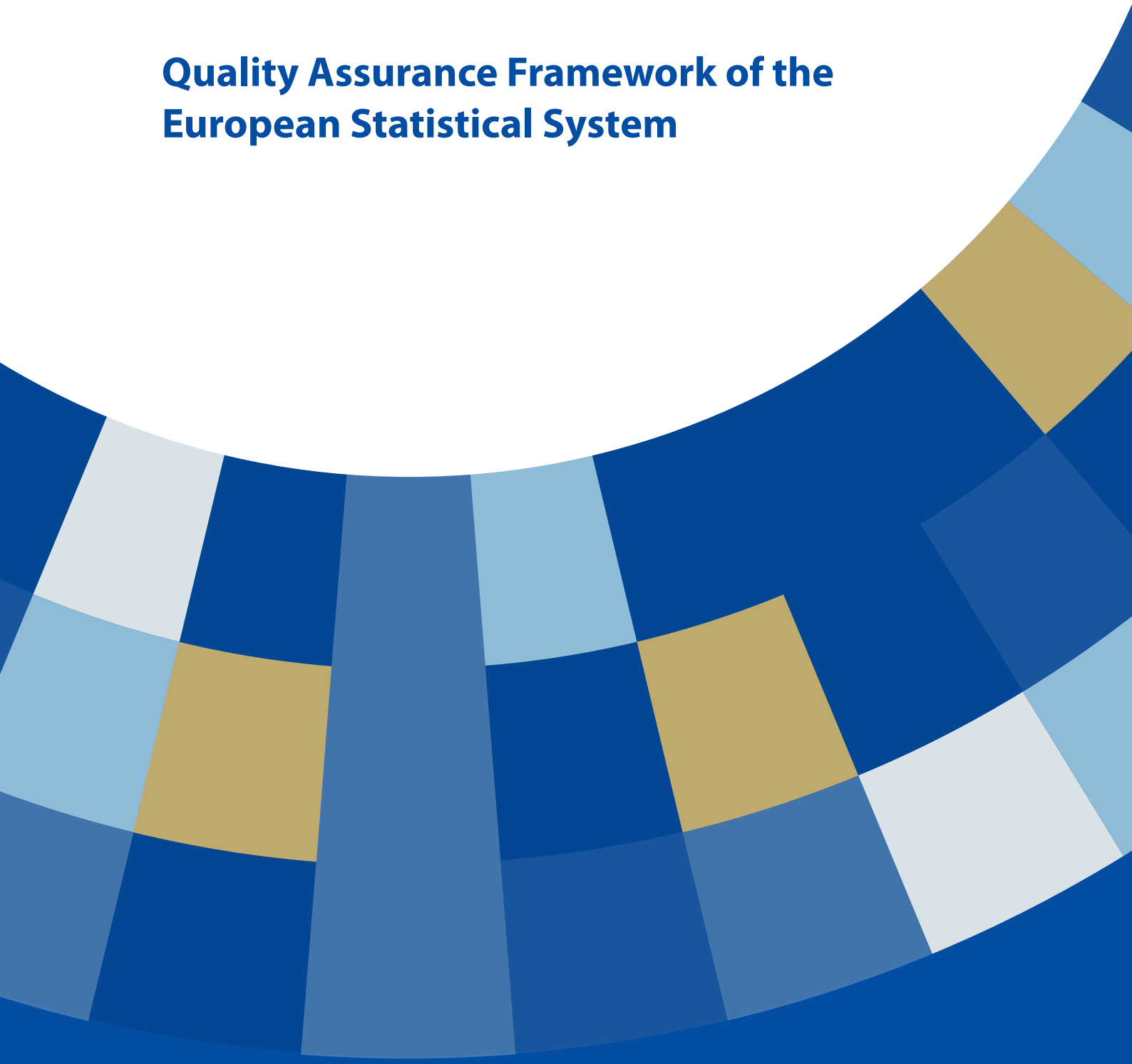
Quality Assurance Framework of the European Statistical System



EUROPEAN STATISTICAL SYSTEM

Version 2.0

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Quality Assurance Framework of the European Statistical System

V2.0

INTRODUCTION

Common Quality Framework of the European Statistical System

The 2019 edition (Version 2.0) of the Quality Assurance Framework of the European Statistical System (ESS QAF) follows and aligns with the 2017 revision of the European Statistics Code of Practice (ES CoP)[1]. Together with the general quality management principles, the ES CoP and the ESS QAF constitute the common quality framework of the ESS, based on which high-quality European Statistics are developed, produced and disseminated.

This self-regulatory common quality framework complements the extensive legal framework of the ESS that is based on Regulation (EC) No 223/2009 on European Statistics[2] which itself derives from the Treaty on the Functioning of the European Union[3]. High-quality European Statistics and services are therefore developed, produced and disseminated in a very robust legal and quality framework.

Aim and Target Group of the ESS QAF

The ESS QAF is a supporting document aimed at assisting in the implementation of the ES Code of Practice. Like the ES Code of Practice, the Quality Assurance Framework of the ESS applies to statistical authorities of the ESS, comprised of the European Union Statistical Authority (Eurostat), the National Statistical Institutes (NSIs) and Other National Authorities (ONAs) which are responsible for the development, production and dissemination of European Statistics. In some ES CoP Principles, Indicators and ESS QAF Methods, Tools, Practices reference to 'other statistical authorities' is to be understood as "others beyond Eurostat and the NSIs", i.e. the ONAs.

The ESS QAF represents a collection of methods, tools and good practices that are suggested for use and/or are already in use in (some of) the statistical authorities of the European Statistical System, where they have proved to be useful. The aim of the ESS QAF is to accompany the ES Code of Practice by providing guidance and examples in the form of more detailed methods and tools as well as good practices for the (rather) high-level Principles and Indicators of the ES Code of Practice.
In accordance with the self-regulatory nature of the ESS common quality framework, these methods, tools and good practices are of a non-obligatory nature and therefore, not binding for the statistical authorities. The listed methods, tools and good practices demonstrate how the ES Code of Practice can be implemented in the every-day work of a statistical authority, taking due account of national circumstances.

[1] European Statistics Code of Practice: https://ec.europa.eu/eurostat/web/products-catalogues/-/KS-02-18-142

[2] Regulation (EC) No 223/2009 on European Statistics as amended by Regulation (EU) 2015/759: http://eur-lex.europa.eu/legal-content/en/TXT/PDF/?uri=CELEX:02009R0223-20150608&from=EN

[3] Treaty on the Functioning of the European Union: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2016:202:FULL&from=EN

Organisation and development of the ESS QAF

The suggested methods, tools and good practices are identified at institutional and statistical process/output level, reflecting the most suitable level of their adoption, application and/or use. In their listing, they evolve from a general perspective into a more concrete and detailed description. It has to be underlined that a specific method, tool or good practice (in a slightly modified formulation) can be listed in support of several Indicators and this sometimes repetitive nature of methods, tools and good practices in the ESS QAF is done on purpose as it follows the approach applied in the ES Code of Practice.

The current version 2.0 of the ESS QAF was prepared by the ESS Task Force QAF, a sub-group of the Working Group on Quality in Statistics, and Eurostat, and was approved by the European Statistical System Committee in May 2019. It was inspired by the revised ES Code of Practice, Regulation 223/2009 on European Statistics, the two rounds of ESS peer reviews, results and lessons learned from the ESS Vision Implementation Projects, current statistical practices of ESS members as well as other international initiatives and developments, such as the "Generic Law on Official Statistics (UNECE)"[4] and the "Guidance on Modernizing Statistical Legislation (UNECE)"[5].

While the "Generic Law on Official Statistics" (GLOS) provides reference for developing a solid legal basis for the functioning of the National Statistical System and the production of high quality official statistics in the context of the countries of Eastern Europe, Caucasus and Central Asia, the UNECE Task Force, established to develop the guidance document, built its work on the GLOS. The "Guidance on Modernizing Statistics Legislation" identifies common elements of statistical legislation and defines their intended outcomes to inspire countries wishing to benchmark or update the legal framework of their National Statistical System (NSS), acknowledging though that statistical systems across countries are organized in varying ways. Whenever reference to international guidance on legislation is made in the ESS QAF, it is these two documents that can be consulted.

Future developments of the ESS QAF

The ESS QAF remains open to further updates in the collection of methods, tools and good practices and, in this context, will closely follow the evolution of the ES Code of Practice in the future.

[4] Generic Law on Official Statistics: http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2016/mtg/ECE_CES_2016_8-1601555E.pdf

[5] Guidance on Modernizing Statistical Legislation: http://www.unece.org/index.php?id=51141

Quality Assurance Framework of the European Statistical System

V2.0

Institutional environment

Institutional and organisational factors have a significant influence on the effectiveness and credibility of a statistical authority developing, producing and disseminating European Statistics. The relevant Principles are professional independence, coordination and cooperation, mandate for data collection, adequacy of resources, quality commitment, statistical confidentiality, impartiality and objectivity.

Principle 1: Professional Independence.

Professional independence of statistical authorities from other policy, regulatory or administrative departments and bodies, as well as from private sector operators, ensures the credibility of European Statistics.

Indicator 1.1: The independence of the National Statistical Institutes and Eurostat from political and other external interference in developing, producing and disseminating statistics is specified in law and assured for other statistical authorities.

Institutional methods

1. **Professional independence of the National Statistical Institutes and of Eurostat. T**he national statistical law includes a provision on the principle of professional independence of the National Statistical Institutes. The Regulation on European Statistics includes a provision on the principle of professional independence of the National Statistical Institutes and of Eurostat.

2. **Professional independence of other statistical authorities**. Legislation is in place to guarantee the professional independence of other statistical authorities.

3. **Drafting of legislation.** International guidance documents and/or good practice from other countries are drawn upon when drafting legislation related to statistics.

4. **Legislative advocacy.** To promote/advocate statistics related legislation, guidance and appropriate governance structures are in place to assist in the approval in the legislative procedure of a country.

5. **Code of professional ethics.** A code of professional ethics is available and made public.

6. **Awareness of staff.** Staff of all statistical authorities are made aware of their code of professional ethics for official statistics.

Indicator 1.2: The heads of the National Statistical Institutes and of Eurostat and, where appropriate, the heads of other statistical authorities have sufficiently high hierarchical standing to ensure senior level access to policy authorities and administrative public bodies. They are of the highest professional calibre.

Institutional methods

1. **Hierarchical standing of the heads of the National Statistical Institutes and of Eurostat.** The national statistical law/legislation stipulates the high hierarchical standing of the heads of the National Statistical Institutes. The Regulation on European Statistics stipulates the high hierarchical standing of the heads of the National Statistical Institutes and of Eurostat. This includes general requirements on the necessary qualifications, knowledge and capacity of the head.

2. **Status of the heads of the other statistical authorities.** Legislation is in place specifying the status of the heads of the other statistical authorities. This includes general requirements on the necessary qualifications, knowledge and capacity of the head.

3. **Guidance on qualifications, knowledge and capacities**. Guidance is available for the formulation of standard/relevant qualifications, knowledge and capacities of the head.

4. **Position of the National Statistical Institutes and Eurostat**. The position in their respective public administrations of the National Statistical Institutes and Eurostat is such as to ensure their professional independence and can be inspired through consultation of best practices from other countries or international organisations.

Indicator 1.3: The heads of the National Statistical Institutes and of Eurostat and, where appropriate, the heads of other statistical authorities have responsibility for ensuring that statistics are developed, produced and disseminated in an independent manner.

Institutional methods

1. **Responsibilities of the heads of the National Statistical Institute, and of Eurostat.** The national statistical law sets down the responsibilities of the heads of the National Statistical Institutes, and the Regulation on European Statistics sets down the responsibilities of the heads of the National Statistical Institutes and of Eurostat for ensuring the independent development, production and dissemination of statistics.

2. **Responsibilities of the heads of other statistical authorities.** Legislation is in place stating the responsibility of the heads of other statistical authorities to ensure the independent development, production and dissemination of statistics.

3. **Drafting of legislation.** Guidance documents**/**good practice support the drafting of statistics related legislation in order to ensure independence in the development, production and dissemination of statistics.

Indicator 1.4: The heads of the National Statistical Institutes and of Eurostat and, where appropriate, the heads of other statistical authorities have the sole responsibility for deciding on statistical methods, standards and procedures, and on the content and timing of statistical releases.

Institutional methods

1. **Sole responsibility of the heads of the National Statistical Institutes and of Eurostat regarding statistical production**. The national statistical law defines the sole responsibility of the heads of the National Statistical Institutes, and the Regulation on European Statistics defines the sole responsibility of the heads of the National Statistical Institutes and of Eurostat, concerning the decisions on statistical methods, standards and procedures.
2. **Sole responsibility of the heads of the National Statistical Institutes and of Eurostat regarding timing and content of statistical releases**. The national statistical law defines the sole responsibility of the heads of the National Statistical Institutes, and the Regulation on European Statistics defines the sole responsibility of the heads of the National Statistical Institutes and of Eurostat, concerning the timing and content of statistical releases.
3. **Sole responsibility of the statistical heads of the other statistical authorities regarding statistical production**. Legislation is in place for other statistical authorities ensuring that the heads have sole responsibility concerning the decisions on statistical methods, standards and procedures.
4. **Sole responsibility of the statistical heads of the other statistical authorities regarding timing and content of statistical releases**. Legislation is in place for other statistical authorities ensuring that the heads have sole responsibility concerning the timing and content of statistical releases.

Process/output methods

5. **Procedure for the development and implementation of statistical methodology.** A procedure for the development and implementation of the methodology of the statistical processes is in place. This procedure is approved by the head of the relevant statistical authority.
6. **Release calendar.** The release calendar or the scheduling of the statistical releases is approved by the head of the National Statistical Institute/other statistical authorities/Eurostat.

Indicator 1.5: The statistical work programmes are published and periodic reports describe progress made.

Institutional methods

1. **Strategy.** National (multi-annual) strategies are published and aligned, when appropriate, with strategic documents from the European Statistical System.
2. **Statistical work programme.** A statistical work programme (e.g. annual national statistical programme, European Statistical Programme and the Annual Statistical Programme of the European Commission) is publicly available.
3. **Compilation of the programme.** A description of the process and procedures to compile a statistical work programme is available for internal purposes.
4. **Reports on the implementation of the statistical work programme.** Reports on the implementation of the statistical work programme are regularly compiled and publicly available.

Indicator 1.6: Statistical releases are clearly distinguished and issued separately from political/policy statements.

Institutional methods

1. **Description of statistical outputs.** Internal guidelines for describing statistical outputs to users, including formulations on how to be non-political in statements, are developed and available to staff.

2. **Training on how to communicate about statistics.** Statistical authorities ensure that suitable statistical training courses are provided to staff of the National Statistical System to facilitate objectivity in communicating its statistics.

3. **Identification of statistical releases.** Guidelines are in place to clearly identify statistical releases (e.g., press releases, press conferences, reports) as products of the statistical authority.

4. **Definition of the brand:** A brand of the National Statistical Institute/National Statistical System as appropriate and Eurostat is defined. It includes a logo that can be widely recognised by its design, format, colours and layout.

Indicator 1.7: The National Statistical Institute and Eurostat and, where appropriate, other statistical authorities, comment publicly on statistical issues, including criticisms and misuses of statistics as far as considered suitable.

Institutional methods

1. **Monitor the use of statistical products.** A procedure is in place to monitor the use of statistical products of the statistical authorities. This can include, for example, subscribing to a news service or having an internal service that provides a regular overview of the use.

2. **Communicate on the use.** A procedure is in place to inform the persons responsible for the statistical products about their use.

3. **Analysis of criticism/misuse.** An internal structure responsible for analysis of criticism, misuse etc. and to take appropriate action is in place

4. **Reactions to criticism/misuse.** Guidelines are in place on how to react/intervene to criticism and misuse of statistics.

Indicator 1.8: The procedures for the recruitment and appointment of the heads of the National Statistical Institutes and Eurostat and, where appropriate, the statistical heads of other statistical authorities, are transparent and based on professional criteria only. The reasons on the basis of which the incumbency can be terminated are specified in the legal framework. These cannot include reasons compromising professional or scientific independence.

Institutional methods

1. **Terms of recruitment and appointment of the heads of the National Statistical Institutes and Eurostat.** The national statistical law/legislation includes a provision that the recruitment and appointment of the heads of the National Statistical Institutes are based on professional criteria only.

The Regulation on European Statistics includes a provision that the recruitment and appointment of the heads of the National Statistical Institutes and Eurostat are based on professional criteria only.

2. **Terms of dismissal of the heads of the National Statistical Institutes and Eurostat.** The national statistical law/legislation stipulates the grounds for the dismissal of the heads of the National Statistical Institutes and must exclude reasons compromising professional and scientific independence. The Regulation on European Statistics stipulates the grounds for dismissal of the heads of the National Statistical Institutes and Eurostat and must exclude reasons compromising professional and scientific independence.

3. **Procedures for the appointment and dismissal of the statistical heads of other statistical authorities.** Legislation sets down the procedures for the recruitment and appointment of the heads of the other statistical authorities as well as the grounds for the dismissal of the statistical heads of these authorities, which must exclude reasons compromising professional and scientific independence.

4. **Legislative advocacy.** International guidance is used to promote/advocate the criteria and the procedure for the recruitment and appointment and the reasons for the dismissal of the heads of the statistical authorities.

5. **Guidelines.** Guidelines are in place on national level on how to formulate criteria and procedures in the statistical law/legislation for the recruitment, appointment and dismissal of the heads of the statistical authorities.

6. **Procedures for recruitment and appointment.** Procedures for the recruitment and appointment of the head of the National Statistical Institute, Eurostat and other statistical authorities, based on professional criteria only, are publicly available.

Principle 1bis: Coordination and cooperation.

National Statistical Institutes and Eurostat ensure the coordination of all activities for the development, production and dissemination of European Statistics at the level of the national statistical system and the European Statistical System, respectively. Statistical authorities actively cooperate within the partnership of the European Statistical System, so as to ensure the development, production and dissemination of European statistics

Indicator 1bis.1: The National Statistical Institutes coordinate the statistical activities of all other national authorities that develop, produce and disseminate European Statistics. They act in this regard as the sole contact point for Eurostat on statistical matters. Legislation and well defined and established procedures are in place for implementing the coordination role at both national and European levels.

Institutional methods

1. **Legal basis for coordination role.** The role of the National Statistical Institute as the coordinator of the National Statistical System is defined in the national statistical law.

2. **Criteria for other statistical authorities**. The criteria to identify the other statistical authorities are specified in the national statistical law.

3. **Inventory of other statistical authorities**. Other statistical authorities are identified and listed in a formal document.

4. **Governance body**. The National Statistical Institute establishes and leads a governance body for this coordination role.

5. **Coordination instruments**. Coordination instruments and consultation mechanisms are in place. They can include statistical programming, planning and reporting, quality monitoring, methodology, data transmission and communication on the statistical actions of the European Statistical System and others.

6. **Procedures on coordination (national level)**. Procedures are defined and in place for implementing the coordination role of the National Statistical Institute.

7. **Commission Decision**. The coordination role of Eurostat is set up by a Commission Decision on Eurostat, and its implementation is ensured by well-defined and established procedures.

8. **Instruments for sole contact point.** The National Statistical Institute defines its role as the sole contact point with Eurostat (except for agreed cases and for data transmission, for which the NSI may only be informed of data transmission done directly by ONAs in case the ONA transmits the data to Eurostat). The National Statistical Institute has instruments in place to implement this role, for example through coordinating representation at meetings of the European Statistical System. The relevant documentation is available to the public.

9. **Written agreements with other statistical authorities.** The National Statistical Institute and the other statistical authorities have written agreements on the scope of their responsibility in developing, producing and disseminating European Statistics, on the compliance with the European Statistics Code of Practice and the quality dimensions mentioned therein, and their working relations. These agreements can be part of the statistical programme, drafted on the basis of templates, or take any other appropriate form.

10. **Regular meetings to manage national coordination.** Regular meetings chaired by the National Statistical Institute are held with the other statistical authorities to manage coordination and harmonisation within the National Statistical System.

11. **Coordinated training programme.** The National Statistical Institute in collaboration with the other statistical authorities establishes a coordinated training programme taking into account the needs of all the statistical authorities. It includes themes such as quality, quality reporting, implementation of national quality guidelines and others as appropriate. The National Statistical Institute actively promotes the training programme with the other statistical authorities to encourage their regular participation.

12. **Information platform.** The National Statistical Institute manages an information platform or other information/communication tools for the coordination of the National Statistical System.

Process/output methods

13. **Domain coordination**: The National Statistical Institute sets up working groups/task forces/other types of meetings between the National Statistical Institute and the other statistical authorities to coordinate statistical tasks and quality issues in specific statistical domains and between statistical domains.

Indicator 1bis.2: National guidelines to ensure quality in the development, production and dissemination of European Statistics within the national statistical system are produced by the Heads of the National Statistical Institutes, where necessary; their implementation is monitored and reviewed.

Institutional methods

1. **National quality guidelines.** The National Statistical Institute establishes and makes public national guidelines where necessary to ensure the quality of the development, production and dissemination of European Statistics produced by the National Statistical Institute and the other statistical authorities. These national quality guidelines might include quality management, quality reporting standards, methodology and others as appropriate.

2. **Implementation of the national quality guidelines**. The implementation of national quality guidelines is regularly monitored and reviewed, using relevant tools and procedures (e.g. self-assessments, audits and peer reviews).

3. **Meetings on quality with the other statistical authorities.** The National Statistical Institute arranges regular meetings on statistical and quality matters with the other statistical authorities (e. g. for discussions, monitoring and review of national guidelines on quality in European Statistics).

4. **Quality assessment tools.** The National Statistical Institute prepares quality assessment tools for other statistical authorities in cooperation with them, and provides the relevant support.

Indicator 1bis.3: Statistical authorities continuously maintain and develop cooperation at various levels with each other and with the advisory bodies of the European Statistical System, as well as with the members of the European System of Central Banks, academic institutions and other international bodies, as appropriate.

Institutional methods

1. **Cooperation within the European Statistical System.** A policy supporting and promoting the participation of statistical authorities in relevant activities is in place. Instruments such as

sponsorships, meetings, networks and conferences are in place to share knowledge and promote working together for improving official statistics, both on international and national levels. An exchange of staff with statistical authorities of other countries within the European Statistical System is encouraged.

2. **Policy on data sharing.** The National Statistical Institute has a policy to share data with statistical authorities of other countries within the European Statistical System, in particular in areas of mutual interest such as flow and mirror statistics. The policy takes into account confidentiality and data protection requirements.

3. **Cooperation with the advisory bodies of the European Statistical System.** Eurostat and the National Statistical Institutes follow-up on a regular basis recommendations from the advisory bodies of the European Statistical System, such as the European Statistical Governance Advisory Board (ESGAB) and the European Statistical Advisory Committee (ESAC).

4. **Cooperation with the central banks.** Regular meetings are held between the National Statistical Institute and the National Central Bank, and agreements or memoranda of understanding are concluded. At the European level, a Memorandum of Understanding between Eurostat and the European Central Bank/Directorate General for Statistics is implemented within the scope of the European Statistical Forum framework.

5. **Cooperation with scientific institutions.** Instruments such as common statistical development projects, internships, doctoral positions or colloquia are used to maintain and develop cooperation between the statistical authorities and the relevant scientific institutions.

6. **Cooperation with international bodies.** Instruments such as joint projects, working groups and colloquia are used to maintain and develop cooperation between the statistical authorities and international bodies.

7. **Promotion and support of innovation.** The heads of the National Statistical Institutes, other statistical authorities and Eurostat promote/support innovation through cooperation and agreements with public institutions, private businesses, academic and research institutions, government bodies and other technology innovators.

8. **Partnerships between statistical authorities.** Joint projects are encouraged and in place, where possible, to reinforce partnerships among the National Statistical Systems and between the National Statistical Institutes and Eurostat, such as ESSnets, research, international cooperation projects.

Principle 2: Mandate for Data Collection and Access to Data.

Statistical authorities have a clear legal mandate to collect and access information from multiple data sources for European statistical purposes. Administrations, enterprises and households, and the public at large may be compelled by law to allow access to or deliver data for European statistical purposes at the request of statistical authorities.

Indicator 2.1: The mandate of the statistical authorities to collect and access information from multiple data sources for the development, production and dissemination of European Statistics is specified in law.

Institutional methods

1. **Mandate of statistical authorities.** The mandate of the statistical authorities to collect and access information from multiple data sources, including administrative data, for European statistical purposes is set out in the national statistical law and/or in other relevant legislation.

2. **Availability of legislation.** Relevant legislation regarding the mandate to collect data and access information is available through the statistical authorities' web page.

3. **Justification of statistical needs**. The need to collect and access data is justified on the basis of publicly available documents specifying regulatory, methodological, technological or administrative requirements.

Process/output methods

4. **Procedures for data collection and access to data.** Procedures are in place to manage data collection and access data from multiple data sources.

5. **Procedures for exploring data sources.** Each statistical domain regularly explores possible new data sources, including privately held data sources, and assesses their feasibility and accessibility for producing statistics.

Indicator 2.2: The statistical authorities are allowed by law to access administrative data, promptly and free of charge, and use them for statistical purposes. They are involved from the beginning in the design, development and discontinuation of administrative records, in order to make them more suitable for statistical purposes.

Institutional methods

1. **Right to access administrative data.** The national statistical law and other relevant legislation set out the statistical authorities' right to access administrative data promptly and free of charge for statistical purposes.

2. **Obligation for administrative data holders.** The national statistical law and other relevant legislation set out the obligation for administrative data holders to consult and involve the statistical authorities in the initial design, subsequent development, standardisation and discontinuation of administrative records relevant for statistical purposes.

3. **Legislation of administrative data holders.** The legislation of administrative data holders does not prevent access to administrative data for statistical purposes.

4. **Monitoring of legislation regarding administrative data**. A procedure such as the advance notification of system changes is in place to monitor developments concerning legislation which involve the use of administrative data. Developments are analysed and action taken when needed.

5. **Agreements between statistical authorities and administrative data holders**. Written agreements between the statistical authorities and the administrative data holders are in place to operationalise the legal provisions. These agreements set out the data coverage, the frequency and timetable of access, the general delivery mode, the data format, metadata and the technology to be used. Furthermore, they specify the consultation procedure/process of the statistical authorities in case of changes in the administrative records, their discontinuation and other relevant cases.

6. **Consultation.** Consultations steered by the National Statistical Institute are ensured to regularly discuss the development of potential new administrative records and their subsequent design. They could take the form of a committee of public bodies, e.g., ministries.

7. **Cooperation.** Cooperation arrangements are in place to provide for regular discussions between the statistical authorities and the holders of administrative data regarding plans for the design of new administrative data, amendments or discontinuation of existing administrative data or other changes. This can take place through meetings (virtual or physical), discussion/consultation platforms or other suitable forms.

8. **Awareness raising**. The statistical authorities raise awareness and knowledge of legislation among administrative data holders through meetings and information sessions.

9. **Delivery procedures**. Procedures, including the delivery mode (e.g. frequency and timetable for the delivery of the administrative records to the statistical authority) are in place to ensure the prompt delivery of administrative data. These procedures include an assessment of the administrative records in terms of their coverage, content, concepts and definitions, and the quality assurance.

10. **Standardised metadata.** Procedures are in place ensuring the regular provision of standardised metadata by the administrative data holders.

11. **Access management**. Access to administrative data sources is centrally managed within the statistical authorities.

Indicator 2.3: On the basis of a legal act, the statistical authorities may compel response to statistical surveys.

Institutional methods

1. **Legal basis.** If feasible in the given administrative/legislative set-up, the statistical authorities define in the national statistical law and/or other relevant legislation the right to impose an obligation on administrations, enterprises and individuals to respond to statistical data collection/data access requests and – in the case of individuals – to provide personal data.

2. **Information to respondents.** Clear information on the response obligation is provided to respondents and made available on the statistical authorities' website. The information explains the legal provisions and the sanctions concerning non-response.

3. **Proactive measures.** A policy of proactive measures, such as reminders, possible incentives, and the improvement of questionnaires and communication with respondents, is in place to improve response rates.

4. **Sanctions.** A policy setting out the sanctions for not responding to surveys is in place and available on the statistical authorities' website.

Process/output methods

5. **Measures to encourage response.** Measures are taken to encourage and ensure responses to statistical surveys. These may include:
   - An automatic reminder system;
   - Reminding respondents that response is mandatory (if applicable according to legislation);
   - Giving the respondents detailed information on the survey and incentives (e.g. information on the statistics to which the survey pertains, the objective and context of the survey, the rationale for the questions, possible sanctions, information on results);
   - Automatic feedback to respondents (e.g. businesses) in the form of information on the resulting statistics.

Indicator 2.4: Access for statistical purposes to other data, such as privately held data, is facilitated, while ensuring statistical confidentiality and data protection.

Institutional methods

1. **Agreements**. Agreements with holders of other data, such as privately held data, are in place to ensure and facilitate access to these data. These agreements may set out the scope of the use of the data, sustainability of cooperation, frequency and timeline of data access/transmission/delivery, access/delivery mode, delivery of metadata, appropriate use of the data, possible compensation for the use of privately held data, statistical confidentiality and data protection.

2. **Partnerships**. Partnerships between the statistical authorities and private companies, researchers and academia, the government, civil society organisations and others as appropriate, are in place to foster cooperation and to facilitate access to other data, such as privately held data.

3. **Awareness raising**. The statistical authorities conduct meetings and other awareness-raising activities with holders of other data, such as privately held data, at both management and operational level, to explain issues such as the mission of official statistics, the mandate of the statistical authority, the reasons for the use of privately held data, data protection legislation and their implementation by the authorities.

4. **Engagement.** Senior management in the statistical authorities encourages the involvement of their peers at government level and key interest groups, such as business sector associations, in discussions with senior management of private data holders.

5. **Guidelines.** Guidelines for the cooperation of statistical authorities with holders of other data, such as privately held data, are in place and available to staff**.**

6. **Data scouting**. Procedures are in place and resources available to identify possible new data sources.

7. **Access procedures.** Procedures are in place to access other data, such as privately held data. They take into account limiting the burden for private data holders and avoiding interference with their business concepts.

8. **Free of charge access**. Guidelines are in place on how to promote and encourage access to other data, such as privately held data, free of charge.

9. **Compensation for access**. A procedure is in place to support sound decision-making on possible financial contributions or non-monetary compensation, such as methodological cooperation and training, to receive access rights to other data, such as privately held data.

10. **Data protection procedures.** Statistical confidentiality and data protection procedures with regard to other data, such as privately held data, are in place.

11. **Access management.** Access to new data sources is centrally managed within the statistical authority. This could take the form of a virtual entity or central function at the level of the statistical authority.

12. **Technical capacity**. The statistical authorities have the technical capacity to access the data. All necessary technical safeguards are in place to guarantee secure access to and storage of the data.

Principle 3: Adequacy of Resources.

The resources available to statistical authorities are sufficient to meet European Statistics requirements.

Indicator 3.1: Human, financial and technical resources, adequate both in magnitude and in quality, are available to meet statistical needs.

Institutional methods

1. **Strategic planning**. A strategic planning process is in place and takes into account needs for human, financial and IT resources.

2. **Human resource policy.** The statistical authorities have a human resource policy in place in order to ensure the availability of sufficient and highly-skilled staff. This policy includes procedures to recruit staff with relevant qualifications, allocate/reallocate resources, provisions on training, talent management, career development and staff motivation.

3. **Financial policy.** The statistical authorities have a financial policy in place in order to ensure appropriate management and monitoring of financial resources. This policy includes budgetary procedures comprising the allocation and monitoring of budget, explanation of the roles and responsibilities of the actors, guidelines for budgetary reporting and outsourcing.

4. **IT policy.** The statistical authorities have an IT policy in place in order to ensure an appropriate management of IT resources. This policy includes the availability, use and security of its computer systems, networks, and information resources. The IT policy and architecture are regularly reviewed and updated, when needed.

5. **Engagement of governance bodies**. The statistical authorities regularly discuss resource issues with the relevant governance bodies.

6. **Flexibility in allocation of resources.** If possible in the given administrative set-up, procedures are in place supporting decision-making on the flexible allocation of human, financial and IT resources in order to respond to changing needs and priorities.

7. **Monitoring of use of resources.** Procedures are in place to regularly monitor **t**he use of human, financial and technical resources (on the basis of relevant assessment procedures) and to report to senior management.

8. **Evaluation of adequacy of resources.** Procedures are in place to regularly evaluate the adequacy of human, financial and IT resources.

9. **Risk management.** Procedures are in place to regularly assess and mitigate financial and non-financial risks.

10. **Job descriptions.** Procedures are in place to ensure that job descriptions defining the tasks and necessary qualifications are available for all posts and are known to staff.

11. **Provision of training.** Procedures are in place to plan and provide appropriate training to all staff to ensure adequate skills and competencies, as well as to regularly assess the adequateness and effectiveness of the training.

Indicator 3.2: The scope, detail and cost of statistics are commensurate with needs.

Institutional methods

1. **Policy on adjustment of scope, detail and cost of statistics to needs.** A policy is in place establishing cause-effect relationships and evaluating the extent to which statistical needs are met in statistical work programmes.

2. **Cooperation with stakeholders.** Cooperation with stakeholders is in place to discuss the scope of statistics, its costs and benefits.

3. **Planning procedures**. Procedures are in place to analyse, determine and estimate the scope and detail of statistics taking into account costs, opportunity and needs.

4. **Cost awareness.** Staff is made aware of the costs of official statistics in relation to the content and quality of the output and the possible trade-offs.

5. **Scope, detail and costs of statistics.** The scope, detail and costs of statistics are defined in statistical work programmes and/or other documents.

6. **Monitoring of user needs and feedback.** User needs and feedback are monitored and taken into account as far as possible in the statistical planning process.

Process/output methods

7. **Cost accounting.** Systematic process-based and output-based cost accounting supports management cost reporting and cost-benefit analysis.

Indicator 3.3: Procedures exist to assess and justify demands for new statistics against their cost.

Institutional methods

1. **Assessment of new demands against costs.** The statistical authorities have procedures in place to ensure that demands for new statistics are accurately identified and analysed, including an evaluation of costs.

Process/output methods

2. **Definition of priorities.** A process is in place to define priorities among new demands on the basis of user needs.

3. **Costing of statistical output.** A procedure is in place to ensure that new statistical output for all domains is costed within the statistical work programme.

Indicator 3.4: Procedures exist to assess the continuing need for all statistics, to see if any can be discontinued or curtailed to free up resources

Institutional methods

1. **Review procedures.** Regular review procedures for all statistics are in place to support decision-making regarding statistics that could be discontinued or curtailed to free up resources.

2. **User consultations**. User consultations are in place to discuss and agree upon the results of the regular review procedure.

3. **Planning and priority setting process.** Procedures are in place for planning and implementing the discontinuation or curtailing of statistics.

Principle 4: Commitment to Quality.

Statistical authorities are committed to quality. They systematically and regularly identify strengths and weaknesses to continuously improve process and output quality.

Indicator 4.1: Quality policy is defined and made available to the public. An organisational structure and tools are in place to deal with quality management.

Institutional methods

1. **A quality policy / commitment statement.** A quality policy / commitment statement sets out principles, practices and commitments related to quality in statistics, consistent with the goals set out in the Mission and Vision statements of the European Statistical System. The policy/statement is publicly available.

2. **An organisational structure for managing quality.** There is a clear organisational structure for managing quality within the statistical authorities. Examples of such a structure are:
   - Quality Committee;
   - Quality Manager;
   - Centralised Quality Unit;
   - Other structures (e.g. members of staff trained to act as quality coaches).

3. **Quality guidelines**. Guidelines are defined on how to implement elements of quality assurance related to the statistical production process, comprising:
   - A description of the different phases of the statistical production process and links to relevant reference documentation for each phase, following the Generic Statistical Business Process Model (GSBPM) or any other equivalent process representation;
   - A description of the methods to assure the quality of each phase of the statistical production process.

4. **Availability of quality guidelines.** Quality guidelines are used and publicly available at least in a summary version.
5. **An infrastructure for documentation.** An infrastructure and resources are in place in order to maintain updated documentation on quality.
6. **Quality culture**. A quality culture is spread in the organisation by means of regular training programmes supporting the implementation of the quality policy, training on the job, regular training courses, workshops and other initiatives.
7. **Risk management.** Risk management is implemented in the organisation and is applied at different levels, for example:
   - Strategic level, i.e. the risks of not following the strategic values and goals;
   - European statistics Code of Practice level, i.e. the risks of not being compliant with the European statistics Code of Practice level as a whole or for specific principles;
   - Process, output and project level.
8. **Risk and quality management**. Risk and quality management are closely coordinated.
9. **Availability of the European Statistics Code of Practice.** The European statistics Code of Practice is prominently displayed on websites.
10. **References to the European Statistics Code of Practice.** Where appropriate, the European statistics Code of Practice is referred to in press releases that relate to disseminated statistics.

Indicator 4.2: Procedures are in place to plan, monitor and improve the quality of the statistical processes, including the integration of data from multiple data sources.

Institutional methods

1. **Methodological and technical support and general tools.** Methodological and technical support and general tools are provided by specialised/dedicated units for implementing process quality monitoring, quality assurance and improvement plans.

2. **A culture of continuous improvement.** A culture of continuous improvement is promoted and implemented, including:

   - Raising the awareness of staff about the importance and need to continuously improve the quality of statistical processes through training, seminars, communication etc.;
   - Systematic review and documentation of methodology and processes leading to improvement actions;
   - Systematic identification and exchange of good statistical practices;
   - Systematic monitoring, assessment and improvement of the quality of statistical processes, including the integration of data from multiple data sources.

3. **Evaluating process quality.** Processes such as quality audits, quality reviews or quality assessments are in place to evaluate the quality of the different phases of the statistical production process in accordance with the quality assurance and improvement plan.

Process/output methods

4. **A quality assurance and improvement plan.** A quality assurance and improvement plan or any other similar scheme is in place. It describes the working standards, formal obligations (such as laws and internal rules) and the set of quality control and improvement actions to prevent and monitor errors, to evaluate quality indicators, and to control as well as to improve quality at each phase of the statistical production process, including the integration of data from multiple data sources. The quality assurance and improvement plan is based on the quality guidelines or both documents are mutually consistent (depending on national circumstances).

   The quality assurance and improvement plan or any other similar scheme:

   - Takes user needs into account and checks the relevance of the statistical process;
   - Ensures effective technical and organisational design of the statistical production process;
   - Assures the quality of data collection, including the use of administrative data and other data sources;
   - Assures the quality of the integration of data from multiple data sources;
   - Assures the quality of data processing (coding, editing, imputation and estimation);
   - Ensures the systematic examination of possible trade-offs within quality;
   - Ensures that the information described above is accessible, for example in the quality reports, and comprehensible to users;
   - Ensures that reactions/feedback from users are regularly collected, assessed and acted upon where necessary;
   - Ensures the provision of suitable metadata to users to aid their understanding of quality;
   - Comprises any further quality assurance and improvement actions for different phases of the statistical process.

5. **Improve process quality.** The results of quality evaluations are used at process level to improve processes and output quality. Monitoring the implementation of the improvement actions is regularly performed. Senior management is informed of the progress in order to decide on further actions.

Indicator 4.3: Output quality is regularly monitored, assessed with regard to possible trade-offs, and reported according to the quality criteria for European Statistics.

Institutional methods

1. **Monitoring output quality.** Procedures based on quality reporting are in place to internally monitor output quality. Results are analysed regularly and assessed with regard to possible trade-offs. Senior management is informed in order to decide on improvement actions.

2. **Assessing output quality.** Procedures are in place to assess output quality against the quality criteria for European Statistics. The assessment is aimed at quality improvement.

3. **User satisfaction surveys.** User satisfaction surveys or other methods monitoring user needs are implemented on a regular basis. Their main results are publicly available and incorporated, where useful, in quality reports.

Process/output methods

4. **User-oriented quality reports.** User-oriented quality reports are produced regularly and publicly available in accordance with the ESS standards for reference metadata and quality indicators, i.e. the Single Integrated Metadata Structure (SIMS).

5. **Producer-oriented quality reports.** Producer-oriented quality reports are produced regularly and disseminated as appropriate (periodicity to be determined, e.g. by the specific Regulation and the survey life cycle), in accordance with the ESS standards for reference metadata and quality indicators, i.e. Single Integrated Metadata Structure (SIMS). They are used for regular quality monitoring over time.

Indicator 4.4: There is a regular and thorough review of the key statistical outputs using also external experts where appropriate.

Institutional methods

1. **A plan for implementing quality reviews.** An appropriate plan for conducting regular quality reviews (through self-assessments, supported self-assessments, quality assessments, peer reviews or quality audits) is defined and implemented.

2. **Methodology for quality reviews.** A methodology for quality reviews is in place and applied. It is revised according to needs.

3. **Organisational structure for quality reviews.** An appropriate organisational structure for carrying out quality reviews is in place.

4. **Training of internal auditors.** Internal quality reviewers/auditors are trained in statistical processing, quality, auditing techniques and behaviour.

5. **Reference documentation.** Quality reviews use as reference documentation:

   - Quality policy;
   - Quality guidelines/quality assurance plan, or a similar scheme;
   - Producer-oriented quality reports and/or user-oriented quality reports;
   - Self-assessment questionnaires filled by producers;
   - Reports from reviews/assessments/audit interviews;
   - Questionnaires completed by respondents and/or users;

- Any other user satisfaction study.

6. **Action plans.** The key findings of quality reviews are discussed with senior management and result in action plans.

7. **Feedback from users.** Relevant feedback from different users provides input to action plans (making use of user satisfaction surveys or focus groups).

8. **Deployment of external experts.** External experts are deployed to review key statistical domains as appropriate.

9. **Benchmarking.** Benchmarking on key statistical processes with other statistical authorities is carried out to identify good practices.

Principle 5 – Statistical Confidentiality and Data Protection

The privacy of data providers, the confidentiality of the information they provide, its use only for statistical purposes and the security of data are absolutely guaranteed.

Indicator 5.1 – Statistical confidentiality is guaranteed in law.

Institutional methods

1. **Legal provisions.** Clear provisions are stated in the statistical law and/or in other relevant legislation (at European and national levels), guaranteeing statistical confidentiality and data protection.

Indicator 5.2 – Staff sign legal confidentiality commitments on appointment.

Institutional methods

1. **Mandatory confidentiality commitments.** Commitments on the compliance with the provisions of statistical confidentiality are in place within the statistical authorities and are signed by all staff in place or on appointment, as well as by external parties who undertake work on behalf of the statistical authorities. In case of modification, such agreements are updated and signed again by all staff or parties concerned.

Indicator 5.3 – Penalties are prescribed for any wilful breaches of statistical confidentiality.

Institutional methods

1. **Legal provisions.** Provisions are in place in the statistical law and/or other relevant legislation (on European and national levels) on administrative, penal and disciplinary sanctions for violation of statistical confidentiality and data protection.

2. **Provisions on sanctions publicly available.** Information on the existing provisions on sanctions for violation of statistical confidentiality and data protection is publicly available.

Indicator 5.4 – Guidelines and instructions are provided to staff on the protection of statistical confidentiality throughout the statistical processes. The confidentiality policy is made known to the public.

Institutional methods

1. **Statistical confidentiality policy.** A statistical confidentiality policy is publicly available. It sets out principles and commitments focused on statistical confidentiality that reinforce the trust of respondents, the general public and other stakeholders.

2. **Organisational structure on the protection of statistical confidentiality**. An appropriate organisational structure is in place in the statistical authorities to ensure confidentiality and data protection. This structure aims at providing guidelines, recommending appropriate methodologies and periodically reviewing methods used for statistical confidentiality and data protection throughout the statistical processes.

3. **Guidance to staff.** The statistical authorities prepare and provide staff with written instructions, guidelines and training in order to preserve and ensure statistical confidentiality and data protection throughout the statistical processes.

4. **Methods for ensuring confidentiality.** The ongoing research in the field of confidentiality is scrutinised on a regular basis. The methods in use are selected so as to counteract the trade-off between the risk of identification and the loss of information in an optimal way throughout the statistical processes.

5. **Information to respondents regarding commitments to confidentiality.** Respondents contacted during any kind of data collection are systematically informed that the statistical authorities fully commit themselves to data protection and statistical confidentiality, that the data are used for statistical purposes only and that individual data are not disclosed under any circumstances.

6. **Information to users regarding commitments to confidentiality.** Users are informed that the statistical authorities fully commit themselves to data protection and statistical confidentiality, that the data are used for statistical purposes only, and that individual data are not disclosed under any circumstances.

Process/output methods

7. **Statistical disclosure control methods.** Provisions are in place to ensure that prior to the release of statistical information (aggregate data and microdata), statistical disclosure control methods are applied in order to secure statistical confidentiality.

8. **Output checking.** Whenever access to microdata for research purposes takes place in a secure environment (e.g. remote access, safe centre, remote execution), all output is checked for disclosure before release. Procedures are in place to prevent the breach of statistical confidentiality.

Indicator 5.5 – The necessary regulatory, administrative, technical and organisational measures are in place to protect the security and integrity of statistical data and their transmission, in accordance with best practices, international standards, as well as European and national legislation.

Institutional methods

1. **Information security policy.** An information security policy for the protection and security of confidential and sensitive data is in place throughout the statistical processes, and is regularly updated. The policy covers the whole business, technical, administrative, and regulatory environment in which the statistical authorities operate. The policy is widely known and available to the staff.

2. **Security processes and measures.** In line with the information security policy, the statistical authorities have appropriate physical and logical security measures and processes in place to check that data security is ensured throughout the statistical processes (including the storage, transmission and dissemination of the data) to prevent data breaches and violation of statistical confidentiality and integrity. These measures are selected in accordance with European and national legislation, the General Data Protection Regulation (GDPR), international standards, as well as best practices. All procedures are known and available to staff.

3. **Information security audits.** Regular and systematic security audits and penetration tests on the data security system of the statistical authorities are carried out. The audit evaluates every tool and safeguard that are in place to protect the security and the integrity of statistical data during their storage, transmission and dissemination.

4. **Secured storage of data.** All statistical data is stored in secured environments that prevent access by unauthorised persons in accordance with confidentiality protocols, existing standards and best practices.

5. **Monitoring access to data.** All access to data repositories and transmission channels is strictly monitored and recorded. Access rights are recorded and kept up-to-date to prevent unauthorised access.

6. **Treatment of identifiers.** Names and addresses or other identifiers are deleted from data files as early as possible.

7. **Information risk assessment.** An information risk assessment procedure is set up. The security of the IT system is regularly evaluated and the relevant improvement actions are identified, implemented and followed up.

8. **Information security officer.** Each statistical authority appoints an information security officer to manage the security of the organisation´s information systems. The information security officer:

    - Collaborates with information owners in the categorisation of systems with regard to security;
    - Promotes the continuous improvement of information security;
    - Performs risk analysis and sets up the security measures applicable to each system;
    - Supervises the implementation of security measures;
    - Promotes training, awareness and communication on security matters;
    - Coordinates the response to security incidents, etc.

9. **Data protection impact assessment**. In compliance with the data protection legislation, a data protection impact assessment is set up for some types of processing to assess its need and proportionality, and to help manage risks to the rights and freedoms of individuals.

Indicator 5.6 – Strict protocols apply to external users accessing statistical microdata for research purposes.

Institutional methods

1. **Conditions for access to microdata for scientific purposes.** Clear conditions for granting researchers access to microdata for scientific purposes are stated in the statistical law and/or other relevant legislation (on European and national levels). These conditions are publicly available.

2. **Confidentiality declaration.** The statistical authorities oblige external users (research institutes and researchers) to sign a declaration on confidentiality.

3. **Safeguards for researcher access to microdata for scientific purposes.** The statistical authorities guarantee that all legal, technical and logical safeguards are in place to protect confidential information and to ensure data protection. Users are obliged to sign an agreement on the access and use of microdata.

4. **Control over microdata.** The statistical authorities have appropriate measures in place to ensure the adherence to the signed agreements and to prevent illegal use of the microdata.

5. **Secure environment.** A secure environment (e.g. remote access or safe centre) is established whenever access to microdata is granted.

Process/output method

6. **Monitoring use of microdata.** The external use of microdata is regularly monitored in order to identify any circumstance in which data confidentiality might be breached or in which data protection might be compromised. Procedures are in place to ensure immediate corrective action.

Principle 6 – Impartiality and Objectivity.

Statistical authorities develop, produce and disseminate European Statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.

Indicator 6.1 – Statistics are compiled on an objective basis determined by statistical considerations.

Institutional methods

1. **Guidelines on impartiality and objectivity.** Guidelines for assuring the impartiality and objectivity of the statistical authorities are in place, made known to staff and publicly available. The implementation of the guidelines is monitored.

2. **Objectivity of selection of external partners.** The criteria for the selection of external partners (e.g. companies, institutions, other bodies and data providers) to conduct statistical surveys/work on behalf of the statistical authorities are objective and publicly available.

Process/output methods

3. **Methodological objectivity and best practices.** Sources, concepts, methods, processes and data dissemination channels are chosen on the basis of statistical considerations, national and international principles and best practices.

Indicator 6.2 – Choices of data sources and statistical methods as well as decisions about the dissemination of statistics are based on statistical considerations.

Institutional methods

1. **Procedures on selection of data sources.** Procedures on the selection of data sources of statistical information are in place and publicly available.

2. **Criteria for selection of data sources and methodology.** Choices of data sources and statistical methods are based on generally agreed methodology and best practices.

3. **Information on data sources and methodology.** The chosen data sources and statistical methods are clearly stated in methodological notes, quality or metadata reports.
4. **Assessment of selection of data sources and methodologies.** Statistical authorities regularly assess the statistical soundness of the selected data sources, collection modes and methodology.
5. **Decisions on dissemination**. Decisions about the dissemination of statistics are based on generally agreed methodology, professional standards, statistical confidentiality rules and best practices.

Process/output methods

6. **Statistical considerations for non-disclosure of data.** Non-disclosure of data is only permitted for reasons of statistical confidentiality. In the case of quality concerns, the data may be published with limitations clearly identified

7. **Replacement of data sources.** The replacement of existing data sources with new ones and/or the integration of new data sources in statistical processes is carefully and objectively evaluated against quality and possible trade-offs.

Indicator 6.3 – Errors discovered in published statistics are corrected at the earliest possible date and publicised.

Institutional methods

1. **Error treatment policy.** The statistical authorities have a clear policy as to how to deal with errors, how to react when they are discovered and how they are corrected. The error treatment policy is publicly available.

Process/output methods

2. **Error declaration.** Procedures are in place to declare an error when found in published statistics.

3. **Announcement and correction of substantial errors.** Procedures are in place for announcing and informing users promptly on substantial errors identified in published statistics and on when and how they will be/have been corrected. Errors are corrected as soon as possible.

Indicator 6.4 – Information on data sources, methods and procedures used is publicly available.

Process/output methods

1. **Methodological notes and metadata.** All statistical outputs are accompanied by the relevant metadata and methodological notes, (focused on data sources, methods and procedures), according to valid ESS standards.

2. **Transparency of processes.** The statistical authorities document their production processes. Documentation on these processes is available to staff. A condensed/summary version is made available to users through user-oriented quality reports based on ESS standards, i.e. Single Integrated Metadata Structure (SIMS).

Indicator 6.5 – Statistical release dates and times are pre-announced.

Institutional methods

1. **Availability of the release calendar.** A publicly available and easily accessible release calendar containing information on the date and time of future releases is issued and made known to users in advance.

2. **Stability of the release calendar.** Changes to the dissemination schedule, when deemed absolutely necessary, are publicly and promptly announced in advance and duly explained. The originally planned release date remains visible.

Indicator 6.6 – Advance notice is given on major revisions or changes in methodologies.

Institutional methods

1. **Announcement of revisions.** Major revisions are announced by the statistical authorities.

2. **Communication of information on revisions.** Information on major revisions or changes in statistical methodologies is communicated in advance by the statistical authorities using various channels (e.g. in a calendar of revisions, in the statistical work programme, on a webpage and/or social media, by a letter to specific users and/or in a user meeting).

Process/output methods

3. **Revision practice.** Processes are in place to keep the users informed on the specific characteristics of the revision practice (reasons for revision, scheduling of the revision, methodology, etc.).

Indicator 6.7 – Statistical authorities independently decide on the time and content of statistical releases, while taking into account the goal of providing complete and timely statistical information. All users have equal access to statistical releases at the same time. Any privileged pre-release access to any outside user is limited, well-justified, controlled and publicised. In case of breach, pre-release arrangements are reviewed so as to ensure impartiality.

Institutional methods

1. **Formal provisions.** A formal provision is in force specifying that statistical authorities should independently develop, produce and disseminate statistics in an impartial, objective, professional and transparent manner, in which all users are treated equally.

2. **Equal access**. Rules and procedures are in place in the statistical authorities to safeguard equal access of all users to disseminated statistics at the same time.

3. **Pre-release accesses**. Pre-release access, if it exists, is tightly controlled, documented in detail and well-justified. The documentation is publicly available. Procedures are transparent and include safeguards that prevent any possible misuse of the pre-release access.

4. **Procedures to prevent and handle leaks.** Procedures are in place to prevent leaks from happening and to deal with them if they occur.

5. **Procedures to prevent the misuse of data under embargo.** Procedures and measures are in place to react to any misuse of data under embargo and to review pre-release arrangements.

Process/output methods

6. **Decision on time and content of statistical releases.** The statistical authorities decide independently on the time and content of statistical releases. The decision on the release date takes into account the completeness and the timeliness of data for a statistical release.

Indicator 6.8 – Statistical releases and statements made in press conferences are objective and non-partisan.

Institutional methods

1. **Objectivity in statements.** Statistical releases issued and statements made by the statistical authorities are based solely on statistical findings and results.

2. **Guidelines for press releases.** Statistical press releases are compiled according to clear and standard guidelines.

3. **Guidelines for press conferences.** There is a policy available to the staff on norms and rules for press conferences, including guidance on objectivity and non-partisanship.

4. **Independent nature of press conferences.** Press conferences of the statistical authorities take place independently of political events and are exempt from comments on political statements. Whenever possible, the press conferences are pre-announced in a publicly available calendar/schedule.

Statistical processes

European and other international standards, guidelines and good practices are fully observed in the statistical processes used by the statistical authorities to develop, produce and disseminate European Statistics, while constantly striving for innovation. The credibility of the statistics is enhanced by a reputation for good management and efficiency. The relevant Principles are sound methodology, appropriate statistical procedures, non-excessive burden on respondents and cost effectiveness.

Principle 7: Sound Methodology.

Sound Methodology underpins quality statistics. This requires adequate tools, procedures and expertise.

Indicator 7.1: The overall methodological framework used for European Statistics follows European and other international standards, guidelines, and good practices, while constantly striving for innovation.

Institutional methods

1. **A summary methodological document.** The methodological framework and the procedures for implementing statistical processes are integrated into a summary methodological document and periodically reviewed. The methodological document explains and details how European and other international standards are applied.
2. **Availability of methodological guidelines, handbooks.** Methodological guidelines are made publicly available if appropriate.
3. **Explanation of divergence from international recommendations.** Divergence from existing European and international methodological recommendations are documented (explained and justified).
4. **Striving for innovation.** Statistical authorities actively encourage the exploration of new and innovative methods for statistics. They develop methodological work and supporting IT solutions to ensure the quality of statistics, especially when new and alternative data collection modes and sources are used as input.
5. **Innovative methods for collecting and processing data.** Statistical authorities take initiatives and participate in the development of innovative methods for collecting and processing data including the integration of new and/or alternative data sources and geospatial data.
6. **Statistical Services**. The statistical authorities promote the adoption of statistical services under a common statistical reference architecture.

Process/output methods

7. **Adoption of innovative methods**. The impact on quality through the adoption of innovative methods is assessed in advance.

Indicator 7.2: Procedures are in place to ensure that standard concepts, definitions, classifications and other types of standards are consistently applied throughout the statistical authority.

Institutional methods

1. **Concepts, definitions, classifications and other types of standards.** Concepts, definitions, classifications and other types of standards defined by the statistical authorities are applied consistently in accordance with European and/or national legislation and are documented.

2. **A methodological organisational structure.** An organisational structure (e.g. a unit, net, committee) responsible for methodology is in place. Its tasks could include the design of statistical methods, the monitoring of their implementation, the validation of the results, and making available standard tools for the phases of the Generic Statistical Business Process Model (GSBPM).

Process/output methods

3. **Views of experts and users.** Statistical processes take into account the views of experts and users where appropriate.

4. **Methodological documentation.** Methodological documentation is elaborated for each statistical process and includes all pertinent information on concepts, methods, classifications and other types of standards, and is publicly available at least in a summary form following the ESS standard, i.e. Single Integrated Metadata Structure (SIMS).

Indicator 7.3: The registers and frames used for European Statistics are regularly evaluated and adjusted if necessary in order to ensure high quality.

Process/output methods

1. **Update of registers and frames.** For registers and frames used for European Statistics, the holder (statistical authority or the administrative body in charge of the registers and frames) is responsible for the updating of all relevant changes in the population, for example businesses or individuals. These updates are performed continuously for registers and periodically for frames as appropriate.

2. **Quality assessment of registers and frames.** The quality of registers and frames used for European Statistics are assessed regularly. Adequate quality indicators are calculated in accordance with European guidelines in order to assess frame errors.

3. **Feedback from surveys.** Information gathered during the conduct of surveys is used to assess, update and improve the quality of the registers and frames, especially their coverage. Respondents are properly informed about this usage of their data.

4. **Changes in administrative data sources.** The statistical authorities are informed about changes in relevant administrative sources and use this information to investigate the consequences for registers and frames.

5. **Update of privately held data.** For privately held data, the responsible data provider should inform the statistical authority about changes to the structure of the content where this will have an impact on the quality or interpretation of the raw data.

Indicator 7.4: Detailed concordance exists between national classifications systems and the corresponding European systems.

Process/output methods

1. **Consistency of national classifications.** National classifications are consistent with the corresponding European classification systems.

2. **Correspondence tables.** Correspondence tables are documented and kept up-to-date. Explanatory notes or comments are publicly available.

3. **Update of classifications.** Procedures for the updating of national classification systems are in place.

Indicator 7.5: Graduates in the relevant academic disciplines are recruited.

Institutional methods

1. **Recruitment of staff.** Staff of the statistical authorities are recruited openly and with appropriate qualifications from relevant disciplines.

2. **Cooperation with universities.** Statistical authorities maintain regular contact with academic institutes to encourage graduates in the relevant academic disciplines to apply for traineeships and posts.

3. **Qualifications for posts.** Qualification requirements are specified for all posts.

Indicator 7.6: Statistical authorities implement a policy of continuous vocational training for their staff.

Institutional methods

1. **A policy for the training of staff.** As an integral part of the human resource policy, an organisational structure and procedures are in place to ensure the continuous vocational training of staff.

2. **Continuous vocational training.** Continuous vocational training is encouraged and valued in the career path.

3. **Updating of staff skills and fields of study.** Staff skills are updated concerning new tools and fields of study.

4. **Attendance of staff at courses.** Attendance of staff at relevant training courses and/or at national, European or other international conferences is encouraged.

5. **Planning of training.** A catalogue of internal training and a calendar of external training or appropriate training plan are in place.

Indicator 7.7: Statistical authorities maintain and develop cooperation with the scientific community to improve methodology, the effectiveness of the methods implemented and to promote better tools when feasible.

Institutional methods

1. **Collaboration with the scientific community.** Collaboration is in place, for example through conferences, workshops, task forces, and training courses, with the scientific community to discuss methodological, IT and innovation developments.

2. **Comparative methodological studies.** Comparative methodological studies are carried out with the scientific community to identify good practices.

3. **Collaboration with colleagues at international level.** Staff collaborate on methodological issues with colleagues at international level.

4. **Participation and presentations at conferences.** Regular participation and presentations at relevant national and international conferences (i.e. with attendance of academics/scientists and other professional experts) are encouraged for exchange of knowledge and experiences.

5. **Organisation of conferences.** National and international conferences, seminars, workshops, or similar events with the participation of the scientific community and other professional experts are organised by the statistical authorities. Participation of the statistical authorities is encouraged.

Process/output methods

6. **External evaluation of methodology.** Evaluations/assessments/audits of the methodologies used are requested from external experts (such as the scientific community) as appropriate.

Principle 8: Appropriate Statistical Procedures.

Appropriate statistical procedures implemented throughout the statistical processes, underpin quality statistics.

Indicator 8.1: When European Statistics are based on administrative and other data, the definitions and concepts used for non-statistical purposes are a good approximation to those required for statistical purposes.

Institutional methods

1. **Responsibility for statistical processing of administrative and other data.** The statistical authorities are responsible for the statistical processing of administrative and other data used for the development, production and dissemination of European Statistics.

2. **Distinction between statistical data, administrative data and other data processing.** The processing of administrative or other data is clearly distinguished from statistical processing. The processing includes appropriate validation rules and specific procedures for controlling and assuring the quality of the data.

3. **Approximations of definitions and concepts.** The definitions and concepts of administrative or other data are a good approximation to those required for statistical purposes. Administrative or other data holders are formally consulted about this issue.

Process/output methods

4. **Processing of administrative or other data for statistical purposes.** When administrative or other data are used for statistical purposes, data are processed specifically for their statistical use. This might imply deriving new variables, applying different validation and imputation rules, creating new data files, integrating data sources, calculating weights and new aggregates as well as specific quality checks.

5. **Documentation of statistical, administrative and other data production processes.** Appropriate documentation is in place describing the production processes for all types of data sources (statistical, administrative or other), taking into account their differences in terms of definitions, concepts, coverage, etc.

6. **Differences in concepts.** Differences in concepts between statistical and other types of data (administrative and other data) used for statistical purposes are thoroughly studied, described and documented.

7. **Measures to deal with differences in concepts.** Measures are taken to deal with the differences in concepts between statistical and other types of data (administrative and other data) and described in quality reports as appropriate.

Indicator 8.2: In the case of statistical surveys, questionnaires are systematically tested prior to the data collection.

Institutional method

1. **Procedures for the development of questionnaires.** Procedures are in place to create, assess, validate and update questionnaires, and involve all relevant experts (i.e. in the statistical domain, in questionnaire design, language, from scientific community).

Process/output methods

2. **Testing of questionnaires.** Prior to data collection, survey questionnaires are tested by appropriate methods (questionnaire pre-test, pilot in real situation, in-depth interviews, focus groups, interviewer support, etc.).

3. **Use of test results.** The test results are taken into account in the process of designing the final questionnaire and documented in a report.

Indicator 8.3: Statistical processes are routinely monitored and revised as required.

Institutional methods

1. **Organisational structure for guidelines, methodologies and examination of methods.** An appropriate organisational structure is in place to provide guidelines, recommend appropriate methodologies, and periodically examine and revise as required the methods used for statistical processing.

2. **Reporting on methods to the public.** The statistical authorities regularly report on the methods used in statistical processing. These reports are publicly available.

3. **Promotion and sharing of standards and best practices.** Statistical standards and best practices of statistical processing are promoted and shared in order to improve the quality of statistics and to encourage the harmonisation of processes (e.g. within the National Statistical Institute, the National Statistical System or European Statistical System, etc.).

4. **Metadata-driven.** Statistical authorities promote the adoption of a metadata-driven development of processes.

Process/output methods

5. **Design of statistical processes.** The design of statistical processes based on data from surveys, administrative, multiple or other source is in compliance with good practices and standards.

6. **Renewal of sample designs.** Sample designs are periodically renewed for recurrent surveys according to precision requirements.

7. **Procedures for designing, testing and updating questionnaires.** Procedures for designing, testing and updating questionnaires are in place and in accordance with good practice and standards.

8. **Measurement of non-sampling errors.** Non-sampling errors (coverage, measurement, processing, non-response errors as well as selection bias for administrative and other data sources and model assumption errors) are routinely monitored and the results used for process improvement.

9. **Assessment of sampling and estimation methods.** Sampling errors are routinely measured to assess sampling and estimation methods.

10. **Assessment of data collection methods.** Data collection methods and data collection designs are assessed regularly.

11. **Provision of documents to respondents.** Respondents are provided with all the necessary documents (i.e. letters, questionnaires, leaflets, especially in the case of self-administrated questionnaires and feedback if possible). These documents are reviewed regularly.

12. **Support to respondents.** Respondents are supported in filling-in the questionnaires. Procedures are in place to answer respondents' requests and complaints, and are easy to access.

13. **Training of interviewers.** Training courses and workshops (including interviewing techniques) are provided for interviewers. For each survey, an interviewer manual/handbook exists and the accompanying interviewer procedures are implemented.

14. **A procedure to monitor data collection.** Data collection is regularly monitored and optimised. This includes, among other elements, monitoring the mode of data collections, survey length, response rate, interviewer performance and administrative or other data transmissions.

15. **Procedures to follow-up non-response.** Procedures are in place to follow-up non-response in order to improve response rates and manage non-response bias.

16. **Documentation and sharing of data coding methods.** The data coding methods are documented and stored. These methods are shared with the relevant staff.

17. **Compliance of editing, imputation, and statistical disclosure control techniques with standards.** Editing, imputation and statistical disclosure control techniques follow methodological rules and good practices, and are documented.

18. **Data integration.** Procedures for data integration in the case of multisource statistics are in compliance with good practice and standards.

19. **Use of statistical models**. When using statistical modelling, for example seasonal adjustment, the extent to which the assumptions are valid is assessed, as well as the impact on estimates.

20. **Automated methods.** Automated methods are promoted, monitored and revised if necessary.

21. **Process quality indicators.** Process quality indicators are routinely calculated and monitored. Processes are revised accordingly.

22. **Process descriptions.** Process descriptions are in place to document processes in accordance with Generic Statistical Business Process Model (GSBPM) or other relevant models in order to ensure the replicability of the process, the traceability of the data and the identification of improvement actions.

Indicator 8.4: Metadata related to statistical processes are managed throughout the statistical processes and disseminated, as appropriate.

Institutional methods

1. **Management of metadata.** An organisational structure is in place to ensure that metadata is an integral part of all statistical processes. The management of metadata is effective at all phases of the process. The metadata include reference metadata (e.g. the Single Integrated Metadata Structure), structural metadata (concepts, classifications, structure of data etc.) and process metadata.

2. **Procedures to disseminate metadata.** Clear, complete and up-to-date metadata are disseminated in accordance with ESS standards, i.e. the Single Integrated Metadata Structure (SIMS).

3. **Training courses for staff on metadata standards and quality reports.** Training courses on the use of the metadata standards and quality reports are provided for the relevant staff.

Process/output methods

4. **Metadata on statistical processes.** Clear, standardised and complete metadata is compiled and updated on the statistical processes in accordance with ESS standards, i.e. the Single Integrated Metadata Structure (SIMS).

Indicator 8.5: Revisions follow standard, well-established and transparent procedures.

Institutional methods

1. **Revision policy.** A revision policy stating principles and standard and transparent procedures is set up according to European requirements and is publicly available.

2. **Guidelines and tools related to revisions.** Guidelines and tools relating to the revision of published statistics are in place. They are routinely applied and publicly available.

3. **Calendar of revisions.** A calendar of revisions is compiled and publicly available.

Process/output methods

4. **Explanation of revisions and their publication.** Revisions of the published data are accompanied by the relevant metadata that provide the necessary explanations. The metadata are publicly available.

Indicator 8.6: Agreements are made with holders of administrative and other data which set out their shared commitment to the use of these data for statistical purposes.

Institutional methods

1. **Agreements with holders of administrative and other data.** Agreements between the statistical authorities and the holders of administrative and other data are in place. When administrative and other data systems are developed or reviewed, such agreements facilitate that statistical needs are taken into account.

2. **Guidance on new data sources.** Guidance on how to identify and exploit the statistical potential of new data sources is provided to staff.

3. **Capabilities.** The statistical authorities have the necessary capabilities and IT infrastructure to guarantee the safe storage and use of administrative and other data.

Process/output methods

4. **Documentation of administrative and other data.** The data holder systematically provides the statistical authorities with documentation/metadata about the content of the administrative and other data as well as the production process of the data (e.g. a methodological document, concepts and definitions, and populations).

Indicator 8.7: Statistical authorities co-operate with holders of administrative and other data in assuring data quality.

Institutional methods

1. **Informing the administrative or other data holder.** Procedures are in place to ensure that the holders of administrative or other data are kept informed about how their data are used for statistical purposes and that they receive feedback on the quality of the data provided in view of further improvements. Staff in the statistical authorities are aware of these procedures.

2. **Quality requirements.** The statistical authorities ensure that holders of administrative and other data are aware of the quality considerations and requirements for statistical production.

3. **Data correction policy.** When statistical authorities detect incorrect data or quality problems in administrative or other data, they inform the holders of these data about the incorrect data or problems detected without violating the statistical confidentiality rules, with a view to improve future data sets. The data correction policy is made known to staff in the statistical authorities.

4. **Cooperation.** Statistical authorities offer training courses and tools, such as guidelines, on quality control and quality assurance to the holders of administrative and other data.

Process/output methods

5. **Continuous improvement**. Procedures are in place to inform data holders of the incorrect data and quality issues that have been detected, without violating the statistical confidentiality rules. Staff in the statistical authorities are aware of the procedures.

Principle 9: Non-excessive Burden on Respondents.

The response burden is proportionate to the needs of the users and is not excessive for respondents. The statistical authorities monitor the response burden and sets targets for its reduction over time.

Indicator 9.1: The range and detail of European Statistics demands is limited to what is absolutely necessary.

Institutional methods

1. **Priorities for European Statistics.** Response burden is taken into account when defining priorities for European Statistics.

2. **Verification of the response burden and level of details.** An analysis of EU regulations on European Statistics is undertaken in order to verify the response burden and the level of details of variables foreseen by the regulations.

3. **Assessment of the statistical work programme.** The National Statistical Institutes assess the content of the statistical work programme to eliminate duplication or redundancy across the statistical authorities.

Process/output methods

4. **Analysis of the needs for statistical information.** The needs for statistical information and level of detail by domain are analysed, documented and defined. The requests to respondents are adjusted accordingly in order to reduce the response burden.

Indicator 9.2: The response burden is spread as widely as possible over survey populations and monitored by the statistical authority.

Institutional methods

1. **Balancing the burden between respondents.** Procedures and tools are in place to spread the burden between respondents as widely as possible.

Process/output methods

2. **Measurement of response burden.** Response burden is measured and monitored regularly in a standardised way, including the time needed to fill in the questionnaire, to retrieve the required information, to obtain internal or external expertise and to handle sensitive information.

3. **Review of response burden.** Reviews of response burden are undertaken on a regular basis and appropriate measures are taken in accordance with the results of the reviews.

4. **Reduction of response burden.** Response burden is reduced by appropriate sampling and data collection design, using, for example, the most appropriate data collection methods, coordinated sampling, rotating selection of respondents, limitation of questions, assistance for respondents on survey issues, increased use of administrative and other data sources.

5. **Action plans for simplification/modernisation of data collection.** Action plans for simplification/modernisation to reduce burden on respondents are developed, implemented and monitored

Indicator 9.3: The data sought from businesses is, as far as possible, readily available from their accounts and electronic means are used where possible to facilitate its return.

Institutional methods

1. **Procedures and technical tools.** Procedures and technical tools (e.g. software) are developed to increase the use of electronic means for data collection from businesses.

Process/output methods

2. **Data extraction from business accounting systems.** Software methods and tools to directly extract data from business accounting systems are available and used.

3. **Cooperation with the business community.** Survey managers work together with the business community in order to find adequate solutions for potential difficulties in obtaining the requested information.

4. **Informing the businesses of the survey results.** Businesses are kept informed of the survey results in order to acknowledge and encourage their continued participation in data collection.

Indicator 9.4: Administrative and other data sources are used whenever possible to avoid duplicating requests for data.

Institutional methods

1. **Collaboration to increase the use of administrative and other data sources.** Collaborative networks develop tools and methods to increase the use of administrative and other data sources.

2. **Consideration of alternative data sources.** Alternative data sources (including the availability and suitability of existing surveys and administrative data) are considered to optimise data collection.

3. **Guidance on data sources.** Guidance, for example methodological advice and training, is available to staff on how to identify and exploit the statistical potential of administrative and other data sources and to how to ensure their quality.

4. **IT tools for the collection of administrative and other data.** IT tools for the collection of administrative and other data to be used for statistical purpose are developed and implemented.

Indicator 9.5: Data sharing and data integration, while adhering to confidentiality and data protection requirements, are promoted to minimise response burden.

Institutional methods

1. **Agreements and tools for data sharing.** Formal agreements and tools are in place for data sharing within the National and European Statistical Systems (e.g. web services and common data bases).

2. **Methods and tools for data integration.** Methods (e.g. multisource approaches and matching techniques) and tools for data integration are in place in the statistical authorities.

3. **Sharing of data archives.** When useful, data archives are shared within statistical authorities and in compliance with confidentiality policies.

4. **Promoting register-based national statistical systems.** The construction of a register-based national statistical system, making use of all available data, is promoted.

5. **Key variables to be shared.** In accordance with confidentiality rules, the statistical authorities define the key variables that need to be shared between statistical processes.

Indicator 9.6: Statistical authorities promote measures that enable the linking of data sources in order to minimise response burden.

Institutional methods

1. **Guidelines, methods and tools for linking data.** Guidelines, methods and tools are available in order to support the linking of data.

2. **Key variables to be linked.** The statistical authorities define the key variables that need to be linked between statistical processes.

Process/output methods

3. **Assessment of quality of the linkage.** When variables coming from different data sources are linked, an assessment is made of the quality of the data linkage.

Principle 10: Cost effectiveness.

Resources are used effectively.

Indicator 10.1: Internal and independent external measures monitor the statistical authority's use of resources.

Institutional methods

1. **Monitoring and reporting indicators on resources.** The internal monitoring of indicators on the use of human, financial and technical resources is carried out by a central body; external independent monitoring is carried out as required. The results are reported to management.

2. **Costs of statistical production.** The costs of statistics at each phase of their production are assessed to evaluate their effectiveness and optimisation across the statistical authorities, and are well documented.

3. **Allocation of resources to statistical processes.** Accounting systems allow efficient allocation of resources to statistical processes.

4. **Evaluation of staff.** Staff is evaluated annually in line with institution-wide guidelines. The evaluation covers allocation, performance, skills, mobility and training needs of staff.

5. **Staff opinion/satisfaction surveys.** Staff opinion/satisfaction surveys are conducted regularly.

6. **Reviews of IT infrastructure.** The IT infrastructure is reviewed regularly.

7. **Procedures to calculate costs.** Procedures on ex-ante cost calculation for statistical processes are available and used.

Indicator 10.2: The productivity potential of information and communications technology is being optimised for the statistical processes.

Institutional methods

1. **Pooling of resources, investments and the identification of innovation/modernisation potential.** Centralised IT and methodological units provide for the pooling of resources and investments and the identification of innovation/modernisation potential to optimise statistical processes.

2. **IT architecture and strategy.** An IT architecture and strategy are in place and regularly updated.

3. **Promote automated techniques.** Policies, procedures and tools are in place to promote automated techniques for statistical processes, based on common standards (e. g. data capture, coding, validation, reporting etc.) and sharing of common statistical services.

Process/output methods

4. **Automated processing techniques.** Automated processing techniques are regularly reviewed and modernised.

Indicator 10.3: Proactive efforts are made to improve the statistical potential of administrative and other data sources and to limit recourse to direct surveys.

Institutional methods

1. **Meetings with holders of administrative and other data**. Periodic meetings with holders of administrative and other data are held in order to discuss how to improve and increase the use of their data.

2. **Assessment of possible administrative and other data sources.** An assessment of possible administrative and other data sources is carried out prior to launching a survey, in particular, a newly designed one.

Process/output methods

3. **Investigating the statistical potential of new data sources.** Mechanisms are in place to investigate the availability of new data sources to enhance already existing statistical outputs.

4. **Data linking and integration methods.** Data linking and integration methods are pro-actively pursued subject to data confidentiality and security considerations.

5. **Quality indicators.** Quality indicators are used to improve the methods for using administrative and other data for statistical purposes.

Indicator 10.4: Statistical authorities promote, share and implement standardised solutions that increase effectiveness and efficiency.

Institutional methods

1. **Standardisation programmes and procedures for statistical processes.** Standardisation programmes and procedures are defined and implemented in the main phases of the statistical processes.

2. **Strategy to adopt or develop standards.** A strategy is in place to adopt or develop standards in various fields such as quality management, process modelling, software development, software tools, project management and document management.

3. **Sharing standardised solutions.** Statistical authorities share and re-use existing standardised solutions (tools and methods) that increase the effectiveness and efficiency of statistical processes. They participate in joint projects, working groups or training courses on the development of such tools and methods to share development burden.

Process/output methods

4. **Standardisation.** Actions are taken, based on an implementation plan, to move gradually towards or to comply with standardisation and are described in quality reports or other documentation.

Statistical output

Available statistics meet users' needs. Statistics comply with the European quality standards and serve the needs of European institutions, governments, research institutions, business concerns and the public generally. Output quality is measured by the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comparable across regions and countries, and readily accessible by users, i.e. the Principles of Statistical Output.

Principle 11: Relevance.

European Statistics meet the needs of users.

Indicator 11.1: Procedures are in place to consult users, to monitor the relevance and value of existing statistics in meeting their needs, and to consider and anticipate their emerging needs and priorities. Innovation is pursued to continuously improve statistical output.

Institutional methods

1. **Legislation on user consultation.** The statistical laws (at European and national level) include an obligation to consult users on their needs for official statistics.

2. **Aim of user consultation.** Feedback from user consultations is used to provide input for the preparation of the statistical work programme, identify emerging needs and priorities, improve the quality of statistical outputs, and monitor the value of statistics.

3. **User consultation procedures.** Procedures and activities for the consultation of users on their needs are in place. For example, they consist in setting up user committees, holding regular meetings between key users and statistical authorities, consulting key users or other relevant stakeholders, calling on the skills of experts on specific issues or processing individual user requests and responses.

4. **Analysis of the use of statistics.** Data on the use of statistics (for example, evaluation of downloads, subscribers of reports, web analytics, web scraping results) are analysed (for example, by statistical domain and by type of user) to improve statistical outputs.

5. **Relevance of statistical output.** Procedures are in place to review statistical output on its relevance for users, including its use as a source for other processes, and the impact of its possible termination.

6. **Innovation**. Innovative statistical methods and tools are developed and used to improve the relevance and value of statistical outputs.

Process/output methods

7. **Key users.** A list of key users covering all relevant interest groups, their use of data and their un-met needs is regularly updated.

8. **Classification and user profiling.** Classification and profiles of users for a given output are regularly updated and used for consultation purposes and to improve products and services.

9. **Quality indicator(s).** Quality indicator(s) on relevance are regularly monitored and published in quality reports.

10. **Analysis and assessment of relevance.** Quality indicator(s) on relevance are regularly analysed and assessed to improve the statistical process.

Indicator 11.2: Priority needs are being met and reflected in the work programme.

Institutional methods

1. **Statistical work programme priorities.** Procedures are implemented to prioritise different user needs in the statistical work programme.

2. **Strategic goals and programmes.** Strategic goals and programmes are elaborated and published regularly. User needs are taken into account following cost/benefit considerations.

3. **Agreements with key users.** Cooperation Agreements, Service Level Agreements or similar arrangements are established with the key users in order to define and document priority needs.

4. **Evaluation of the statistical work programme.** Periodic evaluation of the statistical work programme is carried out to identify new priorities, negative priorities and emerging needs.

Indicator 11.3: User satisfaction is monitored on a regular basis and is systematically followed up.

Institutional methods

1. **User satisfaction measurement.** User satisfaction is measured through surveys, similar studies, feedback forms on website, usability testing of products etc. and the results are assessed regularly. They include, for example, a compilation of quality indicators on user satisfaction.

2. **Dissemination of user satisfaction measurement.** The main results of user satisfaction measurement are publicly available.

3. **Follow-up of user satisfaction measurement.** The results of user satisfaction measurement are taken into account when defining priorities and are reflected in the statistical work programme. Improvement actions arising from the results of user satisfaction measurement are defined, prioritised, scheduled for implementation and followed-up.

Process/output methods

4. **Satisfaction of key users with specific outputs.** Measures to assess satisfaction of key users with specific outputs are in place (e.g. detailed user satisfaction surveys/indicators at output level). The results of this assessment are publicly available, for example in quality reports, dedicated websites.

Principle 12: Accuracy and Reliability.

European Statistics accurately and reliably portray reality ty

Indicator 12.1: Source data, integrated data, intermediate results and statistical outputs are regularly assessed and validated.

Institutional methods

1. **Assessment and validation systems.** Systems for assessing and validating source data, integrated data, intermediate results and statistical outputs are in place.

2. **Assessment and validation guidelines**. Guidelines for data quality assessment and validation are in place. They address accuracy and reliability issues.

Process/output methods

3. **Assessment and validation procedures.** Procedures to systematically assess data quality and validate data are in place.

4. **Comparison of intermediate results and outputs.** Intermediate results and outputs are compared with other relevant sources of information in order to ensure validity.

Indicator 12.2: Sampling errors and non-sampling errors are measured and systematically documented according to the European standards

Institutional methods

1. **Guidelines and methods to measure and reduce errors.** Guidelines on how to measure and reduce errors to an acceptable level are in place and known to staff.

Process/output methods

2. **Quality indicator(s)**. Quality indicator(s) on accuracy and reliability are regularly monitored and published in quality reports.

3. **Analysis and assessment of accuracy and reliability**. Quality indicator(s) on accuracy and reliability are regularly analysed and assessed to improve the statistical process.

4. **Procedures for preventing and reducing errors**. Procedures for preventing and reducing sampling and non-sampling errors to an acceptable level are in place:

   - The identification of the main sources of sampling and non-sampling errors (coverage, sample variability and selection bias, measurement, processing, non-response and model assumption errors) in statistical processes;
   - The quantification of sampling errors for key variables; the identification and evaluation, in quantitative or qualitative terms, of the potential bias and additional variance due to non-sampling errors;
   - The methods for the correction and adjustment of the errors as well as the analysis of differences between preliminary and revised estimates.

5. **Methods for improving accuracy.** Methods for improving the accuracy of statistical data are developed according to methodological and precision requirements.

Indicator 12.3: Revisions are regularly analysed in order to improve source data, statistical processes and outputs.

Institutional methods

1. **Procedures on analysis of revisions**. Procedures are in place on how to analyse the effects of revisions on the accuracy and reliability of the outputs. The results of the analysis are used to improve the quality of source data, processes and outputs.

Process/output methods

2. **Analysis of revisions.** Revisions are analysed. This serves to improve source data, the statistical process and outputs. Lessons learnt are used to adjust the production cycle.

3. **Quality indicators on revisions.** Quality indicators on the revisions (e.g. size and direction of revisions and their means) are regularly calculated in accordance with the current standards and are publicly available.

Principle 13: Timeliness and Punctuality.

European Statistics are released in a timely and punctual manner.

Indicator 13.1: Timeliness meets European and other international release standards.

Institutional methods

1. **Compliance with European and international standards.** Statistical authorities comply with European and international standards on timeliness.

2. **Publication of a release calendar.** A release calendar is published covering all statistics for which timeliness standards are established within European and international regulations and agreements.

3. **Divergences from timeliness targets.** Divergences from European and international timeliness targets are regularly monitored and an action plan is developed if these targets are not met.

Process/output methods

4. **Quality indicator(s).** Quality indicator(s) on timeliness are regularly monitored and published in quality reports.

5. **Analysis and assessment of timeliness.** Quality indicator(s) on timeliness are regularly analysed and assessed to improve the statistical process.

Indicator 13.2: A standard daily time for the release of European Statistics is made public.

Institutional methods

1. **Release policy.** A release policy is defined and published. The release policy distinguishes between different kinds of publications (e.g. press releases, specific statistical reports/tables, general publications) and their corresponding release procedures.

2. **Publication at a standard daily time.** Releases are published at a standard daily time which is publicly announced in advance.

Indicator 13.3: The periodicity of statistics takes into account user requirements as much as possible.

Institutional methods

1. **Consultation of users on periodicity.** The statistical authorities regularly consult users on periodicity and take into account their requirements as far as possible.

Indicator 13.4: Divergence from the dissemination time schedule is publicised in advance, explained and a new release date set.

Institutional methods

1. **Publication of a release calendar.** A release calendar is published and regularly updated.

2. **Monitor and assess punctuality.** Punctuality of each release is monitored and assessed.

3. **Divergences from the pre-announced release time.** Divergences from the pre-announced release time are published in advance, the reasons are explained, and a new release time is announced.

Process/output methods

4. **Quality indicator(s).** Quality indicator(s) on punctuality for preliminary and final results are regularly monitored and published in quality reports.

5. **Analysis and assessment of punctuality.** Quality indicator(s) on punctuality for preliminary and final results are regularly analysed and assessed to improve the statistical process.

Indicator 13.5: Preliminary results of acceptable aggregate accuracy and reliability can be released when considered useful.

Process/output methods

1. **Dissemination of preliminary results.** The possibility of disseminating preliminary results is reviewed regularly taking into account data accuracy and reliability.

2. **Quality of preliminary results.** When preliminary results are released, appropriate information is provided to the user about the quality of the published results.

3. **Policy for scheduled revisions.** Outputs which are subject to scheduled revisions have a published policy covering those revisions.

Principle 14: Coherence and Comparability.

European Statistics are consistent internally, over time and comparable between regions and countries; it is possible to combine and make joint use of related data from different data sources.

Indicator 14.1: Statistics are internally coherent and consistent (i.e. arithmetic and accounting identities observed).

Institutional methods

1. **Procedures and guidelines to monitor internal coherence.** Procedures and guidelines to monitor internal coherence are developed and monitoring is carried out in a systematic way. Where appropriate, guidelines should deal with consistency between microdata and aggregated data, between annual, quarterly and monthly data or other periodicity, between national and regional data, between domain statistics and National Accounts and within National Accounts, and with consistency in terms of relationships between related phenomena.

Process/output methods

2. **Procedures and guidelines to combine outputs from complementary data sources.** Process specific procedures and guidelines ensure that outputs obtained from complementary data sources are combined so as to ensure internal coherence and consistency.

3. **Quality indicator(s).** Quality indicator(s) on coherence are regularly monitored and published in quality reports.

4. **Analysis and assessment of coherence.** Quality indicator(s) on coherence are regularly analysed and assessed to improve the statistical process.

Indicator 14.2: Statistics are comparable over a reasonable period of time.

Institutional methods

1. **Identification of changes to concepts.** Changes in concepts (classifications, definitions and target populations) in response to significant changes in reality, as well as their impact, are clearly identified/made visible, for example to facilitate the reconciliation of different statistical series.

Process/output methods

2. **Identification and measurement of changes in methods.** Changes in methods are clearly identified and their impact measured to facilitate reconciliation.

3. **Publication and explanation of breaks in time series.** Any breaks occurring in statistical series are highlighted together with their reasons, consequences and the methods for ensuring reconciliation over time. The explanations are publicly available. These methods can range from the most complete procedures (e.g. providing old series data linked to the new one) to the simplest (e. g, user's guidelines or recommendations for linking the different series).

4. **Quality indicator(s).** Quality indicator(s) on comparability are regularly monitored and published in quality reports.

5. **Analysis and assessment of comparability.** Quality indicator(s) on comparability are regularly analysed and assessed to improve the statistical process.

Indicator 14.3: Statistics are compiled on the basis of common standards with respect to scope, definitions, units and classifications in the different surveys and data sources.

Institutional methods

1. **A mechanism to promote coherence and consistency.** A common repository of concepts or a mechanism to promote coherence and consistency is in place.

Process/output methods

2. **Assessment of compliance with standards.** Periodic assessments of compliance with standards on definitions, units and classifications are carried out and reflected in quality reporting.

3. **Explanation of deviations from standards.** Deviations from standards on definitions, units or classifications are made public and the reasons for the deviations are explained, particularly in reference to European and international standards.

Indicator 14.4: Statistics from different data sources and with different periodicity are compared and reconciled.

Process/output methods

1. **Comparison of statistical output with related data.** Statistical outputs are compared with other statistical or administrative data that provide similar information on the same domain/phenomenon.

2. **Identification and explanation of divergences.** Divergences in the statistical outputs from different data sources are identified and the reasons clearly and publicly explained.

3. **Reconciliation of statistical outputs.** Statistical outputs are reconciled whenever possible.

Indicator 14.5: Cross-national comparability of the data is ensured within the European Statistical System through periodical exchanges between the European Statistical System and other statistical systems. Methodological studies are carried out in close co-operation between the Member States and Eurostat.

Institutional methods

1. **Institutionalisation of assessments of comparability.** Standard procedures agreed between National Statistical Institutes and Eurostat are in place for the regular assessment of comparability.

2. **Collaboration in methodological studies.** Methodological studies are conducted in collaboration among statistical authorities.

3. **Assessment by Eurostat on the comparability of data.** Eurostat assesses the comparability of national data using the relevant metadata and quality reports that are requested from the national statistical authorities.

Process/output methods

4. **Analysis of asymmetries.** An analysis of asymmetries is carried out where possible, and reports on mirror statistics among statistical authorities are publicly available.

5. **Analysis of mirror statistics.** Discrepancies in mirror statistics are identified and corrected or described whenever possible.

Principle 15: Accessibility and Clarity.

European Statistics are presented in a clear and understandable form, released in a suitable and convenient manner, available and accessible on an impartial basis with supporting metadata and guidance.

Indicator 15.1: Statistics and the corresponding metadata are presented, and archived, in a form that facilitates proper interpretation and meaningful comparisons.

Institutional methods

1. **Dissemination policy.** A dissemination policy is in place. The policy covers relevant dissemination aspects, such as principles and subjects of dissemination, format and layout, handling of provisional and final data, metadata, and release and documented pre-release arrangements.

2. **Policy for archiving statistics and metadata.** A policy for archiving statistics and metadata is in place.

3. **Availability of policies.** The dissemination and archiving policies are publicly available.

4. **Dissemination and archiving guidelines.** Guidelines on the dissemination and archiving of statistical information are in place. They contain the procedures and standards for the preparation of statistical outputs and their dissemination and archiving.

5. **Training courses.** The statistical authorities offer training courses to staff on how to explain, communicate and publish statistical outputs and write press releases.

Process/output methods

6. **Review of practices.** Dissemination and archiving practices are reviewed periodically by a working group or similar structure

7. **User consultation on dissemination.** Users are consulted about the most appropriate forms of dissemination.

8. **Comparisons in publications.** Meaningful comparisons are clearly included in publications as appropriate.

Indicator 15.2: Dissemination services use modern information and communication technology, methods, platforms and open data standards.

Institutional methods

1. **Modern means of dissemination and communication**. Statistical authorities use modern and expedient information technology channels and are actively present on the various social media platforms. The statistical authorities' websites offer data sets according to open data standards. The information available in open data is as broad as possible. The websites are updated regularly.

2. **Conformity with universal guidelines.** The website and statistical databases conform as far as possible to universal web content accessibility guidelines (e.g. Web Content Accessibility Guidelines WCAG).

3. **Website, statistical databases and self-tabulation.** The website and statistical databases are the main means for disseminating statistical outputs. They facilitate self-tabulation in the most appropriate formats.

4. **Information service/call centre service.** An information service/call centre composed of knowledgeable staff is in place for answering requests and explaining statistical outputs.

5. **Facilitating re-dissemination.** Statistical outputs (e.g. press releases, ready-made tables, charts, maps connected to statistics, infographics, videos) and metadata are disseminated using tools and formats that facilitate re-dissemination by the media or any other users.

Process/output methods

6. **Appropriate forms and channels.** Appropriate dissemination forms and channels (e.g. social media, on-line fora for different user-segments) are used to allow better understanding and comparison of particular results and to facilitate their use by different users.

7. **Publication catalogue.** A publication catalogue is available to users on the website of the statistical authorities.

Indicator 15.3: Custom-designed analyses are provided when feasible and the public is informed.

Institutional methods

1. **Policy on custom-designed analysis**. A policy on the provision of custom-designed analyses is in place. It includes pricing policies and is publicly available.

2. **Publication of custom-designed analysis.** A list of custom-designed analyses is available on the statistical authorities' website and the analyses are made public if possible.

3. **Service for requesting custom-designed analyses.** A service for users is in place to request custom-designed analyses.

4. **Tools for placing on-line orders**. On-line tools are available for placing requests for custom-designed analyses.

Process/output methods

5. **Provision of custom-designed outputs.** Custom-designed outputs are provided on request where possible.

Indicator 15.4: Access to microdata is allowed for research purposes and is subject to specific rules or protocols.

Institutional methods

1. **Rules or protocols to access microdata.** Rules or protocols to access microdata are in place. The rules or protocols clearly set out all access conditions.

2. **Availability of rules or protocols.** The rules or protocols are available on the statistical authorities' website.

3. **Access conditions to micro-data.** The statistical authorities ensure that the conditions governing access to micro-data are clear and well understood both internally and externally**.**

Process/output methods

4. **Individual approach**. Each request for microdata is processed individually following the access conditions set out in the rules or protocols.
5. **Scope and appropriateness of accessible microdata**. The scope and appropriateness of each request for microdata is checked and approved according to internal rules.
6. **Protection of confidentiality.** The anonymity of individuals or businesses is protected (e.g. by the use of Scientific Use Files and Public Use Files).
7. **Secure environment.** The statistical authorities provide researchers with a secure environment (e.g. Safe Centres) to access microdata in accordance with relevant legislation.
8. **Remote access facilities.** Remote access facilities are available with appropriate controls.
9. **Consultation of researchers.** Researchers are regularly consulted about the suitability and effectiveness of rules or protocols to access microdata.

Indicator 15.5: Metadata related to outputs are managed and disseminated by the statistical authority according to the European standards.

Institutional methods

1. **Accordance of metadata with European Standards.** The content, structure and dissemination of metadata are aligned with the ESS standards, i.e. the Single Integrated Metadata Structure (SIMS).
2. **Procedures to update and publish metadata.** Metadata is regularly updated. The updating procedures are clear and well-known to staff.
3. **Quality assurance for metadata**. A procedure for the quality assurance of metadata is in place and communicated to staff.
4. **Training courses for staff on metadata**. The statistical authorities offer training on metadata for their staff.

Process/output methods

5. **Dissemination of metadata.** All statistical outputs are disseminated together with the relevant metadata to enable a better understanding of the outputs. If metadata are disseminated separately from the statistical outputs, clear links are provided.

Indicator 15.6: Users are kept informed about the methodology of statistical processes including the use and integration of administrative and other data.

Institutional methods

1. **Planning of the production of quality reports and methodological documents.** The regular production of standardised up-to-date user-oriented quality reports and methodological documents are included in the statistical work programme of the statistical authorities.

2. **Methodology of statistical processes.** The description of the methodology of statistical processes is available for users in user-oriented quality reports and other methodological documents).

Process/output methods

3. **Publication of methodology**. Staff responsible for statistical processes prepare relevant methodology documents and help to make them publicly available.

Indicator 15.7: Users are kept informed about the quality of statistical outputs with respect to the quality criteria for European Statistics.

Institutional methods

1. **ESS standards on quality reporting**. User-oriented quality reports are based on ESS standards and guidelines for quality reporting. Quality reporting follows the ESS standard Single Integrated Metadata Structure (SIMS) on quality reporting as well as accompanying guidelines and handbooks.

2. **Central monitoring of publication of quality reports.** The publication of quality reports is monitored centrally by a quality management unit.

3. **Availability of quality reports.** Quality reports are available on the websites of the statistical authorities.

Process/output methods

4. **Publication of quality reports.** Staff responsible for statistical processes regularly prepare and make publicly available user-oriented quality reports on the websites of the statistical authorities.