

**UNITED NATIONS STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE
CONFERENCE OF EUROPEAN STATISTICIANS**

**EUROPEAN COMMISSION
STATISTICAL OFFICE OF THE
EUROPEAN COMMUNITIES (EUROSTAT)**

**ORGANISATION FOR ECONOMIC
COOPERATION AND DEVELOPMENT
(OECD)
STATISTICS DIRECTORATE**

Joint UNECE/Eurostat/OECD work session on statistical metadata (METIS)
(Luxembourg, 9-11 April 2008)

Topic 2 (iii) Metadata and the statistical cycle and Implementation

CASE STUDY: CZECH STATISTICAL OFFICE

Submitted by Czech Republic

Revision History.....	2
Organization Details.....	2
1. INTRODUCTION	3
Metadata strategy	3
Current situation.....	4
2. STATISTICAL METADATA SYSTEMS AND THE STATISTICAL CYCLE.....	5
2.1 Statistical business process cycle	5
2.2 Current system(s)	7
2.3 Costs and Benefits.....	9
2.4. Implement-ation strategy	10
3. STATISTICAL METADATA IN EACH PHASE OF THE STATISTICAL BUSINESS PROCESS.....	11
3.1 Metadata Classification.....	11
3.2 Metadata used/created at each phase.....	12
3.3 Metadata relevant to other business processes	13
4. SYSTEMS AND DESIGN ISSUES.....	13
4.1 IT Architecture	13
4.2 Metadata Management Tools.....	14
4.3 Standards and formats	14
4.4 Version control and revisions.....	14
4.5 Outsourcing versus in-house development	15
4.6 Additional materials	15
5. ORGANIZATIONAL AND WORKPLACE CULTURE ISSUES	16
5.1 Overview of roles and responsibilities	16
5.2 Metadata management team.....	16
5.3 Training and knowledge management	17
5.4 Partnerships and cooperation	17
6. LESSONS LEARNED	18
Abbreviations used in the text (alphabetically ordered):.....	18

**METIS COMMON METADATA FRAMEWORK (CMF)
PART C CASE STUDY**

CZECH REPUBLIC / CZECH STATISTICAL OFFICE

Revision History		
Date	Section(s) updated	Comment
17/01/2008		Version 1

Organization Details

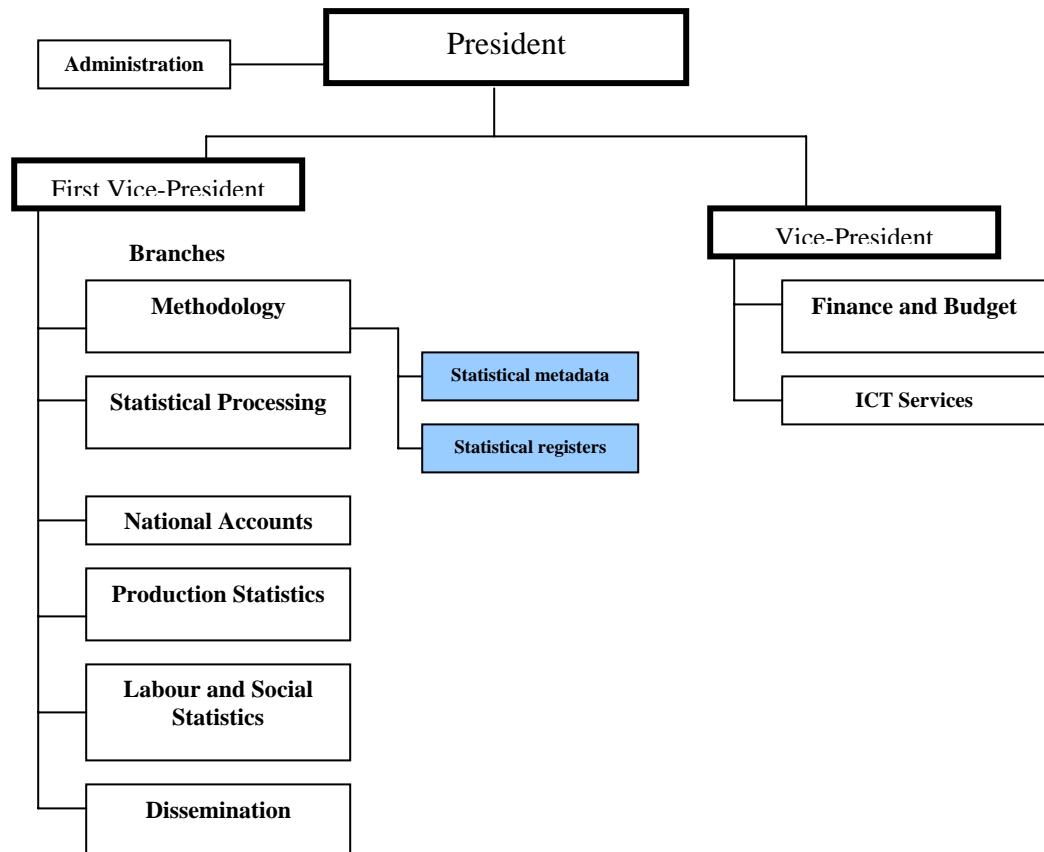
Organization Name Czech Statistical Office (CZSO)

Number of staff Total staff of the CZSO: 1680 persons

Approx. 800 employees are in headquarters in Prague, the other employees are in regional data processing departments outside Prague (6 places), regional analyses and information services sections (12 places) and field surveys departments in selected localities across the Czech Republic.

Organization structure

Organization Diagram



Contact person (for Metadata)

Name: Ebbo Petrikovits
 Job title / Division: Head of the Statistical Metainformation System Section
 Email ebbo.petrikovits@czso.cz, Phone +420 27504 216

1. INTRODUCTION

Metadata strategy

A **Redesign of the Statistical Information System (SIS)** was launched in the CZSO in 2004. The project is centrally managed and monitored by the top management of the CZSO.

The first important step was design of a new SIS architecture. The architecture copes with increasing users' requirements, both on national and international level. It ensures effective acquiring and completing of statistical data and metadata.

Major goals for Redesign SIS:

- reducing response burden and boosting respondent motivation;
- optimising production of statistical information in the CZSO;
- designing a conceptual model of Redesigned SIS and of Statistical Metainformation System (SMS);
- defining a unified architecture of statistical tasks¹;
- improving quality of statistical information;
- increasing users' comfort.

The SIS and SMS models encompass a statistical production process (SPP) in all its phases, starting from assessment of users' requirements up to the dissemination of statistical information (SI). The basis for the model is a life cycle of statistical tasks (LCST).

Core principles for Redesign SIS are as follows:

- systematic assessment and evaluation of statistical data requirements,
- increasing share of administrative data,
- increasing use of data modelling,
- implementation of SMS,
- implementation of statistical data warehouse,
- freeze of statistical surveys for 2-3 years,
- avoiding redundancy in statistical surveying.

The global architecture of SIS (GA SIS)

The GA SIS is composed of the following components:

1. Content component

There is a significant shift in the content component from the statistical survey approach towards statistical object oriented approach.

The content component identifies data sources, links between surveys of different periodicity and different purposes; defines modelling methods, stratification of samples etc. The following types of statistical variable are distinguished:

- *fundamental* variable (used for calibration and/or modelling),
- *standard* variable (predefined set of the statistically most important variables),
- *complementary* variable (supporting fundamental and standard variables).

2. Metainformation component

SMS ensures a systematic use of metainformation inside and outside CZSO. It is a tool for internal and external integration SIS. It is focused on the SPP. The subjects of metadata descriptions are classifications, statistical variables, statistical tasks, data quality, time series, statistical data fund, respondents, statistical users and activities inside SPP. SMS is designed

¹ **Statistical task** – is a set of statistical activities needed to fulfil a user's request for statistical information. The statistical task can be composed of one or more statistical surveys.

Statistical survey – is a set of activities connected with the proposal of statistical questionnaire, preparing a sample, printing and distributing questionnaires, collecting completed questionnaires, data entry (including electronic collection of data) and data validation. Statistical survey is always a part of statistical task.

as an open, self sustainable.

3. ICT component

Software and hardware support for SPP. The ICT component should ensure namely the following:

- standard application software packages used in all stages of SPP,
- tools for statistical models and mathematical/ statistical methods,
- statistical data warehouse and public database,
- tools for approval, release and dissemination of statistical information.

Current situation

The SMS strategy was approved by the CZSO top management in 2005.

SMS is composed of mutually interlinked subsystems. At present,, the following subsystems have been under the implementation:

- statistical classifications,
- statistical variables,
- statistical tasks, and
- statistical quality.

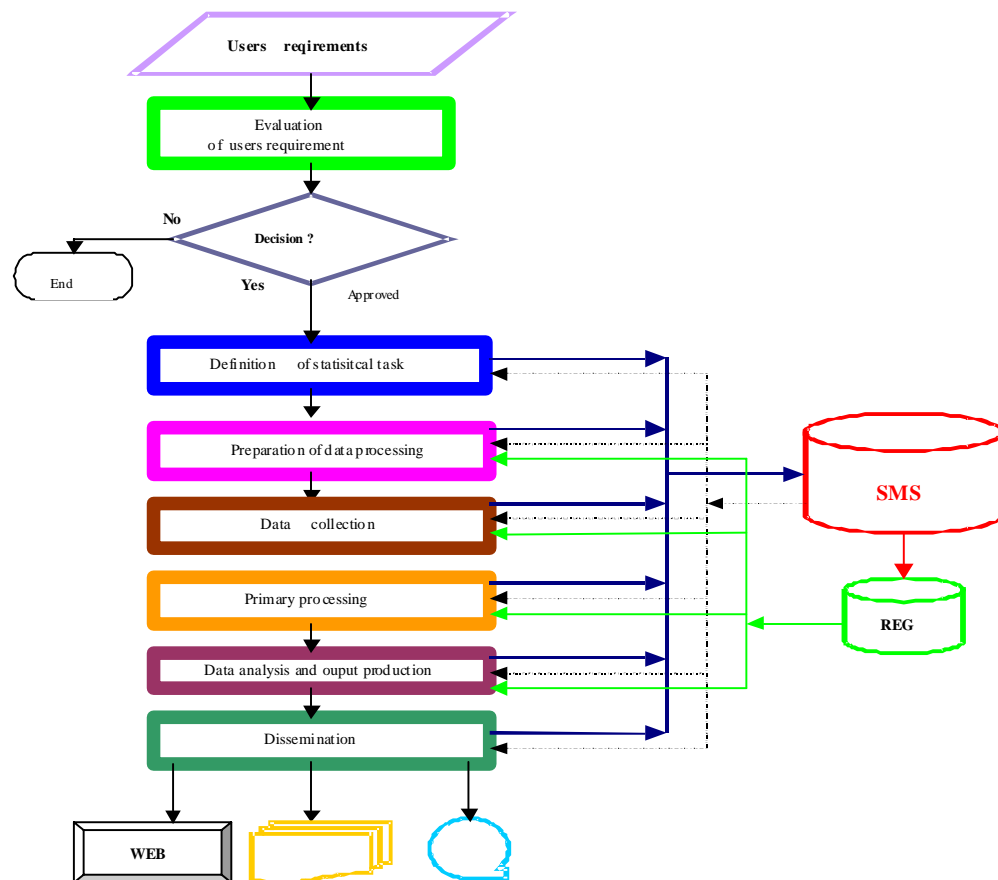
Global architecture of SMS defines core principles, obligatory for all SMS subsystems.

2. STATISTICAL METADATA SYSTEMS AND THE STATISTICAL CYCLE

2.1 Statistical business process cycle

SMS is an integral part of SIS.

The main goal of the SMS is to support the **process of production and dissemination of statistical information**. The scheme below demonstrates the phases of this process.



The goals of SPP phases

- **Evaluation of users' requirements**

Assessment and evaluation of users' requirements is made with regard to already existing statistical tasks. It should encompass a consideration on capacity requirements (human, technological, financial). This phase is in the responsibility of subject-matter departments and methodology department. Final approval of users' requirements is done by the top management.

- **Definition of statistical task (ST)**

In case of a new ST, the specification of its content, organisation and technology should be prepared. It includes namely the following: ST concept, definition of statistical variables, statistical outputs, statistical surveys, samples, questionnaires, other input data sets (administrative data and others), calculations (imputation methods, aggregations, derived statistical variables and others), time-table for ST preparation and implementation, etc. In case that ST already exists, its update should be prepared.

This phase is in the responsibility of subject-matter department and methodology department.

- **Preparation of data processing**

Namely the following activities should be made:

- selection of samples,
- preparation and distribution of questionnaires,
- training of interviewers and staff responsible for individual phases of production,
- getting data sets from administrative and other external data sources.

This phase is in the responsibility of data processing department and subject-matter department.

- **Data collection**

Namely the following activities are included:

- collection of questionnaires and input data capture,
- data validation,
- use of data from other data sources (incl. data validation),
- production of input data sets (for further processing).

This phase is in the responsibility of data processing department and subject-matter departments.

- **Data processing**

Namely the following activities are included:

- building of input database,
- imputation of missing records ,
- processing of aggregates,
- seasonal adjustment,
- database update.

This phase is in the responsibility of data processing department in cooperation with subject-matter departments.

- **Data analysis and output production**

Namely the following activities are included:

- application of mathematical and statistical methods,
- processing of required outputs,
- data quality assessment,
- approval of data for publication,
- public database update.

This phase is in the responsibility of subject-matter departments together with data processing department.

- **Dissemination**

This phase focuses on the following forms of data dissemination:

- web pages,
- public output database,
- printed publications,
- electronic outputs,
- ad hoc outputs.

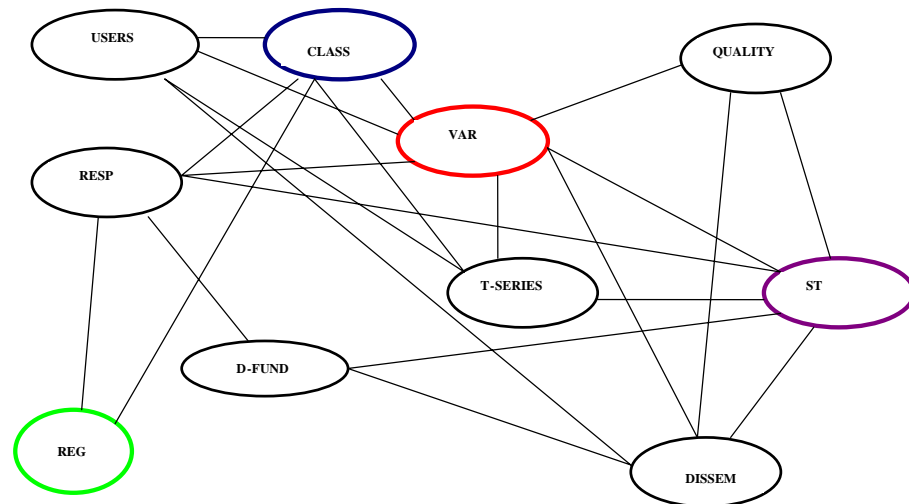
Other important activities in the Dissemination phase are the following:

- users' satisfaction surveys,
- analyses of the use of disseminated statistical information, and
- statistical data confidentiality.

This phase is in the responsibility of dissemination department, selected subject-matter departments in cooperation with data processing department.

2.2 Current system(s)

The SMS architecture is modular. It is composed of relatively self-sustainable, mutually interlinked subsystems as presented in the scheme below.



CLASS	Statistical Classification	RESP	Respondents
VAR	Statistical Variables	D-FUND	Data Fund
ST	Statistical Tasks	T-SERIES	Time Series
REG	Registers	DISSEM	Dissemination
QUALITY	Statistical Quality		

SMS subsystems

Statistical Classification (CLASS) – maintenance and update of statistical classifications/code-lists;

Statistical Variables (VAR) – maintenance and update of a catalogue of statistical variables. Description of VAR is based on the metadata model used for VAR in all stages of SPP;

Statistical Tasks (ST) – maintenance of metadata related to the design and processing of ST (basic characteristics, statistical questionnaires, statistical surveys, other input data, decree on annual programme of statistical surveys, data validation, definition of statistical samples, imputation methods, quality requirements, aggregations, specification of users, time-tables for data collection, applied code-lists, legislation, provider of ICT services, specification of ICT services, etc);

Statistical Quality (QUALITY) – maintenance and update of qualitative characteristics and methods for statistical data assessment;

Statistical Time Series (T-SERIES) – maintenance and update of metadata on current statistical time series;

Dissemination (DISSEM) – maintenance and update of metadata linked to dissemination of statistical information (statistical publications, electronic outputs, web site, data security etc.);

Respondents (RESP) – maintenance and update of metadata on respondents, (respondent burden, respondent opinions, reporting duty, links to statistical surveys, etc);

Users (USERS) – maintenance and update of metadata on the SIS external users (users' opinions, FAQ, etc.);

Data Fund (D-FUND) – maintenance and update of metadata on contents and structure of data files included in SIS.

SMS is interlinked with the system of **Statistical Registers**. The main registers in this system are the following:

- Business Register,
- Register of Census Districts and Buildings, and
- Population Register.

Core principles for SMS implementation

- unified internal users' interface (search, update, administration),
- unified external users' interface (access permission, navigation, selection, interpretation),
- unified data interfaces between SMS subsystems,
- preserving history of SMS objects,
- update of metadata elements on one place only,
- single authoritative source (registration authority) for each metadata element,
- registration process associated with each metadata element so, that there is a clear identification of ownership, approval status, date of operation etc,
- reuse of metadata where possible for statistical integration as well as efficiency reasons,
- unified user documentation,
- unified technical documentation,
- standard data protection model,
- consistency of metadata inside the SMS subsystem and between subsystems,
- unified technological tools for implementation.

Steps in implementation of SMS subsystems and responsibility for them

- business system options (BSO) by CZSO,
- technical system options (TSO) by external suppliers,
- programming by external suppliers,
- testing by CZSO and external suppliers,
- pilot processing, by CZSO and external supplier,
- operational running by CZSO.

Progress of work

State-of-art of SMS subsystems' implementation is demonstrated in the table below.

SMS Subsystem	BSO	TSO	Programming	Testing	Pilot	Operational running
Classifications	10/04-9/05	10/05-4/06	7/06-10/06	11/06-5/07	1/08-12/08	4/09
Variables	3/05-1/06	2/06-2/07	3/07-2/08	9/07-5/08	1/08-12/08	4/09
Tasks	4/06-3/07	3/07-12/07	11/07-6/2008	3/08-9/08	1/08-12/08	4/09
Quality	9/06-12/07	12/07-12/08				
Time series	3/07-12/08					
Dissemination	2009					
Respondents	2009					
Users	2009					
Data fund	5/07-8/07	8/07-12/07	11/07-6/08	3/08-9/08	6/08-12/08	

2.3 Costs and Benefits

a) SMS financing

Principles of SMS financing:

- BSO are prepared by the CZSO and financed from the CZSO budget.
- TSO are prepared by external suppliers and financed partly from the CZSO budget and partly from resources provided by the EU (Transition Facility Programme and Integrated Operational Programme).

b) SMS benefits

- interlink of statistical data and metadata from the beginning to the end of SPP allows unified and clear data interpretation,
- strengthening role of methodology throughout SPP,
- permanent data quality assessment,
- upgrading data dissemination quality (improved interpretation to users),
- integration with public administration,
- integration with international organisations (Eurostat, OECD, UN, IMF, etc.),
- tool for definition, management and evaluation of SPP phases,
- tool for management of ST processing.

Already currently achieved progress in SMS implementation has clearly proved a positive impact of SMS on the role of methodological department in the preparation and coordination of statistical tasks and surveys.

The system management, established for SMS implementation, succeeded in increasing the CZSO research potential. Large number of statistical experts with diverse professions (management, methodologists, subject-matter statisticians, IT specialists) are taking part in the SMS implementation. Numerous training courses and workshops are continuously upgrading knowledge on SMS by all participating experts. Communication barriers between departments, involved in SMS implementation (subject-matter departments, methodology, IT), were considerably reduced.

2.4. Implementation strategy

The implementation of SMS is a ‘big-bang’ approach. Until now, there was no systematic use of metadata in CZSO. Only statistical classifications were maintained and updated in e-way. Statistical tasks were defined without using metadata. Statistical application software packages were using divers system for identification of statistical variables in the central processing and in the public output database.

Introduction of SMS in statistical practice will change style of work of subject-matter departments significantly. Activities dealing with definition and production of statistical tasks will be based on metadata and hence on the use of SMS tools.

Core prerequisite for SMS functioning will be establishment of SMS administration, aiming to keep SMS database permanently up-to-date. Adequate rules, users’ manuals and training courses should be prepared for all functions, needed in the SMS administration.

In view of its comprehensiveness and complexity, the SMS (SMS subsystems) should be developed step by step. The step-wise approach, however, has a clearly defined framework.

SMS introduction in practice

• First stage (2008-2009)

Pilot project

Subsystems CLASS, VAR and ST will be tested on the Annual Labour Costs Survey. Is to test functionality of SMS namely for the following activities:

The aim of a pilot project

- definition of ST,
- design of statistical questionnaires,
- metadata description of statistical variables
- data validation,
- samples design,
- aggregates’ specifications,
- output specifications,
- preparation of timetables.

The pilot project pre-requires the following:

- to complete a database of statistical classifications (SMS-CLASS),
- in SMS-CLASS database, the links to the currently used e-system of statistical classifications should be maintained until a complete transition of statistical tasks into the new SIS is accomplished,
- to unify methodologically a content of statistical survey(s) for the pilot project,
- to complete a description of statistical variables relevant to the pilot and to ensure their storage in the database (SMS-VAR),
- to create a database for definition of statistical tasks (SMS-ST),
- to develop and test an SMS application program package,
- to develop and make operational statistical data warehouse,
- to establish and make operational an SMS administration,
- to accomplish training of personnel for all professions, needed for the pilot project

(methodology, subject-matter departments, SMS administration, project preparation, IT applications).

- **The second stage (from 2010 upward)**

The second stage will focus on the development, implementation and gradual introduction in practice of the following SMS subsystems: statistical data quality, time series, dissemination, respondents and, users of statistical information. Furthermore, the work will continue on the completion of subsystems on statistical classifications, statistical variables, statistical tasks and, statistical data fund (namely links to the newly prepared SMS subsystems).

3. STATISTICAL METADATA IN EACH PHASE OF THE STATISTICAL BUSINESS PROCESS

3.1 Metadata Classification

SMS encompass the following groups of statistical metadata:

- **Metadata on statistical concepts and models**

This group describes concepts and/or models of statistical classifications, statistical variables and other SMS objects.

- **Metadata on statistical methods**

This group describes imputation methods of missing values/data, completion of observed units, methods for time series conversions, seasonal adjustment, methods for expert estimates, analytical, mathematical and statistical methods, etc.

- **Metadata on processing procedures**

This group describes processing procedures for individual stages of STs life cycle. For example for data collection, respondent burden measurement, preparation of statistical questionnaires, data validation, quality assessment, and aggregation, preparation of statistical tables, etc.

- **Metadata on use of statistical information**

This group describes users' satisfaction, use of statistical information by respondents, analysis of users' requirements for information, FAQ, users' opinion, use of web pages, etc.

- **Metadata on LCST assessment and evaluation**

This group provides basis for assessment and efficiency evaluation of individual phases of LCST and sources for financial controlling in the CZSO.

The table below shows a placement of the above mentioned groups of metadata in the SMS architecture.

SMS subsystem Groups of metadata	Classifications	Variables	Tasks	Quality	Dissemination	Users	Respondents	Time series	Data fund
Statistical models	x	x		x				x	
Statistical methods			x	x					
Processing procedures			x	x	x	x	x	x	x
Use of statistical information			x		x	x	x	x	x
Assessment and evaluation	x	x	x	x	x	x	x	x	x

3.2 Metadata used/created at each phase

The aim of the SMS is to support all phases of LCST (see 2.1.). The SMS is an end-to-end system.

The SMS maintain, update and release metadata for their use in individual phases of LCST.

Table below demonstrates potential use of metadata from SMS subsystems in LCST phases.

LCST phases Subsystems	Definition of statistical task	Processing preparation	Data collection	Primary processing	Data analysis	Dissemination
Classifications	x		x	x	x	x
Variables	x		x	x	x	x
Tasks	x	x	x	x	x	x
Quality	x		x	x	x	x
Dissemination	x				x	x
Users	x				x	x
Respondents	x	x	x	x		x
Time series	x				x	x
Data fund	x	x	x	x	x	x

Some additional information on currently developed subsystems:

- **Subsystem CLASS**

CLASS is based on the Neuchâtel model. It allows maintenance, updating and use of statistical classifications, necessary for SPP. Metainformation is kept on each classification. The most important is the following: title, authoritative source, ownership, validity, classification value, link to other classifications, language versions (CZ, EN), explanatory notes and history.

- **Subsystem VAR**

Metadata description of statistical variables follows a model for definition of statistical variable applicable on both micro and macro data level. The model was developed in the CZSO using experience from the work of UN ECE Work Session on Metadata. The most

important metainformation is the following: statistical concept, statistical function, title, definition, measurement unit, statistical breakdown, subject-matter area, validity, authoritative source, ownership, explanatory notes.

- **Subsystem ST**

ST maintains metainformation on functional and technological specifications of STs. Mainly the following metainformation is kept: basic characteristics of ST, ownership, statistical questionnaire, statistical surveys, statistical samples, other input data sets, data validation, imputation methods, quality requirements, definition of outputs, aggregations, estimates, analysis procedures, mathematical and statistical methods, dissemination, specification of users, time-tables for statistical production, applied classifications, legislation, provider of ICT services, specification of ICT services, documentation, metadata for management of statistical production, data confidentiality, ST history etc.

3.3 Metadata relevant to other business processes

SMS will be used for cost controlling purposes. For example, metainformation on the ST history and time-table for ST processing will be used for assessment of work efficiency in the SPP phases/activities. Information on statistical data quality in ST processing will assist to assess work quality of the departments, responsible for ST and thus, to assess work quality of the whole CZSO. The method applied for those purposes is the European Foundation for Quality Management (EFQM).

Subsystem ST is designed with the aim to enable specification of non-statistical tasks such as controlling and other administrative and/or research activities.

4. SYSTEMS AND DESIGN ISSUES

4.1 IT Architecture

IT architecture of SMS is an integral part of IT architecture of SIS. The SMS is a necessary precondition for all statistical data warehouse operations. Data warehouse will be the only place to store all statistical data together with their completely structured metadata description.

Technological infrastructure

Computing centre is focused on using servers with UNIX operating system and Oracle database technology. Technological equipment is grouped into Unix clusters on which Oracle database and application servers operate. In the framework of GA SIS, application software packages will be integrated with data warehouse technology.

As client stations are used personal computers with operating system Microsoft Windows 2000 (or higher) and browsers Internet Explorer and Firefox Mozilla, program package Microsoft Office and other utilities.

SMS application programme package

- will not depend on users' work station platform, they will be under operating system MS Windows (version 2000 or higher) or Linux,
- metadata will be viewed through the Internet browser without installation of supplementary products at the internal user station,
- for metadata administration "thick client" solution can be used,
- will be implemented in the following technological environment:
 - > Oracle Forms and Reports (three-layer architecture). Oracle Application Server is supposed to be used. In this case the client is Internet browser;
 - > Java (possible thick clients);

> Java Server Pages for thin clients outside Oracle Forms and Reports. The Oracle Forms and Reports technology may not be suitable for some parts of SMS – then Java Server Pages (JSP) will be used;

- access to individual subsystems will be unified via SMS access portal. This portal will be a part of the CZSO internal portal,
- for metadata presentation on the Internet, the Java Server Pages (JSP) technology will be used.

4.2 Metadata Management Tools

The following two technologies will be used for communication between SMS subsystems and between SMS and the other applications:

- technology of direct communication between Oracle data tables of SMS subsystems and tables of other applications,
- XML technology for defining unified communication interfaces between individual SMS subsystems and interfaces between SMS subsystems and other applications.

User interface to SMS subsystems will be developed in Oracle Forms. Standard rules have been defined for design of communication windows in order to keep unified appearance and distribution of function keys. The user's basic tool is the Internet browser in which applications of individual subsystems are started.

The link of data and metadata will be established in data warehouse, using ETL processes. Structured metadata for statistical data, stored in data warehouse, will be exported from the SMS database.

4.3 Standards and formats

The SMS subsystem uses:

- XML interface or exports for other SMS or SIS applications,
- off-line work with copy of the data (created with the help of XML),
- SMS applications developed in Oracle Forms 10g can be started at work stations with MS Windows or Linux,
- Internet mirror of subsystem CLASS will be created with the help of Java Server Pages (JSP),
- backup on central db server in Oracle ARCHIVELOG product,
- SDMX technical standards for data interchange (when ready).

4.4 Version control and revisions

The SMS object description is stable in a time interval *from – to*. From certain point in time, the description is changed or its validity terminated. For this stable state of object in certain validity range, the concept **object version** is used.

Object version may be subject to changes, which are required to be registered in the system. To observe the history of object version changes, the following rules are to be followed:

- Until object version is approved, the changes are not registered, i.e. only current state of object is stored in the system.
- Provided object version has been approved, the resulting state is registered in the system.

If there is a need to change an object version which was already approved, the so-called **object version revision** is made. On approval of an object version revision, former objects are designated as cancelled and replaced by new ones.

Each object version may go through the following states:

- under preparation;
- for approval;
- approved;
- revised;
- revised for approval.

Under preparation – new object or new version of already existing object is required.

For approval – no changes of object version can be made. Object version is ready for approval. The result may bring an object version into the state ‘Approved’ or back into ‘Under preparation’.

Approved – the object version is valid and available for other systems. No changes of object version can be made.

Revised – in case there is a need to change an object version that is in the state ‘Approved’. The state before the revision remains stored and changes are made on a new copy of a given object version. The revised object version may be the following:

- **approved** – by which it replaces the former state of a given object version. The former state of object version is also registered in the system but designated as cancelled.
- **rejected** – changes made by the revision are cancelled and the former state remains unchanged.

Revised for approval – object version revision is completed and submitted for approval. No changes can be made to object version revision. The result may bring the object version revision into the state ‘Approved’ or back into ‘Revised’.

4.5 Outsourcing versus in- house develop- ment

The following procedure was adopted for development and implementation of SMS subsystem:

- Business system options (BSO) are prepared by multidisciplinary project teams composed of experts from diverse CZSO departments (managers, methodologists, subject-matter statisticians, IT experts);
- Technical system options (TSO) and programming is performed by external provider,
- Testing of the system is performed by the testing team (a specially established team for testing purpose). The team is composed from the CZSO’s experts (subject-matter departments, team responsible for the SMS subsystem development) and external provider. The testing team is chaired by the third party (not CZSO or external provider),
- SMS pilot testing on selected ST is conducted by the CZSO in cooperation with external providers,
- Initial loading of the subsystem will be made by the subject-matter departments in cooperation with the SMS Section, methodology department and external provider,
- Basic documents such as BSO, TSO are subjects to approval by the Steering Committee for Redesigned SIS (see 5.1),
- For delivery of SMS application program packages by external providers, the acceptance protocol, signed by the CZSO management is required,
- In its operational running, the SMS subsystems will be used by statistical subject-matter departments, methodology department, SMS section, and data processing department,
- It is envisaged that, (in the later stage of SMS development and implementation) the SMS will be a tool for external statistical users.

4.6 Additional materials

In this stage of SMS development the following documents have been prepared and approved:

- BSO for subsystem CLASS,
- TSO for subsystem CLASS,
- Global architecture of SMS (GA-SMS),
- BSO for subsystem VAR,

- TSO for subsystem VAR,
- BSO for subsystem ST,
- TSO for subsystem ST.

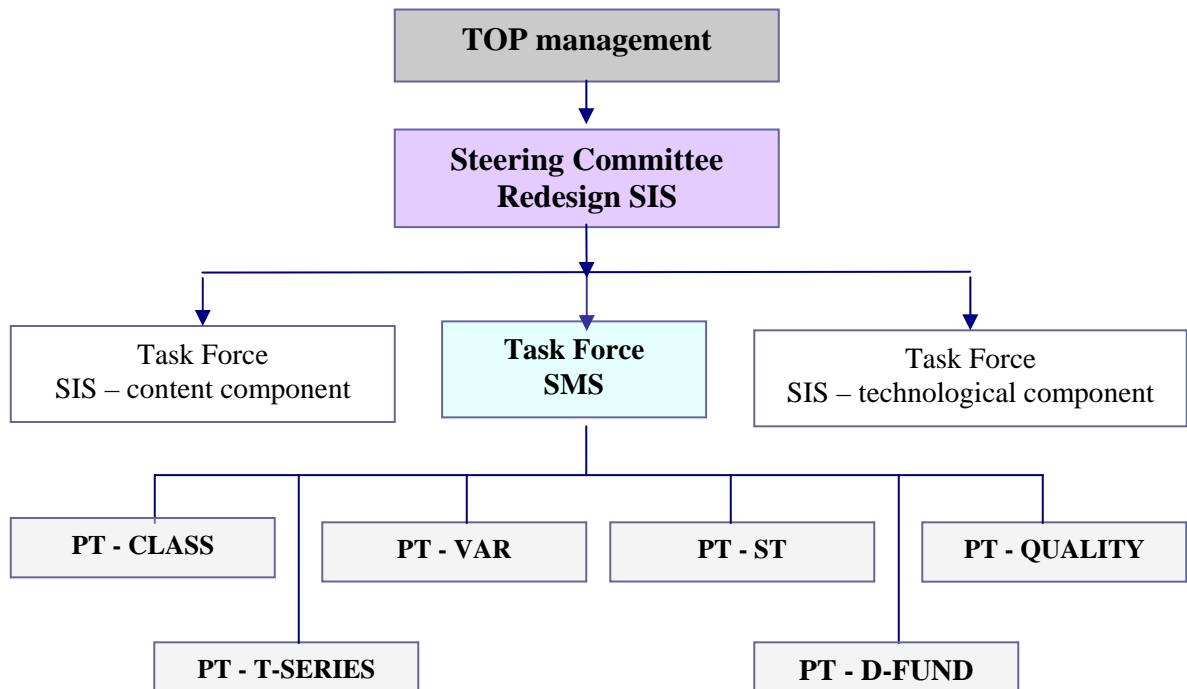
5. ORGANIZATIONAL AND WORKPLACE CULTURE ISSUES

5.1 Overview of roles and responsibilities

The organisation structure for SMS development and implementation is the integral part of the corporate organizational structure of Redesign SIS. It is headed by the Steering Committee (SC). The SC chairs the following Task Forces: Task Force (TF) for SIS-content component, TF for SIS-metadata component (SMS) and TF for SIS- technological component. Each TF is composed of project teams (PTs). Chairpersons and members of all above mentioned bodies are appointed by the top management.

The SC is supervised directly by the top management of the CZSO. The top management reviews progress reports of SMS subsystems, submitted by the SC. Achieved results and/or proposals for changes are subject for the top management approval.

Organisation of SMS management is shown in the scheme below:



5.2 Metadata management team

Management of SMS development and implementation

Steering Committee

SC is headed by the First Vice-President. Members of SC are: vice-president, director of methodological branch, directors of selected subject-matter departments, director of methodology department, director of ICT department, head of TF-content component, head of the TF- SMS, head of the TF-technological component and advisor to the President of the CZSO for the Redesign SIS. The SC supervises conceptually the SMS activities. It regularly controls (in three months intervals) the progress of work and takes decisions for further SMS development.

Task Force SMS

TF SMS coordinates and monitors the work in SMS subsystems. For each subsystem a PT was established and its head appointed. TF cooperates with the heads of PTs closely. It is responsible for preparation and controlling of PT timetables. It prepares and/or coordinates numerous training courses, workshops and seminars related to SMS. It cooperates with the heads of other TFs within the project Redesign SIS and coordinates working activities in the SMS-PTs accordingly.

TF cooperates with external suppliers, monitors their working plans and progress of work. Prepares SMS progress reports for SC consideration. Based on the SC decisions prepares a final progress report for the top management.

Project Teams SMS

At present, the following PTs are operational: PT-CLASS, PT-VAR, PT-ST, PT-Quality, PT-T-SERIES, PT-D-FUND.

The PTs work on design of individual SMS subsystems and cooperate with external suppliers in development, testing and putting the subsystem into the CZSO practice. They prepare BSO documents and cooperate on the preparation of TSO documents with external suppliers.

The nature of SMS project requires participation of diverse professions in the PTs. Members of the PTs are methodologists, subject-matter statisticians, IT specialists, programmers, and specialists on statistical dissemination, users, external providers and external experts. Composition of working teams is flexible, depending on the nature of problems to be solved. Members of the project teams (PT) are heads of sections, selected directors and subject-matter experts of the CZSO.

Management of SMS operational running

Operational running of the SMS will be incorporated in the CZSO's organisation structure, which will meet the requirements of SMS administration.

5.3 Training and knowl- edge manage- ment

Efficient transfer of know how is a core precondition for team work and for the successful development and implementation of SMS. Numerous training activities have been accomplished, and many others are now under the preparation. Training activities are a part of corporate training system in CZSO.

In 2007 the training courses on the following issues have been organized: conversion of nomenclatures and classifications into SMS-CLASS, description of variables for VAR subsystem for pilot testing, information on ST subsystem, and a general course on SMS development. Furthermore, the training on currently used terminology in SMS has been performed.

Intranet web pages proved to be an important tool for dissemination and information sharing on the SMS and on other components of Redesign SIS.

5.4 Partner- ships and coopera- tion

The SMS is an integral part of the State Statistical Service provided by the CZSO. The ongoing inventory of statistical variables is coordinated with statistical service in central government institutions.

6. LESSONS LEARNED

6.1

- SMS strategy should be fully in the responsibility of the statistical office,
- SMS design and implementation should be organized in the multidisciplinary working teams;
- design and implementation of SMS must be managed and systematically monitored by the top management,
- it is necessary to persistently obey the SMS core principles and to maintain a positive motivation of wide range of participating experts (and professions);
- consistent co-ordination of time-scheduled workloads in the SMS project, the SIS Redesign project and current activities of the Office,
- purchasing of financial funds must be systematically monitored by the statistical office in relation to the stage of the project implementation, on the basis of functional specification and qualified estimate of man-hours. It is important to use all potential sources of funding (external and internal sources),
- financial costs of the operational running of the SMS should be covered from the Office budget.

Abbreviations used in the text (alphabetically ordered):

BSO	Business System Options
CZSO	Czech Statistical Office
ETL	Extract, Transform and Load
GA SIS	Global Architecture of Statistical Information System
GA SMS	Global Architecture of Statistical Metainformation System
ICT	Information and Communication Technology
LCST	Life Cycle of Statistical Task
PDB	Public Data Base
SBS	Structural Business Statistics
SC	Steering Committee
SI	Statistical Information
SIS	Statistical Information System
SMS	Statistical Metainformation System
SPP	Statistical Production Process
ST	Statistical Task
TF	Task Force
TSO	Technical System Options

*** END ***