An Phríomh-Oifig Staidrimh
Central Statistics Office

Standard SIMS Report

Information Society Statistics - Enterprises

Single Integrated Metadata Structure (SIMS) Report

For

Information Society Statistics - Enterprises

This documentation applies to the reporting period:

2024

Last edited: 07/02/2025

1. Table of Contents

2. Introduction

The Information Society Statistics – Enterprises survey is conducted annually and covers a selection of manufacturing, construction and service sector enterprises. The Purpose of the survey is to collect data on the use of Information and Communication Technologies (ICTs) in Irish businesses. Survey questions include general information about ICT systems, use of the internet, purchases and sales via the internet and other networks, web access, e-commerce usage and other relevant ongoing ICT

3. Contact

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4. Metadata Update

4.1. Metadata last certified

26/06/2025

4.2. Metadata last posted

24/05/2024

4.3. Metadata last update

26/06/2025

5. Statistical Presentation

5.1. 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 cyberthreats, 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.

Total Turnover and Persons engaged are also reported to Eurostat although not included in the national release.

5.2. Classification System

NACE Rev. 2 https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015

5.3. Sector Coverage

Enterprises classified to the following NACE Rev 2. codes: Section C (10-33), Section D, E (35-39), Section F (41-43), Section G (45-47), Section H (49-53), Section I (55-56), Section J (58-63), Section L (68), Division M (69-75), Section N (77-82), Group (95.1)
Note that NACE 75 has been covered since 2021 only.

5.4. Statistical Concepts and definitions

The latest release gives our users information on a broad set of ICT related variables. Each topic is further broken down in the release into a subclassification of relevant options. The key concepts disseminated refer to:

- Website availability – the percentage of enterprises surveyed who have a website or homepage.
- Broadband availability – the percentage of enterprises surveyed who use broadband in their business.
- E-commerce sales – The percentage of enterprises surveyed who have e-commerce sales.
- ICT Specialists– the percentage of enterprises surveyed who employ ICT specialists.
- ICT Security– the percentage of enterprises surveyed that experienced ICT security incidents.
- Use of AI – the percentage of enterprises surveyed who make use of Artificial Intelligence technologies.

For full definitions of the terms above please consult the survey background notes:
https://www.cso.ie/en/methods/surveybackgroundnotes/informationsocietystatistics-enterprises/

5.5. Statistical Unit

Enterprise.

5.6. Statistical Population

All enterprises employing 10 or more persons.

5.7. Reference Area

Ireland.

5.8. Time Coverage

The last release covers the reference period as laid down in the Model Questionnaire (2024).

5.9. Base period

Not applicable.

6. Unit of Measure

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

7. Reference Period

The reference period is laid down in the Model Questionnaire (2024).

8. Institutional Mandate

8.1. Legal Acts and other agreements

This inquiry was initiated to meet national and EU requirements for e-Commerce variables and is conducted under Regulation (EU) 2019/2152.

There is also a Statutory Instrument in place Statistics (Information & Communication Technologies Survey) Order 2021 (S.I. No. 94 of 2021).

8.2. Data Sharing

Not applicable.

9. Confidentiality

9.1. Confidentiality – policy

All information supplied to the CSO is treated as strictly confidential. The Statistics Act, 1993 sets stringent confidentiality standards: Information collected may be used only for statistical purposes, and no details that might be related to an identifiable person or business undertaking may be divulged to any other government department or body.

These national statistical confidentiality provisions are reinforced by the following EU legislation: Council Regulation (EC) No 223/2009 on European statistics for data collected for EU statistical purposes. Further details are outlined in the CSO's Code of Practice on Statistical Confidentiality.

For more information on the CSO confidentiality policy please visit:
https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/statisticalconfidentiality/

9.2. 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.

We use 3 main rules for primary confidentiality:
1. Minimum number of enterprises needed in a cell = 3
2. 1 firm cannot dominate more than 80% of total
3. 2 firms cannot dominate more than 90% of total

10. Release Policy

10.1. Release Calendar

The date of dissemination of all statistics released by CSO can be found in the Release Calendar published in CSO.ie. This calendar is regularly updated.

The national publication is scheduled for February of 2025.

10.2. Release calendar access

The release calendar can be accessed via the CSO website, www.cso.ie, or directly from this link:
https://www.cso.ie/en/csolatestnews/releasecalendar/

10.3. User access

In accordance with Principle 6 of the European Statistics Code of Practice all users of CSO statistics have equal access via the CSO website at the same time of 11 am. Any privileged pre-release access to any outside user is limited, controlled and publicised. In the event that leaks occur, pre-release arrangements are revised so as to ensure impartiality.

The CSO recognises that in very limited circumstances a business need for pre-release access may be substantiated. Any form of pre-release access is a privilege and a strict CSO pre-release access policy is adhered to for these special requests. The full pre-release access policy can be accessed at
https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/csopolicyonpre-releaseaccess/

The various results are published nationally in statistical release format as well as on the CSO website (www.cso.ie). Selected extracts from the results are posted on the CSO's data dissemination database, PxStat.

The release is planned for February 2025. It will go out to all users at once as a web report. A confidential research microdata file will also be created that can be provided to researchers who have received institutional approval.

11. Frequency of Dissemination

Annual

12. Accessibility and clarity

12.1. News release

Not applicable.

12.2. Publications

The most current publication can be found in the CSO website or directly from this link.
https://www.cso.ie/en/statistics/informationsociety/ictusagebyenterprises/

12.3. On-line database

The data tables published in this release can be accessed directly from the CSO's dissemination database PxStat, or directly through these links:
https://data.cso.ie/product/iiens
https://data.cso.ie/product/iieno

12.3.1. AC 1. Data tables – consultations

Not calculated.

12.4. Micro-data Access

Not applicable.

12.5. Other

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.

12.5.1. AC2. Metadata consultations

12.6. Documentation on Methodology

We publish a Standard Report on Methods and Quality at the time of publication. The Quality Reports can be found at https://www.cso.ie/en/methods/informationsociety/informationsocietystatistics-enterprises/ There is a methodology tab on the web report that contains background notes and a copy of the survey form.

12.6.1. AC3 – Metadata completeness – rate

Not calculated.

12.7. Quality Documentation

As above, we publish a Standard Report on Methods and Quality at the time of publication. The Quality Reports can be found at
https://www.cso.ie/en/methods/qualityreports/informationsocietystatisticsenterprises/

13. Quality Management

13.1. Quality Assurance

Quality Management Framework
The CSO avails of an office wide Quality Management Framework (QMF). This framework allows all CSO processes and outputs to meet the required standard as set out in the European Statistics Code of Practice (ESCOP). The QMF foundations are based on establishing the UNECE's Generic Statistical Business Process
Model (GSBPM) as the operating statistical production model to achieve a standardised approach to Quality Management. All and any changes implemented to CSO processes and outputs require adherence to the QMF.

The Methodological Manual released by Eurostat 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.

13.2. Quality Assessment

We follow the annual Eurostat Model Questionnaire. A Quality Report is produced for each running of the survey.

There is an annual updating of the process map and end of cycle meeting to discuss issues and areas for improvement.

The CSO requires that all statistical production sections carry out an annual self-assessment exercise to evaluate the quality of the outputs and the processes used to generate them. The last self-assessment showed that the quality of the e-commerce and ICT is sufficient to meet users' requirements.

14. Relevance

14.1. User Needs

e-Commerce is an important indicator used both nationally and by the EU. It provides for inter-country comparisons and analysis of the level of usage and penetration of ICT within the EU as well as providing important national indicators for domestic ICT policy-making.

We hold an annual meeting with users at an Enterprise Statistics Liaison Group (ESLG) where various stakeholders are invited along to be informed of the latest developments on our end and to voice any concerns/raise any needs from a user perspective.

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, Working Groups, 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.

14.1.1. Main National Users

- Government
- Other CSO sections
- Interest groups for research purposes
- Professional bodies
- The general public
- University students

14.1.2. Principal External Users

- Eurostat / European Commission

14.2. 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.

We do not conduct user satisfaction analysis for this survey at national level, but stakeholders can inform us of any issues they wish us to look at, such as research needs.

14.3. Data Completeness

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

14.3.1. Data Completeness rate

Not measured.

15. Accuracy and reliability

15.1. Overall accuracy

These comments reflect overall standard errors reported for the indicators and breakdowns in section “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 2 percentage points for the overall proportions and should not exceed 5 percentage points for the proportions related to the different subgroups of the population (for those NACE aggregates for the calculation and dissemination of national aggregates).

At national level, for size classes and NACE aggregates reported in the national publication, the standard errors were within the 2% limit.

15.2. Sampling Error

Standard errors are calculated at a national level using the methodology devised by Eurostat. A standard error is a measure of the sampling variability or precision of an estimate. Standard errors are used in order to help with the comparisons of results between countries.

The sampling variability is very small, and the precision of the estimate is likely to be quite high. The standard errors are calculated for different questions on the direction of Eurostat each year.

15.2.1. A1. Sampling error indicator

Variable	Unit	Associated Question	Estimated proportion	Standard error
E_RA_M	% ent	A6a. Do any of the persons employed have remote access to the following? a) E-mail system of the enterprise	79.0%	0.3%
E_AWSVAL	% turn	B2b. What percentage of total turnover was generated by web sales of goods or services, in 2023?	12.6%	0.01%
E_AWSEU	% ent	B5b. During 2023, did your enterprise have web sales to customers located in the following geographic areas: b) Other EU countries?	11.8%	0.2%
E_AXSELL	% ent	B7. During 2023, did your enterprise have EDI-type sales of goods or services?	10.8%	0.2%
E_AXSVAL	% turn	B8b. What percentage of total turnover was generated by EDI-type sales of goods or services, in 2023?	9.7%	0.01%
E_ITSP2	% ent	C1. Does your enterprise employ ICT specialists?	30.9%	0.3%
E_ITSPRCR2	% ent	C3. Did your enterprise recruit or try to recruit ICT specialists during 2023?	9.8%	0.2%
E_SECPOL2	% ent	D3. Does your enterprise have document(s) on measures, practices or procedures on ICT security?	47.1%	0.3%
E_SEC2IUSVF	% ent	D5a. During 2023, did your enterprise experience any ICT related security incident leading to the following consequences? a) Unavailability of ICT services due to hardware or software failures	10.6%	0.2%

15.3. Non-sampling Error

The different types of error that affect non-sampling errors are individually specified in the sub-concepts below:

15.3.1. Coverage error

There may be some multiple listings (duplicates) and ceased companies when the sample is first taken from the Central Business Register. They are removed from the sample when discovered.

Certain NACE categories are omitted every year. Therefore, coverage is restricted to the required NACE categories only.

15.3.1.1. A2. Over coverage rate

A small number of enterprises surveyed may be outside the scope of the survey. It would be approximately 1%

15.3.1.2. A3. Common units – proportion

Not calculated

15.3.2. Measurement error

Not applicable.

15.3.3. Non-Response Error

See detailed sub-concepts below

15.3.3.1. Unit non-response rate

Type of response	0-9 persons employed		10 or more persons employed	
	Number	%	Number	%
Gross sample size	0	N/A	4035	100%
1.**Response** (questionnaires returned by the enterprise)	0	N/A	2118	52.5%

15.3.3.1.1. Methods used for minimizing unit non-response

This survey is 100% online and has been for a number of years. Since 2019 the survey is also compulsory. We communicate with respondents initially by post and then follow up with reminders by email.

15.3.3.1.2. 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	X
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, etc.)	
Grossing factors are from the latest Census of Industrial Production (CIP), Annual Services Inquiry (ASI), the Building and Construction Inquiry (BCI) and the Central Business Register (CBR). The sample returns are grossed up by the number of enterprises and are representative of the specified NACE categories and employment sizes. The weightings for Turnover and Purchases are calculated using the turnover grossing factors, while the employment grossing factors are used in addition to enterprise grossing for various other characteristics (as requested by Eurostat).	

In order to compile the results, the raw data is grossed up for NACE Rev 2. Detailed checking is done after the results have been compiled in order to ensure consistency. When changes are needed to be made, these changes are made in the raw data file before the grossing procedures.

15.3.3.1.3. Assessment of unit non-response bias

A survey on non-respondents is not performed.

15.3.3.2. Item non-response rate

15.3.3.2.1. Methods used for item non-response treatment

1.No treatment for item non-response	X
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, etc) 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	
4.Random imputation (e.g., hot-deck, cold-deck etc)	
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. Please briefly describe below the method(s) and the model(s) corresponding to the above or other method(s) used for the treatment of item non-response.	

15.3.4. Processing error

Data Capture Errors are likely to be a low risk as survey e-forms are verified.

a) There is also the option of manual data entry.
b) Data Editing - Edits are run which check for the following:
c) that all the relevant questions have been answered
d) There is internal consistency in answers within the form.
e) There is consistency with responses from last year if relevant.
f) There is consistency with enterprises operating in the same employment group and NACE category If the edit cannot be resolved locally, then the enterprise is contacted to confirm the returned data. The return is manually changed if required. NACE Code and NACE division are linked to the enterprise number and are applied when the enterprise number is scanned. This means that the possibility of a NACE misclassification error is very low.

There is no formal method of imputation for unit non-response used for this survey. A limited use is made of Structural Business Statistics (SBS) as a method of imputation for item non-response if no details are offered for total employment, purchases and turnover. Limited use is made of the Last Value Carried

Forward (LVCF) method if a respondent has left a particular field blank and if they responded to this question in the previous year.

15.3.5. Model assumption error

Not applicable.

16. Timeliness and punctuality

16.1. Timeliness

Information Society Statistics – Enterprises is released in Q4 of the reference year.
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).

16.1.1. TP1. Time lag – First results

Not applicable.

16.1.2. TP2. Time lag – Final results

Data are to be delivered to Eurostat in the fourth quarter of the reference year (due date for the finalised dataset is 5th October). T+0
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).

16.2. Punctuality

The publication dates of all CSO releases are specified in the public release calendar available from CSO.ie. The Information Society Statistics – Enterprises release was disseminated in accordance with the date determined in the calendar. The release date of final national data was scheduled for 14 February 2025.

16.2.1. TP3. Punctuality – Punctuality - delivery and publication

0 days, data transmitted to Eurostat on time.

17. Comparability

17.1. Comparability – Geographical

Eurostat does comparisons between the EU states on the data returned by individual countries.

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.

17.1.1. CC1. Asymmetry for mirror flow statistics

Not applicable.

17.2. Comparability over time

The pilot e-Commerce survey was first carried out in 2002 and the full e-Commerce survey has been carried out annually since 2003. Certain modules contained within the survey change every year, therefore some variables may not be directly comparable to previous years. A random stratified sample is selected every year. While some enterprises are included in the sample every year, the sample is rotated every year in order to minimise the response burden, especially on the smaller enterprises. This means that it may not be possible to compare returns for individual enterprises from year to year.

17.2.1. Length of Comparable Time series

None

17.3. Coherence – cross domain

Where possible comparisons are done with Structural Business Statistics (SBS) gathered from other surveys, notably the Census of Industrial Production, Annual Services Inquiry and Building and Construction Inquiry.

17.3.1. Coherence – Sub annual and annual statistics

Not applicable.

17.3.2. Coherence with National Accounts

Not applicable.

17.4. Coherence – internal

Not applicable.

18. Cost and Burden

Estimates of Cost and Burden can be obtained from the Response Burden Barometer https://www.cso.ie/en/statistics/multisectoral/responseburdenbarometer/ Survey specific information is available via CSO's dissemination database PxStat. https://data.cso.ie/product/RBB

Average response time for the survey was around 20 minutes.

19. Data Revision

19.1. Data Revision Policy

Revisions refer to changes made to published statistical data when the information used in its production has been updated or corrected. This information includes all data used in compiling the statistic e.g. respondent data, administrative data, weights and factors, methodology, classifications, definitions, modifications to survey questionnaires, survey scope and data collection methods. The data revision policy that CSO statistics adheres to can be found via the following link: https://www.cso.ie/en/methods/quality/treatmentofrevisions/

19.2. Data Revision Practice

Some revisions may occur as a result of queries received from Eurostat or other national users. Results are published in Q4 of the survey year and generally are not subject to revision.

Should any data revision be required post publication, the release will be updated with a note inserted explaining the needs for the revision

19.2.1. Data Revision – Average size

Not calculated.

20. Statistical processing

20.1. Source Data

The random stratified sample is taken from the Central Business Register. No other data sources are used

20.1.1. Population and sampling frame

The survey population is made up of Manufacturing, Construction and selected Service enterprises with 10+ employees. The sampling frame is the CSO's Central Business Register.

A) Description of frame population

a) When was the sample for the ICT usage and ecommerce in enterprise survey drawn?	Q1 2024
b) When was the last update of the Business register that was used for drawing the sample of enterprises for the survey?	Q4 2023
c) Please indicate if the frame population is the same as, or is in some way coordinated with, the one used for the Structural Business Statistics (different snapshots)	Same
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):	Same
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.	As before, there is a time lag between when administrative data is available to CSO to update employment figures in the Frame. This is dependent on when administrative data is received from an external organisation.

20.1.2. Sampling design

Sampling design - Sampling method
The implementing measure that is enacted annually contains a list of NACE categories that must be covered by the survey. A sample plan is then applied to the Central Business Register using SAS which creates the potential sample of respondents.

The sample design for the survey is a stratified simple random sample where the strata used in are defined by NACE (Nomenclature of Economic Activity) along with firm size determined by employment as follows:

- Employment Group 1: 10 to 49 persons engaged
- Employment Group 2: 50 to 249 persons engaged
- Employment Group 3: 250+ persons engaged

Only firms with at least 10 employees are included in the sample and all firms within the largest size band are sampled. Great effort is taken to ensure sufficient precision and as such firms in less populated NACE categories are also comprehensively sampled.

Proportional allocation is used to assign the sample sizes to strata which are not exhaustively sampled as a result of their NACE category or size.

The sample is edited to ensure that no duplicates exist, ceased companies are excluded, and companies who requested a specific exclusion from the survey are excluded.

While some companies are included every year, care is taken to rotate the sample among smaller enterprises to minimise the response burden. A file of approximately 4,000 potential respondents is then prepared for surveying.

20.1.3. Survey size

4,000 enterprises approximately

20.1.4. Survey technique

The survey is completed online. Initially, enterprises receive notification of the online process and how to access the relevant URL for completion of the questionnaire. When the return is submitted to the CSO, the data is loaded onto a CSV file which is periodically transferred to the CSO's Data Management System (DMS) for editing.

20.2. Frequency of data collection

Annual

20.3. Data Collection

20.3.1. Survey Period

Survey / Collection	Date of sending out questionnaires	Date of reception of the last questionnaire treated
General survey	Apr-24	Oct-24
Micro-enterprises		

20.3.2. Survey Vehicle – General survey

Standalone survey

20.3.3. Survey Vehicle – Enterprises

Was the collection of micro-enterprises integrated with the general survey? – No.

20.3.4. Type of Survey/Process

Web Survey.

20.3.5. Questionnaire (including explanations)

The 2023 survey on e-Commerce and ICT contained the following modules:

A. Access and use of the internet
B. E-commerce
C. Data utilisation, sharing, analytics, and trading
D. Cloud computing
E. Artificial Intelligence
F. Invoicing
G. Details of enterprise activity

Each year at least one module in the questionnaire is directly replaced by another module, while some of the questions contained in the other modules are refined. Therefore, the survey questionnaire is in a constant state of development.

20.3.6. Survey Participation

Participation is mandatory.

20.3.7. Data Capture

When the return is received online, the data is automatically uploaded into a CSV file and transferred periodically to the CSO's DMS (Data Management System).

20.4. Data Validation

Within the online forms system, there are a number of automatic edits in place. For example, the number of employees with internet access cannot be greater than the total number of employees. Once data has been transferred to the DMS, a number of edits are run to ensure the consistency of the data. For example, the sum of the electronic sales from the web, apps and EDI cannot be more than 100% of total sales.

Once the data collection phase has ceased, the edit procedures within the DMS are run to ensure that there are no edits outstanding. Each failed edit is first checked for a comment on the return from the relevant enterprise that may explain the failure. Returns for the previous year are also checked for consistency purposes. If the edit failure cannot be resolved locally, then the enterprise is contacted to resolve any discrepancy. Once all edits in the DMS are cleared, the source data is then transferred to SAS where further editing takes place.

Edit programs are run using SAS software to perform checks on consistency of returns between separate questions, between returns for this year and last year, and comparisons between enterprises within the same NACE group for this year.

There are numerous edits carried out every year, examples of which include:

1. Questions that do not change from year to year are cross-referenced against the previous year's responses for consistency purposes.

2. Whether responses given are consistent with responses from other enterprises within that employment group and NACE classification.

Once all edits are cleared a copy is made of the clean dataset and the dissemination process can be commenced.

Eurostat perform a number of validation checks and if necessary, send a list of queries back to the CSO for resolution.

20.5. Data Compilation

Grossing up procedures described below are used during the compilation of the results.

20.5.1. Imputation (for Non-Response or Incomplete Data Sets)

There is no formal method of imputation for unit non-response used for this survey. A limited use is made of Structural Business Statistics (SBS) as a method of imputation for item non-response if no details are offered for total employment, purchases and turnover. Limited use is made of the Last Value Carried Forward (LVCF) method if a respondent has left a particular field blank and if they responded to this question in the previous year.

20.5.1.1. A7. Imputation rate

Not calculated.

20.5.2. Grossing and Weighting

Grossing factors are from the latest Census of Industrial Production (CIP), Annual Services Inquiry (ASI) and the Building and Construction Inquiry (BCI).

The sample returns are grossed up by the number of enterprises and are representative of the specified NACE categories and employment sizes. The weightings for Turnover and Purchases are calculated using the turnover grossing factors, while the employment grossing factors are used in addition to enterprise grossing for various other characteristics (as requested by Eurostat).

In order to compile the results, the raw data is grossed up for NACE Rev 2. Detailed checking is done after the results have been compiled in order to ensure consistency. When changes are needed to be made, these changes are made in the raw data file before the grossing procedures.

20.6. Adjustment

Not applicable.

20.6.1. Seasonal Adjustment

Not applicable.

21. Comment