

Report on research collaborations and investments in the United Kingdom

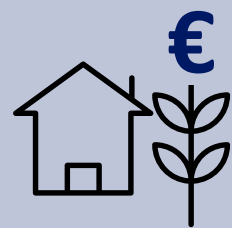
IMPACT

Executive summary

Novo Holdings



Between 2019 and 2023, Novo Holdings invested in 10 companies based in the UK.



In 2023, the Novo Holdings portfolio included 13 UK companies with an overall value of GBP 7.25 billion.

Novo Nordisk Foundation



Between 2019 and 2023, the Novo Nordisk Foundation (NNF) financed 37 projects with UK applicants, totaling GBP 55 million.



241 young UK researchers have been attending the Copenhagen Bioscience Conferences.



Between 2019 and 2023 the Novo Nordisk Foundation funded 198 PhDs, Postdocs and other people in science in projects involving UK applicants.

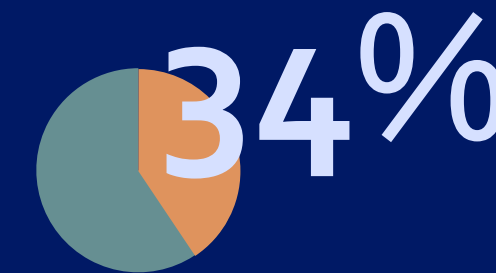
Grant recipients

124

The Foundation's grant recipients collaborates with many international project's partners, including 124 UK based universities and university hospitals.



Between 2019 and 2023, NNF grant recipients collaborated with 56 UK companies. 9 are in the biotechnology sector, and 15 of the companies have less than 200 employees.



Between 2019 and 2023, NNF grant recipients have co-authored 2428 publications with researchers located in the UK. 34% of the publications are among the top 10% most cited in their field.

25/25

25 out of 25 top UK 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 the UK.
- An overview of Novo Holdings' investments in the UK.

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

Through figures and case studies, it demonstrates the different kinds of relationships and activities between NNF grant recipients and UK 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 & Investments

Awarded in 2023:
 DKK 7.7 billion in grants (EUR 1.0 billion)
 DKK 1.4 billion in investments (EUR 0.2 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* (EUR 4.2 billion)
Assets under mgmt.:
 EUR ~107 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:

EUR **107** billion*

2023 in numbers

Awarded DKK
7.7 billion
EUR 1.0 billion

Paid out DKK
5.8 billion
EUR 785 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
EUR 4.2 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



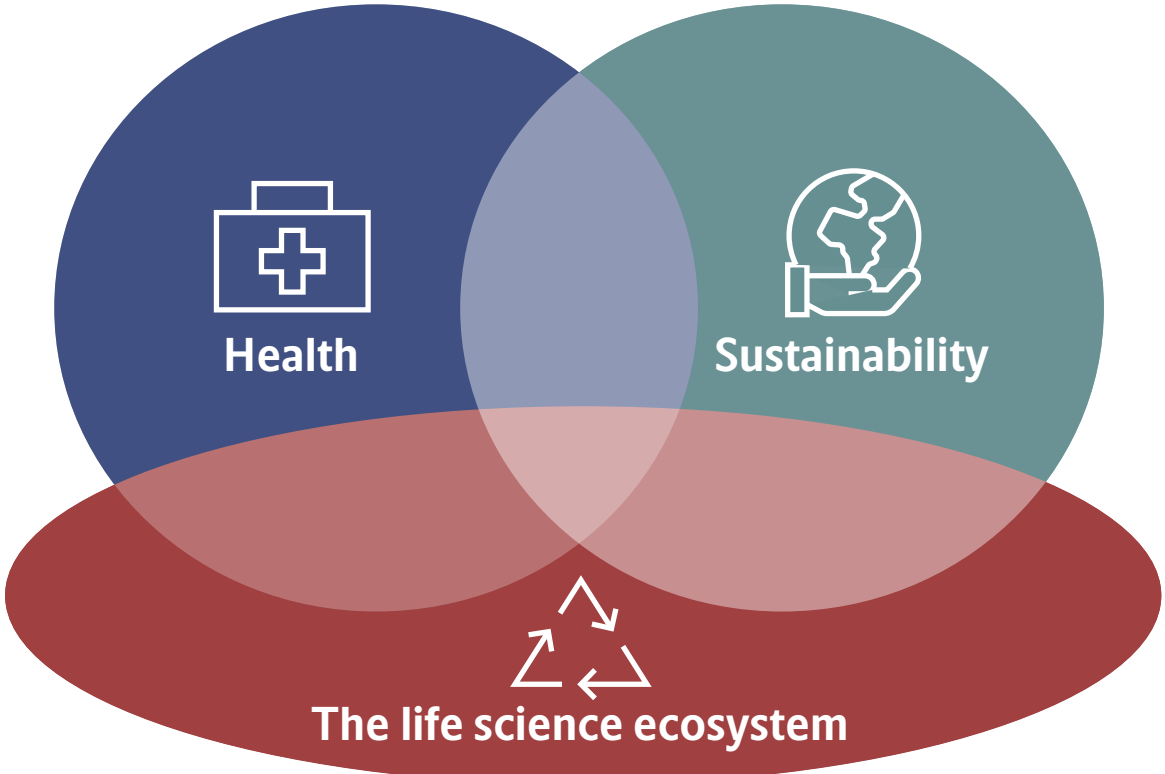
Theme 2: Decreasing the burden and threat of infectious diseases



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 2: Enabling research infrastructures and technologies



Theme 3: Translational capacity and societal impact



Theme 4: Education and science capital



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

37 projects funded by NNF include UK researchers as applicants

The Novo Nordisk Foundation has in the last five years (2019-2023) funded 37 projects that have had 26 main applicants and 11 co-applicants from the UK. Co-applicants are members of the international group applying for a NNF grant. The total funding allocated to these projects is GBP 55 million.

The funded projects span research areas including Medical Science, Biotechnology, Innovation, Natural- & Technical Sciences, Education & Outreach, Infectious Diseases, Obesity & Nutritional Sciences, and Social & Humanitarian. 17 projects were awarded in open competition, while 20 were awarded as a standalone grant.

- In **2023**, **Copenhagen University Hospital** and **King's College London** received funding for the project titled: PREclampsia PREvention in Denmark; A national stepped-wedge cluster randomized implementation study assessing effectiveness, uptake and safety.
- In **2023**, **University of Copenhagen** and **Rothamsted Research** received funding for the project titled: One Crop Health for Next Generation Crop Protection.



Fostering the development of research talent at all levels

In 2023 the Novo Nordisk foundation supported 17 PhDs, 26 Postdocs and 36 other people in science at UK based research institutions through projects involving UK applicants.

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, **241** young UK researchers have been attending 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 UK partners

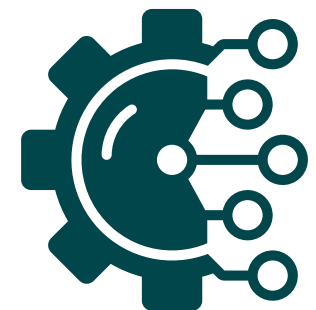
Between 2019 & 2023...



The Foundation's grant recipients have collaborated with many international project's partners, including **512** collaborations between Danish and UK partners.



452 of those partners are universities and university hospitals.



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

Case stories

University collaborations

In 2023, Copenhagen University Hospital and King's College London received funding for the project titled: PREEclampsia PREvention in Denmark; A national stepped-wedge cluster randomized implementation study assessing effectiveness, uptake and safety. The project has received a grant of 14.49 million GBP and has the following description:

The purpose of the study is to evaluate effectiveness, screening uptake and safety when implementing a national first trimester screening program for preeclampsia in Denmark. This screening program utilizes a combination of maternal characteristics and biochemical and biophysical markers collected in the first trimester to assess the risk of developing preterm preeclampsia. It has shown high screening performance and a positive motivation from the pregnant women in a recent Danish multicenter study.

In 2023, University of Copenhagen and Rothamsted Research received funding for the project titled: One Crop Health for Next Generation Crop Protection. The project has received a grant of 59.98 million GBP and has the following description:

Cropping systems in Denmark and much of Europe are heavily reliant on pesticides for controlling insect pests, weeds and pathogens. We propose to develop a 'One Crop Health' system that integrates the latest advances in agricultural technology, ecology, data science and modelling to significantly reduce reliance on pesticides. We believe human health systems with their greater emphasis on public health approaches to prevent disease, surveillance and diagnostics to enable early detection, and evidence-based, personalised interventions, can provide motivating examples for future crop health systems. Drawing on the One Health concept in human health, our international (DK and UK) research programme integrates crop health, soil health and agroecosystem health to deliver cropping systems that reduce the need for pest control interventions and their associated negative environmental outcomes.

NNF Grant recipients' collaboration with top UK universities

10 out of 10 top UK universities collaborate with NNF grant recipients

| | | Project collaborations | Publication collaborations |
|----|-----------------------------------|------------------------|----------------------------|
| 1 | Imperial College London | 1 | 338 |
| 2 | University of Cambridge | 9 | 242 |
| 3 | University of Oxford | 7 | 447 |
| 4 | University of Exeter | 3 | 89 |
| 5 | St George's, University of London | 0 | 23 |
| 6 | University of Glasgow | 1 | 131 |
| 7 | University College London | 0 | 280 |
| 8 | Queen Mary University of London | 0 | 93 |
| 9 | University of Dundee | 0 | 90 |
| 10 | University of East Anglia | 0 | 18 |

Source: Novo Nordisk Foundation, CWTS Leiden Ranking 2023



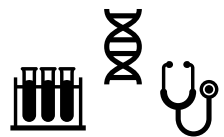
Publication collaborations between NNF grant recipients and UK partners



Between 2019 and 2023, NNF grant recipients have co-authored **2428** publications with researchers located in the UK.



The highest number of UK partners come from University of Oxford with 447 publications, followed by Imperial College London with 338 publications, and University College London with 280 publications.



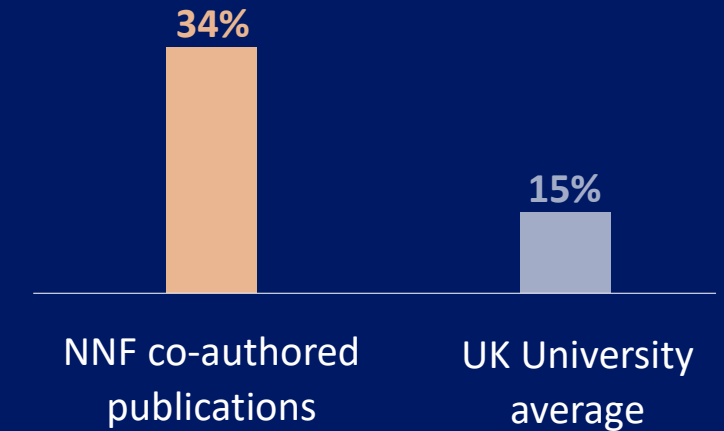
34% of the co-authored publications are within the research areas *Medicine and Biochemistry, Genetics & Molecular Biology*.



45% of the co-authored publications are within the top 10% most cited publication in their research field. The national average among the top UK universities is 15%.

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



In 2022, Prof. Molly Stevens was awarded the Novo Nordisk Prize

Science of small things does not sound like something that can have a big impact on the world, but nanotechnology has proved this is wrong. Tissue engineering, efficient drug delivery and more sensitive screening for diseases are just a few examples. According to Professor Molly Stevens, the new technologies can democratise access to healthcare. She receives the 2022 Novo Nordisk Prize for her pioneering work in innovative bioengineering approaches to pursue the vision of solving key problems in regenerative medicine and biosensing.

The Novo Nordisk Prize honours active scientists who have made outstanding contributions to advance medical science to benefit people's lives.

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

In total 56 companies collaborate with NNF grant recipients

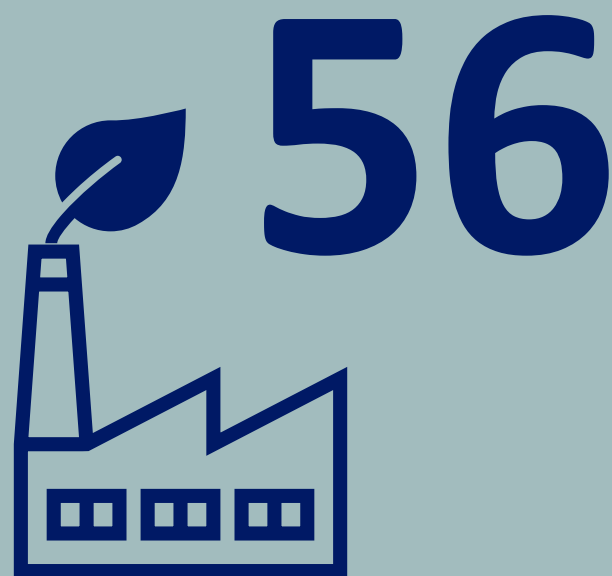
15 have less than 200 employees

11 have less than 50 employees.

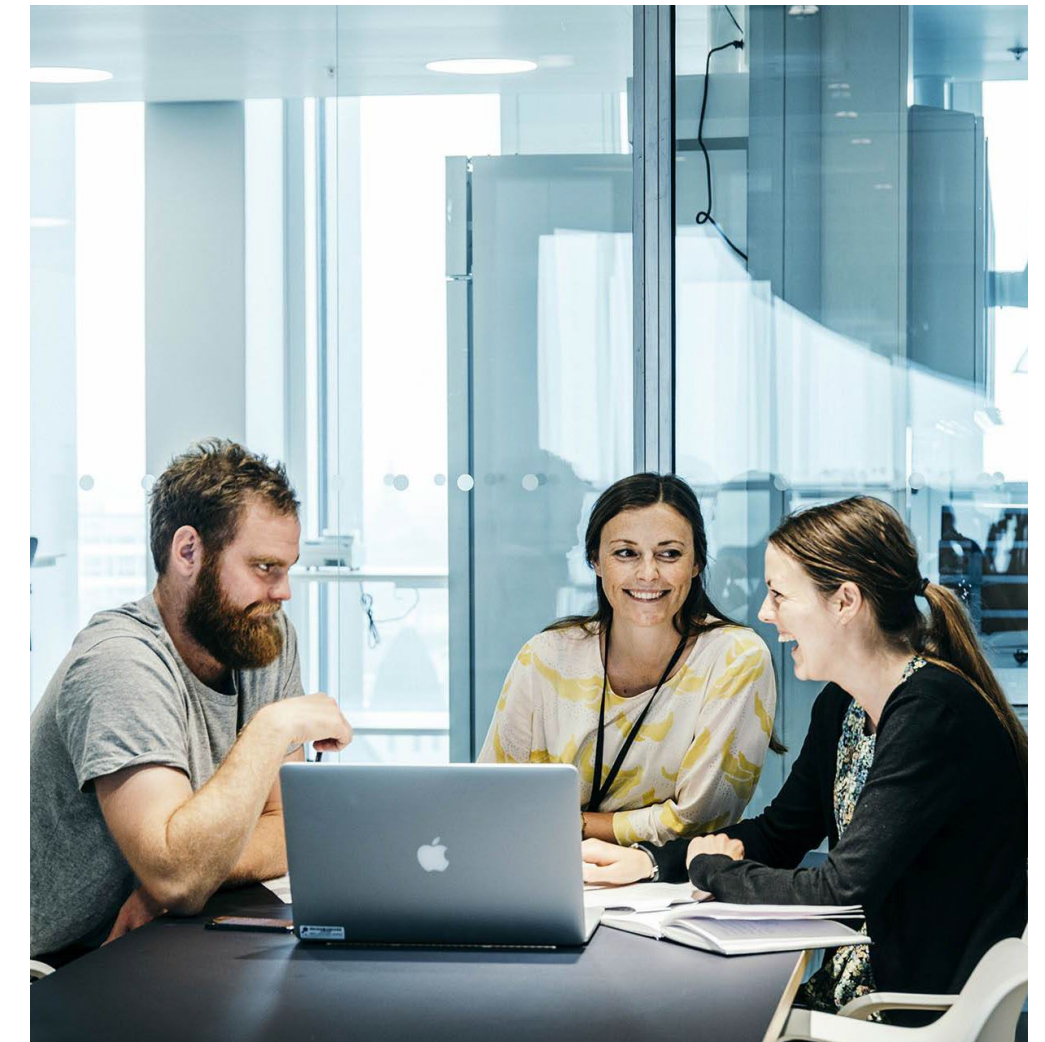
11 companies are in the Pharmaceutical sector

9 are categorised as a biotechnology company

9 are in the Software, Food & Beverages, Hospital & Health Care, Consulting, Medical Devices, or Energy sector.



56 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 the United Kingdom

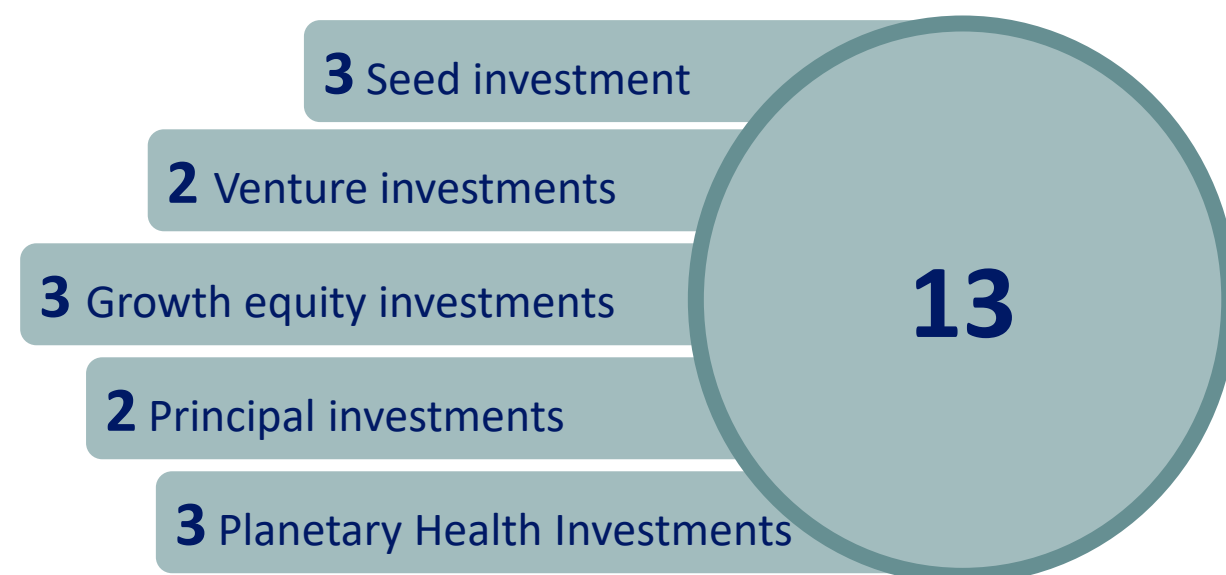
Our mission

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 the UK

Novo Holdings A/S has in the period 2019-2023 invested GBP 627 million in **10 UK companies**. In 2023, the portfolio included 13 companies with an overall value of GBP 7.25 billion.

Companies in the current portfolio



Source: Novo Holdings & Novo Nordisk Foundation (2023)



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 UK collaborator/ UK 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 UK and one Danish author
- UK industry collaborators were defined as collaborations with companies registered in the UK
- UK research partners were defined as successful NNF grant applications with at least one UK co-applicant
- The number of UK attendees at the Copenhagen Bioscience Conference series were defined as applicants and attendees registered to a UK research institute
- Novo Holdings A/S investments in UK were defined as investments in companies with their headquarter located in the UK

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