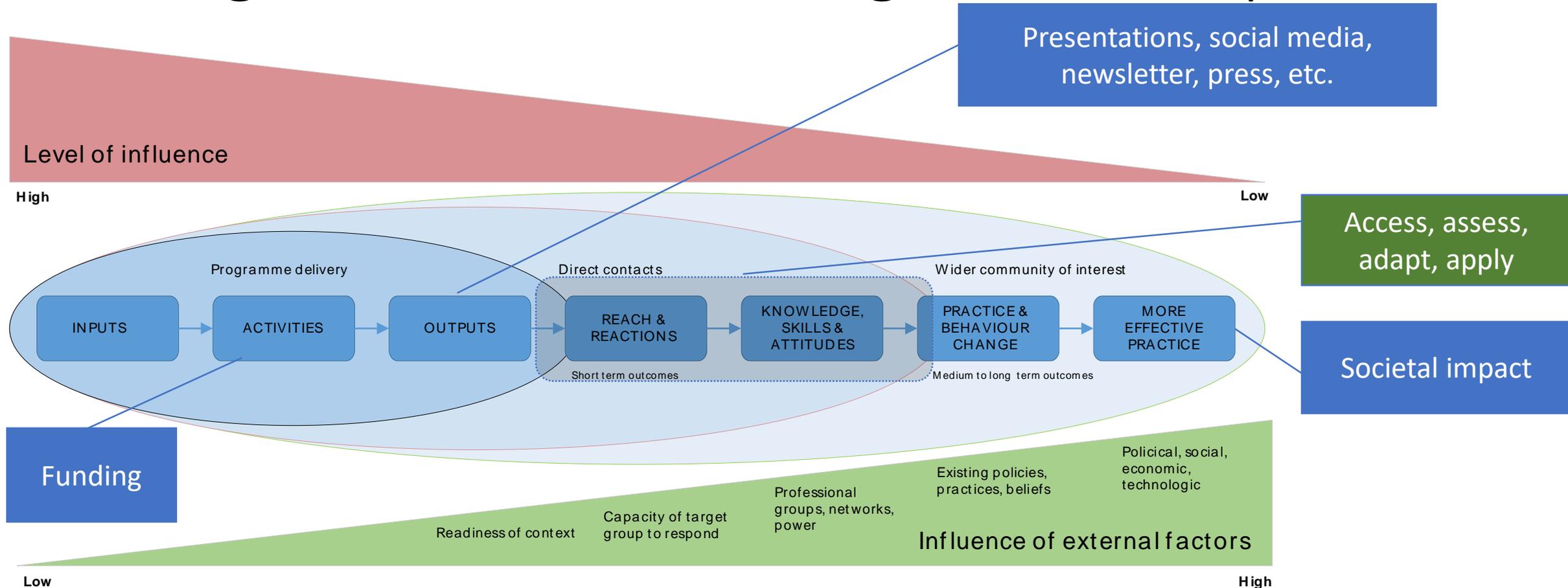


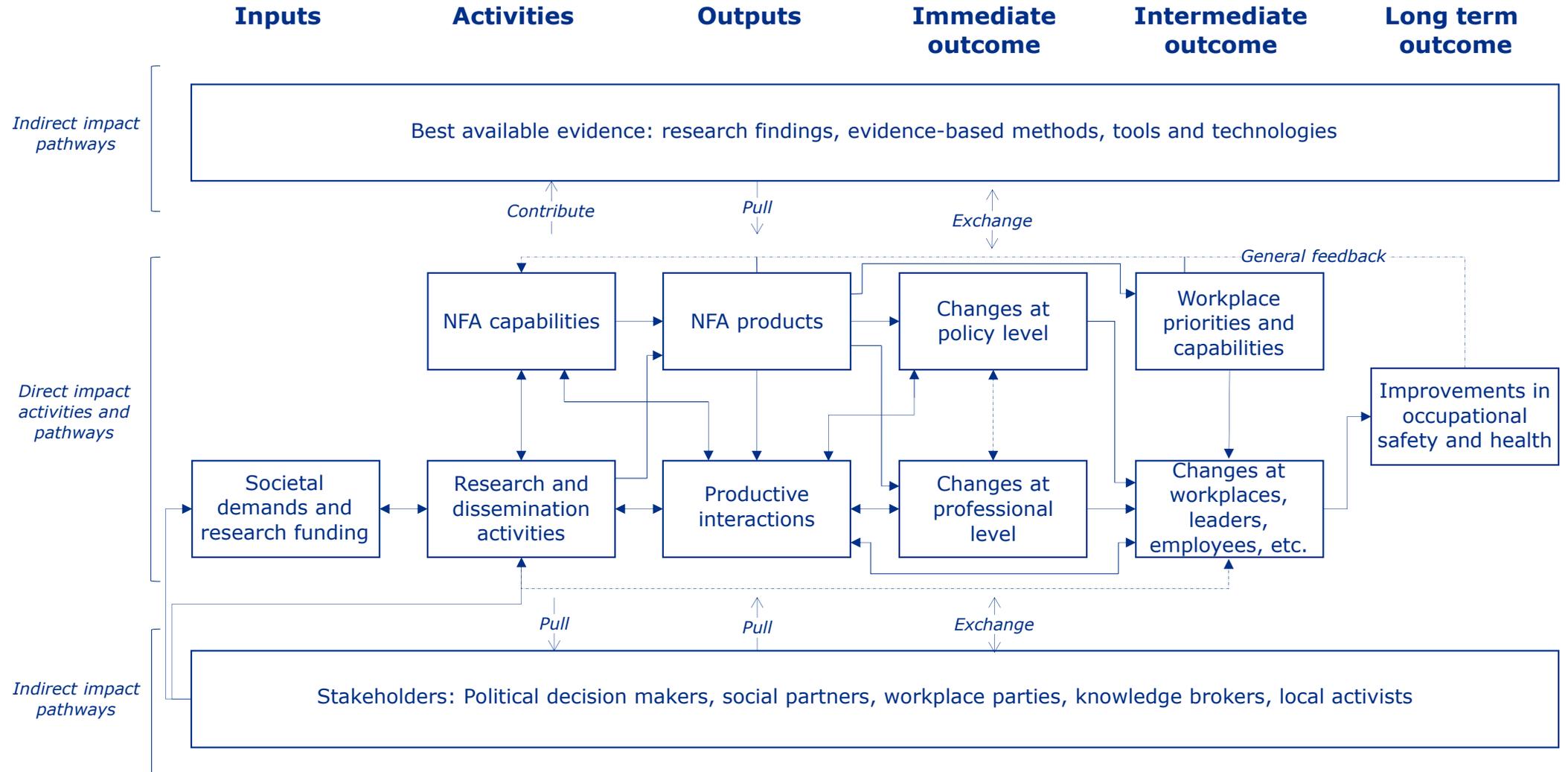
Photo by [Jamie Street](#) on [Unsplash](#)

# Challenges related to creating societal impact

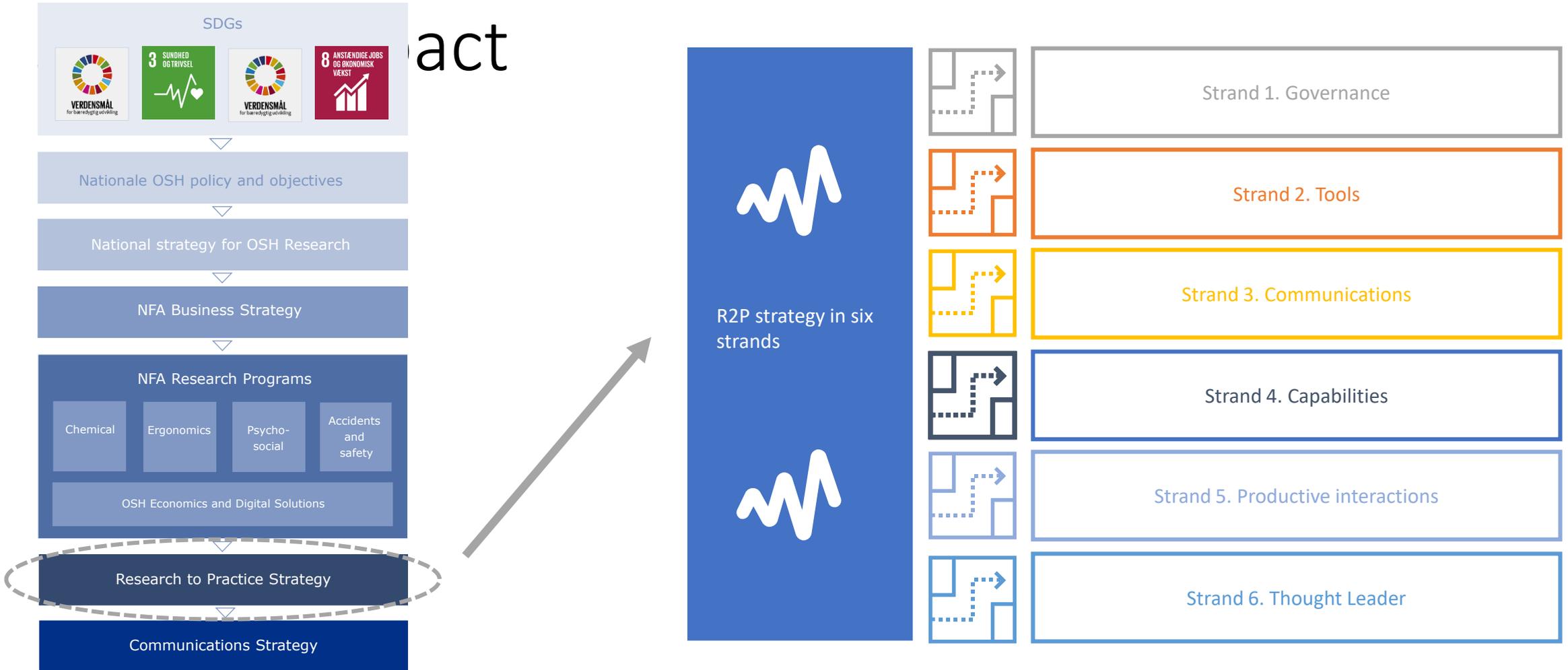


Morton, S., Wilson, S., Inglis, S. *et al.* Developing a framework to evaluate knowledge into action interventions. *BMC Health Serv Res* **18**, 133 (2018). <https://doi.org/10.1186/s12913-018-2930-3>

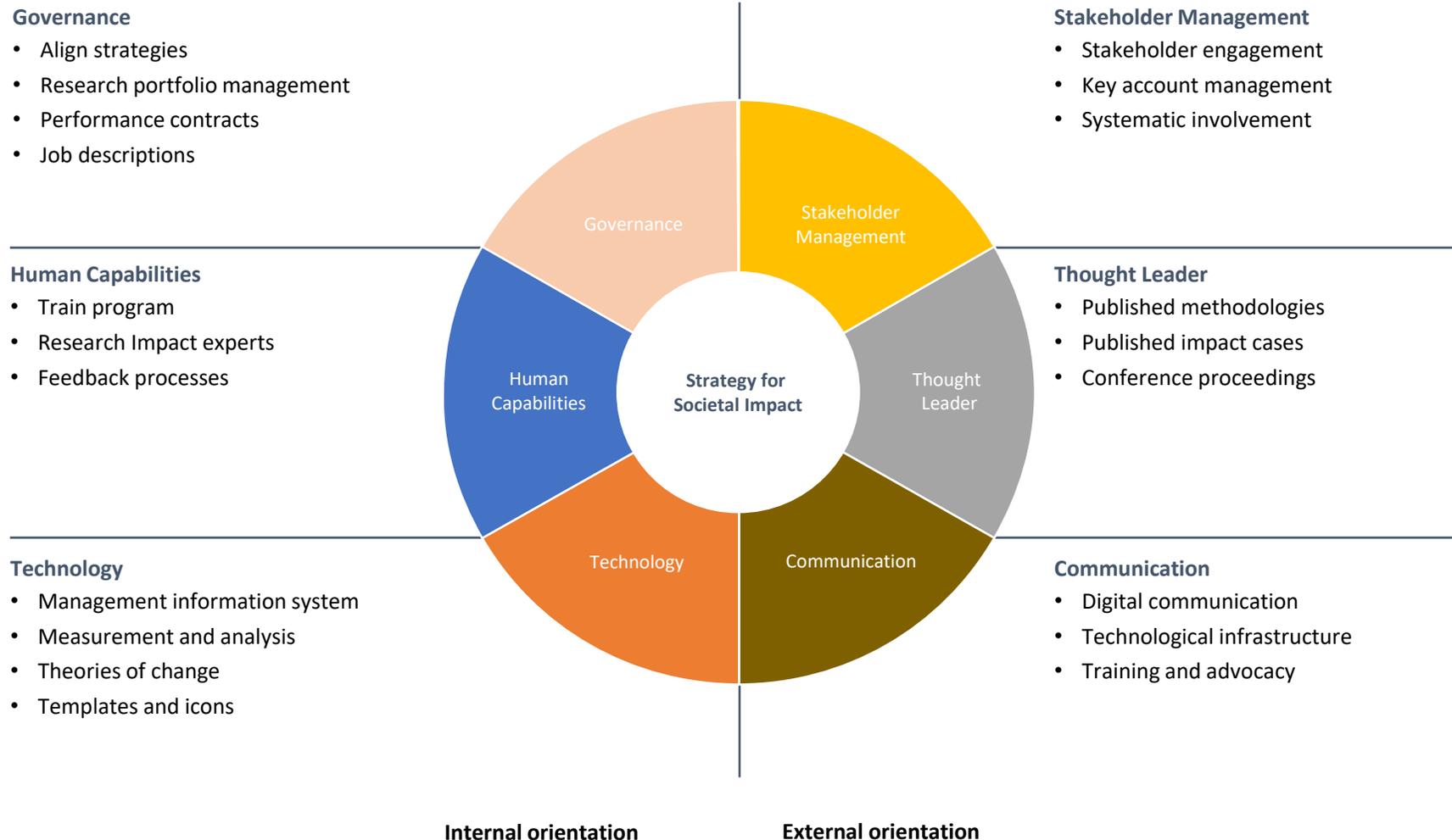
# Overall impact-model



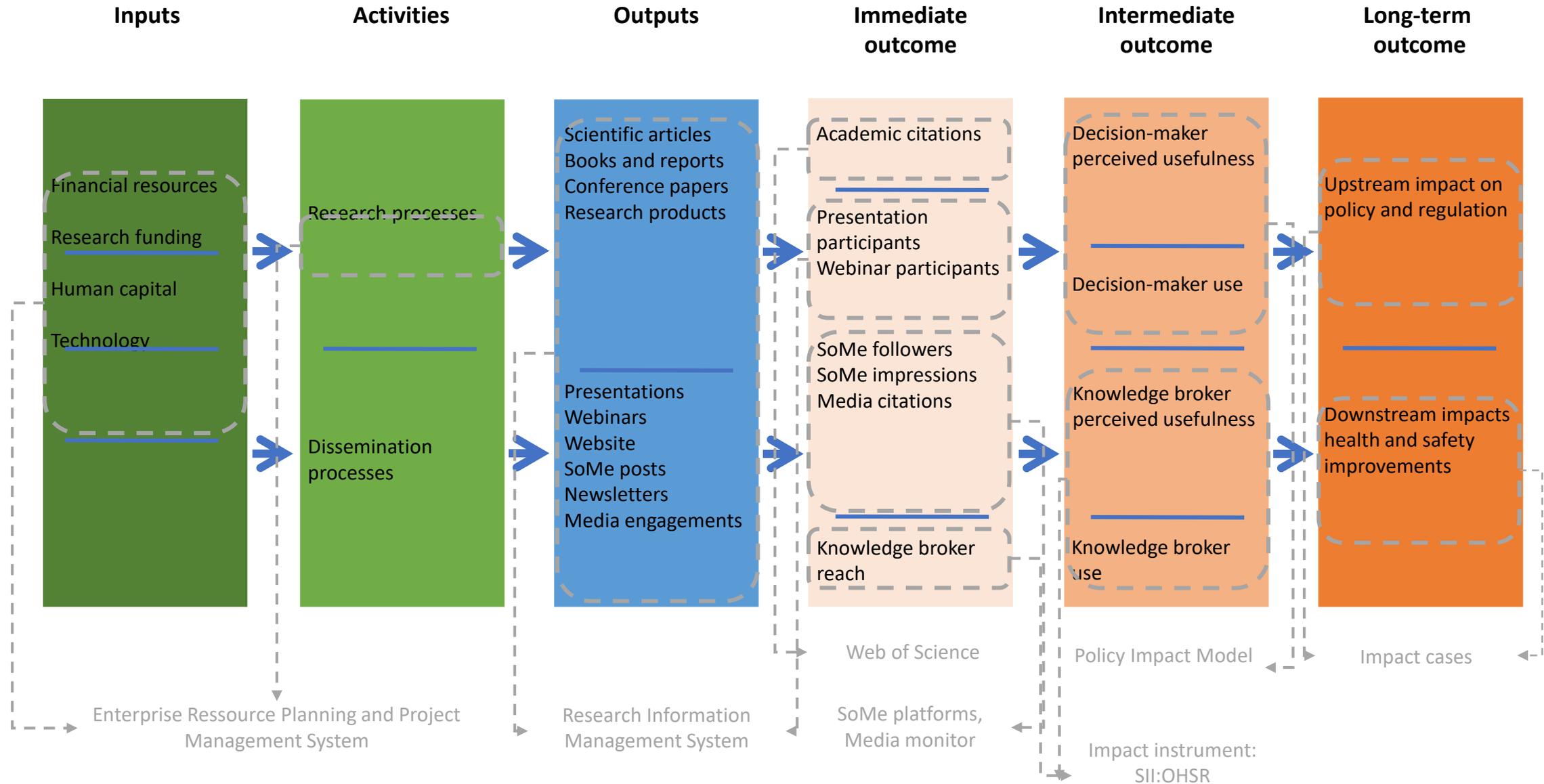
# NFA's strategy map – our focus on creating



# Strategy component – creating societal impact

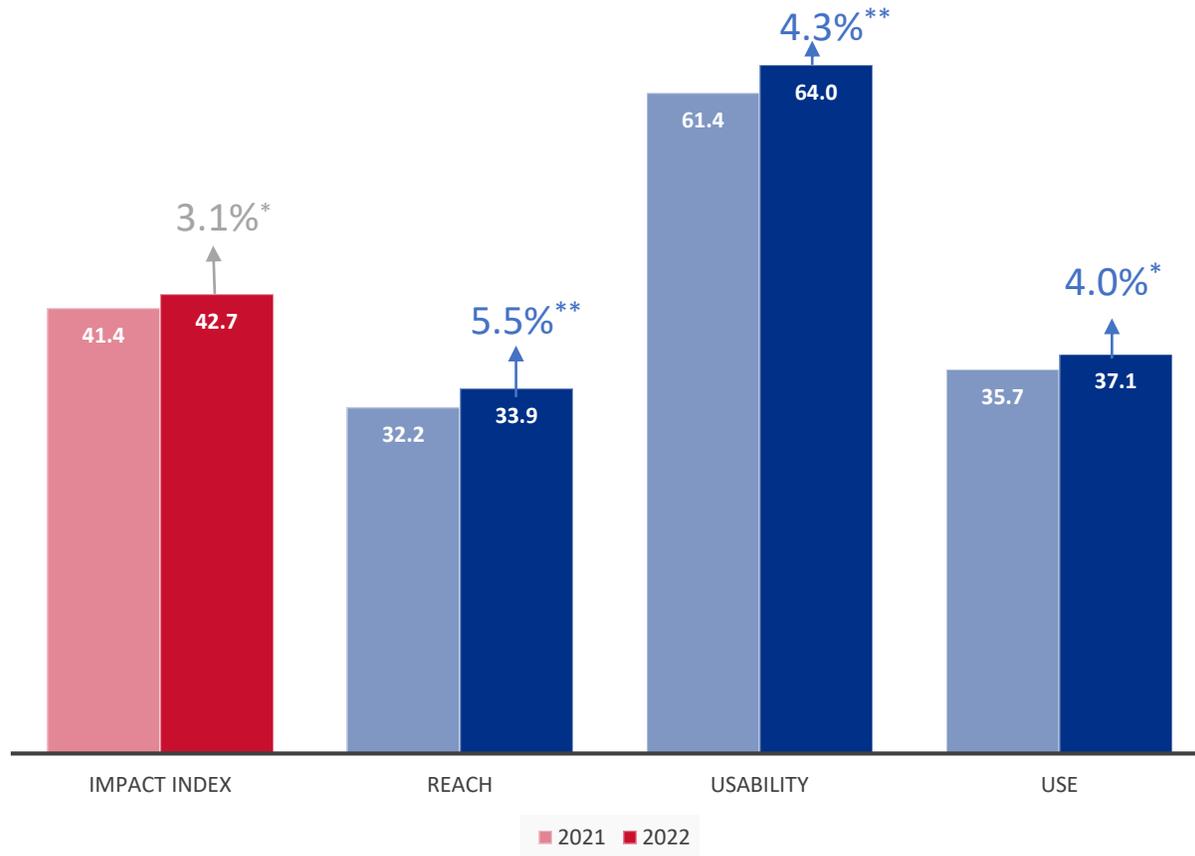


# Evaluating and documentation systems at the NFA



# Indicators of societal impact – development 2021-2022

Impact index and sub indices



Index adjusted for focus on OHS, OHS experience and job function. \* p<.05 \*\* p<.0001



# Supplementary research in private SMEs

- We sampled 36 respondents from private enterprises focusing on...
  - small and medium sized private enterprises
  - managers with OHS-responsibilities and safety representatives
- The analyses made it clear that:
  - These knowledge brokers primarily work on a case-to-case basis
  - Their primary way to find knowledge is internet search
  - They may know official web-pages (regulatory authorities, brokers)
- They rarely use knowledge from NFA because
  - They do not find us (access)
  - It is hard to find relevant knowledge on the homepage
  - It is difficult to assess and adapt the knowledge
- Initiatives: SEO-optimizing, revised webpage, increased collaboration with intermediaries (consultants, educators, inspectors)



# Some challenges for challenge driven research

- Agreeing on best paths to societal impact
- Deciding on roles and responsibilities
- Providing the scientists the right skillset
- Motivating the researchers
- Funding practices support societal impact

Thinks to consider:

- Research on capacity building and impact documentation
- Actuality and rapid responses
- Big data and AI

# Conclusions and perspectives

- NFA uses many methods to support challenge driven research-funding:
  - Documentation tools and methods
  - Performance tracking
  - Stakeholder engagement
  - Capacity building
- We have come a long way, but there are still many challenges...
- Some suggestions for funders:
  - Be clear about expectations of societal impact
  - Be willing to fund implementation and dissemination (e.g. staged)
  - Require documentation of short/intermediate term outcomes

# Contact details

Thanks for you attention.

I am grateful for this opportunity to present at the EASIS conference.

If you have questions don't hesitate to contact me.

Ole H. Sørensen

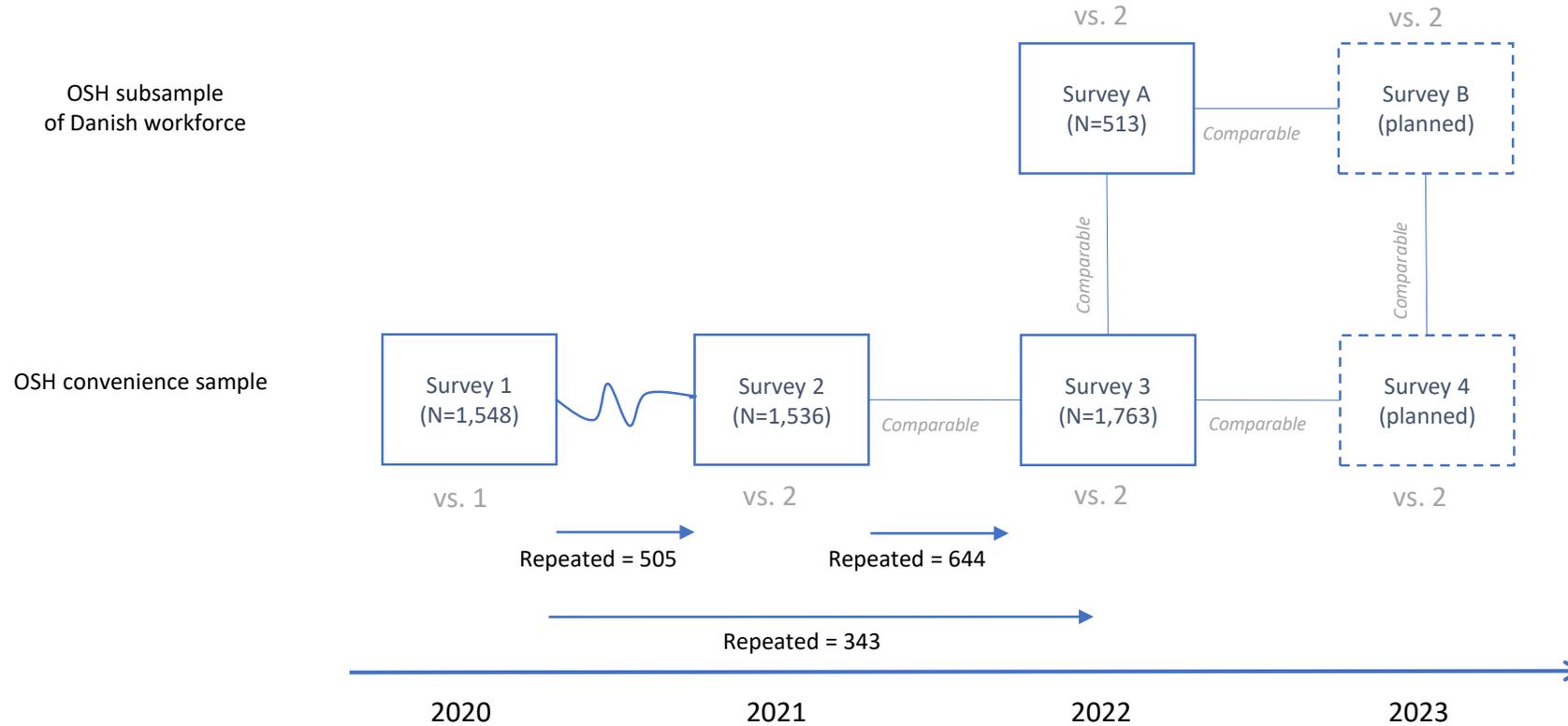
[ohs@nfa.dk](mailto:ohs@nfa.dk)

# Examples of respondents, questions, distributions and analyses



# Data and data points for SII:OHSR

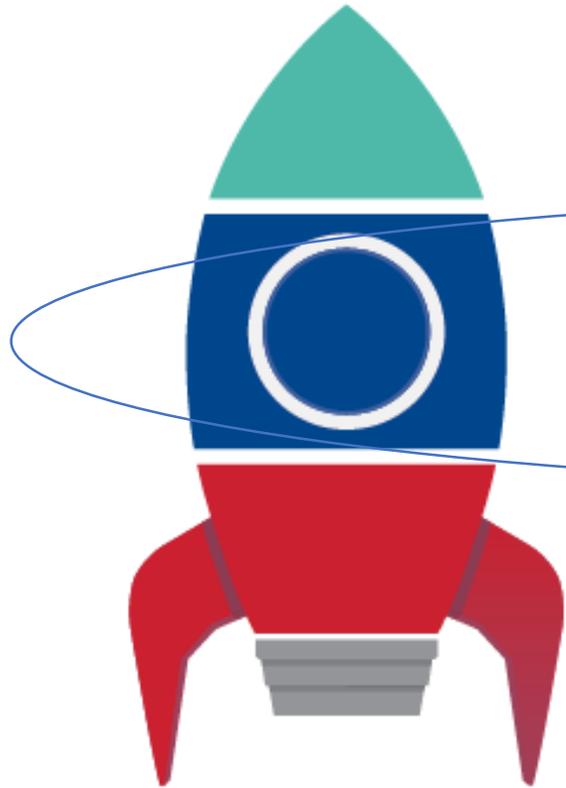
## Sampling technique



# Respondents

<b>Years of OHS-experience</b>	<b>N</b>	<b>Percent</b>
0-4	300	21.5
5-9	270	19.4
10-	823	59.1
<b>Sector</b>	<b>N</b>	<b>Percent</b>
Public	810	54.8
Private	522	35.3
Social partner, NGO, association, etc.	126	8.5
<b>Knowledge broker organizations</b>	<b>N</b>	<b>Percent</b>
Union consultants and representatives	165	10.7
OHS-consultant	132	8.5
Working environment inspector	68	4.4
Employers' organizations	63	4.1
OHS-educator	19	1.2

# NFA impact instrument – intermediate outcomes at institute-level



## 3 Change (long term)

- Case-based natural experiments and planned effect studies (RCT, quasi...)
- Qualitative case-studies (impact-pathways, fidelity, reach...)

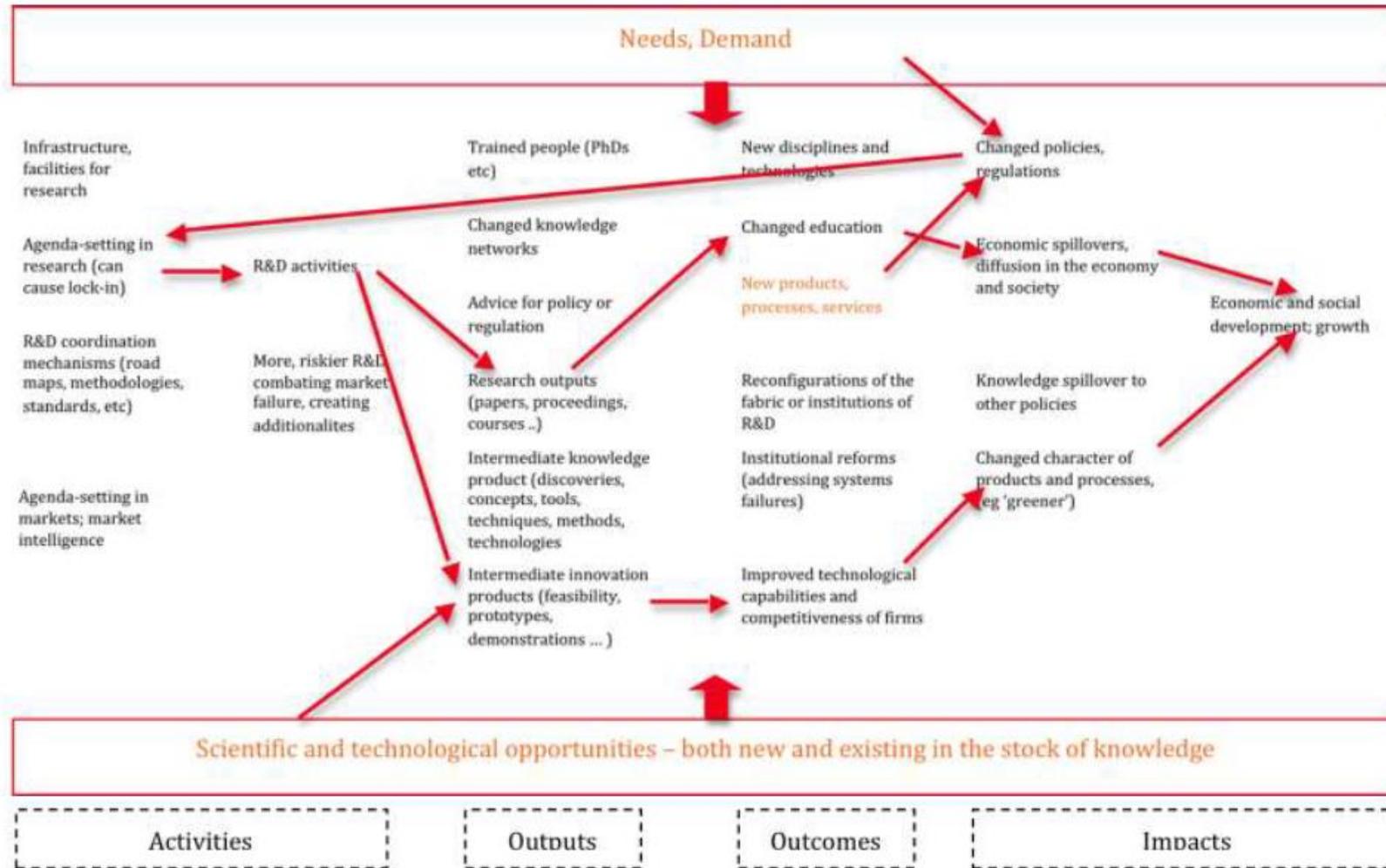
## 2 Use (intermediate)

- Impact instrument that measure indicators of knowledge use and reach

## 1 Dissemination (short term)

- Registrations of publications, events, SoMe experiments and tracing, qualitative evaluations...

# Complexity of impact pathways



Source: (Arnold, 2013)

OECD (2015) What is Impact Assessment? Mechanisms:

<http://www.innovationpolicyplatform.org/www.innovationpolicyplatform.org/sites/default/files/general/What%20is%20impact%20assessment%20-%20Mechanisms%20OECD%20Impact%20Assessment%20KT%202015/index.pdf>



## Parallel Session

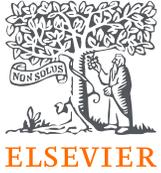
# Methods to support challenge-driven research funding

**Gavin Reddick**

Chief Analyst, Researchfish, Elsevier, United Kingdom

**& Katy Elliott**

Senior Account Executive, Researchfish, Elsevier, United Kingdom



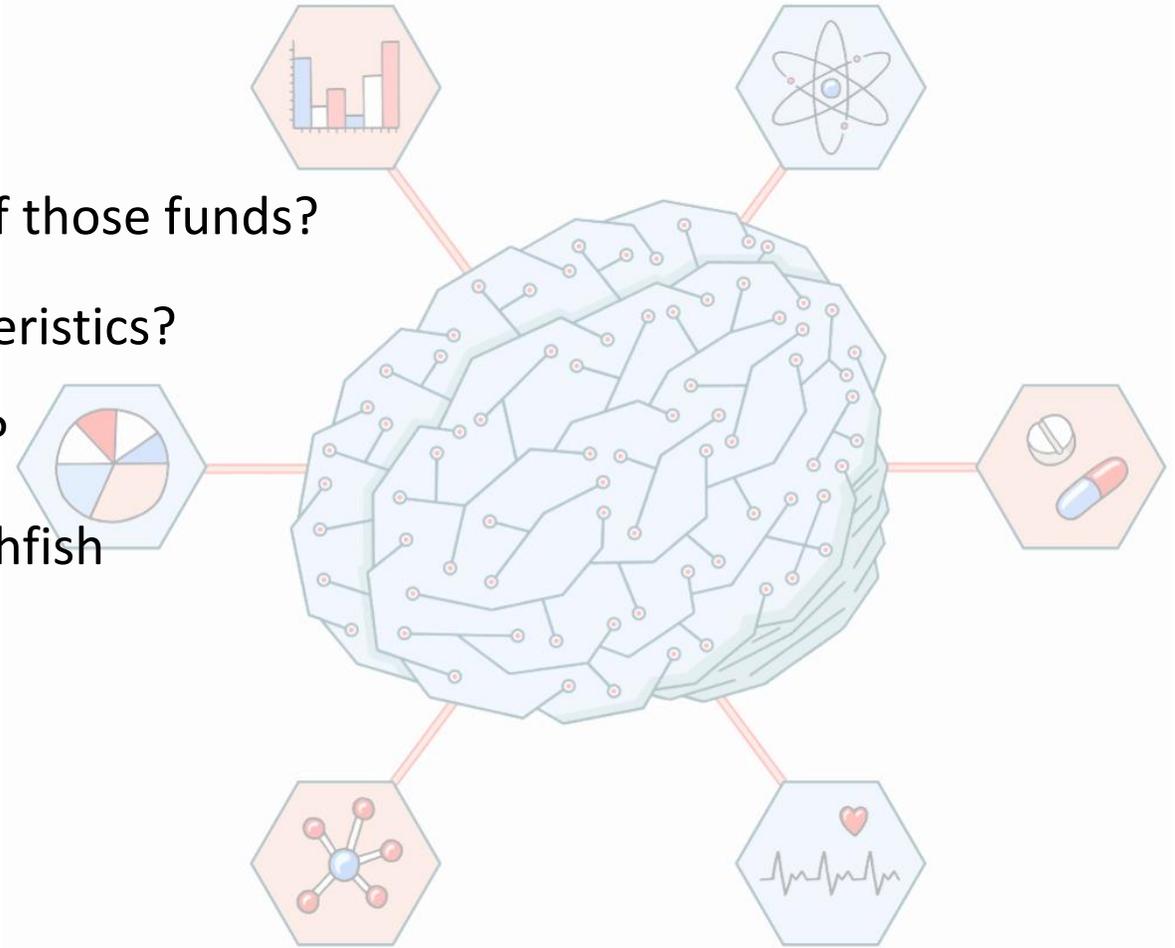
# The challenges of evaluating challenge driven research funding

Gavin Reddick  
Chief Analyst, Researchfish



# Outline

- What are challenge driven funds?
- What are some of the common characteristics of those funds?
- What are the challenges posed by these characteristics?
- What are potential answers to those challenges?
- Examples of how those are answered in Researchfish



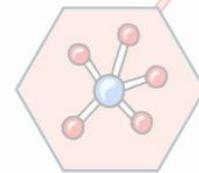
# Defining challenge driven research funding

- Easier to observe than describe
- Many different features (as with response mode funding)
- Define issues/topics of social and economic importance and what goal should be achieved (but not how)

## For example:

*“Developing products and services that help people remain independent and active into older age”,*

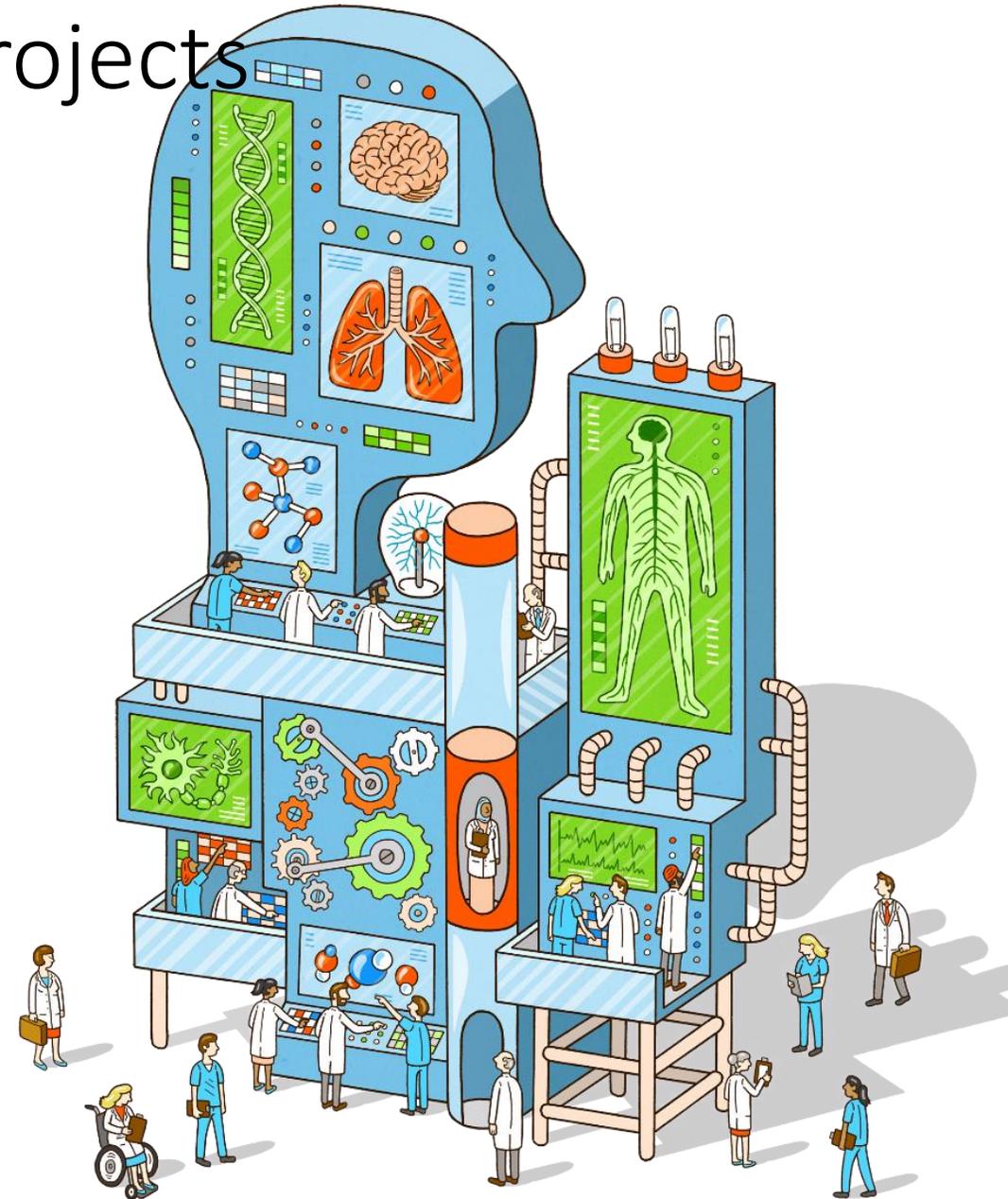
*“Supporting the service industries to use technologies such as AI and data analytics for next generation services”*



# Features of challenge driven projects

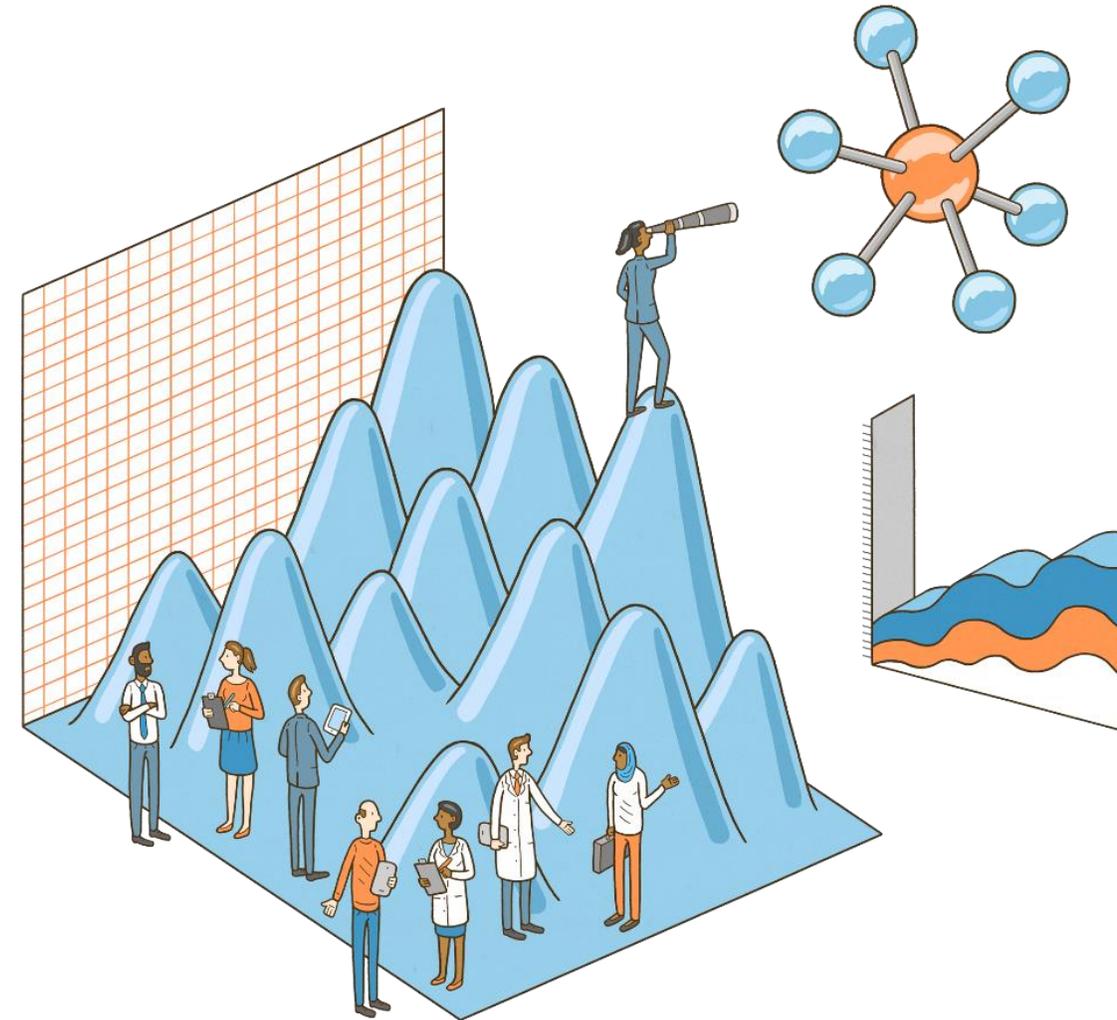
**These are generally working in big, complex topics and so typically:**

1. Straddle the whole translational spectrum
2. Involve a diverse range of primary actors including researchers, public, industry, policy makers
3. Involve a diverse range of projects responding to a single challenge differently



# Challenges for evaluating the projects/programme

1. Projects themselves are more variable than “typical”
2. Projects (often) more **focused on impact**
3. The scope of the project may mean that a full awareness of the project is distributed across multiple people along *e.g. discipline, translational stage*
4. Individual projects unlikely to bring about “success” but should improve understanding and/or achieve some progress



# Trying to address challenges of evaluation

1. Create a clear articulation of the theory of change/logic model underpinning the project (and the programme)
2. Collect a broad range of outputs, outcomes, impacts
3. Standardize outputs, outcomes, impacts across projects (but also allow for the possibility of individuality)
4. Evaluate over a longer time horizon as impact takes time to become realised

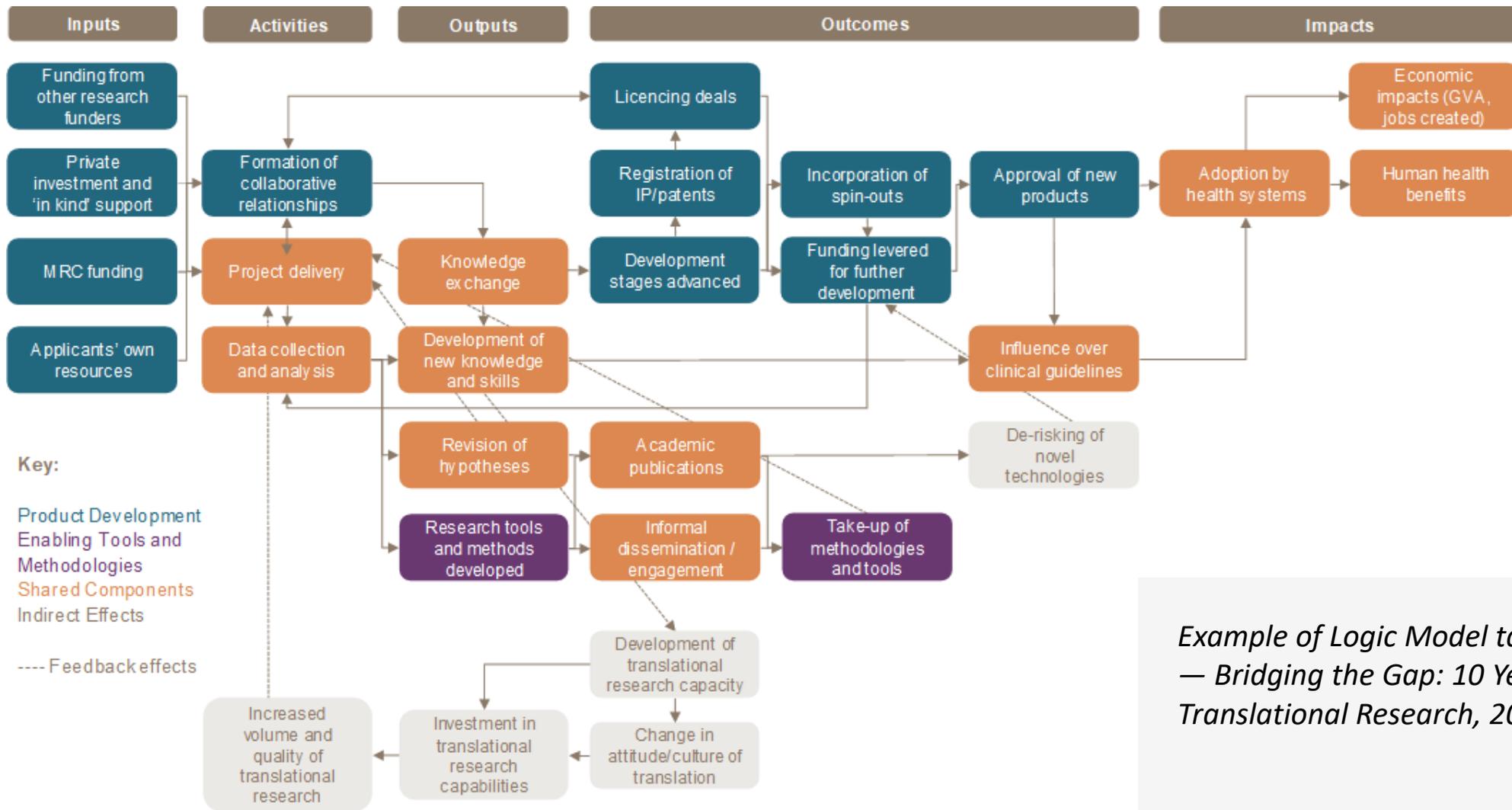




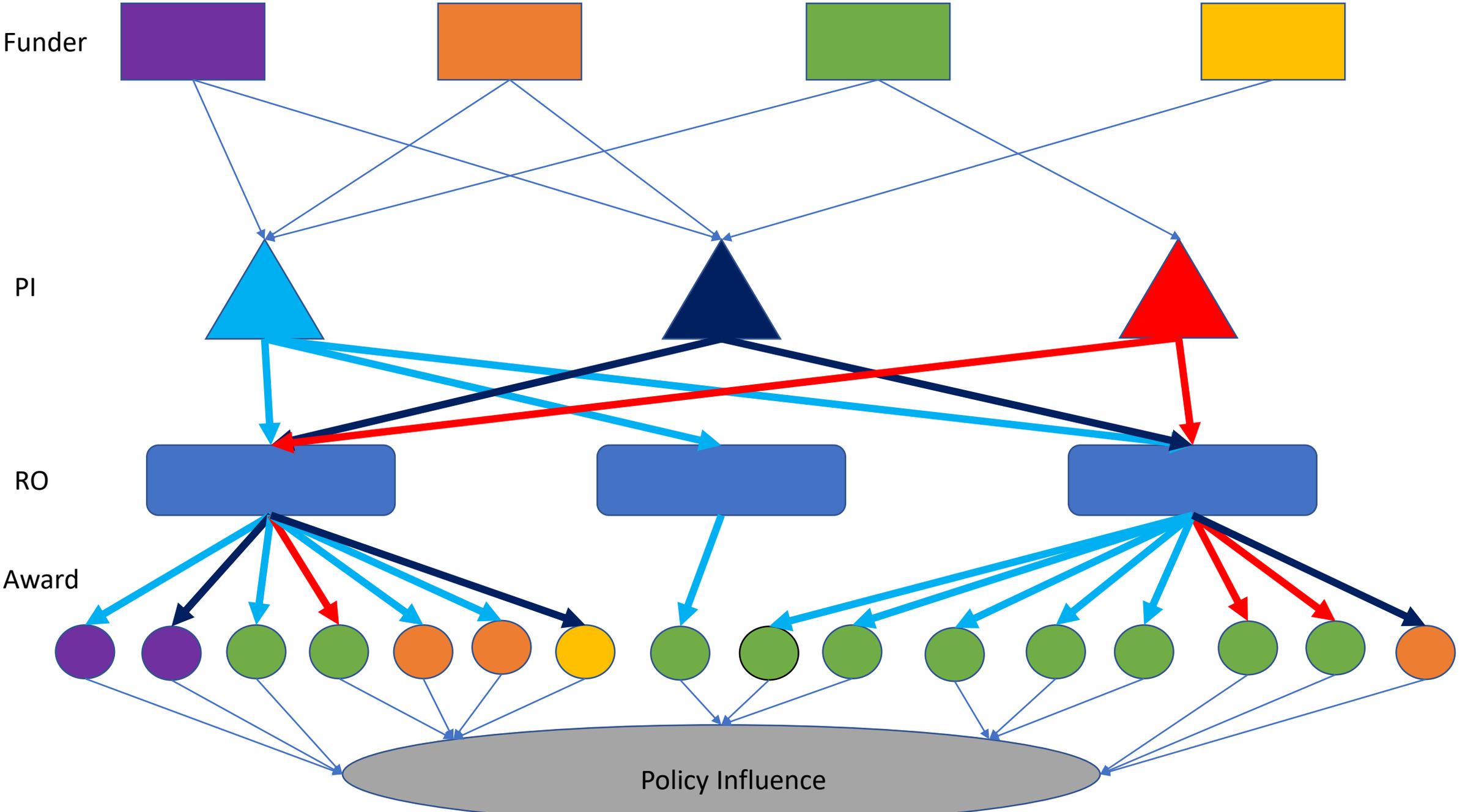
**How Researchfish**  
supports these challenges

<b>Publications</b>	<b>Intellectual property</b>
<b>Collaborations</b>	<b>Medical products</b>
<b>Further funding</b>	<b>Artistic and creative products</b>
<b>Next destination</b>	<b>Software and technical products</b>
<b>Engagement activities</b>	<b>Spin outs</b>
<b>Influence on policy</b>	<b>Awards and recognition</b>
<b>Research tools and methods</b>	<b>Use of facilities</b>
<b>Research databases and models</b>	<b>Other outputs</b>

# Logical framework for evaluation



*Example of Logic Model taken from Ian Viney  
— Bridging the Gap: 10 Years of MRC  
Translational Research, 2020-02-24*



# Impact & monitoring tool — Researchfish

- Helps funders standardise their impact & outcome data sets
- Harvests and enriches data with over 22,000 global data sources
- Provides longitudinal long term connection between related projects
- Includes access to impact experts, data analysts and tailored support

- **Connect** with us in the app
- **Join** our booth for a coffee
- **Share** with us your tracking challenges  
[Katy.elliott@interfolio.com](mailto:Katy.elliott@interfolio.com)  
[Gavin.reddick@interfolio.com](mailto:Gavin.reddick@interfolio.com)
- **Download** eBook "How to Create an Impact Framework" and join our mailing list





## Recommendation

**“For raising the impact of challenge driven research programs, you need to involve its ecosystem and the end user from the start and motivate the researchers to be part of this process.”**