# European Statistical System

## Structure

# What ?

The ESS is a partnership between:

* the Community statistical authority which is the Commission - Eurostat

* the national statistical institutes

* other national authority responsible in each MS to collect, develop and divulgate statistics.

* The partnership also include EEA and EFTA countries

# Legal background

* [REGULATION (EC) No 223/2009](#) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 March 2009
* as amended by:
* Regulation (EU) 2015/759 of the European Parliament and of the Council of 29 April 2015
* and as implemented by:
* Commission Regulation (EU) No 557/2013 of 17 June 2013 implementing Regulation (EC) No 223/2009 of the European Parliament and of the Council on European Statistics as regards access to confidential data for scientific purposes and repealing Commission Regulation (EC) No 831/2002. (1)

# Regulation 223/2009

**LEGAL FRAMEWORK**

This Regulation establishes a legal framework for the development, production and dissemination of European statistics
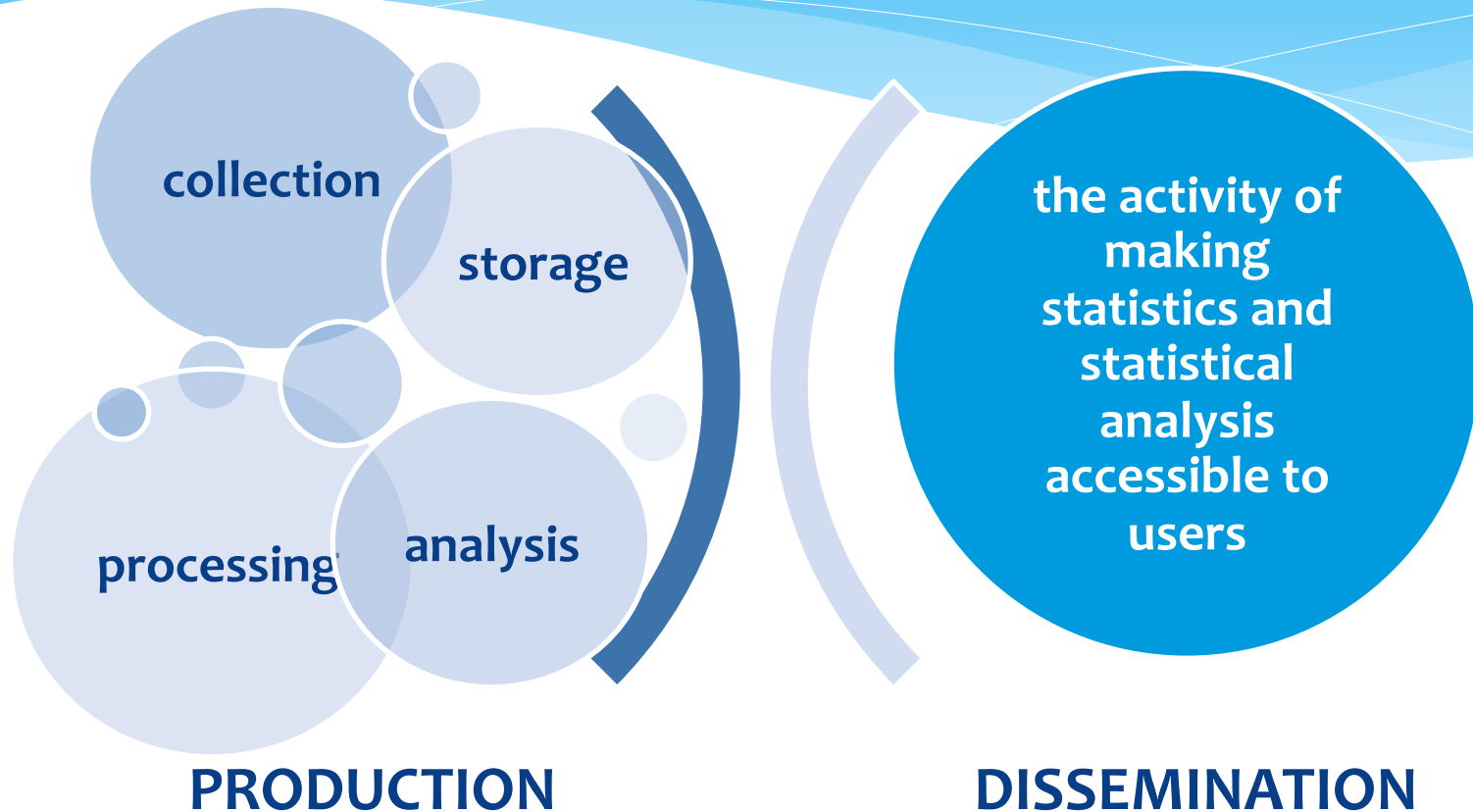
**STATISTICS**

- quantitative and qualitative, aggregated and representative information characterising a collective phenomenon in a considered population

**DEVELOPMENT**

- the activities aiming at setting up, strengthening and improving the statistical methods, standards and procedures used for the production and dissemination of statistics as well as at designing new statistics and indicators

# Regulation 223/2009

collection

storage

processing

analysis

the activity of making statistics and statistical analysis accessible to users

**PRODUCTION**

**DISSEMINATION**

# Statistical principles

a. *professional independence*
b. *impartiality*
c. *objectivity*
d. *reliability*
e. *statistical confidentiality*
f. *cost effectiveness*

**a. professional indipendance**

*It meant that:*

statistics must be developed,

produced and disseminated in an independent manner, particularly as regards the selection of techniques, definitions, methodologies and sources to be used,

and the timing and content of all forms of dissemination,

free from any pressures from political or interest groups or from Community or national authorities, without prejudice to institutional settings, such as Community or national institutional or budgetary provisions or definitions of statistical needs

(REGULATION (EU) 2009/223)

**a. professional indipendance**

*It means that:*

statistics must be developed,

produced and disseminated in an independent manner,

particularly as regards the selection of techniques,

definitions, methodologies and sources to be used,

and the timing and content of all forms of dissemination,

and *that the performance of those tasks*

*is free from any pressures from political or interest groups or from Union or national authorities*

(REGULATION (EU) 2015/759)

**b. impartiality    c. objectivity**

*It means that:*

statistics must be developed, produced and disseminated in a **neutral manner,**

and that all users must be given equal treatment

statistics must be developed, produced and disseminated in a **systematic**,

**reliable and unbiased manner**;

it implies the use of professional and ethical standards, and that the policies and practices followed are **transparent** to users and survey respondents

**d. reliability**

*It means that:*

statistics must measure as **faithfully,**

**accurately** and

**consistently** as possible the reality

that they are designed to represent

and implying that scientific criteria are used for the selection of :

sources, methods and procedures

**e. statistical confidentiality**

*It means that:*

the protection of confidential data

related to single statistical units

which are obtained directly for statistical purposes

or indirectly from administrative

or other sources

and implying the **prohibition of use**

for **non-statistical purposes**

of the data obtained and

of their unlawful disclosure

**f. cost effectiveness**

*It means that:*

the costs of producing statistics

must be in proportion to the importance of the results and the benefits sought,

that resources must be optimally used and

the response burden minimised.

The information requested shall,

where possible,

be readily extractable from

available records or sources

# What does it imply ?

## Principles

a. *professional independence*
b. *impartiality*
c. *objectivity*
d. *reliability*
e. *statistical confidentiality*
f. *cost effectiveness*

## Good practices

* Examples….
* Examples ….

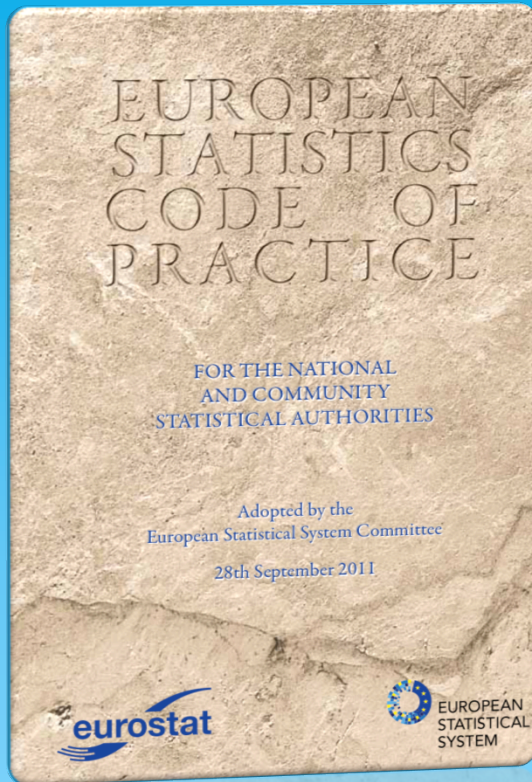The statistical principles set out here above are further elaborated in

**the Code of Practice**

# The European Statistics Code of Practice
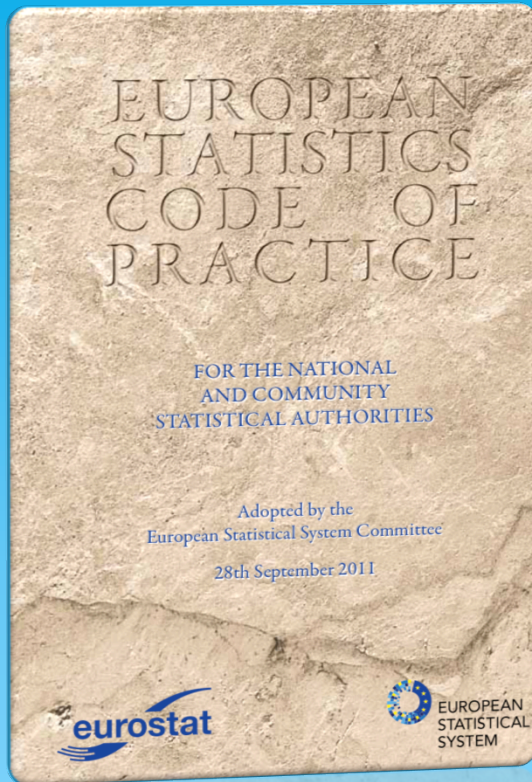
is based on 15 Principles covering 3 areas, such as:

1. the institutional environment

2. the statistical production processes

3. the output of statistics

**the institutional environment**

1 Professional independence
2 Mandate for data collection
3 Adequacy of resources
4 Commitment to quality
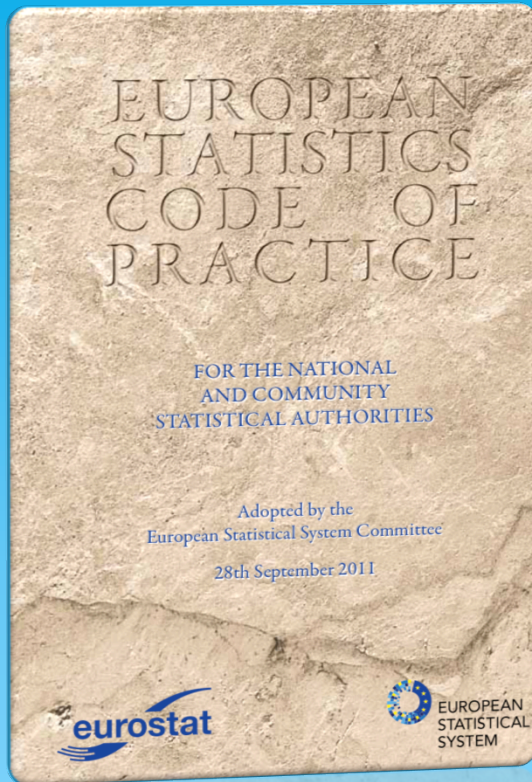5 Statistical confidentiality
6 Impartiality and objectivity

# the statistical production processes

7  Sound methodology

8 Appropriate statistica procedures

9 Non-excessive burden on respondents

10 Cost effectiveness

**the output
of statistics**

**11 Relevance**

**12 Accuracy and reliability**

**13 Timeliness and punctuality**

**14 Coherence and comparability**

**15 Accessibility and clarity**

# European Statistical System

# The funcionning

The ESS functions as a **network** in which **Eurostat**'s role is to lead the way in the harmonization of statistics in close cooperation with the national statistical authorities.

* Member States collect data and compile statistics for national and EU purposes

* ESS work concentrates mainly on EU policy areas

* ESS also coordinates its work with candidate countries, and at European level with other Commission services, agencies and the ECB and international organizations such as OECD, the UN, the International Monetary Fund and the World Bank.

# Eurostat

* Eurostat's mission: to be the leading provider of high quality statistics on Europe

* Eurostat is the statistical office of the European Union situated in Luxembourg

* Its task is to provide the European Union with statistics at European level that enable comparisons between countries and regions.

# Eurostat's historical steps

**1953**
The Statistics Division for the Coal and Steel Community established.

**1958**
The European Community founded and the forerunner of Eurostat established.

**1959**
The present name of Eurostat as the Statistical Office of the European Communities adopted. First publication issued - on agricultural statistics.

**1960**
First Community Labour Force Survey.

**1970**
The European System of Integrated Economic Accounts (ESA) published and the general industrial classification of economic activities (NACE) established.

# Eurostat's recent steps

**2007** — Statistical Programme 2008-2012 adopted 2008 European Statistical Governance Advisory Body established to provide an independent overview of the implementation of the Code of Practice in the ESS

**2009** — New European Regulation governing the statistical cooperation in the European Union was adopted. ESS Committee (ESSC) created, replacing the Statistical Programme Committee.

**2011** — European Statistics Code of Practice revised, strengthening the professional independence of European statisticians

**2012** — New Commission Decision regarding the role of Eurostat within European institutions

**2013** — The currently valid European Statistical Programme 2013-2017 adopted. European Statistical Forum established to govern the statistical cooperation between the ESS and ESCB

**2014** — 'ESS Vision 2020' adopted

# Eurostat's role

# ESS Governance

| ESSC | Partnership Group | ESGAB | ESAC | ESF |
|---|---|---|---|---|
| • European Statistical System Committee (ESSC) shall provide professional guidance to the ESS for developing producing and disseminating European statistics | • The Partnership Group is a group of Directors General of the NS of the ESS whose mission is to further the development of the ESS, ensuring the effective functioning of the ESSC | • The aim of the European Statistical Governance Advisory Board (ESGAB) is to provide an independent overview of the ESS as regards the European Statistics Code of Practice | • The European Statistical Advisory Committee (ESAC) was formally adopted. The ESAC has 24 members representing users, respondents and other stakeholders of European Statistics | • The European Statistical Forum (ESF) was created in 2013 as a governance body in the relations between the ESS and the European System of Central Banks (ESCB) |

**DGINS** Conference was acting then as the predecessor of the Statistical Programme Committee (SPC)

# European Statistical System Committee

ESSC

ESSC the further development of the Code of Practice

ESSC decides issues concerning statistical confidentiality

ESSC measures which the Commission intends to take for the development production and dissemination of European statistics, their justification on a cost-effectiveness basis

ESSC proposes the annual work programme for the following year

ESSC proposes developments and priorities in the European Statistical Programme

# The partnership Group

**Identify and propose strategic issues**

- Assist in co-ordinating the co-operation between National Statistical Systems and Eurostat

**Monitor the functioning of the ESSC**

- Work in an inclusive way, through information exchange via the Network Group and ensuring that non-members views can be taken into account

**Discuss contentious issues**

- Channel ideas from ESSC members on the state of co-operation

# European Statistical Governance Advisory Board
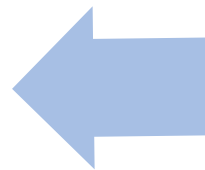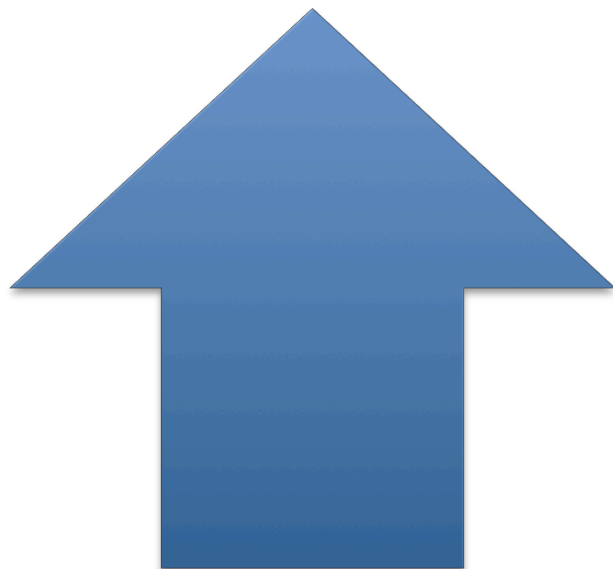
# ESGAB

The ESGAB advises the Eurostat on

- appropriate measures to facilitate the implementation of the Code of Practice;

- how to communicate the Code of Practice to users and data providers

- on the updating of the Code of Practice
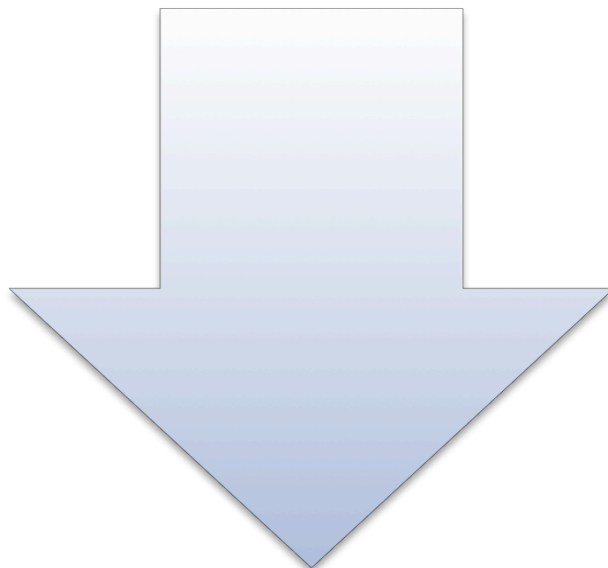
**ESGAB prepares an annual report to the European Parliament and the Council on the implementation of the Code of Practice insofar as it relates to the Commission (Eurostat).**

**For example:**

*Statement of the Members of the European Statistical System on their commitment to professional independence of statistical authorities and the credibility of European statistics and on statistics in Greece*

# ESAC

**The ESAC has 24 members representing users, respondents and other stakeholders of European Statistics**

**The ESAC shall deliver an opinion addressing in :**

- ✓ **the relevance of the Community statistical programme to the requirements of European integration and development;**
- ✓ **the relevance of the Community statistical programme in relation to the activities of the Community;**
- ✓ **the balance as regards priorities and resources between different areas in the Community statistical programme**

**The ESAC shall deliver a specific opinion on the annual statistical work programme of the Commission, the adequacy of the resources needed to implement the Community statistical programme**

# European Statistical Forum

ESF

* **The ESF is composed of one representative per Member State from the ESSC and from the Statistics Committee of the ESCB (STC), respectively, one representative from Eurostat and one from the ECB.**

* The Forum is assisted by a Bureau, which prepares its meetings and monitors its follow-up activities. The Bureau is composed of the two co-Chairs of the Forum (the Chairperson of the ESSC and the Chairperson of the STC), the Chair and the Vice-Chair of the operational platform (the Committee on Monetary, Finance and Balance of Payment statistics, CMFB), two members representing the national statistical institutes and two members representing the national central banks elected by the Forum.

# Fields of statistics

| | | |
|---|---|---|
| General and regional statistics | Economy and finance | Population and social conditions |
| Industry, trade and services | Agriculture and fisheries | International trade |
| Transport | Environment and energy | Science and technology |

# The multi-annual programme

**The European statistical programme for the period from 2013 to 2017**

**Objective 1:**

provide statistical information, in a timely manner, to support the development, monitoring and evaluation of the policies of the Union properly reflecting priorities, while keeping a balance between economic, social and environmental fields and serving the needs of the wide range of users of European statistics, including other decision-makers, researchers, businesses and European citizens in general, in a cost-effective manner without unnecessary duplication of effort

**Objective 2:**

implement new methods of production of European statistics aiming at efficiency gains and quality improvements

# The multi-annual programme

**The European statistical programme for the period from 2013 to 2017**

**Objective 3:**
strengthen the partnership within the ESS and beyond in order to further enhance its productivity and its leading role in official statistics worldwide

**Objective 4:**
ensure that delivery of such statistics is kept consistent throughout the whole duration of the programme, provided that this does not interfere with the priority-setting mechanisms of the ESS.

# Future challenges

# European Statistical System

## Data collection

## The link between national level and EU context

# Data collection at national level

**Many and different type of data sources….**

* Administrative data

* Survey

* Census

* Other data sources…

# Data collection at national level

**Administrative data versus statistical data**

* Administrative data refers to information collected primarily for administrative (not statistical) purposes.

* This type of data is collected by government departments and other organisations for the purposes of registration, transaction and record keeping, usually during the delivery of a service.

* Government departments are the main (although not exclusive) purveyors of large administrative databases, including welfare, tax, health and educational record systems.

* These datasets have often been used to produce official statistics to inform policy-making.

# Data collection at national level

**Administrative data versus statistical data**

* Administrative datasets typically cover samples of individuals and time periods not normally financially or logistically achievable through survey methods. Alongside cost savings, the scope of administrative data is often cited as its main advantage for research purposes. Other advantages include relieving the burden on survey respondents and providing data on individuals who would not normally respond to surveys.

# Data collection at national level

**Administrative data versus statistical data**

* The criticisms levelled at these resources relate to the lack of control during the data entry stage and how this affects what can be done with the data.

* More general concern has also been voiced about the lack of well established theory and methods to guide the use of administrative data

# Data collection at national level

| Advantages of administrative data | Disadvantages of administrative data |
|---|---|
| Already collected for operational purposes and therefore no additional costs of collection (though costs of extraction and cleaning). | Information collected is restricted to data required for administrative purposes – limited to users of services and administrative definitions. |
| Regularly (sometimes continuously) updated. | Possible lack of context information |
| Can provide historical information and allow consistent time-series to be built up. | Changes to administrative procedures could change definitions and make difficult comparison over time problematic. |

# Data collection at national level

| Advantages of administrative data | Disadvantages of administrative data |
| --- | --- |
| Near 100% coverage of population interest. | Quality issues with variables less important to the administrator e.g. address details may well not be updated. |
| Regularly (sometimes continuously) updated. | Possible fragmentation of data sets |
| Captures individuals who may not respond to surveys. | Metadata issues (may be lacking or of poor quality) |

# Data collection at national level

**Possible scenarios**

* 1. Direct use of administrative data to produce national economic and social statistics, for example crime rates, election statistics and employment statistics

* 2. Linking different complementary administrative datasets. Data linkage is facilitated through concerted collaboration efforts between data holding authorities, and a well established unified system (including personal identity codes for accessing to different datasets).

* 3. Combining survey and administrative data.

# Data collection at national level

**Data linkage**

* There are various ways in which extracts of administrative data can be linked with other data sources to create more comprehensive and effective datasets for analysis. The most obvious is the linkage of different years of data within a data source.

* 1. Linking **individual level administrative data** with other **individual level administrative data**

* 2. Linking **individual level administrative data** with **cross-sectional or longitudinal survey data**

* 3. Linking **individual level administrative data** with **contextual information**

# Data collection at national level

**Survey ….**

* **OECD Glossary: survey** is an investigation about the characteristics of a given population by means of collecting data from a sample of that population and estimating their different profiles

# Data collection at national level

**Survey**

*makes international comparisons easier, compared to registration data*

**However**

* From one country to another, national survey may somewhat differ along a number aspects, such as the sample design, the coverage and timing of the survey, etc.

# Data collection at national level

**Census…**

is the procedure of systematically acquiring and recording information about the members of a given population.

# Data collection at national level

# Data collection at EU level

**Adopting the EU perspective**

**Business objectives:**

* Improve the overall efficiency of statistical production in Europe;
* Improve the quality of statistical production;
* Simplify/reduce requirements put on respondents;
* Improve responsiveness to policy needs.

# Criteria

**EFFICIENCY**

Efficiency means achieving maximum output from a given level of resources used to carry out an activity

**EFFECTIVENESS**

- Effectiveness means the extent to which the activity's stated objectives have been met

**EFFICACY**

- Efficacy means the power to produce a desired result or effect

# Data collection at European level

**Main constraints**

* 1. Diversity of national environments;

* 2. Limited resources;

* 3. Subsidiarity principle;

* 4. Preservation of statistical confidentiality

A common objective:
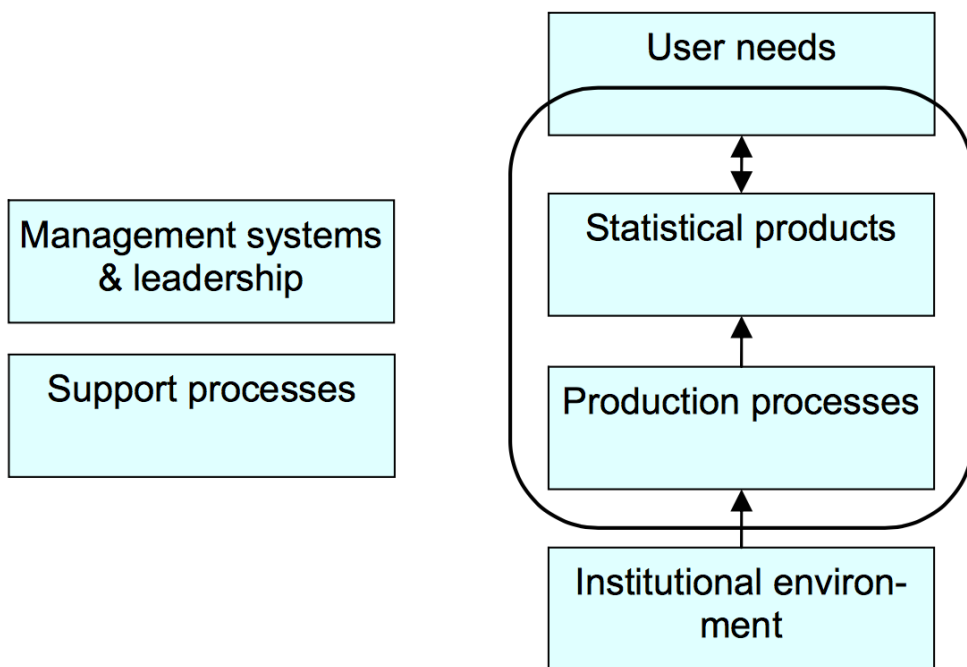
# Quality data

# The Quality assessment

The European Statistics Code of Practice highlights the importance of data quality assessment in several instances. Its principles require an assessment of the various product quality components

# The quality assessment

Production of high quality statistics depends on the assessment of data quality.

Without a systematic assessment of data quality, the statistical office will risk to lose control of the various statistical processes such as data collection, editing or weighting.
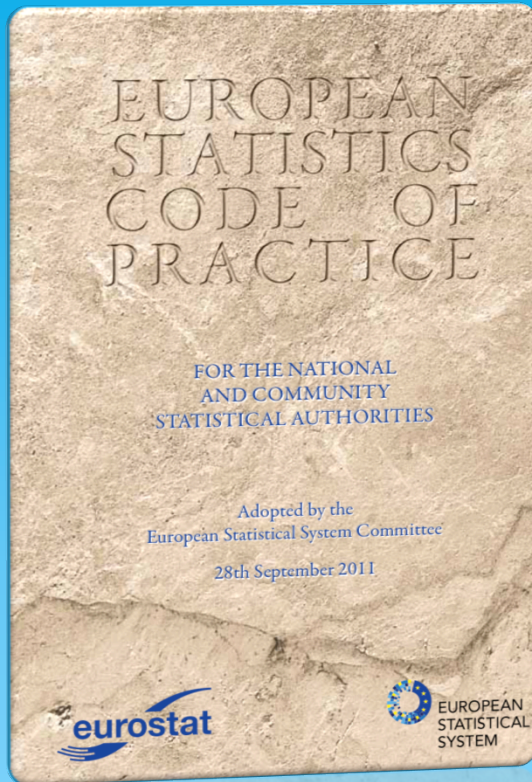
**Elements of a quality management system**

Management systems & leadership

Support processes

User needs

Statistical products

Production processes

Institutional environ-ment

Relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, accessibility and clarity

Sound methodology, appropriate statistical procedures, non-excessive burden on respondents, cost effectiveness

Professional independence, mandate for data collection, adequacy of resources, quality commitment, statistical confidentiality, impartiality and objectivity

## Quality data criteria

**1** relevance,

2. accuracy,

3. timeliness and punctuality,

4. accessibility and clarity

5. comparability and

6. coherence.

# Quality indicators

Quality indicators are specific and measurable elements of statistical practice that can be used to characterise the quality of statistics.

The use of indicators in describing and monitoring events/facts can be considered as a general method.

The indicators, as simplified and generally quantified measures – calculated according to clear rules – intend to characterise a complex phenomenon, in this case the many different quality aspects of data.

*Examples of quality indicators*

A common objective:

# Data validation

## Definition

The term validation refers to any process used to establish whether data conforms to specific criteria. Validation is a key task performed by all statistical domains.

In spite of its prominent role in the statistical business process, validation is not currently covered by common standards and procedures at ESS level.

To address this issue, Eurostat and the ESS launched the ESS.VIP project on **Common Data Validation Policy**

# National versus EU level

The lack of harmonisation at ESS level has several negative consequences:

* The validation process is not systematically considered when designing a new statistical domain or data collection.
* Validation is very vulnerable with respect to staff mobility: Staff moving to new posts require specific training to adapt to local validation practices and procedures.
* It is difficult to develop a set of common validation tools (building blocks) to support the different validation approaches.

# National versus EU level

The lack of harmonisation at ESS level has several negative consequences:

* It prevents common agreements with Member States. This results in a diversity of agreements on quality compliance depending on the statistical domain.

* It may result in very inefficient validation processes, endless communications with data providers and revised data transmitted several times.

* It may affect data quality as some validation tasks are performed in a redundant way while other tasks are not performed because there is no common agreement on the distribution of validation responsibilities between Member States and Eurostat.

# Validation project objectives

* Coherent validation policy in the different statistical domains, in cooperation with MS.
* Standard validation language
* Solutions for complex validation actions to ensure:
  * Coherence between data files
  * Coherence between Member States
  * Integrity of the ESS data

A common objective:

# Comparability

# Comparability challenge

An attribute of statistics measuring the extent to which differences between statistics can be attributed to differences between the values of the statistical characteristics…..

or policy gaps…..???

# Comparability challenge

Comparability aims at measuring the impact of differences in applied statistical concepts, definitions, measurement tools and procedures on the comparison of statistics between geographical areas, non-geographical dimensions, sectoral domains or over time.
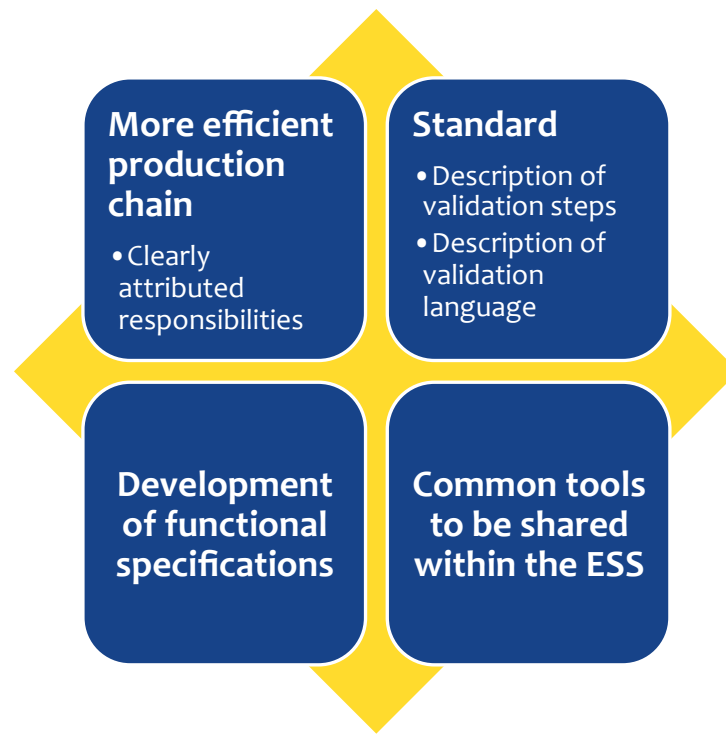
# Comparability challenge

* The concept can be further broken down into:

* (a) Comparability - geographical, referring to the degree of comparability between statistics measuring the same phenomenon for different geographical areas

* (b) Comparability over time, referring to the degree of comparability between two or more instances of data on the same phenomenon measured at different points in time.

* (c) Comparability between domains, referring to the comparability between different survey results which target similar characteristics in different statistical domains.
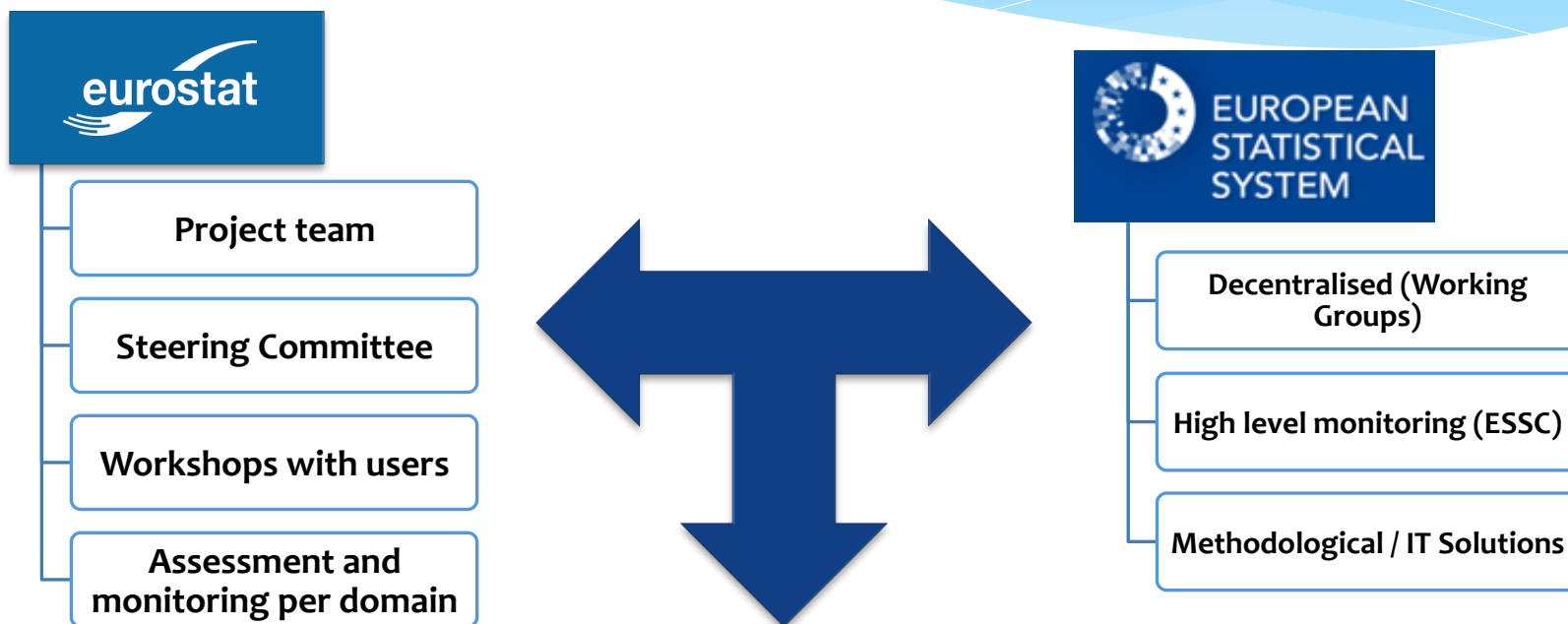
# Comparability challenge

According to the European Statistics Code of Practice, European statistics should be consistent internally, over time and comparable between regions and countries; it should be possible to combine and make joint use of related data from different sources.....

# Comparability challenge



**More efficient production chain**
- Clearly attributed responsibilities

**Standard**
- Description of validation steps
- Description of validation language

**Development of functional specifications**

**Common tools to be shared within the ESS**

# Proposed approach & milestones

**eurostat**

- Project team
- Steering Committee
- Workshops with users
- Assessment and monitoring per domain

**EUROPEAN STATISTICAL SYSTEM**

- Decentralised (Working Groups)
- High level monitoring (ESSC)
- Methodological / IT Solutions

## Links with other ESS VIP

| Validation | Warehouses | SIMSTAT | Shared services | ... |

# European Statistical System

Which is your evaluation….?

1. Has this seminar provided you sufficient information on the ESS?

2. Do you like know it deeply?

3. Make your evaluation: useful, good, poor…?

**Thanks!**