A Statistical Geospatial Framework for the ESS

Preliminary reults from the GEOSTAT 3 project

Jerker Moström, Statistics Sweden
Niek van Leeuwen, Statistics Netherlands
Vilni Verner Holst Bloch, Statistics Norway
Anna Slawinska, Central Statistical Office of Poland

What to do?

"To develop and test a European version of the Global Statistical Geospatial Framework (GSGF) for the ESS, taking into account existing conditions, initiatives and European and national frameworks"

Why?

- To harmonise methods for the integration of statistical and geospatial information within the ESS

- To modernise the statistical system and increase efficiency and flexibility in terms of output

- To provide a better foundation for collaboration between NSIs and geospatial agencies in providing society with more and better data for evidence based decision-making

- The main drivers; the goal of a fully geocoded population census 2021 and provision of data for the UN SDG indicator framework

But there is already a global framework!

- The ESS-SGF builds on the 5 principles of the global framework but is to be less generic

- Specific regional conditions to build on:
  - INSPIRE > Legal framework for National Spatial Data Infrastructures
  - The European Statistical System (ESS) > Legal obligations and mechanisms for statistical data + funding opportunitites
  - EFGS > Voluntary collaboration and harmonisation for geospatial statistics
  - EuroGeographics > Voluntary collaboration for the development of the European Spatial Data Infrastructure
 - UN GGIM Europe > A very active regional committee!

Statistical Geospatial Framework
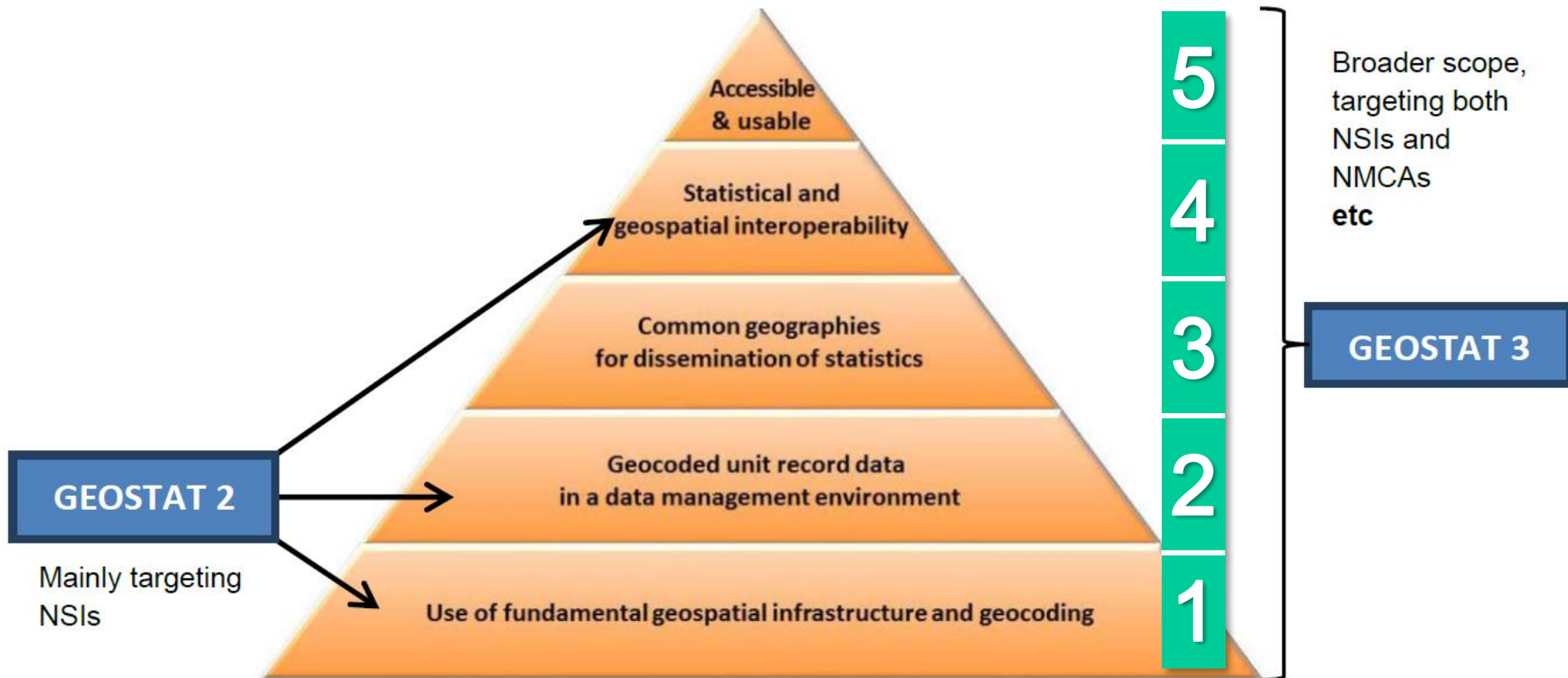
# Principle 1: Use of fundamental geospatial infrastructure and geocoding

- Build on data from National Spatial Data Infrastructures (INSPIRE)
- Use point-based location data for geocoding (GEOSTAT 2)
- If no point-based infrastructure exists, it needs to be set up!
- Development of addressing and geocoding services (new OGC standard)
- Cooperation supported by institutional arrangements

GAs   NSIs
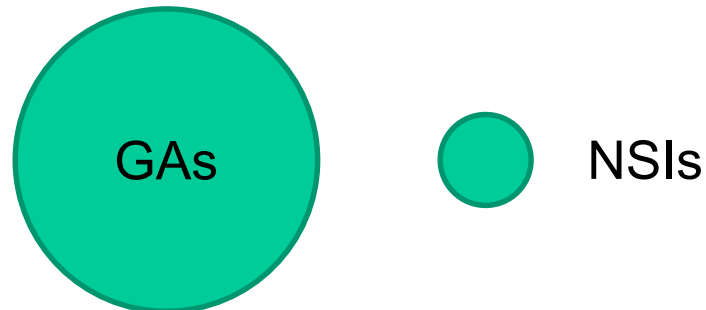
# Principle 2: Geocoded unit record data in a data management environment

- Statistical objects in unit record data correspond with spatial objects in location data

- Point-of-entry validation applied in data collection (special challenge for administrative data)

- Store location only once!

- Geocoding quality declaration at object level

- Consistent management of temporality of data

GAs ◯ NSIs
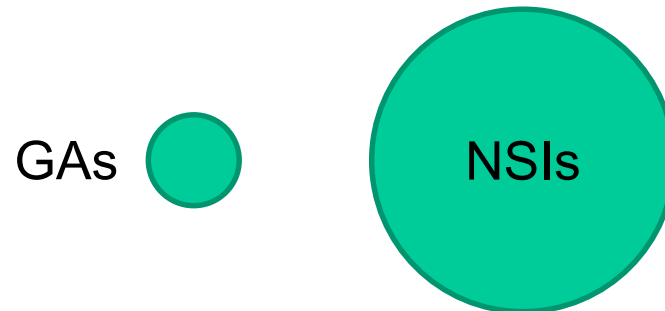
Principle 3: Common geographies for production and dissemination of statistics

- National statistical and administrative geographies
  - Open access, services, maintenance, coordination, scale & accuracy
- European statistical geographies
  - More efficient process for NUTS areas
- Statistical grids
  - European (INSPIRE)
  - National grid systems
  - Global (OGC Discrete Global Grid System)?

GAs

NSIs
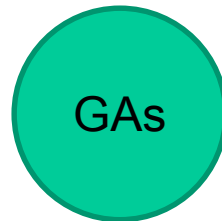
Principle 4: Statistical and geospatial interoperability – standards, processes

- Improve geospatial workflows within statistical production (GSBPM)

- Leave data at its source! (SDMX/ tabular data, OGC services/geospatial data)

- Machine-to-machine services for merging geographies and statistical data

- Linked data

NSIs

GAs

Principle 5: Accessible and usable geospatially enabled statistics

- Map services for pan-European data
- National portals and dissemination platforms
- Non-proprietary solutions for data access
- Privacy issues
- Data licensing
- Guidance on use and analysis

GAs

NSIs

Conclusions

- Work in porgress – final proposal by the end of 2018
- Testing phase during 2018 (SDG indicators and population grid)
- Experiences from testing will be reflected in final result
- Where desired and possible, the work on the ESS-SGF will be alingned with the work on the global SGF