

Nordic Newsletter from NIFU November 2020

## Continued growth in Nordic R&D activity

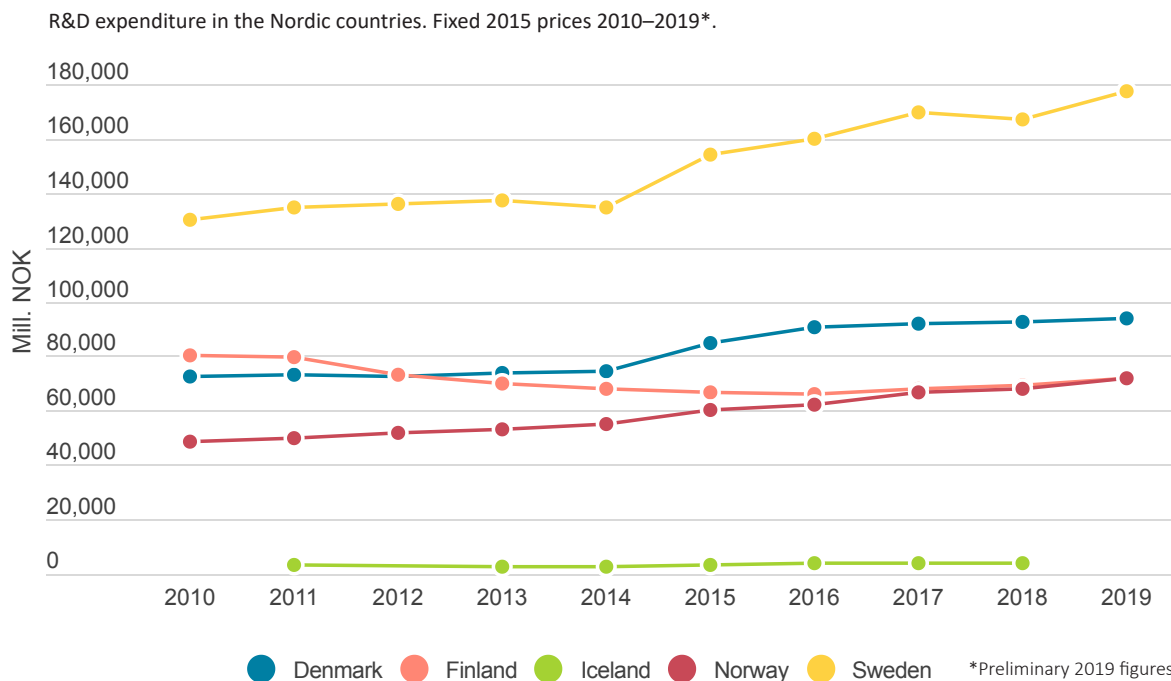
Frøydis Sæbø Steine

Preliminary figures<sup>1</sup> from the Nordic statistical producers show that just over 458 billion NOK was spent on research and experimental development (R&D) in the Nordic region in 2019. In fixed prices, this equals an increase of almost 5 per cent from 2018. Sweden has by far the highest R&D expenditure in the Nordic region, about 194 billion NOK in 2019. This corresponds to 3.41 per cent of the country's GDP. In 2019, R&D expenditure in Norway was almost 80 billion NOK and is estimated at 2.22 per cent of GDP.

### Stable distribution of R&D expenditure between the Nordic countries

The distribution of total R&D expenditure between the Nordic countries in 2019 was quite similar as in 2018. See the development in recent years in the figure below. In 2019, Sweden accounted for about 42

per cent of R&D expenditure in the Nordic region. Denmark accounted for 22 per cent, while Norway and Finland accounted for 17 per cent each. In fixed prices, Sweden and Norway have had the largest increase in R&D expenditure from 2018 to 2019, 6.3 and 5.8 per cent, respectively.



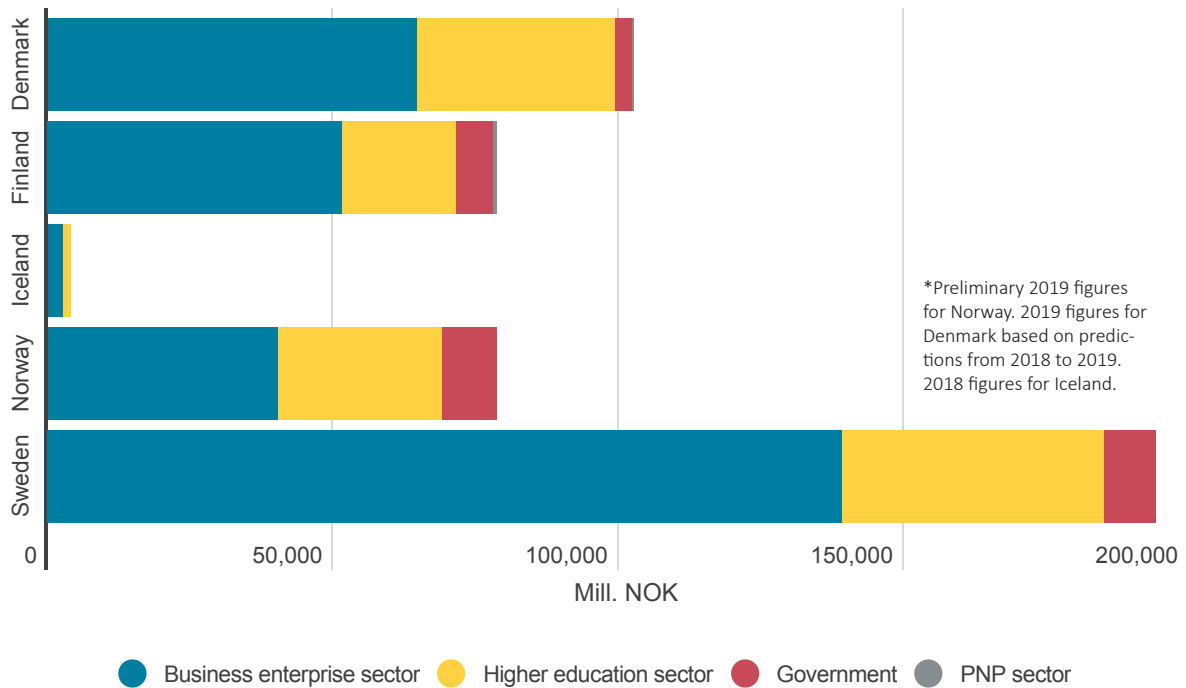
\*Preliminary 2019 figures for Norway. 2019 figures for Denmark based on predictions from 2018 to 2019.

## Highest R&D expenditure in the business enterprise sector

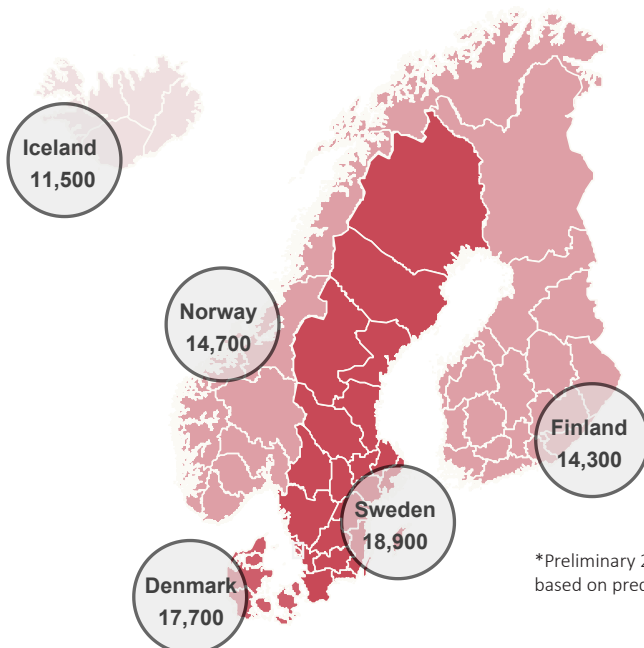
The business enterprise sector<sup>2</sup> is by far the largest R&D performing sector in the Nordic region in terms of expenditure. The sector accounts for 65 per cent of total R&D expenditure in the Nordic region in 2019. The country with the highest share of R&D expenditure in the business enterprise sector is Sweden (72 per cent), while Norway has the lowest share (51 per cent). The higher education sector also makes up a significant

part of total R&D expenditure in the Nordic region. The sector accounts for 28 per cent of total R&D expenditure. Among the Nordic countries, Norway has the highest share of R&D expenditure in the higher education sector (36 per cent). The government sector accounts for a smaller share of total R&D expenditure in all the Nordic countries, especially in Denmark, Iceland and Sweden. The sector accounts for a slightly higher share in Finland (8 per cent) and Norway (12 per cent). The PNP sector<sup>3</sup> is small in the Nordic countries.

Sector distribution by country in 2019\*.



R&D expenditure per capita in the Nordic countries 2019\*.



## Sweden and Denmark spend the most on R&D per capita

The map illustrates R&D expenditure per capita in the Nordic countries. Sweden is at the top among the Nordic countries in 2019, closely followed by Denmark. Norway and Finland both spent about the same amount on R&D per capita in 2019. See figures for each country in the map to the left.

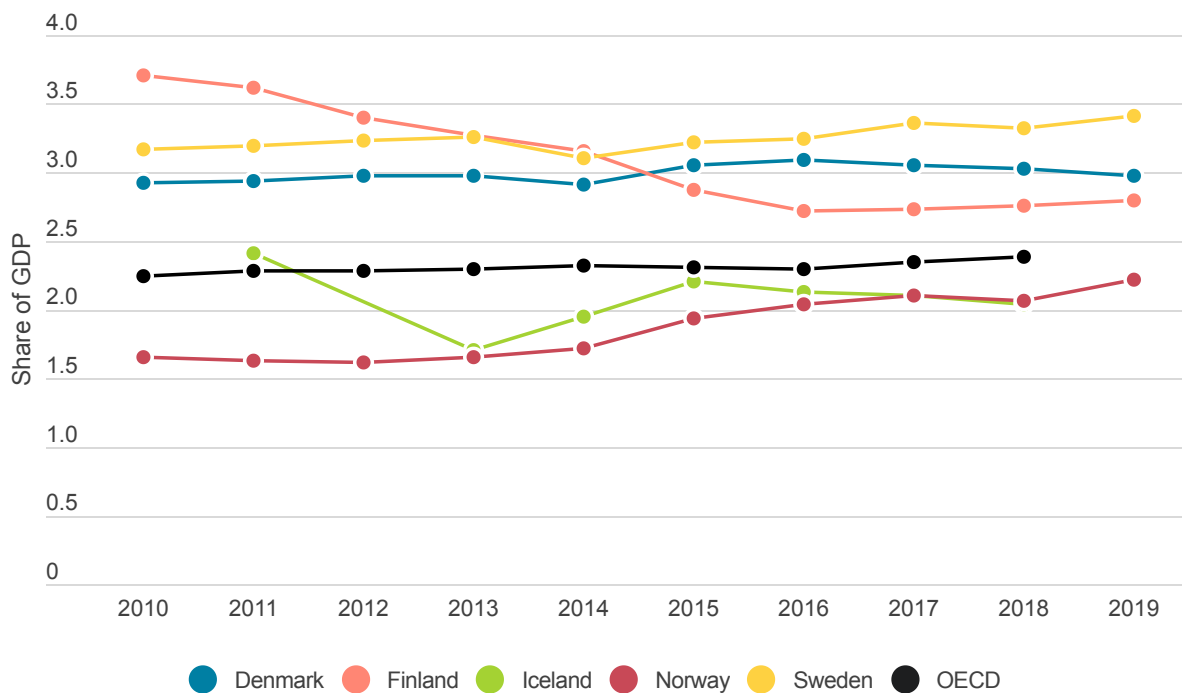
\*Preliminary 2019 figures for Norway. 2019 figures for Denmark based on predictions from 2018 to 2019. 2018 figures for Iceland.

## Growth in R&D expenditure as a share of GDP in Norway, Sweden and Finland

Preliminary figures for 2019 show that R&D expenditure as share of GDP has increased in Norway over the past year. This comes after a decline from 2017 to 2018. We see the same development in Sweden, which still has the highest share among the Nordic countries. In Finland, R&D expenditure as share of GDP has been above 3 per cent for a long time, but from 2015 the sha-

re has been lower. Expenditure as share of GDP has nevertheless increased slightly each year in Finland since 2017. In Denmark, we see a decline for the third year in a row. Estimates for 2019 show that expenditure is just under 3 per cent of GDP in 2019. Norway and Iceland have had the lowest R&D expenditure as share of GDP for several years.

R&D expenditure as share of GDP in the Nordic countries and the OECD average. 2010–2019\*.



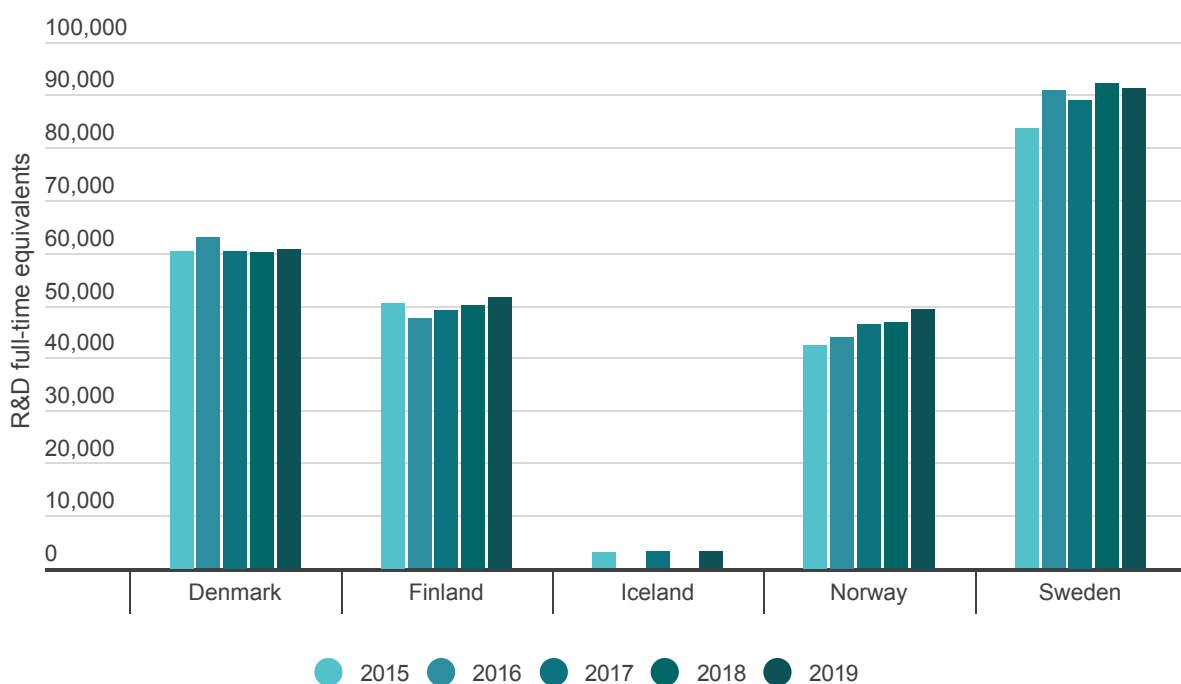
\*Preliminary 2019 figures for Norway. 2019 figures for Denmark based on predictions from 2018 to 2019.

## 256 000 R&D full-time equivalents in the Nordic countries

The number of R&D full-time equivalents (FTEs) in the Nordic region has increased by about 1.6 per cent from 2018 to 2019. The growth was about the same as the year before. Sweden has, naturally in view of their relatively high R&D expenditure, the most R&D FTEs among the Nordic countries (91 000 in 2019). After an increase of about 7 000 FTEs from 2015 to 2016, the number of R&D FTEs in Sweden has been relatively

stable in recent years. Denmark has the second most R&D FTEs, and the number has remained stable at about 60 000 in recent years. Finland has just over 51 000 R&D FTEs in 2019, just above Norway with 49 000 FTEs in the same year. Both countries have had a relatively steady increase over the past five years. In recent years, Iceland has had about 3 000 R&D FTEs on average.<sup>4</sup>

R&D FTEs in the Nordic countries. 2015–2019\*.



\*Preliminary 2019 figures for Norway. 2019 figures for Denmark based on predictions from 2018 to 2019.

## Notes

1. The overview is partly based on preliminary figures for 2019 and will be updated when final figures for all countries and sectors are available (early 2021).
2. In international comparisons, the business-oriented part of the institute sector in Norway is included in the business enterprise sector.
3. The PNP sector (private-non-profit) is covered by the R&D surveys for the government in Denmark, Finland and Norway and the R&D survey for the business enterprise sector in Iceland. In Sweden, a separate survey for the PNP sector is conducted.
4. Iceland does not measure R&D FTEs every year. The latest available figures for this variable are the 2017 figures. R&D FTEs for 2019 will be updated when final numbers are available from all the Nordic countries.

In this newsletter, NIFU has compiled the most up-to-date figures from the producers of R&D statistics in the Nordic countries, as well as the OECD Main Science and Technology Indicators (MSTI 2020 1). The Nordic numbers are finalized at slightly different times. Here we have presented final figures for Sweden and Finland, preliminary figures for Norway and figures based on predictions from 2018 to 2019 for Denmark. 2019 figures for Iceland will be published before the end of 2020. We have therefore taken the 2018 figures as our starting point here. The newsletter will be updated when final figures are available from all the Nordic countries.

All the Nordic countries compile R&D statistics on the basis of the OECD guidelines for R&D statistics (The Frascati manual), but with national adaptations. The Nordic producers of R&D statistics, in Norway represented by Statistics Norway and NIFU, collaborate on methodological issues to make the statistics as comparable as possible. Links to the different countries' producers of R&D statistics can be found here:

Denmark: Statistics Denmark [www.dst.dk](http://www.dst.dk)  
Sweden: Statistics Sweden [www.scb.se](http://www.scb.se)  
Finland: Statistics Finland [www.stat.fi](http://www.stat.fi)  
Iceland: Statistics Iceland [www.hagstofa.is](http://www.hagstofa.is)  
Norway: Statistics Norway [www.ssb.no](http://www.ssb.no) and  
NIFU [www.nifu.no](http://www.nifu.no)

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Nordisk institutt for studier av  
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## NIFU

PB 2815 Tøyen, NO-0608 Oslo  
[www.nifu.no](http://www.nifu.no) | [post@nifu.no](mailto:post@nifu.no)