



# Data treatment

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Statistical Office of the Slovak Republic



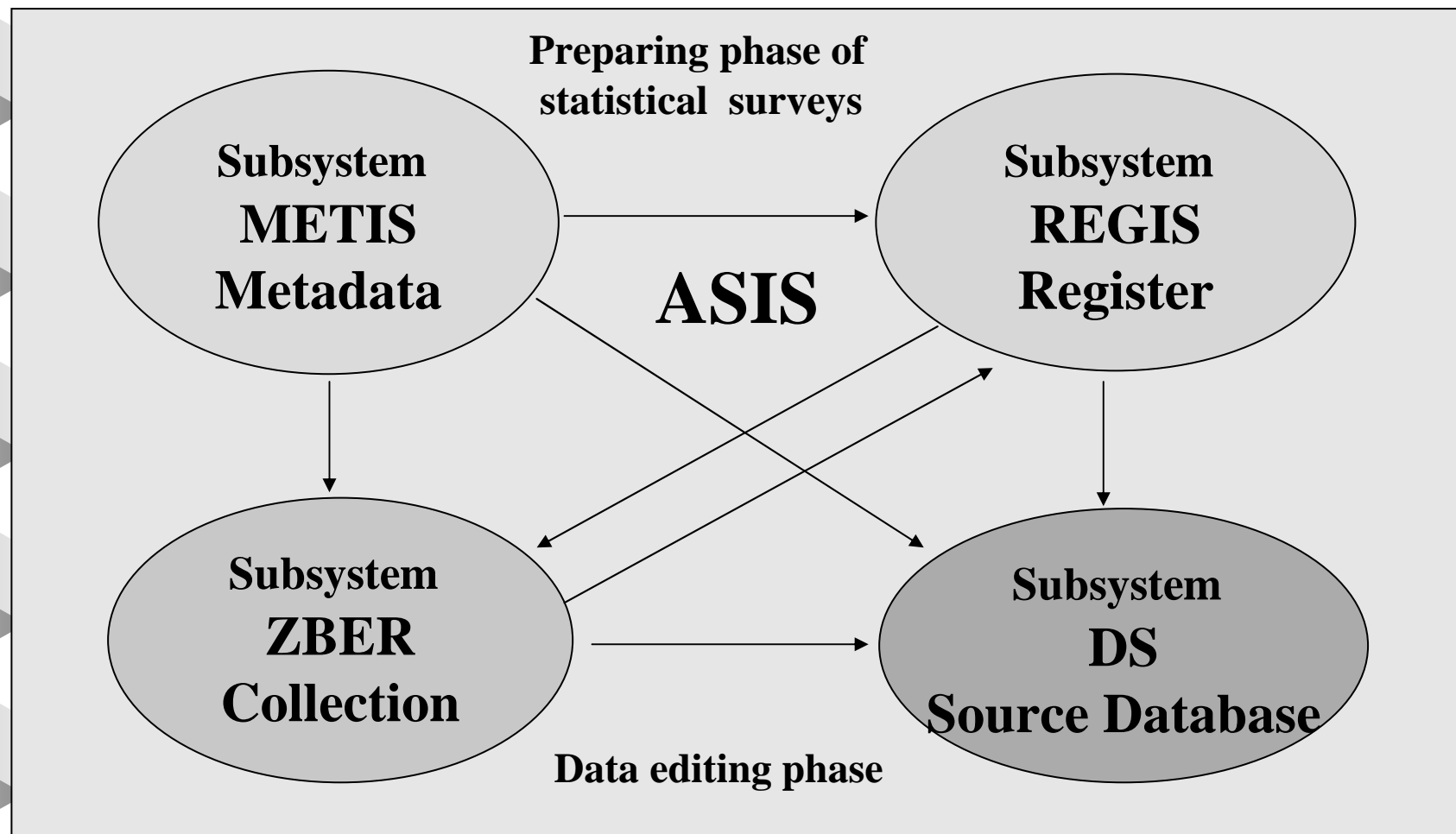
# Content

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## Data processing of the statistical surveys

- **Preparing phase**
- **Data editing phase**

# Integrated Automated Statistical Information System (ASIS) - Preparing and realisation part of the statistical surveys



# Preparing of the statistical surveys METIS - Metadata subsystem

## ↓ Variables

basic indicators (IKZU)

breakdown of basic indicators (IKDCU)

indicator items (IKP - 2 alphabetical signs, 4 numerical signs)  
turnover

IKZU 159

turnover/ CPA4

IKDCU A1149

turnover CPA4

IKP AP0894

## ↓ Classifications

## ↓ Questionnaires

modules; indicator items

**all metainformation ⇒ in database table**

# Preparing of the statistical surveys

## REGIS - Register subsystem

### RO - Register of organisations

**Enterprise** = enterprise registered in Register of Companies (Ministry of Justice)

- legal unit type
- profit oriented organisations

**Small entrepreneurs** (natural person type)  
registered in Trades Register (Ministry of Interior)

### RZ - Register of establishments (of big enterprises)

**REGISTER OF STATISTICAL UNITS (RSU)**  
in SO SR



# Preparing of the statistical surveys

## REGIS - Register subsystem

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- ↓ basic groups of items
  - **identification items**
  - **localisation items**
  - **classification items**
  - **technical items**
- ↓ permanent updating
- ↓ active and dead units
- ↓ central register ⇒ SO SR Bratislava
- ↓ distributed part of register ⇒ regional offices ⇒ units with residence in the region
- ↓ selection of reporting units ⇒ once a year; stable part of register used in all surveys of reporting year: survey frame
  - ⇒ it uses also information like: what was the co-operation with statistical office during the last year; information about existence of some data in database for particular unit; initial weights
- ↓ parametrical selection program application is being developed
  - survey managment tool



## **Data editing phase**

### **ZBER - Data collection subsystem**

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- ↓ All statistical information collected, processed and released by the SO SR is regulated by the Act on State Statistics (Law of the Slovak National Council No 540/2001 [Digest]).**
- ↓ Data collection is organised by specialised regional offices of the SO SR. The specialisation is done according to individual branch statistics**



# Data editing phase

## ZBER - Data collection subsystem

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### **DC2000 - general characteristics**

**program product of database oriented type that provides in the integrated form:**

- ⇒ record keeping and evaluation of reporting duty
- ⇒ generating of the lists of non-responding units with reminder letters for these units
- ⇒ micro data recording by the keyboard
- ⇒ data editing on the base of the defined checks
- ⇒ enables manual and automation data updating (auto-corrections)
- ⇒ protocols about its activity



# Data editing phase

## ZBER - Data collection subsystem

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### **DC2000 - technical aspects**

- ↓ client-server oriented application
- ↓ ORACLE database server
- ↓ blanket form of questionnaire is generated on the base of the information from subsystem METIS
- ↓ relations among the indicator items, recording items and other sources ⇒ prepared by specific application ⇒  
⇒ generation of an application „dll“ module
- ↓ administrators in regional offices ⇒ list and responsibility of clients of the application
- ↓ clients are working in the local area network only in the frame of particular reporting units



# Data editing phase

## ZBER - Data collection subsystem

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### DC2000 - processing aspects 1

**1.step**

**evaluation of reporting duty**

- standard evaluation code,
- date of evaluation, responsible person

**2.step**

**data recording by the keyboard**

- some interactive checks: e.g. only positive value is allowable

**3.step**

**data checking**

- generation of all errors



# Data editing phase

## ZBER - Data collection subsystem

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### DC2000 - processing aspects 2

**4.step**

**updating - data corrections in cycle**  
- updating and checking

**5.step**

**providing protocols about data processing**  
**in the regional offices**

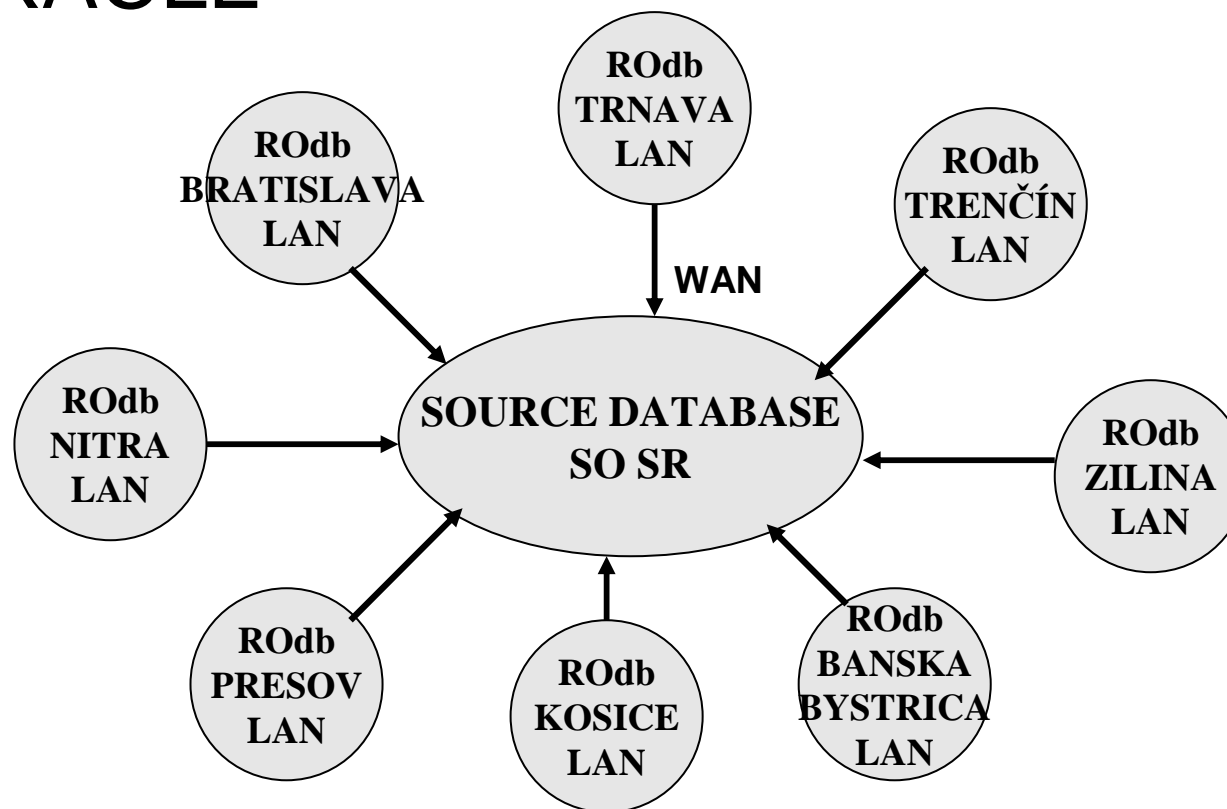
**6.step**

**db ORACLE server in SO SR Bratislava**  
- data transfer from ORACLE servers  
in regional offices by wide area network (WAN)

# Data editing phase

## DBS - Database subsystem

### ORACLE





# Data editing phase

## Checks

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**1 - formal checks** ⇒ automatically realised in the process of data entry

**2 - informal checks** ⇒ control of the complexity and relations among the variables

⇒ 4 basic types of informal checks:

**I** – informative check

**N** – non-response

**A** – anomaly

**Z** – check of great importance

**use of intermediate variables:**

- definition of some special checks
- the data analysis



# Data editing phase

## Checks

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### **Decentralised level - regional offices**

- ↓ data control and data corrections
- ↓ direct consultation with statistical units
- ↓ selected interactive checks: data capture phase
  - e.g. correctness of the codes, size of the value, positive value, obligatory item
- ↓ the area of checking:
  - at the level of statistical unit
  - with regard to the previous period
  - with regard to extreme values (outliers)
- ↓ calculation of systematic classification variables
- ↓ generating of final reports (individual record, whole file)



# Data editing phase

## Systematic classification variables

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- ↓ **BEFORE DATA ENTRY** (in the preparing phase of the survey)
  - VYKMR** - existence of the questionnaire in the previous year; 3 modalities
  - STAB** - stability; 2 modalities
  - VYZNAM** - importance of the unit; 6 modalities
  
- ↓ **AFTER DATA ENTRY** (in the editing phase of the survey)
  - STAVVYK** - type of errors; 5 modalities
  - VELKY** - big units and outliers; 3 modalities
  - KVAL** - quality of questionnaire; 8 modalities
  - NEODPO** - reason of non-response; 5 modalities
  - HODPOV** - evaluation of reporting duty; 21 modalities