

Infrastructure for Spatial Information in Europe	Definition of Annex Themes and Scope		
DT DS v3.0	D2.3 Definition of Annex Themes and scope	2008-03-18	Page58 of 128

7 Annex III Themes

7.1 *Statistical units*

Definition:

(INSPIRE, 2007) Units for dissemination or use of statistical information.

Description:

The theme statistical units must be seen as one of several thematic groups of administrative units, but may also include other area units (e.g. grids or watersheds) or points in point-based statistics (e.g. statistics on address level). The IMS paper (INSPIRE IMS, 2003) describes the following sub-grouping of administrative units

- official administrative units
- government management zones
- blocks, census and statistical districts
- civil security units
- environmental reporting and management units
- postal codes/ regions

Units for dissemination of statistical information can be viewed as spatial units; areas, lines or point objects used in reporting of information, in geographical analysis and in distribution systems for environmental and socio-economic information. "Use" can be interpreted as something else than "dissemination", as the words is connected with the word "or". The use may represent any use in the full cycle of establishment, aggregation, assessment and display of "statistical information". Statistical information can be defined as "any numerical representation of a phenomenon".

Scope, use examples:

Users of statistics express an increasing need for harmonisation in order to have comparable data across the European Union. In order to function, the internal market requires statistical standards applicable to the collection, transmission and publication of national and Community statistics so that all operators in the single market can be provided with comparable statistical data. In this context, classifications are an important tool for the collection, compilation and dissemination of comparable statistics. Regional statistics are a cornerstone of the European Statistical System. For many years European regional statistics have been collected, compiled and disseminated on the basis of a common regional classification, called 'Nomenclature of territorial units for Statistics' (NUTS). Clear rules for this classification system have been fixed in a legal framework (Regulation (EC) No 1059/2003). The NUTS classification serves as a harmonised system for applications at European and regional level, while it does not preclude the existence of other subdivisions and classifications.

The Nomenclature of Territorial Units for Statistics (NUTS) was established by the European Office for Statistics (EuroStat) in order to provide a single uniform breakdown of territorial units for the production of regional statistics for the European Union. NUTS excludes specific territorial units and local units in favour of regional units of a general nature. At a more detailed level, there are the districts and municipalities. These are called Local Administrative Units (LAU) and are not subject of the NUTS Regulation. At the top of the hierarchy are the individual member states of the EU, below that are NUTS levels 1 to 3, then LAU levels 1 and 2. NUTS regions do not necessarily match with the national administrative units.

Infrastructure for Spatial Information in Europe		Definition of Annex Themes and Scope	
DT DS v3.0	D2.3 Definition of Annex Themes and scope	2008-03-18	Page59 of 128

There is a long tradition in collecting demographic and economic/activity statistics. All geographical levels are interesting, including municipal and intra-municipal levels. It is common to have statistics with geographical breakdown on country level, regional/ county level and municipal level. In some countries we also find information on census districts. The last decades some statistical offices have started producing demographic and socio-economic statistics in urban and rural areas with a reference to blocks of houses and to process this data within a GIS. In some countries, the methodology chosen refers to aggregation of point-based statistical information (address/households) on a grid (e.g. 1x1 km or 0.1x0.1 km).

Needed within local to national governments, settlement, urban and regional development, health and education planning, school enrolment planning, risks assessment. Of major importance to integrated analysis for sectors and regions. Necessary as geographical features also in environmental and social assessments, e.g. on estimates on exposure to pressures and on availability of services.

The present focus on eGovernment systems within all sectors and the general rapid changes towards including a spatial dimension in management activities and planning will mean that both points, areas and boundaries of different kind of regions become important, as there is an interest in almost any sector to aggregate information.

Statistical units can be used for collecting data (mostly spatial data at larger scales) as well as for aggregating or presenting data (at different scales for different purposes, for instance: at different statistical NUTS levels). Likewise administrative units the statistical units can be used to geo-reference data from different statistical fields, like demography and social statistics, economy, environment and natural resources.

Important feature types and attributes:

The definition in the Directive specifies the kinds of features relevant to demography: The definition includes the term "aggregated". Probably information in this theme does not refer to address level information, but aggregations presented as point based location may be relevant, e.g. of production activities in cities. Underneath is given examples of features. The most needed attribute is the unique ID, as this can be used for connecting attribute information. No thematic information should be part of data in this "statistical unit" theme.

administrative unit, e.g. from LAU2 level.

- Id

census districts

- Id

small area statistics "free" regionalisation

- Id

settlement – small settlement, village, block, township, town, city

- Id

Can also give population figures at other regional aggregations, e.g. on water catchment level, being done in assessments being part of WFD work.

Links and overlaps with other themes:

The datasets addressed in this theme may also be covered in other themes, either as overlapping geometry/ objects, or as a needed geometry for thematic presentations. Statistical units can be used as a basis for aggregation and presentation of choropleth maps for nearly any theme or sector-specific issue. The links given emphasis here are the most important ones linked mainly to the geometry of the statistical

Infrastructure for Spatial Information in Europe	Definition of Annex Themes and Scope		
DT DS v3.0	D2.3 Definition of Annex Themes and scope	2008-03-18	Page60 of 128

units.

- Administrative units; closely linked to this theme, as both are kinds of a broader package of administratively defined boundaries and regions. Statistical units may be composed of, or coincide with administrative units. According to the NUTS regulation, the overlap with administrative units is on purpose, and meant to distinguish zones where coherent decision power enables one to elaborate policies.
- Population distribution/demography; the theme also includes similar geographical objects as the theme "statistical units", however the demography theme also include a multitude of thematic attribute information, this is absent in the "statistical unit" theme. One could say that the demography theme for some kinds of information and aggregation borrow/is based on object types from the "statistical unit" and "administrative unit" themes.
- Area management/restriction/regulation zones and reporting units. These can be sector specific and certain management zones. These include major common operational spatial units such as fire, police, ambulance, coastguard etc. Of very high value both in the sectors own operations and in cross-sector emergency operations, e.g. at occasions of natural and technological hazards, accidents where health, economy or ecology is affected. Such sector/management zones are commonly used as a basis for aggregation of economic, production or services information, could also be health information or other socio-economic information. Usually not used for biological information. The theme could overlap with "statistical unit", and the boundary between them should be clarified. Probably the statistical unit system should be defined only to include units/systems made for a multipurpose use/ to be non-sector specific statistical unit system.
- Geographical grids: In many cases the geographical grid systems and grid cells functions as statistical units as statistical information is aggregated/displayed cell by cell, however as these are defined in a separate theme, they should not be included in the theme "statistical units".
- Human health and safety, the theme "statistical units" could be a basis component for aggregation and presentation of health related information.

Reference documents:

CSI-Piemonte: Descrizione della struttura del DB dello Stradario Unico della Regione Piemonte

International agreements on reporting of socio-economic statistics

Norwegian feature catalogue including a UML application schema for administrative and statistical units.
URL: <http://www.statkart.no/sosi/UMLfullmodell/ABAS/abas.htm> The model will be available in english spring 2008.

Open Geospatial Consortium: Candidate OpenGIS® CityGML Implementation Specification (City Geography Markup Language), OGC document no. 07-062", "International Alliance for Interoperability (IAI): Industry Foundation Classes 2x3

Regional statistics at EuroStat (NUTS regions, GISCO database)

Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 16 May 2003 on the establishment of a common classification system of territorial units for statistics (NUTS), OJ L 154, 21.06.2003, p.1

SIGMA-TER project (Italy): DBTI (DataBase Territoriale Integrato): modello dati.

Tandem project reports