CZECH STATISTICAL OFFICE

TEN PRINCIPLES OF THE STATISTICAL INFORMATION SYSTEM (SIS) 5.0

1 **We use maximum of the existing system**, first of all, there are always definitions and descriptions of services, only then platforms are chosen, applications and modules are created. Identified weaknesses should be improved and it is not necessary to put an emphasis on new functionalities.

2 **We put an emphasis on safety and platform neutrality** with a suitable preference of open source tools. With regards to both investment and operation costs and their effective utilisation it is necessary for the environment determined for production of statistics to maintain continuity as for the regularly updated information concept:

a) We operate several types of databases that have to communicate well among themselves.
b) We prefer thin clients where it makes sense. Applications for those who make processing, capture, as well as for interviewers must be functioning on multiple platforms, at least on Windows + Android (always together!) and, optimally, also on Linux. It is an objective for the CZSO to be able to choose freely among operation systems as well as hardware while reducing vendor lock-in situations.
c) We maintain principles to ensure confidentiality and cyber security of information by all means, which follow from legal regulations, standards, and best practices.
d) We educate IT staff regularly in the areas we use and therefore we ensure support to those environments that are a part of the office-wide strategy.

3 **We modernise the environment for respondents** of the CZSO who are the number one of our relationship with the public. It applies to the following processes:

a) authentication,
b) authorisation,
c) connection to information systems of companies and a deviation from reports (questionnaires) in the areas where it is possible and efficient. It also includes total variability while maintaining the selected standard.
d) flexibility and focus on respondents (an increase of their comfort) including completing reports/questionnaires on a mobile phone or a tablet,
e) modern technologies and remote administration with 100% control by IT staff of the CZSO,
f) feedback from respondents and a user-friendly approach are key to us.

4 **We are building a modular system**, in which individual components can be used according to needs and the state of affairs of individual statistics. Individual systems and subsystems must not interfere with each other with the exception of "flagging," filling in paradata. To be based to a maximum extent on the statistical metadata system, to store disseminated data in a data storage, and to present them in the environment of the Public Database of the CZSO. For data exchange between subsystems, an interface has to be defined and it has to be thoroughly considered whether to create a service bus type tool. It should be feasible in an easy way to replace individual systems and subsystems. And, as for functionalities, we define synchronous or asynchronous interface as necessary.

5 **We focus on common basic functionalities** as a standard solution, which we are able to set parameters for and thus to ensure standardisation of the system, which are usable for all statistical domains (in adequate parts).

6 **Every single process leading to creation of statistical information must be captured in the system so that effectiveness can be searched for and analysed**, also exceptions and anomalies must be captured in the system. Here we also refer to the Generic Statistical Business Process Model (GSBPM). Statistical domains are involved in individual parts of the SIS in different extent with the aim to achieve the maximum possible effectiveness of production of statistics. Proposals for changes must be subject to substantial discussions or external examination. When they are successful, both substantive and IT solutions can be offered to other bodies of the State Statistical Service.

7 **We are permanently ensuring effectiveness of the system** while minimising the number of tools for the same or similar sub-processes. However, as for material implementation, the same process can be implemented by several tools or several technologies, which are based on equally defined inputs and outputs. It holds true that everything has to be described, documented, and standardised and continuity has to be ensured with regards to the preceding and subsequent subsystems. The Statistical Information System is closely related to statistical quality, which is a part thereof.

8 **We publish outputs by means of one common channel** for all statistical domains. To do so, we use a unified system of metainformation descriptions, in which also specific needs and specific solutions are kept.

9 **We add new ways of publishing and visualisation of outputs** as regards used tools so that the CZSO provides comfortable user environment to its customers. Our outputs are user-oriented. We respond to user needs with regards to user-friendliness of all outputs of the CZSO. All applications and presentations for the public are subject to user testing on an ongoing basis. We pay special attention to publishing outputs in open formats and a comprehensive form of CZSO's data presentation in the text form or a visualised form.

10 **We educate and train** our employees, mainly those working with data, **on a regular and conceptual basis**. Basic work of a statistician in a subject-matter department will be to analyse data (except for methodologists); it is based on effective work in the environment of data markets, table processors, databases, statistical and data-mining programmes, such as R and Python. Therefore, trainings of the CZSO will mainly focus on that purpose.