

Report on research collaborations in India

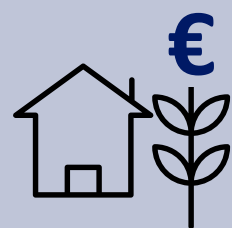
Impact

Executive summary

Novo Holdings



Between 2019 and 2023, Novo Holdings invested in 3 companies based in India.



In 2023, the Novo Holdings portfolio included 3 Indian companies with a total value of approximately US\$ 200 million.

Novo Nordisk Foundation



Between 2019 and 2023, the Novo Nordisk Foundation (NNF) financed 8 projects with Indian applicants, totaling US\$ 6.07 million.



17 young Indian researchers have received a grant attending the Copenhagen Bioscience Conferences.



Between 2019 and 2023 the Novo Nordisk Foundation funded 9 PhDs, Postdocs, and other scientists in projects involving French applicants.

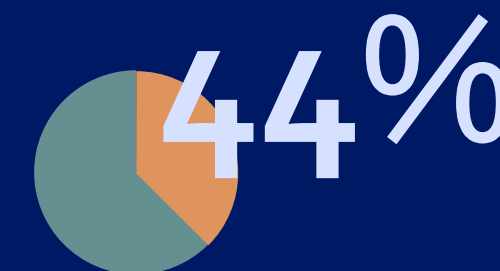
Grant recipients

74

The Foundation's grant recipients collaborates with many international project's partners, including 74 Indian based universities and university hospitals.



Between 2019 and 2023, NNF grant recipients collaborated with 13 unique Indian companies. 1 are in the biotechnology sector, and 2 of the companies have less than 200 employees.



Between 2019 and 2023, Indian grant recipients have published 134 journal articles. 44% of these are among the top 10% most cited in their field.

11/25

11 out of 25 top Indian universities collaborate with NNF grantees

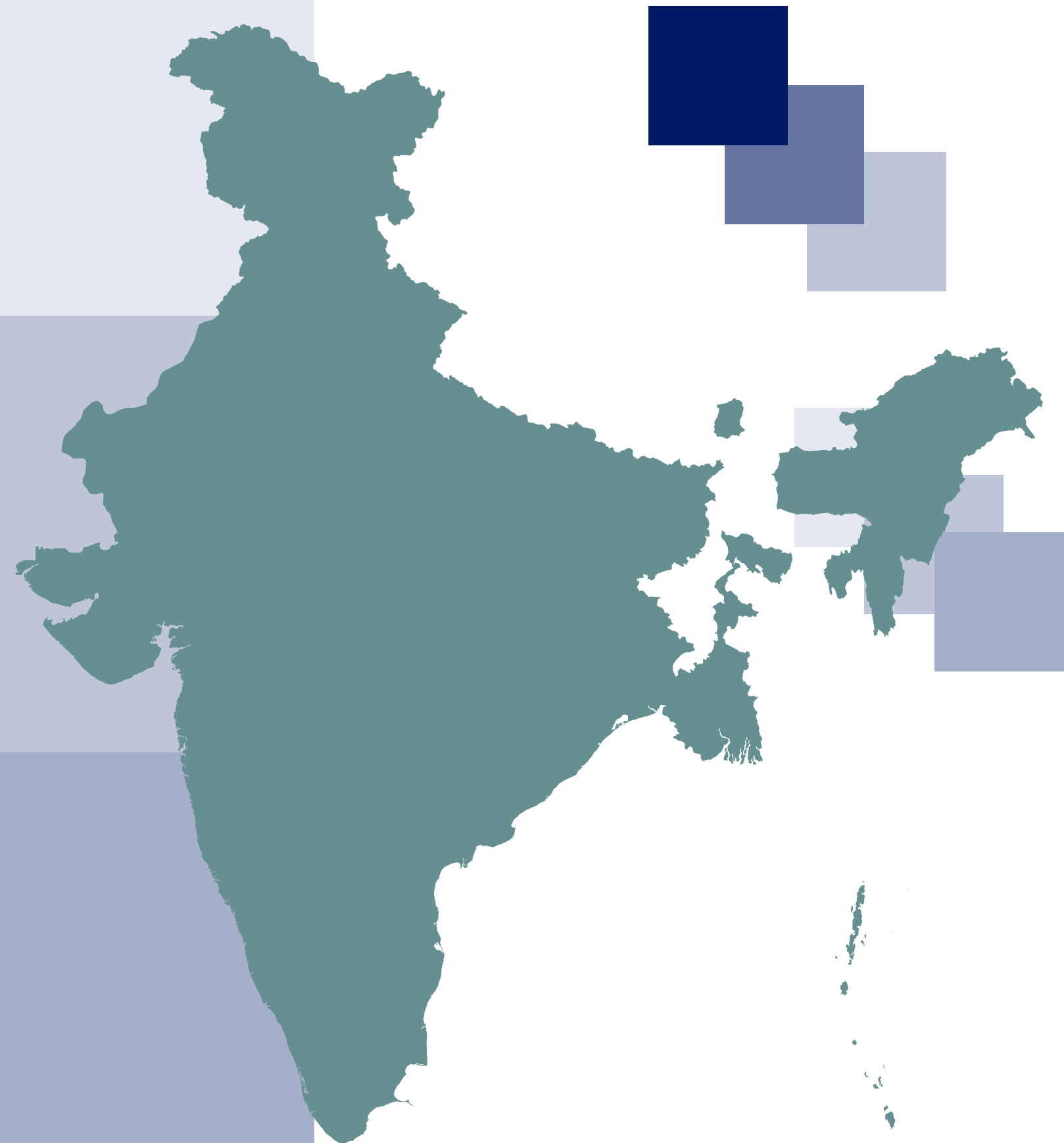
Introduction

This report is presented in two parts;

- Activities that Novo Nordisk Foundation (NNF) grant recipients have with institutions or organisations in India.
- An overview of Novo Holdings' investments in India.

This report showcases NNF's contribution to the Indian academic community and industry.

Through figures and case studies, it demonstrates the different kinds of relationships and activities between NNF grant recipients and Indian academic and industry partners. Data in the presentation are based on activities between 2019 and 2023 (inclusive).



Novo Nordisk Foundation



The history of the Novo Nordisk Foundation



The Novo Nordisk Foundation dates back to 1922, when Nobel laureate August Krogh returned home from the United States and Canada with permission to produce insulin in the Nordic countries. This marked the beginning of the development of world-class diabetes medicine in Denmark and the establishment of several foundations that, many years later, merged into today's Novo Nordisk Foundation.

1952 – the **Novo Foundation** was established as the owner of the Novo Terapeutisk Laboratorium.

1989 – the Novo Foundation and the Nordisk Insulin Foundation were merged into **Novo Nordisk Foundation** as part of the merger between the two firms Novo Terapeutisk Laboratorium and Nordisk Insulinlaboratorium in Novo Nordisk A/S.

In 2023 the **Novo Nordisk Foundation** awarded 751 grants with a total amount of EUR 1.0 billion.

For more information, please see the [Impact Report 2023](#)

1922 – the **Nordisk Insulin Foundation** was established as the owner of the Nordisk Insulinlaboratorium. The founders agreed that the profit from the sale of diabetes medicine should be used for scientific and humanitarian purposes.

The Novo Nordisk Foundation is an independent Danish enterprise foundation


novo nordisk
fonden
Benefiting people and society

Dividends


100%
SHARES

novo
holdings
Investors in life science

Dividends



novo nordisk®
 28.1% shares
 76.9% votes



novozymes™
Rethink Tomorrow
 25.6% shares
 72.7% votes

+ 144 other companies

Grants

Awarded in 2023:
 DKK 7.7 billion
 (US\$ 1.1 billion)
Projected grants in 2030:
 DKK +10.0 billion

Focus areas

- Health
- Sustainability
- Life Science Ecosystem

Investments

Investment result in 2023:
 DKK 31.4 billion*
 (US\$ 4.6 billion)
Assets under mgmt.:
 US\$ ~115 billion

Focus areas

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

* 35% NN/NZ, 65% other investments

Facts about the Novo Nordisk Foundation

3

The world's
third largest
measured in grants

1

The world's
largest
measured in assets:
US\$ **115** billion*

2023 in numbers

Awarded DKK
7.7 billion
US\$ 1.1 billion

Paid out DKK
5.8 billion
US\$ 849 million

751
Grants awarded

3,364
Applications
received

17,3%
Success rate for
research applications
among open calls

Investment result 2023
31.4 DKK billion
US\$ 4.6 billion

*Preliminary numbers year-end 2023

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

Improving the lives of people by progress research and innovation in prevention and treatment of cardiometabolic and infectious diseases



Theme 1: Preventing and managing cardiometabolic diseases



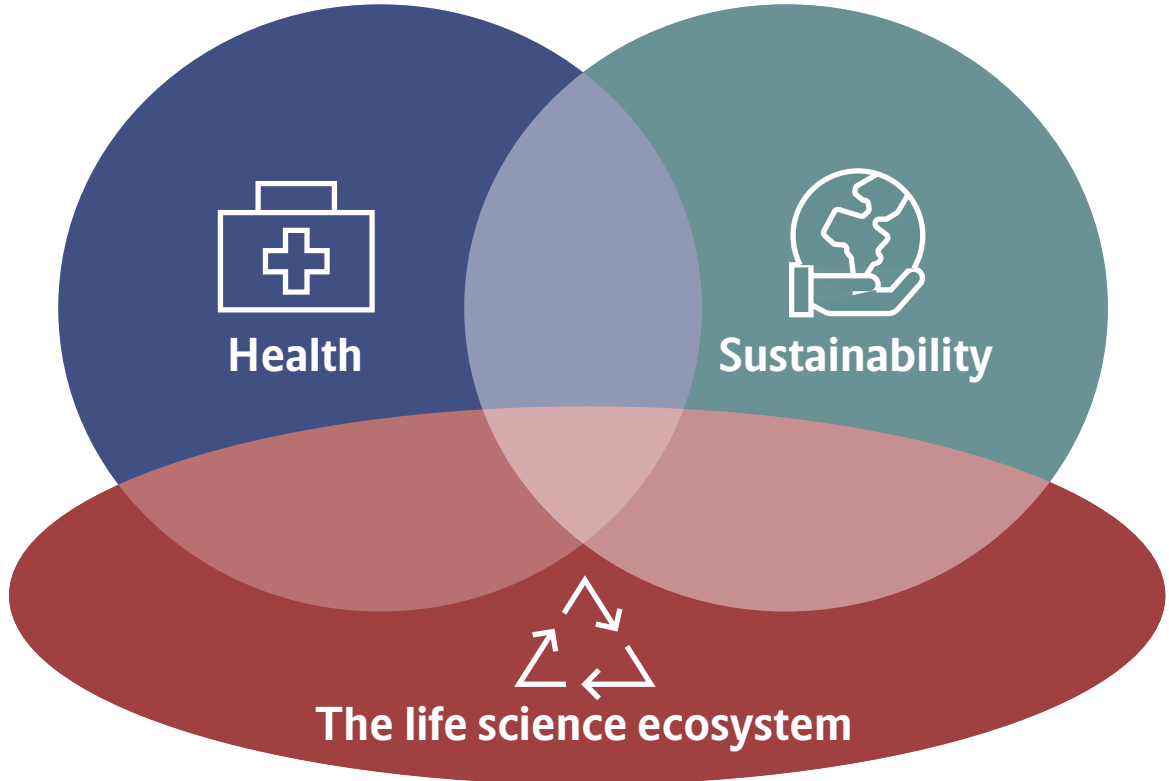
Theme 2: Decreasing the burden and threat of infectious diseases



Theme 3: Advancing and applying regenerative medicine



Theme 4: Reducing inequity in health



Improving the sustainability of society by advance knowledge and solutions to support the green transition in society



Theme 1: Sustainable and high-yield agriculture



Theme 2: Sustainable food for healthy diets



Theme 3: High-impact climate change mitigation technologies



Theme 4: Supporting society in the green transition

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



Theme 1: Fundamental research



Theme 3: Translational capacity and societal impact



Theme 2: Enabling research infrastructures and technologies



Theme 4: Education and science capital



Indian academic and industry collaborations involving NNF grant recipients 2019-2023

8 projects funded by NNF include Indian researchers as applicants

The Novo Nordisk Foundation has in the last five years (2019-2023) funded 8 projects that have had 8 main applicants from India. The total funding allocated to these projects is US\$ 6 million.

6 of the funded projects are categorized as Social & Humanitarian and all 8 are awarded as standalone grants.

The Copenhagen Bioscience Conferences are a series of scientific conferences within biomedicine and biotechnology. They bring together some of the world's top researchers and young talent to discuss the latest scientific results and topics within their field. The purpose of the conferences is to enable participants to build an international network and to exchange knowledge and ideas.



Since 2019, **17** young Indian researchers have been awarded a grant to attend the Copenhagen Bioscience Conferences for young research talent.

“An opportunity that facilitate high level training for PhD students and postdocs”

NNF applicant, 2015

NNF Grant recipients' collaborations with Indian partners

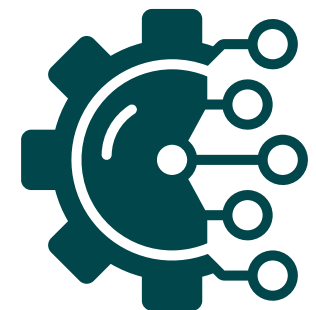
Between 2019 & 2023...



The Foundation's grant recipients have collaborated with many international project's partners, including **9** collaborations between Danish and Indian partners.



8 of those partners are universities and university hospitals.



13 Indian companies co-authored at least one scientific article with grant recipients from the Novo Nordisk Foundation.

Case stories

Emergency hospitals as a result of the COVID-19 situation



NNF grants US\$ 1,5 million for the establishment of four emergency hospitals and a number of mobile hospital units with a total of 364 beds and the capacity to treat close to 1.300 COVID-19 patients per week. The project has been organized in collaboration with the Indian Government represented by the Principal Scientific Adviser's Office, which coordinates the foreign emergency support.

Strengthening public health education in India

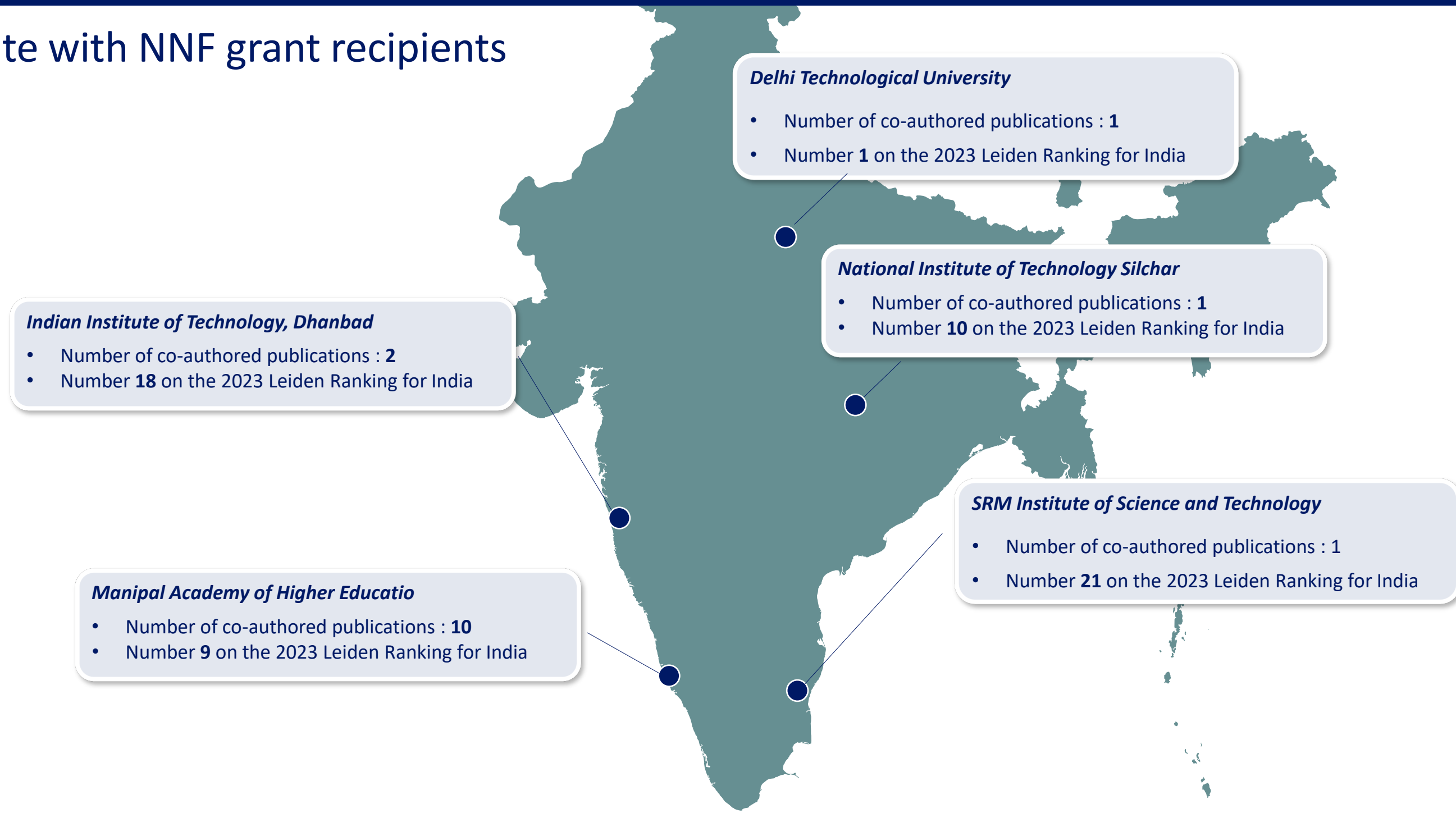


In 2022, NNF funded several grants with the goal of strengthening public health education in India. US\$ 0.55 million was granted for a center of excellence for the education of health professionals. Furthermore, US\$ 0.68 million was granted with the goal of supporting health equity and reach through innovation in education.

NNF Grant recipients' collaboration with top Indian universities

Top Indian universities collaborate with NNF grant recipients

1	Delhi Technological University
2	Jamia Millia Islamia
3	Thapar Institute of Engineering and Technology
4	Aligarh Muslim University
5	Vellore Institute of Technology University
6	Guru Nanak Dev University
7	Jawaharlal Nehru University
8	Panjab University
9	Manipal Academy of Higher Education
10	National Institute Of Technology Silchar



Source: Novo Nordisk Foundation, CWTS Leiden Ranking 2023
Note: Universities are ranked according to their score on PPtop10%

Publication collaborations between NNF grant recipients and Indian partners



Between 2019 and 2023, NNF grant recipients have co-authored **134** publications with researchers located in India.



The highest number of Indian partners come from Manipal Academy of Higher Education with 10 publications, followed by George Institute for Global Health with 10 publications, and Academy of Scientific and Innovative Research with 9 publications



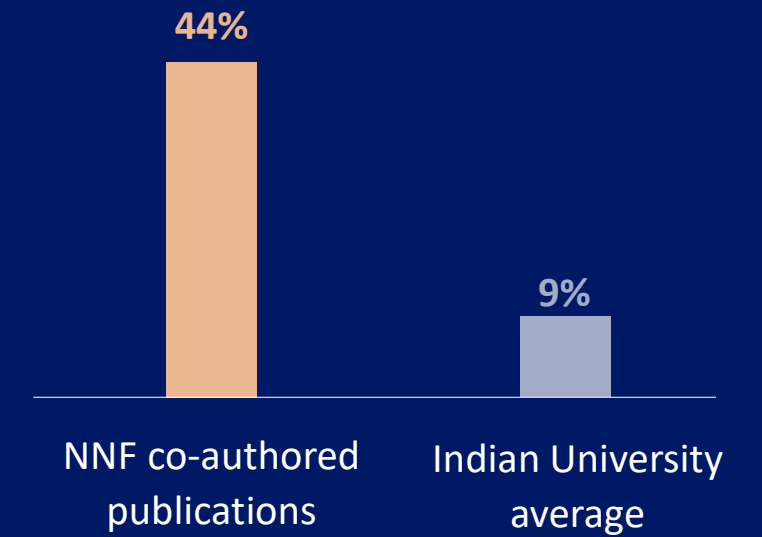
18% of the co-authored publications are within the research areas *Medicine and Biochemistry, Genetics & Molecular Biology*.



44% of the co-authored publications are within the top 10% most cited publication in their research field. The national average among the top Indian universities is 9%.

NNF grants contribute to research excellence

Share of co-authored publications among the top 10% most cited world-wide in the same research field and year



NNF to support crucial education of health professionals in India and East Africa with up to US\$ 140 million

With the launch of the Partnership for Education of health Professionals (PEP), NNF takes a step towards reducing inequity in health by initially targeting the education of health professionals in underserved regions in India and East Africa. NNF will, together with various local partners, support the education of health professionals in improving the prevention and care of noncommunicable diseases, particularly cardiometabolic diseases such as diabetes and hypertension. The partners will include health authorities, universities and educational institutions. PEP is expected to run until 2030.

Researchers receiving grants from the Novo Nordisk Foundation collaborate with Indian companies

In total 13 unique companies collaborate with NNF grant recipients

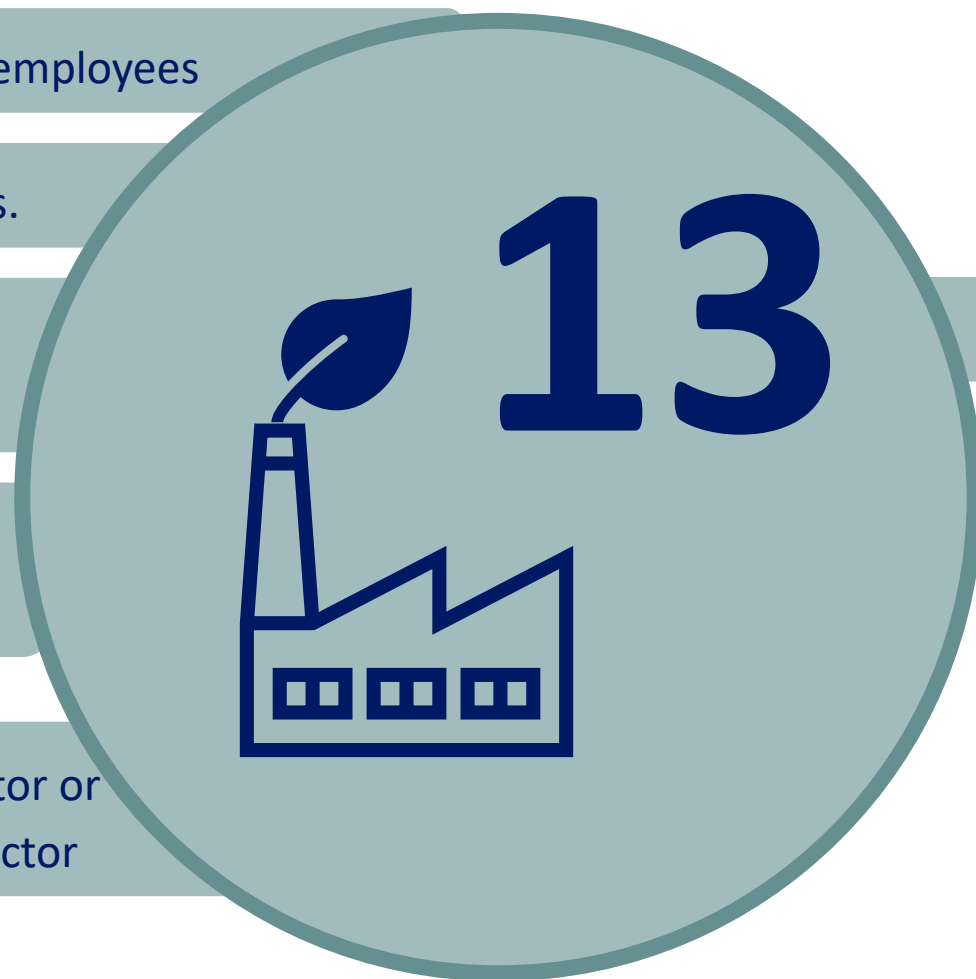
2 have less than 200 employees

1 have less than 50 employees.

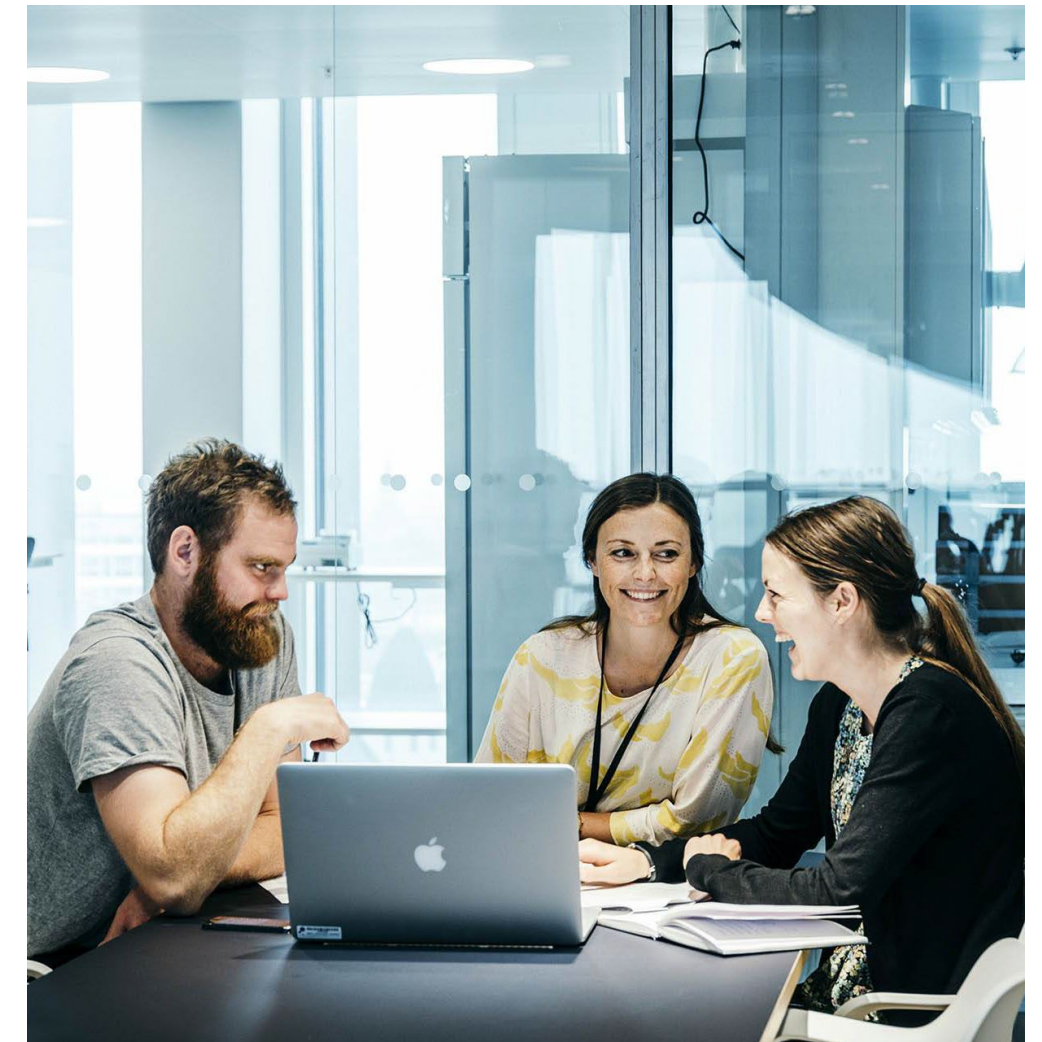
1 company is in the biotechnology sector

2 are categorised as a pharmaceutical company

5 are in the Medical Device sector or In the Hospital & Health Care sector



13 is co-authoring scientific publications



The NNF Dashboard on Grants and Impact

The NNF Dashboard is your gateway to information about the entire value chain of grant development, starting with Calls & Applications, through to awarded grants and their impact. In addition to visualising numbers on awarded grants, gender distribution of grant holder and grant recipients host institutions, the NNF Dashboard provides insights and details on the overall development year-to-year.

For more information please visit <https://novonordiskfonden.dk/facts-and-figures/>





Novo Holdings A/S in India

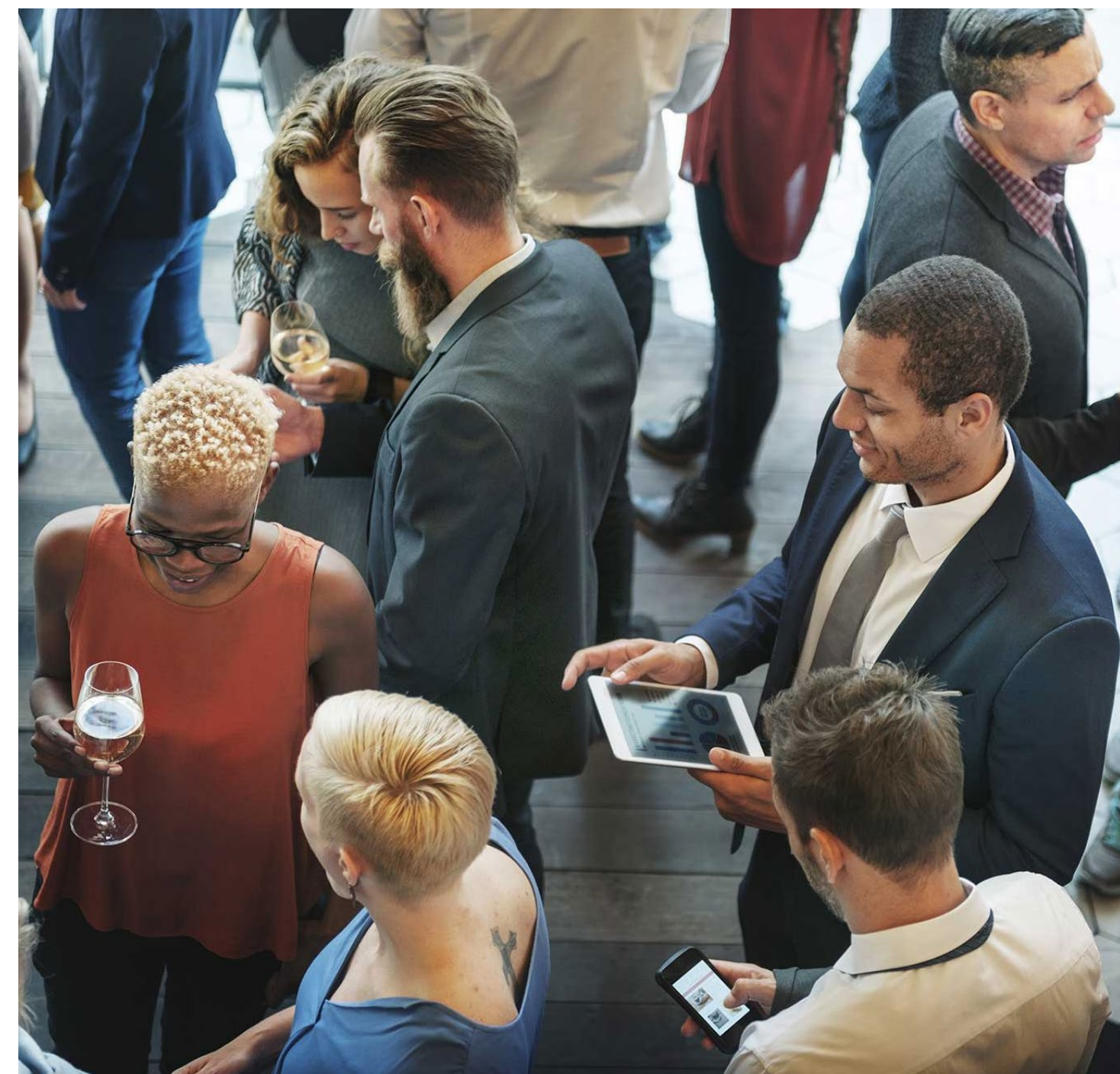
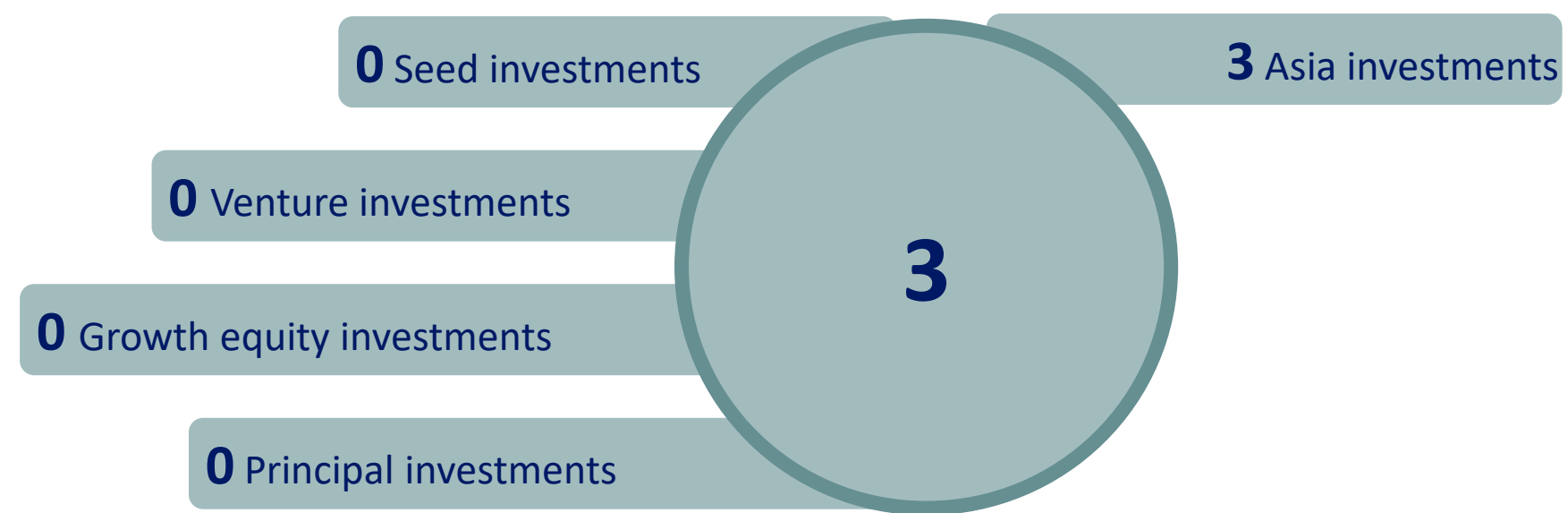
Our mission

Novo Holdings is to be a supportive owner of the Novo Group companies and to make a growing and positive impact on health, science and society by generating attractive long-term returns on the assets of the Novo Nordisk Foundation.

Novo Holdings A/S Investments in India

Novo Holdings A/S has in the period 2019-2023 invested in **3 Indian companies**. In 2023, the portfolio included 3 companies, with a total value of US\$ 0.2 billion.

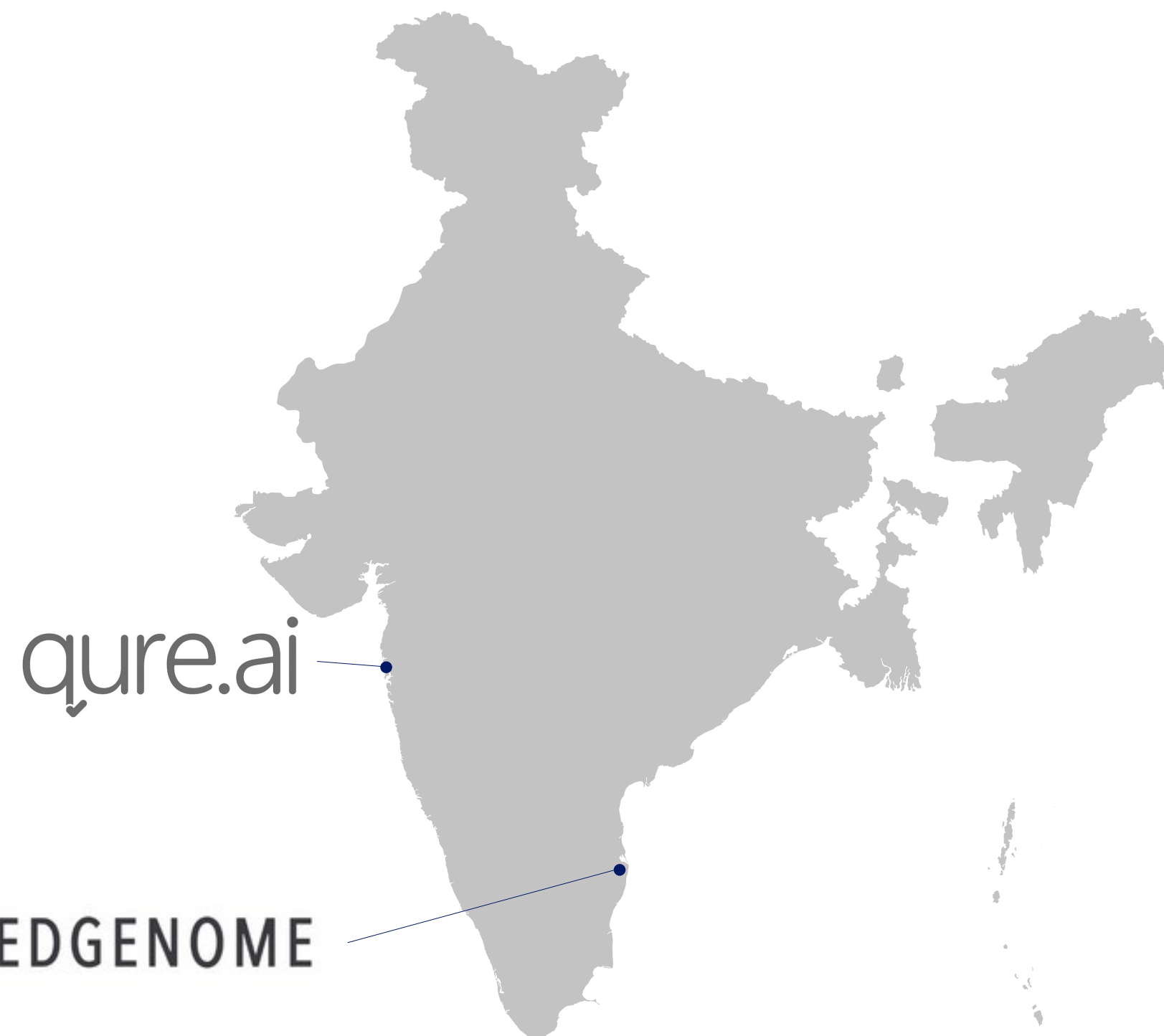
Companies in the current portfolio



Novo Holdings A/S Investments in India

MedGenome is the leading provider of genomic solutions for populations in South Asia, providing advanced genetic testing and bioinformatics solutions to patients, pharmaceutical companies, and research institutions around the world. Novo Holdings A/S led a \$50 million investment into MedGenome.

Qure.ai, one of the leading health tech firms using Artificial Intelligence for medical imaging diagnostics, secured \$40 million in a funding round led by Novo Holdings and HealthQuad, supported by existing investor Mass Mutual Ventures. Qure.ai will use the new investment to extend and strengthen its global reach, especially in the US and Europe, and intensify product development for critical care and community diagnostics.





Appendix and additional slides

Methods and sources

Methods:

- Collaborations were defined as either a project collaboration or a publication collaboration funded by NNF with at least one Indian collaborator/
Indian institute
- University ranking was based on the time period 2019-2023, across all sciences, with institutions with at least 100 publications, and based on the PP(top10%)
- Publications were defined as publications with at least one Indian and one Danish author
- Indian industry collaborators were defined as collaborations with companies registered in the India
- Indian research partners were defined as successful NNF grant applications with at least one Indian co-applicant
- The number of Indian attendees at the Copenhagen Bioscience Conference series were defined as applicants and attendees registered to a Indian research institute
- Novo Holdings A/S investments in India were defined as investments in companies with their headquarter located in India

Sources:

- Researchfish (NNF grant data)
 - Research publication collaborations
 - Company project collaborations
 - Publications
- Data Warehouse, NORMA and OMADA (NNF grant application data)
 - Co-applicants
 - Copenhagen Bioscience PhD programme applicants
- The Leiden Ranking 2023
 - University rankings
 - Publication impact data
- Novo Holdings A/S
 - Investment data