

Report on research collaborations and investments in France

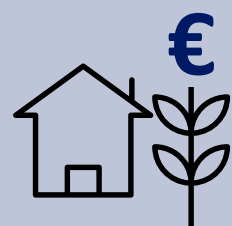
Impact

Executive summary

Novo Holdings



Between 2019 and 2023, Novo Holdings invested in 1 company based in France.



In 2023, the Novo Holdings portfolio included 2 French companies with a total value of 0.25 billion EUR.

Novo Nordisk Foundation



Between 2019 and 2023, the Novo Nordisk Foundation (NNF) financed 9 projects with French applicants, totaling EUR 14 million.



78 young French researchers have been awarded a grant to attend the Copenhagen Bioscience Conferences.



Between 2019 and 2023 the Novo Nordisk Foundation funded 27 PhDs, Postdocs, and other people in science in projects involving French applicants.

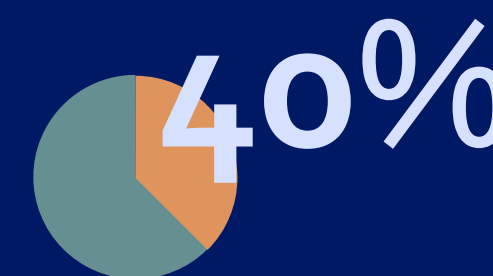
Grant recipients

69

The Foundation's grant recipients collaborates with many international project's partners, including 69 French based universities and university hospitals.



Between 2019 and 2023, NNF grant recipients collaborated with 18 unique French companies. 5 are in the biotechnology sector, 5 are in the pharmaceutical sector. 7 of the companies have fewer than 200 employees.



Between 2019 and 2023, NNF grant recipients have published 808 publications with researchers located in France. 40% of the publications are among the top 10% most cited in their field.

10/25

10 out of 25 top French 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 France.
- An overview of Novo Holdings' investments in France.

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

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

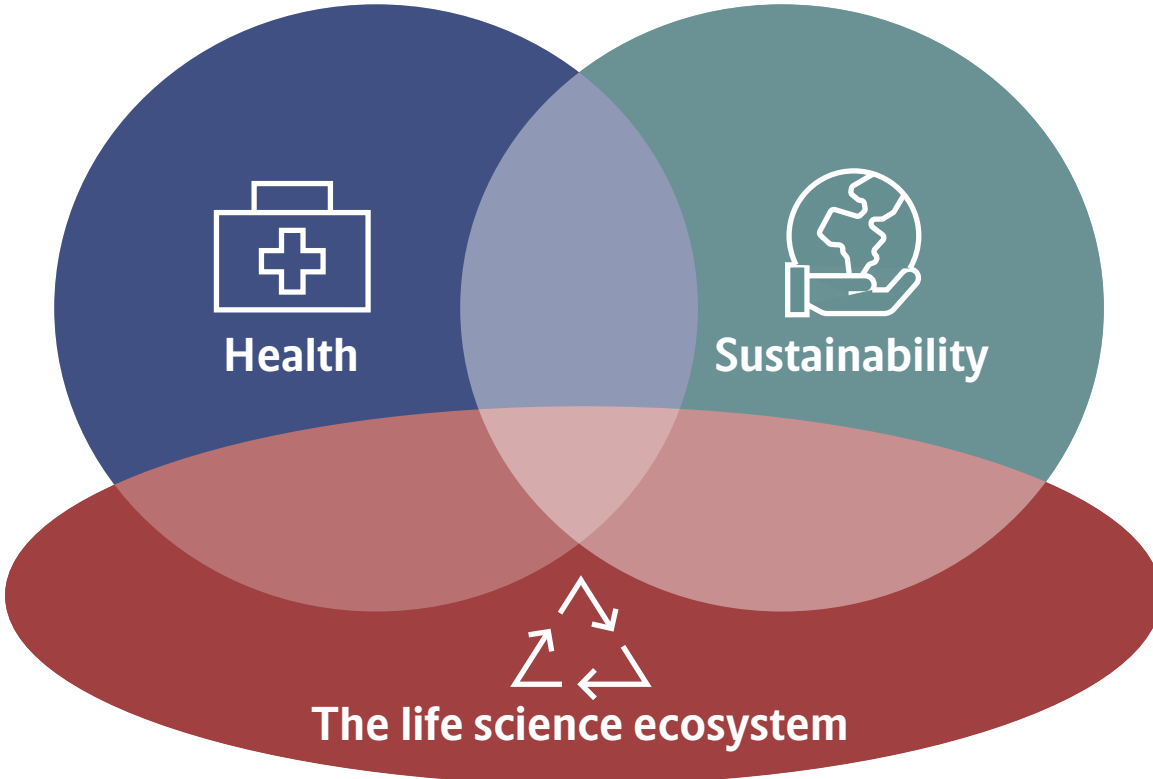
Investment result 2023
31.4 DKK billion
EUR 4.2 billion

*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 3: Translational capacity and societal impact**
-  **Theme 2: Enabling research infrastructures and technologies**
-  **Theme 4: Education and science capital**



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

9 projects funded by NNF include French researchers as applicants

The Novo Nordisk Foundation has in the last five years (2019-2023) funded 9 projects that have had 3 main applicants and 6 co-applicants from France. Co-applicants are members of the international group applying for a NNF grant. The total funding allocated to these projects is EUR 14 million.

The funded projects span programme areas including Medical Science, Biotechnology, Innovation, Natural- & Technical Science. 7 projects were awarded in open competition, while 2 was awarded as a standalone grant.

- In 2023, University of Copenhagen and Sorbonne University received funding for the project titled: Magnetogenetics: Controlling biological systems with electromagnetic fields.
- In 2023, University of Copenhagen and INRAE received funding for the project titled: SEECLEAR – Wood formation in near-real time.



Fostering the development of research talent at all levels

In 2023 the Novo Nordisk foundation supported 1 PhD, 3 Postdoc positions, and 5 other people in science at French based research institutions through projects involving French 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, **78** young French 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 French partners

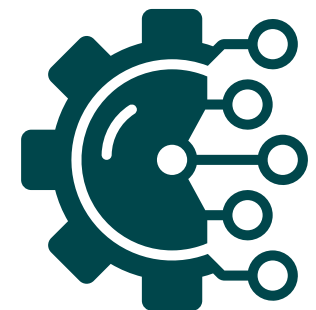
Between 2019 & 2023...



The Foundation's grant recipients have collaborated with many international project's partners, including **78** collaborations between Danish and French partners.



60 of those partners are universities and university hospitals.



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

Case stories

University and research institution collaborations

In 2023, University of Copenhagen and Sorbonne University received funding for the project titled: Magnetogenetics: Controlling biological systems with electromagnetic fields. The project has received a grant of 15.0 million EUR and has the following description:

Controlling biochemical pathways by reversible and non-invasive methods has tremendous importance for biotechnology and biomedicine. Although the discovery of light-responsive transcription factors has enabled the establishment of optogenetic systems, light cannot penetrate deep animal tissue or dense microbial cultures. Thus, new genetic control systems are needed for advanced biomedical research and industrial-scale precision fermentation.

Here, we propose magnetogenetics, a new technology to control gene expression by using externally applied electromagnetic fields in the absence of light. The method is based on the development of dedicated magnetosensitive switches that utilize light-independent forms of the plant photoreceptor cryptochrome.

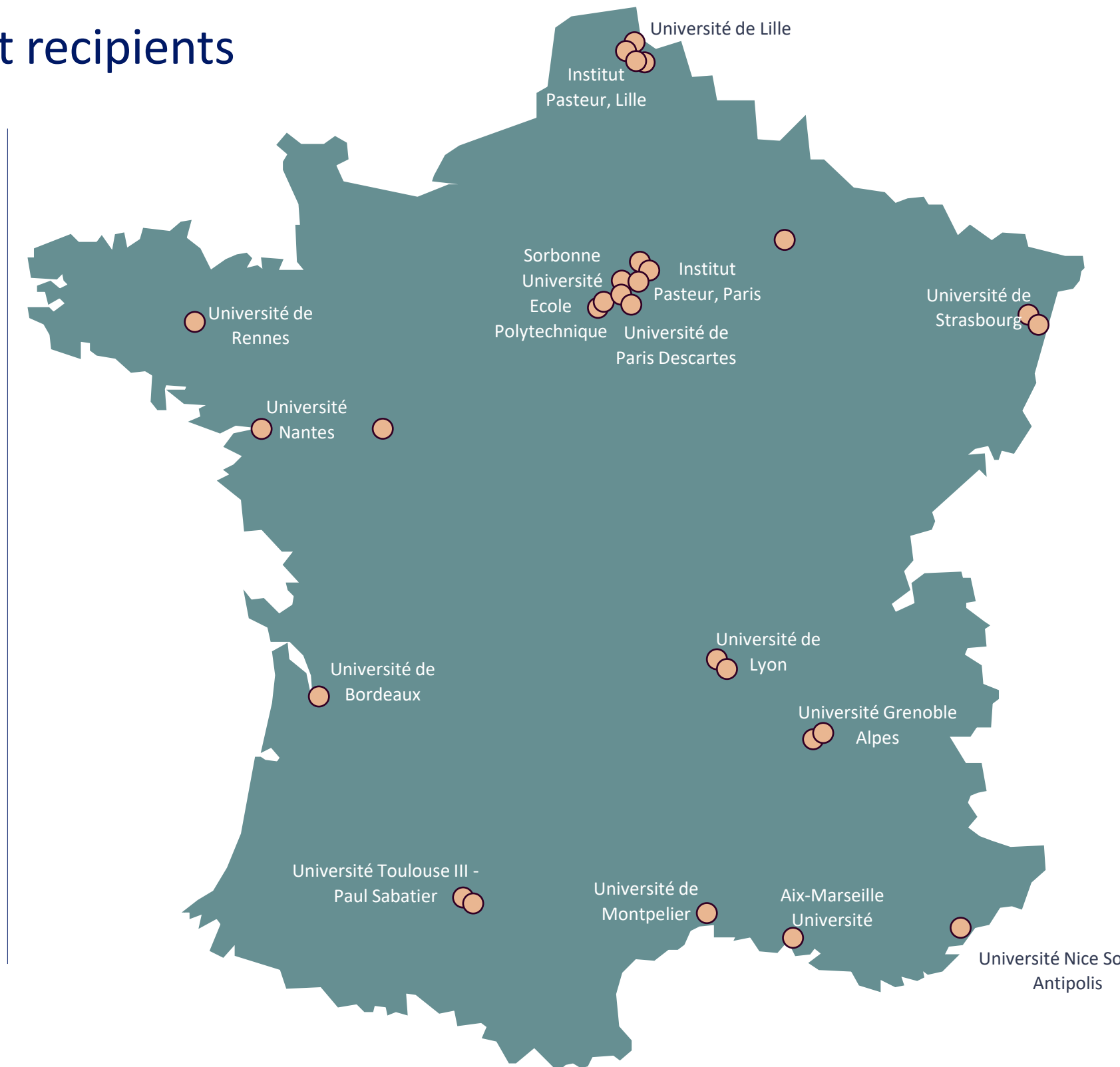
In 2023, University of Copenhagen and INRAE received funding for the project titled: SEECLEAR – Wood formation in near-real time. The project has received a grant of 5.0 million EUR and has the following description:

Wood constitutes an unlimited resource of renewable biomass indispensable for production of sustainable energy and for supply of high quality materials. Molecular understanding of wood formation would provide a new avenue for designing bio-inspired materials with remarkable strength and rigidity. Wood consists of so called secondary cell walls that encase cells in wood forming plant tissues. A critical step in the wood forming process involves the cessation of primary wall synthesis (a wall structure that surrounds growing cells) and initiation of secondary cell wall synthesis. Here, we seek to elucidate the biomolecular and structural cell wall changes that take place during wood formation.

NNF Grant recipients' collaboration with top French universities

8 out of 10 top French universities collaborate with NNF grant recipients

	Project collaborations	Publication collaborations	
1	Université Paris Cité	0	53
2	Versailles Saint-Quentin-en-Yvelines University	0	0
3	PSL Research University	0	0
4	Sorbonne University	2	43
5	Université Paris-Est Créteil	0	2
6	Université Côte d'Azur	0	7
7	Université Toulouse III - Paul Sabatier	0	22
8	University of Paris-Saclay	0	0
9	University of Bordeaux	0	0
10	University of Montpellier	0	0



Source: Novo Nordisk Foundation, CWTS Leiden Ranking 2023

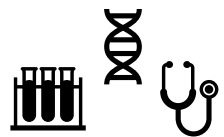
Publication collaborations between NNF grant recipients and French partners



Between 2019 and 2023, NNF grant recipients have co-authored **808** publications with researchers located in France.



The highest number of French partners come from Université Paris Cité with 53 publications, followed by Sorbonne Université with 43 publications, and Université de Lille with 41 publications.



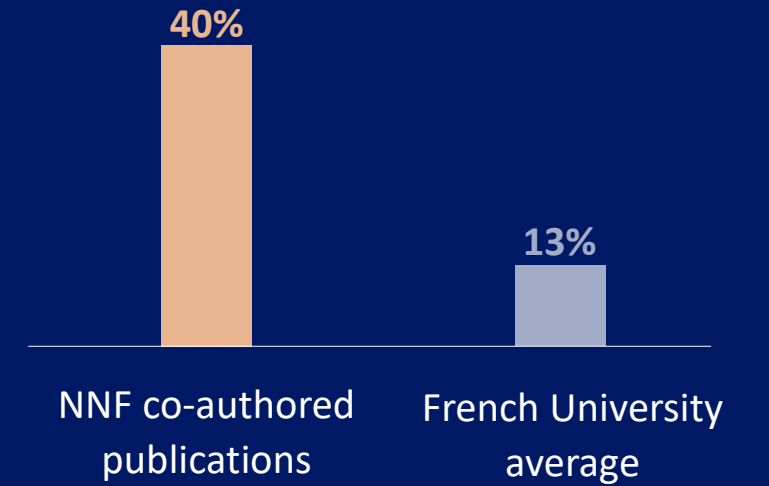
18% of the co-authored publications are within the research areas *Medicine and Biochemistry, Genetics & Molecular Biology*.



40% of the co-authored publications are within the top 10% most cited publication in their research field. The national average among the top French universities is 13%.

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



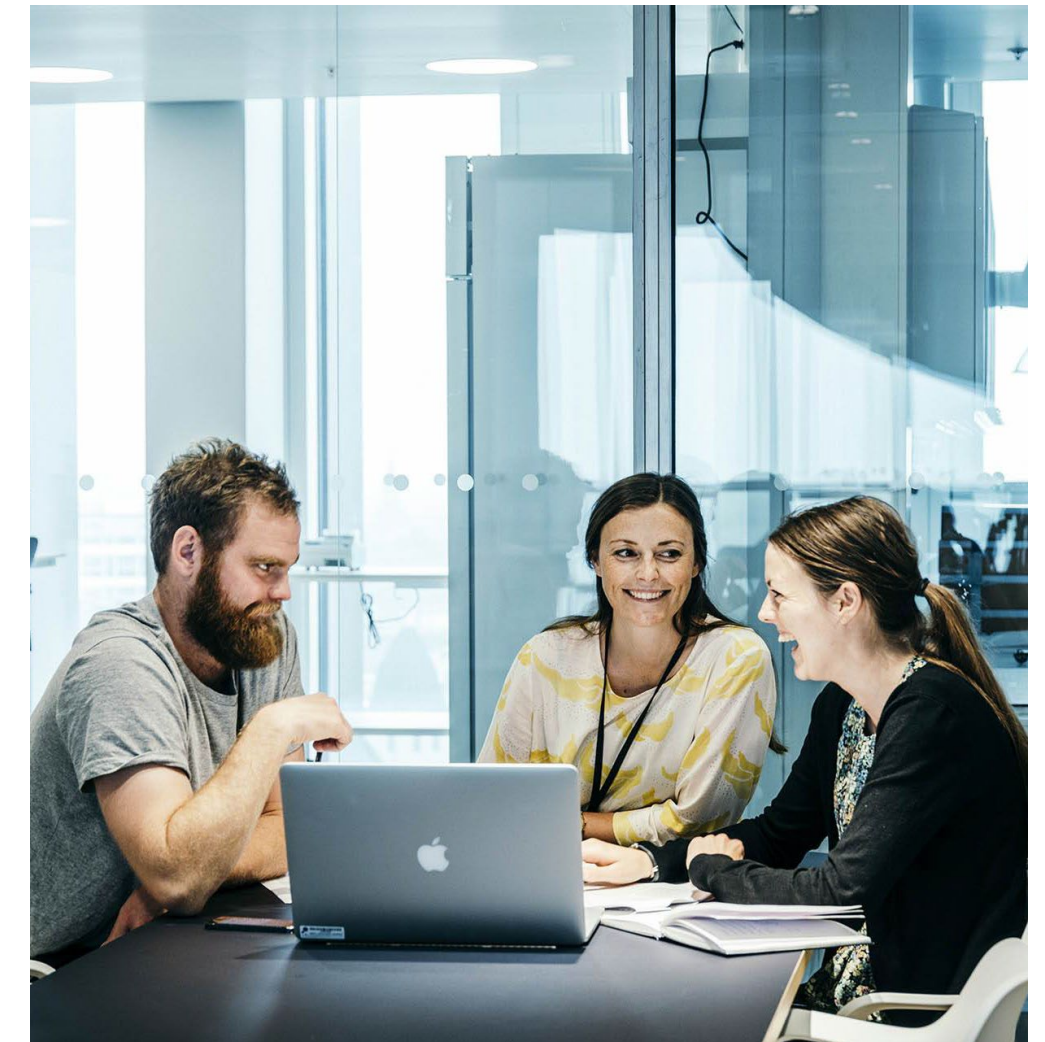
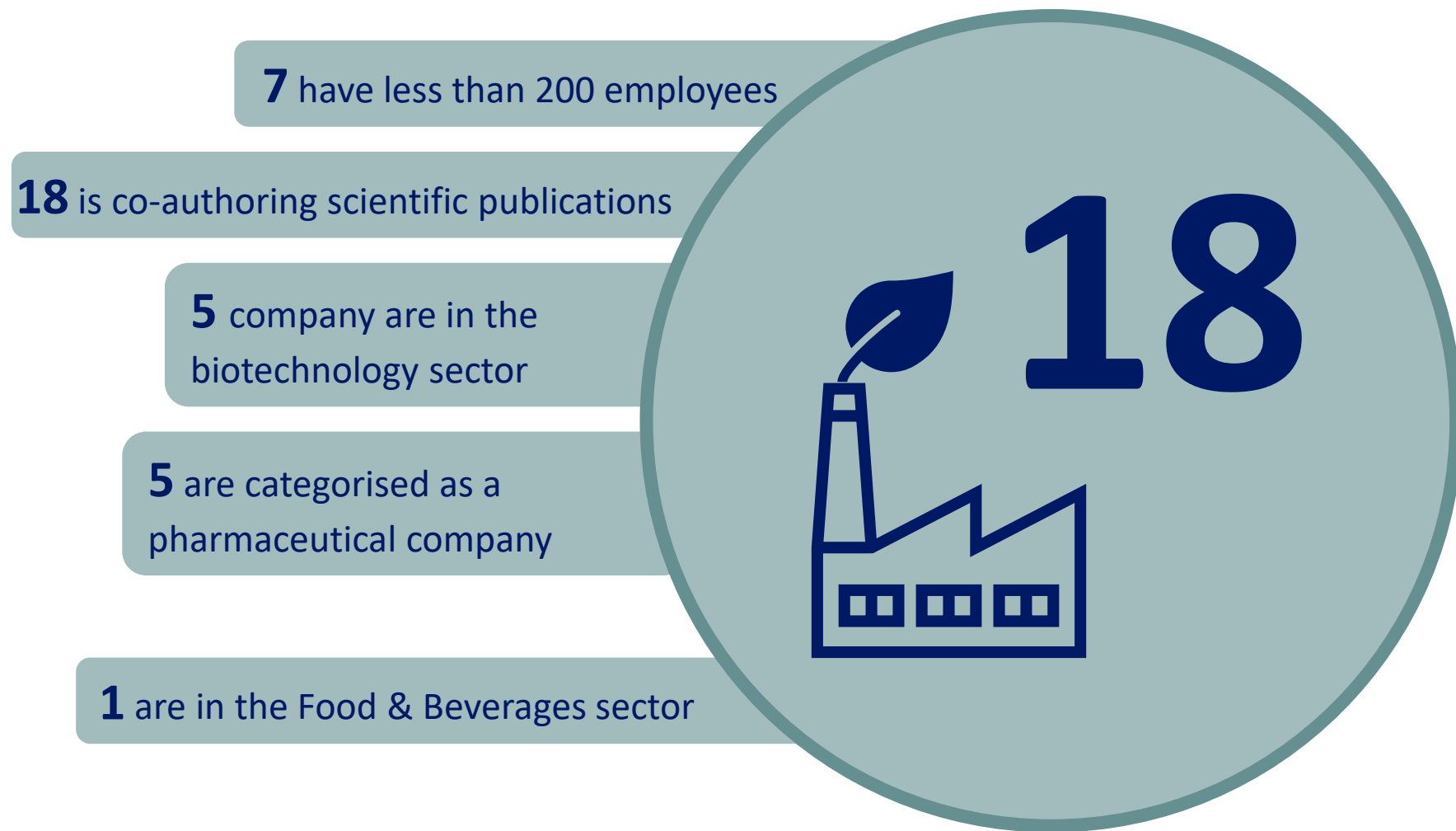
In 2020, Karine Clément was awarded the Jacobæus Prize

Professor Karine Clément from France is awarded the Jacobæus Prize 2020 for her clinical research in metabolic disease. She receives the Prize in recognition of her important contributions to the development of novel methods and models used in the clinical work with disorders such as obesity and type 2 diabetes.

The purpose of the Prize is to promote medical research and it is awarded annually to a distinguished international researcher, who is invited to give a lecture on his or her research on a topic within physiology or endocrinology.

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

In total 18 unique French companies collaborate with NNF grant recipients



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 France

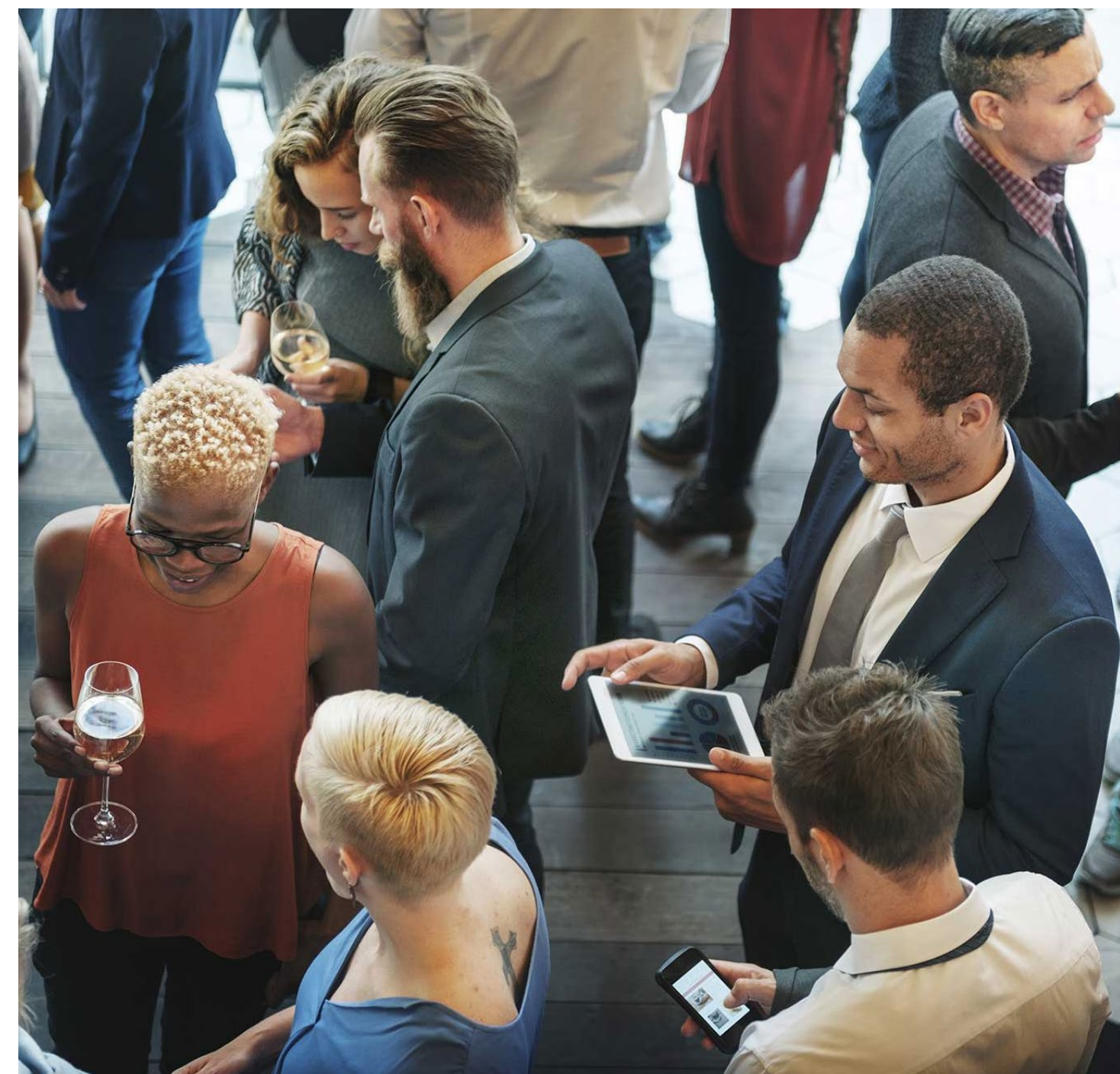
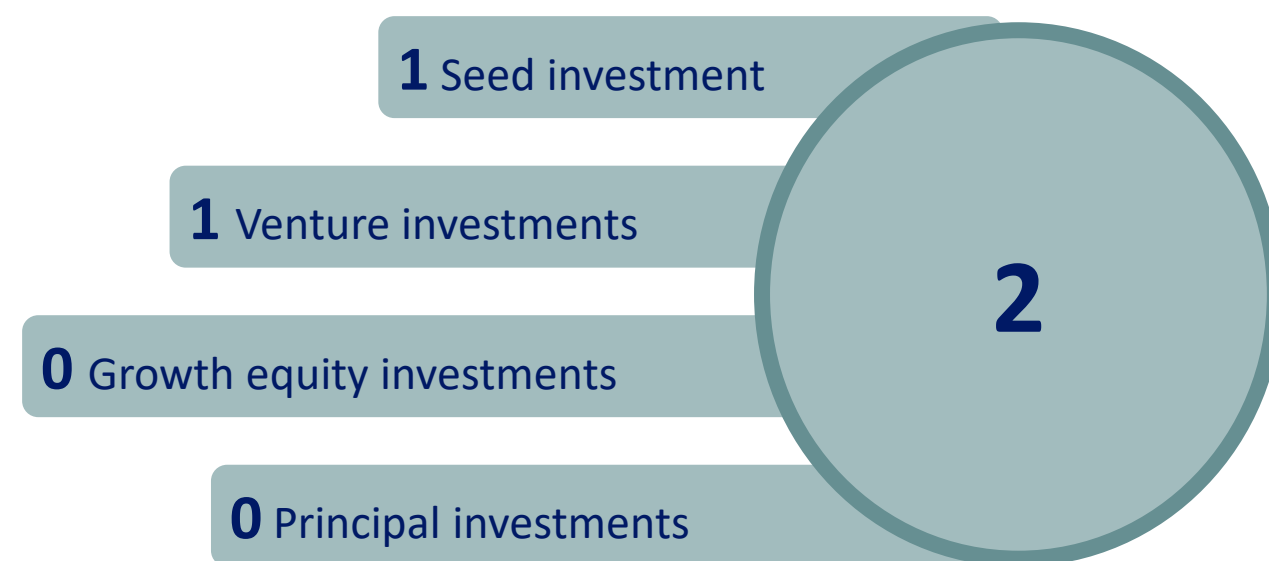
Our mission

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 France

Novo Holdings A/S has in the period 2019-2023 invested in **1 French companies**. In 2023, the portfolio included 2 companies, with a total value of 0.25 billion.

Companies in the current portfolio





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

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