

Novo Nordisk Foundation Strategy 2030 and Impact

by Thomas Alslev Christensen, Senior Vice President, Novo Nordisk Foundation



Dejlige Norge



Dejlige Danmark



novo nordisk foundation

Benefitting people and society

The vision of the Novo Nordisk Foundation is to improve people's health and the sustainability of society and the planet

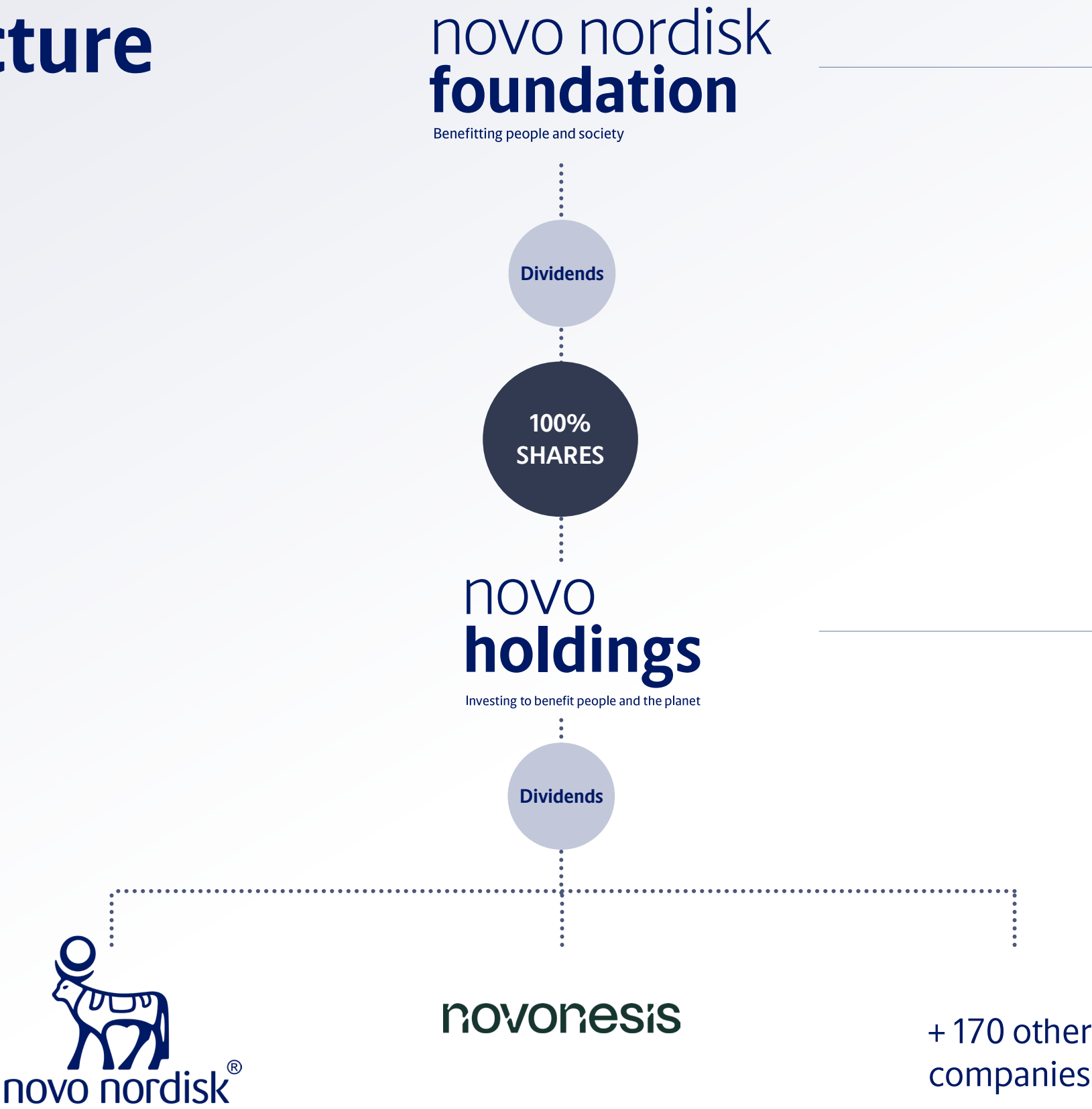
The Novo Nordisk Foundation is an independent Danish enterprise foundation with three philanthropic purposes:

- To support physiological, endocrinological, metabolic and other medical research,
- to support research hospital activities within diabetes in Denmark, and
- to support other scientific as well as humanitarian and social purposes.

In addition, the Foundation has a special obligation to safeguard and maintain a controlling influence in the Novo Group companies*.

* The Novo Group comprises Novo Nordisk A/S, Novonosis A/S and Novo Holdings A/S, and companies in which Novo Holdings A/S may hold a material equity interest or over which it may have material influence.

Foundation structure



The Foundation makes philanthropic investments and awards grants for scientific, humanitarian and social courses.

Philanthropic grants and investments in 2023:
EUR 1.2 billion (DKK 9.1 billion)

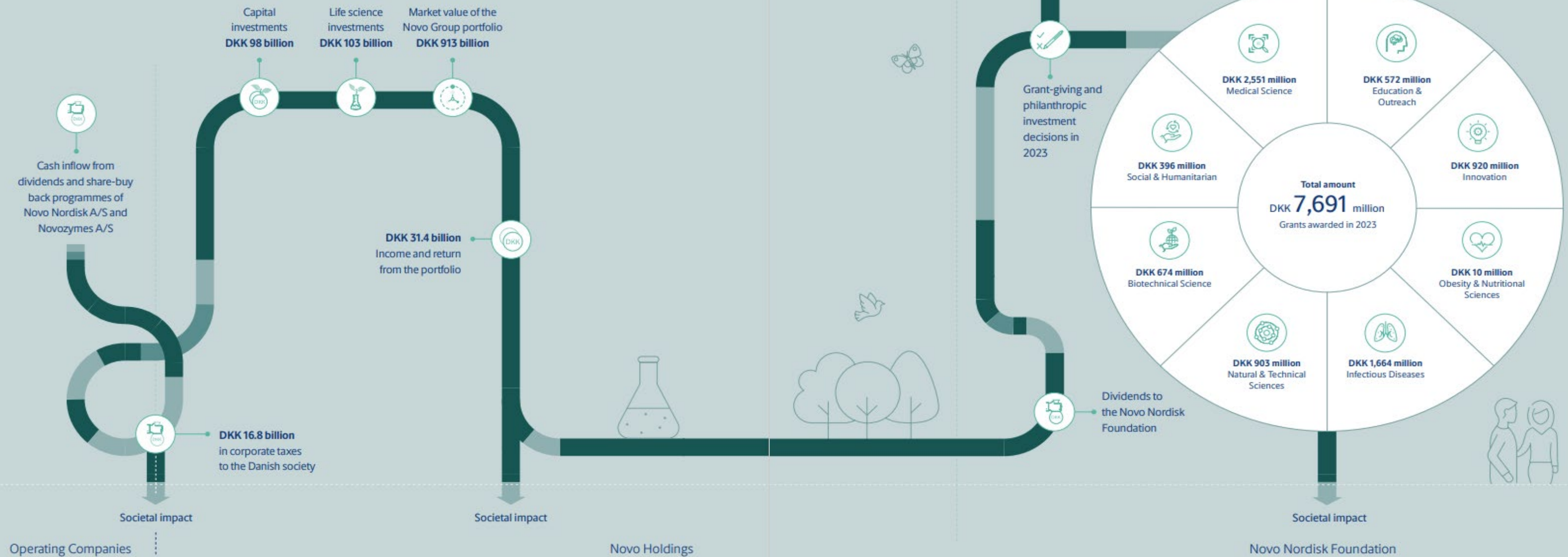
The Foundation’s assets and investments are managed by Novo Holdings A/S, the Foundation’s wholly owned subsidiary. Novo Holdings is a leading life science investor and also manages a diversified portfolio of capital investments.

Investment result in 2023:
EUR 4.2 billion (DKK 31 billion)

The Foundation is the majority shareholder of Novo Nordisk A/S and Novonesis A/S, which, together with Novo Holdings, constitute the Novo Group.

The Novo Nordisk Foundation Business Model in 2023

The Novo Nordisk Foundation is a Danish foundation with corporate interests, also called an enterprise foundation. It operates independently of other interests than the corporate and philanthropic purposes described in its Articles of Association, commonly referred to as its statutory purposes.



Facts & Figures 2023

EUR **1.2** billion

(DKK 9.1 billion)
philanthropic grants and
investments

9,564

people fully or partly employed
by NNF grants

751

grants awarded

3,071

applications from all
over the world

Key results on societal impact

Public sector research financed in Denmark



(24% within medical and health science)

Job creation

8,900 people in science
are funded by NNF
(+ 1000 since 2022)



Employees in the portfolio
companies: **153,000**
(- 1,000 since 2022)

Innovation

+250

Patents or patent
applications
from 2018-2023

+300

Medical products and
care services
from 2016-2022
(+100 since 2021)

200

Spinouts
from 2007-2023
(+13 since 2021)



Ten societal megatrends affecting the implementation of the NNF 2030 strategy

1 We're living in the
planetary
"overshoot era"

10 The science
ecosystem is
evolving

2 Climate change calls
for urgent action

9 Data, automatization
and AI are reshaping
the global economy

3 Urbanization and
the demographic
transition are
accelerating

8 There is an increasing
need for transitioning the
energy sector

4 A new economic and
geopolitical balance is
emerging

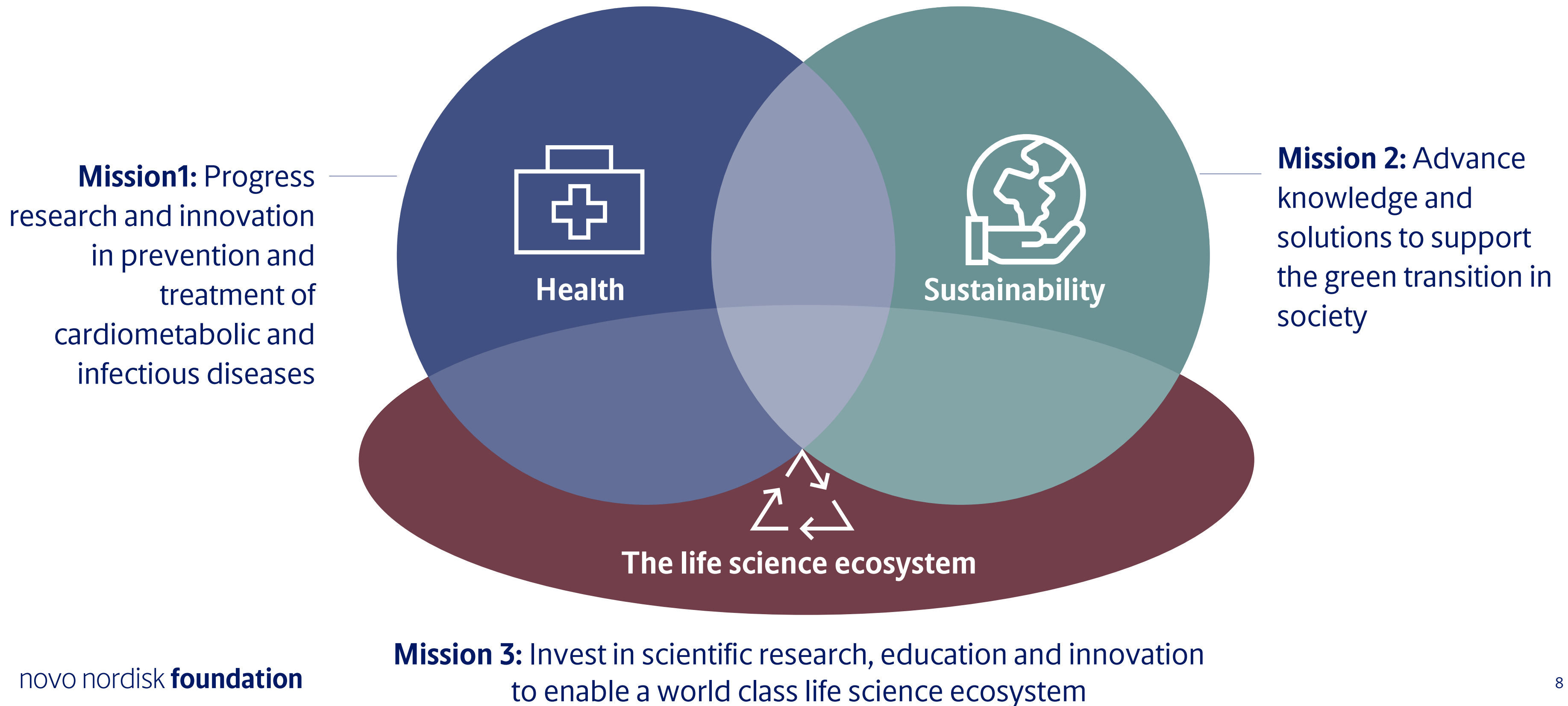
7 The food insecurity
situation is
worsening

5 Our democratic
values are under
threat

6 Global health inequities
are growing in number
and complexity



NNF's vision to improve people's health and the sustainability of society and the planet is pursued through a three-pronged mission



The Novo Nordisk Foundation Strategy 2030

Health

Progress research and innovation in the prevention and management of cardiometabolic and infectious diseases, regenerative medicine, and equitable health outcomes

- 1 Preventing and managing cardiometabolic diseases
- 2 Decreasing the burden and threat of infectious diseases
- 3 Advancing and applying regenerative medicine
- 4 Reducing inequity in health

The Life science ecosystem

Invest in scientific research, education and innovation to enable a world class life science ecosystem

- 1 Fundamental research
- 2 Enabling research infrastructures and technologies
- 3 Translational capacity and societal impact
- 4 Education and science capital

Sustainability

Advance knowledge and solutions to support the green transition in society

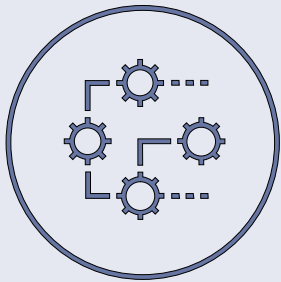
- 1 Sustainable and high-yield agriculture
- 2 Sustainable food for healthy diets
- 3 High-impact climate change mitigation technologies
- 4 Supporting society in the green transition

What does success look like for NNF? **Nine impact principles for society**

Output



Fostering the development of talent across different gender, life ages and scientific fields



Supporting organisations, systems, and infrastructure to catalyse a knowledge-based societal development



Stimulating collaboration across international borders, scientific disciplines, and sectors in society

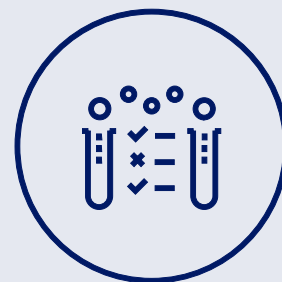
Outcome



Promoting excellent research and innovation



Developing innovative products and solutions supporting a sustainable development

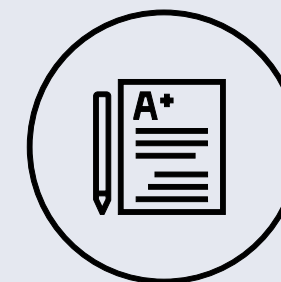


Developing new technologies, therapies and patient-centred and research-based care and disease prevention

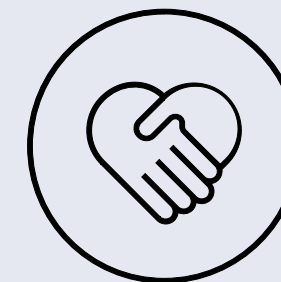
Impact



Creating jobs, sustainable growth, efficient use of resources and productivity in society



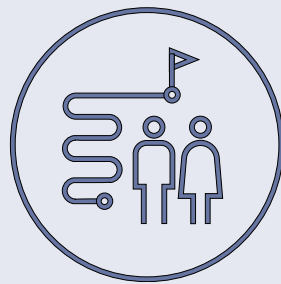
Support the development of world-class education at all levels and of a qualified and agile workforce



Supporting people in difficult health, social, environmental, and humanitarian settings

What does success look like for NNF? Our funding principles for society

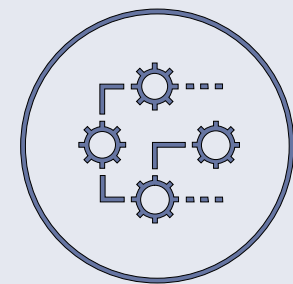
Funder intent



Align funding with the NNFs 2030 strategy:

- vision,
- three focus-missions and
- nine impact principles

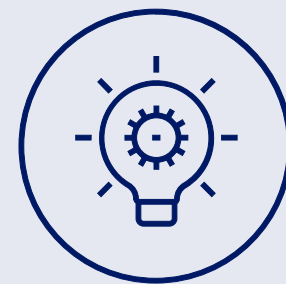
Funding is directly linked to one of NNFs 12 themes and one or more of the NNFs 49 key objectives



Five grant-giving models:

1. Open competition
2. Research centres and stand-alone
3. Own Initiatives for spin out
4. Partnerships
5. Impact investments

Input/funding



Contribution with financial support, evaluations, funding instruments, impact framework and KPIs signalling signal that societal impact matter.

Contribute with non-financial support, data collection, monitoring and co-development of initiatives in project centric organisation



Grant-giving principles and policies:

- Excellence
- Innovative
- Collaborative
- Knowledge-sharing
- Diverse

Reporting results



☐ Impact frameworks for each initiative wrt. Societal impact

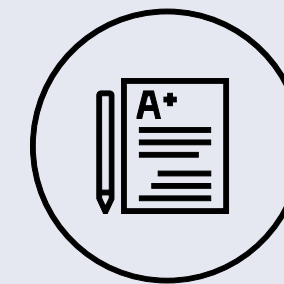
☐ Operations of initiative and project intervention

☐ Monitoring and analyzing of activities initiated and in progress

☐ Full control over reporting from initiated activities by recipient

☐ Monitor critical success criteria ("impact markers) and progress

☐ Evaluating the societal impact of grants and grant-portfolio



Philanthropic models and instruments - How we award grants

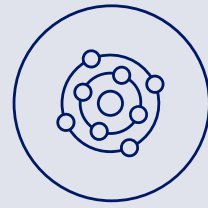


Open competition

E.g. projects, fellowships, prizes, programmes etc.

Examples

- Research, innovation, infrastructure, education, outreach, social, and humanitarian projects
- Collaborative research, innovation and education programmes
- Research leader programmes
- Investigator grants (career programme in the Nordic)
- Training grants

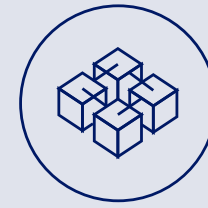


Strategic and mission-driven

E.g. research centres, stand-alone initiatives, own initiatives (new foundations)

Examples

- NNF research centres within medical and health science, natural and technical science, humanities and life sciences
- BII Foundation, LIFE (education) Foundation,
- Large infrastructure
- Education platforms and PhD academies
- Professorship programmes
- Collaborative programmes in all areas



Partnerships

E.g. public-private, private-private, etc.

Examples

- Steno Diabetes Centres (diabetes research hospitals)
- Partnerships with: Danish Refugee Council, UNICEF, World Diabetes Foundation
- Partnerships with Gates Foundation, Wellcome Trust and Open Philanthropy
- Health partnership with India and Kenya
- Tripartite Agreement on Green Denmark with government



Impact and strategic philanthropic investments

E.g. impact bond, equity loans, etc.

Examples

- Repair Impact Fund
- Den Sociale Kapitalfond Invest
- Cellerator P/S
- Quantum Computing P/S
- Gefion AI Computer P/S
- Infectious Disease P/S

Health

Obesity

1 billion

of the world's population
live with obesity

CVD

#1

cardiovascular disease
is the number one
cause of death

novo nordisk **foundation**

Diabetes

550

million people live with
diabetes

Infectious
diseases

10-15 million

die every year from
infectious diseases

Why

How

 **CENTRE FOR
CHILDHOOD
HEALTH**

Novo Nordisk Foundation
**CENTER FOR
BASIC
METABOLIC
RESEARCH**


UNIVERSITY OF
COPENHAGEN



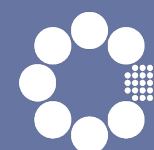
**DANISH NATIONAL
GENOME CENTER**

novo nordisk foundation
cellerator



reNEW

Novo Nordisk Foundation
Center for Stem Cell Medicine



**DANMARKS
NATIONALE
BIOBANK**

nivi

The Novo Nordisk Foundation
Initiative for Vaccines and Immunity



Grants in open competition 2016-2023

2,195 grants/EUR **1,112** million

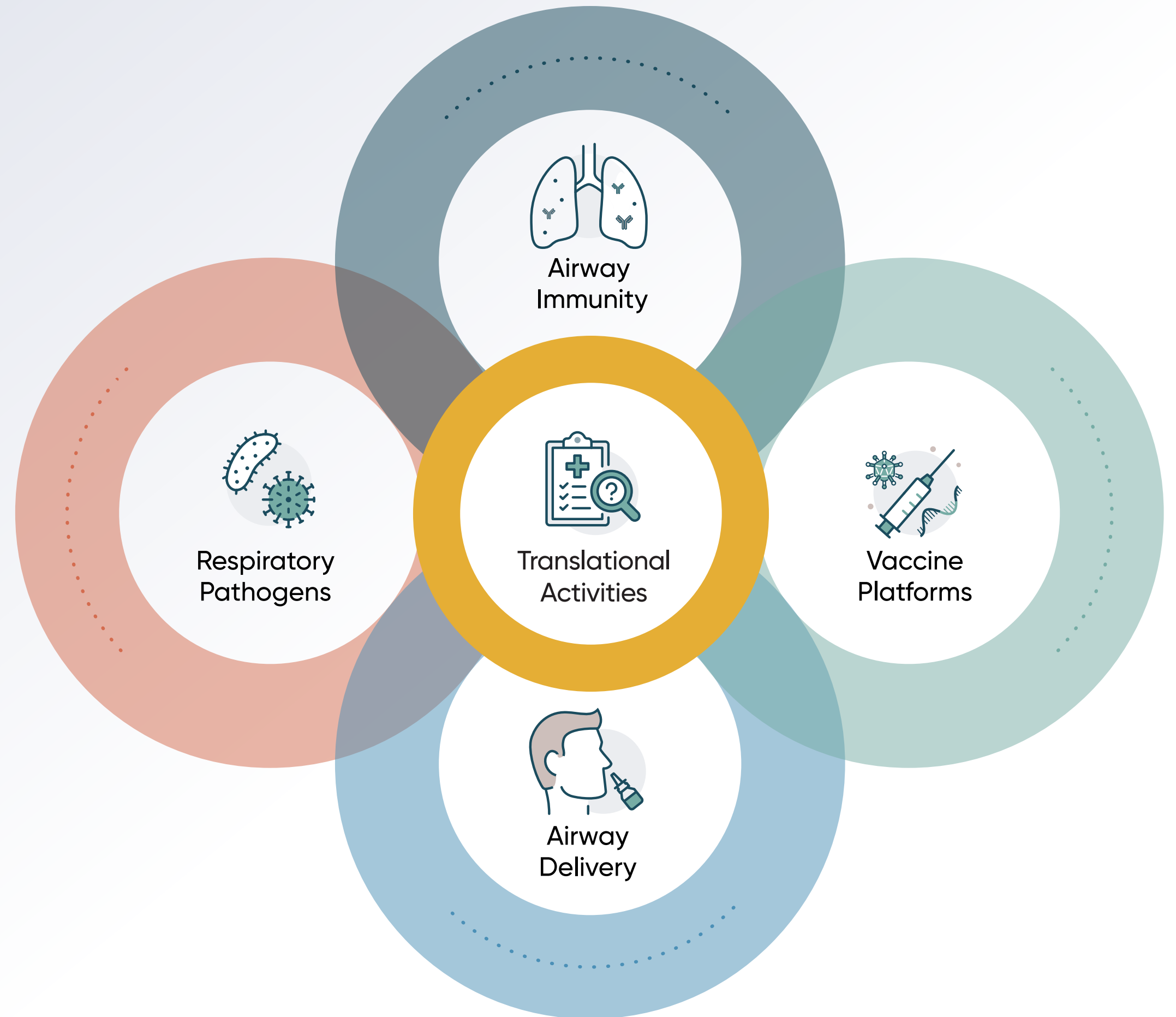


The Novo Nordisk Foundation
Initiative for Vaccines and Immunity

Vision: To prevent airborne epidemics and limit the spread of antimicrobial resistance through innovative vaccine development.

Mission:

1. To advance the understanding of host immunity and vaccine technologies, and
2. translate this knowledge into vaccines that confer robust, broad and durable protection against respiratory pathogens.



From cradle to grave

How we address the challenges posed by cardiometabolic diseases



The person in the photos is AI-generated

Age

Before conception

0-18

30-50

40-90


50- →

Maternal influence

Early intervention studies

- LiP-TOP-FiT
- PRE-STORK
- PREPARE-CHILD

Obesity prevention

 **CENTRE FOR CHILDHOOD HEALTH**

Healthy Weight Alliance

MORE2SLEEP (study)

Generation Healthy Kids

CVD prevention

 Danish Cardiovascular Academy

 Danish Diabetes and Endocrine Academy


 Novo Nordisk Foundation **CENTER FOR BASIC METABOLIC RESEARCH**

 UNIVERSITY OF COPENHAGEN


EDMI

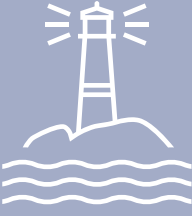
Early Detection and Monitoring Initiative

Diabetes treatment

 **NOVO NORDISK FOUNDATION CENTER FOR GENOMIC MECHANISMS OF DISEASE**

AT BROAD INSTITUTE

 **STENO**

 **LightCOM**

Lighthouse Consortium on Obesity Management

CVD treatment

CAPTURE HFpEF

New initiatives in the pipeline

Why

How

Sustainability

Population

9.8 billion

expected world
population in 2050

CO₂
emissions

51 billion

tonnes per year in 2050
if we don't fix it

Food
systems

30% of green-house gas
emissions

75% of agricultural land
supports livestock
production

70% of freshwater
consumption

80% of deforestation

80% of biodiversity loss

1/3 of all food is wasted



The Novo Nordisk Foundation
Center for Biosustainability



Novo Nordisk Foundation
CO₂ Research Center

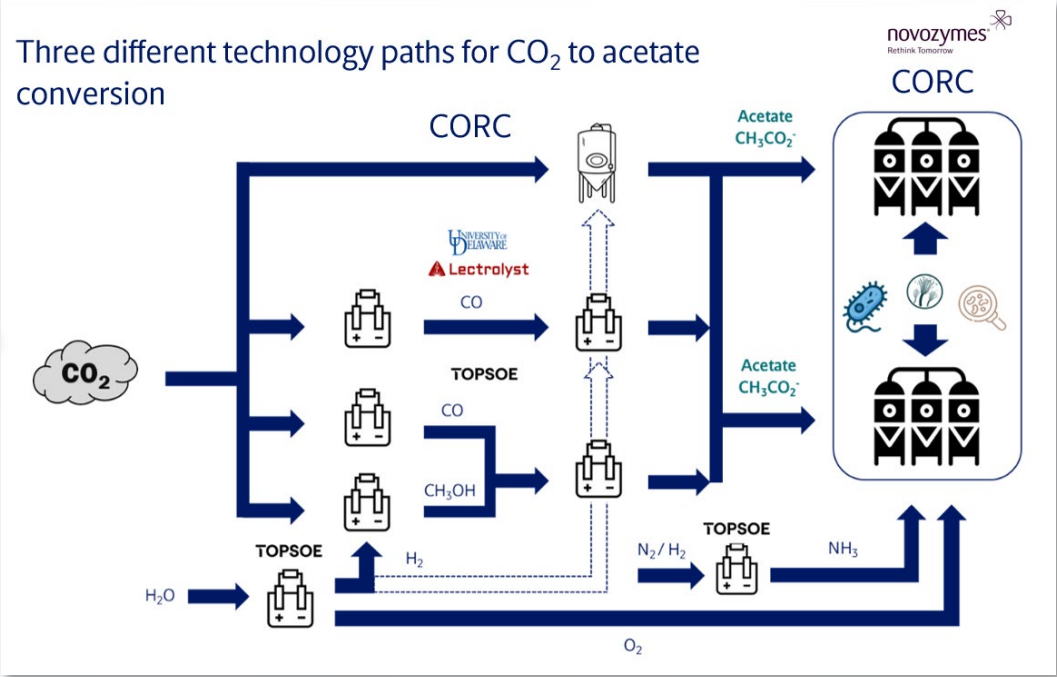


Grants in open competition 2016-2023

338 grants/EUR **202** million

CO₂ to acetate to food

Mission: To build an orthogonal approach to food security and CO₂-utilising production by creation of an acetate-based biomanufacturing capability



novonordisk
foundation

BILL &
MELINDA
GATES
foundation



SeedFood Challenge Programme

Functional and
palatable plant seed
storage proteins for
sustainable foods

PIG-Paradigm

Reduce the need for
antimicrobial
treatments and
mitigate the spread of
AMR by delivering
fundamental
knowledge on the pig
gut microbiome and its
function



Novo Nordisk Foundation
CO₂ Research Center

Mission: To enable climate change mitigation by discovering and exploring innovative technologies for carbon capture, sequestration, and utilisation. The activities of the Center should support Danish and international goals on reducing CO₂ emissions



AARHUS UNIVERSITY

Sattelites

UNIVERSITY OF
COPENHAGEN

DTU

EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



Stanford
University

Macro level: LandCRAFT

Transformative Change of Food Systems

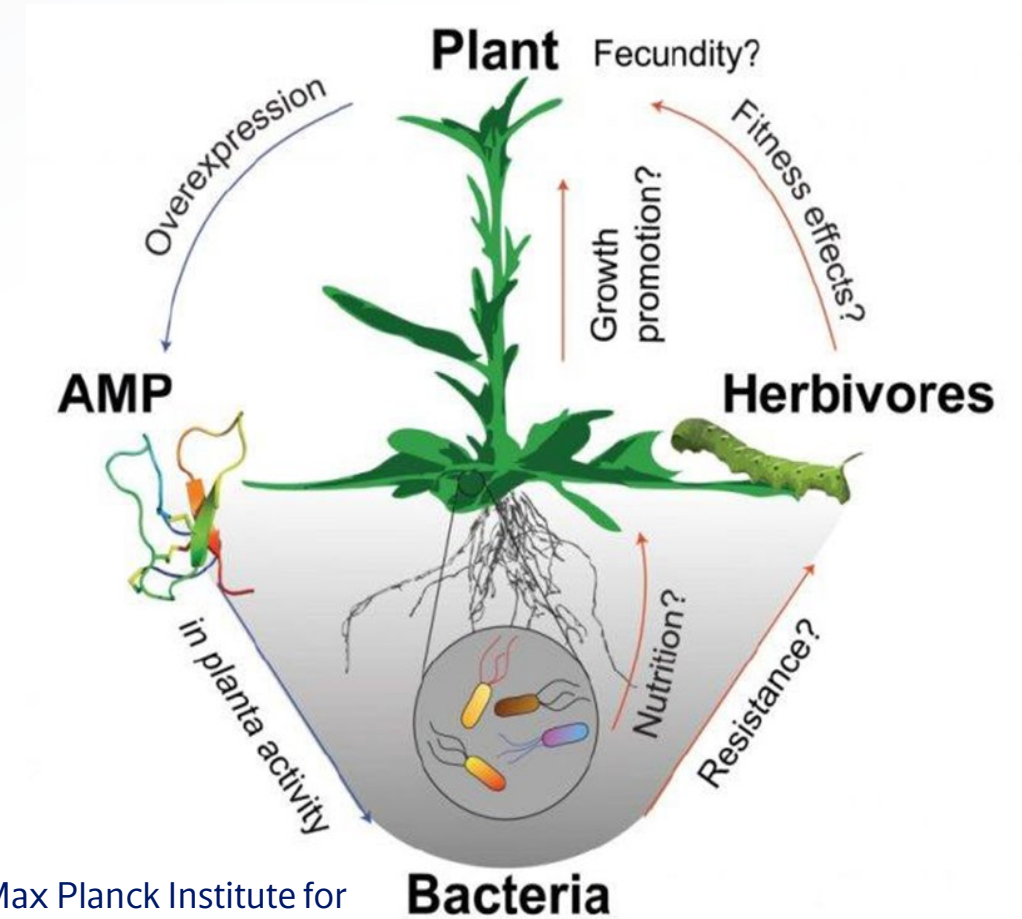


Mission: To reach agricultural climate neutrality by landscape-level biology and socio-economic drivers for climate-resilient, productive and sustainable agriculture



Micro level: Crop Resiliency Programme

Mission: To investigate the interaction between plants and microbes to be able to model and manage plant-microbe interactions to enhance crop resiliency and productivity under environmental pressure and reduced input of chemicals, fertilizers and water.



Source: Max Planck Institute for Chemical Ecology 2017



Danmarks
Tekniske
Universitet



Why

How

Life Science Ecosystem

Our ambitions

#1 Fundamental research

Reach the highest international standards within life, natural and technical sciences

#3 Translational capacity and societal impact

Create a world class innovation environment for the life sciences and the green transition in society

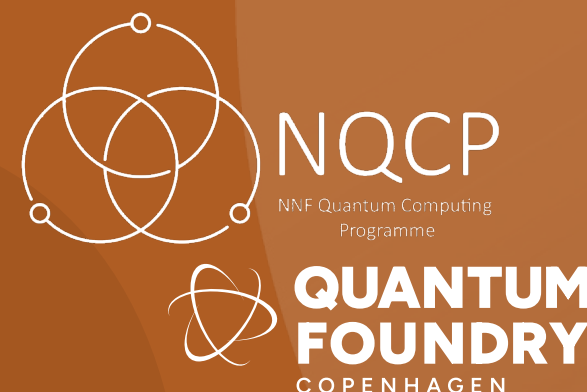
#2 Enabling research infrastructures and technologies

Develop novel technologies and provide access to state-of-the-art research infrastructure

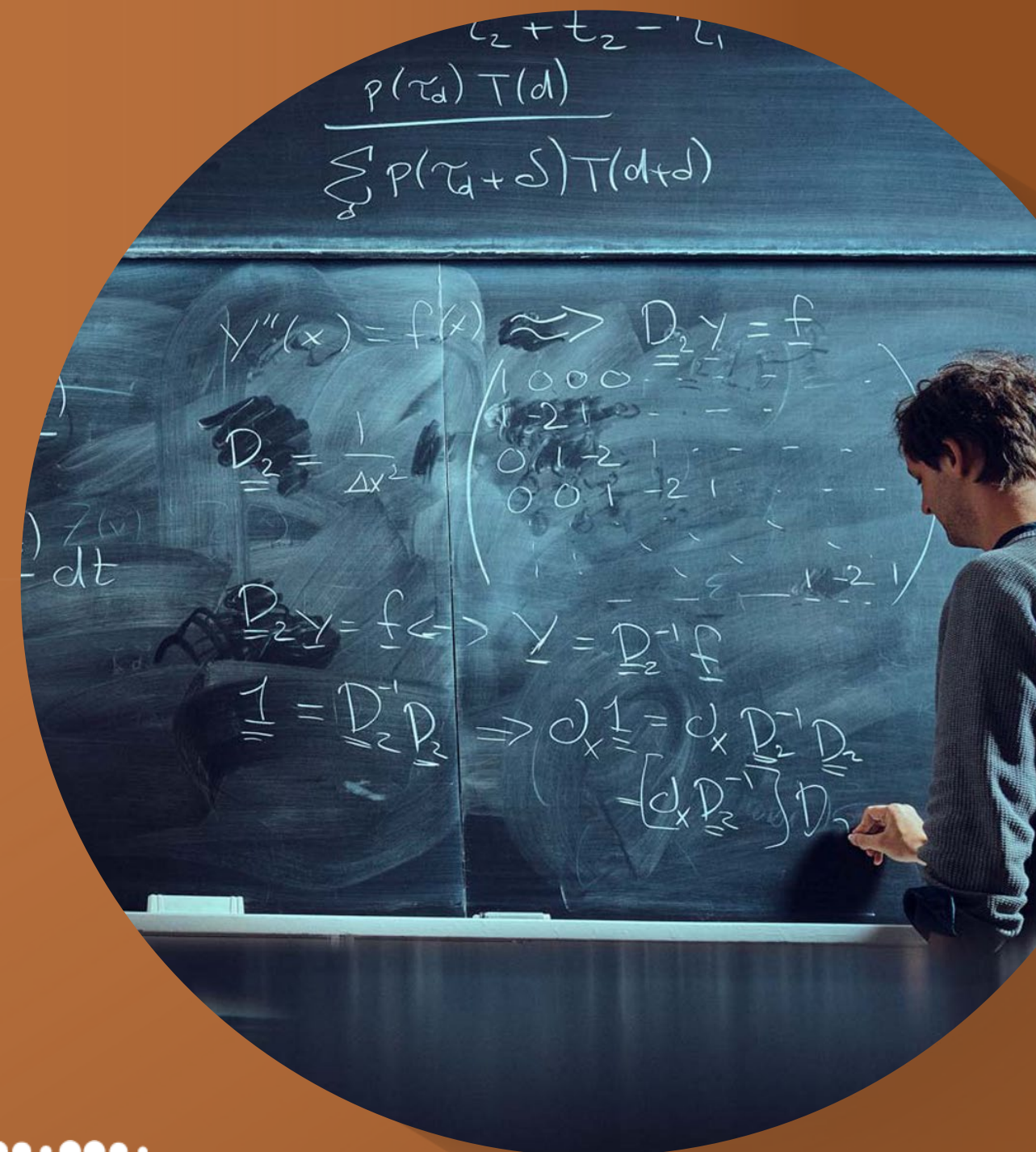
#4 Education and science capital

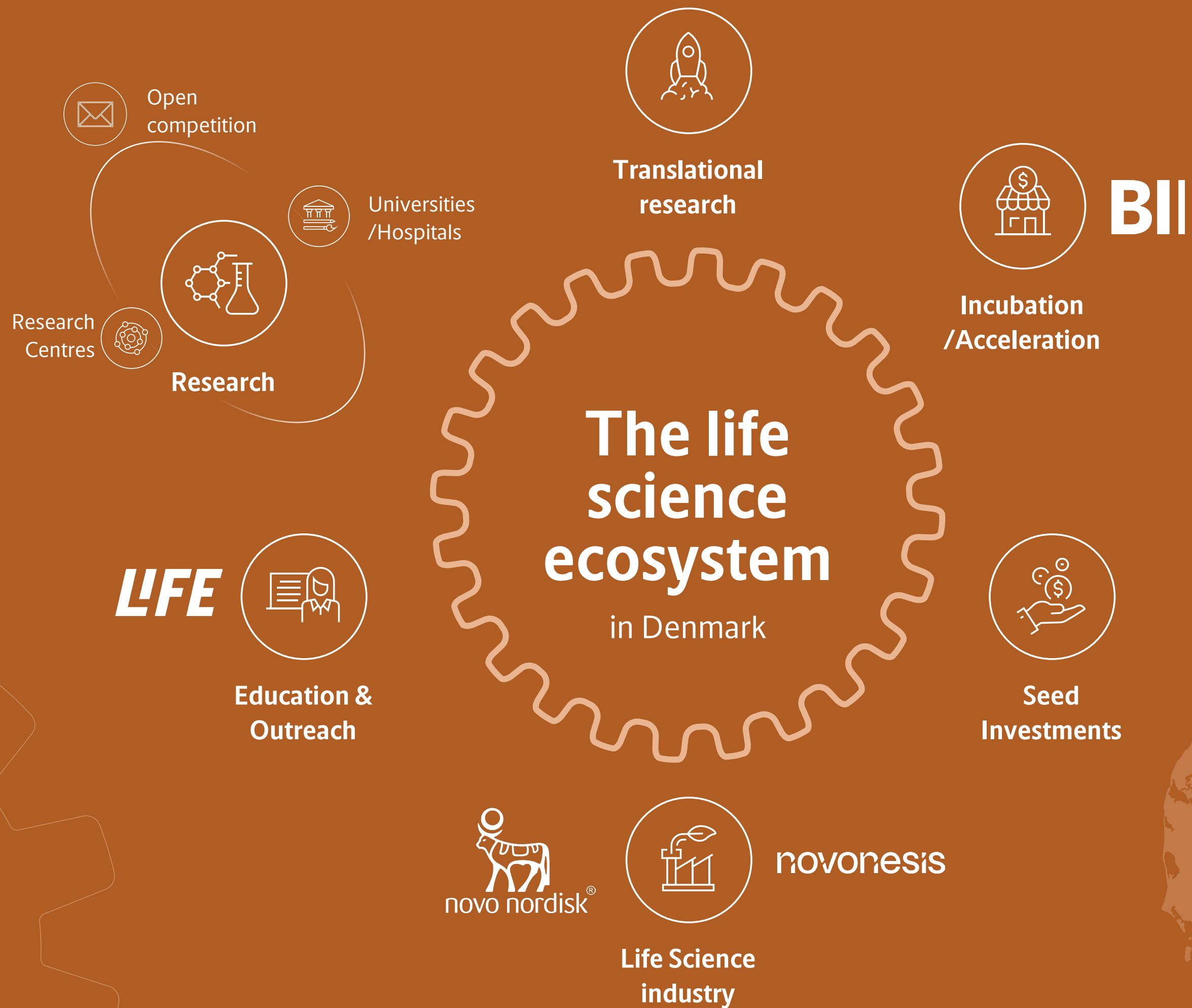
Strengthen scientific and technical aspirations, knowledge and competencies

LIFE



BI BioInnovation Institute





NNF grant
DKK 1.1 billion
(EUR 147 million)

Total funding granted June 2022

**DKK 1.5 billion
for the first 7 years
(EUR 200 million)**

NNF investment
DKK 400 million
(EUR 53 million)

novo nordisk **foundation**

Novo Nordisk Foundation Quantum Computing Programme

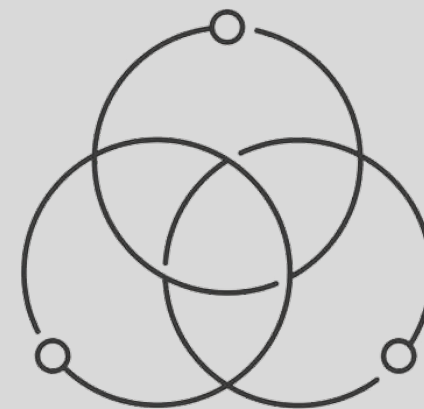
Located at the original Niels Bohr Institute

Mission: Develop a functional quantum computer and quantum technologies to solve grand challenges within the life sciences.



DIANA center

Emerging and disruptive technologies



NQCP

NNF Quantum Computing
Programme

Collaboration



**QUANTUM
FOUNDRY**
COPENHAGEN

Purpose: To develop materials and tools for chip-based manufacturing of quantum processors with extreme accuracy for quantum computing applications



UNIVERSITY OF
COPENHAGEN



DTU
Technical
University of
Denmark



AARHUS
UNIVERSITY



TU Delft

Delft University of Technology



UNIVERSITY OF
TORONTO



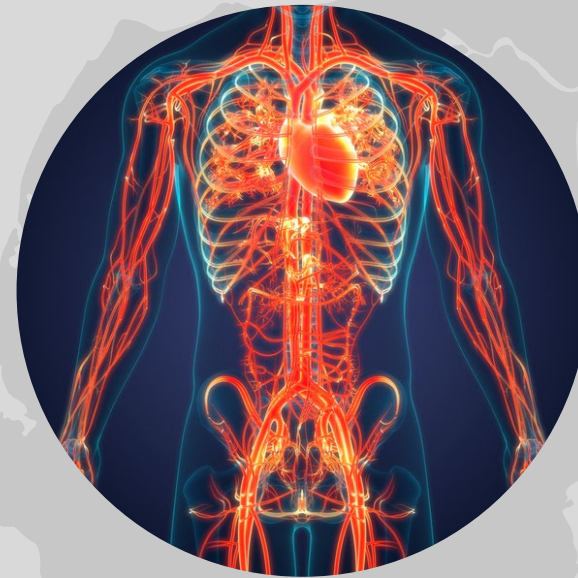
UNIVERSITY OF
COPENHAGEN

Selected initiatives within the Danish life science ecosystem



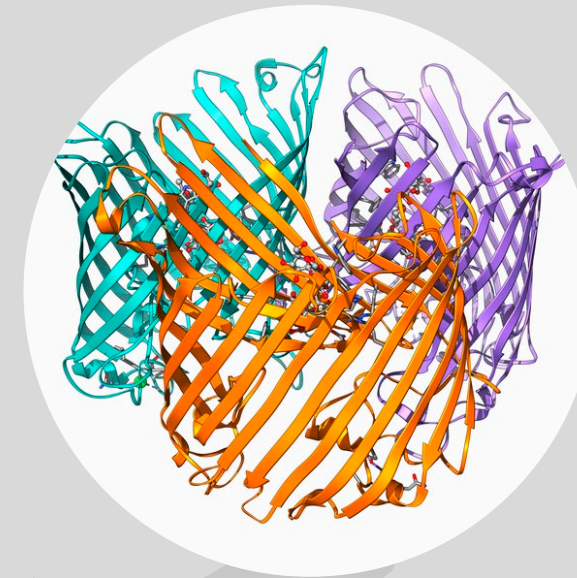
Grants in open competition

Within health, biomedical, and clinical science, natural and technical science, biotechnology and life science, innovation, education and outreach, humanitarian and social projects



Research Academies

Data Science
Diabetes & Endocrinology
Cardiovascular



Proteomics Research Infrastructure

Provide state-of-the-art proteomics to academia and industry



Science Education Academy NAFA

Strengthen primary and lower secondary science education through evidence-based teacher professional development

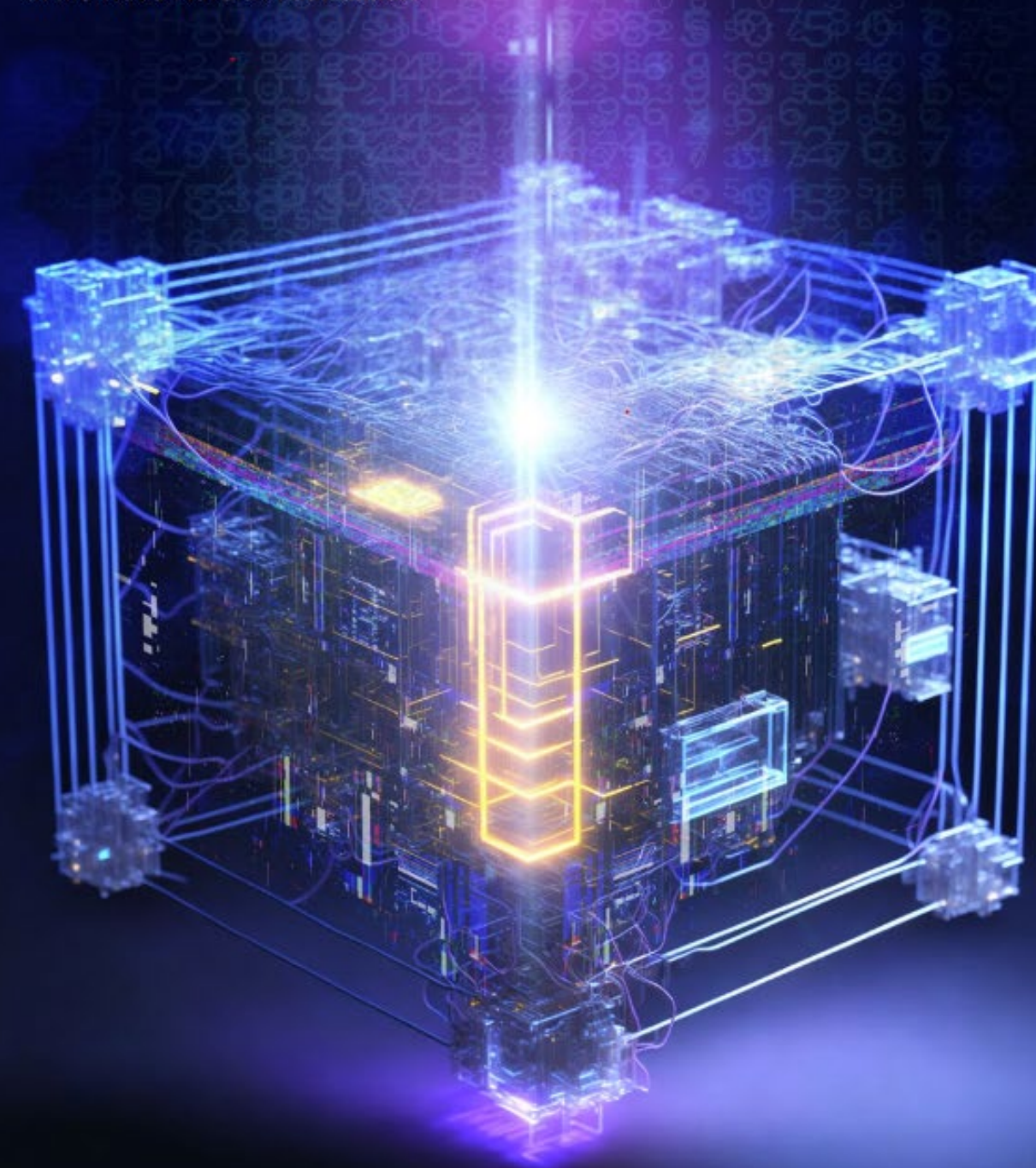
Introduction to NNF Impact Management

Thomas Alslev Christensen
Senior Vice President
novo nordisk **fonden**

novo nordisk
foundation
Benefitting people and society

Annual Impact Report 2023

SOCIETAL IMPACT of the Novo Nordisk Foundation



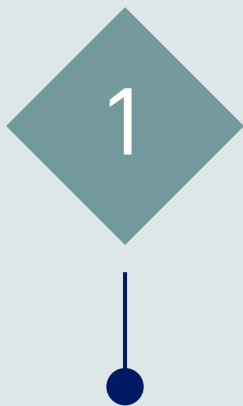
Impact management – value creation



- **Improvement of the intervention design** including formulation of challenges and vision
- Increased likelihood of better reporting data and **more scientific and wider societal impact**
- **Support leadership/management** information in larger multi-annual initiatives
- **Improve the focus of initiatives on success factors** and support evaluations
- **Improve the impact culture** among key-stakeholders
- Strengthen the **NNF branding** as a leading, modern, dynamic and impactful organisation

Impact management (Miro-Board co-creation tool) - templates

Explaining the initiative as clear as possible



What is it that you want change, how do you want to change it, and why?

Challenge
Situation that you want to change or improve?

Activities
How will you get there?

Results
What are the results (outputs/outcomes) of your activities?

What success looks like?
• Short term?
• Medium term?
• Long term?

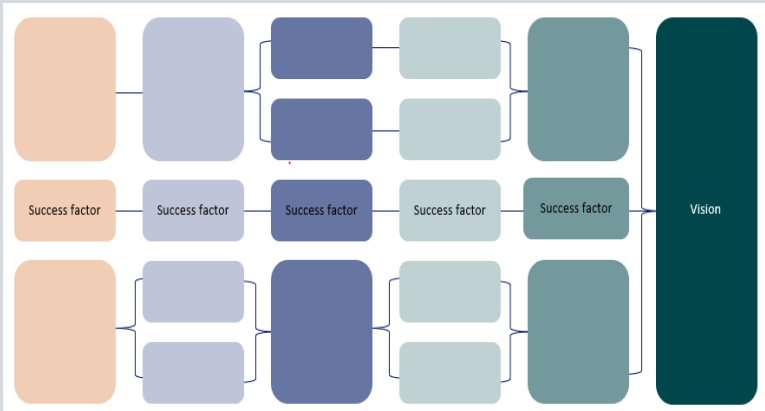
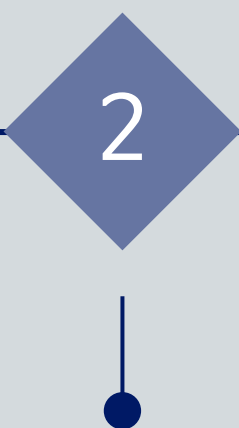
Vision
A desired state, or change you want to occur in the long run to solve a given challenge.

Mission
Best set up/ funding instrument to help you solve the challenge and progress towards the Vision.

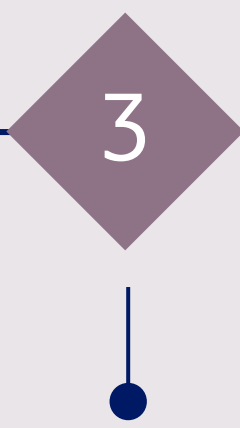
Assumptions
Beliefs you have about the project, people involved and the way you think the project will work.

novo nordisk foundation

Creating the Logic Model

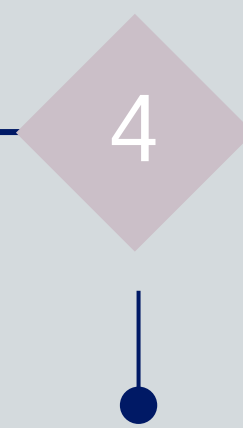


Finalising the Data Model



Category	Success factor	Indicators	Reporting system	NNF	Grantee/partner
Input					
Activities					
Output					
Outcome					
Impact					

Ex-ante Societal Return on Investment analysis



Case: Initiative

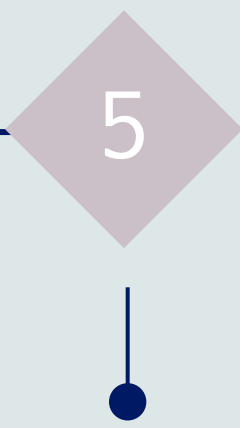
- INVESTMENT: DKK xx million grant from NNF
- ADDITIONAL FUNDING: DKK 0-xxx million
- PARTNERS: NN
- PROBLEM: AA
- VISION: BB
- GOALS: CC

Results: WWW

- Non-monetary societal impact return on investments (quantitative):
 - Xxxx
 - Xxxx
- Non-monetary societal impact return on investments (qualitative):
 - Ssss
 - Ssss
- Monetary societal impact return on investment:
 - Mmimm
 - Mmimm

novo nordisk foundation

Plan for reporting, monitoring, dialogue, and evaluation



Elements	2024				2025				2026				2027				2028				2029-2031				2032			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Systems reporting	▲				▲				▲				▲				▲				▲							
Annual report		▲				▲				▲				▲				▲										
	31/03				31/03				31/03				31/03				31/03											
Status reporting			▲				▲				▲				▲				▲									
Dialogue meetings		▲				▲				▲				▲				▲										
Mid-term evaluation																												
End-term evaluations															▲													
Impact Evaluation																											▲	

Explaining the initiative as clear as possible (template)

What is it that you want change, how do you want to change it, and why?

Challenge
Situation that you want to change or improve?

Challenge

Activities
How will you get there?

→

Results
What are the results (outputs/ outcomes) of your activities?

→

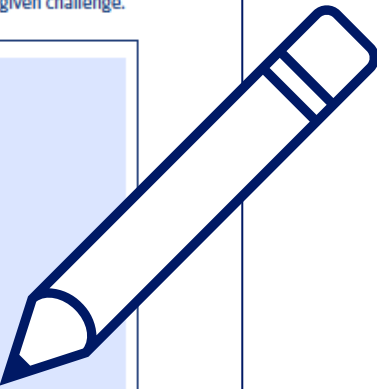
What success looks like?

- Short-term?
- Medium-term?
- Long-term?

Vision
A desired state, or change you want to occur in the long run to solve a given challenge.

Mission
Best set up/ funding instrument to help you solve the challenge and progress towards the Vision.

Assumptions
Beliefs you have about the project, people involved and the way you think the project will work.



Challenge:

Situation that you want to change

Vision:

A desired state or long-term objective that you want to reach

Success:

Description of what success looks like at the end of the grant period.

Activities & results:

How will you get there and what are the results (outputs/ outcomes) of your activities?

Mission:

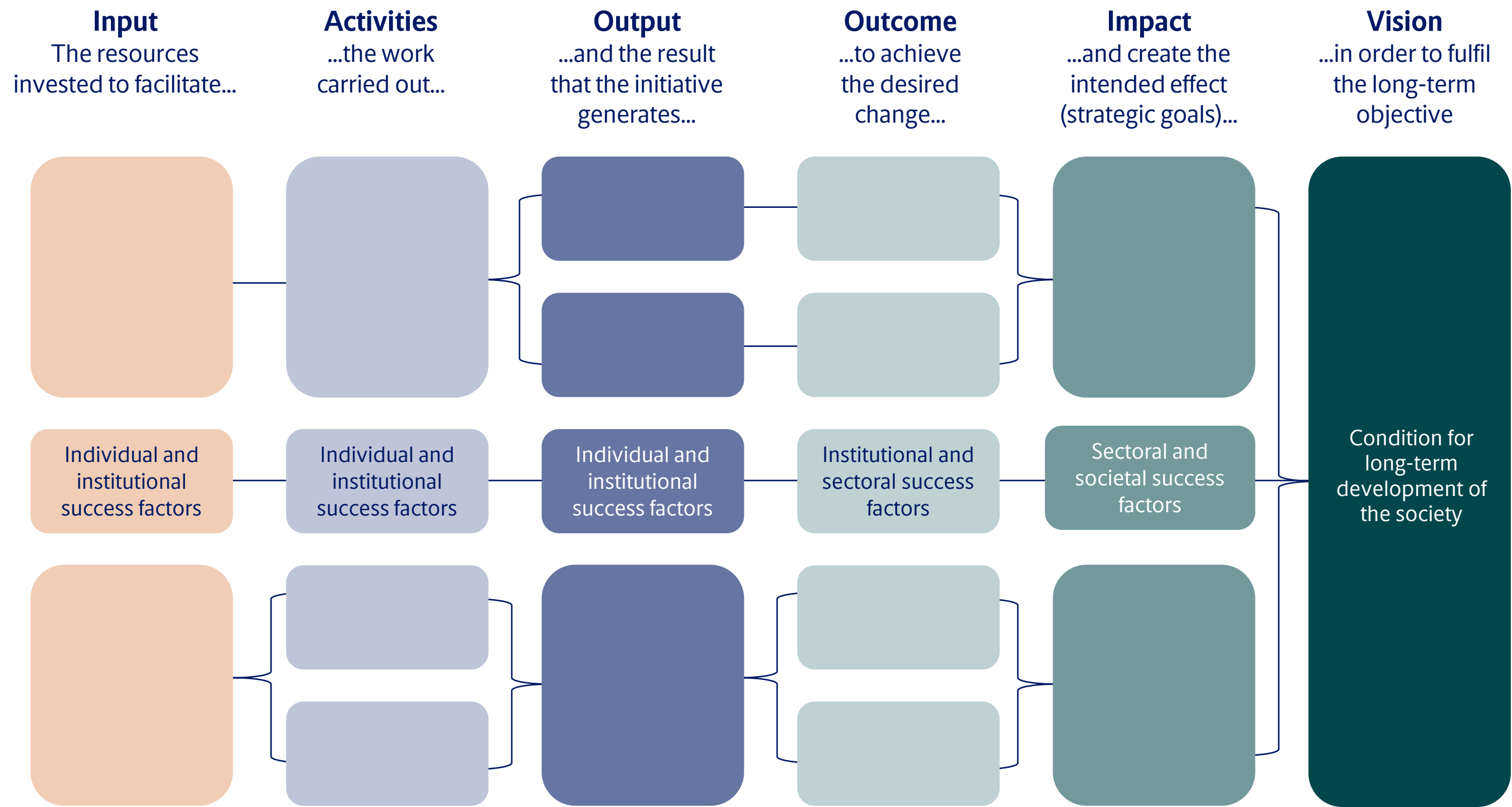
Best set up/ funding instrument to help you solve the challenge and progress towards the Vision

Assumptions:

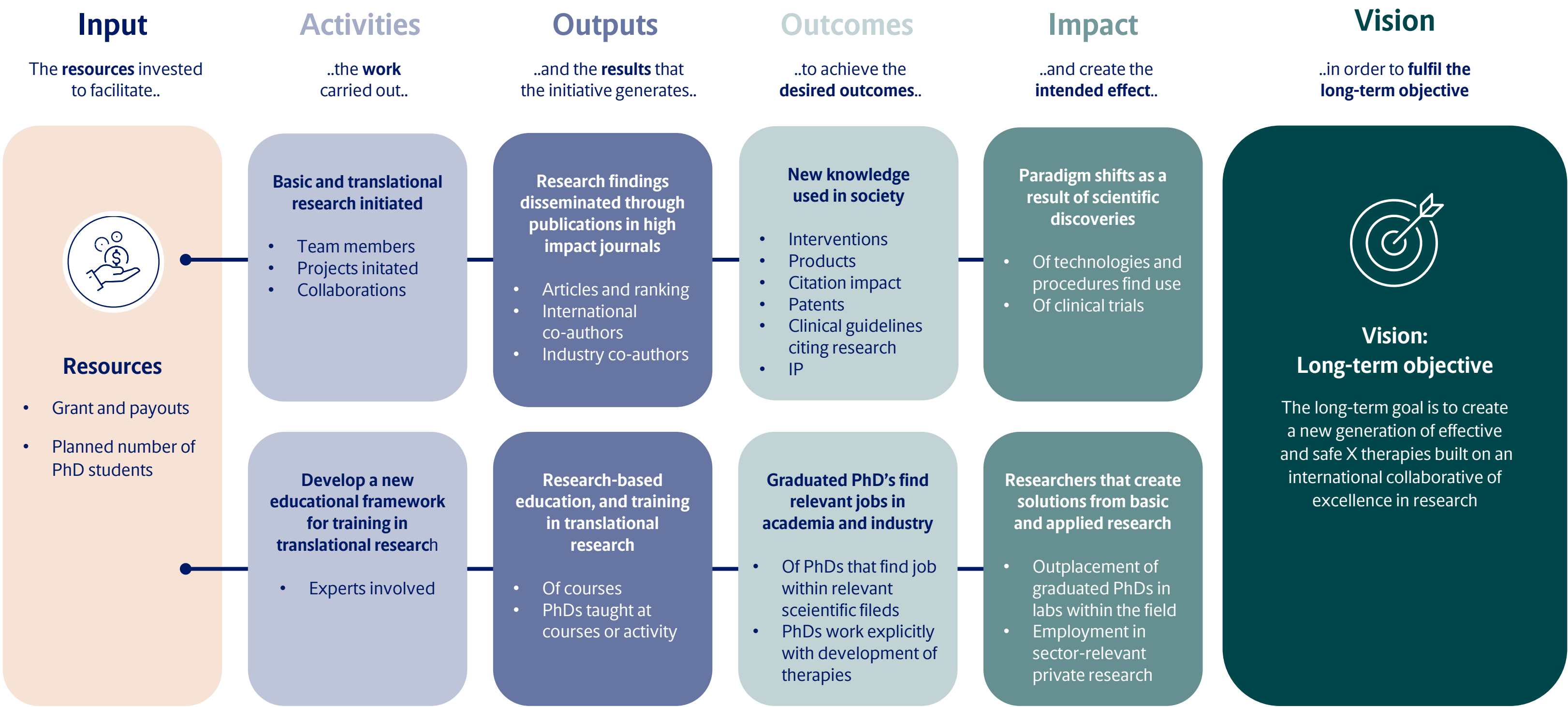
What are you (implicitly) assuming about external factors that could influence chances of success positively or negatively (e.g. available infrastructure, institutional barriers)

The Logic Model – Theory-of-Change

(from individual and institutional to sectoral and societal change)



Example of a sterilized logic model for a research grant with success factors and KPIs



Creating the Data Model (template example – small initiative)

Category	Success factor	Indicators	Data from reporting systems	Additional data from Grantee	NNF Impact role
Input	NNF funding	# amount funded	NORMA/ Researchfish		Data enrichment
Activities	Setting the team to conduct high quality research and activities	# talented researchers hired for team roles # research related activities	Researchfish	Annual reports	Data enrichment
Output	Research activities that deliver a range of research outputs	# databases, models, research methods, tools etc. # publications and outreach # collaborations	Researchfish Researchfish Researchfish		Data enrichment
Outcome	New knowledge and use of knowledge	# databases shared and used by other researchers # patents, invention disclosures, etc. # personal recognition and policy contributions	Researchfish Researchfish Researchfish		Data enrichment
Impact	New knowledge influencing policy and practice	# impact on legislation (e.g. governmental advise) # impact on practice (e.g. guideline citations) # improved health of people	Researchfish Researchfish Researchfish		Analysis

Creating the Data Model (template example – larger initiative)

Category	Success factor	Indicators	Data reported from researcher(s)	Data from databases and analysts
Input	Funding body (Rigshospitalet, University of Copenhagen, Foundation, etc.)	# amount funded # team behind research activities/projects	Funding body/ Researcher(s)	Data enrichment
Activities	Setting the team to conduct high quality research and activities	# talented researchers hired for team roles # collaboration partners (industry, hospitals, universities, public etc.) # research related activities # research infrastructure, technology and equipment	Researcher(s) Researcher(s) Funding body Funding body	Data enrichment
Output	Research activities that deliver a range of research outputs	# databases, models, research methods, tools etc. # publications and outreach # collaborations (institutional, regional, national, international, interdisciplinary) # clinical trials	Researcher(s) Researcher(s) Researcher(s) Researcher(s)	Data enrichment
Outcome	New knowledge and use of knowledge	# databases shared and used by other researchers # patents, invention disclosures, innovations, etc. # personal recognition and policy contributions # development of drugs, therapies,	Researcher(s) Researcher(s) Researcher(s) Researchers(s)	Data enrichment Analysis
Impact	New knowledge influencing policy and practice	# impact on policy and legislation (e.g. policy advise) # impact on practice (e.g. guideline citations) # improved health of people affected by research # mortality rates, development in populations, etc.	Researcher(s) Researcher(s) Researcher(s)	Analysis Analysis Analysis Analysis

Template plan for reporting, monitoring, dialogue, and evaluation

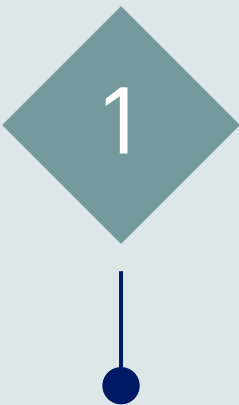
Elements	2024				2025				2026				2027				2028				2029-2031				2032			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Systems reporting	▲				▲				▲				▲				▲				▲							
Annual report		▲				▲				▲				▲				▲										
Status reporting	31/03		▲		31/03		▲		31/03		▲		31/03		▲		31/03		▲									
Dialogue meetings		▲				▲				▲				▲				▲										
Mid-term evaluation																												
End-term evaluations																▲												
Impact Evaluation																												▲

Elements	Format, material etc.	Source material
Dialogue	Preparation of report	Dashboard data
Mid-term evaluation	E.g. PowerPoint report focusing on milestone progression	E.g. Systems reporting data
End-term, Impact	External evaluation	
Impact evaluation		

Impact management - collaboratory processes

Project lead

Explaining the initiative as clear as possible



What is it that you want change, how do you want to change it, and why?

Challenge
Situation that you want to change or improve?

Activities
How will you get there?

Results
What are the results (outputs/outcomes) of your activities?

What success looks like?
• Short term?
• Medium term?
• Long term?

Vision
A desired state, or change you want to occur in the long run to solve a given challenge.

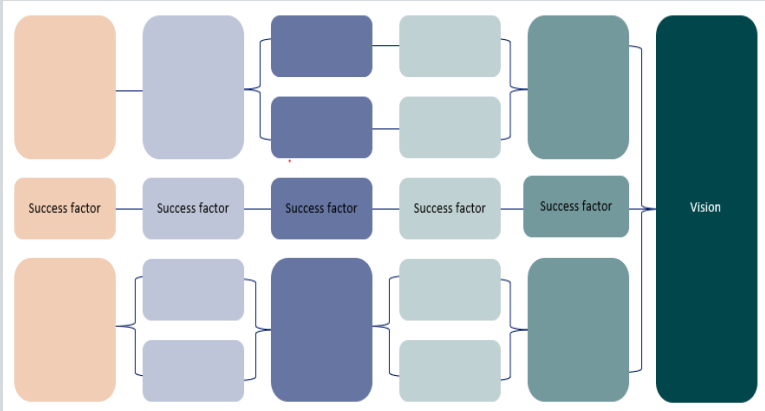
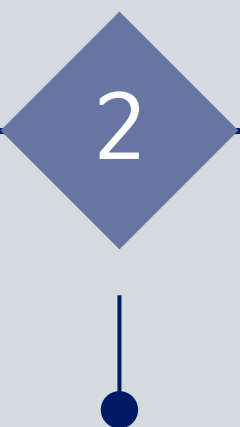
Mission
Best set up/funding instrument to help you solve the challenge and progress towards the Vision.

Assumptions
Beliefs you have about the project, people involved and the way you think the project will work.

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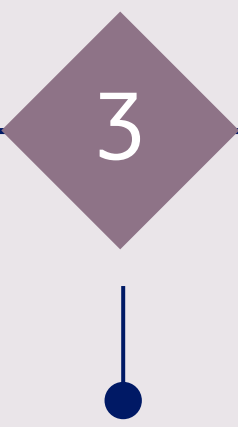
Co-creation

Creating the Logic Model (Theory-of-Change – pathway to impact)



Impact Partner

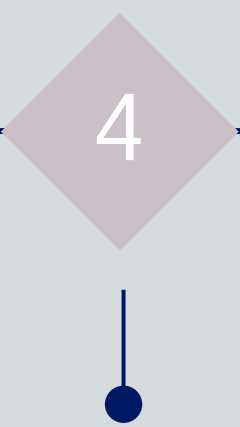
Finalising the Data Model



Category	Success factor	Indicators	Reporting system	NNF	Grantee/partner
Input					
Activities					
Output					
Outcome					
Impact					

Co-creation

Ex-ante assessment of societal return on investment



Case: Initiative

- INVESTMENT: DKK xx million grant from NNF
- ADDITIONAL FUNDING: DKK 0-xxx million
- PARTNERS: NN
- PROBLEM: AA
- VISION: BB
- GOALS: CC

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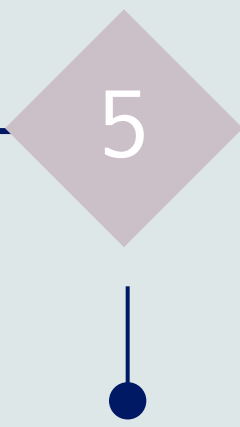
Results: WWW

- Non-monetary societal impact return on investments (quantitative):
 - Xxxx
 - Xxxx
- Non-monetary societal impact return on investments (qualitative):
 - Ssss
 - Ssss
- Monetary societal impact return on investment:
 - Mmimm
 - Mmimm

12

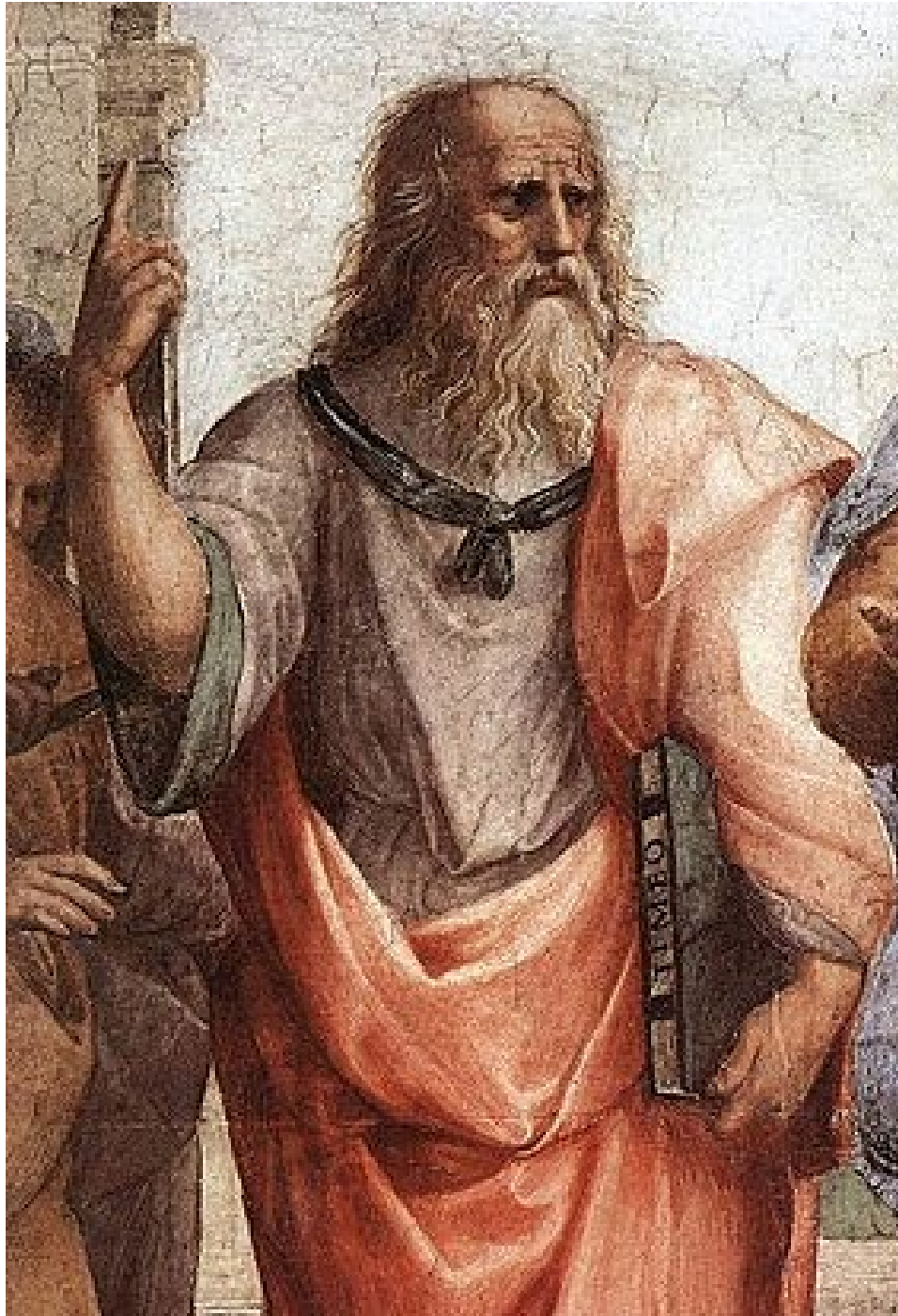
Co-creation

Plan for reporting, monitoring, dialogue, and evaluation



Elements	2024				2025				2026				2027				2028				2029-2031				2032			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Systems reporting	▲				▲				▲				▲				▲				▲							
Annual report		▲				▲				▲				▲				▲										
		31/03				31/03				31/03				31/03				31/03										
Status reporting			▲				▲				▲				▲				▲									
Dialogue meetings		▲				▲				▲				▲				▲										
Mid-term evaluation																												
End-term evaluations																												
Impact Evaluation																												

Theory of impact measurement



1. Purpose/objective

- **Intended:** Effects align with the initial goals and objectives set forth by the research.
- **Unintended:** Results diverge from intentions, adding benefits or unintended effects.

2. Nature of results

- **Tangible:** Concrete and explicit results that can be directly observed and quantified.
- **Intangible:** Abstract results, such as theoretical advancements or shifts in understanding, which may not be physically measurable but hold significant value in science or society.

3. Temporal perspectives

- **Short-Term:** Immediate or near-future outcomes directly attributed to the research.
- **Long-Term:** Extended impacts that unfold over a protracted period post-research.

4. Consequential spectrum

- **Positive:** Beneficial outcomes/advancements, enhancing knowledge or societal conditions.
- **Negative:** Detrimental effects potentially hindering progress or causing setbacks.

5. Anticipated outcomes

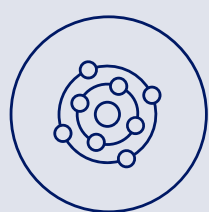
- **Expected:** Predicted or hypothesized effects based on research parameters and objectives.
- **Unexpected:** Results that were not initially predicted but emerged during or post-research.

Who are affected by intervention?



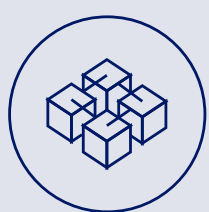
Individium

E.g. individual researchers, students, children, etc.



Organisation/Institution

E.g. universities, companies, research institutions, etc.



Societal sector

E.g. research environment, public health, social, energy, agriculture, environment, etc.



Society/Wider society

E.g. development of populations, countries, democracy, etc.

Examples of effects

- Research **career**
- Researcher collaborations
- Research output (journal articles, citations, databases, methods, inventions, etc.)
- Education and engagement activities

Examples of effects

- Research teams and research community
- Institutional collaborations
- Research output (journal articles, databases, methods, interventions)
- Education
- Infrastructure

Examples of effects

- Scientific production, progress and breakthrough
- Technology, **clinical trials** and development
- Innovations and **discoveries**
- Products and **services**
- **Paradigm shifts** in functioning of a sector

Examples of effects

- Reach to people in humanitarian, social, **health**, economic, environmental and other societal settings
- Political, economic, social and environmental changes in society (employment, climate, social conditions, etc.)

Scientific impact

Sectoral and societal impact

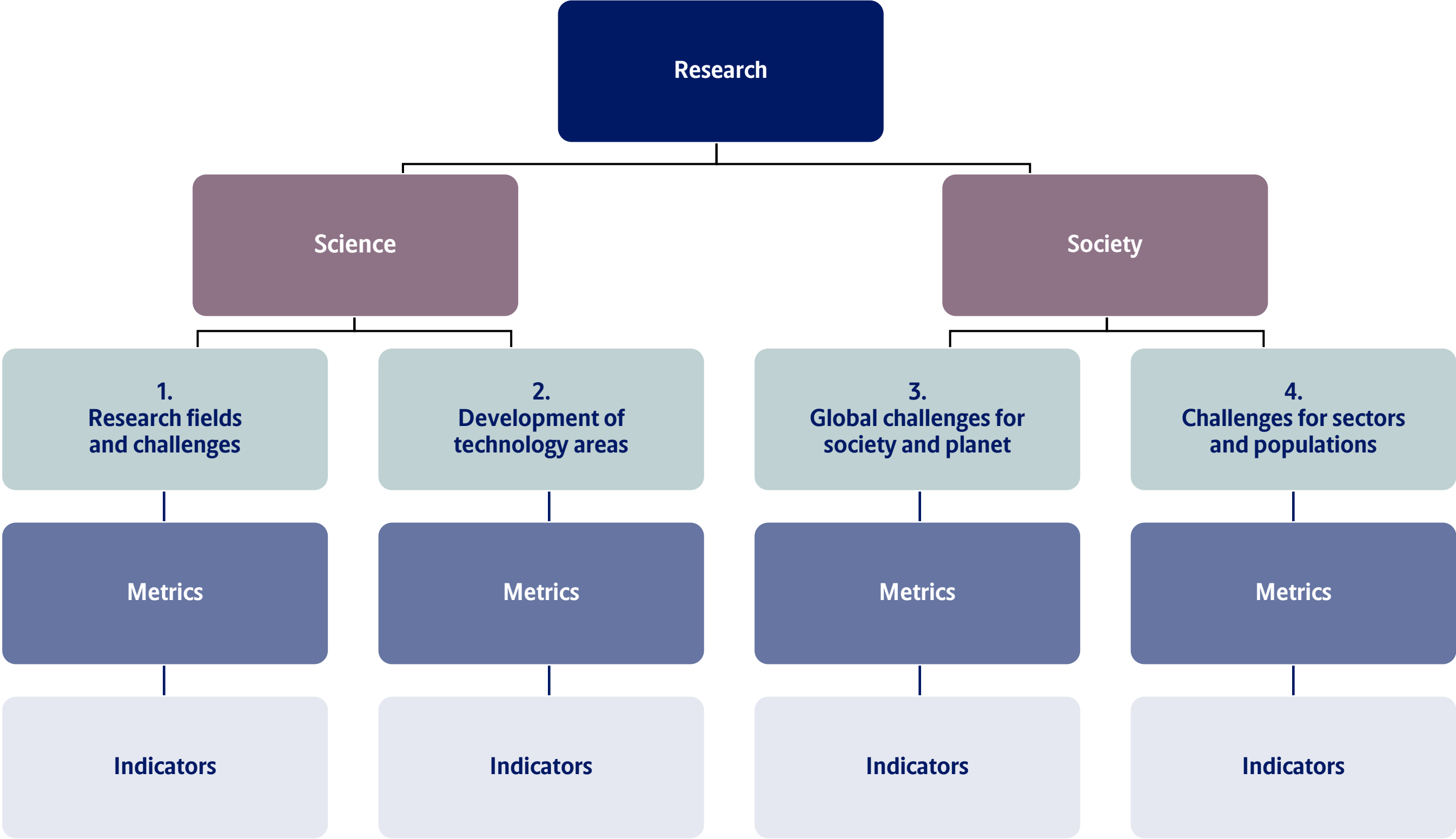
Wider societal impact

How are the effects of research documented and measured?

Where?

What?

How?



NNF Impact Area

Impact Areas

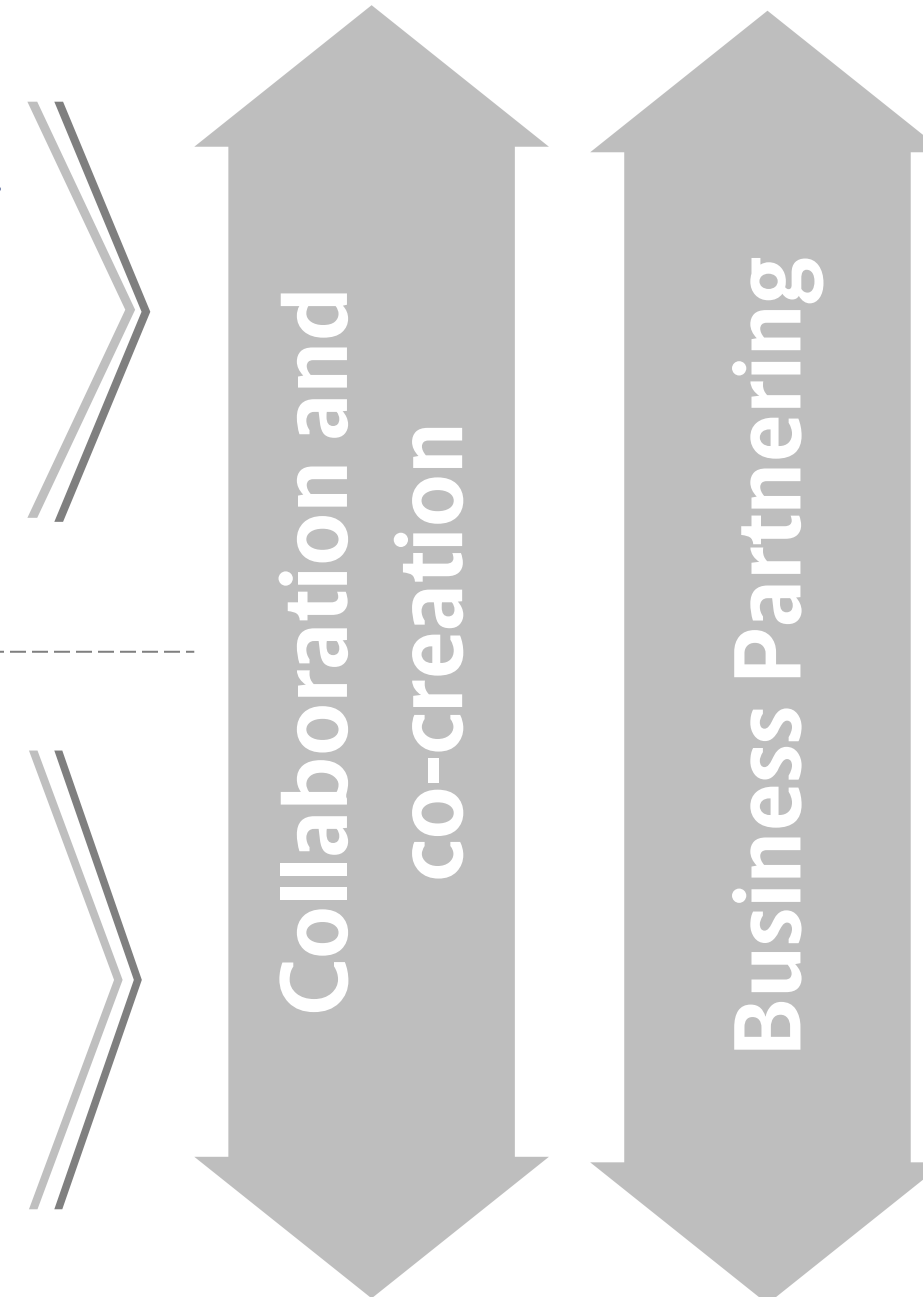


Core Responsibilities

- *Grantee reporting, data collection, data cleaning, data readiness and data delivery and visualization.*
- *Monitoring, compliance activities and reporting internally and to authorities and society*
- *Programming, machine-learning methods, technology trend analyses and bibliometric analyses*



- *Ex-ante and ex-post evaluations, surveys and analytics*
- *Pull, transform and shape data for analytics and evaluations*
- *Impact frameworks, logic model, and impact management*
- *Societal impact and science-of-science policy*



Data competence centre



- **Access to world-wide scientific data:** journal articles, books, patent data, clinical trials and many other relevant data (Library service – collaboration with NNAS and Novonesis)
- **Sorting of data from applications** and grants into subcategories in relation to disease prevention and health promotion
- **Data platform** with all NNF input, output and outcome data and access via **NNF Dashboard**

Reporting systems for activities, output, outcome and impact



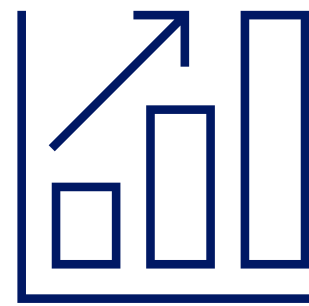
- **Researchfish[®]**
- **Foundgood**
- **Survey exact** (ad-hoc evaluations and data collection)
- Interviews with **qualitative** studies and cases evaluations
- **ML generated** journal article harvesting
- **AI generated automatic reporting** and data collection (upcoming)

How impact data provides value – internally



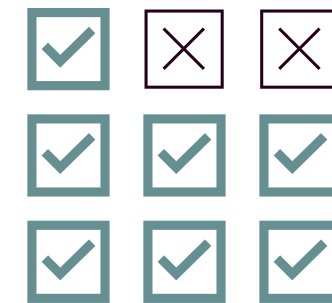
Provides overview

- Achievements - relative to targets?
- Overall funding portfolio?
- Where is impact created?
- What kind of impact is created?



Evaluations & comparisons

- What instruments work best?
- What areas provide the most impact?
- Who benefits the most from funding?
- Where is the biggest potential?



Basis for decision making

- What programs should be continued, stopped, launched?
- What instruments should be applied?
- What are promising funding areas?



Improve selection

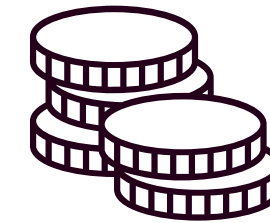
- Use learning from impact analysis to improve the selection process?
- And ultimately, create more impact?

How impact data provides value – externally



Creating public awareness

- How does science and the activities of the foundation contribute to society
- What are challenges that needs attention
- What solutions might work

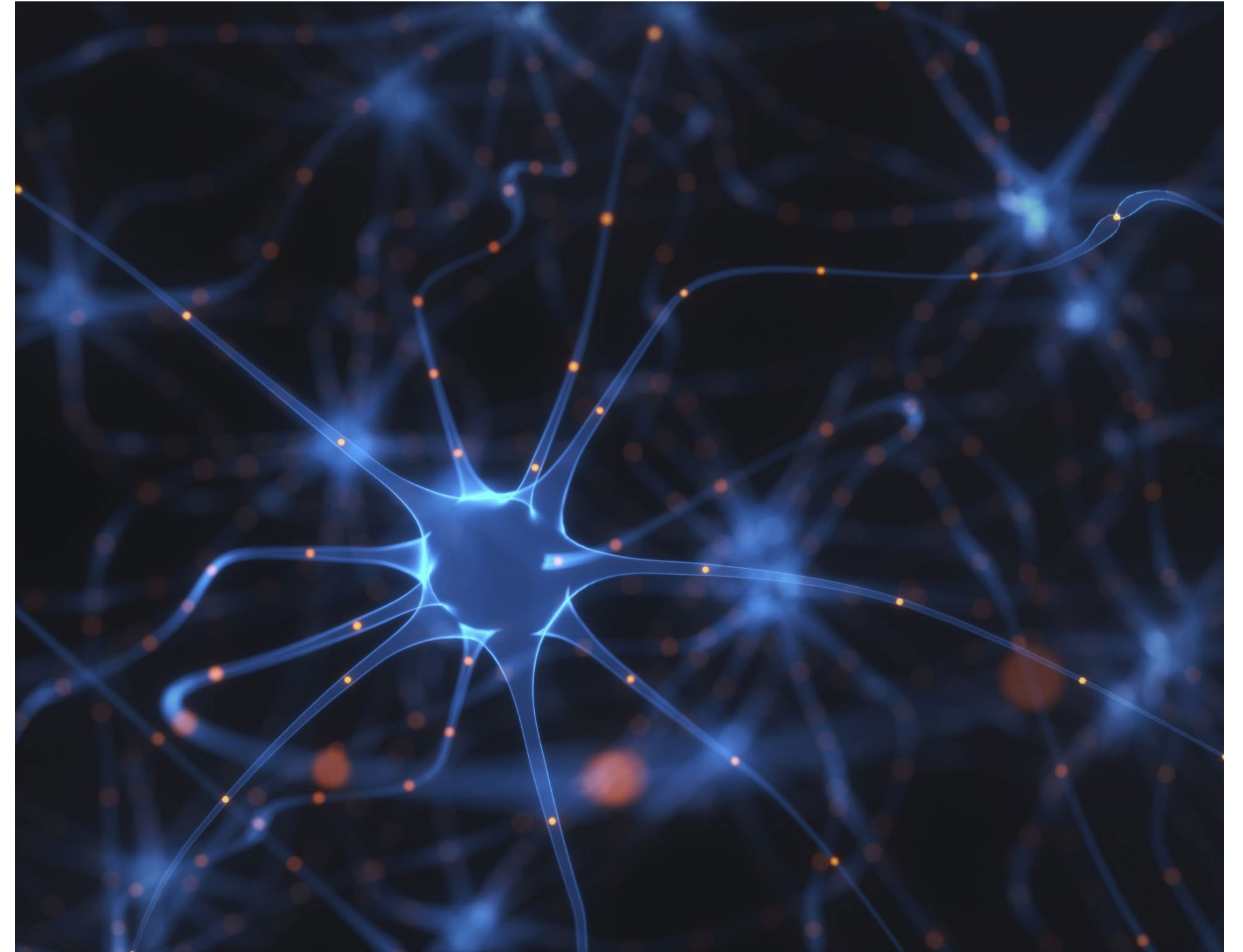


Cross-program analysis

- Show how funding has been used
- How funding creates impact
- How much funding is needed to make a difference
- Why is funding important

Development of Machine Learning and AI tools in impact

- **Country profiling** – effects of NNFs activities for every country in the world (upcoming)
- **Assessment tool of expected research and innovation output** and outcome (input-output model tools)
- **Scite.ai** (new AI for searching/tracking science)
- Network analysis of researcher and/or project collaborations
- **Simulation of the expected impact** of pipeline research initiatives (upcoming tool)



Advanced peer review and researcher assessment tools (data science solutions)



- Tool for fast identification of **conflict of interest** of committee members (upcoming)
- Tool for fast **matching** of applications and peer reviewers (upcoming)
- Researcher **profiling** (existing tools)
 - Researcher profiling (researcher-profiling.azurewebsites.net)
 - Diverse output profiling: Streamlit (researcher-i-index.streamlit.app)
- Researcher and research team **science simulation** models (upcoming tool in collaboration with University of Chicago and Northwestern University)

Development of apps

novo nordisk
fonden

×

Researcher profiling tool

About

Welcome Thomas 🙌

Please proceed by specifying the name of the researcher of whom you would like to profile.

Researcher full name:

Clear cache

▼

Impact

Researcher profiling tool

The researcher profiling tool provides a detailed overview of a given researcher's:

- Research production
- Research impact
- Influence on young researchers

The tool is utilizing data from Dimensions to generate researcher-specific charts and tables. Data can be exported to either a standardised PowerPoint slideshow or an Excel file.

What to use the tool for?

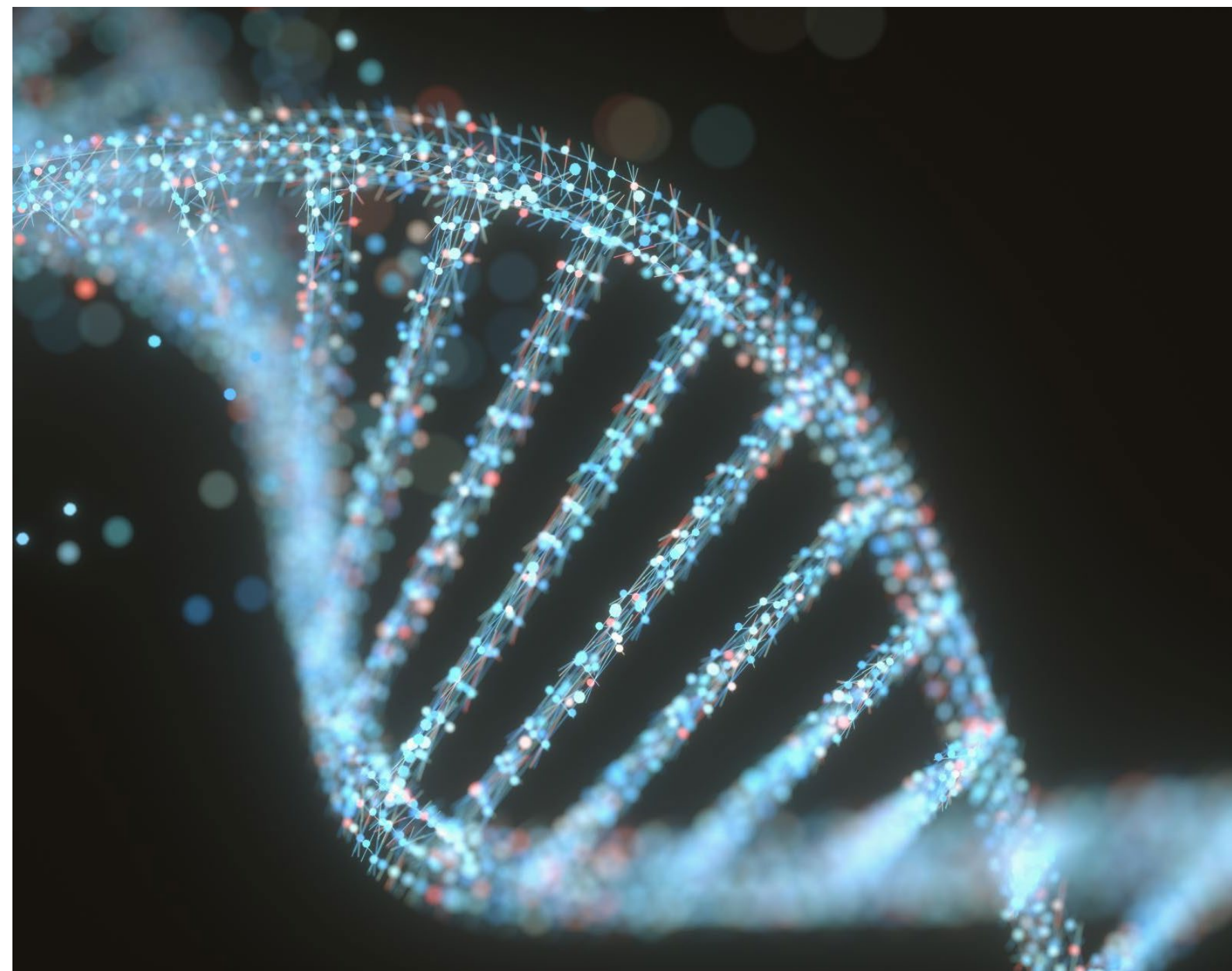
The tool can be used for various purposes, such as profiling:

- Prize candidates
- Potential lead applicants
- Potential centre leaders

View the Methodology & data sources page for more information about the tool's data sources and measures.

Research centres, stand-alone and open competition – support to evaluation and monitoring

- **Center evaluation guidelines** and evaluation models for (various) centres (upcoming)
- Center monitoring and evaluation **framework (new)**
- **Tool to simulate future results of investments in new research centres** (upcoming tool in collaboration with University of Chicago and Northwestern University)
- **Evaluations of stand-alone** initiatives and **open competition** programmes
- **Prediction input-output models** for output and outcome of open competition and stand-alone initiatives in pipeline (across **all instrument types**)



Thank you
for your attention