Research and Experimental Development (R&D) 2023 in the Higher Education Sector

Statistics Norway conducts the survey on R&D in the higher education sector biennially.

The questionnaire is partly prefilled with accounting data and the number of full-time equivalents (FTEs) from the central administrations of the institutions.

Please control the prefilled data and make corrections if necessary. The data you enter will be stored automatically when you click the **Next** or **Back** buttons. Only one person at a time can open the questionnaire.

At the bottom of each web page there are links to the guidelines for the questionnaire and the information web page for the survey (in Norwegian).

Deadline: May 16, 2024

Please provide or update the contact information:

Unit	
Institution	
Contact at unit (head of department)	
Phone nr.	
E-mail of respondent	
Contact at SSB	
E-mail SSB	Fou-statistikk@ssb.no

Part 1: R&D activity

The following questions are related to the R&D activity at your unit (i.e. department/centre). We ask you to estimate the proportions for the R&D activity classified by type of R&D, field of R&D, international project collaboration and relevance for industry.

1.1 Type of R&D

Please specify the unit's type of R&D in 2023.
R&D is classified by three main types of R&D activity. Please provide estimates for the percentage per breakdown, which should add up to 100%. Use integers, no decimals.

Research and experimental development comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge.

To be classified as R&D, an activity must be novel, creative, uncertain, systematic, transferable and/or reproducible.

Please consult the guidelines for the detailed definition of R&D (link at the bottom of the web page).

Type of R&D	Per cent
Basic research	
Applied research	
Development	
Total (100 %)	0

1.2 Field of research and development (FORD)

Please specify the unit's field of R&D in 2023. Choose field(s) from the drop-down list and enter the percentage of R&D in the table below:
Please provide estimates. Total (100 %).

Please consult the guidelines for the detailed definition of R&D (link at the bottom of the web page).

1.3 What percentage of the unit's R&D in 2023 involved international project cooperation?
Please estimate the percentage of the unit's total R&D activity that is related to international project cooperation.

International project cooperation includes project cooperation with researchers from foreign research institutions or companies; cooperation that supports inbound or outbound mobility; international incentives, or specific measures to make Norway an attractive host country for international research cooperation.

1.4 What percentage of the unit's R&D in 2023 was relevant for industry?
Please estimate the percentage of the unit's total R&D activity that is relevant for industry. R&D activities are relevant for industry if their results are expected to have an immediate or future value for industry.

Examples of industry relevant R&D:

- A social science institute analyses teamwork during organizational changes.
- A unit within natural sciences participates in an EU project and develops effective calculation models for weather forecasts that can be commercialized later.
- Researchers at a veterinary unit develop a new vaccine for farmed cod.

Part 2 Sources of funds

For most of the respondents, the questionnaire is already prefilled with accounting data that are reported by the central administrations of the educational institutions (the public educational institutions report to Norwegian Directorate for Higher Education and Skills). The accounting data include both basic funding (question 2.1) and external funding (transfer and exchange funds, question 2.2). Please consult https://www.ssb.no/innrapportering/uohsektor (in Norwegian) for more information on the accounting data in the R&D statistics.

2.1 Basic funding and share of R&D

2.1A How much of the basic funding from the Ministry of Education and Research or other granting Ministry did the unit spend on current expenditure (excl. salary costs)?

Current expenditure also covers expenses for electricity, rent and maintenance. Where applicable, internal accounting is also included.

Examples: journal subscription fees, conference trips, own spending in external projects.

Please fill in the expenditure or correct the prefilled data if necessary.

2.1B What percentage of the current expenditure was used on R&D activities in 2023?

Please enter estimates of the share spent on R&D.

2.1C How much of the basic funding from the Ministry of Education and Research or other granting ministries did the unit spend on machinery and equipment?

Capital expenditure/machinery and equipment cover the expenditure in the current accounting year (except depreciation). The post includes large instruments and equipment used in R&D activities.

Examples: medical devices, electron microscopes, chemical analysers, biobanks, computer software, licenses, purchase of large book collections, equipment in new research units.

2.1B What percentage of the capital expenditure was used on R&D activities in 2023?

Please enter estimates of the share spent on R&D.

2.2 R&D expenditure funded by external sources

Please check and make corrections to the accounting data by type of cost and source of funding. Please estimate R&D percentages of expenditure.

Please provide estimates for the R&D percentage per source of funds.

Feel free to provide additional information in the rightmost column for comments or in the comment box below the table.

Source of funds	Salaries	Current expenditure	Scientific equipment and instruments	Total	R&D share (%)	Comments
The Research Council of Norway						
Ministries and underlying agencies						
Counties and municipalities						
Industrial sector/ private						
EU-grants for R&D						
EU-grants for education/other						
Foreign business enterprises						
International organisations						
Other foreign funding sources						
Organisations and foundations						
Institutional revenues, incl. tuition fees						
Total						

Part 3 R&D personnel

3.1 Full-time equivalents financed from external sources

How many externally funded full-time equivalents (FTEs) worked in the unit in 2023?

The prefilling is based on the figures the institution reported to DBH/Norwegian Directorate for Higher Education and Skills as of October 1, 2023. Make corrections to the prefilled data if necessary. Please provide the reason for the correction in the comment box below.

Deviations between the prefilled data and the correct number of full-time equivalents may occur if there were personnel members not employed on the October 1, 2023, or if permanent personnel were partly financed from external funds.

Please contact Statistics Norway at fou-statistikk@ssb.no if you wish to receive the list of personnel which provided basis for the calculation of the unit's externally funded FTEs.

Total number of FTEs funded by external sources	Number of FTE
FTEs performed by researchers	
FTEs performed by technical/administrative personnel	
Total number of FTEs funded by external sources	

3.2 Average salary per full-time equivalent

Please check the ratio between the total salary expenditure and FTEs funded by external sources in the table below. The total salary funded externally is calculated from question 2.2. If necessary, please correct the salary there. The average salary per FTE (including social security fees) will usually variate between NOK 800 000 and 1 650 000 and depend on job position, salary and source of funds.

If you make corrections, please explain in the comment box below the table.

Total number of FTEs funded by external sources (from question 3.1)	
Total salary expenditure funded by external sources (from question 2.2)	
Calculated average salary (social security fees included) per FTE (1 000 NOK)	

3.3 PhDs from abroad

During 2022 or 2023, did the unit recruit personnel with a doctoral degree (PhD) from abroad, or did any of the unit's employees receive a doctoral degree abroad during 2022 or 2023?

Please enter the employee's name, and in which country and year the degree was awarded. Foreign visiting researchers are to be excluded.

Name	Country	Year awarded

Part 4 Thematic areas and technology areas

The Ministry of Education and Research has highlighted some areas as particularly important for Norway in their Long-Term Plan for Research and Higher Education 2023-2032 (pdf). In 2023, questions regarding R&D in the prioritized thematic areas and technology areas are included as separate modules in the R&D survey, and will not be carried out as separate surveys, as in previous years.

4.1 Please specify the percentage of the unit's total R&D in 2023 by thematic area.
Please tick the boxes for the thematic areas where the unit had R&D activity in 2023 and provide estimates for the percentage of the unit's R&D activity in 2023 within the selected thematic area, related to the total R&D activity.

Thematic area	Tick the box	Share of total R&D (%)
Energy		
Environment		
Climate		
Marine		
Maritime		
Fisheries		
Aquaculture		
Agriculture		
Welfare		
Education		
Health and health care		
Public sector, other		
Development		
Tourism		

4.2a Please distribute the R&D activity of the unit within energy by research areas and any sub-categories listed below.

Research area	Sub-category	Per cent
Renewable energy		0
	Water	
	Wind	
	Bioenergy	
	Solar energy	
	Other renewable energy	
Energy efficiency and change		0
	Construction and manufacturing	
	Transport	
	Petroleum	
	Other industries	
	Energy systems	
	Economy, market, society	
Petroleum		0
	Search and increased extraction	
	Drilling, completion and intervention	
	Production, processing and transportation	
	Big accidents and work environment	
	Other R&D related to petroleum	
Other energy	Nuclear power and power generation from coal	
Total		100

4.2b Please distribute the R&D activity of the unit within environment by research areas and any sub-categories listed below.

Research area	Sub-category	Per cent
Onshore environment and society		0
	Biological diversity, ecosystems and ecosystems services	
	Pollution and environment toxins	
	Land use and land changes	
	Cultural heritage and cultural environments	
	Circular economy	
Environmental technologies		
Total		100

4.2c Please distribute the R&D activity of the unit within <u>climate</u> by research areas and any sub-categories listed below.

Research area	Sub-category	Per cent
Climate and climate change adaption		0
	The climate system and climate changes	
	Consequences of climate changes	
	Climate change adaptions	
Climate technology and other technologies for reducing emissions		0
	Climate technology	
	Social framework and policy instruments to reduce emission	
CO_2 management technologies		0
	Catch of CO_2	
	Transportation of CO_2	
	Storage of CO_2	
	Use of CO_2	
Total		100

4.2d Please distribute the R&D activity of the unit within <u>maritime</u> by research areas and any sub-categories listed below.

Research area	Per cent
Sea transport	
Maritime operations within petroleum	
Other maritime operations	
Total	100

4.2e Please distribute the R&D activity of the unit within <u>marine</u> by research areas and any sub-categories listed below.

Research area	Per cent
Marine ecosystems	
Consequences for the ecosystem	
Monitoring and estimation	
Mathematical and numerical models	
Marine biotechnology/bioprospecting	
Other marine R&D	
Total	100

4.2f Please distribute the R&D activity of the unit within fisheries by research areas and any sub-categories listed below.

Research area	Per cent
Technology and equipment	
Food production industry	
Economy, market and society	
Other R&D related to fisheries	
Total	100

4.2g Please distribute the R&D activity of the unit within aquaculture by research areas and any sub-categories listed below.

Research area	Per cent
Production biology	
Feed resources, nutrition	
Health, diseases	
Breeding, genetics	
Technology and equipment	
Slaughtering, quality, refinement	
Economy, market, society	
Other R&D related to aquaculture	
Total	100

4.2h Please distribute the R&D activity of the unit within agriculture by research areas and any sub-categories listed below.

Research area	Per cent
Primary production of food	
Food product industry	
Economy, market and society	
Forrest production and use of wood	
Other R&D related to agriculture	
Total	100

4.2i Please distribute the R&D activity of the unit within welfare by research areas and any sub-categories listed below.

Research area	Per cent
Working life and labour market	
Income security and inclusion/exclusion from working life	
Living conditions and demography	
Family and upbringing	
Welfare services	
International migration and immigration	
The cultural basis, sustainability and support of welfare society	
Other R&D related to welfare	
Total	100

4.2j Please distribute the R&D activity of the unit within education by research areas and research topic listed below.

Research area	Per cent
Early childhood education and care (ISCED 0)	
Basic school 1-7 (ISCED 1)	
Basic school 8-10 (ISCED 2)	
Upper secondary school (ISCED 3)	
Higher education (ISCED 5-7)	
Research education (ISCED 8)	
Adult learning	
Total	100

Research topic	Per cent
Policy and management systems	
Economics, organisation and management	
Instruction, learning and development	
The relation between education systems, home and working life	
Total	100

4.3 Please specify the percentage of the unit's total R&D in 2023 by technology area.
Please tick the boxes for the technology areas where the unit had R&D activity in 2023 and provide estimates for the percentage of the unit's R&D activity in 2023 within the selected thematic area, related to the total R&D activity.

Technology areas	Tick the box	Share of total R&D (%)
Information and communication technology (ICT)		
Biotechnology		
New materials, except nanotechnology		
Nanotechnology		

4.4a Please distribute the R&D activity of the unit within ICT by research areas listed below.

Research area	Per cent
Artificial intelligence	
Robotics and automation	
Digital security	
Electronics, hardware, smart components and communication technology	
Software, user interface and services	
Digital transformations/digitalization	
Other R&D related to ICT	
Total	100

4.4a Please distribute the R&D activity of the unit within biotechnology by research areas listed below.

Research area	Per cent
Marine biotechnology	
Agricultural biotechnology	
Industrial biotechnology	
Medical biotechnology	
Generic development in methods	
Social aspects of biotechnology	
Other fields or cross-cutting fields	
Total	100

You have now reached the last page of this questionnaire. Above is a copy of your answer that we kindly ask you to check. If you want a copy of the questionnaire, you must print this page. If you are finished and want to submit the questionnaire, press "Send inn skjema" ("submit") below.

If you have not finished filling in the questionnaire, you can close the browser window. You can access the link you have been sent at any time and continue updating the questionnaire. All data that has been entered will be saved.

Should you need to make corrections after the questionnaire has been submitted, please contact us for reopening by e-mail: fou-statistikk@ssb.no