

Elsevier RCU Guest Seminar Series:

Impact reporting, and presentation of impact results to internal and external stakeholders, and funders

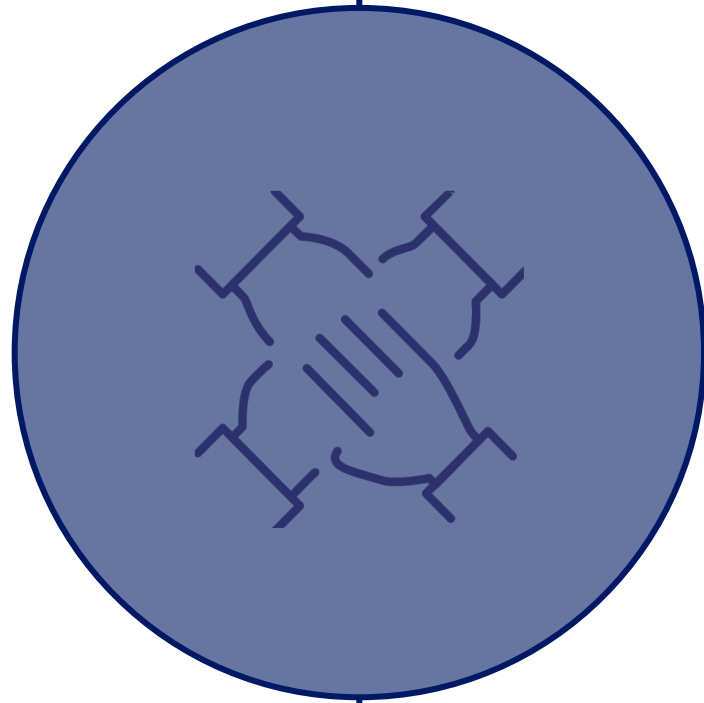
(- optimising impact reporting and development of dashboards and the approaches to share it with those the Novo Nordisk Foundation funds, other funders and society)

Dr. Thomas Alslev Christensen

Senior Vice President

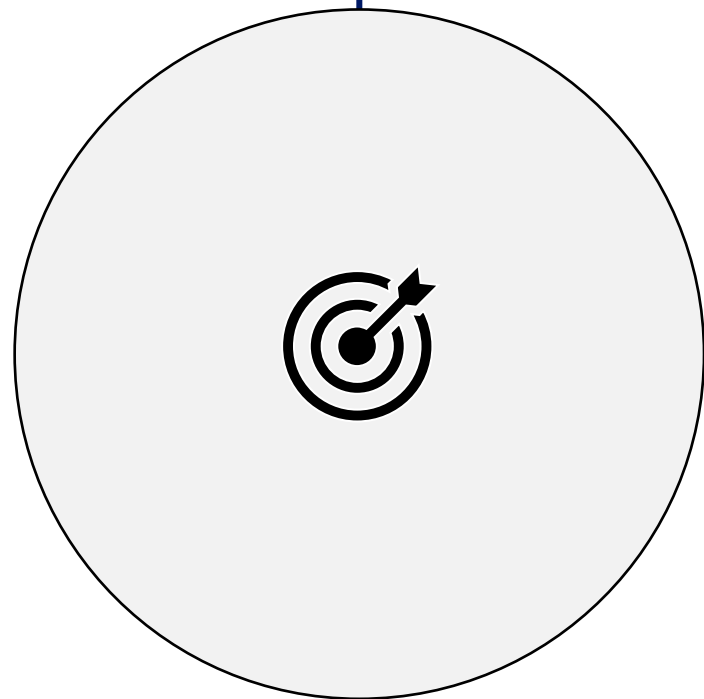
Impact
novo nordisk fonden

Outline



The Novo Nordisk Foundation

- A story on Impact of Science in Society



Why Impact Assessment and Impact Management?

Why Researchfish?

NNF Dashboard live demo!

The Novo Nordisk Foundation

- it began with insulin



Our objectives

Corporate objective

- To provide a stable basis for the commercial and research activities of the Novo Group companies.*

Grant-giving objectives

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

Our vision:

“To improve people’s health and the sustainability of society and the planet”

The Novo Nordisk Foundation is an independent Danish enterprise foundation



Grant-giving areas

- Scientific research
- Diabetes treatment
- Innovation
- Education
- Humanitarian and social causes

Investments in +150 companies world-wide

- Principal Investments
- Growth Investments
- Venture Investments
- Seed Investments
- Capital Investments

Facts about the Novo Nordisk Foundation

03

The world's
third largest
measured in grants

01

The world's
largest
measured in assets:
\$ ~100 billion*

2021 in numbers*

Awarded ~
\$1.2 billion
in 2021

Capital stock~
\$100 billion
end 2021

617
Grants awarded
in 2021

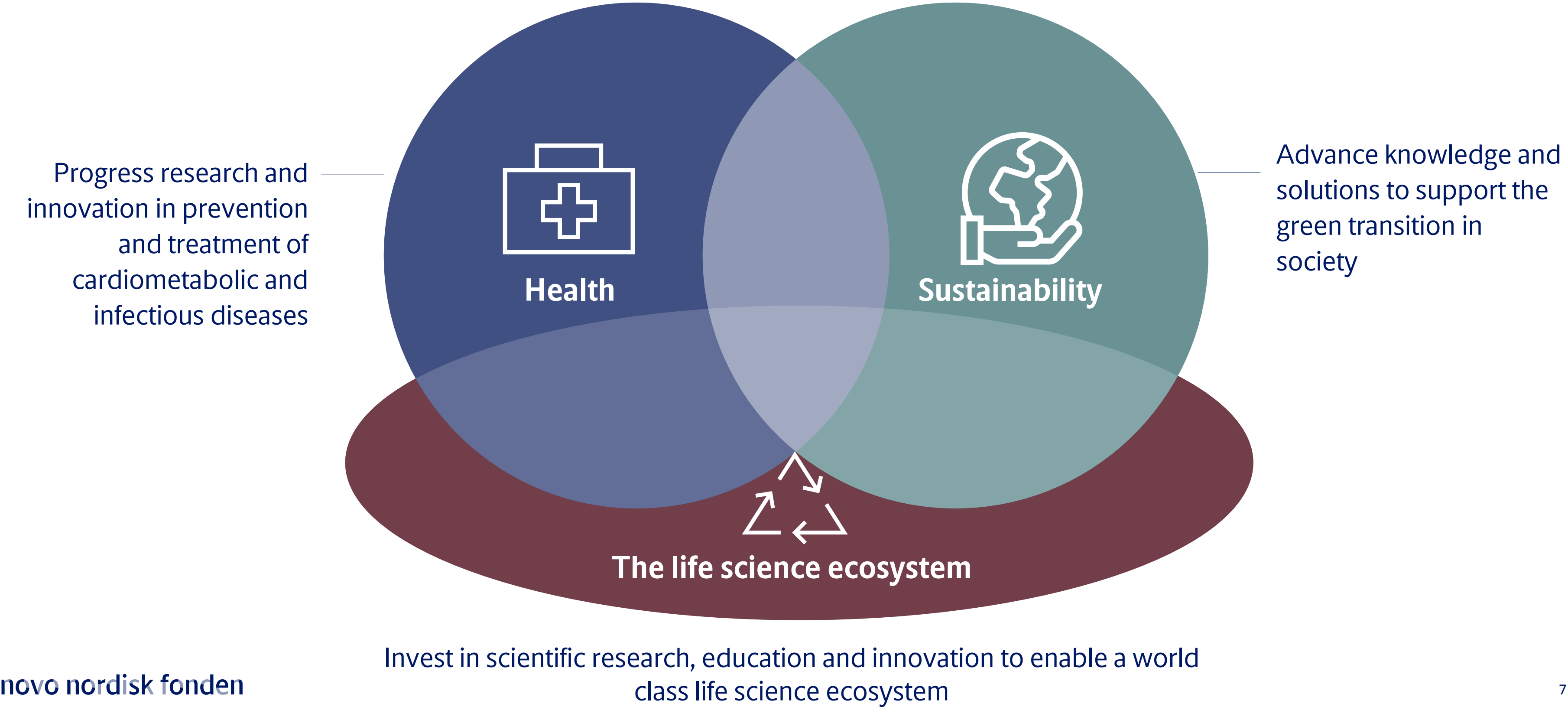
2,771
Applications
received in 2021

~3,800
Number of
awards in
Researchfish

Investment result 2021
\$5 ~
billion

*Preliminary numbers year-end 2021

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

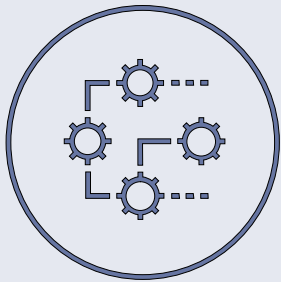


What does societal impact look like for NNF? Nine impact principles for society

Output



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

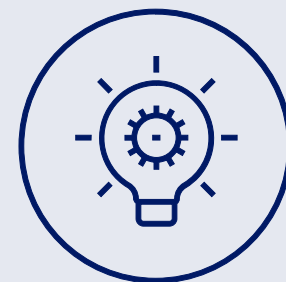


Supporting organisations, systems, and infrastructure to catalyse a knowledge-based societal development



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

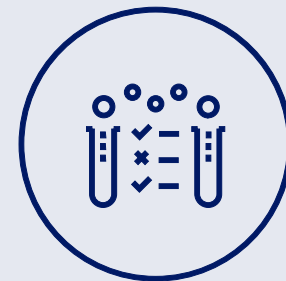
Outcome



Promoting excellent research and innovation



Developing innovative products and solutions supporting a sustainable development

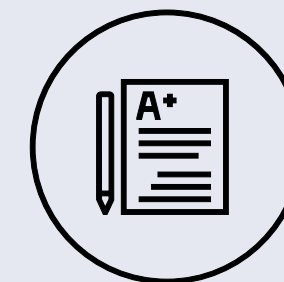


Developing new technologies, therapies and patient-centred and research-based care and disease prevention

Impact



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

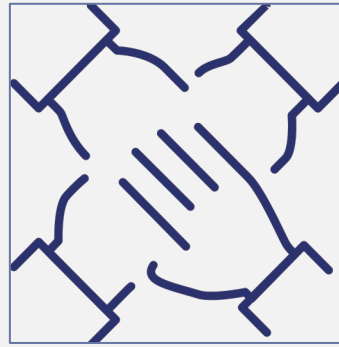


Support the development of world-class education at all levels and of a qualified and agile workforce



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

Outline



The Novo Nordisk Foundation

- A story on Impact of Science in Society



Why Impact Assessment and Impact Management?

Why Researchfish?

NNF Dashboard live demo!

Why impact reporting is important for NNF and the purpose of impact assessment and impact management

To support the development of an effective funding strategy and that activities are always focused on the long-term objectives of the strategy

To promote responsible management of funds



To demonstrate and communicate the benefits of research, education and innovation to society

To answer questions about what works! Make improvements based on data and to learn from failure and scale success

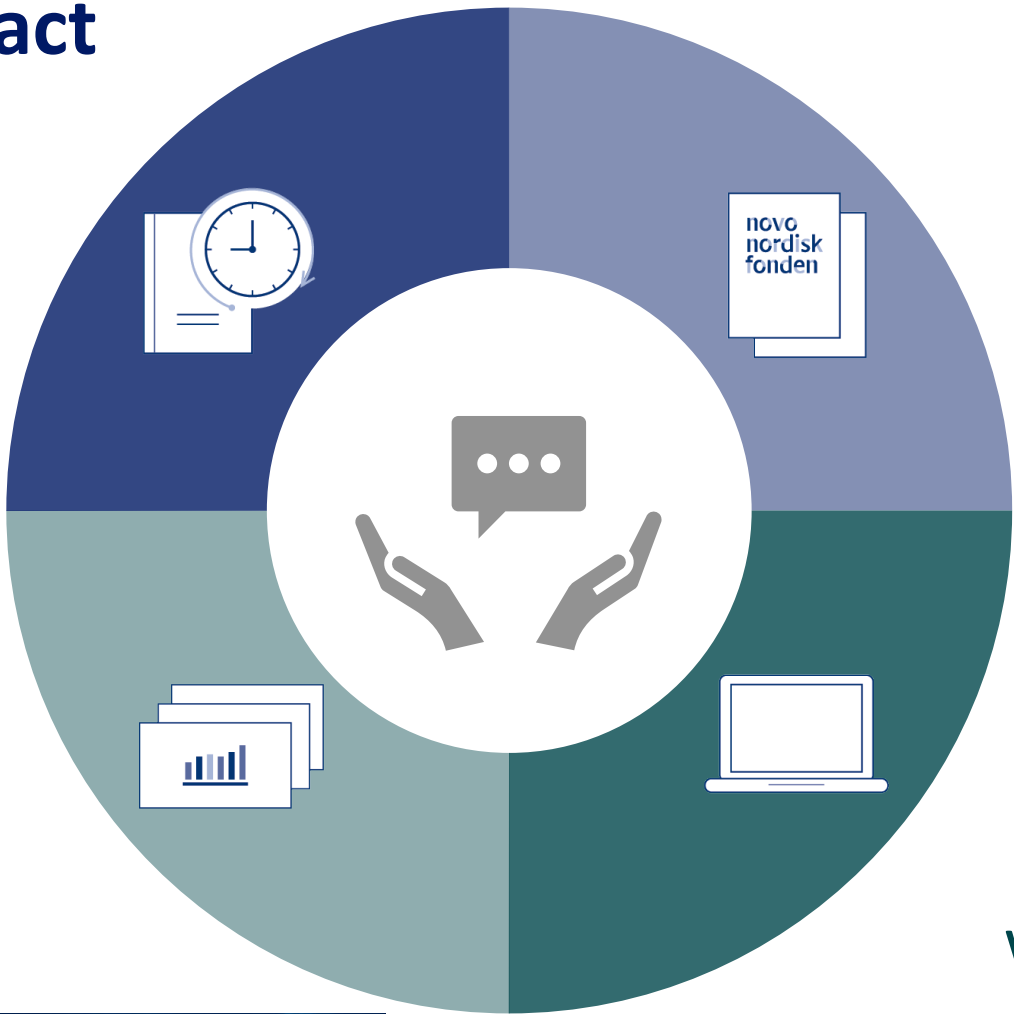
What we deliver



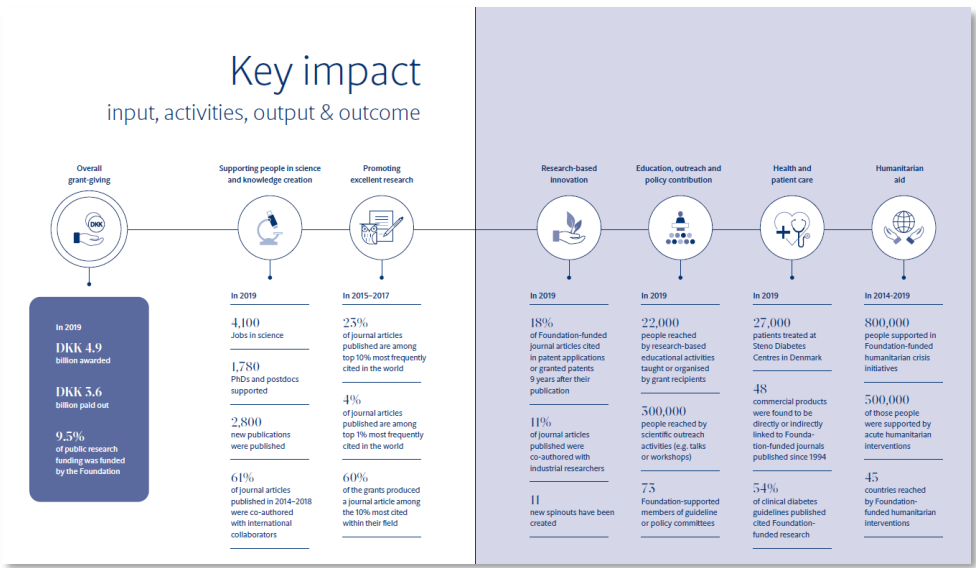
Annual impact Reports



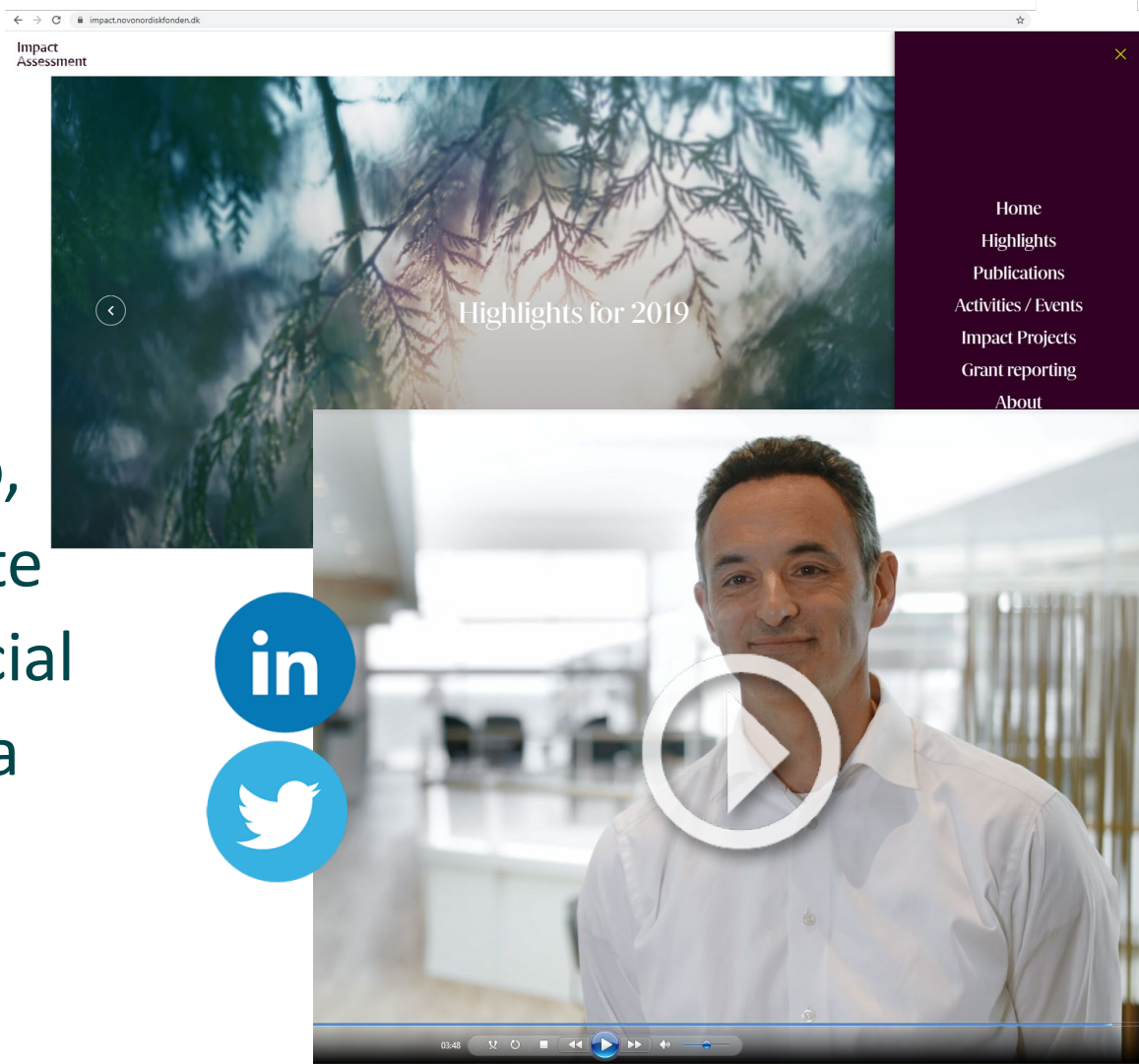
Presentations, seminars and conferences



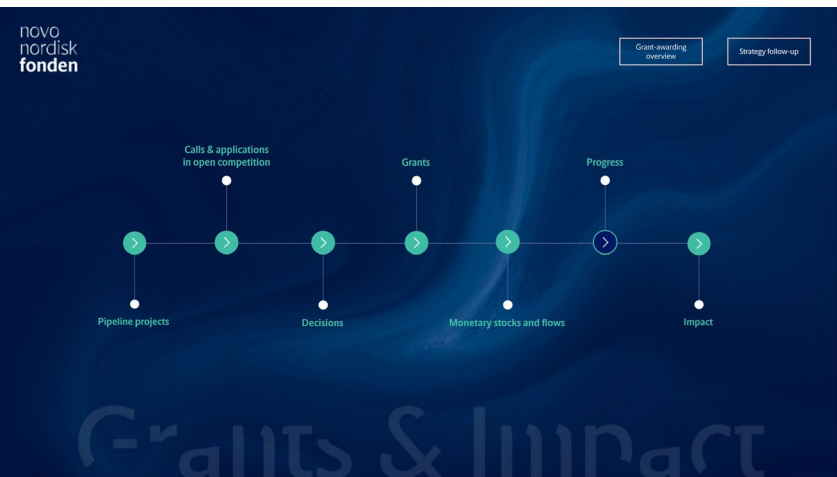
Posters, statistics and pamphlets



Video, website and social media



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Data sharing and NNF Dashboard

Our impact of science philosophy as a funder/investor



Supply side Funder/investor

The level of funder intent and input resources to create real-world impact via.....

Strategy, vision, missions, themes & key objectives

Impact mechanisms: Grant-giving models & instruments to optimise impact

Align funding with the NNFs strategy, vision, three focus-missions and nine impact principles

Contribute with non-financial support and co-development of initiatives in project centric organisation

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

Contribution with financial support, funding instrument, impact framework and KPIs signaling signal that societal impact matter



Demand side Grantee/investee

activities that the grantee carries out which result in production of

the **outputs** that the grantee generates...

to achieve the desired medium and long term **outcomes** and tangible short-term results

- ❑ Operations of initiative and project intervention
- ❑ Monitoring of activities initiated and in progress

➤ Direct and immediate results of activities in terms of products or operations that intend to deliver future changes

- ❑ Full control over initiated activities by recipient
- ❑ Monitor critical success criteria ("impact markers")

➤ Very high degree of influence over direct results from activities by recipient

❖ Changes in outcomes as result of activities

❖ Evaluate critical success criteria ("impact markers")

❖ Reduced or minimal control by recipient of grants



Society Equilibrium for People/citizens

so they create the **strategic impact changes** that we ultimately seek

in order to fulfill our **vision** and **long-term objective**

✓ Changes in long-terms outcomes caused by activities, interventions and outputs

✓ Verify or reject long-term impact goal hypothesis

✓ Very little or no influence over medium and long-term outcome

✓ Evaluate strategic objectives and critical success criteria ("impact markers")

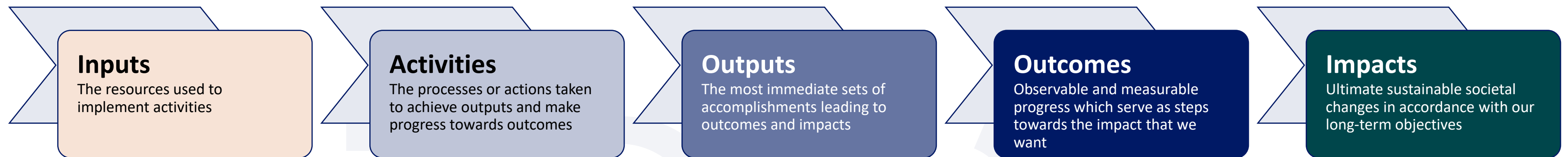


Societal change measured (additionality for society) in terms of before and after situation or in terms of differences for treatment group versus control group

How we work:

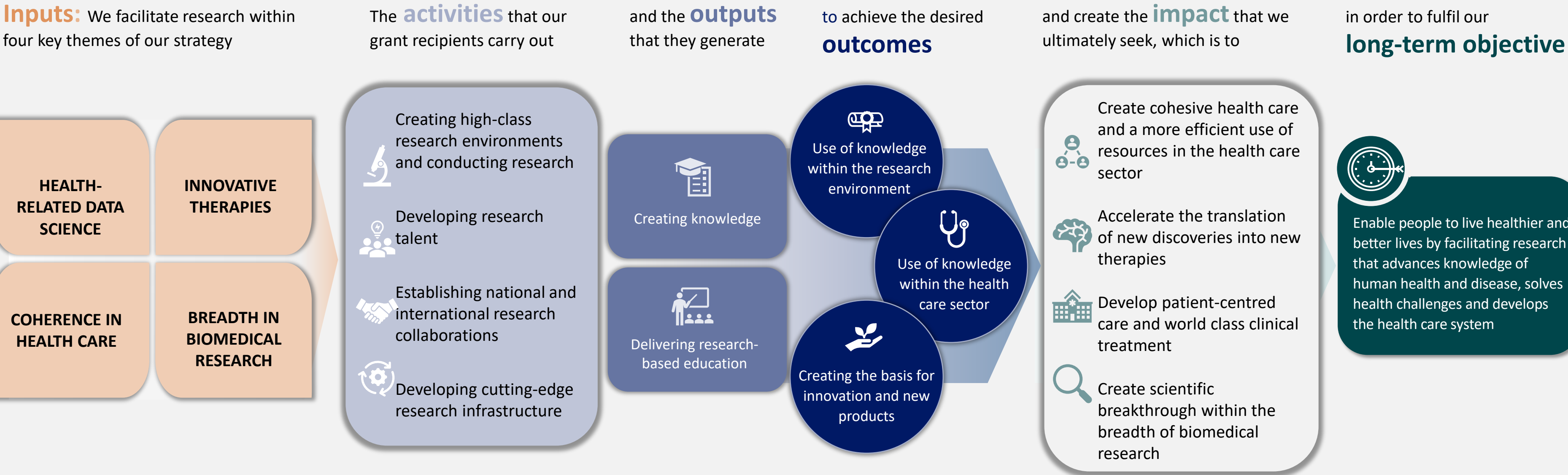
- We use the logic model for societal impact of investing in science

We develop chains of **Critical Success Factors and KPIs** from **inputs** via **output** to **impacts**



We develop a logical impact model for each initiative (ex. Biomed)

LOGICAL IMPACT MODEL: Chain of Critical Success Factors from inputs to impacts that link the grants, step-by-step, to the long-term objectives of our strategy



Biomed: Impact Assessment Framework and KPIs

Biomedical and health science research and applications

Key Performance Indicators linked to the inputs, activities, outputs and outcomes of our grant recipients		
	Critical Success Factors	Key Performance Indicators (success metrics)
	Resources used to establish activities	<div>→ # of grants, amount awarded and payouts (by key themes in strategy)</div> <div>→ # of grants in collaboration with other GGAs</div>
	Creating high-class research environments and conducting research	<div>→ # of people fully or partly supported by the Foundation</div>
	Developing research talent	<div>→ # of PhDs and postdocs fully or partly supported by the Foundation</div>
	Establishing national and international research collaborations	<div>→ # of self-reported collaborations</div> <div>→ % of articles with co-authorship (international, industry, or other national research institutions)</div>
	Building cutting-edge infrastructure	<div>→ # of users of infrastructure supported by the Foundation</div> <div>→ # of papers acknowledging the infrastructure or resulting from using the infrastructure</div>
	Creating knowledge	<div>→ # of journal articles published</div> <div>→ Median (and 90th percentile) Impact Factor of journals in which articles are published</div>
	Delivering research-based education	<div>→ # of students participating in a course or activity organized by the grant recipients at BSc, MSc and PhD level (including number of courses with course responsibility or contribution)</div>
	Use of knowledge within the research environment	<div>→ % of publications that belong to the top 10% most frequently cited worldwide</div> <div>→ Novelty score of how frequent referenced journals in an article are paired historically</div>
	Use of knowledge within the health care sector	<div>→ # of guideline documents that cite Foundation-funded journal articles</div>
	Creating the basis for innovation and new products	<div>→ # clinical trials</div> <div>→ # products and medical interventions</div> <div>→ # of patent documents</div> <div>→ # of spinouts (including additional investments in spinouts)</div>
In-depth evaluations of the long-term societal impact of our grant giving		
	Enable people to live healthier and better lives	<div>→ Degree to which people and patients live healthier and better lives as a result of products or interventions that are based on Foundation-funded research</div> <div>→ Extent to which Foundation-funded publications are cited in patents that benefit people</div>



Reporting in Researchfish®

IT-platforms help us collect data on the output and outcome

Reporting questions

- Publications
- Collaborations & Partnerships
- Further Funding
- Next Destination
- Engagement Activities
- Influence on Policy, Practice, Patients & the Public
- Research Tools & Methods
- Research Databases & Models
- Intellectual Property & Licensing
- Medical Products, Interventions & Clinical Trials
- Artistic & Creative Products
- Software & Technical Products
- Spin Outs
- Awards & Recognition
- Other Outputs & Knowledge/Future Steps
- Use of Facilities & Resources

Reporting questions

- Education and Professional Training
- Research-Team Information
- Supervisor and Mentor Activities
- Project Summary and Reflection
- Invention Disclosure & Ownership

Researchfish®

Since 2014/15, the Novo Nordisk Foundation has used Researchfish® as our main reporting platform for all scientific grants.

More than 3,800 grantees who have received grants from the NNF report in Researchfish®.

Researchfish® was introduced in 2008 by the British Medical Research Council to assist in data gathering, research tracking and measurement of grant impact.

More than **200** research funders and universities worldwide use Researchfish®.

Working together to understand impact



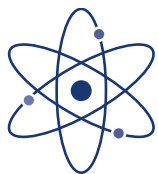
Global solution to track research and evidence impact



Researchfish uses technology to collect outputs, outcomes and impacts of research from the web, external data sources, and the researcher themselves.

We document results of our grants within our nine principles for societal impact and our 21 Researchfish® categories

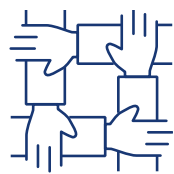
Fostering
the development
of research talent



Investing
in infrastructure



Supporting
research
collaboration



Promoting
excellent
research



Developing
innovative products
and solutions



Creating
jobs and
growth



Developing
healthcare and
new medicine



Developing
world-class
education

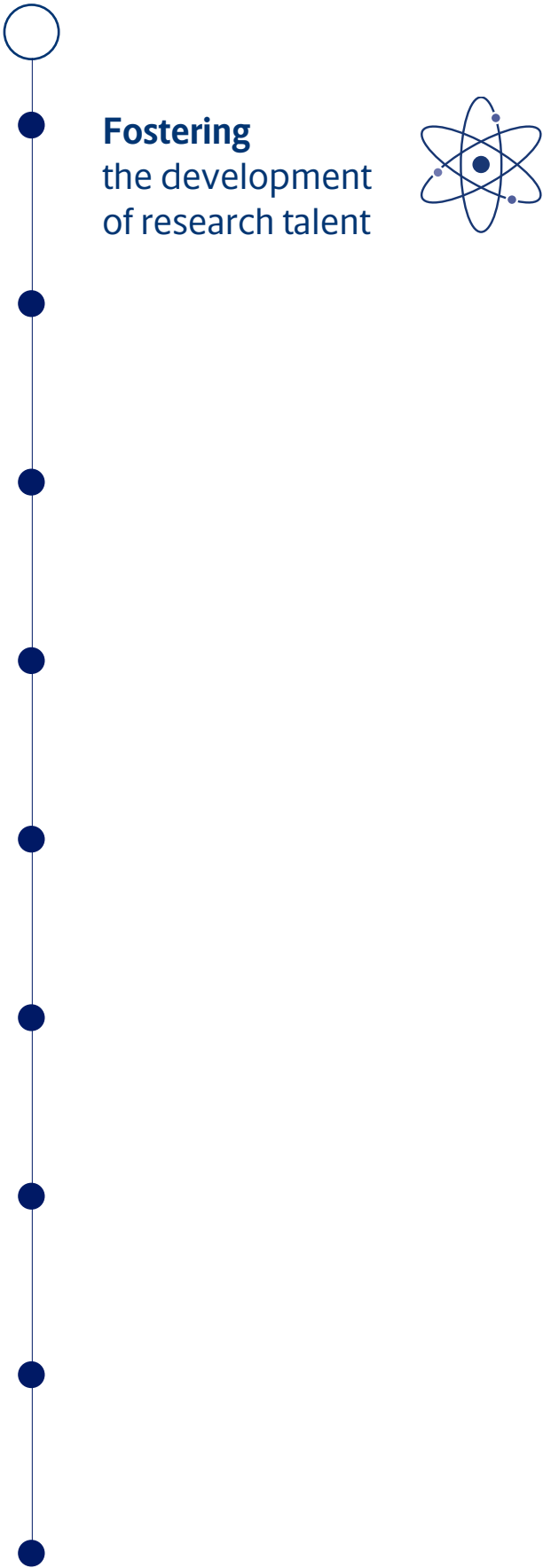


Empowering
vulnerable groups
in society

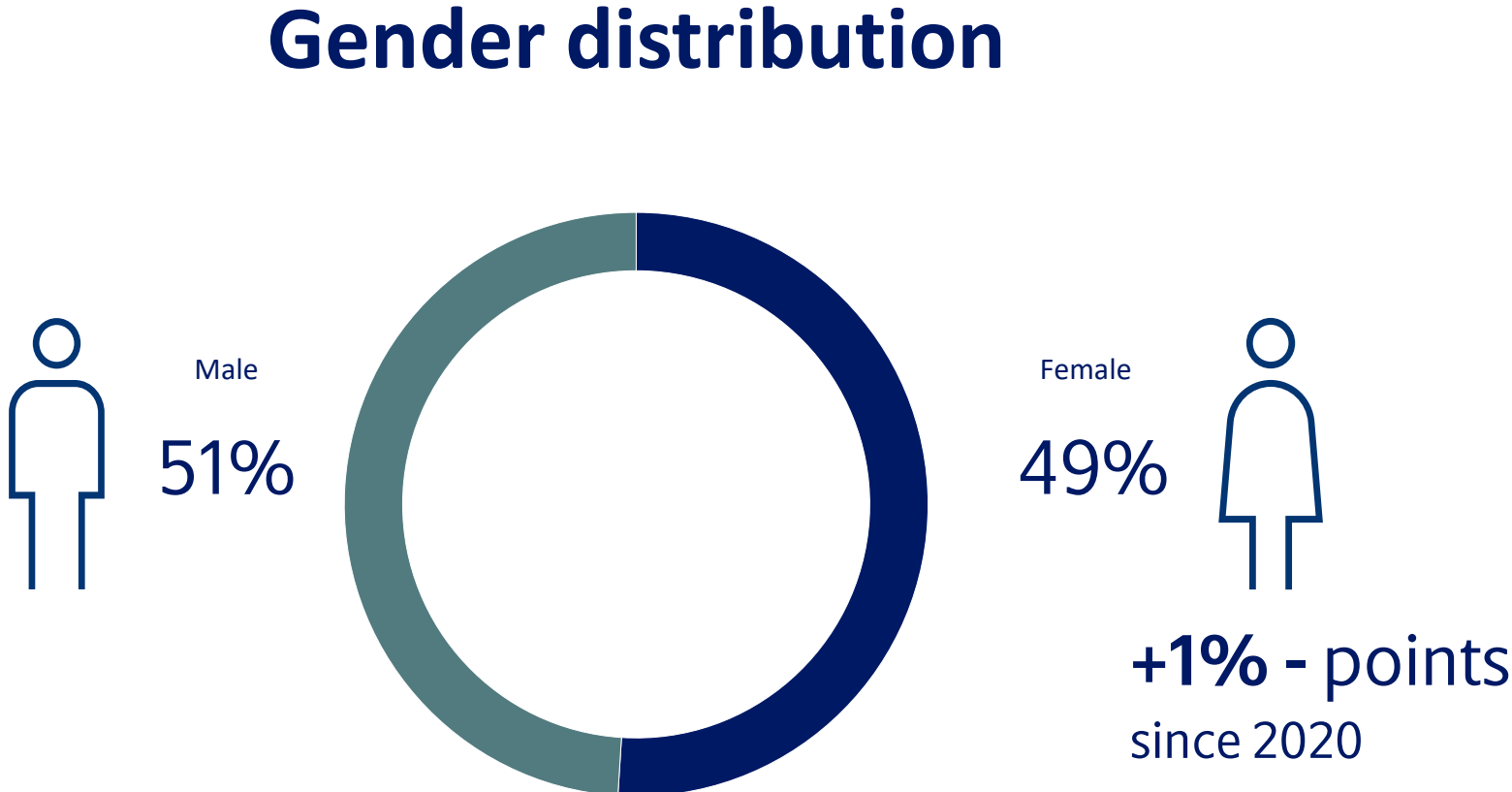
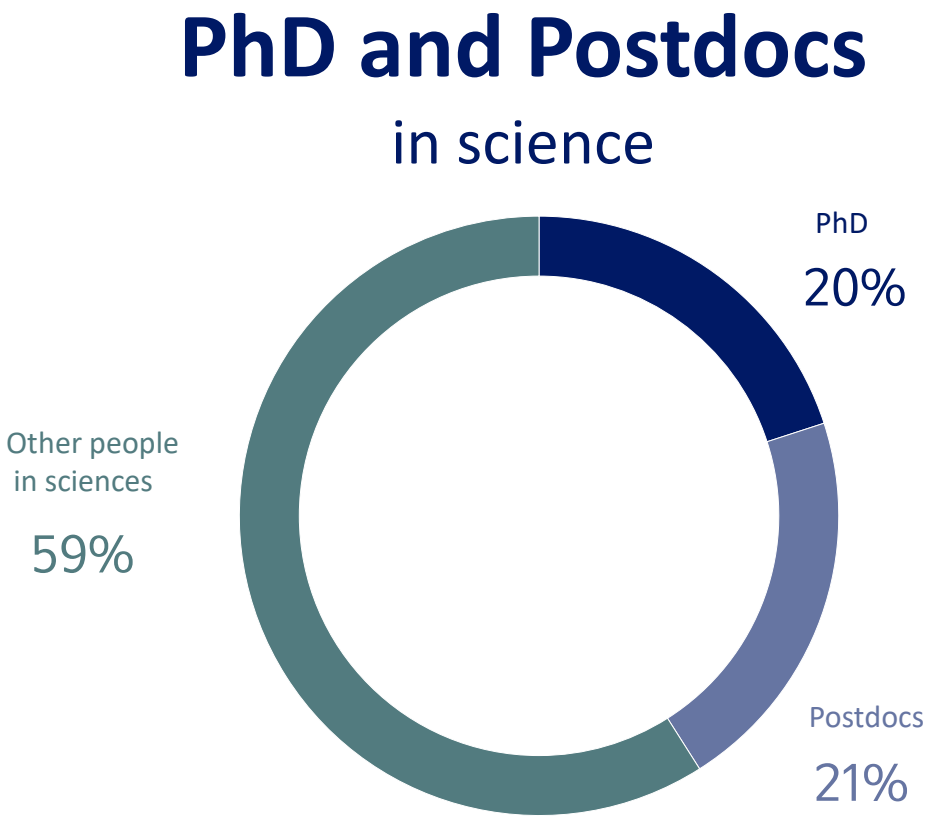


40% increase in number of people in science

fully or partly supported by the Foundation in 2021

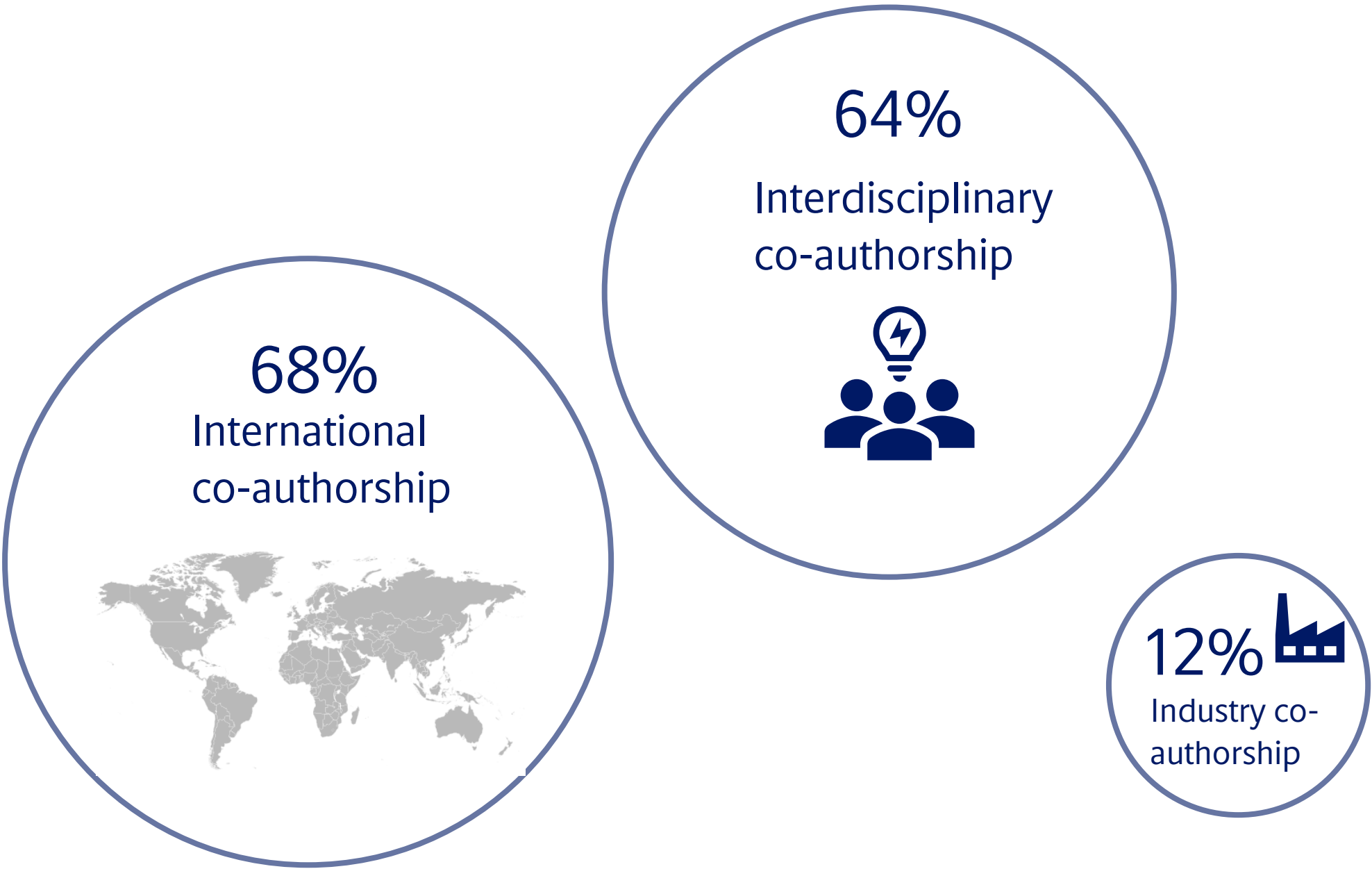


Fostering
the development
of research talent



6,400 people in science
+40% since 2020

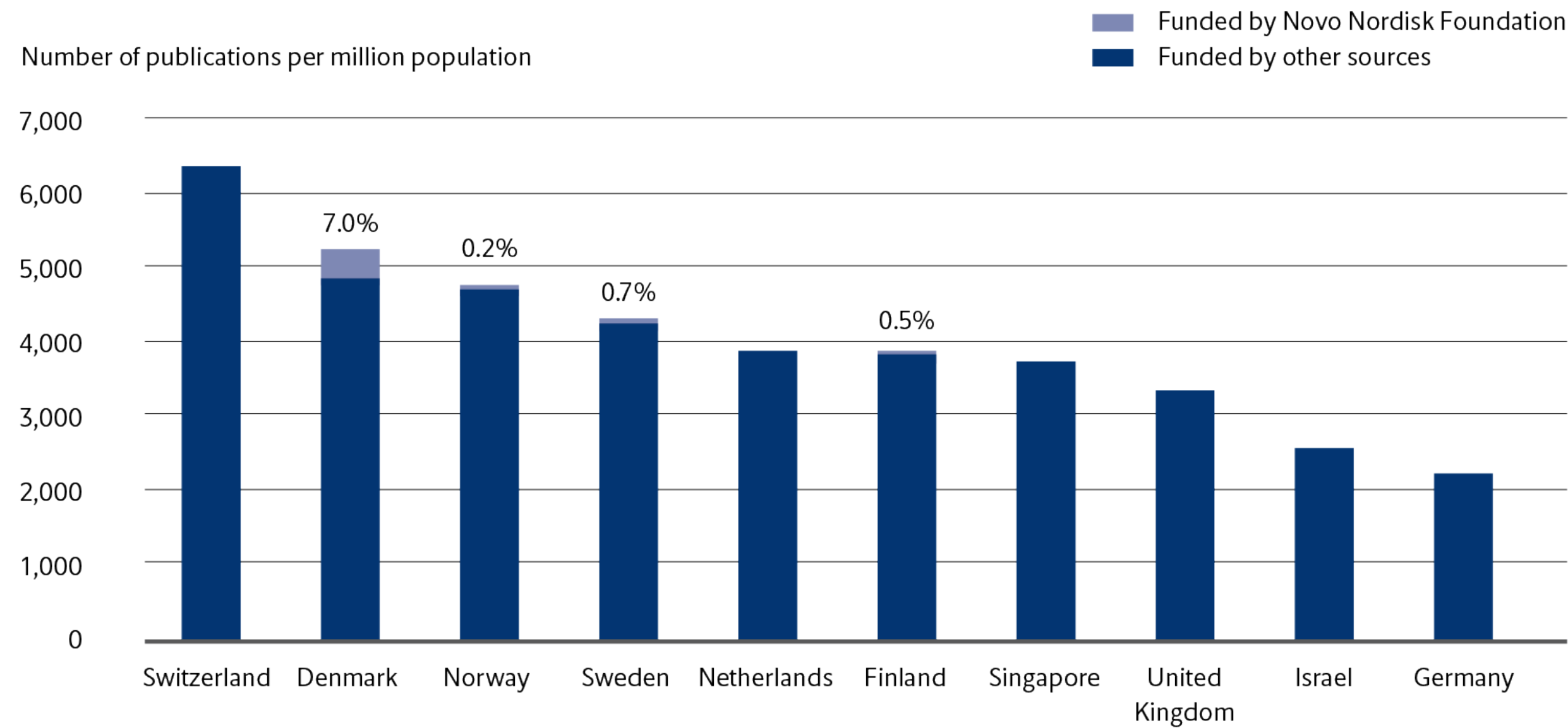
Research collaboration in **15,000 NNF** **funded** journal articles funded by NNF since 2016



-
- **Fostering**
the development
of research talent 
- **Investing**
in infrastructure 
- **Supporting**
research
collaboration 
-
-
-
-
-

7% of the journal articles in Denmark are supported by the Novo Nordisk Foundation grants

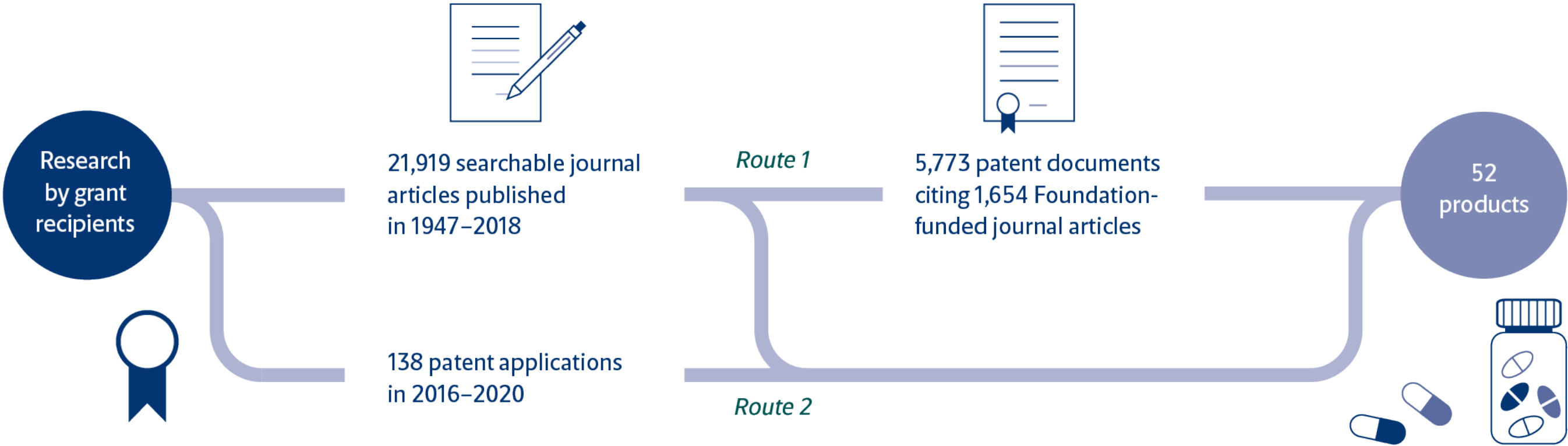
22% are among world's top 10% most frequently cited



-  **Fostering** the development of research talent
-  **Investing** in infrastructure
-  **Supporting** research collaboration
-  **Promoting** excellent research

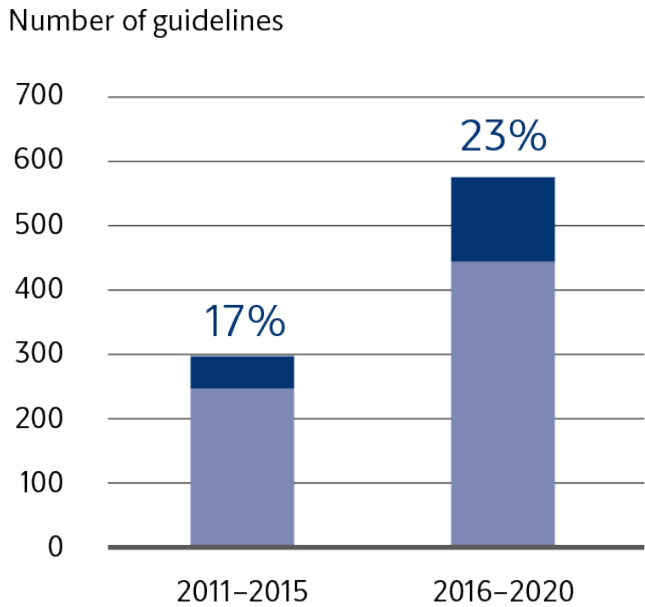
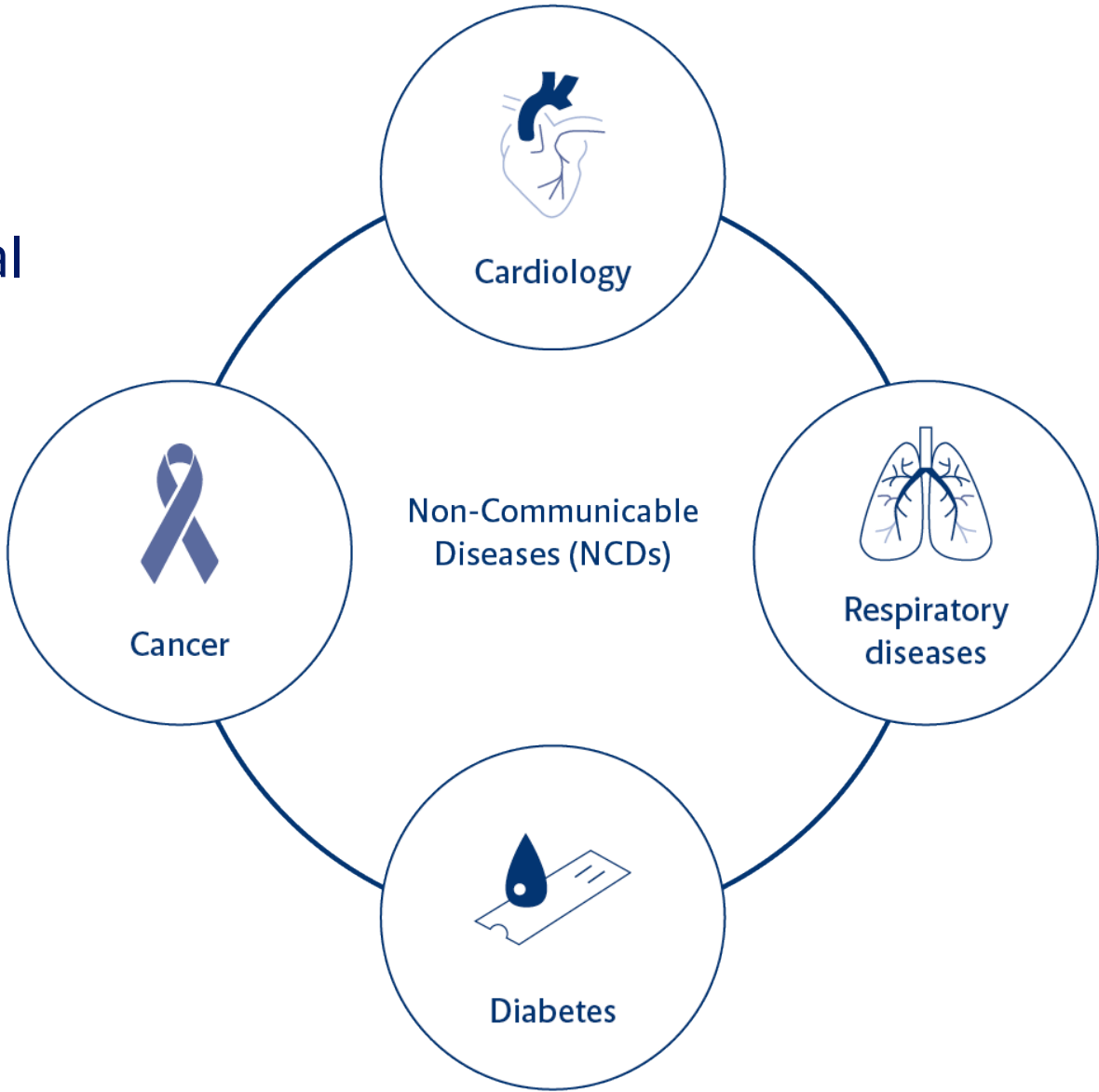
Patent activity citing the Novo Nordisk Foundation grants links research to products

- **Fostering** the development of research talent 
- **Investing** in infrastructure 
- **Supporting** research collaboration 
- **Promoting** excellent research 
- **Developing** innovative products and solutions 



Foundation-funded journal articles contribute to the treatment of patients within the four Non-Communicable Diseases (NCDs)

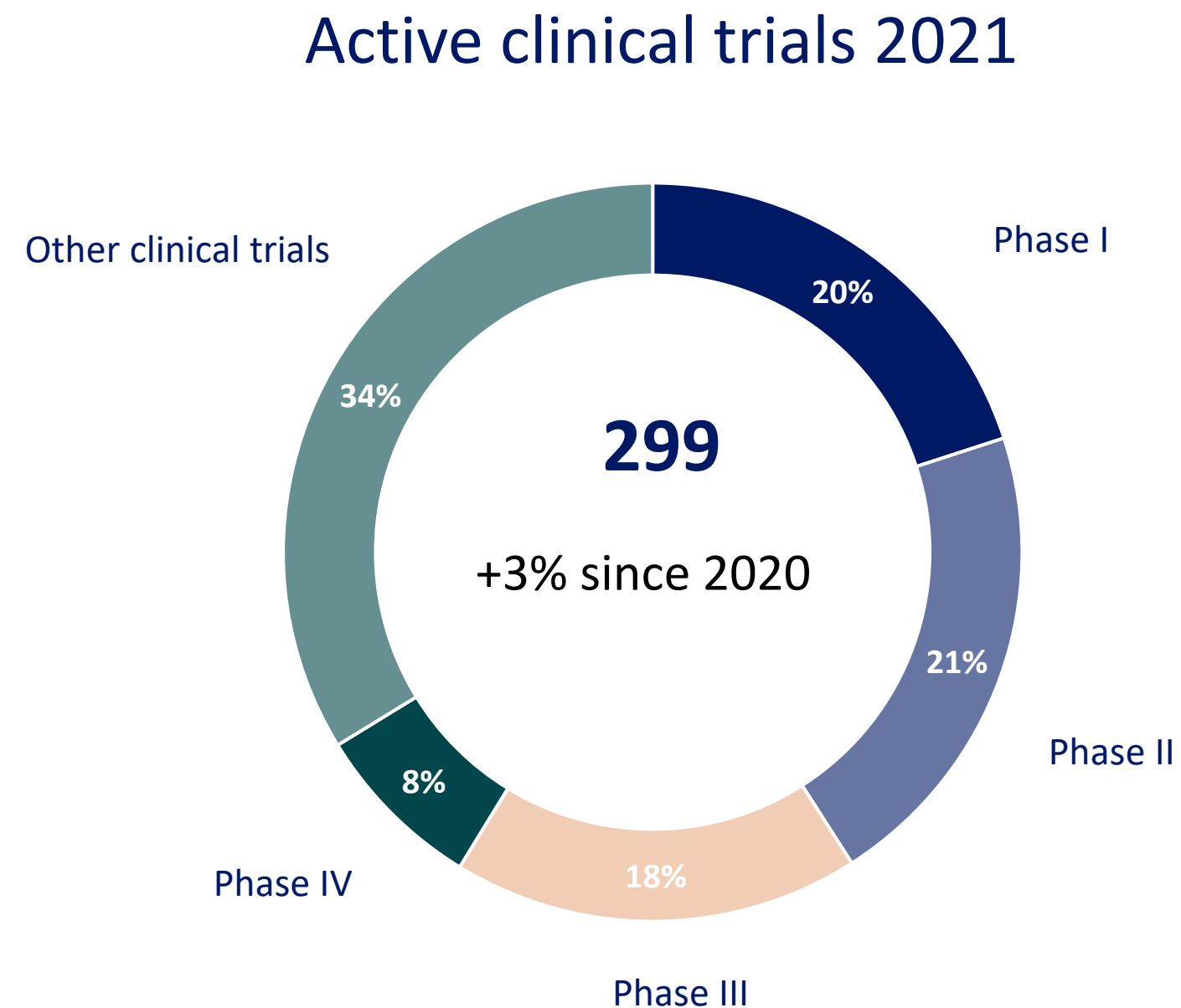
21% of 980 national and international clinical guidelines and treatment recommendations cite Foundation-funded research (2011-2020)



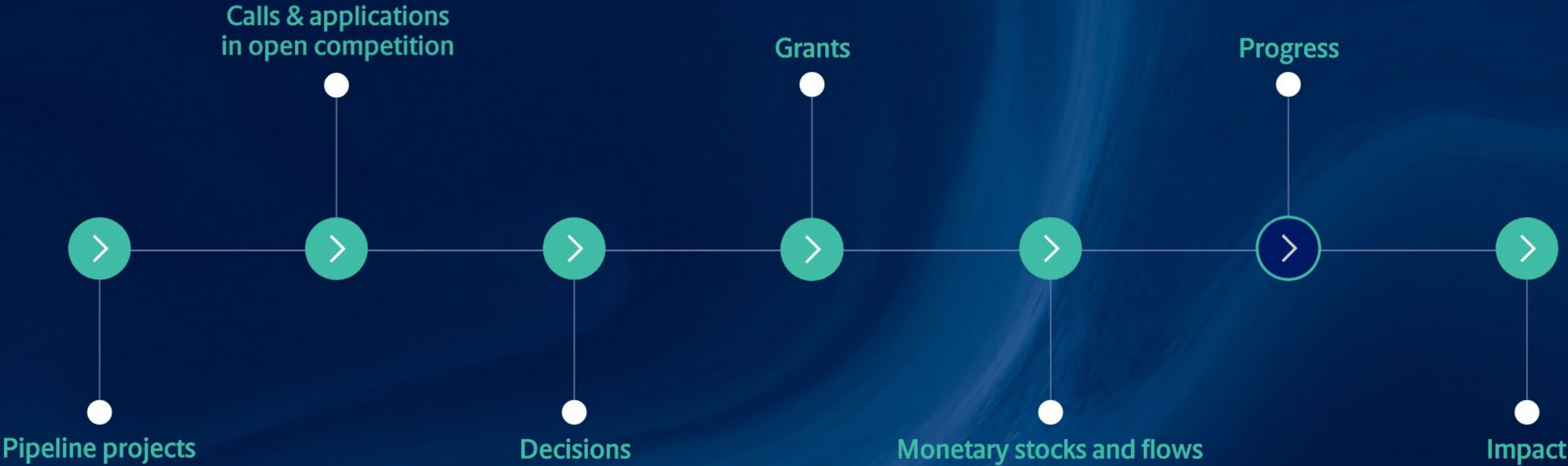
■ Guidelines citing Foundation-funded research
■ Other guidelines

- **Fostering** the development of research talent
- **Investing** in infrastructure
- **Supporting** research collaboration
- **Promoting** excellent research
- **Developing** innovative products and solutions
- **Creating** jobs and growth
- **Developing** healthcare and new medicine

The Novo Nordisk Foundation Group contributed to translation of research to medicines through 299 clinical trials in 2021



- **Fostering** the development of research talent
- **Investing** in infrastructure
- **Supporting** research collaboration
- **Promoting** excellent research
- **Developing** innovative products and solutions
- **Creating** jobs and growth
- **Developing** healthcare and new medicine



Thank you
for your attention

Thomas Alslev Christensen
Senior Vice President
Impact

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