UN-GGIM 8 – Side Event

UN Expert Group on the Integration of Statistical and Geospatial Information (EG-ISGI) meeting

➢ Principle 2

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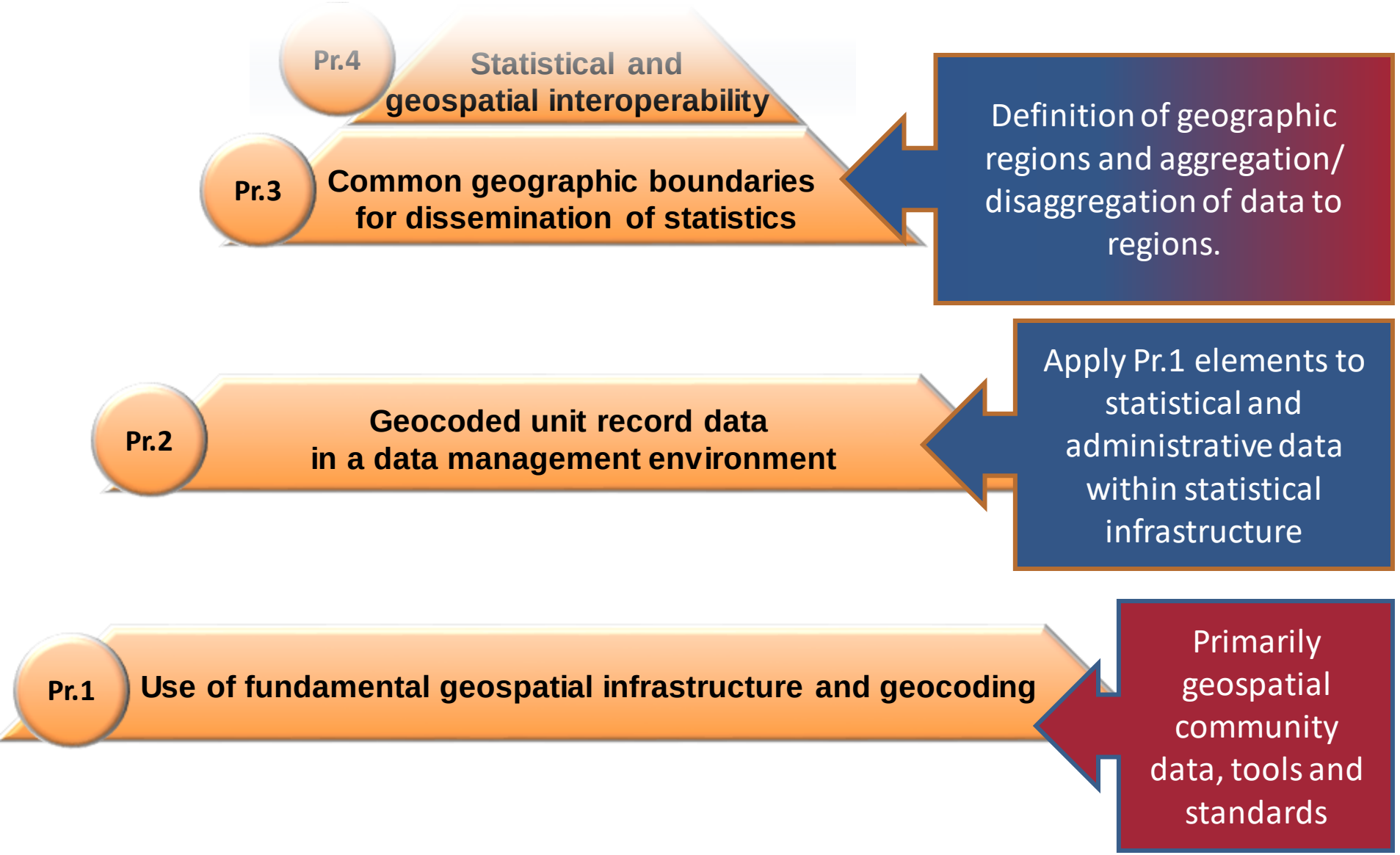
Principle 2 - outline

The Global Framework recommends that the linkage of a geocode for each statistical unit record occur within a data management environment, to:

- allow these statistics to be applied to any geographic context, including future changes to geographies
- enable data linkage processes using a range of sources.

Principle 2 – fit with other principles



Principle 1 & 2 - clarification

Principle 1 – focusses on infrastructure

- Provision of addressing standards and infrastructure, such as address registers

➢ Ensures geocoding infrastructure (systems and tools) is as standardised as possible

Principle 2 – geocoding of unit records

- Application of geocoding infrastructure to unit records

➢ Ensures statistical infrastructure can use geospatial infrastructure and standards for geocoding

Principle 2 – Objectives

1. Effective implementation of geospatial and geocoding infrastructure.
2. Effective data management of statistical and geospatial data objects.
3. Required protection of privacy and secrecy.
4. Storage of consistent and interpretable geocodes, preferably linked from a point of truth.
5. Simplified geographic aggregation of data.
6. Facilitate flexible use of geocoded unit records in future analysis and visualisation.

Principle 2 – relationship to others

Principle 1:

– Draw on fundamental or national geospatial data and infrastructure and geocoding capabilities

Principle 3:

– Definition of common geographic regions for the dissemination of data and associated metadata and data.

– Methods for aggregation and disaggregation of data to regions.

Principle 2 – Inputs

Standards, frameworks, infrastructure, and best practice.

1. Agreed statistical and geospatial data management frameworks.
2. Addressing and/or location reporting standards and infrastructure.
3. Geocoding tools and metadata standards.
4. Promotion of point-of-entry address validation and geocoding.

Communities

Pr.1

Pr.1

Pr.1

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Principle 2 – Inputs

Standards, frameworks, infrastructure, and best practice (cont.)

5. National privacy laws and/or agreed privacy standards (UNFPOS).
6. Agreed geographic classifications and infrastructure.
7. Global or national/regional Geodetic Reference Frames.

Stats Community

Pr.3

Geo Community

Principle 2 – External dependencies

Statistical – GSBPM/GSIM & Country Implementation Case Studies

Does not adequately incorporate geospatial or no current country applications

GEOSTAT3 examining aspects

Project current underway – due to finish early next year (2019) – need to evaluate international applicability.

Geospatial – OGC/ISO Data Management Standards

Need to evaluate geospatial data management material

OGC Geocoding standards

Current project on geocoding API standards will hopefully also address geocoding metadata

Principle 2 – Community Roles

Geospatial community

- Provision of fundamental geospatial data and infrastructure, and geocoding capabilities
- Global or national/regional Geodetic Reference Frames and implementations
- Geospatial data management frameworks
- Geospatial data standards, particularly geocoding metadata specifications
- Supporting common geographic boundaries

Principle 2 – Community Roles

Statistical Community

- National and international privacy protocols (e.g. UN Fundamental Principles of Official Statistics)
- Statistical data management frameworks
- Supporting common geographic boundaries
- Implementation of principles to statistical and administrative unit record data and their storage and management

Administrative Data Community

- Implementation of principles to administrative unit record data and their storage and management

Note: differences between community roles may occur at the national level

Principle 2 – Priority Materials

1. Geocoding guidance material

2. Best practice data and metadata management

3. Guidance on protecting unit record privacy and secrecy

Principle 2 – Materials

Geocoding guidance material

A. Application of addressing/location reference standards.

B. Geocoding methods.
   - Direct coordinate capture
   - Address and location coding (incl. POE).
   - Geographic correspondences and allocations.

C. Data and metadata management.

Principle 2 – Materials

Australian Bureau of Statistics

Statistical Spatial Framework

SSF Guidance Material – Geocoding Unit Record Data Using Address and Location

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Statistical Commission

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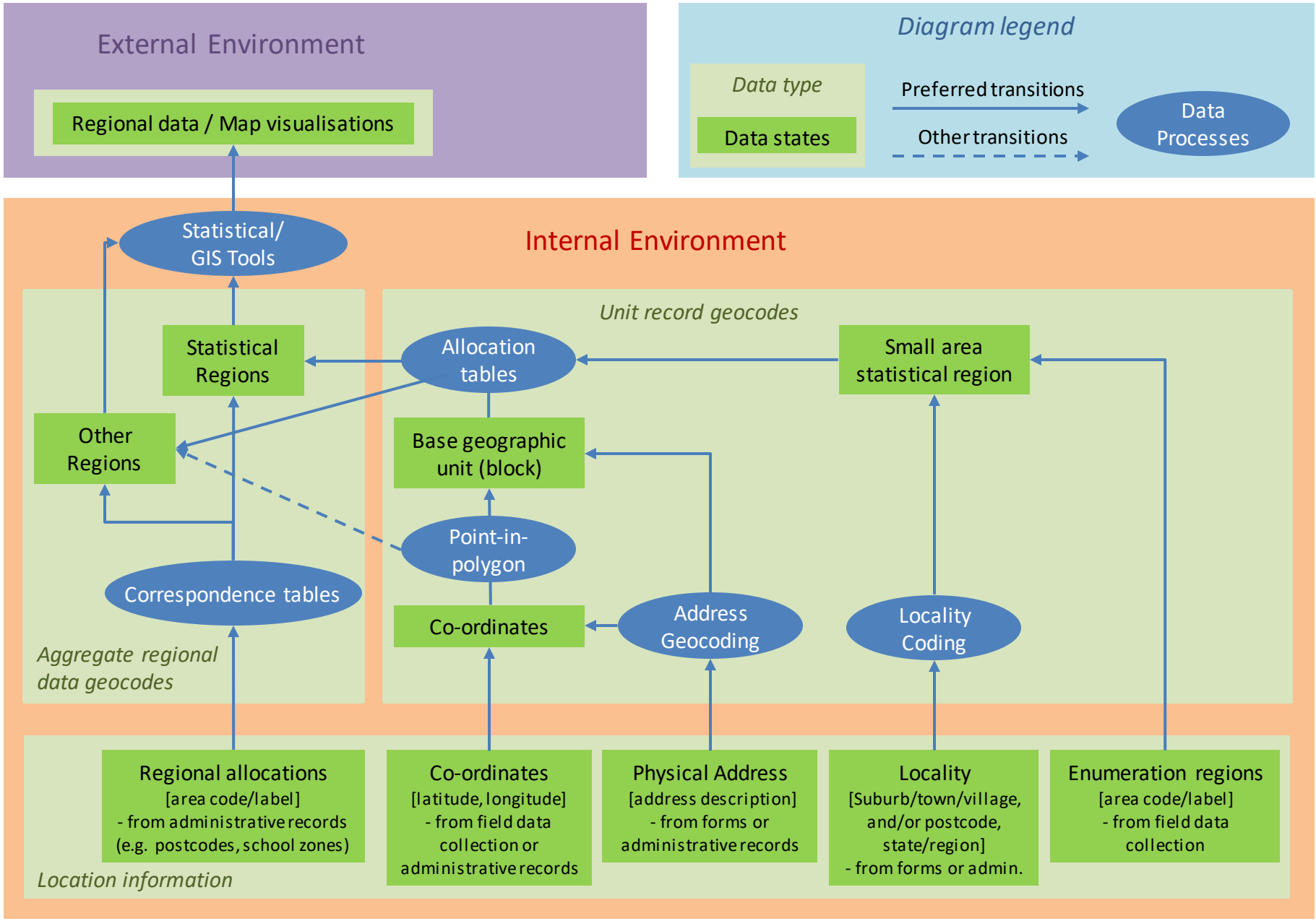
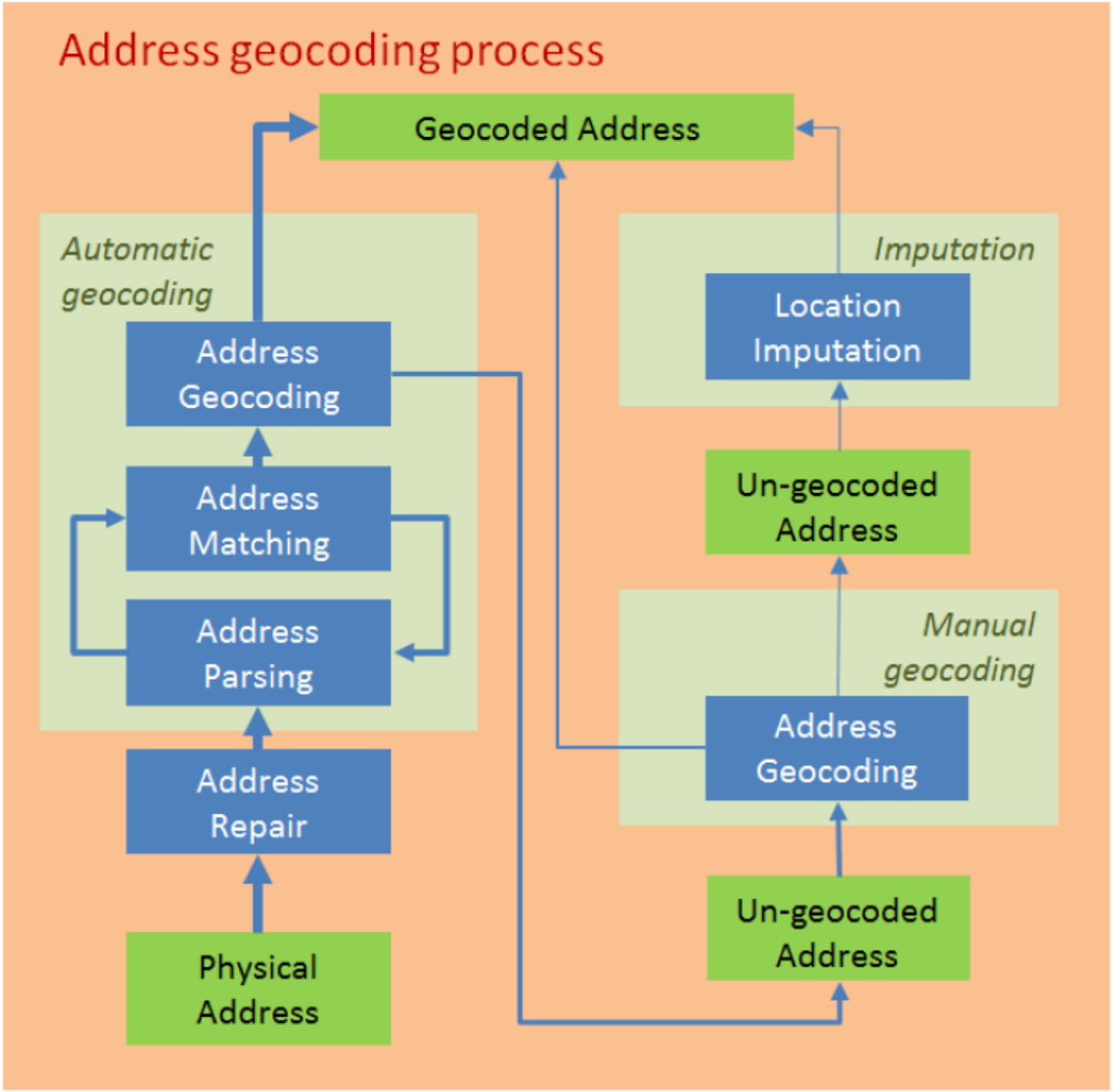
Location and regional information pathways



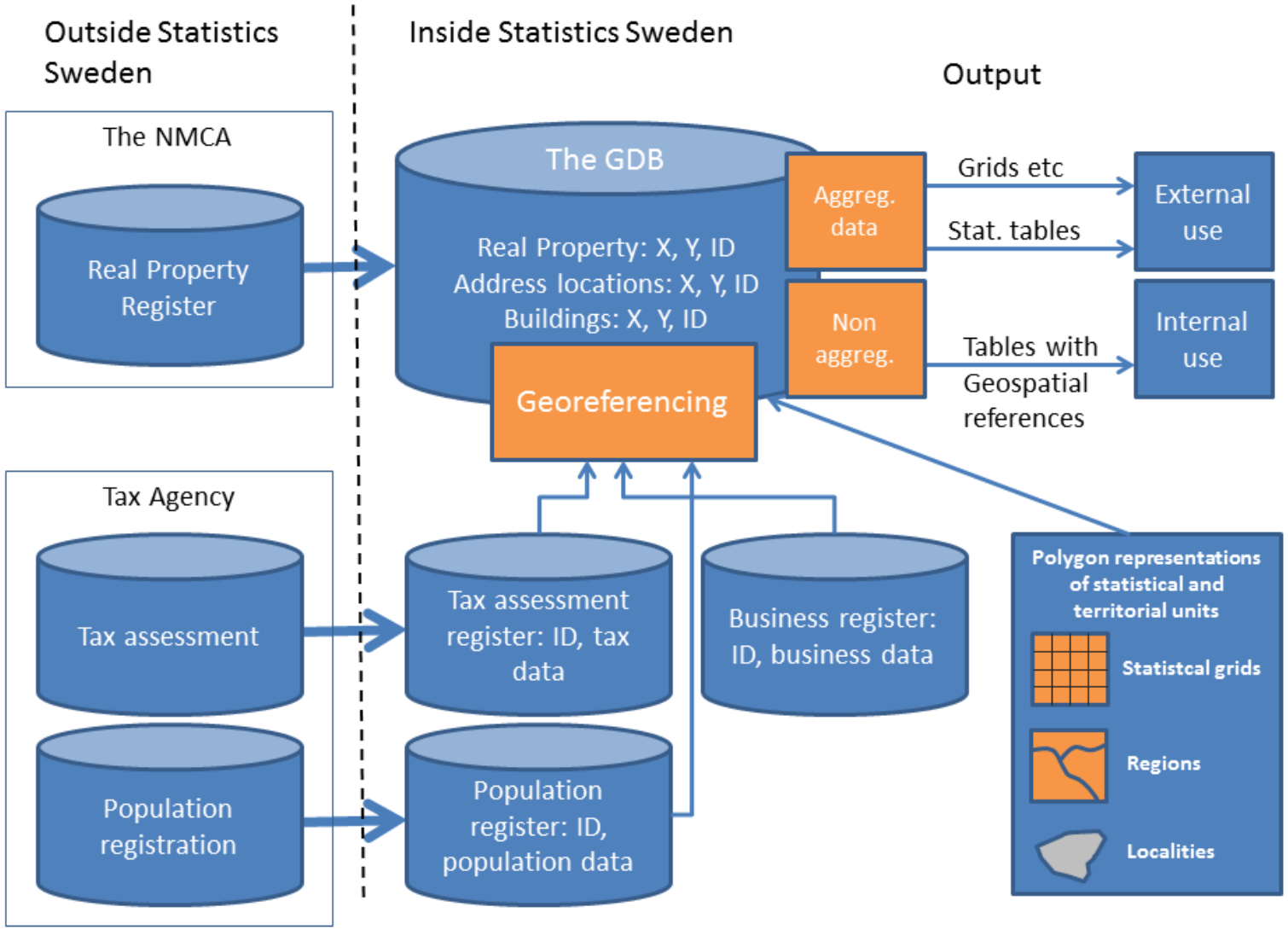

Address geocoding process
Geocoded Address
Automatic geocoding
Address Geocoding
Address Matching
Address Parsing
Address Repair
Physical Address
Imputation
Location Imputation
Un-geocoded Address
Manual geocoding
Address Geocoding
Un-geocoded Address

Principle 2 – Materials

1. Geocoding guidance material

2. Best practice data and metadata management
   A. Statistical – GSBPM/GSIM & Case Studies
      - GEOSTAT3 examining aspects
   B. Geospatial – OGC/ISO Standards
      - OGC Geocoding standards

Statistics Sweden geo data environment



Principle 2 – Materials

1. Geocoding guidance material

2. Best practice data and metadata management

3. Guidance on protecting unit record privacy and secrecy

   A. Reference existing best practice – incorporate address and location aspects

Principle 2 – Concepts

Need to develop list of concepts:

- Geocoding
- Geocoding services
- Point-of-entry address validation
- Georeferencing
- Standards/Framework/Models
- Geographies *(related terms - statistical and administrative geographies, statistical regions, statistical units, regional divisions, statistical areas, functional areas)*

Principle 2 – Future plans

1. Collect country practices for geocoding, data management and privacy protection.

2. Geocoding guidance material
   – develop document from best practice

3. Data and metadata management
   – monitor and contribute to international developments: UNECE-HLG, OGC, GEOSTAT3

4. Guidance on protecting unit record privacy and secrecy
   – identify documentation of existing best practice