Innovation survey metadata

Wave 2018-2020

This document provides quantitative and qualitative information on the design and implementation of national innovation surveys covering details such as survey sectoral coverage, weights calculation method, response rate, and imputation methods. It refers to the 2023 OECD data collection of innovation indicators with reference period 2018-2020 or closest. As on previous occasions, such information is collected to build a comprehensive picture of the key changes that have been introduced in surveys over time and help us draw more precise lessons about the impact of survey design on data quality and international comparability.

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Australia

Name of survey	Business Characteristics Survey (BCS) 2020-21.
Name of responsible agency	Australian Bureau of Statistics
Reference period	2020-2021 (financial year)
Length of reference period	2 years (The BCS is an annual survey with innovation items collected every second cycle. From 2020-2021 onwards the reference period for most innovation items is during the two years ended 30 June. Previously the reference period was one year).
Reference year	2020-2021 (financial year)
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	
Differences with the OSLO manual	No differences to Oslo Manual concepts and definitions.
Difference with the CIS questionnaire	The CIS model questionnaire is used as a starting point for innovation content on the BCS. Content is also determined by user demand and form testing to see which questions can be answered accurately. The sectoral and size coverage of enterprises matches the CIS scope.
Target population cut-off point	
Industry coverage	
Sampling frame used	National statistical business register
Completion requirement	Compulsory, with enforceable penalties
Unit of analysis surveyed	Businesses with a simple structure: Most businesses and organisations in Australia need to obtain an Australian Business Number (ABN). They are then included on the whole-of-government register of businesses, the Australian Business Register (ABR), which is maintained by the Australian Taxation Office (ATO). Most of these businesses have simple structures; therefore, the unit registered for an ABN will satisfy ABS statistical requirements. For these businesses, the ABS has aligned its statistical units structure with the ABN unit. The businesses with simple structures constitute the ATO maintained population (ATOMP), and the ABN unit is used as the statistical unit for all ABS economic collections. Businesses with a complex structure: For the population of businesses where the ABN unit is not suitable for ABS statistical requirements, the ABS maintains its own units structure through direct contact with the business. These businesses constitute the ABS maintained population (ABSMP). This population consists typically of large, complex and diverse businesses. For businesses in the ABSMP, statistical units comprise the Enterprise Group, the Enterprise and the Type of Activity Unit (TAU). The range of activities across the Enterprise Group can be very diverse. The TAU represents a grouping of one or more business entities within the Enterprise that cover all of the operations within an industry subdivision and for which a basic set of financial production and employment data can be reported.
Survey type	Sample survey
Type of interviews	Webform and Postal questionnaire
Average time to complete the questionnaire	
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	

Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	The sample was stratified by industry, employment-based size and state.
Weights calculation methods: variables used and methodology	For the BCS, the weights are calculated with respect to the following factors:·the probability of selection for each survey unit (probability weighting);·adjustments to account for problems with the survey frame - such as missing units (new business provisions); and adjustment for non-response - to correct for further imbalances in the characteristics of responding sample units (post-stratification).
Implementation of non-response survey	
Number and types of reminders	
Use of imputation methods	Categorical items that are missing are not imputed. An adjustment for missing categorical variables is made as part of calculating the proportions. A check is made of response rates to each question and where the response rate is low enough to impact on output quality, some follow-up of missing responses is undertaken. There are some items (such as the key innovation indicators) where a response must be obtained. Fully non-responding units are implicitly imputed using weight adjustment, i.e. the weight of other units in the stratum is adjusted upwards to account for the non-respondents.
Combined with other surveys	Yes (Business Characteristics Survey)
Link to documentation (outputs and questionnaire)	
Survey scope includes public enterprises (i.e. central, regional or local government-controlled) (Yes/no/explain)	

Austria

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	Survey is funded/commissioned by the Federal Ministry of Digital and Economic Affairs (BMDW); all work (concept, data collection, analyses) is done by the NSO (Statistics Austria).
Reference period	2018-2020
Reference year	2020
Length of reference period	3 years
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	
Differences with the OSLO manual	Questionnaire design is extremely close to the Eurostat core questionnaire which is in line with the Oslo Manual definitions.
Difference with the CIS questionnaire	
Target population cut-off point	10 or more employees
Industry coverage	ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Voluntary
Unit of analysis surveyed	Enterprise (= legal unit)
Survey type	
Type of interviews	Web and postal questionnaire
Average time to complete the questionnaire	Unknown. This information is not collected for voluntary surveys.
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	For the sampled enterprises a stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise according to NACE Rev.2 classification, enterprise size and NUTS 1-region.
Weights calculation methods: variables used and methodology	
Implementation of non-response survey	
Number and types of reminders	
Use of imputation methods	
Combined with other surveys	
Link to documentation (outputs and questionnaire)	
Survey scope includes public enterprises (i.e. central,	

regional or local government-
controlled) (Yes/no/explain)

Belgium

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	Belgian Science Policy Office
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately preceding or following the question. Links for websites with general information on Nace-codes or specific examples of innovations are provided.
Differences with the OSLO manual	
Difference with the CIS questionnaire	
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev. 2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73
Sampling frame used	
Completion requirement	Voluntary
Unit of analysis surveyed	Legal units with an enterprise number (i.e. VAT numbers) in the national business register
Survey type	Combination of sample survey and census of the enterprises included in the frame population. The employment size class is used to define a threshold. Usually medium-size (50-249 employees) and large (250 or more employees) enterprises are completely enumerated, while smaller enterprises are randomly sampled using a stratified design.
Type of interviews	Web, postal questionnaire, and phone interviews
Average time to complete the questionnaire	We don't ask for this in the questionnaire
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	For the randomly sampled enterprises a stratified random sampling design was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to ISIC Rev. 4/NACE Rev.2 classification) and the enterprise size (10-49, 50-249, 250+).
Weights calculation methods: Variable used and methodology	
Implementation of non-response survey	
Number and types of reminders	Two reminders were sent by postal mail. Follow-up phone calls were started after the first reminder.
Use of imputation methods	
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local	

| government-controlled) enterprises" (Yes/no/explain) | |

Bulgaria

Name of survey	Survey of enterprises' innovation activity 2018-2020 (Eurostat Community Innovation Survey (CIS 2020))
Name of responsible agency	National Statistical Institute of Bulgaria
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	January - June 2021
First release of innovation results	June 2022
Concepts, notes and definitions in the questionnaire	Included within or immediately preceding or following the question
Differences with the OSLO manual	None
Difference with the CIS questionnaire	All obligatory and all voluntary CIS questions are included in the national questionnaire with only few exceptions, information on which is available and is extracted from other sources (Business Register and SBS survey), namely: average number of persons employed, total turnover in 2018 and 2020, year of establishment, address, postal code and main activity of the enterprise. Additional questions are not included. The same sequencing order, type of categories and form of questions like these in CIS questionnaire are kept.
Target population cut-off point	10 or more persons employed
Industry coverage	ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory
Unit of analysis surveyed	Legal unit
Survey type	Census
Type of interviews	Web questionnaire
Average time to complete the survey	No information available
Target population	14801 (only core CIS coverage)
Target population (manufacturing)	6891 (C) 482 (B, D, E)
Target population (services)	7428 (G46, H, J, K, M71-72-73)
Achieved sample	14223
Achieved sample (manufacturing)	6467 (C) 458 (B, D, E)
Achieved sample (services)	7298 (G46, H, J, K, M71-72-73)
Weighted unit response rate	
Unweighted unit response rate	96.1%
Definition of strata	No stratification - census survey.
Weights calculation methods: Variables used and methodology	
Implementation of non-response survey	No
Number and types of reminders	Two or maximum three reminders by e-mail and/or phone
Use of imputation methods	No
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	Innovation activity	National statistical institute (nsi.bg)
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes, public enterprises, which are part of the CIS target population are included in the survey

Canada

Name of survey	Survey of Innovation and Business Strategy
Name of responsible agency	Statistics Canada
Reference period	
Length of reference period	3 years
Reference year	
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions
Differences with the OSLO manual	In line with Oslo Manual, 4th edition.
Difference with the CIS questionnaire	
Target population cut-off point	
Industry coverage	The industries surveyed are different from the CIS core coverage and include the following 2017 NAICS divisions: 11, 21, 22, 23, 31, 32, 33, 41, 44, 45, 48, 49, 51, 52, 53, 54, 55 and 56.
Sampling frame used	The Business Register (BR) was used as the frame. The BR is a data service centre updated through a number of sources including administrative data files, feedback received from conducting Statistics Canada business surveys and profiling activities including direct contact with companies to obtain information about their operations and Internet research findings.
Completion requirement	Mandatory
Unit of analysis surveyed	Enterprise
Survey type	Combined (Census of large enterprises, those with at least 250 employees; and-Sample of small and medium enterprises to expect the production of estimates with an expected standard error no greater than 10% for percent estimates at the national level).
Type of interviews	Electronic questionnaire (In some cases, respondents completed the questionnaire over the phone with an interviewer).
Average time to complete the survey	
Target population	Minimum of 20 employees with revenues of at least $250,000 belonging to one of the 14 industry sectors in NAICS 2017
Target population (manufacturing)	Minimum of 20 employees with revenues of at least $250,000 belonging the industry sectors 31-33 in NAICS 2017
Target population (services)	Minimum of 20 employees with revenues of at least $250,000 belonging the industry sectors 41, 44-45, 48-49, 51, 52, 53, 54, 55, 56 in NAICS 2017
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	Random sample methodology stratified by industry, region and enterprise size (3 enterprise classes based on number of employees, 20-99, 100-249, +250 employees).
Weights calculation methods: Variables used and methodology	A complete file of weighted micro data was created for all sampled enterprises in the survey population for which data were reported or imputed. Weights were adjusted by a factor to account for total non-response so that the final estimates would be representative of the entire survey population. Weighted estimates were produced using the Generalised System of Estimation.
Implementation of non-response survey	Imputation is performed only to treat item non-responses.
Number and types of reminders	Intensive non-response follow-up was conducted by email, telephone and fax as appropriate.

Use of imputation methods	The imputation of item non-responses is performed using the nearest neighbour donor imputation procedure in the generalized system BANFF. This procedure finds, for each record requiring item imputation, its most similar valid record thereby allowing the imputed recipient record to pass the specified imputation edits and post edits rules.
Combined with other surveys	Contains modules on business strategy and global value chains.
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes - provided that the enterprise is in one of the 14 NACIS 2017 industry groups, has a minimum of 20 employees with revenues of at least $250,000

Chile

Name of survey	Chilean Business Innovation Survey
Name of responsible agency	INE Chile, (survey design and estimation carried out by the Ministry of Science)
Reference period	2019-2020
Length of reference period	2 years
Reference year	2020
Data collection period	2021
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions. The annex and footnotes provide general details and examples.
Differences with the OSLO manual	
Difference with the CIS questionnaire	Questions, sequencing, type of categories, form of questions.
Target population cut-off point	
Industry coverage	Covers enterprises above 2.400 UF (Unidades de Fomento for its name in Spanish) annual sales (equivalent to US $ 103.326 dollars of the year 2018) . The sectoral coverage includes all ISIC Rev. 4 sections except P. Q and S.
Sampling frame used	Enterprises sample frame owned by INE Chile and created from tax and others survey data.
Completion requirement	Compulsory, with enforceable penalties
Unit of analysis surveyed	Enterprise
Survey type	Combined. For mining and quarrying, and Electricity is Census, (these enterprises are included directly in the sample). The others sectors are sampled.
Type of interviews	Self-applied by web. There's email and telephone follow-ups which include help for answering the survey when needed.
Average time to complete the survey	
Target population	
Target population (manufacturing)	Equal for all sections included
Target population (services)	Equal for all sections included
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	
Weights calculation methods: Variables used and methodology	Methodology: Based of selection probability, corrected by strata reclassification and a smoothing process.
Implementation of non-response survey	
Number and types of reminders	Reminders by phone and email. The optimal number of contacts was 3 and considers only the direct contact between the analyst and the informant. However, to reach the informant can take up to seven attempts.
Use of imputation methods	No imputations were made.
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	https://observa.minciencia.gob.cl/encuesta/encuesta-nacional-de-innovacion
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	

Czech Republic

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	Czech Statistical Office
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	March 2021-October 2021
First release of innovation results	June 2022
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions.
Differences with the OSLO manual	No differences
Difference with the CIS questionnaire	Selected questions are adopted, same sequencing
Target population cut-off point	10 or more persons employed
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory, with enforceable penalties
Unit of analysis surveyed	Enterprise
Survey type	Combined
Type of interviews	Electronic (PDF, WEB) or postal questionnaire
Average time to complete the survey	1,7 hours (estimated)
Target population	23886
Target population (manufacturing)	12742
Target population (services)	11144
Achieved sample	7130
Achieved sample (manufacturing)	4553
Achieved sample (services)	2577
Weighted unit response rate	89 %
Unweighted unit response rate	88 %
Definition of strata	By size class, NACE and NUTS2
Weights calculation methods: Variables used and methodology	Weights were calibrated to number of enterprise, number of employees according to business register and value of sales according to VAT declaration. Generalized linear regression (GREG) was used.
Implementation of non-response survey	No non-response survey is carried out.
Number and types of reminders	Two postal reminders are usually used. If needed the second reminder is followed by email and telephone follow-ups.
Use of imputation methods	Number of employees and turnover was covered by SBS survey and/or Labour cost survey. For units with non-response imputation was used. For turnover in first step data from Income tax statement were used, if not available regression model with sales according to VAT declaration as auxiliary variable was used. For number of employees as auxiliary variable a number of employees according to Business register was used.
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	https://www.czso.cz/csu/czso/inovacni-aktivity-podniku-20182020 Only CZ version
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes

Estonia

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National
Name of responsible agency	Statistical Office of Estonia
Reference period	2018-2020
Length of reference period	3 years
Reference year	2018
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	In the annex or in the footnotes and repository of definitions is online.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	Practically identical
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory, with enforceable penalties
Unit of analysis surveyed	Enterprise
Survey type	
Type of interviews	Web questionnaire
Average time to complete the survey	
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	For the sampled enterprises a stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to NACE Rev.2 classification - see question 17 for industry coverage) and the enterprise size (10-19, 20-49, 50-99, 100-249, 250+).
Weights calculation methods: Variables used and methodology	Variables: Number of enterprises Methodology: Weight for every stratum = number of respondents with filled questionnaire / number of firms in target population
Implementation of non-response survey	No non-response survey was carried out.
Number and types of reminders	
Use of imputation methods	Imputation of main variables: R&D expenses from R&D survey, turnover from SBS survey
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	

Finland

Name of survey	Enterprises' innovation activity 2018-2020 (Eurostat Community Innovation Survey (CIS 2020))
Name of responsible agency	Statistics Finland
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	September-December 2021
First release of innovation results	April 2022
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions, like on the Eurostat's CIS harmonised data collection (HDC).
Differences with the OSLO manual	None
Difference with the CIS questionnaire	CIS harmonised questionnaire mainly adopted, some voluntary questions dropped. Few national questions on topical issues (collaboration between enterprises and research organisations, skills and competence areas required and needed by enterprises, and the questions on the effects of covid19) were added.
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory, but not enforceable in practice
Unit of analysis surveyed	Enterprise
Survey type	Combined (Combination of sample survey and complete enumeration of enterprises included in the frame population. Large enterprises are enumerated, small enterprises are sampled. The threshold is 250 employees).
Type of interviews	Web questionnaire (possibility to print paper questionnaire out from Statistics Finland web page)
Average time to complete the survey	n/a
Target population	9,068
Target population (manufacturing)	3,847 (B to E), 3,418 (C)
Target population (services)	5,221 (G46-H-J-K-M71-M72-M73)
Achieved sample	2,445
Achieved sample (manufacturing)	1,159 (B to E)
Achieved sample (services)	1,286 (G46-H-J-K-M71-M72-M73)
Weighted unit response rate	
Unweighted unit response rate	67,4
Definition of strata	Stratified simple random sampling. The variables used for the stratification were the economic activity of the enterprise (according to NACE Rev.2 classification) and the enterprise size class (10-49, 50-249, 250+ as a census part).
Weights calculation methods: Variables used and methodology	Two types of weights based on numbers of enterprises and turnover are used. Weights based on enterprise numbers for qualitative variables: N/n, number of enterprises in a stratum (in the frame)/number of responding enterprises (valid responses). Weights based on turnover for quantitative variables: total turnover of the enterprises in a stratum (in the frame)/total turnover of the responding enterprises (valid responses). Over-coverage and extreme values are accounted for in the calculations.
Implementation of non-response survey	-
Number and types of reminders	Four letter reminders, two email reminders/contacts

Use of imputation methods	Nominal scale variables by mode of strata, ordinal scale variables by median of strata, metric variables by proportional coefficients in strata
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	https://stat.fi/en/statistics/inn
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes

France

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	Insee
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions. Specific examples are provided in the annex.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	Mainly adopt the CIS common questionnaire as a model. Some Eurostat optional questions were removed, and we add some questions.
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73. Full coverage for the French survey: NACE Rev. 2 sections B to N (except divisions 75 and 82)
Sampling frame used	National statistical business register
Completion requirement	Compulsory
Unit of analysis surveyed	The legal unit (UL), identified by its SIREN number, with the exception of 6 units which are interrogated as profiled companies (EP).
Survey type	Combined A sample survey was used to collect data for the enterprises of less than 250 employees. Concerning the enterprises of 250 employees and more, they were covered by complete enumeration (census).
Type of interviews	Web and postal questionnaires
Average time to complete the survey	
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	For the sampled enterprises stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to NACE Rev.2classification),the enterprise size (10-19, 20-49, 50-249, 250+), and the region where possible.
Weights calculation methods: Variables used and methodology	Correction of total non-response by reweighting using the homogeneous response group method, calibration on margins and winsorisation
Implementation of non-response survey	No non-response survey.
Number and types of reminders	Exhaustive mail reminders on non-respondents, priority telephone reminders on non-respondents
Use of imputation methods	Yes (correction of partial non-response)
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	

Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)

Germany

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	ZEW - Leibniz Centre for European Economic Research, on behalf of the Federal Ministry of Education and Research (BMBF)
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	February to July 2021, Non-response Survey August to October 2021
First release of innovation results	January 2022
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions. Specific examples are provided in a fold-out part of the questionnaire.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	Most CIS questions were included, following the harmonised CIS questionnaire
Target population cut-off point	5 or more employees; for indicators delivered to OECD: 10 or more Employees.
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73. The national survey also includes M69, M70.2, M74, N78 to N82. The national survey also includes enterprises with 5 to <10 employed persons in all sectors covered by the survey.
Sampling frame used	Administrative sources (business register) for determining the size of the target population by stratum; commercial sources (Creditreform data base, containing about the same number of enterprises as the business register) for drawing the sample.
Completion requirement	Voluntary
Unit of analysis surveyed	Enterprise
Survey type	Combined (Combination of sample survey and complete enumeration (i.e. census) of the enterprises included in the frame population. The employment size class is used to define a threshold. Larger enterprises are enumerated, while smaller enterprises are sampled. The threshold to separate large from smaller enterprises for Germany is 500 employees).
Type of interviews	Web and postal questionnaire
Average time to complete the survey	No information available
Target population	160,882 (only core CIS coverage)
Target population (manufacturing)	73,667 (only core CIS coverage)
Target population (services)	87,215 (only core CIS coverage)
Achieved sample	4,896, plus 4,524 completed non-response questionnaires (only core CIS coverage)
Achieved sample (manufacturing)	3,320, plus 3,139 completed non-response questionnaires (only core CIS coverage)
Achieved sample (services)	1,576, plus 1,385 completed non-response questionnaires (only core CIS coverage)
Weighted unit response rate	
Unweighted unit response rate	26.5 percent (achieved sample as a share of sample net of not eligible units), 51.0 percent (achieved sample plus completed non-response questionnaires as a share of sample net of not eligible units)
Definition of strata	For the sampled enterprises a stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to NACE Rev.2 classification) and the enterprise size (5-9, 10-19, 20-49, 50-99, 100-249, 250-499, 500-999, 1000+ employees). The stratified sample is disproportional according to innovation

	indicators such as innovation expenditures as a percentage of sales, share of innovative enterprises).
Weights calculation methods: Variables used and methodology	We use three weights: enterprise weight (for qualitative variables), sales weight (for expenditure and sales variables) and employee weight (for employment variables). The German CIS applies simple weighting (qualitative variables such as the number of innovators) and bounded weighting (quantitative variables such as innovation expenditure or sales with new products).
Implementation of non-response survey	A comprehensive non-response survey is carried out, based on a stratified sample of all non-responding firms. For each firm in the NR sample, up to three replacement firms are drawn, which are surveyed in case a sampled firm refused to participate in the NR survey. The NR survey is carried out by telephone and collects data on product innovation, process innovation, ongoing or abandoned innovation activities, and in-house R&D activities
Number and types of reminders	Two reminders per telephone followed by a letter containing the questionnaire plus link to online version
Use of imputation methods	We use longitudinal imputation based on firm information from prior surveys and cross-section imputation based on the mean of strata.
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	https://www.zew.de/publikationen/zew-gutachten-und-forschungsberichte/forschungsberichte/innovationen/innovationserhebung
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	All enterprises with economic activities in the target industries of the innovation survey are part of the target population, irrespective of ownership. The only exception is NACE sector 72. Here, public research organisations are excluded from the target population and are not surveyed. Firms with public ownership dominate in NACE sectors 36 and 37 and represent a significant share of all firms in the target population in NACE sectors 35 and 60.

Greece

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	National Documentation Centre (EKT)
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	May 2021 – July 2021
First release of innovation results	March 2022
Concepts, notes and definitions in the questionnaire	All relevant concepts, notes and definitions, as well as instructions for the completion of the questionnaire, are included in the questionnaire, within the questions, in the form of explanatory text, pop-ups (for the online version), footnotes and/or hyperlinks, following the structure of the CIS 2020 harmonized survey questionnaire
Differences with the OSLO manual	None
Difference with the CIS questionnaire	The CIS 2020 harmonized survey questionnaire is fully adopted.
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	The national statistical Business Register of reference year 2018, maintained by the Hellenic Statistical Authority
Completion requirement	Mandatory
Unit of analysis surveyed	Enterprise
Survey type	Combination of census and sample survey: census for enterprises over 500 persons employed and R&D 2019 performers / sampling from the Statistical Business Register for enterprises in the remaining size classes of the target population
Type of interviews	Online survey supported by telephone contacts by experienced statistical correspondents (interviewers)
Average time to complete the survey	1h
Target population	14,573
Target population (manufacturing)	5,645
Target population (services)	8,442
Achieved sample	4,172
Achieved sample (manufacturing)	1,822
Achieved sample (services)	2,072
Weighted unit response rate	46.17%
Unweighted unit response rate	50.60%
Definition of strata	Stratification based on NUTS-2 region, 2-digit NACE sector, and size class (10-19, 20-49, 50-99, 100-249, 250-499, 500-999, and 1000+ persons employed).
Weights calculation methods: Variables used and methodology	Weights are calculated as the inverse of the sampling fraction, using the total number of enterprises in each stratum divided by the number of enterprises in the realized sample in the same stratum. By considering the realized sample, weights are adjusted for unit non-response.
Implementation of non-response survey	A non-response survey is carried out on a simple random sample of around 10% of non-responding units, given that the unit non-response rate exceeds 30%. The results of the non-response survey do not indicate significant differences between respondents and non-respondents, therefore, there is no need for further adjustment of the weighting factors.

Number and types of reminders	Three e-mail reminders with personal follow-up by experienced statistical correspondents (interviewers).
Use of imputation methods	Imputation is applied on total turnover and on intramural R&D expenditure. For turnover, the imputed figures are based on information available in the balance sheets and other administrative sources while for R&D expenditure, the missing information is completed with the respective figure from R&D survey. In both cases, the relevant sources are consulted only for those enterprises that do not provide the missing figures during follow-up.
Combined with other surveys	The Greek CIS 2018-2020 questionnaire includes (additional) items for the collection of data for the following national surveys conducted by EKT: i) Digital Transformation, ii) Research and Innovation Strategies for Smart Specializations, iii) Women in Higher Management Positions, and iv) Regional Indicators.
Link to documentation (outputs and questionnaire)	Documentation is currently available online only in Greek: https://metrics.ekt.gr/sites/metrics-ekt/files/pages-pdf/SIMS_%20CISstatistics_el_2018.pdf
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	No.

Hungary

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	Hungarian Central Statistical Office
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	August 2021 – January 2022
First release of innovation results	April 2022
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions
Differences with the OSLO manual	None
Difference with the CIS questionnaire	Model questionnaire fully adopted
Target population cut-off point	10 employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory, but not enforceable in practice
Unit of analysis surveyed	Enterprise
Survey type	Combined (Enterprises with less than 100 employees are part of the sample survey, enterprises more or equal 100 employees are enumerated completely)
Type of interviews	Use of electronic questionnaire
Average time to complete the survey	
Target population	17502
Target population (manufacturing)	8407
Target population (services)	9095
Achieved sample	7936
Achieved sample (manufacturing)	4740
Achieved sample (services)	3196
Weighted unit response rate	87.56
Unweighted unit response rate	89.14
Definition of strata	Stratification was made according to CIS methodological recommendations. The variables used for the stratification were the economic activity of the enterprise according to NACE rev.2 classification at the 2 digits (division) level, enterprise size (number of employees), and enterprise location by NUTS-2 region.
Weights calculation methods: Variables used and methodology	Variables: Number of enterprises Methodology: The basic method for adjusting for different probabilities of selection used in the sampling process is to use the inverse of the sampling fraction i.e. using the number of enterprises. Our method is based on the figure N_h/n_h where N_h is the total number of enterprises in stratum h of the population and n_h is the number of enterprises in the realised sample in stratum h of the population, assuming that each unit in the stratum had the same inclusion probability. This automatically adjusts the sample weights of the respondents to compensate for unit non-response.
Implementation of non-response survey	No non-response survey
Number and types of reminders	Two postal reminders and one or two phone calls
Use of imputation methods	No imputation was made
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	https://www.ksh.hu/stadat_eng

Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes

Ireland

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	Central Statistics Office (CSO)
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions
Differences with the OSLO manual	None
Difference with the CIS questionnaire	
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory
Unit of analysis surveyed	Enterprise
Survey type	Combined (Combination of sample survey and complete enumeration of the enterprises included in the frame population. The employment size class is used to define a threshold. Larger enterprises are enumerated, while smaller enterprises are sampled. The threshold to separate large from smaller enterprises is 50 employees (It should be noted that a census is conducted for certain strata in the less-than-50-persons-engaged category where the number of enterprises in the strata is low).
Type of interviews	Electronic questionnaire
Average time to complete the survey	
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	For the sampled enterprises a stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to NACE Rev.2 classification, 2 digits) and the enterprise size (10-49, 50-249, 250+).
Weights calculation methods: Variables used and methodology	Variables: number of enterprises, turnover, employment Methodology: Grossing factors for the CIS are calculated using the inverse of the number of valid respondents divided by the relevant population from the Central Business Register. Grossing is calculated for strata of 2-digit NACE by employment size class. The factors which are calculated are then applied to the survey results in order to gross the data up to the relevant populations.
Implementation of non-response survey	No non-response survey used
Number and types of reminders	Four reminders including a Final reminder - issued as a letter.
Use of imputation methods	
Combined with other surveys	No

Link to documentation (outputs and questionnaire)	26
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	

Italy

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	ISTAT
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	September-December 2021
First release of innovation results	5 May 2022
Concepts, notes and definitions in the questionnaire	In footnotes and annex
Differences with the OSLO manual	None
Difference with the CIS questionnaire	It follows completely, the CIS harmonised structure proposed by Eurostat.
Target population cut-off point	10 or more persons employed
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Mandatory
Unit of analysis surveyed	Enterprise
Survey type	Combined (Combination of sample survey and complete enumeration (i.e. census) of the enterprises included in the frame population. The employment size class is used to define a threshold. Larger enterprises are enumerated, while smaller enterprises are sampled. The threshold to separate large from smaller enterprises is 250 persons employed)
Type of interviews	It's a Web survey. Use of online questionnaire
Average time to complete the survey	
Target population	117,445
Target population (manufacturing)	68,510
Target population (services)	45,352
Achieved sample	14,206
Achieved sample (manufacturing)	5,812
Achieved sample (services)	7,115
Weighted unit response rate	62.9%
Unweighted unit response rate	66.0%
Definition of strata	The stratification was made taking mainly into account the study-domains for the output tabulation defined at European level. The stratification variables to be used are: 1. the economic activity in accordance with NACE Rev. 2. Stratification by NACE was done at two-digit (division) level, except for section F; 2. the enterprise size according to the number of persons employed. The size-classes used were the following ones: between 10 and 49; between 50 and 249; 250 and more; 3. the regional variable. The breakdown of national territory into regions was performed on the basis of the NUTS level 2.
Weights calculation methods: Variables used and methodology	Calibration estimators methodology was used for the estimation process [Deville, J.C. and Srndal, C.E. (1992) Calibration estimators in survey sampling, Journal of the American Statistical Association 87,

367.382]. It can be applied to the extent that the known totals of some auxiliary variables, strictly correlated to the variables of interest, are available. These calibration estimators have the following properties: they are more efficient than the direct estimators because of the auxiliary information used; they reduce the bias effect due to the non-response and the under coverage; they produce estimates of auxiliary variables that equal the known totals of such variables.

The final weights are obtained by adopting the following procedure: an initial weight is assigned to each sampled unit with reference to the sampling plan as the reciprocal of the inclusion probability. Two correction factors for initial weights are then calculated: a first one is the unit non response factor; a second one is to satisfy equality between estimation of auxiliary variables and known totals from the Register. The final weights are thus obtained as the result of the product between initial weights and correction factors. For CIS, as well as for most of the business surveys, number of enterprises and number of persons employed were used as auxiliary variables, according to the information provided by the Italian Official Business Register ASIA.

Implementation of non-response survey	None
Number and types of reminders	Two email reminders are undertaken before coding an enterprise as non-responding.
Use of imputation methods	A first type of imputation was the logical (or deductive) imputation, that was applied to correct inconsistencies or for imputing some item non response, based on the answers provided in related questions. After having cleaned all the data, the SAS imputation programmes went on correcting metric variables separately from ordinal variables. As far as the metric variables are concerned, a weighted mean of each metric variable, by NACE and size class, was calculated (after having removed outliers) and applied as a ratio to the enterprises with the missing values within each stratum. The imputation of the ordinal and nominal was done after the metric estimation. The technique used is nearest-neighbour hot decking. Nearest-neighbour imputation uses data from clean records (free of logical inconsistency) to impute missing values of recipient records. The donors were chosen in such a way that the distance between the donor and the recipient is minimised. The distance measure is a multivariate measure based on the reported data.
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	REPORT_INNOVAZIONE-IMPRESE_2018_2020
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes

Japan

Name of survey	Japanese National Innovation Survey 2022 (J-NIS)
Name of responsible agency	National Institute of Science and Technology Policy (NISTEP), Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Reference period	2019–2021
Length of reference period	3 years
Reference year	2021
Data collection period	October 2022
First release of innovation results	September 2023
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions, in footnotes and in the annex ("Respondent guides")
Differences with the OSLO manual	The concepts, definitions of terms, and methodology are based on those in the *Oslo Manual 2018*; and some question items are also used on the basis of the recommendations in the *Oslo Manual 2018*. Non-response survey is not conducted in this wave.
Difference with the CIS questionnaire	The quantitative data in Q.3.10 (innovation expenditures, except for R&D expenditures (i.e. expenditures for R&D performed in-house and R&D contracted out to others)) are not collected.
Target population cut-off point	10 persons employed
Industry coverage	Classification: JSIC Rev.13 Core coverage: Enterprises in the JSIC Rev.13 divisions/major groups/group C, E, R901, F, R88, I50–53, I540–541, I543–549, I55, H, Q86, G, N801, J, L71, and L73–74, which correspond to the ISIC Rev.4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71–73. At the industrial level, there are some gaps in the following correspondences between the JSIC Rev.13 and the ISIC Rev.4/NACE Rev.2: E27–28 and E30 to C26; E25–26 to C28; E13, E32 and R90 to C31–33; F36 to E36; R88 to E37–39, and I50–55 to G46. Non-core coverage: Enterprises in the JSIC Rev.13 divisions/major groups/group A, B, D, I542, R89, I56–61, M, K, L72, R91–92, and N791, R900, R902–909, and R91–92, which correspond to the ISIC Rev.4/NACE Rev.2 sections/divisions A, F, G45, G47, I, L, N77, M69–70, M74, N78, N80–82, N79, and S95.
Sampling frame used	National statistical business register
Completion requirement	Voluntary
Unit of analysis surveyed	Enterprise which has the legal status of *kabusiki-kaisha* (stock company) (including former *yūgen-kaisha* (limited liability company)), *gōmei-kaisha* (general partnership company), *gōshi-kaisha* (limited (liability) partnership company), *gōdō-kaisha* (limited liability company), or *sōgo-kaisha* (mutual company).
Survey type	Sample survey Census in the strata of the enterprises with 1,000–4,999 persons employed and of the enterprises with 5,000 or more persons employed
Type of interviews	Web and postal questionnaire
Average time to complete the survey	(Not available)
Target population	448,348
Target population (manufacturing)	101,528
Target population (services)	258,403
Achieved sample	13,181

Achieved sample (manufacturing)	6,227
Achieved sample (services)	5,502
Weighted unit response rate	41.2% (13,181 / 31,971)
Unweighted unit response rate	43.8%
Definition of strata	For the sampled enterprises, a stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to JSIC Rev.13 breakdown selected in consideration with correspondences with ISIC Rev.4/NACE Rev.2 breakdown) and the enterprise size class (10–49, 50–249, 250–999, 1,000–4,999, and 5,000+ persons employed)
Weights calculation methods: Variables used and methodology	Weights are calculated as inverse ratios of the numbers of enterprises in the achieved sample to the numbers of enterprises in the target population by sampling stratum.
Implementation of non-response survey	No
Number and types of reminders	At least one postal reminder and one telephone reminder
Use of imputation methods	Yes
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Public enterprises which had the legal status of *kabusiki-kaisha* (stock company) (including former *yūgen-kaisha* (limited liability company)), *gōmei-kaisha* (general partnership company), *gōshi-kaisha* (limited (liability) partnership company), *gōdō-kaisha* (limited liability company), or *sōgo-kaisha* (mutual company) were covered

Korea

Name of survey	Korean Innovation Survey (KIS)
Name of responsible agency	Science and Technology Policy Institute (STEPI)
Reference period	2017-2019 (KIS 2020 manufacturing) / 2018-2020 (KIS 2021 service)
Length of reference period	3 years
Reference year	2019 (KIS 2020) / 2020 (KIS 2021)
Data collection period	Aug-Oct, 2020 / Jul-Sep, 2021
First release of innovation results	2003 (National Approved Statistics)
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions. In the footnotes and annex.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	All CIS 'obligatory (violet)' and 'very important (blue)' questions are included. But a few questions are modified (merged) or added based on the Korean context.
Target population cut-off point	10 or more employees
Industry coverage	KSIC Rev.10(based on ISIC Rev.4) Section/Division Manufacturing: C10-C33 (except C12) Service: G45-G47, H49-H52, I55-I56, J58-J63, K64-K66, L68 ,M70-M73, N74-N76, P85, Q86-Q87, R90-R91, S94-S96
Sampling frame used	'Statistical Business Register (SBR)' by the Statistics Korea (KOSTAT)
Completion requirement	Voluntary
Unit of analysis surveyed	Enterprise
Survey type	Sample survey
Type of interviews	Combined (web, electronic, FAX, visit to enterprises)
Average time to complete the survey	1 hour
Target population	110,896
Target population (manufacturing)	50,785
Target population (services)	60,111
Achieved sample	8,000
Achieved sample (manufacturing)	4,000
Achieved sample (services)	4,000
Weighted unit response rate	N/A
Unweighted unit response rate	32.3% (KIS 2020) / 51.5% (KIS 2021)
Definition of strata	The samples are stratified by industry (KSIC Rev.10 2-digit) and number of workers
Weights calculation methods: Variables used and methodology	Variables: Number of Employees (10-49, 50-99, 100-299, 300-499, above 500) Industry Sectors: 56 sectors (Manufacturing 23 sectors, Services 33 sectors) Methodology: Neyman allocation method and cut-off sampling (above 500)
Implementation of non-response survey	Unit non-response: Re-contacting the enterprises and sample substitution (abiding by the applied rule of stratification) Item non-response: non-response survey
Number and types of reminders	At least 3 times, up to 7 times by telephone
Use of imputation methods	N/A
Combined with other surveys	N/A
Link to documentation (outputs and questionnaire)	https://www.stepi.re.kr/kis/

Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	No

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	Central Statistical Bureau of Latvia
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions
Differences with the OSLO manual	None
Difference with the CIS questionnaire	Questionnaire includes one additional question for national needs
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National Statistical Business Register
Completion requirement	Compulsory, with enforceable penalties
Unit of analysis surveyed	Enterprise
Survey type	Data were collected through a combination of both census and sampling.
Type of interviews	Web questionnaire and phone assisted interviews
Average time to complete the survey	
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	The method adopted was stratified simple random sampling. Enterprises were stratified by the size class of enterprise and economic activity by NACE 2.red. classifications.
Weights calculation methods: Variables used and methodology	The inverse of the sampling fractions was used as weights. All large statistical units had weights=1. In the realized sample weights=Nh/mh where Nh is the total number of enterprises in the stratum h of the population and mh is the number of enterprises in the realised sample in the stratum h, assuming that each unit in the stratum had the same inclusion probability. This will automatically adjust the sample weights of the respondents to compensate for unit non-response.
Implementation of non-response survey	The non-response survey was not conducted
Number and types of reminders	
Use of imputation methods	No imputations were made
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	The survey scope includes public enterprises.

Lithuania

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	Lithuanian Department of Statistics
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	September 2021 - October 2021
First release of innovation results	December 2021
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions.
Differences with the OSLO manual	No differences
Difference with the CIS questionnaire	Practically identical. Not all voluntary questions are included.
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory
Unit of analysis surveyed	Enterprise
Survey type	Combined (Type of survey for enterprises with 250 and more employees is complete enumeration. For enterprises with 10-49 and 50-249 employee is a sample survey).
Type of interviews	The data are collected via the electronic statistical data preparation and transfer system e-Statistics, by email.
Average time to complete the survey	The average time spent by a respondent on the filling in of the statistical questionnaire was 68 min.
Target population	7626 enterprises
Target population (manufacturing)	2760 enterprises
Target population (services)	4549 enterprises
Achieved sample	2276 enterprises
Achieved sample (manufacturing)	934 enterprises
Achieved sample (services)	1182 enterprises
Weighted unit response rate	Weighted unit response rate – 99.9 per cent
Unweighted unit response rate	
Definition of strata	The variables used for the stratification of the sample were the economic activity of the enterprise (according to NACE Rev.2 classification, 2 digits) and the enterprise size (10-49, 50-249, 250+). All enterprises from small groups (less than 15 units) by NACE Rev 2 activities and number of persons employed groups were included into the sample. The enterprises with 250+ employees are covered by complete enumeration. Within every NACE Rev 2 group the strata of enterprises were formed by number of persons employed groups. Then the Neyman optimal allocation (with variable number of persons employed) was used for determination of the sample size for each stratum specified. In each stratum simple random sampling was used.
Weights calculation methods: Variables used and methodology	The variables used for weighting were the same as for stratification, i. e. the economic activities and enterprise size according to the number of employees. Methodology: There were some divergences between the target population and the frame population due of economically not active enterprises. These errors were estimated according to the sample design. Economically non active enterprises were excluded from target population.

	All results were weighted against the total population by means of sample weights. The weights were established by using the probability of each enterprise to be included in the sample. The primary strata were not changed and the primary weights were used for actual estimation domains. The calibration method was not used.
Implementation of non-response survey	No non-response survey was carried out.
Number and types of reminders	2 automatic reminders via e. system, later 3 emails or calls were made before enterprises were coded as non-responding.
Use of imputation methods	No imputation was made.
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	Methodological documents are published in the Official Statistics Portal section Innovation activities. Statistical indicators are published in the Database of Indicators (Science and technology -> Innovation activities). For the collection of statistical data a statistical report form has been prepared - the statistical report on innovation activities INV-01 (every 2 years). The statistical report of the survey is prepared every 2 years according to a standard questionnaire prepared by Eurostat. The statistical report form is published at the following address: https://estatistika.stat.gov.lt/pradzia.html (only in Lithuanian).
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes

Netherlands

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	Statistics Netherlands – CBS
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following questions. Details are also provided in the footnotes and in the annex.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	Only mandatory questions are included
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Voluntary
Unit of analysis surveyed	Enterprise
Survey type	Sample survey, although for the higher size classes the sampling probability was 1 for most NACE.
Type of interviews	Online questionnaire
Average time to complete the survey	
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	Sampling by NACE x size class
Weights calculation methods: Variables used and methodology	Number of enterprises.
Implementation of non-response survey	The non-response survey was not conducted.
Number and types of reminders	Two reminders (paper letters by traditional mailing) are sent out to all enterprises in the sample that have not responded. In some cases after these two recalls some vital enterprises are contacted via telephone in order to convince them to respond after all.
Use of imputation methods	
Combined with other surveys	Yes (R&D survey)
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	No

New Zealand

Name of survey	Business Operation Survey 2021
Name of responsible agency	Stats NZ
Reference period	2019-2020
Length of reference period	2 years
Reference year	2020
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions
Differences with the OSLO manual	
Difference with the CIS questionnaire	The Business Operations Survey Innovation Module follows closely with the CIS questionnaire, as it was used as a model for the development of the Innovation Module. There are some differences in ordering, and some questions from the CIS are not present in the Business Operations Survey. These differences are due to the need to make the questionnaire more applicable and easy to fill in for New Zealand businesses. The differences are also due to stakeholder needs for only certain types of information. With this in mind, the Business Operations Survey follows the CIS model as closely as possible, but with some adjustments to suit to the New Zealand environment.
Target population cut-off point	
Industry coverage	The sectoral coverage of enterprises matches the CIS scope, except for the "Wholesale trade, except of motor vehicles and motorcycles" G46 section which excludes "motor vehicle and motor vehicle parts wholesaling".
Sampling frame used	National statistical business register
Completion requirement	Compulsory, but not enforceable in practice
Unit of analysis surveyed	Enterprise
Survey type	Sample survey
Type of interviews	Postal questionnaire
Average time to complete the survey	
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	
Weights calculation methods: Variables used and methodology	
Implementation of non-response survey	Once the target response rate has been met, there is no follow up of any remaining non responders. We account for this non-response by weighting up the responding enterprises. This is the same method used for any enterprises that have ceased trading.
Number and types of reminders	Up to three postal or email reminders are used for this survey. If an enterprise has not responded after the three postal or email reminders, then they are contacted directly via phone.
Use of imputation methods	
Combined with other surveys	Yes
Link to documentation (outputs and questionnaire)	

| Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain) | |

Poland

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	Statistics Poland
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	February – June 2021
First release of innovation results	29th November 2021
Concepts, notes and definitions in the questionnaire	Some included within questions and in footnotes. Details are provided in the annexed explanation notes.
Differences with the OSLO manual	Generally no differences
Difference with the CIS questionnaire	Additional questions for national needs
Target population cut-off point	10 or more persons employed
Industry coverage	Classification: PKD 2007 (Polish Classification of Activities coherent with NACE Rev. 2) Sections/Divisions B, C, D, E, G46, H, J, K, M71-72-73
Sampling frame used	National statistical business register
Completion requirement	Mandatory
Unit of analysis surveyed	Legal unit
Survey type	Combination of sample survey and census
Type of interviews	On-line questionnaire
Average time to complete the survey	241 minutes (including preparation of the necessary data)
Target population	63981
Target population (manufacturing)	33429
Target population (services)	30552
Achieved sample	21300
Achieved sample (manufacturing)	15000
Achieved sample (services)	6300
Weighted unit response rate	63,3%
Unweighted unit response rate	73,9%
Definition of strata	Strata were defined as intersections of PKD (NACE) divisions, geographical regions (NUTS 2 level – voivodships) and enterprise sizes (10-49 persons employed, 50-249, 250+)
Weights calculation methods: Variables used and methodology	The base weights were calculated separately for strata as ratios: the number of enterprises of the frame population to the number of enterprises in the sample. The base weights were corrected for unit non-response by multiplying the base weight by adjustment factor. The non-response adjustment factors were computed using information about reasons of non-response (e.g. unit was inactive or there was incorrect contact information).
Implementation of non-response survey	No
Number and types of reminders	3 e-mail reminders for all non-respondents and additionally urging notes, e-mails and phone calls for still non-respondents
Use of imputation methods	Hot-deck
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	Questionnaires: http://form.stat.gov.pl/formularze/2021/passive/PNT-02.pdf http://form.stat.gov.pl/formularze/2021/passive/PNT-02u.pdf results: https://stat.gov.pl/en/topics/science-and-technology/science-and-technology/innovation-activitieas-of-enterprises-in-the-years-2019-2021,3,7.html https://bdl.stat.gov.pl/BDL/start https://dbw.stat.gov.pl/en/baza-danych

Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes, but only enterprises, not any other organisational forms

Portugal

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	DGEEC/MCTES (Directorate General of Education and Science Statistics/Portuguese Ministry of Science, Technology and Higher Education) in collaboration with national statistics office (Statistics Portugal)
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	Between the end of May and October 2021
First release of innovation results	March 2022 (T+15)
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions. The annex and footnotes provide general details and examples.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	None
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Compulsory
Unit of analysis surveyed	The enterprise as legal unit
Survey type	Combined (Portuguese Community Innovation Survey was collected using a combination of methods census and sample survey. Census operation in the case of large enterprises (i.e., with ≥ 250 employees) and a sample survey for the other strata).
Type of interviews	Electronic questionnaire and postal questionnaire (only in a few cases)
Average time to complete the survey	66 minutes
Target population	21949
Target population (manufacturing)	12591
Target population (services)	9358
Achieved sample	8402
Achieved sample (manufacturing)	3479
Achieved sample (services)	4923
Weighted unit response rate	84,19%
Unweighted unit response rate	88,93%
Definition of strata	The sampling frame was stratified by economic activity, enterprise size, according to the persons employed (10-49, 50-249 and 250+) and NUTS2 region. The sample size was determined in order to guarantee the recommended level of precision
Weights calculation methods: Variables used and methodology	Variables: The variables used for weighting are all three stratification variables (the economic activities in accordance with NACE, the size-classes and Regional aspects at NUTS 2 level). Methodology: For the sample weights we used the inverse of the sampling fraction (using the number of enterprises). No calibration method was used.
Implementation of non-response survey	It wasn't necessary to implement a non-response survey.
Number and types of reminders	There are usually 7 reminders, an initial reminder of the response deadline, followed by 6 reminders to enterprises that have not

	responded after the initial reminder. Most reminders are sent by email. For enterprises that are not registered on the collection platform, reminders are sent by postal mail.
Use of imputation methods	All the questions of the PT CIS survey are mandatory and the electronic platform does not allow the submission of the questionnaire if there are unanswered questions. Inconsistent and outlier values are checked with the enterprises and if necessary corrections are made. The information about turnover and number of employees are directly imputed from the statistical business register.
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	https://www.dgeec.mec.pt/np4/207/ https://smi.ine.pt/SuporteRecolha/Detalhes/10431
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes

Slovak Republic

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	The Statistical Office of the Slovak Republic
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	May – September 2021
First release of innovation results	06/2022
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions, in the footnotes or in the annex
Differences with the OSLO manual	None
Difference with the CIS questionnaire	All mandatory questions and several voluntary questions from the Harmonised Questionnaire except questions 3.14, 4.8 and 4.9 were included in national questionnaire.
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.Non-core coverage: F
Sampling frame used	National statistical business register
Completion requirement	Compulsory, with enforceable penalties
Unit of analysis surveyed	Enterprise
Survey type	Combined (Combination of sample survey and complete enumeration (i.e. census) of the enterprises included in the frame population. The employment size class is used to define a threshold. Large enterprises are enumerated, while smaller enterprises are sampled. The threshold to separate large from smaller enterprises is 250 employees).
Type of interviews	Electronic questionnaire
Average time to complete the survey	2,58 hours
Target population	8173 (Core)
Target population (manufacturing)	3745
Target population (services)	4081
Achieved sample	3041 (Core)
Achieved sample (manufacturing)	1430
Achieved sample (services)	1451
Weighted unit response rate	84,2 % (Core)
Unweighted unit response rate	84,9 % (Core)
Definition of strata	For the sampled enterprises a stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to NACE Rev.2 classification 2 digit level) and the enterprise size (10-49, 50-249, 250+).
Weights calculation methods: Variables used and methodology	The initial weights were calculated as Nh/nh, where Nh was the total number of enterprises in stratum h of the population and nh was the number of enterprises in the sample in stratum h, assuming that each unit in the stratum had the same inclusion probability. Initial weights were updated after collection of questionnaires. As a last step, calibration was applied, using Calif tool in R. The variables used for calibration were the total number of enterprises, turnover and number of employed persons, all of them taken from the SBS.
Implementation of non-response survey	No

Number and types of reminders	Generally, number of maximum reminders were 2 phone calls. In several cases more than 2 phone calls were conducted.
Use of imputation methods	No
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	https://datacube.statistics.sk/#!/lang/en https://zber.statistics.sk/en/search
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	No

Slovenia

Name of survey	Community Innovation Survey (CIS 2020)
Name of responsible agency	Statistical office of the Republic of Slovenia
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	
First release of innovation results	We publish preliminary and final data. Preliminary data are published at the end of April (every even year) and final data no later than 5 months after preliminary data are published.
Concepts, notes and definitions in the questionnaire	
Differences with the OSLO manual	Questionnaire design is as the questionnaire Eurostat (Harminised data collection for CIS) which is in line with the Oslo Manual definitions.
Difference with the CIS questionnaire	
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Mandatory
Unit of analysis surveyed	Enterprise
Survey type	
Type of interviews	Web questionnaire and administrative sources
Average time to complete the survey	66 minutes
Target population	Enterprises with 10 persons employed, registered on the territory of the Republic of Slovenia in one of the selected activities.
Target population (manufacturing)	
Target population (services)	
Achieved sample	
	The observation unit is selected on the basis of the threshold (cut-off sampling). We select enterprises with at least 10 persons employed, registered on the territory of the Republic of Slovenia in one of the activities of the Standard Classification of Activities SKD 2008 (i.e. NACE Rev. 2) from various sections of activities:

- Mining and quarrying (B: 05–09)
- Manufacturing (C: 10–33)
- Electricity, gas steam and air conditioning supply (D: 35)
- Water supply; sewerage, waste management and remediation activities (E: 36–39)
- Wholesale trade, except of motor vehicles and motorcycles (G: 46)
- Transportation and storage (H: 49–53)
- Information and communication (J: 58–63)
- Financial and insurance activities (K: 64–66)
- Architectural and engineering activities; technical testing and analysis (M: 71)

- Scientific research and development (M: 72)
- Advertising and market research (M: 73)

About 2,800 observation units are included in the survey, which is conducted every other year.

Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	Data were collected through combination of a census and sample survey. All units were divided into strata defined by 2 digit NACE activities and by size classes. Units with at least 250 employees were in class 1, units with employees ranges from 50 - 250 were in class 2 and units with employees ranges from 10 - 49 were in class 3. All units from classes 1 and 2 were selected with certainty (census), units from class 3 were selected by sampling (coordinating sampling). Allocation was proportional, taking into account that in each strata were selected at least min {number of units in strata,8} The table below shows number of units in each stratum in the sample, number of units in each stratum in the sampling frame and sampling rates. Total number of strata is 30*3=90.
Weights calculation methods: Variables used and methodology	With weighting adjustment we want to achieve representatives of the sample, so that the weighted data give us as good population estimates as possible. The process of weighting depends on the sampling design, the unit nonresponse rate and available auxiliary variables used for calibration. The final weight is the product of the sampling weight, the nonresponse weight and the calibration factor.
Implementation of non-response survey	
Number and types of reminders	3 reminders, 2 by e-mail and 1 by phone
Use of imputation methods	Data were edited with the combination of systematic corrections and imputation procedures. The following imputation methods were used: logical imputation and hot-deck imputation.
Combined with other surveys	Some of the data for the Innovation Activity in Industry and Selected Services (INOV) survey are taken over from administrative sources. Data on turnover and the number of employees are taken over from the database of accounts kept by the Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES). AJPES collects data on the basis of the Companies Act (ZGD). Data on the share of tertiary educated personnel in the enterprise are taken over from the Statistical Register of Employment (SRDAP) kept by SURS.
Link to documentation (outputs and questionnaire)	Methodological materials on SURSs website are available at https://www.stat.si/statweb/en/Methods/QuestionnairesMethodologicalExplanationsQualityReports. • Questionnaire (only in Slovene):

<table>
<tr><td></td><td>○ Inovacijska dejavnost v industriji in izbranih storitvenih dejavnostih (INOV)

Theme: Development and Technology, Subtheme: Research, Development and Innovation
    • Quality report for the survey:
        ○ Innovation activity in industry and selected services (INOV)

Theme: Development and Technology, SubTheme: Research, Development and Innovation
    • Methodological explanations:
        ○ Innovation activity in industry and selected services

Theme: Development and Technology, Subtheme: Research, Development and Innovation</td></tr>
<tr><td>Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)</td><td>Yes</td></tr>
</table>

Spain

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	National Statistics Office – INE
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	Four months
First release of innovation results	December 2021
Concepts, notes and definitions in the questionnaire	Every question has a description below. More detailed definitions and examples can be found in the annex attached at the end of the questionnaire.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	Most of the CIS questions are included. Questions about the enterprise's economic information are included in the first page of the questionnaire.
Target population cut-off point	10 or more employees
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National statistical business register
Completion requirement	Obligatory
Unit of analysis surveyed	Enterprise as a legal unit
Survey type	Combined (Combination of sample survey and complete enumeration (i.e.census) of the enterprises included in the frame population. The employment size class is used to define a threshold. Larger enterprises are enumerated, while smaller enterprises are sampled. The threshold to separate large from smaller enterprises for Spain is 200 employees).
Type of interviews	Web and postal questionnaires with the possibility of telephone interview.
Average time to complete the survey	Not available
Target population	72,439
Target population (manufacturing)	33,293
Target population (services)	39,146
Achieved sample	25,480
Achieved sample (manufacturing)	14,205
Achieved sample (services)	11,275
Weighted unit response rate	8.61%
Unweighted unit response rate	5.83%
Definition of strata	A stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise according to NACE Rev.2 classification (59 strata), enterprise size (10-49, 50-249, 250+: 3 strata) and NUTS 2-region (19 strata).
Weights calculation methods: Variables used and methodology	Weighting was performed by "number of enterprises". The weighting process was performed in two steps. Firstly, basic weights were calculated in a simple way by Nh/nh using the inverse of the sampling fraction. In a second step the weights were re-adjusted according to the results of the non-response analysis. The re-adjusted weights were the only ones used for producing the final results.
Implementation of non-response survey	No non-response survey is carried out.
Number and types of reminders	3 postal reminders

Use of imputation methods	Some partial non-response is imputed. Also, since collection of innovation data is performed in a combined R&D and innovation survey, some total non-response is also imputed to cover the total non-response of the R&D survey.
Combined with other surveys	Yes (R&D)
Link to documentation (outputs and questionnaire)	https://www.ine.es/dyngs/INEbase/en/operacion.htm?c=Estadistica_C&cid=1254736176755&menu=metodologia&idp=1254735576669
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes

Sweden

Name of survey	Eurostat Community Innovation Survey (CIS 2020) and National Innovation Survey
Name of responsible agency	Statistics Sweden
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	2021-04-04 until 2021-08-31
First release of innovation results	2021-11-11
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions.
Differences with the OSLO manual	None
Difference with the CIS questionnaire	None
Target population cut-off point	10 or more employees.
Industry coverage	Classification: ISIC Rev. 4/NACE Rev. 2. Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73. Additional coverage: F, G45, G47, I, M69, M70, M74, N, P, Q86
Sampling frame used	National statistical business register.
Completion requirement	Compulsory, but not enforceable in practice.
Unit of analysis surveyed	Enterprise.
Survey type	Combined (Combination of sample survey and complete enumeration of the enterprises included in the frame population. Enterprises with 200 or more employees as well as research institutes (regardless of size) were enumerated. Smaller enterprises and non-research institutes were sampled through stratified random sampling).
Type of interviews	Use of web-questionnaire
Average time to complete the survey	26 minutes
Target population	Enterprises with 10 or more employees in the NACE Rev. 2 sections mentioned under "Industry coverage".
Target population (manufacturing)	Enterprises with 10 or more employees belonging to the industry sectors B, C, D, E & F.
Target population (services)	Enterprises with 10 or more employees belonging to the industry sectors G, H, I, J, K, M69-74, N, P & Q86.
Achieved sample	6368 enterprises including other core services (432 entities)
Achieved sample (manufacturing)	Core manufacturing: 2658 entities
Achieved sample (services)	Core services: 3278 entities
Weighted unit response rate	79,6 %
Unweighted unit response rate	83 %
Definition of strata	For the sampled enterprises a stratified random sampling was applied. The variables used for the stratification of the sample were the economic activity of the enterprise (according to NACE Rev.2 classification, 2 digit level), size class (10-49 emp, 50-199 emp, 200-249 emp, 250-499 emp, 500- emp) and NUTS 2 (only size classes 10-49 emp and 50-199 emp).
Weights calculation methods: Variables used and methodology	The weight is calculated as the total number of enterprises in the population per strata divided by the number of enterprises answering the questionnaire per strata: Nh/nh. Nh is the total number of enterprises in strata h of the population. nh is the number of enterprises, that answered the survey, in the sample in strata h of the population. Assuming that each unit in the stratum had the same inclusion probability.
Implementation of non-response survey	None
Number and types of reminders	Two written reminders have been sent out.

Use of imputation methods	According to Eurostat´s methodology and by use of the SAS tools developed by Eurostat. Imputation only conducted for innovation expenditure.
Combined with other surveys	No
Link to documentation (outputs and questionnaire)	Community Innovation Survey (scb.se)
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	The survey scope includes public, regional and local government owned and controlled enterprises.

Switzerland

Name of survey	Survey on Innovation Activities in the Swiss economy
Name of responsible agency	KOF-ETH, Zurich (commissioned by State Secretariat for Education, Research and Innovation, SERI)
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	2021
First release of innovation results	November 2022
Concepts, notes and definitions in the quest.	Included within the questions
Differences with the OSLO manual	None
Difference with the CIS questionnaire	The Swiss Innovation Survey follows the core innovation questions of the CIS. However, some non-mandatory parts of the CIS questionnaire are omitted and some other, additional questions are asked.
Target population cut-off point	5 or more employees
Industry coverage	Core coverage: enterprises in the ISIC Rev. 4/NACE Rev.2 sections/divisions B, C, D, E, G46, H, J, K, M71-72-73.
Sampling frame used	National business register from the Federal Statistical Office
Completion requirement	Voluntary
Unit of analysis surveyed	Enterprise
Survey type	Stratified random sample
Type of interviews	Postal and Online/Web questionnaire
Average time to complete the survey	No information
Target population	6000
Target population (manufacturing)	3000
Target population (services)	3000
Achieved sample	1440
Achieved sample (manufacturing)	760
Achieved sample (services)	680
Weighted unit response rate	Not available
Unweighted unit response rate	24.0 percent
Definition of strata	34 industries, mostly NACE Rev. 2 2-digit, and three industry-specific size classes. The latter are constructed on the basis of employees using "optimal stratification" (Dalenius 1950).
Weights calculation methods: Variables used and methodology	Frequency weights corrected for survey non-response
Implementation of non-response survey	Telephone calls to 500 non-responding firms where answers to product and process innovations as well as R&D activities are collected
Number and types of reminders	One email and one telephone call
Use of imputation methods	Rubin multiple imputations
Combined with other surveys	Yes (ICT)
Link to documentation (outputs and questionnaire)	https://kof.ethz.ch/umfragen/strukturumfragen/kof-innovationsumfrage.html
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	No

Name of survey	UK Innovation Survey
Name of responsible agency	Commissioning: Department for Business, Innovation and Skills. Survey design, field work and processing and estimation: Office for National Statistics (ONS) with boosts sample paid for by the Scottish Government and the Wales Office.
Reference period	2018-2020
Length of reference period	3 years
Reference year	
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included within or immediately following the questions
Differences with the OSLO manual	None
Difference with the CIS questionnaire	All mandatory questions in CIS common questionnaire are applied to national questionnaire.
Target population cut-off point	10 or more employees
Industry coverage	
Sampling frame used	National statistical business register
Completion requirement	Voluntary
Unit of analysis surveyed	Businesses
Survey type	Combined (The sample is a stratified design drawn from the Inter-Departmental Business Register (IDBR) with Neyman allocation used to determine the sample size in each stratum. Overall, roughly 15 per cent of the target population in sampled. A census for all large firms (250+ employees) is taken and a census of SMEs in SIC 72, one of the key policy areas is taken.
Type of interviews	Electronic questionnaire
Average time to complete the survey	60 mins
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	The sample is a stratified design drawn from the Inter-Departmental Business Register (IDBR) with Neyman allocation used to determine the sample size in each stratum. Overall, roughly 15 per cent of the target population in sampled. Stratification was based on three variables: 1) Region - All regions (9 Standard Regions in England) and countries in the UK 2) Division - Coverage of 25 specified sectors in the target population 3) Business Size: 10-49, 50-99, 100-249, 250 plus employees
Weights calculation methods: Variables used and methodology	The results are based on weighted data in order to be representative of the population of firms. The responses were weighted back to the total business population of those in the IDBR. On average each respondent represents 16 enterprises in the population.
Implementation of non-response survey	No
Number and types of reminders	2 postal
Use of imputation methods	

Combined with other surveys	No
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	No

United States

Name of survey	2021 Annual Business Survey
Name of responsible agency	US Census Bureau and US National Science Foundation
Reference period	2018-2020
Length of reference period	3 years
Reference year	2020
Data collection period	
First release of innovation results	
Concepts, notes and definitions in the questionnaire	Included in questionnaire
Differences with the OSLO manual	None. Although not all "core" tabulation questions are covered
Difference with the CIS quest.	
Target population cut-off point	Must have at least one employee
Industry coverage	All domestic, non-farm, for-profit businesses.
Sampling frame used	National statistical business register
Completion requirement	Compulsory, but not enforceable in practice
Unit of analysis surveyed	Enterprise group
Survey type	Sample survey
Type of interviews	Electronic questionnaire
Average time to complete the survey	There is no separate estimate for response burden to complete just the innovation module, which is just one of several modules on the ABS.
Target population	
Target population (manufacturing)	
Target population (services)	
Achieved sample	
Achieved sample (manufacturing)	
Achieved sample (services)	
Weighted unit response rate	
Unweighted unit response rate	
Definition of strata	Strata by number of employees and industry.
Weights calculation methods: Variables used and methodology	Strata are defined by NAICS, geography, and demographic frame. The sampling weights are determined according to the sample size desired in each sampling stratum.
Implementation of non-response survey	There is very limited item non-response. In the 2019 ABS, there was no item non-response adjustment (so a missing answer to an innovation question is treated like a "No"). A weight adjustment is also used for unit non-response.
Number and types of reminders	Three follow up mailings via the US Postal Service and email reminders when applicable
Use of imputation methods	There is very limited item non-response. In the initial (2018) ABS survey donor imputation was used for partial non-respondents to the R&D, innovation, and technology questions. In subsequent survey cycles there was imputation or no item non-response adjustment
Combined with other surveys	Yes
Link to documentation (outputs and questionnaire)	
Survey scope includes public (i.e. central, regional or local government-controlled) enterprises" (Yes/no/explain)	Yes