INFOSOC_ETNSI_A_CY_2022_0000

National Reference Metadata in SIMS structure for INFOSOC Enterprises

Compiling agency: STATISTICAL SERVICE OF CYPRUS (CYSTAT)

For any question on data and metadata, please contact: EUROPEAN STATISTICAL DATA SUPPORT

1. Contact   Top

1.1. Contact organisation	STATISTICAL SERVICE OF CYPRUS (CYSTAT)
1.2. Contact organisation unit	ICT SURVEYS
1.5. Contact mail address	STATISTICAL SERVICE OF CYPRUS CY-1444, NICOSIA CYPRUS

2. Metadata update   Top

2.1. Metadata last certified	01/11/2022
2.2. Metadata last posted	01/11/2022
2.3. Metadata last update	01/11/2022

3. Statistical presentation   Top

3.1. Data description

Data on the Information and Communication Technologies (ICT) usage and e-commerce in enterprises are survey data. They are collected by the National Statistical Institutes or Ministries and are in principle based on Eurostat's **annual model questionnaires** on **ICT usage and e-commerce in enterprises**.

Large part of the data collected is used to measure the progress in the implementation of one of the main political priorities of the European Commission for 2019 to 2024 – A Europe fit for the digital age. Part of this is the "European strategy for data", envisioning a single market for data to ensure the EU's global competitiveness and data sovereignty, in which context a comprehensive set of new rules for all digital services was proposed: the Digital Services Act and the Digital Markets Act, which are centrepieces of the EU digital strategy. Furthermore, the Commission and the High Representative of the Union for Foreign Affairs and Security Policy presented a new "EU cybersecurity strategy", which is intended to bolster the EU's collective resilience against cyber threats, safeguard a global and open internet and protect EU values and the fundamental rights of its people. Furthermore, data will allow monitoring the progress towards the Commission's vision for Europe's digital transformation by 2030 presented on 9 March 2021. This vision for the EU's

digital decade evolves around four cardinal points: Skills, Digital transformation of businesses, Secure and sustainable digital infrastructures, and Digitalisation of public services.

The aim of the European survey on ICT usage and e-commerce in enterprises is to collect and disseminate harmonised and comparable information at European level.

Name of data collection
ΕΡΕΥΝΑ ΧΡΗΣΗΣ ΤΕΧΝΟΛΟΓΙΩΝ ΠΛΗΡΟΦΟΡΙΚΗΣ ΚΑΙ ΕΠΙΚΟΙΝΩΝΙΩΝ ΚΑΙ ΗΛΕΚΤΡΟΝΙΚΟΥ ΕΜΠΟΡΙΟΥ 2022 SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES 2022

3.2. Classification system

NACE rev.2 2008

3.3. Coverage - sector

All economic activities in the scope of Annex I of the Commission Regulation are intended to be included in the general survey, covering enterprises with 10 or more employees and self-employed persons. These activities are: NACE Rev. 2 sections C, D, E, F, G, H, I, J, L, M and N, division 95.1.

For micro-enterprises see the sub-concepts below

Micro-enterprises were not included in the survey

> **3.3.1. Coverage-sector economic activity - All Nace Rev. categories are covered**

No

> **3.3.2. Coverage sector economic activity - If the answer is "No", which ones were covered?**

Micro-enterprises were not included in the survey

3.4. Statistical concepts and definitions

The model questionnaire on ICT usage and e-commerce in enterprises provides a large variety of variables covering among others the following areas:

- General information about ICT systems
- Access to and use of the Internet
- E-commerce and e-business
- ICT security
- Other topics: use of robotics, ICT specialists, ICT and the environment.

The annual model questionnaires and the methodological manual comprise definitions and explanations regarding the topics of the survey.

3.5. Statistical unit

Enterprise

3.6. Statistical population

Target Population

As required by Annex of the Commission Implementing Regulation, enterprises with 10 or more employees and self-employed persons are intended to be covered by the survey.

For micro-enterprises see the sub-concepts below

> **3.6.1. Coverage of micro-enterprises**

No

> **3.6.2. Breakdown between size classes [0 to 1] and [2 to 9]**

No

> **3.6.3. If different size delimitation or different variable was used, please indicate it.**

Not Applicable

3.7. Reference area

Government controlled areas of the Republic of Cyprus

3.8. Coverage - Time

Years 2021 and 2022.

3.9. Base period

Not applicable

4. Unit of measure

Percentages of enterprises, Percentages of turnover, Percentages of employees and self-employed persons.

5. Reference Period

The reference periods defined in the model questionnaire were followed in the national survey.

6. Institutional Mandate

The legal basis for the 2022 EU survey on the ICT Usage and E-Commerce in enterprises is the Commission Implementing Regulation (EU) 2021/1190 of 15 July 2021 laying down the technical specifications of data requirements for the topic 'ICT usage and e-commerce' for the reference year 2022, pursuant to Regulation (EU) 2019/2152 of the European Parliament and of the Council.

6.1. Institutional Mandate - legal acts and other agreements

Complementary national legislation constituting the legal basis for the survey on the use of ICT in enterprises:

Article 3 of the Official Statistics Law, No. 25(I) of 2021 defines the functions of the Statistical Service of Cyprus regarding the production and dissemination of official statistics. Moreover, Article 13, explicitly stipulates the mandate for data collection and introduces a mandatory response to statistical enquiries by stipulating the obligation of respondents to reply to surveys and provide the data required. This relates not only to national but also to European statistics which, by virtue of Article 8 of the said Law, are incorporated in the annual and multiannual programmes of work without any further procedure.

6.2. Institutional Mandate - data sharing

Not Applicable

7. Confidentiality

7.1. Confidentiality - policy

Regulation (EC) No 223/2009 on European statistics (recital 24 and Article 20(4)) of 11 March 2009 (OJ L 87, p. 164), stipulates the need to establish common principles and guidelines ensuring the confidentiality of data used for the production of European statistics and the access to those confidential data with due account for technical developments and the requirements of users in a democratic society.

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

- National Statistics Law No. 25(I) of 2021 (especially Article 16 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.

7.2. Confidentiality - data treatment

Data are transmitted via eDamis (encrypted) and delivered to a secure environment where they are treated. National Statistical Institutes are requested to add flags for confidentiality in case results must not be disclosed.

The treatment of confidential data is regulated by CYSTAT's Code of Practice for the Collection, Publication and Storage of Statistical Data.

8. Release policy

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.

8.2. Release calendar access

The release calendar is available on the website of the Statistical Service of Cyprus.

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.

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.

The Release Calendar is updated every Friday and contains the following:

(a) Confirmed announcements: announcements which are scheduled to be released in the following week,

(b) Preliminary announcements: announcements to be released until the end of the year, and

(c) Published announcements: published announcements.

The data release policy of CyStat regarding the ICT data is the same as the general policy.

9. Frequency of dissemination

Annual

10. Accessibility and clarity

10.1. Dissemination format - News release

Survey Results (press / news release) from the survey are available on the website of the Statistical Service of Cyprus under the Statistical Theme "Science and Technology / Information Society".

10.2. Dissemination format - Publications

Survey Results (publications) from the survey are available on the web portal of the Statistical Service of Cyprus under the Statistical Theme "Science and Technology / Information Society".

10.3. Dissemination format - online database

See detailed section 10.3.1

10.3.1. Data tables - consultations

Survey Results for selected variables collected in the framework of this survey are available for all participating countries on Digital economy and society of Eurostat website.

Survey Results from the survey are available on the web portal of the Statistical Service of Cyprus under the Statistical Theme "Science and Technology / Information Society".

10.4. Dissemination format - microdata access

Not applicable

10.5. Dissemination format - other

Not requested

10.5.1. Metadata - consultations

Not requested

10.6. Documentation on methodology

"Summary Results" describing the results of the survey illustrated with figures (see Annexes - Summary Results: ICT usage and e-commerce in enterprises, 2022)

"Enumerators Instructions" (see Annexes - Enumerators Instructions ICT usage and e-commerce in enterprises, 2022)

10.6.1. Metadata completeness - rate

Not requested

10.7. Quality management - documentation

CYSTAT has set its strategic goal to provide high-quality statistical information in an objective, transparent, reliable and timely manner. For this reason, CYSTAT established the "Quality Policy" which forms the basis of all statistical activities and leads towards continuous improvement of its statistical output.

11. Quality management

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 11 of the Statistics Law No. 25(I) of 2021 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.

The Methodological Manual provides guidelines and standards for the implementation of the surveys in the Member States. It is updated every year according to the changed contents of the model questionnaires.

11.2. Quality management - assessment

At European level, the recommended use of the annual Eurostat model questionnaire aims at improving comparability of the results among the countries that conduct the survey on ICT usage and e-commerce in enterprises. Moreover, the Methodological Manual provides guidelines and clarifications for the implementation of the surveys in the Member States.

The Methodological Manual provided by Eurostat includes the guidelines and standards used by CYSTAT for the implementation of the survey. The Eurostat model questionnaire on ICT usage and e-Commerce in enterprises for 2022 was used.

12. Relevance

12.1. Relevance - User Needs

At European level, European Commission users (e.g. DG CNECT, DG GROW, DG JUST, DG REGIO, DG JRC) are the principal users of the data on **ICT usage and e-commerce in enterprises** and contribute in identifying/defining the topics to be covered. Hence,

main users are consulted regularly (at hearings, task forces, ad hoc meetings) for their needs and are involved in the process of the development of the model questionnaires at a very early stage.

User needs are considered throughout the whole discussion process of the model questionnaires aiming at providing relevant statistical data for monitoring and benchmarking of European policies.

Not Available

12.2. Relevance - User Satisfaction

At European level, contacts within the Commission, the OECD and other stakeholders give a clear picture about the key users' satisfaction as to the following data quality aspects: accuracy and reliability of results, timeliness, satisfactory accessibility, clarity and comparability over time and between countries, completeness and relevance. Overall users have evaluated positively (good, very good) the data quality on the ICT usage and e-commerce in enterprises.

Since 2008 (with the exception of 2010, 2013 and 2020) CYSTAT carries out an annual online "Users Satisfaction Survey". The results of the surveys are available on CYSTAT's web portal.

Overall, the users of statistical data published by CYSTAT are satisfied.

12.3. Completeness

Detailed information is available in " Annex I _ Completeness " excel file - related to questionnaire, coverage, additional questions.

Annexes:
ICT ENT2022 Annex I. Completeness - CY

12.3.1. Data completeness - rate

Not requested. Any relevant qualitative information is available in the column "Any deviation from question / item in model questionnaire" in the *" Annex I _ Completeness " excel file*.

13. Accuracy

13.1. Accuracy - overall

Comments on reliability and representativeness of results and completeness of dataset

These comments reflect overall standard errors reported for the indicators and breakdowns in section 13.2.1 (Sampling error - indicators) and the rest of the breakdowns for national and European aggregates, as well as other accuracy measurements. The estimated standard error should not exceed 2pp for the overall proportions and should not exceed 5pp for the proportions related to the different subgroups of the population (for those NACE aggregates for the calculation and dissemination of national aggregates). If problems were found, these could have implications for future surveys (e.g. need to improve sampling design, to increase sample sizes, to increase the response rates etc.).

More detailed information is available in " Annex II. _ Accuracy " excel file - related to European aggregates, comments on reliability and use of flag.

Annexes:
ICT ENT2022 Annex II. Accuracy - CY

13.2. Sampling error

For calculation of the standard error see 13.2.1.1.

13.2.1. Sampling error - indicators

Standard error (for selected indicators and breakdowns)

Precision measures related to variability due to sampling, unit non-response (the size of the subset of respondents is smaller than the size of the original sample) and other (imputation for item non-response, calibration etc.) are not (yet) required from the Member states for all indicators. Eurostat will make basic assumptions to compute these measures for all indicators produced (e.g. stratified random sampling assuming as strata the crossing of the variables "Number of employees and self-employed persons" and "Economic Activity" as it was defined in the 3 tables of section 18.1).

More detailed information is available in" 2022 tables " excel file – worksheets starting with "Standard error".

13.2.1.1. Sampling error indicator calculation

Calculation of the standard error

Various methods can be used for the calculation of the standard error for an estimated proportion. The aim is to incorporate into the standard error the sampling variability but also variability due to unit non-response, item non-response (imputation), calibration etc. In case of census / take-all strata, the aim is to calculate the standard errors comprising the variability due to unit non-response and item non-response.

a) Name and brief description of the applied estimation approach
Standard errors were calculated under the assumption that the enterprises which responded to the survey behave as a stratified simple random sample. The standard error of the ratios' estimators is calculated using Taylor linearization technique.

b) Basic formula

In order to calculate the standard error for variables E_AWSVAL and E_AXSVAL, the function svystatR of the R package ReGenesees is used.

In order to calculate the standard error for variables E_AWSEU, E_AXSELL, E_ITSP2, E_SECPOL2, E_SEC2IUSVF, E_RBTS, E_ENV_DREC, E_RM, E_RA_M, E_AWS_COWN, E_AWS_CMP, E_SECMSPSW and E_ENVPAP1 the function svystatTM of the R package ReGenesees is used.

c) Main reference in the literature

Not Available

d) How has the stratification been taken into account?

In order to take stratification into account, the function e.svydesign of the package ReGenesees is used prior to using the functions svystatTM and svystatR.

e) Which strata have been considered?

Two variables were used for stratification, NACE group and SIZE. There were 96 strata for the enterprises in sections C10_S951_XK. In order to calculate standard errors, stratum 17 was merged with stratum 18 and stratum 39 was merged with stratum 38, stratum 92 with stratum 91 and stratum 34 with stratum 37.

13.3. Non-sampling error

See the sub-concepts below

13.3.1. Coverage error

See 18.1.1. A) Known shortcomings of frame population

13.3.1.1. Over-coverage - rate

The un-weighted over - coverage rate defined as the ratio of out of scope enterprises to the total number of enterprises is 1,6%.

13.3.1.2. Common units - proportion

Not requested

13.3.2. Measurement error

1)   **Measurement errors**:

Not applicable

2)   **Questionnaire design and testing:**

The questionnaire used was the model questionnaire provided by Eurostat. No additional efforts were made regarding the questionnaire design and testing.

3)   **Interviewer training:**

The interviewers engaged for the survey were trained before the beginning of the survey about:

- different aspects of the questionnaire (different topics covered by the survey, concepts and definitions),
- the use of CAWI and CATI,
- interview techniques (provide assistance in cases were it was needed),
- procedures regarding the day to day operation of the survey (contacting enterprises informing them about the survey and when needed requesting clarifications regarding the data collected)

They were also provided with a set of enumerators instructions (see annex attached-Enumerators Instructions - ICT usage and e-commerce in enterprises, 2022). During the survey period they were monitored on a regularly basis by the responsible officer (supervisor).

13.3.3. Non response error

See detailed sections below

13.3.3.1. Unit non-response - rate

Response and non-response

13.3.3.1.1. Unit response

The following table contains the number of units (e.g. enterprises), by type of response to the survey and by the percentage of these values in relation to the gross sample size.

Please note that the gross/net sample shall correspond to the (updated) gross and net sample reported in 18.1.

Type of response	0-9 employees and self-employed persons		10 or more employees and self-employed persons	
	Number	%	Number	%
Gross sample size (as in section 3.1 C)		100%	4314	100%

1. Response (questionnaires returned by the enterprise)			2833	65.7%
1.1 Used for tabulation and grossing up (Net sample or Final Sample; as in section 3.1 D)			2702	62.6%
1.2 Not used for tabulation			131	3.0%
1.2.1 Out of scope (deaths, misclassified originally in the target population, etc.)			71	1.6%
1.2.2 Other reasons (e.g. unusable questionnaire)			60	1.4%
2. Non-response (e.g. non returned mail, returned mail by post office)			1481	34.3%

Comments on unit response, if unit response is below 60%
No comments

13.3.3.1.2. Methods used for minimizing unit non-response

Please give a description of measures taken to reduce the unit non-response: advance notification in the form of a letter or phone call, showing respondents how the data they are providing are being used, system of reminders, etc.

In order to minimize the unit non-response rate the following measures were applied:

a) informative e-mail to the IT manager of the enterprise just before the beginning of the data collection period,

b) e-mail reminders were sent,

c) telephone reminders,

d) offer of telphone assistance when needed.

13.3.3.1.3. Methods used for unit non-response treatment

1. No treatment for unit non-response	
2. Treatment by re-weighting	
2.1 Re-weighting by the sampling design strata considering that non-response is ignorable inside each stratum (the naïve model)	
2.2 Re-weighting by identified response homogeneity groups (created using sample-level information)	
2.3 Re-weighting through calibration/post-stratification (performed using population information) by the groups used for calibration/post-stratification	
3. Treatment by imputation (done distinctly for each variable/item)	

4. Method(s) and the model(s) corresponding to the above or other method(s) used for the treatment of unit non-response. (e.g. Re-weighting using Horvitz-Thompson estimator, ratio estimator or regression estimator, auxiliary variables)

Unit non-response is taken into account by calculating the weights as Ni/ni where Ni=number of enterprises in stratum i of the population and ni=number of responding enterprises in stratum i of the population.

13.3.3.1.4. Assessment of unit non-response bias

Not Applicable

13.3.3.2. Item non-response - rate

13.3.3.2.1. Methods used for item non-response treatment

1.No treatment for item non-response	
2.Deductive imputation An exact value can be derived as a known function of other characteristics.	
3.Deterministic imputation (e.g. mean/median, mean/median by class, ratio-based, regression-based, single donor nearest-neighbour) Deterministic imputation leads to estimators with no random component, that is, if the imputation were to be re-conducted, the outcome would be the same	X
4.Random imputation (e.g. hot-deck, cold-deck) Random imputation leads to estimators with a random component, that is, if the imputation were re-conducted, it would have led to a different result	
5.Re-weighting	
6.Multiple imputation In multiple imputation each missing value is replaced (instead of a single value) with a set of plausible values	

that represent the uncertainty of the right value to impute. Multiple imputation methods offer the possibility of deriving variance estimators by taking imputation into account. The incorporation of imputation into the variance can be easily derived based on variability of estimates among the multiply imputed data sets.

7. Method(s) and the model(s) corresponding to the above or other method(s) used for the treatment of item non-response.

Imputation of the mean within classes for item-non-response was used only for question X3 on turnover, where the item non-response was 0,8%.
For all other variables, no imputation was carried out.

13.3.3.2.2. Questions or items with item response rates below 90% and other comments

Other comments relating to the item non-response

Additional issues concerning "non-response" calculation (e.g. method used in national publications).

Not Applicable

Questions and items with low response rates (cut-off value is 90%) and item non-response rate.

No questions or items with response rates below 90% existed

13.3.4. Processing error

Not Applicable

13.3.5. Model assumption error

Not requested

14. Timeliness and punctuality

14.1. Timeliness

See detailed section below

14.1.1. Time lag - first result

Not applicable

14.1.2. Time lag - final result

Data are to be delivered to Eurostat in the fourth quarter of the reference year (due date for the finalised dataset is 5th October). European results are released before the end of the survey year or in the beginning of the year following the survey year (T=reference year, T+0 for indicators referring to the current year, T+10 months for other indicators referring to the previous year e.g. e-commerce). No deviation from the above statement. Data (finalised dataset) were delivered to Eurostat before the due date (5th October).

14.2. Punctuality

See detailed sections below

14.2.1. Punctuality - delivery and publication

The last fully validated delivery of data was on the 29th September 2022, seven days earlier than the target date.
The time lag (in days) between the actual delivery of the data and the target date was (-7) days.

15. Coherence and comparability

15.1. Comparability - geographical

The model questionnaire is generally used by the countries that conduct the survey on ICT usage and e-commerce in enterprises. Due to (small) differences in translation, in reference periods, in the used survey vehicle, in non-response treatment or different routing through the questionnaire, some results for some countries may be of reduced comparability. In these cases, notes are added in the metadata**.**
There were no deviations from the model questionnaire or the concepts described in the Methodological manual that would affect the comparability of data.

15.1.1. Asymmetry for mirror flow statistics - coefficient

Not applicable

15.2. Comparability - over time

See detailed section below

15.2.1. Length of comparable time series

The length of comparable time series depends on the module and the variable considered within each survey module.
No changes were made in the survey which may have an impact on the comparability of the results.

15.3. Coherence - cross domain

The statistical unit used (enterprise) as well as the economic activities covered in ICT usage and e-Commerce in enteprises survey are the same as in SBS survey. Regarding the size classes in ICT survey the size classes are small (10-49 employees), medium (50-249

employees), large (250+ employess) while in SBS the size classes used are 0-1, 2-9, 10-19, 20-49, 50-249, 250+. In ICT survey respondents should consider as reference period the time of the completion of the survey (survey period in 2022) excluding some questions which refer to year 2021. In SBS the reference period is year 2020.

15.3.1. Coherence - sub annual and annual statistics
Not applicable
15.3.2. Coherence - National Accounts
Not applicable
15.4. Coherence - internal
Not applicable

16. Cost and Burden

1) Costs and burden of the survey:

Not available

2) Average time used for answering the survey questionnaire:

Approximately 20 minutes per person

3) Measures taken to reduce the cost and minimize burden of the survey:

CAWI was incorporated in order to reduce the cost and minimize respondent burden

17. Data revision

17.1. Data revision - policy
A data revision policy is in place at CYSTAT. It is published on CYSTAT's web portal. CYSTAT also publishes a list of scheduled revisions (regular or major revisions), also published on its website.
17.2. Data revision - practice
Not Applicable
17.2.1. Data revision - average size
Not requested

18. Statistical processing

18.1. Source data

A) Frame population description and distribution

For more information see concept 18.1.1.

B) Sampling design - Sampling method

This section includes a description of the sampling method used (e.g. stratified random sample, quota sampling, cluster sampling; one-stage or two-stage sampling) and information which variables were used to stratify, the categories of those variables, in particular for the NACE categories related to the "possible calculation of European aggregates", and the final number of strata.

Not Applicable since for the year 2022 it has been decided to cover all small, medium and large enterprises enterprises (census of enterprises) with 10 or more employees and self-employed persons. In the frame there were 32 NACE groups and 3 size groups.

C) Gross sample distribution

More detailed information is available in " 2022 tables " excel file (Worksheet: GROSS SAMPLE)

D) Net sample distribution

More detailed information is available in " 2022 tables " excel file (Worksheet: NET SAMPLE)

Annexes:

ICT ENT 2022 Excel Tables 2022 - CY

18.1.1. Source data - frame population

A) Description of frame population

a) When was the sample for the ICT usage and e-commerce in enterprise survey drawn?	Not applicable, since a census was carried out for the survey year 2022.
b) When was the last update of the Business register that was used for drawing the sample of enterprises for the survey?	The last update of the Business Register was in September 2021 for the reference period of December 2020.
c) Please indicate if the frame population is the same as, or is in some way coordinated with, the	The frame population is the Business Register which is the same for both ICT and SBS surveys. However, the SBS 2021 sample is drawn

one used for the Structural Business Statistics (different snapshots)	from the frame in May 2022, where the frame used for ICT is drawn from the frame in November 2021.
d) Please describe if different frames are used during different stages of the statistical process (e.g. frame used for sampling vs. frame used for grossing up):	The frame population is extracted from the Business Register which is updated using administrative data (V.A.T. Services, Social Insurance Services and the Department of Registrar of Companies and Intellectual Property) and data from the surveys conducted by the Statistical Service of Cyprus.Due to the continuous updating of the Business Register, the frames used for sampling and grossing up are different.
e) Please indicate shortcomings in terms of timeliness (e.g. time lag between last update of the sampling frame and the moment of the actual sampling), geographical coverage, coverage of different subpopulations, data available etc., and any measures taken to correct it, for this survey.	The frame used for the survey compared to the data reference year, is T-2 years. Measures taken: Updated Business Register data is provided.

B) Frame population distribution

More detailed information is available in " 2022 tables " excel file (Worksheet: FRAME POPULATION)

Annexes:
ICT ENT 2022 Excel Tables 2022 - CY

18.2. Frequency of data collection

Annual

18.3. Data collection

.

18.3.1. Survey period

Survey / Collection	Date of sending out questionnaires	Date of reception of the last
General survey	10/02/2022	17/06/2022
Micro-enterprises	Not Applicable	Not Applicable

18.3.2. Survey vehicle – general survey

General survey - Stand-alone survey

18.3.3. Survey vehicle – enterprises

Was the collection of micro-enterprises integrated with the general survey? - NO

18.3.4. Survey type

Web survey. The web questionnaire was available online during the entire survey period. The enterprises were informed about the web survey by email and by telephone.

18.3.5. Survey participation

Mandatory

18.4. Data validation

Data have been validated according to Eurostat's standards.
Year to year checks were also carried out before data transmission.

18.5. Data compilation

Grossing-up procedures

To gross up the number of enterprises, the following factor is applied:

$$Factor_i = \frac{N_i}{n_i}$$

where

Ni = total number of enterprises in stratum i of the population

ni = total number of enterprises in stratum i of the sample

sample = the enterprises that responded in stratum i

****

To gross up the number of employed persons the following factor is applied:

$$Factor\_employees_i = \frac{EMPLOYEES_i}{employees_i}$$

where

EMPLOYEESi = total number of employed persons in stratum i of the population

employeesi = total number of employed persons in stratum i of the sample

sample= the enterprises that responded in stratum i

****

To gross up the turnover and purchases the following factor is applied:

$$\text{Factor\_monetary}_i = \frac{\text{TURNOVER}_i}{\text{turnover}_i}$$

where

TURNOVERi = total turnover in stratum i of the population

turnoveri = total turnover in stratum i of the sample

sample= the enterprises that responded in stratum i

****

Note:

For the results according to NACE Rev.2 the population figures Ni, EMPLOYEESi and TURNOVERi for the different strata were obtained from the updated version of Business Register.

18.5.1. Imputation - rate

Imputation of the mean within classes for item-non-response was used only for question X3 on turnover, where the item non-response was 0,8%. For all other variables, no imputation was carried out.

18.6. Adjustment

Not applicable

18.6.1. Seasonal adjustment

Not applicable

19. Comment   Top

Problems encountered and lessons to be learnt:

No other comments

19.1. Documents

Questionnaire in national language	**X**
Questionnaire in English (if available)	**X**
National reports on methodology (if available)	
Analysis of key results, backed up by tables and graphs in English (if available)	**X**
Other Annexes (ENT ENUMERATORS INSTRUCTIONS - set of guidelines/instructions given to the enumerators during trainning)	**X**

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ICT ENT2022 Annex I. Completeness - CY
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