

Research and development (R&D) (rd)

National Reference Metadata in Single Integrated Metadata
Structure (SIMS)

Compiling agency: Statistical Service of Cyprus (CYSTAT)



Eurostat metadata

Reference metadata

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1. Contact [Top](#)

1.1. Contact organisation	Statistical Service of Cyprus (CYSTAT)
1.2. Contact organisation unit	Science and Technology Statistics Unit
1.5. Contact mail address	Statistical Service of Cyprus CY-1444 Nicosia CYPRUS

2. Metadata update [Top](#)

2.1. Metadata last certified	29/10/2021
2.2. Metadata last posted	29/10/2021
2.3. Metadata last update	29/10/2021

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3.1. Data description	
<p>Statistics on Business enterprise R&D (BERD) measure research and experimental development (R&D) performed in the business enterprise sector, i.e. R&D expenditure and R&D personnel. In line with this objective the target population for the national R&D survey of the business enterprise sector consists of all R&D performing units (including all R&D performers – occasional and continuous, known and unknown - in all branches and size classes) belonging to this sector. The results are related to the population of all R&D performing units classified in Sections A to U of the common statistical classification of economic activities as established by Regulation (EC) No 1893/2006 of the European Parliament and of the Council (NACE Revision 2).</p> <p>The main concepts and definitions used for the production of R&D statistics are given by OECD (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities, which is the internationally recognised standard methodology for collecting R&D statistics.</p> <p>Statistics on science, technology and innovation were collected based on Commission Implementing Regulation (EU) Regulation (EU) No 995/2012 concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing Regulation (EU) No 2020/1197 of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021</p>	
3.2. Classification system	
<ul style="list-style-type: none"> • The distribution of principal economic activity and by product field are based on Statistical classification of economic activities in the European Community (NACE Rev. 2); • The local unit for the statistics are compiled at regional level according to NUTS 2 – Nomenclature of Territorial Units for Statistics; • The distribution by socioeconomic objectives (SEO) are based on Nomenclature for the Analysis and Comparisons of Scientific Programmes and Budgets (NABS); • The fields of research and development are based on Classification and distribution by Fields of Research and Development (FORD). 	
3.2.1. Additional classifications	
Additional classification used	Description
3.3. Coverage - sector	
See below.	
3.3.1. General coverage	
Definition of R&D	No deviations in definitions and recommendations of Frascati Manual.
Fields of Research and Development (FORD)	No deviations in definitions and recommendations of Frascati Manual.
Socioeconomic objective (SEO)	No statistics on R&D expenditure by socio-economic objective are produced.
3.3.2. Sector institutional coverage	
Business enterprise sector	No deviations in definitions and recommendations of Frascati Manual (§3.51-3.59).
Hospitals and clinics	No deviations in definitions and recommendations of Frascati Manual (§3.51-3.59)
Inclusion of units that primary don't belong to BES	No
3.3.3. R&D variable coverage	
	No deviations from FM §2.122.

R&D administration and other support activities	
External R&D personnel	No deviations from FM §5.20-5.24, Table 5.2. External personnel is calculated only in R&D expenditure. R&D personnel is only the internal R&D personnel.
Clinical trials	Information for clinical trials is included (FM §2.61) and is calculated/distributed in the sector performing them. If R&D can not be separated, the R&D is distributed to the NACE of the enterprise performing the clinical trial.

3.3.4. International R&D transactions

Receipts from Rest of the world by sector - availability	Yes. Receipts from Rest of the world by sector (FM §4.108, Table 4.3)
Payments to Rest of the world by sector - availability	Not applicable. No Payments to Rest of the world by sector (FM §4.133). No extramural R&D is collected.
R&D expenditure of foreign affiliates - coverage	No

3.3.5. Extramural R&D expenditures

According to the Frascati Manual, expenditure on extramural R&D (i.e. R&D performed outside the statistical unit) is not included in intramural R&D performance totals (FM, §4.12).

Data collection on extramural R&D expenditure (Yes/No)	No
Method for separating extramural R&D expenditure from intramural R&D expenditure	Not applicable
Difficulties to distinguish intramural from extramural R&D expenditure	Not applicable

3.4. Statistical concepts and definitions

See below.

3.4.1. R&D expenditure

Coverage of years	Calendar year
Source of funds	No divergence from FM (FM §4.104-4.108, Table 4.3.)
Type of R&D	No divergence from FM (FM section 2.5)
Type of costs	No deviations from FM (section 4.2). No more detailed breakdown of costs than in the FM exist.
Economic activity of the unit	Statistics by principal economic activity
Economic activity of industry served (for enterprises in ISIC/NACE 72)	R&D survey
Product filed	Not collecting data by product field.
Defence R&D - method for obtaining data on R&D expenditure	R&D survey.

3.4.2. R&D personnel

See below.

3.4.2.1. R&D personnel – Head Counts (HC)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification.
Age	Not applicable. No data for age is collected in Business sector.
Citizenship	Not applicable. No data for citizenship is collected in Business sector.

3.4.2.2. R&D personnel – Full Time Equivalent (FTE)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification.
Age	Not applicable. No data for age is collected in Business sector.
Citizenship	Not applicable. No data for citizenship is collected in Business sector.

3.4.2.3. FTE calculation

The **Full-time Equivalent (F.T.E.)** expresses the total time devoted to research by a person **during one year**. One F.T.E. may be thought of as one **person-year** which corresponds to **one person working full-time on R&D during one year**. Thus, a person who normally spends 30% of his time on R&D and the remaining 70% on other activities should be considered as $30/100 = 0,3$ person-years. Three persons who spend 30%, 50% and 80% of their time on R&D activities correspond to $0,3 + 0,5 + 0,8 = 1,6$ person-years.

3.4.2.4. R&D personnel - Cross-classification by occupation and qualification

Cross-classification	Unit	Frequency

3.5. Statistical unit

The statistical unit and the reporting unit are the same and is the enterprise. The main statistical unit for R&D survey is the enterprise, as defined in the Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community. No deviation from the mandatory use of the 'enterprise' as statistical unit for business R&D statistics exist.

3.6. Statistical population

See below.

3.6.1. National target population

The objective of the European R&D statistics is to cover all intramural R&D activities. In line with this objective the target population for the national R&D survey of the Business Enterprise Sector should consist of all R&D performing units (including all R&D performers – occasional and continuous, known and unknown - in all branches and size classes) belonging to this sector. In practice however, countries in their R&D surveys might exclude some units for which R&D activities are deemed to be non-existent or negligible, in order to limit the response burden or due to budgetary constraints.

	Target population when sample/census survey is used for collection of raw data	Target population when administrative data or pre-compiled statistics are used
Definition of the national target population	The FM2015 definition of target population is (§7.70): "all businesses located in a given territory known or very likely to perform (or fund) R&D with reference to a single period of time." No deviations exist.	The FM2015 definition of target population is (§7.70): "all businesses located in a given territory known or very likely to perform (or fund) R&D with reference to a single period of time." No deviations exist.
	Not available	Not available

Estimation of the target population size		
Size cut-off point	No deviation from the mandatory size cut-off point given in the Regulation No 995/2012	No deviation from the mandatory size cut-off point given in the Regulation No 995/2012
Size classes covered (and if different for some industries/services)	No deviation from the mandatory size-classes break-down given in the Regulation No 995/2012	No deviation from the mandatory size-classes break-down given in the Regulation No 995/2012
NACE/ISIC classes covered	No deviation from the mandatory NACE break-down given in the Regulation No 995/2012.	No deviation from the mandatory NACE break-down given in the Regulation No 995/2012.

3.6.2. Frame population – Description

The target population is the population for which inferences are made. The frame (or frames, as sometimes several frames are used) is a device that permits access to population units. The frame population is the set of population units which can be accessed through the frame and the survey data really refer to this population.

Method used to define the frame population	There is full coverage of all enterprises which are known or potential R&D performers, based on a register of all possible R&D performing enterprises, following the Frascati Manual recommendations. This register is regularly updated.
Methods and data sources used for identifying a unit as known or supposed R&D performer	The recommendations of the Frascati Manual 2015 are followed in order to identify a unit as an established or a potential R&D performer. Information on enterprises active in areas which, on the basis of the findings of the previous corresponding surveys, the nature of their work and the experience of other countries, are the most probable to involve an element of research, is taken into account. An important source of information is the Research & Innovation Foundation for persons/bodies/enterprises applying for funding from the Programmes for the Financing of Research Projects. Reports in the press and articles in industrial journals and research compendia are additional sources used to identify potential R&D performing enterprises. The CORDIS database, as well as the web sites of various funding agencies and programmes, is also frequently consulted in order to identify any possible research activities.
Frequency and the methods applied for inclusion R&D performers not known and not supposed to perform R&D	No (cost reasons)
Number of “new”¹⁾ R&D enterprises that have been identified and included in the target population	No such estimation can be made.
Systematic exclusion of units from the process of updating the target population	No
Estimation of the frame population	The register of all possible R&D performers included 250 entries.

1) i.e. enterprises previously not known or not supposed to perform R&D

3.7. Reference area

Not requested.

3.8. Coverage - Time

Not requested. See point 5.

3.9. Base period

Not requested.

4. Unit of measure

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The units of measures used for the data set disseminated are Euro, %, number of persons. The exact use of magnitude for R&D expenditure is thousand of euro.

5. Reference Period

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Calendar year 2019

6. Institutional Mandate

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6.1. Institutional Mandate - legal acts and other agreements

See below.

6.1.1. European legislation

Legal acts / agreements	Commission Implementing Regulation (EU) Regulation (EU) No 995/2012 concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing Regulation (EU) No 2020/1197 of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.
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6.1.2. National legislation

Existence of R&D specific statistical legislation	Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
Legal acts	Provisions of the above Law
Obligation of responsible organisations to produce statistics (as derived from the legal acts)	Provisions of the above Law
Right of responsible organisations to collect data – obligation of (natural / legal) persons to provide raw and administrative data (as derived from the legal acts)	Provisions of the above Law
Obligation of responsible organisations to protect confidential information from disclosure (as derived from the legal acts)	Provisions of the above Law
Rights of access of third organisations / persons to data and statistics (as derived from the legal acts)	Provisions of the above Law
Planned changes of legislation	

Yes. Official Statistics Law No. 25(I) of 2021. Link:
https://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument

6.1.3. Standards and manuals

- Frascati Manual 2015, Guidelines for Collecting and Reporting Data on Research and Experimental Development

6.2. Institutional Mandate - data sharing

Not requested.

7. Confidentiality

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See below.

7.1. Confidentiality - policy

Confidentiality, being one of the process quality components, concerns the privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and the extent of its use for statistical purposes.

A property of data indicating the extent to which their unauthorised disclosure could be prejudicial or harmful to the interest of the source or other relevant parties.

a) Confidentiality protection required by law: Statistics Law No. 15(I) of 2000:
http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument

b) Confidentiality commitments of survey staff: Statistics Law No. 15(I) of 2000:
http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument

Official statistics are released in accordance to all confidentiality provisions of the following:

- National Statistics Law No. 15(I) of 2000 (especially Article 13 on statistical confidentiality).
- Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and its later amendments (especially Chapter 5 on statistical confidentiality).
- European Statistics Code of Practice (especially Principle 5 on statistical confidentiality).
- CYSTAT's Code of Practice for the Collection, Publication and Storage of Statistical Data.

- **Statistics Law No. 15(I) of 2000:** http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
- **Regulation (EC) No 223/2009 on European statistics (consolidated text):** <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN>
- **European Statistics Code of Practice:** <https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-N.pdf/e7f85f07-91db-4312-8118-f729c75878c7>
- **Code of Practice for the Collection, Publication and Storage of Statistical Data:** http://www.mof.gov.cy/mof/cystat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument

7.2. Confidentiality - data treatment

The survey is carried out in accordance to the Statistics Law, No.15(I) of 2000. The Statistical Service is bound, under the provisions of the Statistics Law, to treat all information collected as confidential. All collected information and data are used solely for statistical purposes. Data on individual enterprise cannot be published or disclosed to either public bodies or private individuals.

8. Release policy

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8.1. Release calendar

Notifications about the dissemination of statistics are published in the release calendar, which is available on CYSTAT's website. The annual release calendar, announced during the 4th quarter of the each year, includes provisional dates which are finalised the week before publication.

Link to CYSTAT's release calendar:

http://www.mof.gov.cy/mof/cystat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument

8.2. Release calendar access

Link to CYSTAT's release calendar:

http://www.mof.gov.cy/mof/cystat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument

8.3. Release policy - user access

According to the Dissemination and Pricing Policy of the Statistical Service of Cyprus (section 2.3) CYSTAT's main channel for dissemination of statistics is the website, which offers the same conditions to everyone and is updated at the same time every working day (12:00 noon). Privileged pre-released access (of no more than 1 day in advance) has been granted to a few selected users for specific statistics. These are specified in the Dissemination Policy (section 2.3).

In addition to the annual release calendar, users are informed of the various statistical releases through the "Alert" service provided by CYSTAT.

Link to the Dissemination and Pricing Policy should be attached (or the actual document):

- *Dissemination and Pricing Policy of the Statistical Service of Cyprus:*

http://www.mof.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument

9. Frequency of dissemination

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Frequency of data dissemination: Yearly

10. Accessibility and clarity

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10.1. Dissemination format - News release

See below.

10.1.1. Availability of the releases

	Availability (Y/N) ¹	Content, format, links, ...
Regular releases	Y	A press release is issued.
Ad-hoc releases	N	

1) Y - Yes, N - No

10.2. Dissemination format - Publications

See below.

10.2.1. Availability of mean of dissemination

Mean of dissemination	Availability (Y/N) ¹	Content, format, links, ...
General publication/article (paper, online)	Y	The results of the national R&D surveys are published in the annual report "Research and Development Statistics". The key results are also published in our statistical yearbook entitled "Statistical Abstract". Both publications can be purchased in paper form or
Specific paper publication (e.g. sectoral provided to enterprises) (paper, online)	N	

1) Y - Yes, N - No

10.3. Dissemination format - online database

Not available.

10.3.1. Data tables - consultations

Not requested.

10.4. Dissemination format - microdata access

See below.

10.4.1. Provisions affecting the access

Access rights to the information	<p>There is no Micro-data access to outside users.</p> <p>Statistical micro-data from CYSTAT's surveys are accessible for research purposes only and under strict provisions as described below:</p> <p>Under the provisions of the Statistics Law, CYSTAT may release microdata for the sole use of scientific research. Applicants have to submit the request form "APPLICATION FOR DATA FOR RESEARCH PURPOSES" giving thorough information on the project for which micro-data are needed.</p> <p>The application is evaluated by CYSTAT's Confidentiality Committee and if the application is approved, a charge is fixed according to the volume and time consumed for preparation of the data. Micro-data may then be released after an anonymisation process which ensures no direct identification of the statistical units but, at the same time, ensures usability of the data.</p> <p>Link to the application for access to microdata on CYSTAT's website: http://www.cystat.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument</p>
Access cost policy	See above
Micro-data anonymisation rules	See above

10.5. Dissemination format - other

See below.

10.5.1. Metadata - consultations

Not requested.

10.5.2. Availability of other dissemination means

Dissemination means	Availability (Y/N)¹	Micro-data / Aggregate figures	Comments
Internet: main results available on the national statistical authority's website	Y		The results of the national R&D surveys are published in the annual report "Research and Development Statistics". The publication can be downloaded free of charge from the web site of the Statistical Service of Cyprus (www.cystat.gov.cy) in PDF format. The main R&D indicators are also included, as MS Excel files, in the "Key Figures" section of the web site, under the statistical theme "Science and Technology". Finally, the key results are also published in our statistical yearbook entitled "Statistical Abstract" which can be downloaded from the web site.
CD-ROMs	N		
Data prepared for individual ad hoc requests	Y		Further information to interested users is provided upon request.
Other	N		

1) Y – Yes, N - No

10.6. Documentation on methodology

Link :

https://www.mof.gov.cy/mof/cystat/statistics.nsf/science_technology_91main_en/science_technology_91main_en?OpenForm&sub=1&sel=3#

10.6.1. Metadata completeness - rate

Not requested.

10.7. Quality management - documentation

See below.

10.7.1. Information and clarity

Type(s) of data accompanying information available (metadata, graphs, quality reports, etc.)	Users can download free of charge from the web site of the Statistical Service of Cyprus the annual publication "Research and Development Statistics". This contains a textual description of latest developments in R&D activities, a number of graphical displays and numerous tables, including a comparison with corresponding international statistics. It also contains a comprehensive methodological note, giving information on the national R&D survey and its scope, concepts and definitions, as well as a copy of the questionnaire used. Every time that new data is disseminated at the national level, a press release is issued.
Request on further clarification, most problematic issues	For any further information, users can make a request to the Statistical Service (by phone, mail, e-mail or via the enquiries facility on the web site).
Measure to increase clarity	No intention to take any further measures.
Impression of users on the clarity of the accompanying information to the data	Users seem to be fully satisfied.

11. Quality management

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Quality management is defined as systems and frameworks in place within an organisation to manage the quality of statistical products and processes.

11.1. Quality assurance

The quality of statistics in CYSTAT is managed in the framework of the European Statistics Code of Practice which sets the standards for developing, producing and disseminating European Statistics as well as the ESS Quality Assurance Framework (QAF). CYSTAT endorses the Quality Declaration of the European Statistical System. In addition, CYSTAT is guided by the requirements provided for in Article 12 of the Statistics Law No. 15(I) of 2000 as well as Article 12 of Regulation (EC) No 223/2009 on European statistics, which sets out the quality criteria to be applied in the development, production and dissemination of European statistics.

- **European Statistics Code of Practice:** <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-32-11-955>
- **ESS Quality Assurance Framework (QAF):** <http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afe3-58ce177a0646>
- **Quality Declaration of the European Statistical System:** http://ec.europa.eu/eurostat/documents/4031688/8188985/KS0217428ENN_corr.pdf/116f7c85-cd3e-4bff-b695-4a8e71385fd4
- **Statistics Law No. 15(I) of 2000:** http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
- **Regulation (EC) No 223/2009 on European statistics (consolidated text):** <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN>

11.2. Quality management - assessment

The R&D data on the BES sector in Cyprus are assessed as being of high quality. The definitions, concepts and methodology used are in compliance with the requirements of Eurostat and follow the guidelines of the Frascati Manual 2015. The national R&D survey is a well established survey which yields the maximum of the information required on an annual basis and with a comparatively short time lag from the end of the reference period. Although the register of all possible R&D performing enterprises is regularly updated, it is likely that there is an under coverage of R&D in small enterprises or in the services sectors. However, the effect on total business enterprise R&D is not significant, as all the important R&D performers are included in any case.

12. Relevance

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Relevance is the degree to which statistics meet current and potential users' needs. It includes the production of all needed statistics and the extent to which concepts used (definitions, classifications etc.) reflect user needs. The aim is to describe the extent to which the statistics are useful to, and used by, the broadest array of users. For this purpose, statisticians need to compile information, firstly about their users (who they are, how many they are, how important is each one of them), secondly on their needs, and finally to assess how far these needs are met.

12.1. Relevance - User Needs

See below.

12.1.1. Needs at national level

Users' class ¹	Description of users	Users' needs
1 - European level	Council, Commission (Eurostat, DG Research), European Parliament.	Formulating the needs and assessing the implementation of Community research policies, especially with regard to the EU goals in R&D, as set by the Lisbon summit strategy.
1 - International organisations	OECD, UNESCO etc.	Economic analysis and monitoring.
1 - National	Ministry of Finance, Ministry of Energy, Commerce and Industry, Deputy Ministry of Research, Innovation and Digital Strategy, Directorate General for European Programmes, Coordination and Development, Research & Innovation Foundation.	Assessing the implementation of the national reform programme for the Lisbon strategy, strategic programming, economic analysis and monitoring.
2 - Social actors	Chamber of Commerce and Industry, various employers' associations, trade unions and lobby groups.	Economic analysis and monitoring, interested both in figures and comments.
3	Economic newspapers, TV channels.	Interested in figures, comments and analyses.
4	Higher education institutions, researchers, students and private individuals	Interested in figures, comments and analyses.
5	Business enterprises, consultancy offices.	Market analysis, marketing strategy, offering consultancy services.

1) Users' class codification

1- Institutions:

- **European level:** Commission (DGs, Secretariat General), Council, European Parliament, ECB, other European agencies etc.
- **in Member States, at the national or regional level:** Ministries of Economy or Finance, Other Ministries (for sectoral comparisons), National Statistical Institutes and other statistical agencies (norms, training, etc.), and
- **International organisations:** OECD, UN, IMF, ILO, etc.

2- Social actors: Employers' associations, trade unions, lobbies, among others, at the European, national or regional level.

3- Media: International or regional media – specialized or for the general public – interested both in figures and analyses or comments. The media are the main channels of statistics to the general public.

4- Researchers and students (Researchers and students need statistics, analyses, ad hoc services, access to specific data.)

5- Enterprises or businesses (Either for their own market analysis, their marketing strategy (large enterprises) or because they offer consultancy services)

6- Other (User class defined for national purposes, different from the previous classes.)

12.2. Relevance - User Satisfaction

To evaluate if users' needs have been satisfied, the best way is to use user satisfaction surveys.

12.2.1. National Surveys and feedback

Conduction of a user satisfaction survey or any other type of

monitoring user satisfaction	<p>Since 2008 (with the exception of 2010 and 2013) CYSTAT carries out an annual online “Users Satisfaction Survey”. The results of the surveys are available on CYSTAT’s website at the link attached below.</p> <p>Surveys: http://www.mof.gov.cy/mof/cystat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument.</p> <p>Overall, the users of statistical data published by CYSTAT are satisfied.</p> <p>A national user satisfaction survey was conducted as a necessary step towards the peer review of our national statistical system.</p>
User satisfaction survey specific for R&D statistics	In the latest national user satisfaction survey, R&D statistics were listed down explicitly as one of the main statistical fields to be commented on.
Short description of the feedback received	However, the number of questionnaires with relevant comments was too low to allow for any concrete conclusions to be drawn. No specific problems were reported. There were no findings specific to the BES sector.

12.3. Completeness

See below.

12.3.1. Data completeness - rate

Not available.

12.3.2. Completeness - overview

Completeness is assessed via comparison of the data delivered against the requirements of [Commission Implementing Regulation \(EU\) No 2020/1197](#) of 30 July 2020.

12.3.3. Data availability

See below.

12.3.3.1. Data availability - R&D Expenditure

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons
Source of funds	Y-1998	Annual	No gap years	No modifications		
Type of R&D	Y-1998	Annual	No gap years	No modifications		
Type of costs	Y-1998	Annual	No gap years	No modifications		
Socioeconomic objective	N – data not available					
Region	Not applicable. Cyprus is one region					
FORD	Y-1998	Annual	No gap years	No modifications		
Type of institution	Y-1998	Annual	No gap years	No modifications		

1) Y-start year, N – data not available

12.3.3.2. Data availability - R&D Personnel (HC)

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons
Sex	Y-2001	Annual				

Type of institution				No modifications		
Economic activity	Y-1998	Annual	No gap years	No modifications		
Product field	N – data not available					
Employment size class	Y-1998	Annual	No gap years	No modifications		

1) Y-start year, N – data not available

12.3.3.4. Data availability - Other

Additional dimension/variable available at national level ¹⁾	Availability ²⁾	Frequency of data collection	Breakdown variables	Combinations of breakdown variables	Level of detail

1) This question is optional. It refers to variables and breakdowns NOT asked by the Commission Implementing Regulation (EU) No 995/2012 (neither as 'optional'), if R&D data for BES are collected for additional breakdowns or/and at more detailed level than requested.

2) Y-start year

13. Accuracy

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13.1. Accuracy - overall

Accuracy in the statistical sense denotes the closeness of computations or estimates to the exact or true values. Statistics are not equal with the true values because of variability (the statistics change from implementation to implementation of the survey due to random effects) and bias (the average of the possible values of the statistics from implementation to implementation is not equal to the true value due to systematic effects).

Several types of statistical errors occur during the survey process. The following typology of errors has been adopted:

1. **Sampling errors.** These only affect sample surveys. They are due to the fact that only a subset of the population, usually randomly selected, is enumerated.
2. **Non-sampling errors.** Non-sampling errors affect sample surveys and complete enumerations alike and comprise:
 - a) Coverage errors,
 - b) Measurement errors,
 - c) Non response errors and
 - d) Processing errors.

Model assumption errors should be treated under the heading of the respective error they are trying to reduce.

13.1.1. Accuracy - Overall by 'Types of Error'

	Sampling errors	Non-sampling errors ¹⁾				Model-assumption Errors ¹⁾	Perceived direction of the error ²⁾
		Coverage errors	Measurement errors	Processing errors	Non response errors		
Total intramural R&D expenditure	-	-	-	-	-		
	-	-	-	-	-		

	Sampling errors	Non-sampling errors ¹⁾				Model-assumption Errors ¹⁾	Perceived direction of the error ²⁾
		Coverage errors	Measurement errors	Processing errors	Non response errors		
Total R&D personnel in FTE							
Researchers in FTE	-	-	-	-	-		

1) Ranking of the type(s) of errors that result in over/under-estimation, from the most important source of error (1) to the least important source of error (5). In the event that errors of a particular type do not exist, is used the sign '-'.
2) The perceived direction of the 'overall' error using the signs "+" for over estimation, "-" for under estimation and "+/-" when assumption of the direction of the error cannot be made for R&D.

13.1.2. Assessment of the accuracy with regard to the main indicators

Indicators	5 (Very Good) ¹⁾	4 (Good) ²⁾	3 (Satisfactory) ³⁾	2 (Poor) ⁴⁾	1 (Very poor) ⁵⁾
Total intramural R&D expenditure	X				
Total R&D personnel in FTE	X				
Researchers in FTE	X				

1) 'Very Good' = High level of coverage (annual rate of substitution in the target population lower than 5%). High average rates of response (>80%) in census and sample surveys (BES R&D). Full data consistency with reference to totals and relationships between variables in the dataset sent to Eurostat.

2) 'Good' = In the event that at least one out of the three criteria above described would not be fully met.

3) 'Satisfactory' = In the event that the average rate of response would be lower than 60% even by meeting the two remaining criteria.

4) 'Poor' = In the event that the average rate of response would be lower than 60% and at least one of the two remaining criteria would not be met.

5) 'Very Poor' = If all the three criteria are not met.

13.2. Sampling error

That part of the difference between a population value and an estimate thereof, derived from a random sample, which is due to the fact that only a subset of the population is enumerated.

13.2.1. Sampling error - indicators

The main indicator used to measure sampling errors is the coefficient of variation (CV).

Definition of coefficient of variation:

$CV = (\text{Square root of the estimate of the sampling variance}) / (\text{Estimated value})$

13.2.1.1. Variance Estimation Method

Not applicable.

13.2.1.2. Coefficient of variation for key variables by NACE

	Industry sector ¹⁾	Services sector ²⁾	TOTAL
R&D expenditure	Not applicable	Not applicable	Not applicable
R&D personnel (FTE)	Not applicable	Not applicable	Not applicable

1) Industry sector (NACE Rev. 2: 01-03, 05-09, 10-33, 35, 36-39, 41-43)

2) Services sector (NACE Rev 2.: 45-47,49-53,55-56,58-63,64-66 68,69-75,77-82,84,85,86-88,90-93,94-96,97-98,99)

13.2.1.3. Coefficient of variation for key variables by Size Class

	0-9 employees	10-49 employees	50-249 employees	250-499 employees	500 and more employees	TOTAL

R&D expenditure	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
R&D personnel (FTE)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

13.3. Non-sampling error

Non-sampling errors occur in all phases of a survey. They add to the sampling errors (if present) and contribute to decreasing overall accuracy. It is important to assess their relative weight in the total error and devote appropriate resources for their control and assessment.

13.3.1. Coverage error

Coverage errors (or frame errors) are due to divergences between the target population and the frame population. The frame population is the set of target population members that has a chance to be selected into the survey sample. It is a listing of all items in the population from which the sample is drawn that contains contact details as well as sufficient information to perform stratification and sampling.

- a) **Description/assessment of coverage errors:** Not applicable
b) **Measures taken to reduce their effect:** Not applicable

13.3.1.1. Over-coverage - rate

Magnitude of error (%) = (Observed Value-True Value)/ True Value (%)

13.3.1.1.1. Over-coverage rate - groups

	Groups	Magnitude – R&D expenditure	Magnitude – Total R&D personnel (FTE)
Groups/categories of the frame population that were not covered or were partly covered in the target population (unknown R&D performing enterprises)	Not applicable	Not applicable	Not applicable
Groups/categories in the target population that were covered while they should not (i.e. units surveyed that should belong to another sector of performance than BES)	Not applicable	Not applicable	Not applicable

13.3.1.2. Common units - proportion

Not requested.

13.3.1.3. Frame misclassification rate

Misclassification rate measures the percentage of enterprises that changed stratum between the time the frame was last updated and the time the survey was carried out. It is defined as the number of enterprises that changed stratum divided by the number of enterprises which belong to the stratum, according to the frame. The rate can be estimated based on the characteristics of the surveyed enterprises.

By size class for the Industry Sector						
	0-9	10-49	50-249	250-499	500+	TOTAL
Number of surveyed enterprises in the stratum (according to frame)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Number of surveyed enterprises that have changed stratum (after inspection of their characteristics)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Misclassification rate	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
By size class for the Services Sector						
	0-9	10-49	50-249	250-499	500+	TOTAL

Unit Non-response rate (weighted)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
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13.3.3.1.2. Unit non-response rates by NACE

	Industry¹⁾	Services²⁾	TOTAL
Number of units with a response in the realised sample	Not applicable	Not applicable	Not applicable
Total number of units in the sample	Not applicable	Not applicable	Not applicable
Unit Non-response rate (un-weighted)	Not applicable	Not applicable	Not applicable
Unit Non-response rate (weighted)	Not applicable	Not applicable	Not applicable

1) Industry (NACE Rev. 2: 01-03, 05-09,10-33,35,36-39,41-43)

2) Services (NACE Rev 2.: 45-47,49-53,55-56,58-63,64-66 68,69-75,77-82,84,85,86-88,90-93,94-96,97-98,99)

13.3.3.1.3. Recalls/Reminders description

There is no unit non-response.

13.3.3.1.4. Unit non-response survey

Conduction of a non-response survey	There was no need to carry out a non-response survey.
Selection of the sample of non-respondents	Not applicable
Data collection method employed	Not applicable
Response rate of this type of survey	Not applicable
The main reasons of non-response identified	Not applicable

13.3.3.2. Item non-response - rate

Definition:

Un-weighted Item non-Response Rate (%) = 1-(Number of units with a response for the item) / (Total number of eligible , for the item, units in the sample) * 100

13.3.3.2.1. Un-weighted item non-response rate

	R&D Expenditure	R&D Personnel (FTE)	Researchers (FTE)
Item non-response rate (un-weighted) (%)	0%	0%	0%
Imputation (Y/N)	N	N	N
If imputed, describe method used, mentioning which auxiliary information or stratification is used			

13.3.3.3. Magnitude of errors due to non-response

	Magnitude of error (%) due to non-response
Total intramural R&D expenditure	Not applicable
Total R&D personnel in FTE	Not applicable
Researchers in FTE	Not applicable

13.3.4. Processing error

Between data collection and the beginning of statistical analysis, data must undergo a certain processing: coding, data entry, data editing, imputation, etc. Errors introduced at these stages are called processing errors. Data editing identifies inconsistencies or errors in the data.

13.3.4.1. Identification of the main processing errors

Data entry method applied	Data entry is done in MS Excel spreadsheets.
Estimates of data entry errors	No processing errors exist.
Variables for which coding was performed	All variables included on the questionnaire are being coded.
Estimates of coding errors	No coding errors exist.
Editing process and method	The MS Excel files used incorporate various cross-checking and validation capabilities. Controls and checks for logical inconsistencies are used to eliminate any remaining errors. Comparisons are also made with the responses provided by the same unit in the previous years' surveys. Errors detected are corrected by further contacting the information providers.
Procedure used to correct errors	Errors detected are corrected by further contacting the information providers.

13.3.5. Model assumption error

Not requested.

14. Timeliness and punctuality

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14.1. Timeliness

Timeliness and punctuality refer to time and dates, but in a different manner: the timeliness of statistics reflects the length of time between their availability and the event or phenomenon they describe. Punctuality refers to the time lag between the release date of the data and the target date on which they should have been delivered, with reference to dates announced in the official release calendar.

14.1.1. Time lag - first result

Time lag between the end of reference period and the release date of the results:
Indicator: (Release date of provisional/ first results) - (Date of reference for the data)

No release of provisional national data.

- a) **End of reference period:** No release of provisional national data.
- b) **Date of first release of national data:** No release of provisional national data.
- c) **Lag (days):** No release of provisional national data.

14.1.2. Time lag - final result

- a) **End of reference period:** 2019 (T)
- b) **Date of first release of national data:** T+19 months
- c) **Lag (days):** 0 days

14.2. Punctuality

Punctuality refers to the time lag between the release date of data and the target date on which they were scheduled for release as announced officially.

14.2.1. Punctuality - delivery and publication

Punctuality of time schedule of data release = (Actual date of the data release) - (Scheduled date of the data release).

14.2.1.1. Deadline and date of data transmission

	Transmission of provisional data	Transmission of final data
Legally defined deadline of data transmission (T+_ months)	10	18
Actual date of transmission of the data (T+x months)	10	18
Delay (days)	0	0

15. Coherence and comparability

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Comparability aims at measuring the impact of differences in applied statistical concepts and definitions on the comparison of statistics between geographical areas, non-geographical domains or over time. It is the extent to which differences between statistics are attributed to differences between the true values of the statistical characteristics.

The factors that may cause two statistical figures to lose comparability are attributes of the surveys that produce them. These attributes may be grouped into two major categories: (a) concepts of the survey and (b) measurement / estimation methodology.

The two following sections present lists of key attributes. Information on some of the attributes will have already been reported in previous sections of this report but they are repeated here for completeness of the lists. We provide references to the relevant earlier sections and you do not need to provide the information again.

The coherence of statistics is their adequacy to be reliably combined in different ways and for various uses. It is, however, generally easier to show cases of incoherence than to prove coherence.

When originating from a single source, statistics are coherent in that elementary concepts can be combined reliably in more complex ways. When originating from different sources, and in particular from statistical surveys of different frequencies, statistics are coherent insofar as they are based on common definitions, classifications and methodological standards. The messages that statistics convey to users will then clearly relate to each other, or at least will not contradict each other. The coherence between statistics is orientated towards the comparison of different statistics, which are generally produced in different ways and for different primary uses.

The definition of coherence: The extent to which the statistical characteristics confirm with those in other statistics such that the statistics can be expected to be used together in conjunction with, or as an alternative to.

15.1. Comparability - geographical

See below.

15.1.1. Asymmetry for mirror flow statistics - coefficient

Not requested.

15.1.2. General issues of comparability

No comments.

15.1.3. Survey Concepts Issues

The following table lists a number of key survey concepts and conceptual issues; it gives reference to the Commission Implementing Regulation (EU) No 995/2012 or Frascati manual paragraphs with recommendations about these concepts / issues.

Concept / Issues	Reference to recommendations	Deviation from recommendations	Comments on national definition / Treatment – deviations from recommendations
R&D personnel	<i>FM2015 Chapter 5 (mainly paragraph 5.2).</i>	NO	
Researcher	<i>FM2015, §5.35-5.39.</i>	NO	
Approach to obtaining Headcount (HC) data	<i>FM2015, §5.58-5.61 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	Total number of persons engaged in R&D during the (calendar) year.
Approach to obtaining Full-time equivalence (FTE) data	<i>FM2015, §5.49-5.57 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	Measurement in personyears is adopted.
Reporting data according to formula: Total R&D personnel = Internal R&D personnel + External R&D personnel	<i>FM2015, §5.25</i>	NO	

Intramural R&D expenditure	<i>FM2015 Chapter 4 (mainly paragraph 4.2).</i>	NO	
Special treatment for NACE 72 enterprises	<i>FM2015, § 7.59.</i>	NO	There are no enterprises in NACE 72.
Statistical unit	<i>FM2015 Chapter 7 (mainly paragraphs 7.3 and 7.7 in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Target population	<i>FM2015 Chapter 7 (mainly paragraph 7.7 in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Identification of not known R&D performing or supposed to perform R&D enterprises	<i>FM2015 Chapter 7 (mainly paragraph 7.7 in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Sector coverage	<i>FM2015 Chapter 3 (mainly § 3.51-3.59) in combination with the Eurostat's harmonised Methodological Guidelines.</i>	NO	
NACE coverage and breakdown	<i>Reg. 995/2012: Annex I, section I, § 7.11.</i>	NO	
Enterprise size coverage and breakdown	<i>Reg. 995/2012: Annex I, section I, § 7.4.</i>	NO	Additional breakdowns are available.
Reference period for the main data	<i>Reg. 995/2012: Annex I, section I, § 4-6.</i>	NO	Production of annual data for all variables.
Reference period for all data	<i>Reg. 995/2012: Annex I, section I, § 4-6.</i>	NO	Production of annual data for all variables.

15.1.4. Deviations from recommendations

The following table list a number of key methodological issues, which may affect the international comparability of national R&D statistics. The table gives the references in the Frascati manual, where related recommendations are made. Countries are asked to report on the existence of any deviations from existing recommendations and comment upon.

Methodological issues	Deviation from recommendations	Comments on national treatment / treatment deviations from recommendations
Data collection preparation activities	NO	See present report
Data collection method	NO	See present report
Cooperation with respondents	NO	See present report
Follow-up of non-respondents		There is no unit nonresponse
Data processing methods	NO	See present report
Treatment of non-response		There is no unit nonresponse
Data weighting		No weighting is used
Variance estimation		Not applicable (no sample survey)
	NO	See present report

Data compilation of final and preliminary data		
Survey type	NO	See present report
Sample design		Not applicable. No sampling is used.
Survey questionnaire	NO	See present report

15.2. Comparability - over time

See below.

15.2.1. Length of comparable time series

See below.

15.2.2. Breaks in time series

	Length of comparable time series	Break years ¹	Nature of the breaks
R&D personnel (HC)			
Function	1998-2019	No break years	
Qualification	1998-2019	No break years	
R&D personnel (FTE)			
Function	1998-2019	No break years	
Qualification	1998-2019	No break years	
R&D expenditure			
Source of funds	1998-2019	No break years	
Type of costs	1998-2019	No break years	
Type of R&D	1998-2019	No break years	
Other	1998-2019	No break years	

1) Breaks years are years for which data are not fully comparable to the previous period.

15.3. Coherence - cross domain

This part deals with any national coherence assessments which may have been undertaken. It reports results for variables which are the same or relevant to R&D statistics, from other national surveys and / or administrative sources and explains and comments on their degree of agreement with R&D statistics.

15.3.1. Coherence - sub annual and annual statistics

Not requested.

15.3.2. Coherence - National Accounts

R&D statistics are fully reconcilable with National Accounts.

15.3.3. National Coherence Assessments

Variable name	R&D Statistics - Variable Value	Other national statistics - Variable value	Other national statistics - Source	Difference in values (of R&D statistics)	Explanation of / comments on difference

15.4. Coherence - internal

See below.

15.4.1. Comparison between preliminary and final data

This part compares key R&D variables as preliminary and final data.

	Total R&D expenditure (in 1000 of national currency)	Total R&D personnel (in FTEs)	Total number of researchers (in FTEs)
Preliminary data (<i>delivered at T+10</i>)	57000	665.0	420.0
Final data (<i>delivered T+18</i>)	70658	745.6	504.7
Difference (of final data)	13658	80.6	84.7

15.4.2. Consistency between R&D personnel and expenditure

Average remuneration (cost¹ in national currency)	
Consistency between FTEs of internal R&D personnel and R&D labour costs (1)	Not available
Consistency between FTEs of external R&D personnel and other current costs for external R&D personnel (2)	Not available

(1) Calculate the average remuneration (cost) of individuals belonging to the internal R&D personnel, excluding those who are only formally 'employees' (university students, grant holders, etc.).

(2) Calculate the average remuneration (cost) of individuals belonging to the external R&D personnel (FTEs/other current R&D costs for external R&D personnel).

16. Cost and Burden

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The assessment of costs associated with a statistical product is a rather complicated task since there must exist a mechanism for appointing portions of shared costs (for instance shared IT resources and dissemination channels) and overheads (office space, utility bills etc). The assessment must become detailed and clear enough so that international comparisons among agencies of different structures are feasible.

16.1. Costs summary

	Costs for the statistical authority (in national currency)	% sub-contracted¹⁾
Staff costs	Not available.	
Data collection costs	Not available.	
Other costs	Not available.	
Total costs	Not available.	
Comments on costs		
No data are available specific to BUS sector.		

1) The shares of the figures given in the first column that are accounted for by payments to private firms or other Government agencies.

16.2. Components of burden and description of how these estimates were reached

	Value	Computation method
Number of Respondents (R)	250	Count the number of enterprises from which request R&D data.
Average Time required to complete the questionnaire in hours (T)¹⁾	Not available	Not available
Hourly cost (in national currency) of a respondent (C)	Not available	Not available
Total cost	Not available	Not available

1) T = the time required to provide the information, including time spent assembling information prior to completing a form or taking part in interview and the time taken up by any subsequent contacts after receipt of the questionnaire ('Re-contact time')

17. Data revision	Top
17.1. Data revision - policy	
Not requested.	
17.2. Data revision - practice	
Not requested.	
17.2.1. Data revision - average size	
Not requested.	

18. Statistical processing	Top		
18.1. Source data			
<p>Several separate activities are used for the collection of raw data or pre-compiled administrative data and statistics related to R&D. For simplicity, we call them surveys irrespective of whether they are sample surveys, censuses, collections of administrative data/pre-compiled statistics. This section presents the names of the surveys by sector of performance as well as methodological information for each survey. Depending on the type of survey and sector of performance, only the sections corresponding to that survey and sector are filled in.</p>			
18.1.1. Data source – general information			
Survey name	SURVEY ON SCIENTIFIC RESEARCH AND EXPERIMENTAL DEVELOPMENT		
Type of survey	No sampling is used. There is full coverage of all enterprises known or supposed to perform R&D, based on a register of all possible R&D performing enterprises.		
Combination of sample survey and census data	Not applicable. No sampling is used.		
Combination of dedicated R&D and other survey(s)	Not applicable.		
Sub-population A (covered by sampling)	Not applicable.		
Sub-population B (covered by census)	Not applicable.		
Variables the survey contributes to	Not applicable.		
Survey timetable-most recent implementation	Not applicable.		
18.1.2. Sample/census survey information			
	Stage 1	Stage 2	Stage 3
Sampling unit			
Stratification variables (if any - for sample surveys only)			
Stratification variable classes			
Population size			
Planned sample size			
Sample selection mechanism (for sample surveys only)			
Survey frame			
Sample design			

Sample size			
Survey frame quality			
18.1.3. Information on collection of administrative data or of pre-compiled statistics			
Source	Legal entities and enterprises in Business sector according to FM definitions.		
Description of collected data / statistics	<p>Collected information: (a) R&D personnel, both in head counts and full-time equivalent, broken down by occupation, sex, level of formal qualification, field of science and technology, and (b) R&D expenditure, broken down by type of costs, field of science and technology, type of research and source of funds.</p> <p>Collection method: A questionnaire is sent out to all potential information providers, asking them to complete it and return it by mail. A letter indicating that no R&D activity was performed during the year under review is expected from the non-R&D performers as well. Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also used to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, are also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.</p>		
Reference period, in relation to the variables the survey contributes to	All parameters collected are reported on an annual basis.		
18.2. Frequency of data collection			
See 12.3.3.			
18.3. Data collection			
See below.			
18.3.1. Data collection overview			
Realised sample size (per stratum)	Not applicable. No sampling is used.		
Mode of data collection	A questionnaire is sent out to all possible R&D performing enterprises, asking them to complete it and return it by mail. A letter indicating that no R&D activity was performed during the year under review is expected from the non-R&D performers as well. Regular contacts by telephone or email and, in some cases, personal interviews, are also used to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, are also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.		
Incentives used for increasing response	No incentives used for increasing response.		
Follow-up of non-respondents	Regular contacts by telephone or email and, in some cases, personal interviews, are also used.		
Replacement of non-respondents (e.g. if proxy interviewing is employed)	No replacement of non-respondents.		
Response rate (ratio of completed "interviews" over total number of eligible enterprises or enterprises of unknown eligibility)	100%		
Non-response analysis (if applicable -- also	There was no need to carry out a non-response survey.		

see section 18.5. Data compilation - Weighting and Estimation methods)

18.3.2. Questionnaire and other documents

Annex	Name of the file
R&D national questionnaire and explanatory notes in English:	Quest_2019_BUS_EN.pdf -(R&D Questionnaire 2019 - Business Sector (English))
R&D national questionnaire and explanatory notes in the national language:	Quest_2019_BUS_GR.pdf -(R&D Questionnaire 2019 - Business Sector (Greek))
Other relevant documentation of national methodology in English:	
Other relevant documentation of national methodology in the national language:	

Annexes:

[R&D Questionnaire 2019 - Business Sector \(English\)](#)

[R&D Questionnaire 2019 - Business Sector \(Greek\)](#)

18.4. Data validation

Validation activities include: checking that the population coverage and response rates are as required; comparing the statistics with previous cycles; confronting the statistics against other relevant data (both internal and external); investigating inconsistencies in the statistics; verifying the statistics against expectations and domain intelligence, outlier detection.

18.5. Data compilation

See below.

18.5.1. Imputation - rate

Imputation is the method of creating plausible (but artificial) substitute values for all those missing.

Definition:

Imputation rate (for the variable x) % = (Number of imputed records for the variable x) / (Total number of possible records for x)*100

18.5.1.1. Imputation rate (un-weighted) (%) by Size class

	0-9 employees	10-49 employees	50-249 employees	250-499 employees	500 and more employees	TOTAL
R&D expenditure	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
R&D personnel (FTE)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

18.5.1.2. Imputation rate (un-weighted) (%) by NACE

	Industry ¹	Services ²	TOTAL
R&D expenditure	Not applicable	Not applicable	Not applicable
R&D personnel (FTE)	Not applicable	Not applicable	Not applicable

1) Industry (NACE Rev. 2: 01-03, 05-09,10-33,35,36-39,41-43)

2) Services (NACE Rev 2.: 45-47, 49-53, 55-56, 58-63, 64-66 68, 69-75, 77-82, 84, 85, 86-88, 90-93, 94-96, 97-98, 99)

18.5.2. Data compilation methods

Data compilation method - Final data (between the survey years)	The national R&D survey is carried out on an annual basis.
Data compilation method - Preliminary data	For a significant number of information providers, final data are already available within 10 months after the end of the calendar year of the reference period. For the rest of the providers, an estimate is made on the basis of the previous year's figures and data derived from administrative records. No use of coefficients is made.

18.5.3. Measurement issues

Method of derivation of regional data	Not applicable. Cyprus is one region.
Coefficients used for estimation of the R&D share of more general expenditure items	Not applicable.
Inclusion or exclusion of VAT and provisions for depreciation in the measurement of expenditures	No deviations from FM §4.40-4.43 (VAT), and FM §4.38-4.39 (depreciation) recommendations.
Differences between national and Frascati Manual classifications not mentioned above and impact on national statistics	No differences.

18.5.4. Weighting and estimation methods

Weight calculation method	Not applicable. No sampling is used.
Data source used for deriving population totals (universe description)	Not applicable. No sampling is used.
Variables used for weighting	Not applicable. No sampling is used.
Calibration method and the software used	Not applicable. No sampling is used.
Estimation	Not applicable. No sampling is used.

18.6. Adjustment

Not requested.

18.6.1. Seasonal adjustment

Not requested.

19. Comment

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Related metadata

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Annexes	Top

[1 - Full view](#)[2 - Disseminated view](#) [Print](#)

Government budget allocations for R&D (GBARD) (gba)

National Reference Metadata in Single Integrated Metadata
Structure (SIMS)
Compiling agency: Statistical Service of Cyprus (CYSTAT)



Eurostat metadata

Reference metadata

- [1. Contact](#)
- [2. Metadata update](#)
- [3. Statistical presentation](#)
- [4. Unit of measure](#)
- [5. Reference Period](#)
- [6. Institutional Mandate](#)
- [7. Confidentiality](#)
- [8. Release policy](#)
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- [10. Accessibility and clarity](#)
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- [16. Cost and Burden](#)
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- [Annexes \(including footnotes\)](#)

For any question on data and metadata, please contact: [EUROPEAN STATISTICAL DATA SUPPORT](#)

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1. Contact

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1.1. Contact organisation	Statistical Service of Cyprus (CYSTAT)
1.2. Contact organisation unit	Science and Technology Statistics Unit
1.5. Contact mail address	Statistical Service of Cyprus CY-1444 Nicosia CYPRUS

2. Metadata update

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2.1. Metadata last certified	29/10/2021
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2.2. Metadata last posted	29/10/2021
2.3. Metadata last update	29/10/2021

3. Statistical presentation [Top](#)

3.1. Data description

Statistics on Government Budget Allocations for R&D (GBARD) measure government support to research and experimental development (R&D) activities, and thereby provide information about the priority Governments give to different public R&D funding activities. This type of funder-based approach for reporting R&D involves identifying all the budget items that may support R&D activities and measuring or estimating their R&D content (FM 2015, Chapter 12).

Main concepts and definitions used for the production of R&D statistics are given by the OECD (2015), [Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development. The Measurement of Scientific, Technological and Innovation Activities](#), which is the internationally recognised standard methodology for collecting R&D statistics.

Statistics on science, technology and innovation were collected based on Commission Implementing Regulation (EU) [Regulation \(EU\) No 995/2012](#) concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on [Commission Implementing Regulation \(EU\) No 1197/2020](#) of 30 July 2020.

The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail ([Commission Implementing Regulation \(EU\) 2020/ of 30 July 2020 laying down technical specifications and arrangements pursuant to Regulation \(EU\) 2019/2152 of the European Parliament and of the Council on European business statistics repealing 10 legal acts in the field of business statistics \(europa.eu\)](#)).

Please note that according to Article 12(4) of Regulation (EU) 1197/2020, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.

3.2. Classification system

Distribution by socioeconomic objectives (SEO) is based on the Nomenclature for the Analysis and Comparisons of Scientific Programmes and Budgets (NABS) at one digit level.

3.2.1. National classification

National nomenclature of SEO used	The NABS 2007 nomenclature of socio-economic objectives is being used.
Correspondence table with NABS	Not applicable.

3.2.2. NABS classification

Deviations from NABS	No deviations.
Problems in identifying / separating NABS chapters and sub chapters	Distribution by NABS sub-chapters is not possible.
Ability to distribute Non-oriented research and General University Funds (GUF) by fields of R&D	Not possible.

3.3. Coverage - sector

See below.

3.3.1. General coverage

Definition of R&D	No deviations in definitions and recommendations of Frascati Manual.
Coverage of R&D or S&T¹ in general	GBAORD statistics cover R&D
Fields of R&D (FORD) covered	No deviations in definitions and recommendations of Frascati Manual.

1) Science & Technology

3.3.2. Definition and coverage of government

GBARD statistics are assumed to report detailed data on all the government's budget items that may support R&D activities and to measure or estimate their R&D content. For the purposes of GBARD, the Government sector comprises (a) the central (federal) government, (b) regional (state) government and (c) local (municipal) government subsectors (FM2015, Chapter 12).

Levels of government	Definition	Included / Not included	Comments
Central (federal) government	Central government, consisting of Ministries and government departments, other government bodies (funding authorities), public higher education institutions and R&D performers financed by the government budget.	Included	No ad hoc GBAORD survey is performed. Statistics are compiled from administrative data. National budget data and data from the R&D statistics surveys are being used. Budget items encompassing an R&D element are identified and their R&D content in terms of funding is then estimated through, where necessary, information from the agency that is actually performing the R&D.
Regional (state) government	Not applicable.	Not included	Not applicable.
Local (municipal) government	Municipal and communal authorities.	Included	The contribution of local government to R&D activity in Cyprus is negligible

3.4. Statistical concepts and definitions

Not requested.

3.5. Statistical unit

National GBAORD statistics cover only the central government, municipals and communal authorities.

3.6. Statistical population

See below.

3.6.1. National target population

The target population is the population for which inferences are made. The frame (or frames, as sometimes several frames are used) is a device that permits access to population units. The frame population is the set of population units, which can be accessed through the frame and the survey data really refer to this population.

Definition of the national target population	The FM2015 definition of target population.
Estimation of the target population size	Not available

3.7. Reference area

Not requested.
3.8. Coverage - Time
Not requested. See point 5.
3.9. Base period
Not requested.

4. Unit of measure Top
Not requested.

5. Reference Period Top
<p>a) Calendar year: The reference period is the calendar year 2020, which coincides with the fiscal year.</p> <p>b) Fiscal year: The reference period is the calendar year 2020, which coincides with the fiscal year.</p> <p>Start month: 1</p> <p>End month: 12</p>

6. Institutional Mandate Top
6.1. Institutional Mandate - legal acts and other agreements
See below.
6.1.1. European legislation
GBARD statistics are based on the Commission Implementing Regulation (EU) Regulation (EU) No 995/2012 concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing Regulation (EU) No 2020/1197 of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.
6.1.2. National legislation
Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
6.1.3. Standards and manuals
Frascati Manual 2015, Guidelines for Collecting and Reporting Data on Research and Experimental Development.
6.2. Institutional Mandate - data sharing
Not requested.

7. Confidentiality Top
7.1. Confidentiality - policy
<p>Confidentiality, being one of the process quality components, concerns the privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and the extent of its use for statistical purposes.</p> <p>A property of data indicating the extent to which their unauthorised disclosure could be prejudicial or harmful to the interest of the source or other relevant parties.</p>

- a) **Confidentiality protection required by law:** Statistics Law No. 15(I) of 2000:
http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
- b) **Confidentiality commitments of survey staff:** Statistics Law No. 15(I) of 2000:
http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument

7.2. Confidentiality - data treatment

The survey is carried out in accordance to the Statistics Law, No.15(I) of 2000. The Statistical Service is bound, under the provisions of the Statistics Law, to treat all information collected as confidential. All collected information and data are used solely for statistical purposes. Data on individual enterprise cannot be published or disclosed to either public bodies or private individuals.

8. Release policy [Top](#)

8.1. Release calendar

GBAORD statistics are not released at the national level. Any information to interested users is provided upon request and in aggregate figures.

8.2. Release calendar access

GBAORD statistics are not released at the national level. Any information to interested users is provided upon request and in aggregate figures.

8.3. Release policy - user access

GBAORD statistics are not released at the national level. Any information to interested users, such as the Ministry of Finance, the Directorate General for European Programmes, Coordination and Development and the Research & Innovation Foundation, is provided upon request and in aggregate figures.

9. Frequency of dissemination [Top](#)

Frequency of data dissemination: Yearly

10. Accessibility and clarity [Top](#)

10.1. Dissemination format - News release

See below.

10.1.1. Availability of the releases

	Availability (Y/N) ¹	Content, format, links, ...
Regular releases	N	
Ad-hoc releases	N	

1) Y - Yes, N – No

10.2. Dissemination format - Publications

See below.

10.2.1. Availability of mean of dissemination

Mean of dissemination	Availability (Y/N) ¹	Content, format, links, ...
General publication/article (paper, online)	N	
Specific paper publication	N	

(paper, online)			
1) Y – Yes, N - No			
10.3. Dissemination format - online database			
See below.			
10.3.1. Data tables - consultations			
Not requested.			
10.4. Dissemination format - microdata access			
See below.			
10.4.1. Provisions affecting the access			
Access rights to the information	There is no Micro-data access to outside users.		
Access cost policy	See above		
Micro-data anonymisation rules	See above		
10.5. Dissemination format - other			
See below.			
10.5.1. Metadata - consultations			
Not requested.			
10.5.2. Availability of other dissemination means			
Dissemination means	Availability (Y/N) 1	Micro-data / Aggregate figures	Comments
Internet: main results available on the national statistical authority's website	N		
CD-ROMs	N		
Data prepared for individual ad hoc requests	Y	GBAORD statistics are not released at the national level. Any information to interested users, such as the Ministry of Finance, the Directorate General for European Programmes, Coordination and Development and the Research & Innovation Foundation, is provided upon request and in aggregate figures	
Other	N		
1) Y – Yes, N - No			
10.6. Documentation on methodology			
See below.			
10.6.1. Metadata completeness - rate			
Not requested.			
10.7. Quality management - documentation			
See below.			
10.7.1. Information and clarity			
Type(s) of data accompanying information available (metadata, graphs, etc.)	GBAORD statistics are not released at the national level. Any information to interested users, such as the Ministry of Finance, the Directorate General for European Programmes, Coordination and Development, and the Research & Innovation Foundation, is provided upon request		

Request on further clarification	Users usually need clarifications on the differences between GBAORD and GERD data
Measure to increase clarity	No intention to take any further measures
Impression of users on the clarity of the accompanying information to the data	Users seem to be fully satisfied.

11. Quality management

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Quality management is defined as systems and frameworks in place within an organisation to manage the quality of statistical products and processes.

11.1. Quality assurance

The quality of statistics in CYSTAT is managed in the framework of the European Statistics Code of Practice which sets the standards for developing, producing and disseminating European Statistics as well as the ESS Quality Assurance Framework (QAF). CYSTAT endorses the Quality Declaration of the European Statistical System. In addition, CYSTAT is guided by the requirements provided for in Article 12 of the Statistics Law No. 15(I) of 2000 as well as Article 12 of Regulation (EC) No 223/2009 on European statistics, which sets out the quality criteria to be applied in the development, production and dissemination of European statistics.

- **European Statistics Code of Practice:** <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-32-11-955>
- **ESS Quality Assurance Framework (QAF):** <http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646>
- **Quality Declaration of the European Statistical System:** http://ec.europa.eu/eurostat/documents/4031688/8188985/KS0217428ENN_corr.pdf/116f7c85-cd3e-4bff-b695-4a8e71385fd4
- **Statistics Law No. 15(I) of 2000:** http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
- **Regulation (EC) No 223/2009 on European statistics (consolidated text):** <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN>

11.2. Quality management - assessment

The GBAORD data in Cyprus are assessed as being of good quality. The definitions, concepts and methodology used are in compliance with the requirements of Eurostat and follow the guidelines of the Frascati Manual 2015. They are largely based on deriving coefficients using information from the R&D survey in the Government sector, which is a well established survey of very high quality; this survey yields final data for all government agencies within 12 months after the end of the calendar year of the reference period.

12. Relevance

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Relevance is the degree to which statistics meet current and potential users' needs. It includes the production of all needed statistics and the extent to which concepts used (definitions, classifications etc.) reflect user needs. The aim is to describe the extent to which the statistics are useful to, and used by, the broadest array of users. For this purpose, statisticians need to compile information, firstly about their users (who they are, how many they are, how important is each one of them), secondly on their needs, and finally to assess how far these needs are met.

12.1. Relevance - User Needs

See below.

12.1.1. Needs at national level

Users' class ¹	Description of users	Users' needs
1 - European level	Council, Commission (Eurostat, DG Research), European Parliament	Formulating the needs and assessing the implementation of Community research policies, especially with regard to the EU goals in R&D, as set by the Lisbon summit strategy.
1 - International organisations	OECD, UNESCO etc.	Economic analysis and monitoring.
1 - National	Ministry of Finance, Deputy Ministry of Research, Innovation and Digital Strategy, Directorate General for European Programmes, Coordination and Development, Research & Innovation Foundation.	Assessing the implementation of the national reform programme for the Lisbon strategy, strategic programming, economic analysis and monitoring.

1) Users' class codification

1- Institutions:

- European level: Commission (DGs, Secretariat General), Council, European Parliament, ECB, other European agencies etc.
- in Member States, at the national or regional level: Ministries of Economy or Finance, Other Ministries (for sectoral comparisons), National Statistical Institutes and other statistical agencies (norms, training, etc.), and
- International organisations: OECD, UN, IMF, ILO, etc.

2- Social actors: Employers' associations, trade unions, lobbies, among others, at the European, national or regional level.

3- Media: International or regional media – specialized or for the general public – interested both in figures and analyses or comments. The media are the main channels of statistics to the general public.

4- Researchers and students (Researchers and students need statistics, analyses, ad hoc services, access to specific data.)

5- Enterprises or businesses (Either for their own market analysis, their marketing strategy (large enterprises) or because they offer consultancy services)

6- Other (User class defined for national purposes, different from the previous classes.)

12.2. Relevance - User Satisfaction

To evaluate if users' needs have been satisfied, the best way is to use user satisfaction surveys.

12.2.1. National Surveys and feedback

Conduction of a user satisfaction survey or any other type of monitoring user satisfaction	A national user satisfaction survey was conducted as a necessary step towards the peer review of our national statistical system.
User satisfaction survey specific for GBARD statistics	In the latest national user satisfaction survey, GBAORD statistics were not listed down explicitly as one of the main statistical fields to be commented on and rather fell under the more general category of R&D statistics. The R&D statistics were listed down explicitly as one of the main statistical fields to be commented on.
Short description of the feedback received	However, the number of questionnaires with relevant comments was too low to allow for any concrete conclusions to be drawn. No specific problems were reported. There were no findings specific to GBAORD.

12.3. Completeness

See below.

12.3.1. Data completeness - rate

Not available.

12.3.2. Completeness - overview

Completeness is assessed via comparison of the data delivered against the requirements of Commission Implementing Regulation (EU) No 995/2012.

	5 (Very Good)	4 (Good)	3 (Satisfactory)	2 (Poor)	1 (Very poor)	Reasons for missing cells
Provisional budget statistics¹	X					
Obligatory final budget statistics¹	X					
Optional final budget statistics²						It is extremely difficult to calculate and give accurate data in more detailed level for the NABS 2007 codes 12 and 13, since such detailed data are not available.

1) Criteria: Obligatory data (provisional budget and final budget). Only 'Very Good' = 100% and 'Very Poor' <100% apply.

2) Criteria: Optional data (final budget). 'Very Good' = 100%; 'Good' = >75%; 'Satisfactory' 50 to 75%; 'Poor' 25 to 50%; 'Very Poor' 0 to 25%.

12.3.3. Data availability

See below.

12.3.3.1. Data availability – Provisional data

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Time of compilation (T+x) ²	Comments
Total GBARD	Y-2004	Annual	NO	T+6	GBAORD reference year. Legally defined deadline of data transmission to Eurostat (T+6)
NABS Chapter level	Y-2004	Annual	NO	T+6	GBAORD reference year. Legally defined deadline of data transmission to Eurostat (T+6)
NABS Sub-chapter level	N				Distribution by NABS sub-chapters is not possible
Special categories - Biotech	N				Not seperately available.
Special categories - Nanotech	N				Not seperately available.
Special categories - Security	N				Not seperately available.

1) Availability of the data: N: No, data are not available, Y: Yes, data are available + start year.

2) Time of compilation: T is assumed to represent the end of reference period, x expresses the number of months after (positive) or before (negative) T when data is compiled

12.3.3.2. Data availability – Final data

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Time of compilation (T+x) ²	Comments
Total GBARD	Y-2004	Annually	NO	T+12	GBAORD reference year. Legally defined deadline of data transmission to Eurostat (T+12)
NABS Chapter level	Y-2004	Annually	NO	T+12	GBAORD reference year. Legally defined deadline of data transmission to Eurostat (T+12)
NABS Sub-chapter level	N				Distribution by NABS sub-chapters is not possible.
Special categories - Biotech	N				Not separately available.
Special categories - Nanotech	N				Not separately available.
Special categories - Security	N				Not separately available.

1) Availability of the data: N: No, data are not available, Y: Yes, data are available + start year.

2) Time of compilation: T is assumed to represent the end of reference period, x expresses the number of months after (positive) or before (negative) T when data is compiled

12.3.3.3. Data availability – Other special categories

Special categories	Stage ¹	Availability ¹	Frequency of data collection	Gap years – years with missing data	Time of compilation (T+x) ³	Comments

1) Stage: P - provisional, F - final.

2) Availability of the data: No, data are not available, Y: Yes, data are available + start year.

3) Time of compilation: T is assumed to represent the end of reference period, x expresses the number of months after (positive) or before (negative) T when data is compiled

13. Accuracy

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13.1. Accuracy - overall

Accuracy in the statistical sense denotes the closeness of computations or estimates to the exact or true values. Statistics are not equal with the true values because of variability (the statistics change from implementation to implementation of the survey due to random effects) and bias (the average of the possible values of the statistics from implementation to implementation is not equal to the true value due to systematic effects).

Several types of statistical errors occur during the survey process. The following typology of errors has been adopted:

1. **Sampling errors.** These only affect sample surveys. They are due to the fact that only a subset of the population, usually randomly selected, is enumerated.
2. **Non-sampling errors.** Non-sampling errors affect sample surveys and complete enumerations alike and comprise:
 - a) Coverage errors,
 - b) Measurement errors,
 - c) Non response errors and
 - d) Processing errors.

Model assumption errors should be treated under the heading of the respective error they are trying to reduce.

13.1.1. Accuracy - Overall by 'Types of Error'

Sampling errors	Non-sampling errors ¹⁾				Model-assumption Errors ¹⁾	Perceived direction of the error ²⁾
	Coverage errors	Measurement errors	Processing errors	Non response errors		
	-	5	-	-	-	+/-

1) Ranking of the type(s) of errors that result in over/under-estimation, from the most important source of error (1) to the least important source of error (5) In the event that errors of a particular type do not exist, is used the sign '-'.
 2) The perceived direction of the 'overall' error using the signs "+" for over estimation, "-" for under estimation and "+/-" when assumption of the direction of the error cannot be made for GBARD.

13.1.2. Assessment of the accuracy

5 (Very Good) ¹⁾	4 (Good) ²⁾	3 (Satisfactory) ³⁾	2 (Poor) ⁴⁾	1 (Very poor) ⁵⁾
X				

1) High level of coverage (At least all national or federal ministries and the ministries and agencies responsible for R&D funding at state or regional level). High rate of response (>90%) in data collection. All figures broken down by NABS.

2) If at least one out of the three criteria above described would not be fully met.

3) In the event that the rate of response would be lower than 80% even by meeting the two remaining criteria.

4) In the event that the average rate of response would be lower than 70% and at least one of the two remaining criteria would not be met.

5) If all the three criteria above described are not met.

13.2. Sampling error

Not requested.

13.2.1. Sampling error - indicators

Not requested.

13.3. Non-sampling error

Non-sampling errors occur in all phases of a survey. They add to the sampling errors (if present) and contribute to decreasing overall accuracy. It is important to assess their relative weight in the total error and devote appropriate resources for their control and assessment.

13.3.1. Coverage error

Coverage errors are due to divergences between the target population and the frame population. The frame population is the set of target population members that has a chance to be selected into the survey sample. It is a listing of all items in the population from which the sample is drawn that contains contact details as well as sufficient information to perform stratification and sampling.

a) **Description/assessment of coverage errors:** No coverage errors exist.

b) **Measures taken to reduce their effect:** No coverage errors exist.

13.3.1.1. Over-coverage - rate

No GBARD data are collected from units not included in the FM2015 definition (e.g, public-owned enterprises).
13.3.1.2. Common units - proportion
Not requested.
13.3.2. Measurement error
Measurement errors occur during data collection and generate bias by recording values different than the true ones. The survey questionnaire used for data collection may have led to the recording of wrong values. a) Description/assessment of measurement errors: Measurement errors exist which relate to the fact that, for the provisional budget, data from the previous year's R&D survey are used in order to derive the R&D content of various budget items. b) Measures taken to reduce their effect: No specific measures taken to reduce the effect of measurement errors.
13.3.3. Non response error
Non response errors: occur when a survey failed to collect data on all survey variables from all the population units designated for data collection in a sample or complete enumeration. a) Problems in obtaining data from targeted information providers: No problems are encountered in obtaining the necessary information. b) Measures taken to reduce their effect: No non-response errors exist. c) Effect of non-response errors on the produced statistics: No non-response errors exist.
13.3.3.1. Unit non-response - rate
Not requested.
13.3.3.2. Item non-response - rate
Not requested.
13.3.4. Processing error
Between data collection and the beginning of statistical analysis, data must undergo a certain processing: coding, data entry, data editing, imputation, etc. Errors introduced at these stages are called processing errors. Data editing identifies inconsistencies or errors in the data. a) Data processing and editing processes: No processing errors exist. b) Description of errors: No processing errors exist. c) Measures taken to reduce their effect: No processing errors exist.
13.3.5. Model assumption error
Model assumption errors occur when the assumptions made for the estimation of parameters, models, the testing of statistical hypotheses, etc., are violated. As a result, the quality of the resulting statistics is affected (e.g. degrees of confidence might be inflated). Description/assessment: The coefficients used to estimate the R&D share of various budget items are of an adequate accuracy.

14. Timeliness and punctuality	Top
14.1. Timeliness	
Timeliness and punctuality refer to time and dates, but in a different manner: the timeliness of statistics reflects the length of time between their availability and the event or phenomenon they describe. Punctuality refers to the time lag between the release date of the data and the target date on which they should have been delivered, with reference to dates announced in the official release calendar.	

14.1.1. Time lag - first result		
Date of first release of national data: Not applicable. No release of provisional budget data.		
14.1.2. Time lag - final result		
Date of first release of national data: Not applicable. No release of final budget data.		
14.2. Punctuality		
Punctuality refers to the time lag between the release date of data and the target date on which they were scheduled for release as announced officially.		
14.2.1. Punctuality - delivery and publication		
Punctuality of time schedule of data release = (Actual date of the data release) - (Scheduled date of the data release)		
14.2.1.1. Deadline and date of data transmission		
	Transmission of provisional data	Transmission of final data
Legally defined deadline of data transmission (T+_ months)	6	12
Actual date of transmission of the data (T+x months)	6	12
Delay (days)	0	0
Reasoning for delay		

15. Coherence and comparability

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Comparability aims at measuring the impact of differences in applied statistical concepts and definitions on the comparison of statistics between geographical areas, non-geographical domains or over time. It is the extent to which differences between statistics are attributed to differences between the true values of the statistical characteristics.

The factors that may cause two statistical figures to lose comparability are attributes of the surveys that produce them. These attributes may be grouped into two major categories: (a) concepts of the survey and (b) measurement / estimation methodology.

When originating from a single source, statistics are coherent in that elementary concepts can be combined reliably in more complex ways. When originating from different sources, and in particular from statistical surveys of different frequencies, statistics are coherent insofar as they are based on common definitions, classifications and methodological standards. The messages that statistics convey to users will then clearly relate to each other, or at least will not contradict each other. The coherence between statistics is orientated towards the comparison of different statistics, which are generally produced in different ways and for different primary uses.

The definition of coherence: The extent to which the statistical characteristics confirm with those in other statistics such that the statistics can be expected to be used together in conjunction with, or as an alternative to.

15.1. Comparability - geographical

See below.

15.1.1. Asymmetry for mirror flow statistics - coefficient

Not requested.

15.1.2. Survey Concepts Issues

The following table lists a number of key survey concepts and conceptual issues; it gives reference to the Commission Regulation No 995/2012 or Frascati manual paragraphs with recommendations about these concepts / issues.

Concept / Issue	Reference to recommendations	Deviation from recommendations	National definition / Treatment / Deviations from recommendations
-----------------	------------------------------	--------------------------------	---

Concept / Issue	Reference to recommendations	Deviation from recommendations	National definition / Treatment / Deviations from recommendations
Research and development	<i>FM2015 Chapter 2 (mainly paragraphs 2.3 and 2.4).</i>	No	
Coverage of levels of government	<i>FM2015, §12.5 to 12.9</i>	No	
Socioeconomic objectives coverage and breakdown	<i>Reg. 753/2004: Annex 1, section 2, §4 Reg. 995/2012: Annex 1, section 2, § 5.2.</i>	No	
Reference period	<i>Reg. 995/2012: Annex 1, section 2, § 4.</i>	No	

15.1.3. Deviations from recommendations

GBARD encompass all spending allocations met from sources of government revenue foreseen within the budget, such as taxation. Spending allocations by extra-budgetary government entities are within the scope only to the extent that their funds are allocated through the budgetary process (FM2015 §12.9). The following table lists a number of key methodological issues, which may affect the international comparability of national GBARD statistics.

Methodological issues	Reference to recommendations	Deviation from recommendations	National definition / Treatment / Deviations from recommendations
Definition of GBARD	<i>FM § 12.9</i>	No deviations from FM. GBAORD includes all outlays to be met from taxation or other government revenue within the budget.	
Stages of data collection	<i>FM2015 §12.41</i>	No	
Gross / net approach, net principle	<i>FM2015 §12.20 and 12.21</i>	Net principle is applied.	
EU/other funds	<i>Eurostat's Methodological Guidelines</i>	EU/other funds are not included. Only the national co-financing amount is included in GBAORD, especially if it is specifically mentioned in the government budget.	
Types of expenditure	<i>FM2015 §12.15 to 12.18</i>	No	
Current and capital expenditure	<i>FM §12.15</i>	GBAORD includes both current costs and capital expenditure.	
Extra budgetary funds	<i>FM §12.8, 12.20, 12.38</i>	Extra budgetary funds are not included	
Loans	<i>FM §12.31, 12.32, 12.34</i>	Loans are not included in GBAORD data.	

Indirect funding, tax rebates, etc.	<i>FM §12.31 - 12.38</i>	Indirect funding is excluded. No national indirect support programmes are in force.	
Treatment of multi-annual projects	<i>FM2015 §12.44</i>	No	
Treatment of GBARD going to R&D abroad	<i>FM2015 §12.19</i>	No deviations from FM. GBAORD includes government-financed R&D performed abroad	
Criterion for distribution by socioeconomic objective	<i>FM2015 §12.50 to 12.71</i>	No	
Method of identification of primary objective	<i>Eurostat's Methodological Guidelines, topic 2, statement B.6</i>	No	
Inclusion/exclusion of VAT	<i>FM2015 does not provide with recommendations on this issue.</i>	No	VAT is excluded from GBAORD statistics

15.2. Comparability - over time

See below.

15.2.1. Length of comparable time series

See below.

15.2.2. Breaks in time series

	Length of comparable time series	Break years¹	Nature of the breaks
Provisional data	2004 - 2019	No break years.	No changes in definitions, coverage, calculation method, etc. have been made over time; results are fully comparable throughout the period 2004 – 2019
Final data	2004 - 2019	No break years.	No changes in definitions, coverage, calculation method, etc. have been made over time; results are fully comparable throughout the period 2004 – 2019

1) Breaks years are years for which data are not fully comparable to the previous period.

15.3. Coherence - cross domain

There are no major comparability problems but there exist differences between the two concepts: GBAORD is the budgeted expenditure and GERD (Direct Government + GUF) is the actual expenditure spent

15.3.1. Coherence - sub annual and annual statistics

Not requested.

15.3.2. Coherence - National Accounts

Not requested.

15.4. Coherence - internal

This part compares GBARD statistics from the provisional and final budget for the reference year.

15.4.1. Comparison between provisional and final data according to NABS 2007

	R&D appropriations in the provisional budget delivered at T+6	R&D appropriations in the final budget delivered at T+12	Difference (of final data)

	R&D appropriations in the provisional budget <i>delivered at</i> <i>T+6</i>	R&D appropriations in the final budget <i>delivered at</i> <i>T+12</i>	Difference (of final data)
Exploration and exploitation of the Earth	231	231	0
Environment	608	881	273
Exploration and exploitation of space	0	0	0
Transport, telecommunication and other infrastructures	245	249	4
Energy	0	7	7
Industrial production and technology	0	0	0
Health	4709	4849	140
Agriculture	5801	6245	444
Education	2084	2148	64
Culture, recreation, religion and mass media	476	476	0
Political and social systems, structures and processes	55	133	78
General advancement of knowledge: R&D financed from General University Funds (GUF)	25864	25864	0
General advancement of knowledge: R&D financed from other sources than GUF	38050	39352	1302
Defence	0	0	0
TOTAL GBARD	78123	80435	2312

16. Cost and Burden

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The assessment of costs associated with a statistical product is a rather complicated task since there must exist a mechanism for appointing portions of shared costs (for instance shared IT resources and dissemination channels) and overheads (office space, utility bills etc). The assessment must become detailed and clear enough so that international comparisons among agencies of different structures are feasible.

16.1. Costs summary

	Costs for the statistical authority (in national currency)	% sub-contracted ¹⁾
Staff costs	Not available	
Data collection costs	Not available	
Other costs	Not available	
Total costs	Not available	

Comments on costs

Costs are not available for GBAORD separately.

1) The shares of the figures given in the first column that are accounted for by payments to private firms or other Government agencies.

16.2. Components of burden and description of how these estimates were reached

	Value	Computation method
Number of Respondents (R)	Not available	Not available

Average Time required to complete the questionnaire in hours (T)¹	Not available	Not available
Average hourly cost (in national currency) of a respondent (C)	Not available	Not available
Total cost	Not available	Not available

1) T = the time required to provide the information, including time spent assembling information prior to completing a form or taking part in interview and the time taken up by any subsequent contacts after receipt of the questionnaire ('Re-contact time')

17. Data revision	Top
17.1. Data revision - policy	
<p>A data revision policy is in place at CYSTAT. It is published on CYSTAT's website, at the following link: http://www.mof.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument</p> <p>CYSTAT also publishes a list of scheduled revisions (regular or major revisions), also published on its website, at the following link: http://www.mof.gov.cy/mof/cystat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument</p>	
17.2. Data revision - practice	
Not requested.	
17.2.1. Data revision - average size	
Not requested.	

18. Statistical processing	Top		
18.1. Source data			
<p><i>a)</i> Provisional data: GBAORD statistics are compiled from administrative data. National budget data are being used.</p> <p><i>b)</i> Final data: GBAORD statistics are compiled from administrative data. National budget data are being used.</p> <p><i>c)</i> General University Funds (GUF): Government/Public Universities' Budget and data from R&D survey (higher sector).</p>			
18.2. Frequency of data collection			
See 12.3.3.			
18.3. Data collection			
See below.			
18.3.1. Data collection overview			
	Provisional data	Final data	Comments
Data collection method	No ad hoc survey is carried out but instead GBAORD data are calculated using information from the Government budget. Budget items involving R&D are identified and	No ad hoc survey is carried out but instead GBAORD data are calculated using information from the Government budget. Budget items involving R&D are identified and	No comments

	Provisional data	Final data	Comments
	their R&D content in terms of funding is then estimated through, where necessary, information from the agency that is actually performing the R&D.	their R&D content in terms of funding is then estimated through, where necessary, information from the agency that is actually performing the R&D.	
Stage of data collection	Provisional budget data are based on figures from stage iv (figures as voted by the parliament for the coming year, including changes introduced in the parliamentary debate).	Final budget data are based on figures from stage v (figures as voted by the parliament for the coming year, including additional votes during the year).	No comments
Reporting units	Not available	Not available	No ad hoc survey is carried out but instead GBAORD data are calculated using information from the Government budget. Budget items involving R&D are identified and their R&D content in terms of funding is then estimated through, where necessary, information from the agency that is actually performing the R&D.
Basic variable	Appropriations	Appropriations	No comments
Time of data collection (T+x)¹⁾	T+6	T+12	Legally defined deadline of data transmission to Eurostat.
Problems in the translation of budget items	-		

1) Time of data collection (T+x): T is assumed to represent the end of reference period. x expresses the number of months after (positive) or before (negative) T when data is collected.

18.3.2. General University Funds (GUF)

Government/Public Universities' Budget and data from R&D survey (higher sector).

18.3.3. Distribution by socioeconomic objectives (SEO)

Level of distribution of budgetary items – institution or programme/project	Both, but mainly by institution.
Criterion of distribution – purpose or content	The second approach of the FM is being adopted (according to the general content of the R&D programme or project).
Method of identification of primary objectives	The second principle of the FM is being adopted (Indirect spin-off: where the results of R&D undertaken for one purpose are subsequently reworked to give an application relevant to another objective and it is credited to the objective to which the subsequent R&D is oriented).
Difficulties of distribution	None.

18.3.4. Questionnaire and other documents

Annex	Name of the file
GBARD national questionnaire and explanatory notes in English:	
GBARD national questionnaire and explanatory notes in the national language:	
Other relevant documentation of national methodology in English:	
Other relevant documentation of national methodology in the national language:	

18.4. Data validation

Validation activities include: checking that the population coverage and response rates are as required; comparing the statistics with previous cycles; confronting the statistics against other relevant data (both internal and external); investigating inconsistencies in the statistics; verifying the statistics against expectations and domain intelligence, outlier detection.

18.5. Data compilation

See below.

18.5.1. Imputation - rate

No processing errors exist.

18.5.2. Data compilation methods

See below.

18.5.2.1. Identifying R&D

Method(s) of separating R&D from non-R&D	In addition to budget items which are in their totality R&D relevant and are easily identified, there exist items for which their real R&D content has to be determined. These mostly relate to labour costs, in the case of government agencies where either only a share of their staff is involved in R&D or staff is involved in R&D on a part-time basis and various other types of costs as well.
Description of the use of the coefficient (if applicable)	<p>Labour costs: In addition to budget items which are in their totality R&D relevant and are easily identified, there exist items for which their real R&D content has to be determined. These mostly relate to labour costs, in the case of government agencies where either only a share of their staff is involved in R&D or staff is involved in R&D on a part-time basis.</p> <p>Other costs: In addition to budget items which are in their totality R&D relevant and are easily identified, there exist items for which their real R&D content has to be determined. These mostly relate to labour costs, in the case of government agencies where either only a share of their staff is involved in R&D or staff is involved in R&D on a part-time basis.</p>
Coefficient estimation method	Labour costs: In the case of government agencies where either only a share of their staff is involved in R&D or staff is involved in R&D on a part-time basis, the

	<p>estimation of the R&D content of the budget item on labour costs is based on the corresponding R&D surveys for this R&D performer. For the provisional budget, data from the previous year's R&D survey are used, while for the final budget, data from the reference year's R&D survey are used in order to determine the required shares. In this way, coefficients are derived which are specific to each government agency. GBAORD data are broken down by socio-economic objective, using the NABS chapter levels, according to not only the nature of the work of each government agency but also the kind of research projects they are engaged in.</p> <p>Other costs: A similar approach is used in order to estimate the R&D share of budget items referring to various other types of costs as well. In this way also, coefficients are derived which are specific to each government agency. GBAORD data are broken down by socio-economic objective, using the NABS chapter levels, according to not only the nature of the work of each government agency but also the kind of research projects they are engaged in.</p>
Frequency of updating of coefficients	Annually updated, once the next round of R&D surveys is completed.

18.5.2.2. General University Funds (GUF)

Method(s) of separating R&D from non-R&D	-
Description of the use of the coefficient (if applicable)	-
Coefficient estimation method	-
Frequency of updating of coefficients	-

18.5.2.3. Other issues

Treatment of multi-annual programmes	No deviation from FM. Multi-annual programmes are allocated to the years in which they are budgeted.
Possibility to classify budgetary items by COFOG functions	Not possible.
Possibility to classify budgetary items by other nomenclatures e.g. NACE	Not possible.
Method of estimation of future budgets	-

18.6. Adjustment

Not requested.

18.6.1. Seasonal adjustment

Not requested.

19. Comment

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Related metadata

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Annexes

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Research and development (R&D) (rd)

National Reference Metadata in Single Integrated Metadata Structure
(SIMS)

Compiling agency: Statistical Service of Cyprus (CYSTAT)



Eurostat metadata

Reference metadata

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For any question on data and metadata, please contact: [EUROPEAN STATISTICAL DATA SUPPORT](#)

[Download](#)

1. Contact [Top](#)

1.1. Contact organisation	Statistical Service of Cyprus (CYSTAT)
1.2. Contact organisation unit	Science and Technology Statistics Unit
1.5. Contact mail address	Statistical Service of Cyprus CY-1444 Nicosia CYPRUS

2. Metadata update [Top](#)

2.1. Metadata last certified	29/10/2021
2.2. Metadata last posted	29/10/2021
2.3. Metadata last update	29/10/2021

3. Statistical presentation [Top](#)

3.1. Data description

Statistics on Government R&D (GOVERD) measure research and experimental development (R&D) performed in the Government sector, i.e. R&D expenditure and R&D personnel. In line with this objective the target population for the national R&D survey of the Government sector should consist of all R&D performing units (including all R&D performers – occasional and continuous, known and unknown - in all branches and size classes) belonging to this sector.

The main concepts and definitions used for the production of R&D statistics are given by the OECD (2015), [Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities](#), which is the internationally recognised standard methodology for collecting R&D statistics.

Statistics on science, technology and innovation were collected based on the Commission Implementing Regulation (EU) [Regulation \(EU\) No 995/2012](#) concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on [Commission Implementing Regulation \(EU\) No 2020/1197](#) of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.

3.2. Classification system

- The local units for the statistics are compiled at regional level according to NUTS 2 – Nomenclature of Territorial Units for Statistics;
- The distribution by socioeconomic objectives (SEO) is based on Nomenclature for the Analysis and Comparisons of Scientific Programmes and Budgets (NABS);
- The fields of research and development are based on Classification and distribution by Fields of Research and Development (FORD).

3.2.1. Additional classifications

Additional classification used	Description

3.3. Coverage - sector

See below.

3.3.1. General coverage

Definition of R&D	No deviations in definitions and recommendations of Frascati Manual.
Fields of Research and Development (FORD)	No deviations in definitions and recommendations of Frascati Manual.
Socioeconomic objective (SEO)	No statistics on R&D expenditure by socio-economic objective are produced

3.3.2. Sector institutional coverage

Government sector	No deviations in definitions and recommendations of Frascati Manual.
Hospitals and clinics	No deviations in definitions and recommendations of Frascati Manual.
Inclusion of units that primary don't belong to GOV	No

3.3.3. R&D variable coverage

R&D administration and other support activities	No deviations from FM§2.122.
External R&D personnel	No deviations from FM §5.20-5.24, Table 5.2. External personnel is calculated only in R&D expenditure. R&D personnel is only the internal R&D personnel.
Clinical trials	Information for clinical trials is included (FM §2.61) and is calculated/distributed in the sector performing them. If R&D can not be separated, the R&D is distributed to the sector of the entity performing the clinical trial.

3.3.4. International R&D transactions

Receipts from Rest of the world by sector - availability	Yes. Receipts from Rest of the world by sector (FM §4.108, Table 4.3)
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Payments to Rest of the world by sector - availability	Not applicable. No Payments to Rest of the world by sector (FM §4.133). No extramural R&D is collected.
R&D expenditure of foreign affiliates - coverage	No

3.3.5. Extramural R&D expenditures

According to the Frascati Manual, expenditure on extramural R&D (i.e. R&D performed outside the statistical unit) is not included in intramural R&D performance totals (FM, §4.12).

Data collection on extramural R&D expenditure (Yes/No)	No
Method for separating extramural R&D expenditure from intramural R&D expenditure	Not applicable
Difficulties to distinguish intramural from extramural R&D expenditure	Not applicable

3.4. Statistical concepts and definitions

See below.

3.4.1. R&D expenditure

Coverage of years	Calendar year.
Source of funds	No divergence from FM (FM §4.104-4.108, Table 4.3.).
Type of R&D	No divergence from FM (FM section 2.5).
Type of costs	No deviations from FM (section 4.2). No more detailed breakdown of costs than in the FM exist.
Defence R&D - method for obtaining data on R&D expenditure	R&D survey.

3.4.2. R&D personnel

See below.

3.4.2.1. R&D personnel – Head Counts (HC)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification.
Age	No difficulties encountered with classifying personnel by Age.
Citizenship	No difficulties encountered with classifying personnel by Citizenship.

3.4.2.2. R&D personnel – Full Time Equivalent (FTE)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification.
Age	Not applicable. No data for age in FTE is collected in Government sector.
Citizenship	Not applicable. No data for Citizenship in FTE is collected in Government sector.

3.4.2.3. FTE calculation

The **Full-time Equivalent (F.T.E.)** expresses the total time devoted to research by a person **during one year**. One F.T.E. may be thought of as one **person-year** which corresponds to **one person working full-time on R&D during one year**. Thus, a person who normally spends 30% of his time on R&D and the remaining 70% on other activities should be considered as $30/100 = 0,3$ person-years. Three persons who spend 30%, 50% and 80% of their time on R&D activities correspond to $0,3 + 0,5 + 0,8 = 1,6$ person-years.

3.4.2.4. R&D personnel - Cross-classification by occupation and qualification

Cross-classification	Unit	Frequency

3.5. Statistical unit

The statistical units used are the various bodies of general administration of the central government, such as ministries, government departments and services, non-profit semi-government organisations, government research institutes, etc.

3.6. Statistical population

See below.

3.6.1. National target population

The target population is the population for which inferences are made. The frame (or frames, as sometimes several frames are used) is a device that permits access to population units. The frame population is the set of population units which can be accessed through the frame and the survey data really refer to this population.

The objective of the European R&D statistics is to cover all intramural R&D activities. In line with this objective, the target population for the national R&D survey of the Government Sector should consist of all R&D performing units (including known R&D performers or assumed to perform R&D). In practise however, countries in their R&D surveys might have difficulty in identifying R&D activities at the municipality level.

	Target population when sample/census survey is used for collection of raw data	Target population when administrative data or pre-compiled statistics are used
Definition of the national target population	The target population of national R&D statistics on the Government (GOV) sector comprises all bodies of general administration of the central government, such as ministries, government departments and services, non-profit semi-government organisations, government research institutes, etc.	The target population of national R&D statistics on the Government (GOV) sector comprises all bodies of general administration of the central government, such as ministries, government departments and services, non-profit semi-government organisations, government research institutes, etc.
Estimation of the target population size	No estimation of the target population size can be made.	No estimation of the target population size can be made.

3.6.2. Frame population – Description

In ESS countries, the frame population for GOV R&D statistics is defined as the list of all the institutional units classified by the national accounts (ESA) as included in the General government (S.13), with the exclusion of those units included in the Higher education sector (HES).

Method used to define the frame population	The survey is based on a register of all possible R&D performers, following the FM recommendations.
Methods and data sources used for identifying a unit as known or supposed R&D performer	This register includes all governmental institutions / bodies reporting R&D activities in previous R&D surveys or other surveys. R&D performers are also identified on the basis of administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. These records relate to the entities/persons applying for funding from the Research & Innovation Foundation or expressing an interest in obtaining information on sources of EU funding for research purposes. Reports in the press and articles in journals and research compendia also form a useful means of identifying R&D performers.
Inclusion of units that primary don't belong to the frame population	No. R&D statistics on the Private Non-Profit (PNP) sector are reported separately.
Systematic exclusion of units from the process of updating the target population	No.
Estimation of the frame population	The register of all possible R&D performers included 75 entries.

3.7. Reference area

Not requested.

3.8. Coverage - Time
Not requested. See point 5.
3.9. Base period
Not requested.

4. Unit of measure Top
The units of measures used for the data set disseminated are Euro, %, number of persons. The exact use of magnitude for R&D expenditure is thousand of euro.

5. Reference Period Top
Calendar year 2019

6. Institutional Mandate Top

6.1. Institutional Mandate - legal acts and other agreements
See below.

6.1.1. European legislation	
Legal acts / agreements	Commission Implementing Regulation (EU) Regulation (EU) No 995/2012 concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing Regulation (EU) No 2020/1197 of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.

6.1.2. National legislation	
Existence of R&D specific legislation	Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
Legal acts	Provisions of the above Law.
Obligation of responsible organisations to produce statistics (as derived from the legal acts)	Provisions of the above Law.
Right of responsible organisations to collect data – obligation of (natural / legal) persons to provide raw and administrative data (as derived from the legal acts)	Provisions of the above Law.
Obligation of responsible organisations to protect confidential information from disclosure (as derived from the legal acts)	Provisions of the above Law.
Rights of access of third organisations / persons to data and statistics (as derived from the legal acts)	Provisions of the above Law.

Planned changes of legislation	Yes. Official Statistics Law No. 25(I) of 2021. Link: https://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
6.1.3. Standards and manuals	
OECD (2015), <i>Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities</i>	
6.2. Institutional Mandate - data sharing	
Not requested.	

7. Confidentiality	Top
See below.	
7.1. Confidentiality - policy	
Confidentiality, being one of the process quality components, concerns the privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and the extent of its use for statistical purposes. A property of data indicating the extent to which their unauthorised disclosure could be prejudicial or harmful to the interest of the source or other relevant parties.	
<p>a) Confidentiality protection required by law: Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/legislation_en/legislation_en?OpenDocument</p> <p>b) Confidentiality commitments of survey staff: Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/legislation_en/legislation_en?OpenDocument</p>	
Official statistics are released in accordance to all confidentiality provisions of the following:	
<ul style="list-style-type: none"> • · National Statistics Law No. 15(I) of 2000 (especially Article 13 on statistical confidentiality). • · Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and its later amendments (especially Chapter 5 on statistical confidentiality). • · European Statistics Code of Practice (especially Principle 5 on statistical confidentiality). • · CYSTAT's Code of Practice for the Collection, Publication and Storage of Statistical Data. <ul style="list-style-type: none"> • · <i>Statistics Law No. 15(I) of 2000:</i> http://www.mof.gov.cy/mof/cvstat/statistics.nsf/legislation_en/legislation_en?OpenDocument • · <i>Regulation (EC) No 223/2009 on European statistics (consolidated text):</i> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN • · <i>European Statistics Code of Practice:</i> https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-N.pdf/e7f85f07-91db-4312-8118-f729c75878c7 • · <i>Code of Practice for the Collection, Publication and Storage of Statistical Data:</i> http://www.mof.gov.cy/mof/cvstat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument 	
7.2. Confidentiality - data treatment	
The survey is carried out in accordance to the Statistics Law, No.15(I) of 2000. The Statistical Service is bound, under the provisions of the Statistics Law, to treat all information collected as confidential. All collected information and data are used solely for statistical purposes. Data on individual enterprise cannot be published or disclosed to either public bodies or private individuals.	

8. Release policy	Top
8.1. Release calendar	
Notifications about the dissemination of statistics are published in the release calendar, which is available on CYSTAT's website. The annual release calendar, announced during the 4 th quarter of the each year, includes provisional dates which are finalised the week before publication. Link to CYSTAT's release calendar: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument	
8.2. Release calendar access	
Link to CYSTAT's release calendar: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument	

<p>8.3. Release policy - user access</p> <p>According to the Dissemination and Pricing Policy of the Statistical Service of Cyprus (section 2.3) CYSTAT’s main channel for dissemination of statistics is the website, which offers the same conditions to everyone and is updated at the same time every working day (12:00 noon). Privileged pre-released access (of no more than 1 day in advance) has been granted to a few selected users for specific statistics. These are specified in the Dissemination Policy (section 2.3).</p> <p>In addition to the annual release calendar, users are informed of the various statistical releases through the “Alert” service provided by CYSTAT.</p> <p><i>Link to the Dissemination and Pricing Policy should be attached (or the actual document):</i></p> <ul style="list-style-type: none"> • <i>Dissemination and Pricing Policy of the Statistical Service of Cyprus:</i> http://www.mof.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument
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<p>9. Frequency of dissemination Top</p> <p>Frequency of data dissemination: Yearly</p>

<p>10. Accessibility and clarity Top</p>									
<p>10.1. Dissemination format - News release</p> <p>See below.</p>									
<p>10.1.1. Availability of the releases</p> <table border="1"> <thead> <tr> <th></th> <th>Availability (Y/N)¹</th> <th>Content, format, links, ...</th> </tr> </thead> <tbody> <tr> <td>Regular releases</td> <td>Y</td> <td>A press release is issued.</td> </tr> <tr> <td>Ad-hoc releases</td> <td>N</td> <td></td> </tr> </tbody> </table> <p>1) Y - Yes, N – No</p>		Availability (Y/N) ¹	Content, format, links, ...	Regular releases	Y	A press release is issued.	Ad-hoc releases	N	
	Availability (Y/N) ¹	Content, format, links, ...							
Regular releases	Y	A press release is issued.							
Ad-hoc releases	N								
<p>10.2. Dissemination format - Publications</p> <p>See below.</p>									
<p>10.2.1. Availability of mean of dissemination</p> <table border="1"> <thead> <tr> <th>Mean of dissemination</th> <th>Availability (Y/N)¹</th> <th>Content, format, links, ...</th> </tr> </thead> <tbody> <tr> <td>General publication/article (paper, online)</td> <td>Y</td> <td>The results of the national R&D surveys are published in the annual report “Research and Development Statistics”. The key results are also published in our statistical yearbook entitled “Statistical Abstract”. Both publications can be purchased in paper form or can be downloaded for free from our website.</td> </tr> <tr> <td>Specific paper publication (e.g. sectoral provided to enterprises) (paper, online)</td> <td>N</td> <td></td> </tr> </tbody> </table> <p>1) Y – Yes, N - No</p>	Mean of dissemination	Availability (Y/N) ¹	Content, format, links, ...	General publication/article (paper, online)	Y	The results of the national R&D surveys are published in the annual report “Research and Development Statistics”. The key results are also published in our statistical yearbook entitled “Statistical Abstract”. Both publications can be purchased in paper form or can be downloaded for free from our website.	Specific paper publication (e.g. sectoral provided to enterprises) (paper, online)	N	
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Specific paper publication (e.g. sectoral provided to enterprises) (paper, online)	N								
<p>10.3. Dissemination format - online database</p> <p>Not available.</p>									
<p>10.3.1. Data tables - consultations</p> <p>Not requested.</p>									
<p>10.4. Dissemination format - microdata access</p> <p>See below.</p>									
<p>10.4.1. Provisions affecting the access</p> <table border="1"> <tr> <td> <p>Access rights to the information</p> </td> <td> <p>There is no Micro-data access to outside users.</p> <p>Statistical micro-data from CYSTAT’s surveys are accessible for research purposes only and under strict provisions as described below:</p> <p>Under the provisions of the Statistics Law, CYSTAT may release microdata for the sole use of scientific research. Applicants have to submit the request form "APPLICATION FOR DATA</p> </td> </tr> </table>	<p>Access rights to the information</p>	<p>There is no Micro-data access to outside users.</p> <p>Statistical micro-data from CYSTAT’s surveys are accessible for research purposes only and under strict provisions as described below:</p> <p>Under the provisions of the Statistics Law, CYSTAT may release microdata for the sole use of scientific research. Applicants have to submit the request form "APPLICATION FOR DATA</p>							
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	<p>FOR RESEARCH PURPOSES" giving thorough information on the project for which micro-data are needed.</p> <p>The application is evaluated by CYSTAT's Confidentiality Committee and if the application is approved, a charge is fixed according to the volume and time consumed for preparation of the data. Micro-data may then be released after an anonymisation process which ensures no direct identification of the statistical units but, at the same time, ensures usability of the data.</p> <p>Link to the application for access to microdata on CYSTAT's website: http://www.cystat.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument</p>
Access cost policy	See above.
Micro-data anonymisation rules	See above.

10.5. Dissemination format - other

See below.

10.5.1. Metadata - consultations

Not requested.

10.5.2. Availability of other dissemination means

Dissemination means	Availability (Y/N) ¹	Micro-data / Aggregate figures	Comments
Internet: main results available on the national statistical authority's website	Y		The results of the national R&D surveys are published in the annual report "Research and Development Statistics". The publication can be downloaded free of charge from the web site of the Statistical Service of Cyprus (www.cystat.gov.cy) in PDF format. The main R&D indicators are also included, as MS Excel files, in the "Key Figures" section of the web site, under the statistical theme "Science and Technology". Finally, the key results are also published in our statistical yearbook entitled "Statistical Abstract" which can be downloaded from the web site.
CD-ROMs	N		
Data prepared for individual ad hoc requests	Y		Further information to interested users is provided upon request.
Other	N		

1) Y – Yes, N - No

10.6. Documentation on methodology

Link : [https://www.mof.gov.cy/mof/cystat/statistics.nsf/science technology 91main en/science technology 91main en?OpenForm&sub=1&sel=3#](https://www.mof.gov.cy/mof/cystat/statistics.nsf/science%20technology%2091main_en/science%20technology%2091main_en?OpenForm&sub=1&sel=3#)

10.6.1. Metadata completeness - rate

Not requested.

10.7. Quality management - documentation

See below.

10.7.1. Information and clarity

Type(s) of data accompanying information available (metadata, graphs, quality reports, etc.)	Users can download free of charge from the web site of the Statistical Service of Cyprus the annual publication "Research and Development Statistics". This contains a textual description of latest developments in R&D activities, a number of graphical displays and numerous tables, including a comparison with corresponding international statistics. It also contains a comprehensive methodological note, giving information on the national R&D survey and its scope, concepts and definitions, as well as a copy of the questionnaire used. Every time that new data is disseminated at the national level, a press release is issued.
Request on further clarification, most problematic issues	For any further information, users can make a request to the Statistical Service (by phone, mail, e-mail or via the enquiries facility on the web site).
Measure to increase clarity	No intention to take any further measures.
Impression of users on the clarity of the	Users seem to be fully satisfied.

11. Quality management

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Quality management is defined as systems and frameworks in place within an organisation to manage the quality of statistical products and processes.

11.1. Quality assurance

The quality of statistics in CYSTAT is managed in the framework of the European Statistics Code of Practice which sets the standards for developing, producing and disseminating European Statistics as well as the ESS Quality Assurance Framework (QAF). CYSTAT endorses the Quality Declaration of the European Statistical System. In addition, CYSTAT is guided by the requirements provided for in Article 12 of the Statistics Law No. 15(I) of 2000 as well as Article 12 of Regulation (EC) No 223/2009 on European statistics, which sets out the quality criteria to be applied in the development, production and dissemination of European statistics.

- *European Statistics Code of Practice*: <https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-N.pdf/e7f85f07-91db-4312-8118-f729c75878c7>
- *ESS Quality Assurance Framework (QAF)*: <http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646>
- *Quality Declaration of the European Statistical System*: http://ec.europa.eu/eurostat/documents/4031688/8188985/KS0217428ENN_corr.pdf/116f7c85-cd3e-4bff-b695-4a8e71385fd4
- *Statistics Law No. 15(I) of 2000*: http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument

Regulation (EC) No 223/2009 on European statistics (consolidated text): <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN>

11.2. Quality management - assessment

The R&D data on the Government sector in Cyprus are assessed as being of high quality. The definitions, concepts and methodology used are in compliance with the requirements of Eurostat and follow the guidelines of the Frascati Manual 2015. The national R&D survey is a well established survey which yields the maximum of the information required on an annual basis and with a comparatively short time lag from the end of the reference period.

12. Relevance

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Relevance is the degree to which statistics meet current and potential users' needs. It includes the production of all needed statistics and the extent to which concepts used (definitions, classifications etc.) reflect user needs. The aim is to describe the extent to which the statistics are useful to, and used by, the broadest array of users. For this purpose, statisticians need to compile information, firstly about their users (who they are, how many they are, how important is each one of them), secondly on their needs, and finally to assess how far these needs are met.

12.1. Relevance - User Needs

See below.

12.1.1. Needs at national level

Users' class ¹	Description of users	Users' needs
1 - European level	Council, Commission (Eurostat, DG Research), European Parliament.	Formulating the needs and assessing the implementation of Community research policies, especially with regard to the EU goals in R&D, as set by the Lisbon summit strategy
1 - International organisations	OECD, UNESCO etc.	Economic analysis and monitoring.
1 - National	Ministry of Finance, Ministry of Energy, Commerce and Industry, Deputy Ministry of Research, Innovation and Digital Strategy, Directorate General for European Programmes, Coordination and Development, Research & Innovation Foundation.	Assessing the implementation of the national reform programme for the Lisbon strategy, strategic programming, economic analysis and monitoring.

1 Users' class ¹	Description of users	Users' needs
2 - Social actors	Various employers' associations, trade unions and lobby groups	Economic analysis and monitoring, interested both in figures and comments.
3	Economic newspapers, TV channels.	Interested in figures, comments and analyses.
4	Higher education institutions, researchers, students and private individuals	Interested in figures, comments and analyses.
5	Business enterprises, consultancy offices.	Market analysis, marketing strategy, offering consultancy services.

1) Users' class codification

1- Institutions:

- **European level:** Commission (DGs, Secretariat General), Council, European Parliament, ECB, other European agencies etc.
- **in Member States, at the national or regional level:** Ministries of Economy or Finance, Other Ministries (for sectoral comparisons), National Statistical Institutes and other statistical agencies (norms, training, etc.), and
- **International organisations:** OECD, UN, IMF, ILO, etc.

2- Social actors: Employers' associations, trade unions, lobbies, among others, at the European, national or regional level.

3- Media: International or regional media – specialized or for the general public – interested both in figures and analyses or comments. The media are the main channels of statistics to the general public.

4- Researchers and students (Researchers and students need statistics, analyses, ad hoc services, access to specific data.)

5- Enterprises or businesses (Either for their own market analysis, their marketing strategy (large enterprises) or because they offer consultancy services)

6- Other (User class defined for national purposes, different from the previous classes.)

12.2. Relevance - User Satisfaction

To evaluate if users' needs have been satisfied, the best way is to use user satisfaction surveys.

12.2.1. National Surveys and feedback

Conduction of a user satisfaction survey or any other type of monitoring user satisfaction	<p>Since 2008 (with the exception of 2010 and 2013) CYSTAT carries out an annual online "Users Satisfaction Survey". The results of the surveys are available on CYSTAT's website at the link attached below.</p> <p>Surveys: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument.</p> <p>Overall, the users of statistical data published by CYSTAT are satisfied.</p> <p>A national user satisfaction survey was conducted as a necessary step towards the peer review of our national statistical system.</p>
User satisfaction survey specific for R&D statistics	In the latest national user satisfaction survey, R&D statistics were listed down explicitly as one of the main statistical fields to be commented on.
Short description of the feedback received	However, the number of questionnaires with relevant comments was too low to allow for any concrete conclusions to be drawn. No specific problems were reported. There were no findings specific to the GOV sector.

12.3. Completeness

See below.

12.3.1. Data completeness - rate

Not available.

12.3.2. Completeness - overview

Completeness is assessed via comparison of the data delivered against the requirements of [Commission Implementing Regulation \(EU\) No 2020/1197](#) of 30 July 2020. The Regulation (EU) stipulates periodicity of variables that should be provided, breakdowns and if they should be provided mandatory or on voluntary basis.

12.3.3. Data availability

See below.

12.3.3.1. Data availability - R&D Expenditure

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons

Source of funds	Y-1998	Annual	No gap years	No modifications		
Type of R&D	Y-1998	Annual	No gap years	No modifications		
Type of costs	Y-1998	Annual	No gap years	No modifications		
Socioeconomic objective	N – data not available					
Region	Not applicable. Cyprus is one region					
FORD	Y-1998	Annual	No gap years	No modifications		
Type of institution	Y-1998	Annual	No gap years	No modifications		

1) Y-start year, N – data not available

12.3.3.2. Data availability - R&D Personnel (HC)

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons
Sex	Y-2001	Annual	No gap years	No modifications		
Function	Y-1998	Annual	No gap years	No modifications		
Qualification	Y-1998	Annual	No gap years	No modifications		
Age	Y-2002	Annual	No gap years	No modifications		
Citizenship	Y-2002	Annual	No gap years	No modifications		
Region	Not applicable. Cyprus is one region					
FORD	Y-1998	Annual	No gap years	No modifications		
Type of institution	Y-1998	Annual	No gap years	No modifications		

1) Y-start year, N – data not available

12.3.3.3. Data availability - R&D Personnel (FTE)

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons
Sex	Y-2001	Annual	No gap years	No modifications		
Function	Y-1998	Annual	No gap years	No modifications		
Qualification	Y-1998	Annual	No gap years	No modifications		
Age	N – data not available					
Citizenship	N – data not available					
Region	Not applicable. Cyprus is one region					
FORD	Y-1998	Annual	No gap years	No modifications		
	Y-1998	Annual				

Type of institution			No gap years	No modifications		
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1) Y-start year, N – data not available

12.3.3.4. Data availability - Other

Additional dimension/variable available at national level ¹⁾	Availability ²⁾	Frequency of data collection	Breakdown variables	Combinations of breakdown variables	Level of detail

1) This question is optional. It refers to variables and breakdowns NOT asked by the Commission Implementing Regulation (EU) No 995/2012 (neither as 'optional').

2) Y-start year

13. Accuracy

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13.1. Accuracy - overall

Accuracy in the statistical sense denotes the closeness of computations or estimates to the exact or true values. Statistics are not equal with the true values because of variability (the statistics change from implementation to implementation of the survey due to random effects) and bias (the average of the possible values of the statistics from implementation to implementation is not equal to the true value due to systematic effects).

Several types of statistical errors occur during the survey process. The following typology of errors has been adopted:

1. **Sampling errors.** These only affect sample surveys. They are due to the fact that only a subset of the population, usually randomly selected, is enumerated.
2. **Non-sampling errors.** Non-sampling errors affect sample surveys and complete enumerations alike and comprise:
 - a) Coverage errors,
 - b) Measurement errors,
 - c) Non response errors and
 - d) Processing errors.

Model assumption errors should be treated under the heading of the respective error they are trying to reduce.

13.1.1. Accuracy - Overall by 'Types of Error'

	Sampling errors	Non-sampling errors ¹⁾				Model-assumption Errors ¹⁾	Perceived direction of the error ²⁾
		Coverage errors	Measurement errors	Processing errors	Non response errors		
Total intramural R&D expenditure	-	-	-	-	-		
Total R&D personnel in FTE	-	-	-	-	-		
Researchers in FTE	-	-	-	-	-		

1) Ranking of the type(s) of errors that result in over/under-estimation, from the most important source of error (1) to the least important source of error (5). In the event that errors of a particular type do not exist, is used the sign '-'.
2) The perceived direction of the 'overall' error using the signs "+" for over estimation, "-" for under estimation and "+/-" when assumption of the direction of the error cannot be made for R&D.

13.1.2. Assessment of the accuracy with regard to the main indicators

Indicators	5 (Very Good) ¹⁾	4 (Good) ²⁾	3 (Satisfactory) ³⁾	2 (Poor) ⁴⁾	1 (Very poor) ⁵⁾
	X				

Indicators	5 (Very Good) ¹	4 (Good) ²	3 (Satisfactory) ³	2 (Poor) ⁴	1 (Very poor) ⁵
Total intramural R&D expenditure					
Total R&D personnel in FTE	X				
Researchers in FTE	X				

1) 'Very Good' = High level of coverage (annual rate of substitution in the target population lower than 5%). High average rates of response (>80%) in census and sample surveys. Full data consistency with reference to totals and relationships between variables in the dataset sent to Eurostat.

2) 'Good' = In the event that at least one out of the three criteria above described would not be fully met.

3) 'Satisfactory' = In the event that the average rate of response would be lower than 60% even by meeting the two remaining criteria.

4) 'Poor' = In the event that the average rate of response would be lower than 60% and at least one of the two remaining criteria would not be met.

5) 'Very Poor' = If all the three criteria are not met.

13.2. Sampling error

That part of the difference between a population value and an estimate thereof, derived from a random sample, which is due to the fact that only a subset of the population is enumerated.

13.2.1. Sampling error - indicators

The main indicator used to measure sampling errors is the coefficient of variation (CV).

Definition of coefficient of variation:

CV= (Square root of the estimate of the sampling variance) / (Estimated value)

13.2.1.1. Variance Estimation Method

Not applicable, since no sample survey is conducted.

13.2.1.2. Coefficient of variation for R&D expenditure by source of funds

Source of funds	R&D expenditure
Business enterprise	Not applicable, since no sample survey is conducted.
Government	Not applicable, since no sample survey is conducted.
Higher education	Not applicable, since no sample survey is conducted.
Private non-profit	Not applicable, since no sample survey is conducted.
Rest of the world	Not applicable, since no sample survey is conducted.
Total	Not applicable, since no sample survey is conducted.

13.2.1.3. Coefficient of variation for R&D expenditure by occupation and qualification

		R&D personnel (FTE)
Occupation	Researchers	Not applicable, since no sample survey is conducted.
	Technicians	Not applicable, since no sample survey is conducted.
	Other support staff	Not applicable, since no sample survey is conducted.
Qualification	ISCED 8	Not applicable, since no sample survey is conducted.
	ISCED 5-7	Not applicable, since no sample survey is conducted.
	ISCED 4 and below	Not applicable, since no sample survey is conducted.

13.3. Non-sampling error

Non-sampling errors occur in all phases of a survey. They add to the sampling errors (if present) and contribute to decreasing overall accuracy. It is important to assess their relative weight in the total error and devote appropriate resources for their control and assessment.

13.3.1. Coverage error

Coverage errors are due to divergences between the target population and the frame population. The frame population is the set of target population members that has a chance to be selected into the survey sample. It is a listing of all items in the population from which the sample is drawn that contains contact details as well as sufficient information to perform stratification and sampling.

a) **Description/assessment of coverage errors** : Not applicable.

- b) **Measures taken to reduce their effect:** Not applicable.
- c) **Share of PNP (if PNP is included in GOV):** Not applicable. The Private Non-Profit (PNP) sector is not included in the Government (GOV) sector but is reported separately.

13.3.1.1. Over-coverage - rate

Not requested.

13.3.1.2. Common units - proportion

Not requested.

13.3.2. Measurement error

Measurement errors occur during data collection and generate bias by recording values different than the true ones (e.g. difficulty to distinguish intramural from extramural R&D Expenditure). The survey questionnaire used for data collection may have led to the recording of wrong values, or there may be respondent or interviewer bias.

- a) **Description/assessment of measurement errors:** No measurement errors exist.
- b) **Measures taken to reduce their effect:** The data collection and processing phase is managed by a highly skilled person who is working in the field for more than 20 years. Information providers, in most cases, stay the same for years and, consequently, are very well aware of the questionnaire and the relevant concepts and definitions. Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also made to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, is also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.

13.3.3. Non response error

Non-response occurs when a survey failed to collect data on all survey variables from all the population units designated for data collection in a sample or complete enumeration.

There are two elements of non-response:

- Unit non-response which occurs when no data (or so little as to be unusable) are collected on a designated population unit.
- Item non-response which occurs when data only on some, but not all survey variables are collected on a designated population unit.

The extent of response (and accordingly of non response) is also measured with response rates.

13.3.3.1. Unit non-response - rate

The main interest is to judge if the response from the target population was satisfactory by computing the un-weighted response rate.

Definition: Eligible are the survey units which indeed belong to the target population. Frame imperfections always leave the possibility that some units may not belong to the target population. Moreover, when there is no contact with certain units and no other way to establish their eligibility they are characterised as 'unknown eligibility units'.

Un-weighted Unit Non- Response Rate = $1 - (\text{Number of units with a response}) / (\text{Total number of eligible and unknown eligibility units in the survey})$

13.3.3.1.1. Un-weighted unit non-response rate

Number of units with a response in the survey	Total number of units in the survey	Unit non-response rate (Un-weighted)
75	75	0%

13.3.3.2. Item non-response - rate

Definition:

Un-weighted Item Non-Response Rate (%) = $1 - (\text{Number of units with a response for the item}) / (\text{Total number of eligible, for the item, units in the sample}) * 100$

13.3.3.2.1. Un-weighted item non-response rate

R&D variable/breakdown	Item non-response rate (un-weighted) (%)	Comments
Not applicable, there is no non-response.	Not applicable, there is no non-response.	There is no non-response.

13.3.3.3. Measures to increase response rate

There is no unit non-response.	
13.3.4. Processing error	
Between data collection and the beginning of statistical analysis, data must undergo a certain processing: coding, data entry, data editing, imputation, etc. Errors introduced at these stages are called processing errors. Data editing identifies inconsistencies or errors in the data.	
13.3.4.1. Identification of the main processing errors	
Data entry method applied	Data entry is done in MS Excel spreadsheets. No processing errors exist.
Estimates of data entry errors	No processing errors exist.
Variables for which coding was performed	All variables included on the questionnaire are being coded. No coding errors exist.
Estimates of coding errors	No coding errors exist.
Editing process and method	The MS Excel files used incorporate various cross-checking and validation capabilities. Controls and checks for logical inconsistencies are used to eliminate any remaining errors. Comparisons are also made with the responses provided by the same unit in the previous years' surveys.
Procedure used to correct errors	Errors detected in the questionnaires coming in are corrected by further contacting the information providers.
13.3.5. Model assumption error	
Not requested.	

14. Timeliness and punctuality		Top
14.1. Timeliness		
Timeliness and punctuality refer to time and dates, but in a different manner: the timeliness of statistics reflects the length of time between their availability and the event or phenomenon they describe. Punctuality refers to the time lag between the release date of the data and the target date on which they should have been delivered, with reference to dates announced in the official release calendar.		
14.1.1. Time lag - first result		
Time lag between the end of reference period and the release date of the results: Indicator: (Release date of provisional/ first results) - (Date of reference for the data)		
No release of provisional national data. a) End of reference period: No release of provisional national data. b) Date of first release of national data: No release of provisional national data. c) Lag (days): No release of provisional national data.		
14.1.2. Time lag - final result		
a) End of reference period: 2019 (T) b) Date of first release of national data: T+19 months c) Lag (days): 0 days		
14.2. Punctuality		
Punctuality refers to the time lag between the release date of data and the target date on which they were scheduled for release as announced officially.		
14.2.1. Punctuality - delivery and publication		
Punctuality of time schedule of data release = (Actual date of the data release) - (Scheduled date of the data release)		
14.2.1.1. Deadline and date of data transmission		
	Transmission of provisional data	Transmission of final data
Legally defined deadline of data transmission (T+_ months)	10	18

Actual date of transmission of the data (T+x months)	10	18
Delay (days)	0	0
Reasoning for delay		

15. Coherence and comparability

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Comparability aims at measuring the impact of differences in applied statistical concepts and definitions on the comparison of statistics between geographical areas, non-geographical domains or over time. It is the extent to which differences between statistics are attributed to differences between the true values of the statistical characteristics.

The factors that may cause two statistical figures to lose comparability are attributes of the surveys that produce them. These attributes may be grouped into two major categories: (a) concepts of the survey and (b) measurement / estimation methodology.

The two following sections present lists of key attributes. Information on some of the attributes will have already been reported in previous sections of this report but they are repeated here for completeness of the lists.

The coherence of statistics is their adequacy to be reliably combined in different ways and for various uses. It is, however, generally easier to show cases of incoherence than to prove coherence.

When originating from a single source, statistics are coherent in that elementary concepts can be combined reliably in more complex ways. When originating from different sources, and in particular from statistical surveys of different frequencies, statistics are coherent insofar as they are based on common definitions, classifications and methodological standards. The messages that statistics convey to users will then clearly relate to each other, or at least will not contradict each other. The coherence between statistics is orientated towards the comparison of different statistics, which are generally produced in different ways and for different primary uses.

The definition of coherence: The extent to which the statistical characteristics confirm with those in other statistics such that the statistics can be expected to be used together in conjunction with, or as an alternative to.

15.1. Comparability - geographical

See below.

15.1.1. Asymmetry for mirror flow statistics - coefficient

Not requested.

15.1.2. General issues of comparability

No comments.

15.1.3. Survey Concepts Issues

The following table lists a number of key survey concepts and conceptual issues; it gives reference to the Commission Implementing Regulation (EU) No 995/2012 or Frascati manual paragraphs with recommendations about these concepts / issues.

Concept / Issues	Reference to recommendations	Deviation from recommendations	Comments on national definition / Treatment – deviations from recommendations
R&D personnel	<i>FM2015 Chapter 5 (mainly paragraph 5.2).</i>	NO	
Researcher	<i>FM2015, § 5.35-5.39.</i>	NO	
Approach to obtaining Headcount (HC) data	<i>FM2015, § 5.58-5.61 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	The third option of the FM:5.58 is being adopted. Total number of persons engaged in R&D during the (calendar) year.
Approach to obtaining FTE data	<i>FM2015, § 5.49-5.57 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	Measurement in person-years is adopted
Reporting data according to formula: Total R&D personnel = Internal R&D	<i>FM2015, §5.25</i>		

Concept / Issues	Reference to recommendations	Deviation from recommendations	Comments on national definition / Treatment – deviations from recommendations
personnel + External R&D personnel			
Intramural R&D expenditure	<i>FM2015, Chapter 4 (mainly paragraph 4.2).</i>	NO	
Statistical unit	<i>FM2015, § 8.64-8.65 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Target population	<i>FM2015, § 8.63 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Sector coverage	<i>FM2015, § 8.2-8.13 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Hospitals and clinics	<i>FM2015, § 8.22 and 8.34</i>	NO	
Borderline research institutions	<i>FM2015, § 8.14-8.23 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Fields of research & development coverage and breakdown	<i>Reg. 995/2012: Annex 1, section 1, § 7.3.</i>	NO	
Socioeconomic objectives coverage and breakdown	<i>Reg. 995/2012: Annex 1, section 1, § 7.8.</i>		No statistics on R&D expenditure by socio-economic objective are produced.
Reference period	<i>Reg. 995/2012: Annex 1, section 1, § 4-6.</i>	NO	Production of annual data for all variables.

15.1.4. Deviations from recommendations

The following table lists a number of key methodological issues, which may affect the international comparability of national R&D statistics. The table gives the references in the Frascati manual, where related recommendations are made. Countries are asked to report on the existence of any deviations from existing recommendations and comment upon.

Methodological issues	Deviation from recommendations	Comments on national treatment / treatment deviations from recommendations
Data collection method	NO	See present report
Survey questionnaire / data collection form	NO	See present report
Cooperation with respondents	NO	
Data processing methods	NO	See present report
Treatment of non-response		There is no unit non-response
Variance estimation		Not applicable (no sample survey)
	NO	See present report

Difference (of final data)	999	8.7	11.9
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15.4.2. Consistency between R&D personnel and expenditure

Average remuneration (cost in national currency)	
Consistency between FTEs of internal R&D personnel and R&D labour costs (1)	Not available
Consistency between FTEs of external R&D personnel and other current costs for external R&D personnel (2)	Not available

(1) Calculate the average remuneration (cost) of individuals belonging to the internal R&D personnel, excluding those who are only formally 'employees' (university students, grant holders, etc.).

(2) Calculate the average remuneration (cost) of individuals belonging to the external R&D personnel (FTEs/other current R&D costs for external R&D personnel).

16. Cost and Burden [Top](#)

The assessment of costs associated with a statistical product is a rather complicated task since there must exist a mechanism for appointing portions of shared costs (for instance shared IT resources and dissemination channels) and overheads (office space, utility bills etc). The assessment must become detailed and clear enough so that international comparisons among agencies of different structures are feasible.

16.1. Costs summary

	Costs for the statistical authority (in national currency)	% sub-contracted ¹⁾
Staff costs	Not available	0
Data collection costs	Not available	0
Other costs	Not available	0
Total costs	Not available	0
Comments on costs		
No data specific to the GOV sector are available.		

1) The shares of the figures given in the first column that are accounted for by payments to private firms or other Government agencies.

16.2. Components of burden and description of how these estimates were reached

	Value	Computation method
Number of Respondents (R)	75	Count the number of bodies of general administration of the central government, from which request R&D data.
Average Time required to complete the questionnaire in hours (T) ¹⁾	Not available	Not available
Average hourly cost (in national currency) of a respondent (C)	Not available	Not available
Total cost	Not available	Not available

1) T = the time required to provide the information, including time spent assembling information prior to completing a form or taking part in interview and the time taken up by any subsequent contacts after receipt of the questionnaire ('Re-contact time')

17. Data revision [Top](#)

17.1. Data revision - policy

Not requested.

17.2. Data revision - practice
Not requested.
17.2.1. Data revision - average size
Not requested.

18. Statistical processing [Top](#)

18.1. Source data

Several separate activities are used for the collection of raw data or pre-compiled administrative data and statistics related to R&D. For simplicity, we call them surveys irrespective of whether they are sample surveys, censuses, collections of administrative data/pre-compiled statistics. This section presents the names of the surveys by sector of performance as well as methodological information for each survey. Depending on the type of survey and sector of performance, only the sections corresponding to that survey and sector are filled in.

18.1.1. Data source – general information

Survey name	SURVEY ON SCIENTIFIC RESEARCH AND EXPERIMENTAL DEVELOPMENT
Type of survey	The national R&D survey is incorporated in the regular programme of work of the Statistical Service of Cyprus and it can be considered as a census.
Combination of sample survey and census data	Not applicable. No sampling is used.
Combination of dedicated R&D and other survey(s)	Not applicable.
Sub-population A (covered by sampling)	Not applicable.
Sub-population B (covered by census)	Not applicable.
Variables the survey contributes to	Not applicable.
Survey timetable-most recent implementation	Not applicable.

18.1.2. Sample/census survey information

	Stage 1	Stage 2	Stage 3
Sampling unit			
Stratification variables (if any - for sample surveys only)			
Stratification variable classes			
Population size			
Planned sample size			
Sample selection mechanism (for sample surveys only)			
Survey frame			
Sample design			
Sample size			
Survey frame quality			

18.1.3. Information on collection of administrative data or of pre-compiled statistics

Source	The survey is based on a register of all possible R&D performers, following the FM recommendations. This register includes all governmental institutions / bodies of general administration of the central government, such as ministries, government departments and services, non-profit semigovernment organisations, government research institutes.
Description of collected data / statistics	(a) R&D personnel, both in head counts and full-time equivalent, broken down by occupation, sex, level of formal qualification, field of science and technology, and (b) R&D expenditure, broken down by type of costs, field of science and technology, type of research and source of funds.

Reference period, in relation to the variables the survey contributes to	All parameters collected are reported on an annual basis.
18.2. Frequency of data collection	
See 12.3.3.	
18.3. Data collection	
See below.	
18.3.1. Data collection overview	
Information provider	Data is collected from ministries, government departments and services, non-profit semi-government organisations, government research institutes, etc.
Description of collected information	The information collected from all data providers relates to (a) R&D personnel, both in head counts and full-time equivalent, broken down by occupation, sex, age, citizenship, level of formal qualification, field of science and technology, and (b) R&D expenditure, broken down by type of costs, field of science and technology, type of research and source of funds.
Data collection method	A questionnaire is sent out to all ministries, government departments and services, nonprofit semi-government organisations and government research institutes, asking them to complete it and return it by mail. A letter indicating that no R&D activity was performed during the year under review is expected from the non-R&D performers as well. Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also used to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, is also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.
Time-use surveys for the calculation of R&D coefficients	All parameters collected are reported on an annual basis.
Realised sample size (per stratum)	Not applicable. No sampling is used.
Mode of data collection (face-to-face interviews; telephone interviews; postal surveys, etc.)	A questionnaire is sent out to all possible R&D performing enterprises, asking them to complete it and return it by mail. A letter indicating that no R&D activity was performed during the year under review is expected from the non-R&D performers as well. Regular contacts by telephone or email and, in some cases, personal interviews, are also used to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, are also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.
Incentives used for increasing response	No incentives used for increasing response.
Follow-up of non-respondents	Regular contacts by telephone or email and, in some cases, personal interviews, are also used.
Replacement of non-respondents (e.g. if proxy interviewing is employed)	No replacement of non-respondents.
Response rate (ratio of completed "interviews" over total number of eligible enterprises or enterprises of unknown eligibility)	100%
Non-response analysis (if applicable -- also see section 18.5. Data compilation - Weighting and Estimation methods)	There was no need to carry out a non-response survey.
18.3.2. Questionnaire and other documents	

Annex	Name of the file
R&D national questionnaire and explanatory notes in English:	Quest_2019_GOV_EN.pdf -(R&D Questionnaire 2019 - Government Sector (English))
R&D national questionnaire and explanatory notes in the national language:	Quest_2019_GOV_GR.pdf -(R&D Questionnaire 2019 - Government Sector (Greek))
Other relevant documentation of national methodology in English:	
Other relevant documentation of national methodology in the national language:	

Annexes:

[R&D Questionnaire 2019 - Government Sector \(English\)](#)

[R&D Questionnaire 2019 - Government Sector \(Greek\)](#)

18.4. Data validation

Validation activities include: checking that the population coverage and response rates are as required; comparing the statistics with previous cycles; confronting the statistics against other relevant data (both internal and external); investigating inconsistencies in the statistics; verifying the statistics against expectations and domain intelligence, outlier detection.

18.5. Data compilation

See below.

18.5.1. Imputation - rate

Not applicable.

18.5.2. Data compilation methods

Data compilation method - Final data (between the survey years)	The national R&D survey is carried out on an annual basis.
Data compilation method - Preliminary data	For the majority of government bodies, final data are already available within 10 months after the end of the calendar year of the reference period. For the rest, an estimate is made on the basis of the previous year's figures and data derived from administrative records. No use of coefficients is made.

18.5.3. Measurement issues

Method of derivation of regional data	Not applicable. Cyprus is one region.
Coefficients used for estimation of the R&D share of more general expenditure items	Not applicable.
Inclusion or exclusion of VAT and provisions for depreciation in the measurement of expenditures	No deviations from FM §4.40-4.43 (VAT), and FM §4.38-4.39 (depreciation) recommendations.
Differences between national and Frascati Manual classifications not mentioned above and impact on national statistics	No differences.

18.5.4. Weighting and estimation methods

Description of weighting method	Not applicable. No sampling is used.
Description of the estimation method	Not applicable. No sampling is used.

18.6. Adjustment
Not requested.
18.6.1. Seasonal adjustment
Not requested.

19. Comment	Top

Related metadata	Top

Annexes	Top

Research and development (R&D) (rd)

National Reference Metadata in Single Integrated Metadata Structure
(SIMS)

Compiling agency: Statistical Service of Cyprus (CYSTAT)



Eurostat metadata

Reference metadata

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For any question on data and metadata, please contact: [EUROPEAN STATISTICAL DATA SUPPORT](#)

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1. Contact [Top](#)

1.1. Contact organisation	Statistical Service of Cyprus (CYSTAT)
1.2. Contact organisation unit	Science and Technology Statistics Unit
1.5. Contact mail address	CY-1444 Nicosia CYPRUS

2. Metadata update [Top](#)

2.1. Metadata last certified	29/10/2021
2.2. Metadata last posted	29/10/2021
2.3. Metadata last update	29/10/2021

3. Statistical presentation [Top](#)

3.1. Data description

Statistics on Higher Education R&D (HERD) measure research and experimental development (R&D) performed in the higher education sector, i.e. R&D expenditure and R&D personnel. In line with this objective the target population for the

national R&D survey of the Higher education sector should consist of all R&D performing units (including all R&D performers – occasional and continuous, known and unknown - in all branches and size classes) belonging to this sector. Main concepts and definitions used for the production of R&D statistics are given by the OECD (2015), [Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities](#), which is the internationally recognised standard methodology for collecting R&D statistics.

Statistics on science, technology and innovation were collected based on Commission Implementing Regulation (EU) [Regulation \(EU\) No 995/2012](#) concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on [Commission Implementing Regulation \(EU\) No 2020/1197](#) of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.

3.2. Classification system

- The local unit for the statistics are compiled at regional level according to NUTS 2 – Nomenclature of Territorial Units for Statistics;
- The distribution by socioeconomic objectives (SEO) are based on Nomenclature for the Analysis and Comparisons of Scientific Programmes and Budgets (NABS);
- The fields of research and development are based on Classification and distribution by Fields of Research and Development (FORD).

3.2.1. Additional classifications

Additional classification used	Description

3.3. Coverage - sector

See below.

3.3.1. General coverage

Definition of R&D	No deviations in definitions and recommendations of Frascati Manual.
Fields of Research and Development (FORD)	No deviations in definitions and recommendations of Frascati Manual.
Socioeconomic objective (SEO)	No statistics on R&D expenditure by socio-economic objective are produced.

3.3.2. Sector institutional coverage

Higher education sector	No deviations in definitions and recommendations of Frascati Manual (§3.67-3.74).
Tertiary education institution	No deviations in definitions and recommendations of Frascati Manual (§3.67-3.71).
University and colleges: core of the sector	No deviations in definitions and recommendations of Frascati Manual (§3.67-3.71).
University hospitals and clinics	No deviations in definitions and recommendations of Frascati Manual (FM §3.71, 3.72, 9.13-9.17).
HE Borderline institutions	No deviations in definitions and recommendations of Frascati Manual (FM §3.73, 9.18-9.27).
Inclusion of units that primary don't belong to HES	No

3.3.3. R&D variable coverage

R&D administration and other support activities	No deviations from FM §2.122.
External R&D personnel	No deviations from FM §5.20-5.24, Table 5.2. External personnel is calculated only in R&D expenditure. R&D personnel is only the internal R&D personnel.

Clinical trials	Information for clinical trials is included (FM §2.61) and is calculated/distributed in the sector performing them. If R&D can not be separated, the R&D is distributed to the sector of the entity performing the clinical trial.
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3.3.4. International R&D transactions

Receipts from Rest of the world by sector - availability	Yes. Receipts from Rest of the world by sector (FM §4.108, Table 4.3)
Payments to Rest of the world by sector - availability	Not applicable. No Payments to Rest of the world by sector (FM §4.133). No extramural R&D is collected.
R&D expenditure of foreign affiliates - coverage	No

3.3.5. Extramural R&D expenditures

According to the Frascati Manual, expenditure on extramural R&D (i.e. R&D performed outside the statistical unit) is not included in intramural R&D performance totals (FM, §4.12).

Data collection on extramural R&D expenditure (Yes/No)	No
Method for separating extramural R&D expenditure from intramural R&D expenditure	Not applicable.
Difficulties to distinguish intramural from extramural R&D expenditure	Not applicable.

3.4. Statistical concepts and definitions

See below.

3.4.1. R&D expenditure

Coverage of years	Calendar year
Source of funds	No divergence from FM (FM §4.104-4.108, Table 4.3.)
Type of R&D	No divergence from FM (FM section 2.5)
Type of costs	No deviations from FM (section 4.2). No more detailed breakdown of costs than in the FM exist.
Defence R&D - method for obtaining data on R&D expenditure	R&D survey.

3.4.2. R&D personnel

See below.

3.4.2.1. R&D personnel – Head Counts (HC)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification.
Age	No difficulties encountered with classifying personnel by Age.
Citizenship	No difficulties encountered with classifying personnel by Citizenship.

3.4.2.2. R&D personnel – Full Time Equivalent (FTE)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification.
Age	Not applicable. No data for age in FTE is collected in Higher Education sector.
Citizenship	Not applicable. No data for Citizenship in FTE is collected in Higher Education sector.

3.4.2.3. FTE calculation

The **Full-time Equivalent (F.T.E.)** expresses the total time devoted to research by a person **during one year**. One F.T.E. may be thought of as one **person-year** which corresponds to **one person working full-time on R&D during one year**. Thus, a person who normally spends 30% of his time on R&D and the remaining 70% on other activities should be considered as $30/100 = 0,3$ person-years. Three persons who spend 30%, 50% and 80% of their time on R&D activities correspond to $0,3 + 0,5 + 0,8 = 1,6$ person-years.

3.4.2.4. R&D personnel - Cross-classification by occupation and qualification

Cross-classification	Unit	Frequency

3.5. Statistical unit

The statistical unit used is the faculty or department or research centre.

3.6. Statistical population

See below.

3.6.1. National target population

The target population is the population for which inferences are made. The frame (or frames, as sometimes several frames are used) is a device that permits access to population units. The frame population is the set of population units which can be accessed through the frame and the survey data really refer to this population.

The objective of the European R&D statistics is to cover all intramural R&D activities. In line with this objective, the target population for the national R&D survey of the HES Sector should consist of all R&D performing units (including known R&D performers or assumed to perform R&D). In practise however, countries in their R&D surveys might have difficulty in identifying R&D activities at the municipality level.

	Target population when sample/census survey is used for collection of raw data	Target population when administrative data or pre-compiled statistics are used
Definition of the national target population	The target population of national R&D statistics on HES comprises all universities and other institutions of post-secondary education, regardless of their source of finance or legal status. It includes research institutes operating under the direct control of or administered by or associated with higher education institutions. All higher education institutions registered at the Ministry of Education and Culture are being covered.	The target population of national R&D statistics on HES comprises all universities and other institutions of post-secondary education, regardless of their source of finance or legal status. It includes research institutes operating under the direct control of or administered by or associated with higher education institutions. All higher education institutions registered at the Ministry of Education and Culture are being covered.
Estimation of the target population size	No estimation of the target population size can be made.	No estimation of the target population size can be made.

3.7. Reference area

Not requested.

3.8. Coverage - Time

Not requested. See point 5.

3.9. Base period

Not requested.

4. Unit of measure

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The units of measures used for the data set disseminated are Euro, %, number of persons. The exact use of magnitude for R&D expenditure is thousand of euro.

5. Reference Period

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Calendar year 2019

6. Institutional Mandate		Top
6.1. Institutional Mandate - legal acts and other agreements		
See below.		
6.1.1. European legislation		
Legal acts / agreements	Commission Implementing Regulation (EU) Regulation (EU) No 995/2012 concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing Regulation (EU) No 2020/1197 of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.	
6.1.2. National legislation		
Existence of R&D specific legislation	Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument	
Legal acts	Provisions of the above Law.	
Obligation of responsible organisations to produce statistics (as derived from the legal acts)	Provisions of the above Law.	
Right of responsible organisations to collect data – obligation of (natural / legal) persons to provide raw and administrative data (as derived from the legal acts)	Provisions of the above Law.	
Obligation of responsible organisations to protect confidential information from disclosure (as derived from the legal acts)	Provisions of the above Law.	
Rights of access of third organisations / persons to data and statistics (as derived from the legal acts)	Provisions of the above Law.	
Planned changes of legislation	Yes. Official Statistics Law No. 25(I) of 2021. Link: https://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument	
6.1.3. Standards and manuals		
OECD (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities		
6.2. Institutional Mandate - data sharing		
Not requested.		

7. Confidentiality		Top
7.1. Confidentiality - policy		
Confidentiality, being one of the process quality components, concerns the privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and the extent of its use for statistical purposes.		

A property of data indicating the extent to which their unauthorised disclosure could be prejudicial or harmful to the interest of the source or other relevant parties.

a) Confidentiality protection required by law: Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/legislation_en/legislation_en?OpenDocument

b) Confidentiality commitments of survey staff: Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/legislation_en/legislation_en?OpenDocument

Official statistics are released in accordance to all confidentiality provisions of the following:

- National Statistics Law No. 15(I) of 2000 (especially Article 13 on statistical confidentiality).
- Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and its later amendments (especially Chapter 5 on statistical confidentiality).
- European Statistics Code of Practice (especially Principle 5 on statistical confidentiality).
- CYSTAT's Code of Practice for the Collection, Publication and Storage of Statistical Data.

• *Statistics Law No. 15(I) of*

2000: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/legislation_en/legislation_en?OpenDocument

• *Regulation (EC) No 223/2009 on European statistics (consolidated text):* <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN>

• *European Statistics Code of Practice:* <https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-N.pdf/e7f85f07-91db-4312-8118-f729c75878c7>

• *Code of Practice for the Collection, Publication and Storage of Statistical*

Data: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument

7.2. Confidentiality - data treatment

The survey is carried out in accordance to the Statistics Law, No.15(I) of 2000. The Statistical Service is bound, under the provisions of the Statistics Law, to treat all information collected as confidential. All collected information and data are used solely for statistical purposes. Data on individual enterprise cannot be published or disclosed to either public bodies or private individuals.

8. Release policy

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8.1. Release calendar

Notifications about the dissemination of statistics are published in the release calendar, which is available on CYSTAT's website. The annual release calendar, announced during the 4th quarter of the each year, includes provisional dates which are finalised the week before publication.

Link to CYSTAT's release calendar: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument

8.2. Release calendar access

Link to CYSTAT's release calendar: http://www.mof.gov.cy/mof/cvstat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument

8.3. Release policy - user access

According to the Dissemination and Pricing Policy of the Statistical Service of Cyprus (section 2.3) CYSTAT's main channel for dissemination of statistics is the website, which offers the same conditions to everyone and is updated at the same time every working day (12:00 noon). Privileged pre-released access (of no more than 1 day in advance) has been granted to a few selected users for specific statistics. These are specified in the Dissemination Policy (section 2.3).

In addition to the annual release calendar, users are informed of the various statistical releases through the "Alert" service provided by CYSTAT.

Link to the Dissemination and Pricing Policy should be attached (or the actual document):

• *Dissemination and Pricing Policy of the Statistical Service of Cyprus:*

http://www.mof.gov.cy/mof/cvstat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument

9. Frequency of dissemination

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Frequency of data dissemination: Yearly

10. Accessibility and clarity [Top](#)

10.1. Dissemination format - News release

See below.

10.1.1. Availability of the releases

	Availability (Y/N) ¹	Content, format, links, ...
Regular releases	Y	Yes a press release is issued
Ad-hoc releases	N	

1) Y - Yes, N - No

10.2. Dissemination format - Publications

See below.

10.2.1. Availability of mean of dissemination

Mean of dissemination	Availability (Y/N) ¹	Content, format, links, ...
General publication/article (paper, online)	Y	The results of the national R&D surveys are published in the annual report "Research and Development Statistics". The key results are also published in our statistical yearbook entitled "Statistical Abstract". Both publications can be purchased in paper form or can be downloaded for free from our website.
Specific paper publication (e.g. sectoral provided to enterprises) (paper, online)	N	

1) Y - Yes, N - No

10.3. Dissemination format - online database

Not available.

10.3.1. Data tables - consultations

Not requested.

10.4. Dissemination format - microdata access

See below.

10.4.1. Provisions affecting the access

Access rights to the information	<p>There is no Micro-data access to outside users.</p> <p>Statistical micro-data from CYSTAT's surveys are accessible for research purposes only and under strict provisions as described below:</p> <p>Under the provisions of the Statistics Law, CYSTAT may release microdata for the sole use of scientific research. Applicants have to submit the request form "APPLICATION FOR DATA FOR RESEARCH PURPOSES" giving thorough information on the project for which micro-data are needed.</p> <p>The application is evaluated by CYSTAT's Confidentiality Committee and if the application is approved, a charge is fixed according to the volume and time consumed for preparation of the data. Micro-data may then be released after an anonymisation process which ensures no direct identification of the statistical units but, at the same time, ensures usability of the data.</p> <p>Link to the application for access to microdata on CYSTAT's website: http://www.cystat.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument</p>
Access cost policy	See above
Micro-data anonymisation rules	See above

10.5. Dissemination format - other

See below.

10.5.1. Metadata - consultations

Not requested.

10.5.2. Availability of other dissemination means

Dissemination means	Availability (Y/N) ¹	Micro-data / Aggregate figures	Comments
Internet: main results available on the national statistical authority's website	Y		The results of the national R&D surveys are published in the annual report "Research and Development Statistics". The publication can be downloaded free of charge from the web site of the Statistical Service of Cyprus (www.cystat.gov.cy) in PDF format. The main R&D indicators are also included, as MS Excel files, in the "Key Figures" section of the web site, under the statistical theme "Science and Technology". Finally, the key results are also published in our statistical yearbook entitled "Statistical Abstract" which can be downloaded from the web site.
CD-ROMs	N		
Data prepared for individual ad hoc requests	Y		Further information to interested users is given upon request.
Other	N		

1) Y – Yes, N - No

10.6. Documentation on methodology

Link : [https://www.mof.gov.cy/mof/cystat/statistics.nsf/science technology 91main en/science technology 91main en?OpenForm&sub=1&sel=3#](https://www.mof.gov.cy/mof/cystat/statistics.nsf/science%20technology%2091main%20en/science%20technology%2091main%20en?OpenForm&sub=1&sel=3#)

10.6.1. Metadata completeness - rate

Not requested.

10.7. Quality management - documentation

See below.

10.7.1. Information and clarity

Type(s) of data accompanying information available (metadata, graphs, quality reports, etc.)	Users can download free of charge from the web site of the Statistical Service of Cyprus the annual publication "Research and Development Statistics". This contains a textual description of latest developments in R&D activities, a number of graphical displays and numerous tables, including a comparison with corresponding international statistics. It also contains a comprehensive methodological note, giving information on the national R&D survey and its scope, concepts and definitions, as well as a copy of the questionnaire used. Every time that new data is disseminated at the national level, a press release is issued.
Request on further clarification, most problematic issues	For any further information, users can make a request to the Statistical Service (by phone, mail, e-mail or via the enquiries facility on the web site).
Measure to increase clarity	No intention to take any further measures.
Impression of users on the clarity of the accompanying information to the data	Users seem to be fully satisfied.

11. Quality management

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Quality management is defined as systems and frameworks in place within an organisation to manage the quality of statistical products and processes.

11.1. Quality assurance

The quality of statistics in CYSTAT is managed in the framework of the European Statistics Code of Practice which sets the standards for developing, producing and disseminating European Statistics as well as the ESS Quality Assurance Framework (QAF). CYSTAT endorses the Quality Declaration of the European Statistical System. In addition, CYSTAT is guided by the requirements provided for in Article 12 of the Statistics Law No. 15(I) of 2000 as well as Article 12 of Regulation (EC) No 223/2009 on European statistics, which sets out the quality criteria to be applied in the development, production and dissemination of European statistics.

- **European Statistics Code of Practice:** <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-32-11-955>
- **ESS Quality Assurance Framework (QAF):** <http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-OAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646>
- **Quality Declaration of the European Statistical System:** http://ec.europa.eu/eurostat/documents/4031688/8188985/KS0217428ENN_corr.pdf/116f7c85-cd3e-4bff-b695-4a8e71385fd4
- **Statistics Law No. 15(I) of 2000:** http://www.mof.gov.cy/mof/cvstat/statistics.nsf/legislation_en/legislation_en?OpenDocument
- **Regulation (EC) No 223/2009 on European statistics (consolidated text):** <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN>

11.2. Quality management - assessment

The R&D data on the HES sector in Cyprus are assessed as being of high quality. The definitions, concepts and methodology used are in compliance with the requirements of Eurostat and follow the guidelines of the Frascati Manual 2015. The national R&D survey is a well established survey which yields the maximum of the information required on an annual basis and with a relevantly short time lag from the end of the reference period. Information collected from administrative sources is of very good quality and is complemented with data provided by the research staff itself, thus rendering the statistics produced of an adequate standard.

12. Relevance

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Relevance is the degree to which statistics meet current and potential users' needs. It includes the production of all needed statistics and the extent to which concepts used (definitions, classifications etc.) reflect user needs. The aim is to describe the extent to which the statistics are useful to, and used by, the broadest array of users. For this purpose, statisticians need to compile information, firstly about their users (who they are, how many they are, how important is each one of them), secondly on their needs, and finally to assess how far these needs are met.

12.1. Relevance - User Needs

See below.

12.1.1. Needs at national level

Users' class ¹	Description of users	Users' needs
1	<p>European institutions: Council, Commission (Eurostat, DG Research), European Parliament.</p> <p>International organisations: OECD, UNESCO etc.</p> <p>National: Ministry of Finance, Ministry of Energy, Commerce and Industry, Deputy Ministry of Research, Innovation and Digital Strategy, Directorate General for European Programmes, Coordination and Development, Research & Innovation Foundation.</p>	<p>European institutions: Formulating the needs and assessing the implementation of Community research policies, especially with regard to the EU goals in R&D, as set by the Lisbon summit strategy.</p> <p>International organisations: Economic analysis and monitoring.</p> <p>National: Assessing the implementation of the national reform programme for the Lisbon strategy, strategic programming, economic analysis and monitoring.</p>
2	<p>Social actors: various employers' associations, trade unions and lobby groups.</p>	Economic analysis and monitoring, interested both in figures and comments.
3 and 4	<p>Media: Economic newspapers, TV channels.</p> <p>Researchers and students: Higher education institutions, researchers, students and private individuals.</p>	Interested in figures, comments and analyses.
5	<p>Enterprises or businesses: Business enterprises, consultancy offices.</p>	Market analysis, marketing strategy, offering consultancy services.

1) Users' class codification

1- Institutions:

- European level: Commission (DGs, Secretariat General), Council, European Parliament, ECB, other European agencies etc.
- in Member States, at the national or regional level: Ministries of Economy or Finance, Other Ministries (for sectoral

comparisons), National Statistical Institutes and other statistical agencies (norms, training, etc.), and

- **International organisations:** OECD, UN, IMF, ILO, etc.

2- Social actors: Employers' associations, trade unions, lobbies, among others, at the European, national or regional level.

3- Media: International or regional media – specialized or for the general public – interested both in figures and analyses or comments. The media are the main channels of statistics to the general public.

4- Researchers and students (Researchers and students need statistics, analyses, ad hoc services, access to specific data.)

5- Enterprises or businesses (Either for their own market analysis, their marketing strategy (large enterprises) or because they offer consultancy services)

6- Other (User class defined for national purposes, different from the previous classes.)

12.2. Relevance - User Satisfaction

To evaluate if users' needs have been satisfied, the best way is to use user satisfaction surveys.

12.2.1. National Surveys and feedback

Conduction of a user satisfaction survey or any other type of monitoring user satisfaction	<p>Since 2008 (with the exception of 2010 and 2013) CYSTAT carries out an annual online “Users Satisfaction Survey”. The results of the surveys are available on CYSTAT’s website at the link attached below.</p> <p><i>Surveys:</i> http://www.mof.gov.cy/mof/cystat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument.</p> <p>Overall, the users of statistical data published by CYSTAT are satisfied.</p> <p>A national user satisfaction survey was conducted as a necessary step towards the peer review of our national statistical system.</p>
User satisfaction survey specific for R&D statistics	<p>In the latest national user satisfaction survey, R&D statistics were listed down explicitly as one of the main statistical fields to be commented on.</p>
Short description of the feedback received	<p>However, the number of questionnaires with relevant comments was too low to allow for any concrete conclusions to be drawn. No specific problems were reported. There were no findings specific to the HES sector.</p>

12.3. Completeness

See below.

12.3.1. Data completeness - rate

Not available.

12.3.2. Completeness - overview

Completeness is assessed via comparison of the data delivered against the requirements of [Commission Implementing Regulation \(EU\) No 2020/1197](#) of 30 July 2020. The Regulation (EU) stipulates periodicity of variables that should be provided, the breakdowns and whether they should be provided mandatory or on voluntary basis.

12.3.3. Data availability

See below.

12.3.3.1. Data availability - R&D Expenditure

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons
Source of funds	Y-1998	Annual	No gap years	No modifications		
Type of R&D	Y-1998	Annual	No gap years			
Type of costs	Y-1998	Annual	No gap years			
Socioeconomic objective	N – data not available					
Region	Not applicable. Cyprus is one region					
FORD	Y-1998	Annual	No gap years			
	Y-1998	Annual				

Type of institution			No gap years		
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1) Y-start year, N – data not available

12.3.3.2. Data availability - R&D Personnel (HC)

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons
Sex	Y-2001	Annual	No gap years	No modifications		
Function	Y-1998	Annual	No gap years	No modifications		
Qualification	Y-1998	Annual	No gap years	No modifications		
Age	Y-2002	Annual	No gap years	No modifications		
Citizenship	Y-2002	Annual	No gap years	No modifications		
Region	Not applicable. Cyprus is one region					
FORD	Y-1998	Annual	No gap years	No modifications		
Type of institution	Y-1998	Annual	No gap years	No modifications		

1) Y-start year, N – data not available

12.3.3.3. Data availability - R&D Personnel (FTE)

	Availability ¹	Frequency of data collection	Gap years – years with missing data	Modifications - Description	Modifications - Year of introduction	Modifications - Reasons
Sex	Y-2001	Annual	No gap years	No modifications		
Function	Y-1998	Annual	No gap years	No modifications		
Qualification	Y-1998	Annual	No gap years	No modifications		
Age	N – data not available					
Citizenship	N – data not available					
Region	Not applicable. Cyprus is one region					
FORD	Y-1998	Annual	No gap years	No modifications		
Type of institution	Y-1998	Annual	No gap years	No modifications		

1) Y-start year, N – data not available

12.3.3.4. Data availability - Other

Additional dimension/variable available at national level ¹⁾	Availability ²⁾	Frequency of data collection	Breakdown variables	Combinations of breakdown variables	Level of detail

1) This question is optional. It refers to variables and breakdowns NOT asked by the Commission Implementing Regulation (EU) No 995/2012 (neither as 'optional').

2) Y-start year

13. Accuracy

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13.1. Accuracy - overall

Accuracy in the statistical sense denotes the closeness of computations or estimates to the exact or true values. Statistics are not equal with the true values because of variability (the statistics change from implementation to implementation of the survey due to random effects) and bias (the average of the possible values of the statistics from implementation to implementation is not equal to the true value due to systematic effects).

Several types of statistical errors occur during the survey process. The following typology of errors has been adopted:

1. **Sampling errors.** These only affect sample surveys. They are due to the fact that only a subset of the population, usually randomly selected, is enumerated.
2. **Non-sampling errors.** Non-sampling errors affect sample surveys and complete enumerations alike and comprise:
 - a) Coverage errors,
 - b) Measurement errors,
 - c) Non response errors and
 - d) Processing errors.

Model assumption errors should be treated under the heading of the respective error they are trying to reduce.

13.1.1. Accuracy - Overall by 'Types of Error'

	Sampling errors	Non-sampling errors ¹⁾				Model-assumption Errors ¹⁾	Perceived direction of the error ²⁾
		Coverage errors	Measurement errors	Processing errors	Non response errors		
Total intramural R&D expenditure	-	1	2	-	-		+/-
Total R&D personnel in FTE	-	1	2	-	-		+/-
Researchers in FTE	-	1	2	-	-		+/-

1) Ranking of the type(s) of errors that result in over/under-estimation, from the most important source of error (1) to the least important source of error (5). In the event that errors of a particular type do not exist, is used the sign '-'.
 2) The perceived direction of the 'overall' error using the signs "+" for over estimation, "-" for under estimation and "+/-" when assumption of the direction of the error cannot be made for R&D.

13.1.2. Assessment of the accuracy with regard to the main indicators

Indicators	5 (Very Good) ¹⁾	4 (Good) ²⁾	3 (Satisfactory) ³⁾	2 (Poor) ⁴⁾	1 (Very poor) ⁵⁾
Total intramural R&D expenditure	X				
Total R&D personnel in FTE	X				
Researchers in FTE	X				

1) 'Very Good' = High level of coverage (annual rate of substitution in the target population lower than 5%). High average rates of response (>80%) in census and sample surveys. Full data consistency with reference to totals and relationships between variables in the dataset sent to Eurostat.

2) 'Good' = In the event that at least one out of the three criteria above described would not be fully met.

3) 'Satisfactory' = In the event that the average rate of response would be lower than 60% even by meeting the two remaining criteria.

4) 'Poor' = In the event that the average rate of response would be lower than 60% and at least one of the two remaining criteria would not be met.

5) 'Very Poor' = If all the three criteria are not met.

13.2. Sampling error

That part of the difference between a population value and an estimate thereof, derived from a random sample, which is due to the fact that only a subset of the population is enumerated.

13.2.1. Sampling error - indicators

The main indicator used to measure sampling errors is the coefficient of variation (CV).

Definition of coefficient of variation:

CV= (Square root of the estimate of the sampling variance) / (Estimated value)

13.2.1.1. Variance Estimation Method

Not applicable, since no sample survey is conducted.

13.2.1.2. Coefficient of variation for R&D expenditure by source of funds

Source of funds	R&D expenditure
Business enterprise	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
Government	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
Higher education	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
Private non-profit	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
Rest of the world	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
Total	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted

13.2.1.3. Coefficient of variation for R&D expenditure by occupation and qualification

		R&D personnel (FTE)
Occupation	Researchers	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
	Technicians	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
	Other support staff	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
Qualification	ISCED 8	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
	ISCED 5-7	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted
	ISCED 4 and below	Not applicable. No coefficients of variation can be calculated since no sample survey is conducted

13.3. Non-sampling error

Non-sampling errors occur in all phases of a survey. They add to the sampling errors (if present) and contribute to decreasing overall accuracy. It is important to assess their relative weight in the total error and devote appropriate resources for their control and assessment.

13.3.1. Coverage error

Coverage errors are due to divergences between the target population and the frame population. The frame population is the set of target population members that has a chance to be selected into the survey sample. It is a listing of all items in the population from which the sample is drawn that contains contact details as well as sufficient information to perform stratification and sampling.

a) **Description/assessment of coverage errors:** Not applicable. None of the HES R&D performing units is being omitted.

b) **Measures taken to reduce their effect:** Not applicable.

13.3.1.1. Over-coverage - rate

Not applicable.

13.3.1.2. Common units - proportion

Not requested.		
13.3.2. Measurement error		
<p>Measurement errors occur during data collection and generate bias by recording values different than the true ones (e.g. difficulty to distinguish intramural from extramural R&D Expenditure). The survey questionnaire used for data collection may have led to the recording of wrong values, or there may be respondent or interviewer bias.</p> <p>a) Description/assessment of measurement errors: No measurement errors exist.</p> <p>b) Measures taken to reduce their effect: The data collection and processing phase is managed by a highly skilled person who is working in the field for more than 20 years. Information providers, in most cases, stay the same for years and, consequently, are very well aware of the questionnaire and the relevant concepts and definitions. Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also made to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, research compendia and journals and academic reports on research, is also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.</p>		
13.3.3. Non response error		
<p>Non-response occurs when a survey failed to collect data on all survey variables from all the population units designated for data collection in a sample or complete enumeration.</p> <p>There are two elements of non-response:</p> <ul style="list-style-type: none"> -Unit non-response which occurs when no data (or so little as to be unusable) are collected on a designated population unit. -Item non-response which occurs when data only on some, but not all survey variables are collected on a designated population unit. <p>The extent of response (and accordingly of non response) is also measured with response rates.</p>		
13.3.3.1. Unit non-response - rate		
<p>The main interest is to judge if the response from the target population was satisfactory by computing the un-weighted response rate.</p> <p>Definition: Eligible are the survey units which indeed belong to the target population. Frame imperfections always leave the possibility that some units may not belong to the target population. Moreover, when there is no contact with certain units and no other way to establish their eligibility they are characterised as ‘unknown eligibility units’.</p> <p>Un-weighted Unit Non- Response Rate = $1 - (\text{Number of units with a response}) / (\text{Total number of eligible and unknown eligibility units in the survey})$</p>		
13.3.3.1.1. Un-weighted unit non-response rate		
Number of units with a response in the survey	Total number of units in the survey	Unit non-response rate (Un-weighted)
11	11	0%
13.3.3.2. Item non-response - rate		
<p>Definition:</p> <p>Un-weighted Item Non-Response Rate (%) = $1 - (\text{Number of units with a response for the item}) / (\text{Total number of eligible, for the item, units in the sample}) * 100$</p>		
13.3.3.2.1. Un-weighted item non-response rate		
R&D variable/breakdown	Item non-response rate (un-weighted) (%)	Comments
Not applicable, there is no non-response.	Not applicable, there is no non-response.	Not applicable, there is no non-response.
13.3.3.3. Measures to increase response rate		
Not applicable, there is no non-response.		
13.3.4. Processing error		
<p>Between data collection and the beginning of statistical analysis, data must undergo a certain processing: coding, data entry, data editing, imputation, etc. Errors introduced at these stages are called processing errors. Data editing identifies inconsistencies or errors in the data.</p>		
13.3.4.1. Identification of the main processing errors		
	Data entry is done in MS Excel spreadsheets.	

Data entry method applied	
Estimates of data entry errors	No processing errors exist.
Variables for which coding was performed	All variables included on the questionnaires are being coded.
Estimates of coding errors	No coding errors exist.
Editing process and method	The MS Excel files used incorporate various cross-checking and validation capabilities. Controls and checks for logical inconsistencies are used to eliminate any remaining errors. Comparisons are also made with the responses provided by the same unit in the previous years' surveys.
Procedure used to correct errors	Errors detected in the questionnaires are corrected by further contacting the information providers.

13.3.5. Model assumption error

Not requested.

14. Timeliness and punctuality

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14.1. Timeliness

Timeliness and punctuality refer to time and dates, but in a different manner: the timeliness of statistics reflects the length of time between their availability and the event or phenomenon they describe. Punctuality refers to the time lag between the release date of the data and the target date on which they should have been delivered, with reference to dates announced in the official release calendar.

14.1.1. Time lag - first result

Time lag between the end of reference period and the release date of the results:
Indicator: (Release date of provisional/ first results) - (Date of reference for the data)

No release of provisional national data.

- a) **End of reference period:** No release of provisional national data.
- b) **Date of first release of national data:** No release of provisional national data.
- c) **Lag (days):** No release of provisional national data.

14.1.2. Time lag - final result

- a) **End of reference period:** 2019 (T)
- b) **Date of first release of national data:** T+19 months
- c) **Lag (days):** 0 days

14.2. Punctuality

Punctuality refers to the time lag between the release date of data and the target date on which they were scheduled for release as announced officially.

14.2.1. Punctuality - delivery and publication

Punctuality of time schedule of data release = (Actual date of the data release) - (Scheduled date of the data release)

14.2.1.1. Deadline and date of data transmission

	Transmission of provisional data	Transmission of final data
Legally defined deadline of data transmission (T+_ months)	10	18
Actual date of transmission of the data (T+x months)	10	18
Delay (days)	0	0
Reasoning for delay		

15. Coherence and comparability

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Comparability aims at measuring the impact of differences in applied statistical concepts and definitions on the comparison of statistics between geographical areas, non-geographical domains or over time. It is the extent to which differences between statistics are attributed to differences between the true values of the statistical characteristics.

The factors that may cause two statistical figures to lose comparability are attributes of the surveys that produce them. These attributes may be grouped into two major categories: (a) concepts of the survey and (b) measurement / estimation methodology.

The two following sections present lists of key attributes. Information on some of the attributes will have already been reported in previous sections of this report but they are repeated here for completeness of the lists.

The coherence of statistics is their adequacy to be reliably combined in different ways and for various uses. It is, however, generally easier to show cases of incoherence than to prove coherence.

When originating from a single source, statistics are coherent in that elementary concepts can be combined reliably in more complex ways. When originating from different sources, and in particular from statistical surveys of different frequencies, statistics are coherent insofar as they are based on common definitions, classifications and methodological standards. The messages that statistics convey to users will then clearly relate to each other, or at least will not contradict each other. The coherence between statistics is orientated towards the comparison of different statistics, which are generally produced in different ways and for different primary uses.

The definition of coherence: The extent to which the statistical characteristics confirm with those in other statistics such that the statistics can be expected to be used together in conjunction with, or as an alternative to.

15.1. Comparability - geographical

See below.

15.1.1. Asymmetry for mirror flow statistics - coefficient

Not requested.

15.1.2. General issues of comparability

No comments.

15.1.3. Survey Concepts Issues

The following table lists a number of key survey concepts and conceptual issues; it gives reference to the Commission Implementing Regulation (EU) No 995/2012 or Frascati manual paragraphs with recommendations about these concepts / issues.

Concept / Issues	Reference to recommendations	Deviation from recommendations	Comments on national definition / Treatment – deviations from recommendations
R&D personnel	<i>FM2015 Chapter 5 (mainly paragraph 5.2).</i>	NO	
Researcher	<i>FM2015, § 5.35-5.39.</i>	NO	
Approach to obtaining Headcount (HC) data	<i>FM2015, § 5.58-5.61 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Approach to obtaining Full-time equivalence (FTE) data	<i>FM2015, § 5.49-5.57 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	The third option of the FM:5.58 is being adopted. Total number of persons engaged in R&D during the (calendar) year.
Reporting data according to formula: Total R&D personnel = Internal R&D personnel + External R&D personnel	<i>FM2015, §5.25</i>	NO	
Intramural R&D expenditure	<i>FM2015, Chapter 4 (mainly paragraph 4.2).</i>	NO	Measurement in person-years is adopted
Statistical unit	<i>FM2015 §3.70 (in combination with the</i>	NO	

Concept / Issues	Reference to recommendations	Deviation from recommendations	Comments on national definition / Treatment – deviations from recommendations
	<i>Eurostat's harmonised Methodological Guidelines).</i>		
Target population	<i>FM2015 §9.6 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Sector coverage	<i>FM2015 §3.67-3.69 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Post-secondary (non university college) education institutions	<i>FM2015 §9.12 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Hospitals and clinics	<i>FM2015 §9.13-9.17, §9.109-9.112 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Borderline research institutions	<i>FM2015 §9.18-9.27 (in combination with the Eurostat's harmonised Methodological Guidelines).</i>	NO	
Major fields of science and technology coverage and breakdown	<i>Reg. 995/2012: Annex 1, section 1, § 7.3.</i>	NO	
Reference period	<i>Reg. 995/2012: Annex 1, section 1, § 4-6.</i>	NO	

15.1.4. Deviations from recommendations

The following table lists a number of key methodological issues, which may affect the international comparability of national R&D statistics. The table gives the references in the Frascati manual, where related recommendations are made. Countries are asked to report on the existence of any deviations from existing recommendations and comment upon.

Methodological issues	Deviation from recommendations	Comments on national treatment / treatment deviations from recommendations
Data collection method	NO	See present report
Survey questionnaire / data collection form	NO	See present report
Cooperation with respondents	NO	See present report
Coverage of external funds	NO	See present report
Distinction between GUF and other sources – Sector considered as source of funds for GUF	NO	
Data processing methods	NO	See present report
Treatment of non-response		There is no unit non-response
Variance estimation		Not applicable (no sample survey)
Method of deriving R&D coefficients	NO	See present report

Quality of R&D coefficients	NO	See present report
Data compilation of final and preliminary data	NO	See present report

15.2. Comparability - over time

See below.

15.2.1. Length of comparable time series

See below.

15.2.2. Breaks in time series

	Length of comparable time series	Break years ¹	Nature of the breaks
R&D personnel (HC)			
Function	1998-2019	No break years	
Qualification	1998-2019	No break years	
R&D personnel (FTE)			
Function	1998-2019	No break years	
Qualification	1998-2019	No break years	
R&D expenditure			
Source of funds	1998-2019	No break years	
Type of costs	1998-2019	No break years	
Type of R&D	1998-2019	No break years	
Other	1998-2019	No break years	

1) Breaks years are years for which data are not fully comparable to the previous period.

15.3. Coherence - cross domain

This part deals with any national coherence assessments which may have been undertaken. It reports results for variables which are the same or relevant to R&D statistics, from other national surveys and / or administrative sources and explains and comments on their degree of agreement with R&D statistics.

15.3.1. Coherence - sub annual and annual statistics

Not requested.

15.3.2. Coherence - National Accounts

R&D statistics are fully reconcilable with National Accounts.

15.3.3. National Coherence Assessments

Variable name	R&D Statistics - Variable Value	Other national statistics - Variable value	Other national statistics - Source	Difference in values (of R&D statistics)	Explanation of / comments on difference

15.4. Coherence - internal

See below.

15.4.1. Comparison between preliminary and final data

This part compares key R&D variables as preliminary and final data.

	Total R&D expenditure – HERD (in 1000 of national currency)	Total R&D personnel (in FTEs)	Total number of researchers (in FTEs)
Preliminary data (delivered at T+10)	56500	760.0	670.0

Final data (delivered T+18)	62983	821.4	715.9
Difference (of final data)	6483	61.4	45.9

15.4.2. Consistency between R&D personnel and expenditure

Average remuneration (cost in national currency)	
Consistency between FTEs of internal R&D personnel and R&D labour costs (1)	Not available
Consistency between FTEs of external R&D personnel and other current costs for external R&D personnel (2)	Not available

(1) Calculate the average remuneration (cost) of individuals belonging to the internal R&D personnel, excluding those who are only formally 'employees' (university students, grant holders, etc.).

(2) Calculate the average remuneration (cost) of individuals belonging to the external R&D personnel (FTEs/other current R&D costs for external R&D personnel).

16. Cost and Burden

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The assessment of costs associated with a statistical product is a rather complicated task since there must exist a mechanism for appointing portions of shared costs (for instance shared IT resources and dissemination channels) and overheads (office space, utility bills etc). The assessment must become detailed and clear enough so that international comparisons among agencies of different structures are feasible.

16.1. Costs summary

	Costs for the statistical authority (in national currency)	% sub-contracted ¹⁾
Staff costs	Not available	0
Data collection costs	Not available	0
Other costs	Not available	0
Total costs	Not available	0
Comments on costs		

1) The shares of the figures given in the first column that are accounted for by payments to private firms or other Government agencies.

16.2. Components of burden and description of how these estimates were reached

	Value	Computation method
Number of Respondents (R)	11	Count the number of bodies (universities and other institutions of post-secondary education, regardless of their source of finance or legal status), from which request R&D data.
Average Time required to complete the questionnaire in hours (T)¹⁾	Not available	Not available
Average hourly cost (in national currency) of a respondent (C)	Not available	Not available
Total cost	Not available	Not available

1) T = the time required to provide the information, including time spent assembling information prior to completing a form or taking part in interview and the time taken up by any subsequent contacts after receipt of the questionnaire ('Re-contact time')

17. Data revision

[Top](#)

17.1. Data revision - policy
Not requested.
17.2. Data revision - practice
Not requested.
17.2.1. Data revision - average size
Not requested.

18. Statistical processing Top
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18.1. Source data

Several separate activities are used for the collection of raw data or pre-compiled administrative data and statistics related to R&D. For simplicity, we call them surveys irrespective of whether they are sample surveys, censuses, collections of administrative data/pre-compiled statistics. This section presents the names of the surveys by sector of performance as well as methodological information for each survey. Depending on the type of survey and sector of performance, only the sections corresponding to that survey and sector are filled in.

18.1.1. Data source – general information
--

Survey name	SURVEY ON SCIENTIFIC RESEARCH AND EXPERIMENTAL DEVELOPMENT
Type of survey	The national R&D survey is incorporated in the regular programme of work of the Statistical Service of Cyprus and it can be considered as a census.
Combination of sample survey and census data	Not applicable. No sampling is used.
Combination of dedicated R&D and other survey(s)	Not applicable.
Sub-population A (covered by sampling)	Not applicable.
Sub-population B (covered by census)	Not applicable.
Variables the survey contributes to	Not applicable.
Survey timetable-most recent implementation	Not applicable.

18.1.2. Sample/census survey information

	Stage 1	Stage 2	Stage 3
Sampling unit			
Stratification variables (if any - for sample surveys only)			
Stratification variable classes			
Population size			
Planned sample size			
Sample selection mechanism (for sample surveys only)			
Survey frame			
Sample design			
Sample size			
Survey frame quality			

18.1.3. Information on collection of administrative data or of pre-compiled statistics

Source	The survey is based on a register of all possible R&D performers, following the FM recommendations. This register includes all universities and other institutions of post-secondary education, regardless of their source of finance or legal status. It includes research institutes operating under the direct control of or administered by or associated with higher education institutions. All higher education institutions registered at the Ministry of Education and Culture are being covered.
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Description of collected data / statistics	Information is collected from administrative sources and registers of higher education institutions, which includes (i) a list of the academic staff by department, position, year of birth and citizenship, (ii) the annual gross emoluments for each member of the academic staff, (iii) the R&D expenses and the names of the research co-ordinator and of the other members of the research team for each internal research programme, (iv) a list of all research programmes funded from external sources and the level of funding by each body, and (v) a list of all postgraduate research students by department, date of enrolment, year of birth and citizenship. The time-use survey requires from staff members information on faculty/department, sex, age, citizenship, level of formal qualification and an estimate of their working time devoted to research, the area of their research interests and their participation in research programmes. In addition, coordinators of each research programme provide information on its timeframe, classification by type of research and field of science and technology, personnel involved by occupation, sex, age, citizenship, level of formal qualification, remuneration and full-time equivalence and expenditure by type of costs and source of funding.
Reference period, in relation to the variables the survey contributes to	All parameters collected are reported on an annual basis.

18.2. Frequency of data collection

See 12.3.3.

18.3. Data collection

See below.

18.3.1. Data collection overview

Information provider	Data is collected from university central administration offices (finance, personnel, service for research) and, in the case of time-use surveys, from individual staff members.
Description of collected information	Information is collected from administrative sources and registers of higher education institutions, which includes (i) a list of the academic staff by department, position, year of birth and citizenship, (ii) the annual gross emoluments for each member of the academic staff, (iii) the R&D expenses and the names of the research co-ordinator and of the other members of the research team for each internal research programme, (iv) a list of all research programmes funded from external sources and the level of funding by each body, and (v) a list of all postgraduate research students by department, date of enrolment, year of birth and citizenship. The time-use survey requires from staff members information on faculty/department, sex, age, citizenship, level of formal qualification and an estimate of their working time devoted to research, the area of their research interests and their participation in research programmes. In addition, co-ordinators of each research programme provide information on its timeframe, classification by type of research and field of science and technology, personnel involved by occupation, sex, age, citizenship, level of formal qualification, remuneration and full-time equivalence and expenditure by type of costs and source of funding.
Data collection method	Information is collected from administrative sources and registers of higher education institutions, as described previously. Two questionnaires are then addressed to each member of the academic staff; the first questionnaire aims at being completed by everybody and is basically a time-use survey, while the second questionnaire pertains to the research programmes themselves and is meant to be completed by the co-ordinators of each programme only. Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also used to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, research compendia and journals and academic reports on research, is also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.
Time-use surveys for the calculation of R&D coefficients	All parameters collected are reported on an annual basis.
Realised sample size (per stratum)	Not applicable. No sampling is used.
Mode of data collection (face-to-face interviews; telephone interviews; postal surveys, etc.)	Information is collected from administrative sources and registers of higher education institutions, as described previously. Two questionnaires are then addressed to each member of the academic staff; the first questionnaire aims at being completed by everybody and is basically a time-use survey, while the second questionnaire pertains to the research programmes themselves and is meant to be completed by the co-ordinators of each programme only. Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also used to provide clarifications

	and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, research compendia and journals and academic reports on research, is also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.
Incentives used for increasing response	No incentives used for increasing response.
Follow-up of non-respondents	Regular contacts by telephone or email and, in some cases, personal interviews, are also used.
Replacement of non-respondents (e.g. if proxy interviewing is employed)	No replacement of non-respondents.
Response rate (ratio of completed "interviews" over total number of eligible enterprises or enterprises of unknown eligibility)	100%
Non-response analysis (if applicable -- also see section 18.5. Data compilation - Weighting and Estimation methods)	There was no need to carry out a non-response survey.

18.3.2. Questionnaire and other documents

Annex	Name of the file
R&D national questionnaire and explanatory notes in English:	Quest_2019_HES_EN.pdf -(R&D Questionnaire 2019 - Higher Education Sector (English))
R&D national questionnaire and explanatory notes in the national language:	Quest_2019_HES_GR.pdf -(R&D Questionnaire 2019 - Higher Education Sector (Greek))
Other relevant documentation of national methodology in English:	
Other relevant documentation of national methodology in the national language:	

Annexes:

[R&D Questionnaire 2019 - Higher Education Sector \(English\)](#)

[R&D Questionnaire 2019 - Higher Education Sector \(Greek\)](#)

18.4. Data validation

Validation activities include: checking that the population coverage and response rates are as required; comparing the statistics with previous cycles; confronting the statistics against other relevant data (both internal and external); investigating inconsistencies in the statistics; verifying the statistics against expectations and domain intelligence, outlier detection.

18.5. Data compilation

See below.

18.5.1. Imputation - rate

Not applicable.

18.5.2. Data compilation methods

	The national R&D survey is carried out on an annual basis.
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Data compilation method - Final data (between the survey years)	
Data compilation method - Preliminary data	An estimate is made on the basis of the previous year's figures and data derived from administrative records. No use of coefficients is made.

18.5.3. Methodology for derivation of R&D coefficients

National methodology for their derivation.	No coefficients are being used.
Revision policy for the coefficients	Not applicable.
Issues that affect their quality (e.g. date of last update, aggregation level at which they are computed, etc).	Not applicable.

18.5.4. Measurement issues

Method of derivation of regional data	Not applicable. Cyprus is one region.
Coefficients used for estimation of the R&D share of more general expenditure items	Not applicable.
Inclusion or exclusion of VAT and provisions for depreciation in the measurement of expenditures	No deviations from FM §4.40-4.43 (VAT), and FM §4.38-4.39 (depreciation) recommendations.
Treatment and calculation of GUF source of funds / separation from "Direct government funds"	No deviations from FM recommendations.
Differences between national and Frascati Manual classifications not mentioned above and impact on national statistics	No differences.

18.5.5. Weighting and estimation methods

Description of weighting method	Not applicable. No sampling is used.
Description of the estimation method	Not applicable. No sampling is used.

18.6. Adjustment

Not requested.

18.6.1. Seasonal adjustment

Not requested.

19. Comment

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Related metadata

[Top](#)

Research and development (R&D) (rd)

National Reference Metadata in Single Integrated Metadata
Structure (SIMS)

Compiling agency: Statistical Service of Cyprus (CYSTAT)



Eurostat metadata

Reference metadata

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- [2. Metadata update](#)
- [3. Statistical presentation](#)
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- [Annexes \(including footnotes\)](#)

For any question on data and metadata, please contact: [EUROPEAN STATISTICAL DATA SUPPORT](#) [Download](#)

1. Contact [Top](#)

1.1. Contact organisation	Statistical Service of Cyprus (CYSTAT)
1.2. Contact organisation unit	Science and Technology Statistics Unit
1.5. Contact mail address	Statistical Service of Cyprus CY-1444 Nicosia CYPRUS

2. Metadata update [Top](#)

2.1. Metadata last certified	29/10/2021
2.2. Metadata last posted	29/10/2021
2.3. Metadata last update	29/10/2021

3. Statistical presentation [Top](#)

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3.1. Data description	
<p>Statistics on Private non-profit R&D (PNPRD) measure research and experimental development (R&D) performed in the private non-profit sector, i.e. R&D expenditure and R&D personnel. In line with this objective the target population for the national R&D survey of the private non-profit sector should consist of all R&D performing units (including all R&D performers – occasional and continuous, known and unknown - in all branches and size classes) belonging to this sector.</p> <p>The main concepts and definitions used for the production of R&D statistics are given by the OECD (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities, which is the internationally recognised standard methodology for collecting R&D statistics.</p> <p>Statistics on science, technology and innovation were collected based on the Commission Implementing Regulation (EU) Regulation (EU) No 995/2012 concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing Regulation (EU) No 2020/1197 of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.</p>	
3.2. Classification system	
<ul style="list-style-type: none"> • The distribution of principal economic activity and by product field is based on Statistical classification of economic activities in the European Community (NACE Rev. 2); • The local units for the statistics are compiled at regional level according to NUTS 2 – Nomenclature of Territorial Units for Statistics; • The distribution by socioeconomic objectives (SEO) is based on Nomenclature for the Analysis and Comparisons of Scientific Programmes and Budgets (NABS); • The fields of research and development based on Classification and distribution by Fields of Research and Development (FORD). 	
3.2.1. Additional classifications	
Additional classification used	Description
3.3. Coverage - sector	
See below.	
3.3.1. General coverage	
Definition of R&D	No deviations in definitions and recommendations of Frascati Manual.
Fields of Research and Development (FORD)	No deviations in definitions and recommendations of Frascati Manual.
Socioeconomic objective (SEO)	No statistics on R&D expenditure by socio-economic objective are produced.
3.3.2. Sector institutional coverage	
Private non-profit sector	No deviations in definitions and recommendations of Frascati Manual.
Inclusion of units that primary don't belong to PNP	No
3.3.3. R&D variable coverage	
R&D administration and other support activities	No deviations from FM.

External R&D personnel	No deviations from FM. External personnel is calculated only in R&D expenditure. R&D personnel is only the internal R&D personnel.
Clinical trials	Information for clinical trials is included and is calculated/distributed in the sector performing them. If R&D can not be separated, the R&D is distributed to the NACE of the PNP entity/institution/institute performing the clinical trial.

3.3.4. International R&D transactions

Receipts from Rest of the world by sector - availability	Yes. Receipts from Rest of the world by sector according to FM.
Payments to Rest of the world by sector - availability	Not applicable. No Payments to Rest of the world by sector. No extramural R&D is collected.
R&D expenditure of foreign affiliates - coverage	No

3.3.5. Extramural R&D expenditures

According to the Frascati Manual, expenditure on extramural R&D (i.e. R&D performed outside the statistical unit) is not included in intramural R&D performance totals (FM, §4.12).

Data collection on extramural R&D expenditure (Yes/No)	No
Method for separating extramural R&D expenditure from intramural R&D expenditure	Not applicable
Difficulties to distinguish intramural from extramural R&D expenditure	Not applicable

3.4. Statistical concepts and definitions

See below.

3.4.1. R&D expenditure

Coverage of years	Calendar year
Source of funds	No divergence from FM.
Type of R&D	No deviations from FM.
Type of costs	No deviations from FM. No more detailed breakdown of costs than in the FM exist.
Defence R&D - method for obtaining data on R&D expenditure	R&D survey.

3.4.2. R&D personnel

See below.

3.4.2.1. R&D personnel – Head Counts (HC)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification.
Age	Not applicable. No data for age is collected in PNP sector.
Citizenship	Not applicable. No data for citizenship is collected in PNP sector.

3.4.2.2. R&D personnel – Full Time Equivalent (FTE)

Coverage of years	Total number of persons employed during the calendar year.
Function	No difficulties encountered with classifying personnel by Occupation (researcher, technicians, other support staff).
Qualification	No difficulties encountered with classifying personnel by qualification
Age	Not applicable. No data for age is collected in PNP sector
Citizenship	Not applicable. No data for citizenship is collected in PNP sector.

3.4.2.3. FTE calculation

The **Full-time Equivalent (F.T.E.)** expresses the total time devoted to research by a person **during one year**. One F.T.E. may be thought of as one **person-year** which corresponds to **one person working full-time on R&D during one year**. Thus, a person who normally spends 30% of his time on R&D and the remaining 70% on other activities should be considered as $30/100 = 0,3$ person-years. Three persons who spend 30%, 50% and 80% of their time on R&D activities correspond to $0,3 + 0,5 + 0,8 = 1,6$ person-years.

3.4.2.4. R&D personnel - Cross-classification by occupation and qualification

Cross-classification	Unit	Frequency

3.5. Statistical unit

According to the FM2015 (Chapter 10, §10.2) the PNP sector includes all non-profit institutions serving households (NPISH), as defined in ESA 2010, except those classified as part of the Higher education sector. Such units have a heterogeneous legal nature and can even be included in the PNP sector simply because they do not match the requirements for being included in any other sector.

The inclusion in the SNA list S.15 is thus the main criterion to be applied to identify and to describe them. The statistical unit used is the legal entity.

3.6. Statistical population

See below.

3.6.1. National target population

The target population is the population for which inferences are made. The frame (or frames, as sometimes several frames are used) is a device that permits access to population units. The frame population is the set of population units which can be accessed through the frame and the survey data really refer to this population.

The objective of the European R&D statistics is to cover all intramural R&D activities. In line with this objective, the target population for the national R&D survey of the PNP Sector should consist of all R&D performing units (including known R&D performers or assumed to perform R&D). In practise however, countries in their R&D surveys might have difficulty in identifying R&D activities at the municipality level.

	Target population when sample/census survey is used for collection of raw data	Target population when administrative data or pre-compiled statistics are used
Definition of the national target population	The target population of national R&D statistics on the PNP sector comprises non-market units controlled and mainly financed by non-profit institutions serving households, as well as private individuals or households, known or supposed to perform R&D.	The target population of national R&D statistics on the PNP sector comprises non-market units controlled and mainly financed by non-profit institutions serving households, as well as private individuals or households, known or supposed to perform R&D.
Estimation of the target population size	Not available	Not available

3.7. Reference area

Not requested.

3.8. Coverage - Time

Not requested. See point 5.
3.9. Base period
Not requested.

4. Unit of measure Top
The units of measures used for the data set disseminated are Euro, %, number of persons. The exact use of magnitude for R&D expenditure is thousand of euro.

5. Reference Period Top
Calendar year 2019

6. Institutional Mandate Top
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6.1. Institutional Mandate - legal acts and other agreements

See below.

6.1.1. European legislation

Legal acts / agreements	Commission Implementing Regulation (EU) Regulation (EU) No 995/2012 concerning the production and development of Community statistics on science and technology until the end of 2020. Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing Regulation (EU) No 2020/1197 of 30 July 2020. The Regulation sets the framework for the collection of R&D statistics and specifies the main variables of interest and their breakdowns at predefined level of detail. Please note that according to Article 12(4) of Regulation (EU) 2020/1197, the provisions of Regulation (EU) 995/2012 continue to apply for the reference years that fall before 1 January 2021.
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6.1.2. National legislation

Existence of R&D specific statistical legislation	Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
Legal acts	Provisions of the above Law
Obligation of responsible organisations to produce statistics (as derived from the legal acts)	Provisions of the above Law
Right of responsible organisations to collect data – obligation of (natural / legal) persons to provide raw and administrative data (as derived from the legal acts)	Provisions of the above Law
Obligation of responsible organisations to protect confidential information from disclosure (as derived from the legal acts)	Provisions of the above Law
Rights of access of third organisations /	Provisions of the above Law

persons to data and statistics (as derived from the legal acts)	
Planned changes of legislation	Yes. Official Statistics Law No. 25(I) of 2021. Link: https://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
6.1.3. Standards and manuals	
- Frascati Manual 2015, Guidelines for Collecting and Reporting Data on Research and Experimental Development	
6.2. Institutional Mandate - data sharing	
Not requested.	

7. Confidentiality	Top
See below.	
7.1. Confidentiality - policy	
<p>Confidentiality, being one of the process quality components, concerns the privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and the extent of its use for statistical purposes.</p> <p>A property of data indicating the extent to which their unauthorised disclosure could be prejudicial or harmful to the interest of the source or other relevant parties.</p> <p>a) Confidentiality protection required by law: Yes under the provisions of the Statistics Law No.15(I) of 2000.</p> <p>b) Confidentiality commitments of survey staff: Yes under the provisions of the Statistics Law No.15(I) of 2000.</p> <p>Official statistics are released in accordance to all confidentiality provisions of the following:</p> <ul style="list-style-type: none"> • · National Statistics Law No. 15(I) of 2000 (especially Article 13 on statistical confidentiality). • · Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and its later amendments (especially Chapter 5 on statistical confidentiality). • · European Statistics Code of Practice (especially Principle 5 on statistical confidentiality). • · CYSTAT's Code of Practice for the Collection, Publication and Storage of Statistical Data. <ul style="list-style-type: none"> • · Statistics Law No. 15(I) of 2000: http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument • · Regulation (EC) No 223/2009 on European statistics (consolidated text): http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN • · European Statistics Code of Practice: https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-N.pdf/e7f85f07-91db-4312-8118-f729c75878c7 • · Code of Practice for the Collection, Publication and Storage of Statistical Data: http://www.mof.gov.cy/mof/cystat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument 	
7.2. Confidentiality - data treatment	
<p>The survey is carried out in accordance to the Statistics Law, No.15(I) of 2000. The Statistical Service is bound, under the provisions of the Statistics Law, to treat all information collected as confidential. All collected information and data are used solely for statistical purposes. Data on individual enterprise cannot be published or disclosed to either public bodies or private individuals.</p>	

8. Release policy	Top
8.1. Release calendar	

Notifications about the dissemination of statistics are published in the release calendar, which is available on CYSTAT's website. The annual release calendar, announced during the 4th quarter of the each year, includes provisional dates which are finalised the week before publication.

Link to CYSTAT's release calendar:

http://www.mof.gov.cy/mof/cystat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument

8.2. Release calendar access

Link to CYSTAT's release calendar:

http://www.mof.gov.cy/mof/cystat/statistics.nsf/releasecalendar_en/releasecalendar_en?OpenDocument

8.3. Release policy - user access

According to the Dissemination and Pricing Policy of the Statistical Service of Cyprus (section 2.3) CYSTAT's main channel for dissemination of statistics is the website, which offers the same conditions to everyone and is updated at the same time every working day (12:00 noon). Privileged pre-released access (of no more than 1 day in advance) has been granted to a few selected users for specific statistics. These are specified in the Dissemination Policy (section 2.3).

In addition to the annual release calendar, users are informed of the various statistical releases through the "Alert" service provided by CYSTAT.

Link to the Dissemination and Pricing Policy should be attached (or the actual document):

- *Dissemination and Pricing Policy of the Statistical Service of Cyprus:*

http://www.mof.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument

9. Frequency of dissemination

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Frequency of data dissemination: Yearly

10. Accessibility and clarity

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10.1. Dissemination format - News release

See below.

10.1.1. Availability of the releases

	Availability (Y/N) ¹	Content, format, links, ...
Regular releases	Y	A press release is issued.
Ad-hoc releases	N	

1) Y - Yes, N - No

10.2. Dissemination format - Publications

See below.

10.2.1. Availability of mean of dissemination

Mean of dissemination	Availability (Y/N) ¹	Content, format, links, ...
General publication/article	Y	The results of the national R&D surveys are published in the annual report "Research and Development Statistics". The key results are also published in our statistical yearbook entitled "Statistical Abstract". Both publications can be purchased in paper form or can be downloaded for free from our website.
Specific paper publication (e.g. sectoral provided to enterprises) (paper, online)	N	

1) Y - Yes, N - No

10.3. Dissemination format - online database			
Not available.			
10.3.1. Data tables - consultations			
Not requested.			
10.4. Dissemination format - microdata access			
See below.			
10.4.1. Provisions affecting the access			
Access rights to the information	<p>There is no Micro-data access to outside users.</p> <p>Statistical micro-data from CYSTAT's surveys are accessible for research purposes only and under strict provisions as described below:</p> <p>Under the provisions of the Statistics Law, CYSTAT may release microdata for the sole use of scientific research. Applicants have to submit the request form "APPLICATION FOR DATA FOR RESEARCH PURPOSES" giving thorough information on the project for which micro-data are needed.</p> <p>The application is evaluated by CYSTAT's Confidentiality Committee and if the application is approved, a charge is fixed according to the volume and time consumed for preparation of the data. Micro-data may then be released after an anonymisation process which ensures no direct identification of the statistical units but, at the same time, ensures usability of the data.</p> <p>Link to the application for access to microdata on CYSTAT's website: http://www.cystat.gov.cy/mof/cystat/statistics.nsf/dissemination_en/dissemination_en?OpenDocument</p>		
Access cost policy	See above		
Micro-data anonymisation rules	See above		
10.5. Dissemination format - other			
See below.			
10.5.1. Metadata - consultations			
Not requested.			
10.5.2. Availability of other dissemination means			
Dissemination means	Availability (Y/N)¹	Micro-data / Aggregate figures	Comments
Internet: main results available on the national statistical authority's website	Y		The results of the national R&D surveys are published in the annual report "Research and Development Statistics". The publication can be downloaded free of charge from the web site of the Statistical Service of Cyprus (www.cystat.gov.cy) in PDF format. The main R&D indicators are also included, as MS Excel files, in the "Key Figures" section of the web site, under the statistical theme "Science and Technology". Finally, the key results are also published in our statistical yearbook entitled "Statistical Abstract" which can be downloaded from the web site.
CD-ROMs	N		
Data prepared for individual ad hoc requests	Y		Further information to interested users is provided upon request
Other	N		
1) Y – Yes, N - No			
10.6. Documentation on methodology			
Link : https://www.mof.gov.cy/mof/cystat/statistics.nsf/science_technology_91main_en/science_technology_91main_en?OpenForm&sub=1&sel=3#			

10.6.1. Metadata completeness - rate

Not requested.

10.7. Quality management - documentation

See below.

10.7.1. Information and clarity

Type(s) of data accompanying information available (metadata, graphs, quality reports, etc.)	Users can download free of charge from the web site of the Statistical Service of Cyprus the annual publication "Research and Development Statistics". This contains a textual description of latest developments in R&D activities, a number of graphical displays and numerous tables, including a comparison with corresponding international statistics. It also contains a comprehensive methodological note, giving information on the national R&D survey and its scope, concepts and definitions, as well as a copy of the questionnaire used. Every time that new data is disseminated at the national level, a press release is issued.
Request on further clarification, most problematic issues	For any further information, users can make a request to the Statistical Service (by phone, mail, e-mail or via the enquiries facility on the web site).
Measure to increase clarity	No intention to take any further measures.
Impression of users on the clarity of the accompanying information to the data	Users seem to be fully satisfied.

11. Quality management

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Quality management is defined as systems and frameworks in place within an organisation to manage the quality of statistical products and processes.

11.1. Quality assurance

The quality of statistics in CYSTAT is managed in the framework of the European Statistics Code of Practice which sets the standards for developing, producing and disseminating European Statistics as well as the ESS Quality Assurance Framework (QAF). CYSTAT endorses the Quality Declaration of the European Statistical System. In addition, CYSTAT is guided by the requirements provided for in Article 12 of the Statistics Law No. 15(I) of 2000 as well as Article 12 of Regulation (EC) No 223/2009 on European statistics, which sets out the quality criteria to be applied in the development, production and dissemination of European statistics.

- **European Statistics Code of Practice:** <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-32-11-955>
- **ESS Quality Assurance Framework (QAF):** <http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646>
- **Quality Declaration of the European Statistical System:** http://ec.europa.eu/eurostat/documents/4031688/8188985/KS0217428ENN_corr.pdf/116f7c85-cd3e-4bff-b695-4a8e71385fd4
- **Statistics Law No. 15(I) of 2000:** http://www.mof.gov.cy/mof/cystat/statistics.nsf/legislation_en/legislation_en?OpenDocument
- **Regulation (EC) No 223/2009 on European statistics (consolidated text):** <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20150608&qid=1504858409240&from=EN>

11.2. Quality management - assessment

The R&D data on the PNP sector in Cyprus are assessed as being of high quality. The definitions, concepts and methodology used are in compliance with the requirements of Eurostat and follow the guidelines of the Frascati Manual 2015. The national R&D survey is a well established survey which yields the maximum of the information required on an annual basis and with a relevantly short time lag from the end of the reference period.

12. Relevance

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Relevance is the degree to which statistics meet current and potential users' needs. It includes the production of all needed statistics and the extent to which concepts used (definitions, classifications etc.) reflect user needs. The aim is to describe the extent to which the statistics are useful to, and used by, the broadest array of users. For this purpose, statisticians need to compile information, firstly about their users (who they are, how many they are, how important is each one of them), secondly on their needs, and finally to assess how far these needs are met.

12.1. Relevance - User Needs

See below.

12.1.1. Needs at national level

Users' class ¹	Description of users	Users' needs
1 - European level	Council, Commission (Eurostat, DG Research), European Parliament.	Formulating the needs and assessing the implementation of Community research policies, especially with regard to the EU goals in R&D, as set by the Lisbon summit strategy.
1 - International organisations	OECD, UNESCO etc.	Economic analysis and monitoring.
1 - National	Ministry of Finance, Ministry of Energy, Commerce and Industry, Deputy Ministry of Research, Innovation and Digital Strategy, Directorate General for European Programmes, Coordination and Development, Research & Innovation Foundation.	Assessing the implementation of the national reform programme for the Lisbon strategy, strategic programming, economic analysis and monitoring.
2 - Social actors	Chamber of Commerce and Industry, various employers' associations, trade unions and lobby groups.	Economic analysis and monitoring, interested both in figures and comments.
3	Economic newspapers, TV channels.	Interested in figures, comments and analyses.
4	Higher education institutions, researchers, students and private individuals.	Interested in figures, comments and analyses.
5	Business enterprises, consultancy offices.	Market analysis, marketing strategy, offering consultancy services.

1) Users' class codification

1- Institutions:

- European level: Commission (DGs, Secretariat General), Council, European Parliament, ECB, other European agencies etc.
- in Member States, at the national or regional level: Ministries of Economy or Finance, Other Ministries (for sectoral comparisons), National Statistical Institutes and other statistical agencies (norms, training, etc.), and
- International organisations: OECD, UN, IMF, ILO, etc.

2- Social actors: Employers' associations, trade unions, lobbies, among others, at the European, national or regional level.

3- Media: International or regional media – specialized or for the general public – interested both in figures and analyses or comments. The media are the main channels of statistics to the general public.

4- Researchers and students (Researchers and students need statistics, analyses, ad hoc services, access to specific data.)

5- Enterprises or businesses (Either for their own market analysis, their marketing strategy (large enterprises) or because they offer consultancy services)

6- Other (User class defined for national purposes, different from the previous classes.)

12.2. Relevance - User Satisfaction

To evaluate if users' needs have been satisfied, the best way is to use user satisfaction surveys.

12.2.1. National Surveys and feedback

Conduction of a user satisfaction survey or

any other type of monitoring user satisfaction	<p>Since 2008 (with the exception of 2010 and 2013) CYSTAT carries out an annual online “Users Satisfaction Survey”. The results of the surveys are available on CYSTAT’s website at the link attached below.</p> <p>Surveys: http://www.mof.gov.cy/mof/cystat/statistics.nsf/dmlquality_en/dmlquality_en?OpenDocument.</p> <p>Overall, the users of statistical data published by CYSTAT are satisfied.</p> <p>A national user satisfaction survey was conducted as a necessary step towards the peer review of our national statistical system.</p>
User satisfaction survey specific for R&D statistics	In the latest national user satisfaction survey, R&D statistics were listed down explicitly as one of the main statistical fields to be commented on.
Short description of the feedback received	However, the number of questionnaires with relevant comments was too low to allow for any concrete conclusions to be drawn. No specific problems were reported. There were no findings specific to the PNP sector.

12.3. Completeness

See below.

12.3.1. Data completeness - rate

Share of PNP R&D expenditure in GERD (Gross Domestic Expenditure on R&D): The share in total R&D expenditure is 11.3%

12.3.2. Data availability

Share of PNP R&D expenditure in GERD (Gross Domestic Expenditure on R&D): The share in total R&D expenditure is 11.3%

12.3.2.1. Incorporation PNP sector in another sector

Incorporation of PNP in another sector	No
Reasons for not producing separate R&D statistics for the PNP sector	See above 12.3.2.
Share of PNP expenditure in the total expenditure of the other sector	Not applicable.
Share of PNP R&D Personnel in the respective figure of the other sector	Not applicable.

12.3.2.2. Non-collection of R&D data for the PNP sector

Reasons for not compiling R&D statistics for the PNP sector	Not applicable.
PNP R&D expenditure/ GERD*100)	See above 12.3.2.
Share of PNP R&D Personnel in the respective figure of the total national economy	Not available.

12.3.2.3. Data availability on more detail level

Additional dimension/variable available at national level¹⁾	Availability²⁾	Frequency of data collection	Breakdown variables	Combinations of breakdown variables	Level of detail

No additional breakdowns or/and at more detailed level than requested.					

1) This question is optional. It refers to variables and breakdowns NOT asked by the Commission Implementing Regulation (EU) No 995/2012 (neither as 'optional').

2) Y-start year

13. Accuracy Top
13.1. Accuracy - overall
<p>Accuracy in the statistical sense denotes the closeness of computations or estimates to the exact or true values. Statistics are not equal with the true values because of variability (the statistics change from implementation to implementation of the survey due to random effects) and bias (the average of the possible values of the statistics from implementation to implementation is not equal to the true value due to systematic effects).</p> <p>Several types of statistical errors occur during the survey process. The following typology of errors has been adopted:</p> <ol style="list-style-type: none"> 1. Sampling errors. These only affect sample surveys. They are due to the fact that only a subset of the population, usually randomly selected, is enumerated. 2. Non-sampling errors. Non-sampling errors affect sample surveys and complete enumerations alike and comprise: <ol style="list-style-type: none"> a) Coverage errors, b) Measurement errors, c) Non response errors and d) Processing errors. <p>Model assumption errors should be treated under the heading of the respective error they are trying to reduce.</p>
13.2. Sampling error
That part of the difference between a population value and an estimate thereof, derived from a random sample, which is due to the fact that only a subset of the population is enumerated.
13.2.1. Sampling error - indicators
<p>The main indicator used to measure sampling errors is the coefficient of variation (CV). Definition of coefficient of variation: $CV = (\text{Square root of the estimate of the sampling variance}) / (\text{Estimated value})$ Coefficient of variation for Total R&D expenditure : Not applicable. No sampling is used. Coefficient of variation for Total R&D personnel (FTE) : Not applicable. No sampling is used.</p>
13.3. Non-sampling error
<p>Non-sampling errors occur in all phases of a survey. They add to the sampling errors (if present) and contribute to decreasing overall accuracy. It is important to assess their relative weight in the total error and devote appropriate resources for their control and assessment.</p> <ol style="list-style-type: none"> a) Extent of non-sampling errors: The data collection and processing phase is managed by a highly skilled person who is working in the field for more than 20 years. Information providers, in most cases, stay the same for years and, consequently, are very well aware of the questionnaire and the relevant concepts and definitions. b) Measures taken to reduce the extent of non-sampling errors: Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also made to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. c) Methods used in order to correct / adjust for such errors: The data reported are also checked against administrative records kept by the Research & Innovation Foundation. The CORDIS database, as well as the web sites of various funding agencies and programmes, are also frequently consulted in order to identify any possible research activities that the information providers may have failed to report. Data entry is done in MS Excel spreadsheets. They

incorporate various cross-checking and validation capabilities. Controls and checks for logical inconsistencies are used to eliminate any remaining errors. Comparisons are also made with the responses provided by the same unit in the previous years' surveys. Errors detected in the questionnaires are corrected by further contacting the information providers. There is no unit non response.
13.3.1. Coverage error
Coverage errors are due to divergences between the target population and the frame population. The frame population is the set of target population members that has a chance to be selected into the survey sample. It is a listing of all items in the population from which the sample is drawn that contains contact details as well as sufficient information to perform stratification and sampling.
13.3.1.1. Over-coverage - rate
Not applicable.
13.3.1.2. Common units - proportion
Not requested.
13.3.2. Measurement error
Not requested.
13.3.3. Non response error
Not requested.
13.3.3.1. Unit non-response - rate
Not requested.
13.3.3.2. Item non-response - rate
Not requested.
13.3.4. Processing error
Not requested.
13.3.5. Model assumption error
Not requested.

14. Timeliness and punctuality	Top
14.1. Timeliness	
Timeliness and punctuality refer to time and dates, but in a different manner: the timeliness of statistics reflects the length of time between their availability and the event or phenomenon they describe. Punctuality refers to the time lag between the release date of the data and the target date on which they should have been delivered, with reference to dates announced in the official release calendar.	
14.1.1. Time lag - first result	
Time lag between the end of reference period and the release date of the results: Indicator: (Release date of provisional/ first results) - (Date of reference for the data)	
No release of provisional national data.	
a) End of reference period: No release of provisional national data.	
b) Date of first release of national data: No release of provisional national data.	
c) Lag (days): No release of provisional national data.	
14.1.2. Time lag - final result	
a) End of reference period: 2019 (T)	
b) Date of first release of national data: T+19 months	
c) Lag (days): 0 days	
14.2. Punctuality	

Punctuality refers to the time lag between the release date of data and the target date on which they were scheduled for release as announced officially.

14.2.1. Punctuality - delivery and publication

Punctuality of time schedule of data release = (Actual date of the data release) - (Scheduled date of the data release)

14.2.1.1. Deadline and date of data transmission

	Transmission of provisional data	Transmission of final data
Legally defined deadline of data transmission (T+_ months)	10	18
Actual date of transmission of the data (T+x months)	10	18
Delay (days)	0	0
Reasoning for delay		

15. Coherence and comparability

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Comparability aims at measuring the impact of differences in applied statistical concepts and definitions on the comparison of statistics between geographical areas, non-geographical domains or over time. It is the extent to which differences between statistics are attributed to differences between the true values of the statistical characteristics.

The factors that may cause two statistical figures to lose comparability are attributes of the surveys that produce them. These attributes may be grouped into two major categories: (a) concepts of the survey and (b) measurement / estimation methodology.

The two following sections present lists of key attributes. Information on some of the attributes will have already been reported in previous sections of this report but they are repeated here for completeness of the lists.

The coherence of statistics is their adequacy to be reliably combined in different ways and for various uses. It is, however, generally easier to show cases of incoherence than to prove coherence.

When originating from a single source, statistics are coherent in that elementary concepts can be combined reliably in more complex ways. When originating from different sources, and in particular from statistical surveys of different frequencies, statistics are coherent insofar as they are based on common definitions, classifications and methodological standards. The messages that statistics convey to users will then clearly relate to each other, or at least will not contradict each other. The coherence between statistics is orientated towards the comparison of different statistics, which are generally produced in different ways and for different primary uses.

The definition of coherence: The extent to which the statistical characteristics confirm with those in other statistics such that the statistics can be expected to be used together in conjunction with, or as an alternative to.

15.1. Comparability - geographical

See below.

15.1.1. Asymmetry for mirror flow statistics - coefficient

Not requested.

15.1.2. General issues of comparability

No comments.

15.1.3. Survey Concepts Issues

The following table lists a number of key survey concepts and conceptual issues; it gives reference to the Commission Implementing Regulation (EU) No 995/2012 or Frascati manual paragraphs with recommendations about these concepts / issues.

Concept / Issues	Reference to recommendations	Deviation from recommendations	Comments on national definition / Treatment – deviations from recommendations
R&D personnel	FM2015 Chapter 5 (mainly paragraph 5.2).	NO	
Researcher	FM2015, § 5.35-5.39.	NO	
	FM2015, § 5.58-5.61 (in combination with	NO	

Concept / Issues	Reference to recommendations	Deviation from recommendations	Comments on national definition / Treatment – deviations from recommendations
Approach to obtaining Headcount (HC) data	<i>the Eurostat's harmonised Methodological Guidelines).</i>		
Reporting data according to formula: Total R&D personnel = Internal R&D personnel + External R&D personnel	FM2015, §5.25	NO	
Approach to obtaining FTE data	FM2015, § 5.49-5.57 (in combination with the Eurostat's harmonised Methodological Guidelines).	NO	
Intramural R&D expenditure	FM2015, Chapter 4 (mainly paragraph 4.2).	NO	
Statistical unit	FM2015, § 10.40-10.42 (in combination with the Eurostat's harmonised Methodological Guidelines).	NO	
Target population	FM2015, § 10.40-10.42 (in combination with the Eurostat's harmonised Methodological Guidelines).	NO	
Sector coverage	FM2015, § 10.2-10.8 (in combination with the Eurostat's harmonised Methodological Guidelines).	NO	
Reference period for the main data	Reg. 995/2012: Annex 1, section 1, § 4-6.	NO	
Reference period for all data	Reg. 995/2012: Annex 1, section 1, § 4-6.	NO	

15.1.4. Deviations from recommendations

The following table lists a number of key methodological issues, which may affect the international comparability of national R&D statistics. The table gives the references in the Frascati manual, where related recommendations are made. Countries are asked to report on the existence of any deviations from existing recommendations and comment upon.

Methodological issues	Deviation from recommendations	Comments on national treatment / treatment deviations from recommendations
Data collection method	NO	See present report

Survey questionnaire / data collection form	NO	See present report
Cooperation with respondents	NO	See present report
Data processing methods	NO	See present report
Treatment of non-response		There is no unit non-response
Data compilation of final and preliminary data	NO	See present report

15.2. Comparability - over time

See below.

15.2.1. Length of comparable time series

See below.

15.2.2. Breaks in time series

	Length of comparable time series	Break years ¹	Nature of the breaks
R&D personnel (HC)			
Function	1998-2019	No break years	
Qualification	1998-2019	No break years	
R&D personnel (FTE)			
Function	1998-2019	No break years	
Qualification	1998-2019	No break years	
R&D expenditure			
Source of funds	1998-2019	No break years	
Type of costs	1998-2019	No break years	
Type of R&D	1998-2019	No break years	
Other	1998-2019	No break years	

1) Breaks years are years for which data are not fully comparable to the previous period.

15.3. Coherence - cross domain

See below.

15.3.1. Coherence - sub annual and annual statistics

Not requested.

15.3.2. Coherence - National Accounts

R&D statistics are fully reconcilable with National Accounts.

15.4. Coherence - internal

See below.

15.4.1. Comparison between preliminary and final data

This part compares key R&D variables as preliminary and final data.

	Total PNP R&D expenditure (in 1000 of national currency)	Total PNP R&D personnel (in FTEs)	Total number of PNP researchers (in FTEs)
Preliminary data (<i>delivered at T+10</i>)	15000	210.0	80.0
Final data (<i>delivered T+18</i>)	18595	310.3	134.3
Difference (of final data)	3595	100.3	54.3

15.4.2. Consistency between R&D personnel and expenditure

	Average remuneration (cost ² in national currency)
	Not available

Consistency between FTEs of internal R&D personnel and R&D labour costs (1)	
Consistency between FTEs of external R&D personnel and other current costs for external R&D personnel (2)	Not available

(1) Calculate the average remuneration (cost) of individuals belonging to the internal R&D personnel, excluding those who are only formally 'employees' (university students, grant holders, etc.).

(2) Calculate the average remuneration (cost) of individuals belonging to the external R&D personnel (FTEs/other current R&D costs for external R&D personnel).

16. Cost and Burden [Top](#)

The assessment of costs associated with a statistical product is a rather complicated task since there must exist a mechanism for appointing portions of shared costs (for instance shared IT resources and dissemination channels) and overheads (office space, utility bills etc). The assessment must become detailed and clear enough so that international comparisons among agencies of different structures are feasible.

16.1. Costs summary

	Costs for the statistical authority (in national currency)	% sub-contracted¹⁾
Staff costs	Not available	0
Data collection costs	Not available	0
Other costs	Not available	0
Total costs	Not available	0
Comments on costs		
No data are available specific to PNP sector.		

1) The shares of the figures given in the first column that are accounted for by payments to private firms or other Government agencies.

16.2. Components of burden and description of how these estimates were reached

	Value	Computation method
Number of Respondents (R)	20	Count the number of PNP entities from which request R&D data.
Average Time required to complete the questionnaire in hours (T)¹⁾	Not available	Not available
Average hourly cost (in national currency) of a respondent (C)	Not available	Not available
Total cost	Not available	Not available

1) T = the time required to provide the information, including time spent assembling information prior to completing a form or taking part in interview and the time taken up by any subsequent contacts after receipt of the questionnaire ('Re-contact time')

17. Data revision [Top](#)

17.1. Data revision - policy

Not requested.

17.2. Data revision - practice

Not requested.

17.2.1. Data revision - average size

Not requested.

18. Statistical processing[Top](#)**18.1. Source data**

Several separate activities are used for the collection of raw data or pre-compiled administrative data and statistics related to R&D. For simplicity, we call them surveys irrespective of whether they are sample surveys, censuses, collections of administrative data/pre-compiled statistics. This section presents the names of the surveys by sector of performance as well as methodological information for each survey. Depending on the type of survey and sector of performance, only the sections corresponding to that survey and sector are filled in.

18.1.1. Data source – general information

Survey name	SURVEY ON SCIENTIFIC RESEARCH AND EXPERIMENTAL DEVELOPMENT
Type of survey	No sampling is used. The selection of information providers is done in a purposive manner. All known or potential R&D performers in the PNP sector are included in a register of all possible R&D performers, following the FM recommendations
Combination of sample survey and census data	Not applicable. No sampling is used.
Combination of dedicated R&D and other survey(s)	Not applicable.
Sub-population A (covered by sampling)	Not applicable.
Sub-population B (covered by census)	Not applicable.
Variables the survey contributes to	Not applicable.
Survey timetable-most recent implementation	Not applicable.

18.1.2. Sample/census survey information

	Stage 1	Stage 2	Stage 3
Sampling unit			
Stratification variables (if any - for sample surveys only)			
Stratification variable classes			
Population size			
Planned sample size			
Sample selection mechanism (for sample surveys only)			
Survey frame			
Sample design			
Sample size			
Survey frame quality			

18.1.3. Information on collection of administrative data or of pre-compiled statistics

Source	Legal entities and Private individuals in PNP sector according to FM definitions.
Description of collected data / statistics	(a) R&D personnel, both in head counts and full-time equivalent, broken down by occupation, sex, level of formal qualification, field of science and technology, and (b) R&D

	expenditure, broken down by type of costs, field of science and technology, type of research and source of funds.
Reference period, in relation to the variables the survey contributes to	All parameters collected are reported on an annual basis.
18.2. Frequency of data collection	
See 12.3.3.	
18.3. Data collection	
See below.	
18.3.1. Data collection overview	
Information provider	Legal entities and Private individuals in PNP sector according to FM definitions.
Description of collected information	(a) R&D personnel, both in head counts and full-time equivalent, broken down by occupation, sex, level of formal qualification, field of science and technology, and (b) R&D expenditure, broken down by type of costs, field of science and technology, type of research and source of funds.
Data collection method	The national R&D survey is carried out on an annual basis. A questionnaire is sent out to all potential information providers, asking them to complete it and return it by mail. A letter indicating that no R&D activity was performed during the year under review is expected from the non-R&D performers as well. Regular contacts by telephone or e-mail and, in some cases, personal interviews, are also used to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, are also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.
Time-use surveys for the calculation of R&D coefficients	All parameters collected are reported on an annual basis.
Realised sample size (per stratum)	Not applicable. No sampling is used.
Mode of data collection (face-to-face interviews; telephone interviews; postal surveys, etc.)	A questionnaire is sent out to all possible R&D performing enterprises, asking them to complete it and return it by mail. A letter indicating that no R&D activity was performed during the year under review is expected from the non-R&D performers as well. Regular contacts by telephone or email and, in some cases, personal interviews, are also used to provide clarifications and assistance and to check and correct possible inconsistencies and oversights in the questionnaires received. The data reported are also checked against administrative records kept by the Research & Innovation Foundation, which is the national institute for the promotion of scientific and technological research in Cyprus. The CORDIS database, as well as the web sites of various funding agencies and programmes, are also frequently consulted in order to identify any possible research activities that the information providers may have failed to report.
Incentives used for increasing response	No incentives used for increasing response.
Follow-up of non-respondents	Regular contacts by telephone or email and, in some cases, personal interviews, are also used.
Replacement of non-respondents (e.g. if proxy interviewing is employed)	No replacement of non-respondents.
Response rate (ratio of completed "interviews" over total number of eligible enterprises or enterprises of unknown eligibility)	100%

Non-response analysis (if applicable -- also see section 18.5. Data compilation - Weighting and Estimation methods)	There was no need to carry out a non-response survey.
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18.3.2. Questionnaire and other documents

Annex	Name of the file
R&D national questionnaire and explanatory notes in English:	Quest_2019_PNP_EN.pdf -(R&D Questionnaire 2019 - Private Non Profit Sector (English))
R&D national questionnaire and explanatory notes in the national language:	Quest_2019_PNP_GR.pdf -(R&D Questionnaire 2019 - Private Non Profit Sector (Greek))
Other relevant documentation of national methodology in English:	
Other relevant documentation of national methodology in the national language:	

Annexes:

[R&D Questionnaire 2019 - Private Non Profit Sector \(English\)](#)

[R&D Questionnaire 2019 - Private Non Profit Sector \(Greek\)](#)

18.4. Data validation

Validation activities include: checking that the population coverage and response rates are as required; comparing the statistics with previous cycles; confronting the statistics against other relevant data (both internal and external); investigating inconsistencies in the statistics; verifying the statistics against expectations and domain intelligence, outlier detection.

18.5. Data compilation

See below.

18.5.1. Imputation - rate

Not applicable.

18.5.2. Data compilation methods

Data compilation method - Final data (between the survey years)	The national R&D survey is carried out on an annual basis.
Data compilation method - Preliminary data	For a significant number of information providers, final data are already available within 10 months after the end of the calendar year of the reference period. For the rest of the providers, an estimate is made on the basis of the previous year's figures and data derived from administrative records. No use of coefficients is made.

18.5.3. Measurement issues

Method of derivation of regional data	Not applicable. Cyprus is one region.
Coefficients used for estimation of the R&D share of more	Not applicable.

general expenditure items	
Inclusion or exclusion of VAT and provisions for depreciation in the measurement of expenditures	No deviations from FM §4.40-4.43 (VAT), and FM §4.38-4.39 (depreciation) recommendations.
Differences between national and Frascati Manual classifications not mentioned above and impact on national statistics	No differences.

18.5.4. Weighting and estimation methods

Description of weighting method	Not applicable. No sampling is used.
Description of the estimation method	Not applicable. No sampling is used.

18.6. Adjustment

Not requested.

18.6.1. Seasonal adjustment

Not requested.

19. Comment

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