







Research and development in the business sector

Completing the questionnaire

-  Click on the information icon for further information.
-  This symbol appears if an answer or answers require editing in order to submit the form to Statistics Sweden.
-  This symbol appears if an answer or answers require editing or comment in order to submit the form to Statistics Sweden.
-  This symbol appears if there are answers that you should check and possibly comment on.
-  This symbol appears if there are answers that you should check.


The questionnaire contains automatic links between questions. The question to be displayed is determined by the answers you provided to the preceding questions. This means that you will not see all the questions, only the questions that are relevant to you.
-  The information is saved automatically when you go to the next page. Click on "Save" at the bottom of the page at any time to save your answers.

You will be logged out automatically after 60 minutes of inactivity. All information on the page will be lost if you did not save the information or continue to the next page.

You can save, log in and out as many times as you like, and return to your most recently visited page.

It is possible to change or add information to the questionnaire and resubmit it. The most recently submitted questionnaire will be saved.

Only one person at a time can be logged in.

 **Instructions (Only available in Swedish)**

Research and development activities (R&D) in 2021

To ensure that all businesses, including at an international level, submit comparable information, the Organisation for Economic Co-operation and Development (OECD) has produced the following definition:

Research and experimental development (R&D) comprises creative and systematic work undertaken in order to increase the stock of knowledge and to devise new applications of available knowledge in all fields of science.

For an activity to be defined as an R&D activity, it must be:

Novel: R&D activities are undertaken in order to generate new knowledge and to devise new applications of available knowledge.

Creative: R&D activities are based on original concepts or hypotheses.

Uncertain: The final outcome of R&D activities is generally uncertain. There is also uncertainty related to the cost or time needed to achieve the expected results.

Systematic: R&D activities are performed systematically and are planned and budgeted.


Transferable and/or reproducible: R&D activities should lead to results that could be possibly transferable and/or reproducible.

Did the enterprise finance or perform R&D activities in 2021?

This includes all R&D activities performed in 2021, both intramural and extramural. When funds were paid out or will be paid out is not relevant.

- Yes
- No

A. The funding of extramural R&D in 2021

Extramural R&D refers to all activities that satisfy the definition of R&D activities  and is performed by another party in Sweden or abroad, funded by your enterprise. Include contributions that the enterprise made to R&D at, for example, universities or institutes of higher education.

Include all extramural R&D performed in 2021. When funds were paid out or will be paid out is irrelevant.

Please report funding to other R&D performers both where you reserve the rights to the results (exchange) and where you do not (transfer).

A. Did the organisation fund R&D performed by another organisation in 2021?

- Yes
- No

A. The funding of extramural R&D in 2021

A1. Extramural R&D by performer

Extramural R&D refers to all activities that satisfy the definition of R&D activities ⁱ and that are performed by another party, funded by your enterprise. Include all R&D performed in 2021. When funds were paid out or will be paid out is irrelevant. Please report funding to other R&D performers both where you reserve the rights to the results (exchange) and where you do not (transfer).


Consultant fees are to be included in extramural R&D if the consultants are not fully integrated into your enterprise's R&D activities, and if their work is not managed by your enterprise. Otherwise, the project will be defined as intramural R&D and is to be reported in Section B.

Specify amounts in SEK thousands. Example: SEK two million (2 000 000) is expressed as 2 000.

If exact data is not available or is difficult to access, please make an estimate.

Performer		Amount paid in SEK thousands	
Sweden			
Other enterprises within the same group	<input type="text"/>	000 SEK	
Other enterprises outside the group	<input type="text"/>	000 SEK	
Research institutes (e.g. within the Research Institutes of Sweden - RISE) ⁱ	<input type="text"/>	000 SEK	
Government sector ⁱ	<input type="text"/>	000 SEK	
Universities and institutes of higher education	<input type="text"/>	000 SEK	
Private non-profit performers (including direct financing to individual researchers)	<input type="text"/>	000 SEK	
<hr/>			
Abroad			
Other enterprises within the same group abroad	<input type="text"/>	000 SEK	
Other enterprises outside the group abroad	<input type="text"/>	000 SEK	
Universities and institutes of higher education abroad	<input type="text"/>	000 SEK	
Government entities abroad	<input type="text"/>	000 SEK	
International organisations abroad	<input type="text"/>	000 SEK	
Private non-profit performers (including direct financing to individual researchers) abroad	<input type="text"/>	000 SEK	
<hr/>			
Total extramural R&D	<input type="text"/>	000 SEK	<input type="text"/> 2019 SEK thousands 000 SEK

B. R&D performed by your enterprise in 2021 (intramural R&D)

Intramural R&D refers to all activities that satisfy the definition of R&D activities  and are performed under the control of your enterprise. R&D performed for another party (contract research) is considered intramural R&D.

Include all R&D performed in 2021. When funds were paid out or will be paid out is irrelevant.

B. Did the organisation perform intramural R&D in 2021?

- Yes
 No

B. R&D performed by your enterprise in 2021 (intramural R&D)

B1. Intramural R&D by type of cost/investment








Report intramural R&D performed in 2021 by *type of cost/investment*. Include R&D performed for and paid for by other parties.

Report amounts excluding deductible VAT.

Specify amounts in SEK thousands. Example: SEK two million (2 000 000) is expressed as 2 000.

If exact data is not available or is difficult to access, please make an estimate, e.g. using calculations. An estimate of the R&D activities share of a joint cost/investment can, for example, be based on the share of R&D personnel in relation to total personnel.

Click on the information icons for information on what should be included on each row.

Type of cost/investment in relation to intramural R&D	
Operating expenses	SEK thousands
Employee remuneration 	<input type="text"/> 000 SEK
Consultant fees 	<input type="text"/> 000 SEK
Other operating expenses 	<input type="text"/> 000 SEK
Investments	SEK thousands
Land and buildings 	<input type="text"/> 000 SEK
Machinery and equipment 	<input type="text"/> 000 SEK
Software 	<input type="text"/> 000 SEK
Other intangible fixed assets 	<input type="text"/> 000 SEK
Total intramural R&D	<input type="text"/> 000 SEK 2019 <input type="text"/> 000 SEK SEK thousands

B. R&D performed by your enterprise in 2021 (intramural R&D)

Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based or can be embedded in hardware devices. Applications of AI include

- Image or video analysis for diagnostics, and facial recognition systems based on computer vision or voice recognition systems,
- Machine translation, speech-to-text programmes, text analytics, as well as chat robots based on natural language processing,
- Decision-making support, security systems, traffic analysis, fraud detection, recommendation systems, process optimisation, and recruitment software based on machine learning,
- Autonomous drones, self-improving robots for production or warehouse tasks, and self-driving vehicles.

B2. Intramural R&D in artificial intelligence

Based on your answers to question B1, specify R&D costs and investments in AI, as a percentage of your total R&D. If you did not have any AI costs or investments, enter 0. You may make an estimate.

	Data from question B1		Percent
Employee remuneration	<input type="text"/>	000 SEK	<input type="text"/> %
Consultant fees	<input type="text"/>	000 SEK	<input type="text"/> %
Other operating expenses	<input type="text"/>	000 SEK	<input type="text"/> %
Investments	<input type="text"/>	000 SEK	<input type="text"/> %

B. R&D performed by your enterprise in 2021 (intramural R&D)

B3. Intramural R&D by source of funds




Specify intramural R&D from Section B1 by source of funds.

	SEK Thousands	
Intramural R&D from Section B1	<input type="text"/>	000 SEK
<hr/>		
Internal sources of funds		
Self-financing (including credit for R&D activities) i	<input type="text"/>	000 SEK
<hr/>		
External sources of funds		
Sweden		
Other enterprises within the same group	<input type="text"/>	000 SEK
Other enterprises outside the group i	<input type="text"/>	000 SEK
Universities and institutes of higher education	<input type="text"/>	000 SEK
Defence agencies i	<input type="text"/>	000 SEK
Government agencies, excluding defence agencies	<input type="text"/>	000 SEK
Municipalities and regions (formerly county councils)	<input type="text"/>	000 SEK
Trade organisations	<input type="text"/>	000 SEK
Public research foundations i	<input type="text"/>	000 SEK
Private non-profit organisations	<input type="text"/>	000 SEK
<hr/>		
Abroad		
Other enterprises within the same group abroad	<input type="text"/>	000 SEK
Other enterprises outside the group abroad	<input type="text"/>	000 SEK
Government entities abroad	<input type="text"/>	000 SEK
EU R&D framework programme i	<input type="text"/>	000 SEK
EU funds, excl. R&D framework programme i	<input type="text"/>	000 SEK
International organisations abroad, excl. the EU	<input type="text"/>	000 SEK
Private non-profit organisations abroad	<input type="text"/>	000 SEK
Total intramural R&D	<input type="text"/>	000 SEK

B. R&D performed by your enterprise in 2021 (intramural R&D)

B4. Intramural R&D by type of R&D

Specify intramural R&D from Section B1 by *type of R&D*.


	SEK Thousands	
Intramural R&D from Section B1	<input type="text"/>	000 SEK
Type of R&D	Proportion in percent	
Basic research 	<input type="text"/>	%
Applied research 	<input type="text"/>	%
Experimental development 	<input type="text"/>	%
Total	<input type="text"/>	%

B. R&D performed by your enterprise in 2021 (intramural R&D)

B7. Intramural R&D by *product field*

Specify intramural R&D by *product field*. Include R&D performed on behalf of another party.

Click on the magnifying glass under the heading Product field to display a window where you can search for your end product. You can also search for the code that you are to specify in the enclosed Excel file

"Comprehensive product field list".  To add more products, click on "Add line".




Specify each product field's share of your operating expenses and investments from section B1, respectively.

Each column should sum to 100 percent.

Total operating expenses according to B1: 000 SEK

Total investments according to B1: 000 SEK

Beräkna

Product-field (SPIN)	Proportion (%)	
	Operating expenses 	Investments 
<input type="text"/> 	<input type="text"/> %	<input type="text"/> %

B. R&D performed by your enterprise in 2021 (intramural R&D)

B8. Intramural R&D by county

Specify intramural R&D by region (county).

Please base your specification on where the employees and consultants who performed the R&D activities mainly carried out their work.

Please detail the county/counties in which your R&D activities were performed.

Specify amounts in SEK thousands.

Example: SEK two million (2 000 000) is written 2 000.

	SEK Thousands	
Intramural R&D from Section B1 by county	<input type="text"/>	000 SEK
Stockholm	<input type="text"/>	000 SEK
Uppsala	<input type="text"/>	000 SEK
Södermanland	<input type="text"/>	000 SEK
Östergötland	<input type="text"/>	000 SEK
Jönköping	<input type="text"/>	000 SEK
Kronoberg	<input type="text"/>	000 SEK
Kalmar	<input type="text"/>	000 SEK
Gotland	<input type="text"/>	000 SEK
Blekinge	<input type="text"/>	000 SEK
Skåne	<input type="text"/>	000 SEK
Halland	<input type="text"/>	000 SEK
Västra Götaland	<input type="text"/>	000 SEK
Värmland	<input type="text"/>	000 SEK
Örebro	<input type="text"/>	000 SEK
Västmanland	<input type="text"/>	000 SEK
Dalarna	<input type="text"/>	000 SEK
Gävleborg	<input type="text"/>	000 SEK
Västernorrland	<input type="text"/>	000 SEK
Jämtland	<input type="text"/>	000 SEK
Västerbotten	<input type="text"/>	000 SEK
Norrbottn	<input type="text"/>	000 SEK
Total	<input type="text"/>	000 SEK

C. Personnel in intramural R&D 2021



Specify the R&D staff in your intramural R&D. Include staff in R&D management and administration.

The questions in Section C1 and C3 refer to the enterprise's **own employees** who work on the enterprise's intramural R&D.

Sections C2 and C4 refer to **consultants (and other external personnel)** who work on the enterprise's intramural R&D.

C1.1 Number of employees in R&D activities by occupation on 31 December 2021

The number of employees in R&D activities should relate to employee remuneration.

In Section B1, you specified employee remuneration as:	<input type="text"/>	000 kr	
Number of employees in R&D activities	Women	Men	
Number of researchers, product developers or equivalent 	<input type="text"/>	<input type="text"/>	
Number of supporting staff 	<input type="text"/>	<input type="text"/>	Total
Total number of persons employed in R&D	<input type="text"/>	<input type="text"/>	<input type="text"/>

C. Personnel in intramural R&D 2021

C1.2 Number of employees with a PhD or licentiate in R&D activities on 31 December 2021

	Women	Men	
In Section C1.1, you specified the number of employees in R&D activities as:	<input type="text"/>	<input type="text"/>	
	Women	Men	Total
Number of employees in R&D activities with a PhD or licentiate	<input type="text"/>	<input type="text"/>	<input type="text"/>

C. Personnel in intramural R&D 2021

C2. Number of consultants (and other external personnel) in your R&D activities by occupation on 31 December 2021

Please specify the number of consultants (and other external personnel) in your intramural R&D.

If the attributes of sex and/or occupation for the consultants are not known, you may make an estimate. The number of consultants and other external personnel should relate to their costs.

In Section B1, you specified the sum of consultant fees as:	<input type="text"/>	000 SEK	
Number of consultants in R&D activities	Women	Men	
Number of researchers, product developers or equivalent i	<input type="text"/>	<input type="text"/>	
Number of supporting staff i	<input type="text"/>	<input type="text"/>	Total
Total number of consultants in R&D activities	<input type="text"/>	<input type="text"/>	<input type="text"/>

C. Personnel in intramural R&D 2021

C3. Number of FTEs performed by employees in your intramural R&D in 2021 [i](#)

One full-time equivalent is defined as the number of hours conventionally worked by a full-time employee over one year. Thus, a full-time spending 50% of their working hours on R&D spends 0.5 FTEs on R&D. One person can never perform more than one FTE, even if the person works overtime.

The number of FTEs by employed personnel should relate to employee remuneration.

In Section B1, you specified employee remuneration as:	<input type="text"/>	000 SEK	
	Women	Men	
Researchers, product developers, or equivalent i	<input type="text"/>	<input type="text"/>	
Supporting R&D staff (including technical and administrative staff) i	<input type="text"/>	<input type="text"/>	Total
Total number of FTEs in R&D by employed personnel	<input type="text"/>	<input type="text"/>	<input type="text"/>

C. Personnel in intramural R&D 2021

C3.1 Number of full-time equivalents (FTEs) in artificial intelligence in your intramural R&D by employed personnel

Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based or can be embedded in hardware devices. Applications of AI include

- image or video analysis for diagnostics, and facial recognition systems based on computer vision or voice recognition systems,
- machine translation, speech-to-text programmes, text analytics, as well as chat robots based on natural language processing,
- decision-making support, security systems, traffic analysis, fraud detection, recommendation systems, process optimisation, and recruitment software based on machine learning,
- autonomous drones, self-improving robots for production or warehouse tasks, and self-driving vehicles.

Specify the number of FTEs in AI by employed personnel.

You may make an estimate. The number of FTEs should relate to employee remuneration.



In section B2 you specified employee remuneration for R&D in AI as:	<input type="text"/>	000 SEK		
	Women	Men	Total	
Number of FTEs	<input type="text"/>	<input type="text"/>	<input type="text"/>	

C. Personnel in intramural R&D 2021

C4. Number of FTEs in your intramural R&D carried out by consultants

Please specify the number of FTEs by consultants (and other external personnel) in your intramural R&D.

If the attributes of sex and/or occupation for the consultants are not known, you may make an estimate. The number of FTEs carried out by consultants should relate to their costs.

In Section B1, you specified the sum of consultant fees as:	<input type="text"/>	000 SEK		
	Women	Men		
Researchers, product developers or equivalent 	<input type="text"/>	<input type="text"/>		
Supporting staff 	<input type="text"/>	<input type="text"/>	Total	
Total number of FTEs in R&D by consultants	<input type="text"/>	<input type="text"/>	<input type="text"/>	

C. Personnel in intramural R&D 2021

C4.1. Number of FTEs in your intramural R&D in artificial intelligence by consultants

Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based or can be embedded in hardware devices. Applications of AI include

- image or video analysis for diagnostics, and facial recognition systems based on computer vision or voice recognition systems,
- machine translation, speech-to-text programmes, text analytics, as well as chat robots based on natural language processing,
- decision-making support, security systems, traffic analysis, fraud detection, recommendation systems, process optimisation, and recruitment software based on machine learning,
- autonomous drones, self-improving robots for production or warehouse tasks, and self-driving vehicles.

Specify the number of FTEs in AI by consultants (and other external personnel)

You may make an estimate. The number of FTEs should relate to consultant fees.

In section B2 you specified consultant fees for R&D in AI as:	<input type="text"/>	000 SEK	
	Women	Men	Total
Number of FTEs	<input type="text"/>	<input type="text"/>	<input type="text"/>

D. R&D activities forecast for 2022 (Intramural R&D)








D1. Does the organisation plan to conduct R&D activities in 2022?

- Yes
 No

D. R&D activities forecast for 2022 (Intramural R&D), cont'd.

D2. Estimate the enterprise's costs and investments for intramural R&D in 2022

Please specify a total amount for the following items:

- | | |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Operating costs | Investments |
| - Employee remuneration  | - Land and buildings  |
| - Consultant fees  | - Machinery and equipment  |
| - Other operating expenses  | - Software  |
| | - Other fixed intangible assets  |



Specify amounts in SEK thousands. Example: SEK two million (2 000 000) is written 2 000.

SEK Thousands

000 SEK

D3. Estimate the number of FTEs that will be carried out on intramural R&D activities by your employees in 2022

One **full-time equivalent** is defined as the number of hours conventionally worked by a full-time employee over one year. A full-time employee spending half their time on R&D has spent 0.5 FTE on R&D. The number of FTEs per person can never exceed one, even if the person works overtime.



Researchers, product developers, or equivalent	Supporting staff
	

Comments on the number of FTEs that will be carried out on intramural R&D activities by your employees in 2022.

D4. Estimate the number of FTEs that will be carried out on intramural R&D activities by consultants and other external personnel in 2022.

Include consultants and other external personnel if:

- The R&D project is managed by your enterprise and,
- the consultants are fully integrated into your enterprise's R&D activities.

Researchers, product developers, or equivalent  <input type="text"/>	Supporting staff  <input type="text"/>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------

Comments on the number of FTEs that will be carried out on intramural R&D activities by consultants and other external personnel in 2022.

F. Other information

How long did it take to produce and submit the requested information?

Statistics Sweden is working actively to reduce the amount of time that enterprises and organisations need to spend on submitting their responses. For this reason, we would be very grateful if you could answer this voluntary question.

<input type="text"/>	hours	<input type="text"/>	minutes
----------------------	-------	----------------------	---------