



AESIS

NETWORK FOR
ADVANCING & EVALUATING THE SOCIETAL IMPACT OF SCIENCE

Leiden University – 22-24 June 2022

*Welcome to **Day 3** of the international **AESIS** conference on*

Impact of Science



Leiden
Kennisstad



impact services

LEIDEN
CONVENTION
BUREAU



Impact of Science

22-24 June, Leiden

Words of Welcome

David Sweeney

*Executive Chair of Research England,
United Kingdom*

C.131 (9.40-10.00)

**Recommendations from
the parallel sessions (part 1)**

C.131 (9.40-10.00)

Clusters with Industry & Business Development for Impact

“We need to create an eco-system that also has planned aspects allowing for serendipity, and we need to allow for import from multiple directions (top-down & bottom-up) and fields.”

C.131 (9.40-10.00)

Evidence-informed Policymaking

“There is a need to evolve the rigor and credibility of pre-print publications and to return some space for mono-disciplinary research.”

C.131 (9.40-10.00)

Regional Collaboration

“Connecting the actors (better involve local actors), go for wider participation, bridging the gap between fieldlabs and sciencelabs”

C.131 (9.40-10.00)

Tackling the Fundamentals of Science Structures

“Science structures need to ensure that research impact is assessed both prospectively and retrospectively”

C.131 (9.40-10.00)

Community Engagement & Citizen Science

“We need to move beyond citizen science as a methodology towards a collaborative mindset with tangible mutual benefits. Diversity, equity and inclusion in early stages of the process can value and integrate multiple community knowledge cultures to achieve a sustainable impact aligned with societal needs.”

C.131 (9.40-10.00)

Responsible & Alternative Metrics for Impact

“In the quest for better indicators & metrics of impact, we shouldn’t allow the perfect to become the enemy of the good. There’s lots we can do with existing measures and methods—quantitative and qualitative—to better understand and support societal impacts.”

C.131 (9.40-10.00)

Developing an Institutional Impact Profile

“Universities need to avoid an academic echo chamber by listening to external stakeholders”

C.131 (9.40-10.00)

Societal Impact & Funding

“Efforts need to be made to bridge the communication gap between different actors involved in applying for funding & assessing it.”

C.131 (9.40-10.00)

National & Regional Evaluation Systems

“Lets compare international practice in impact assessment across different cultures to learn about how impact arises and how best it can be evaluated”

C.131 (9.40-10.00)

Methods & Tools for Societal Impact

“Develop a fit purpose toolbox for researchers and practitioners to assess and measure the progress to societal impact over time.”

Nico L. U. van Meeteren

Executive Director and Secretary General of Topsector Life Sciences & Health & Professor, Dept. Anesthesiology, Erasmus Medical Center, Rotterdam, the Netherlands

Mission driven innovation policy, the Netherlands

Impact of Science: +5, -30 and 1 out of 6

Prof. Dr. Nico van Meeteren
Top Sector LSH
Societal Theme Health & Care



Political context

Agreement Rutte III; 1+1+1+1=1

The central graphic features a blue and white geometric pattern with the text "science in transition" in a black box. The four surrounding images are: 1) Energy transition: A row of brick houses with solar panels on their roofs under a bright sun. 2) Agriculture: A drone flying over a green field. 3) Healthcare: A doctor in a white coat and stethoscope looking at a tablet held by a patient. 4) Security: A hand cursor pointing at the word "Security" on a screen.

Energie transitie en duurzaamheid

Landbouw, voedsel en water

science in transition

Gezondheid en zorg

Veiligheid

Motives

Success and technology





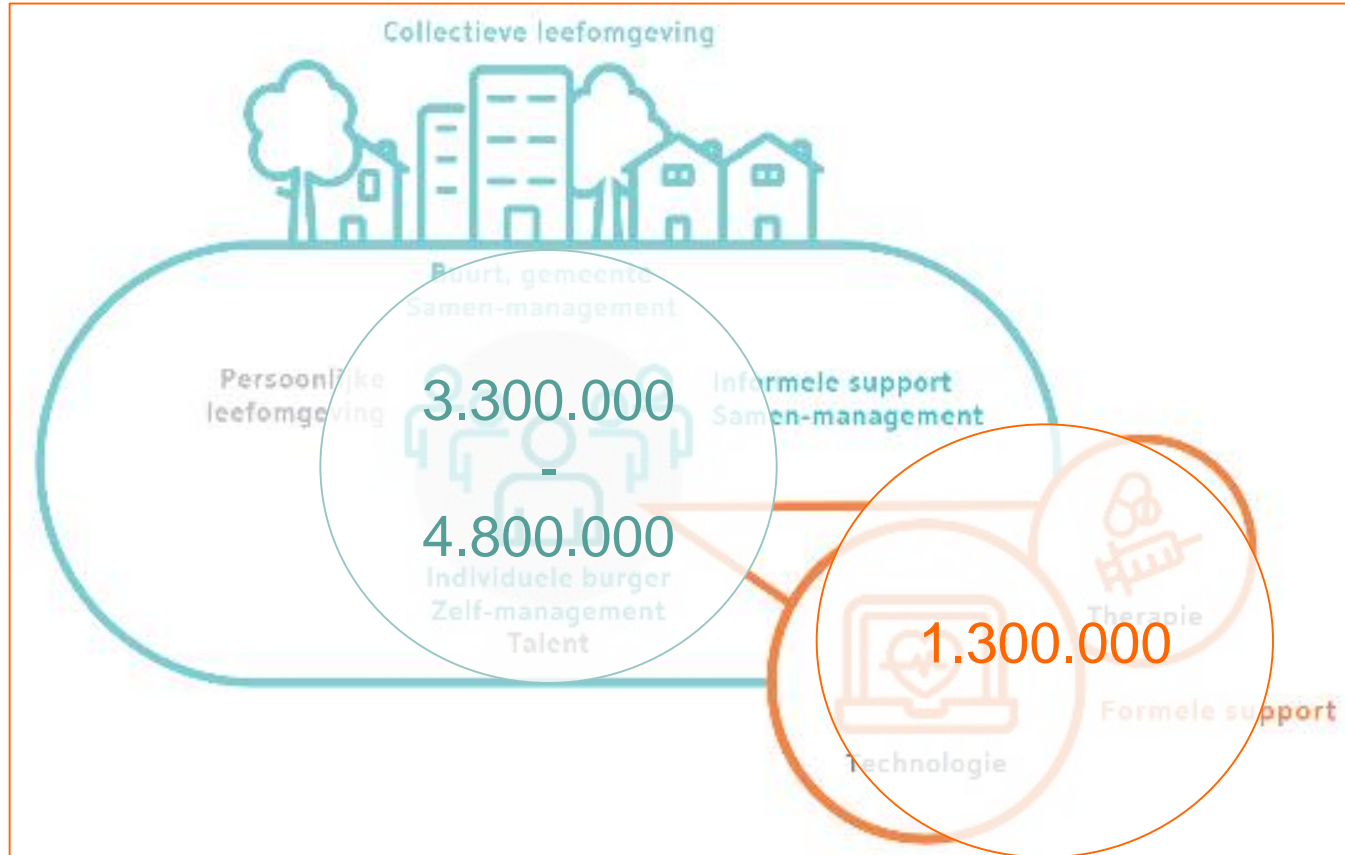
Ministry of Health missions

Central mission: In 2040 all citizens in the Netherlands live at least **5** years longer in good health, and the health inequalities between high and low socio-economic populations have been reduced with **30%**

In 2040, still, 'only' **1** of **6** citizens is employed in the health and care sector

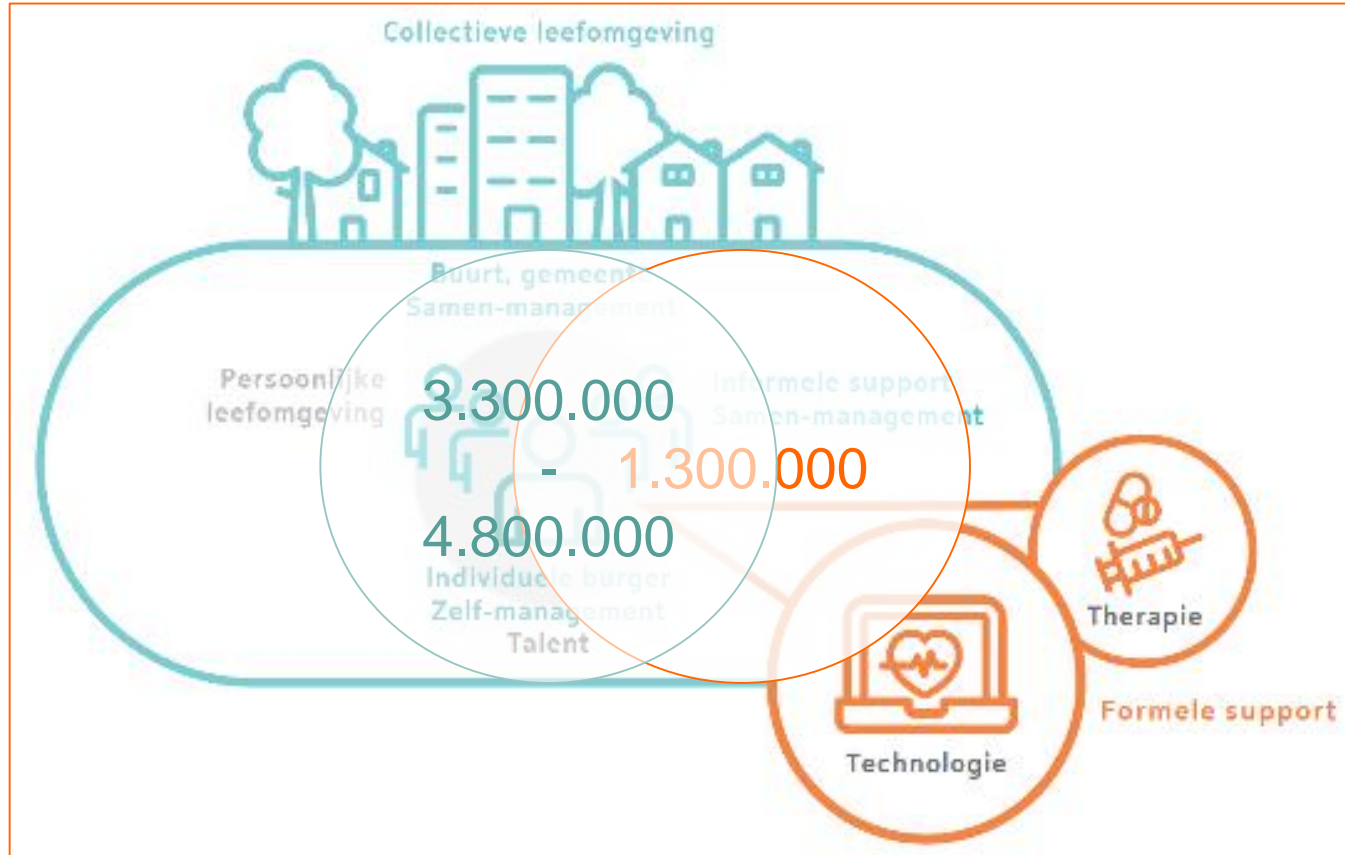
Conceptual model

Invest ... 1 + 1 = 2



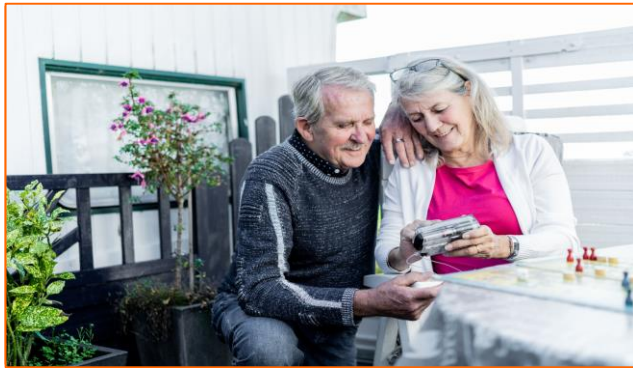
Conceptual model

Invest 1 + 1 = 1 ... "In the box"



Societal and economic impact example

Talent – Technology – Therapy ... health ... in order to participate



<http://www.medtechpartners.nl/portfolio/healthholland-value-centre-van-start-naar-groei>

Mission based national alignment

MAATSCHAPPELIJK THEMA GEZONDHEID & ZORG							
Overall impact pathway a.d.h.v. Kennis- en Innovatie Innovatie-Infrastructuur (KIIS)							
Input (KIC- & coalitiepartners)			Activiteiten, output en outcome			Impact	
Departementen & Departementale (kennis)agenda's ^a	Topsectoren	NWA-routes	5 ^{de} KIA: KET's (BGP en MJP#) ^b & KEM's	Strategische PPP's	Crossovers ^c	(De)-implementatie & valorisatie Fieldlabs (GZD), illustratieprojecten (IL) ^d , regionale LSH-clusters, EMA-actieplan tafels (T) ^e , en learning communities (LC) ^f	
						Missies	
VWS-directies MEVA en PG / SZW Hoofdlijn akkoorden Legio	LSH / HTSM / CLICKNL / DDD	Preventie / M&D / Big data / Circ. Economie	NLAIC / MJP20,44,45,48,54,72 Visie / Waardecreatie / M&E / Systeem	RSNN / HI-NL / mICF / Health-RI (GO-FAIR en PHT) / NLAIC / RSNN	Health-RI / NLAIC	1) Alle GZD 2) Alle illustratieprojecten 3) T Smart health: data & AI 4) T Cohorten & Biobanken	Centrale missie: "+5 -30"
VWS-directies VGP, PG en Sport / OCW / SZW / IenW / LNV Kennisplatform Preventie Preventie Omgeving Legio	AF / CLICKNL / DDD / HTSM / LSH / T&U / Logistiek / Chemie / Water	Preventie / Jeugd / KO / NeuroLabNL / Big data / Logistiek / Circ. Economie / Duurzame	BGP Ontwikkelplek van de toekomst / MJP30,86,87 Gedrag / Omgevingen	Preventiecoalitie (L4H, I-JGZ, BiBo) / ORANGE / SPRONG / TopFit / UP / Microplastics / P4O2 / BTIC / AMR-Global / NCOH / NADP	Microplastics / LWV D2	1) GZD Noordelijke Maasvallei 2) IL Ontwikkelplek vd toekomst 3) T Infectieziekten & Vaccins 4) T Preventie & LG	Missie I: Leefstijl en leefomgeving
VWS-directies Juiste Zorg Hoofdlijn Kennisplatform Legio							
VWS-directies SZW / OCW TPI Legio	Chemie / HTSM / T&U / Logistiek / LSH	PM / RG / Sport / Smart industry / Big data	Masseprod. biotech / Biotech / MJP2,13,14,16,17,86,92 Co-creatie / Gedrag	ImmuneHealthXL / L4H / BiBo / TopFit / ELF / Metabolomics XL / ORANGE / RegMed XB / hDMT / IMDI / NeuroTech-NL / Revalidatie / Artrose / MedTech NL		2) Leiden Bio Science Park (incl. life science LC) 3) Oss - Pivot park 4) T RG&SCT 5) T DDDM	Missie III: Mensen met chronische ziekten
VWS-directies LZ en DMO TPI Kennisplatform Ouderen Legio	AF / CLINKNL / CHEM, DDD / LSH / HTSM	Preventie / Logistiek / PM / NeuroLabNL / RG / Smart industry / Big data	MJP2,13,14,86,87 Gedrag / Omgevingen	Deltaplan Dementie / VOILA / IMDI / hDMT / ELF / NeuroTech-NL / AFI / Dementie / ABOARD	IMDI / NeuroTech-NL	1) T DDDM	Missie IV: Mensen met dementie

Where would you fit in and make your crucial contribution?
 – info@health-holland.com –

Kernelementen: Baten (maatschappelijk en economisch), Bruikbaarheid, Betaalbaarheid, Beschikbaarheid, Duurzaamheid en Veiligheid.

Randvoorwaarden: Communicatie – Financiers en investeerders – Valorisatie en marktcreatie – Human Capital – Internationalisering – Regio's – Monitoring en Evaluatie – Organisatie en Governance

Integrated systems internationally recognized

Be good, tell and sell it



LSH, 2022



Nature Biotechnology, 2022



OECD, 2021



MOIN, LSH, 2022



Collaborative national K&I-ecosystem



Mission driven, visionary K&I-leadership



Gateway to the world

Health~Holland
SHARED CHALLENGES, SMART SOLUTIONS

Mission ~~im~~possible

Invest in health



*I've never done it,
so I'll manage*
- Pippi Longstockings -

When 'I' is replaced by 'we' even illness turns into wellness



David Phipps

*Assistant Vice President Research Strategy and Impact,
Division of Vice-President Research & Innovation, Office
of Research Services, York University, Canada*



Impact of Science

22-24 June, Leiden

Yuko Harayama

*Former Executive Director of International Affairs at
RIKEN, Japan*

Stimulating Collaboration and Effectiveness
for Impact within the Science Eco-system

Re-imagining the Science Eco-system?

Yuko Harayama

Professor Emeritus, Tohoku University

Former Executive Member, Council for Science, Technology &
Innovation (CSTI)

Seeking the root

- Eco-system
 - Living organisms & Environment
 - Interactions
 - Dynamics
 - Self-sustained system?
 - Resilience to exogenous shocks?
 - Evolutionary path?
- Innovation eco-system (as a metaphor)
 - ← Linear Model of Innovation
 - ← Innovation System
 - Actors & Institutions
 - Collaborating & Competing
 - Policy framework
 - Dynamics
 - Value creation & co-evolution
- Science eco-system (by analogy)

Why the "science eco-system" matters?

- From Science as an individual enterprise
→ To more **organized** & **complex** enterprise
- Change in terms of scale, scope & purpose
 - Large research infrastructures
 - Addressing global challenges
 - Political & socio-economic **pressures**
- Paradigm of "Science in Society & Science for Society" (1999)
- New way of doing Science
 - Open Science
 - Data-driven Science
 - Science using AI
 - e.g. Nobel Turing Challenge!
- Advancement of Science impacting our selves

Expanding roles of Science & Scientists!

A snapshot of science eco-system

- Actors & Institutions
 - With diverse, sometimes conflicting, objectives
 - Capacity to act proactively? Question of alignment?
- Relationship
 - Classical view of collaboration & competition
 - And more diffuse interdependency ← Since networked & connected
 - Additional (conflicting?) factors
 - Sovereignty, Security
 - Global commons, Collective intelligence
- Policy framework
 - Given (exogenous)?
 - Directing (autocratic) ?
 - Co-evolving (endogenous)?

How to overcome these opposing forces?
Possibility to gain in coherence?

Can we do better?

- Science eco-system
 - Self-organized and self-evolving system
 - **Power of each constituency**
 - Better to **work together**, not by creating an exclusive club, but in an **inclusive way**
 - Sharing experiences
 - Mutually learning
 - Extracting value from diversity
- If the “invisible hand” does not work well ...
 - Policy challenge!
 - Putting whole-of-government approach, policy coordination & policy coherence into **practice!**
 - Beyond the classical policy tools → To **experiment innovative tools!**
 - Government to **re-imagine the relationship with its stakeholders!**

C.131 (10.00-11.15)

**Plenary Opening:
Stimulating Collaboration & Effectiveness for
Impact within the Science Eco-System**

Nico L.U. van Meeteren

David Phipps

Yuko Harayama

C.131 (10.00-11.15)

Panel Discussion

Chaired by David Sweeney

Nico L.U. van Meeteren

David Phipps

Yuko Harayama