



Linking data about people and businesses to a place or geographic location, and resulting in an improved understanding of social, economic, and environmental issues



# The Global Statistical Geospatial Framework

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Namibia



Geospatially enabled statistics will serve to strengthen the analysis of data to support informed, data-driven, evidence-based decision-making

<https://unstats.un.org/wiki/display/GSGF>



United Nations Expert Group on the Integration of Statistical and Geospatial Information



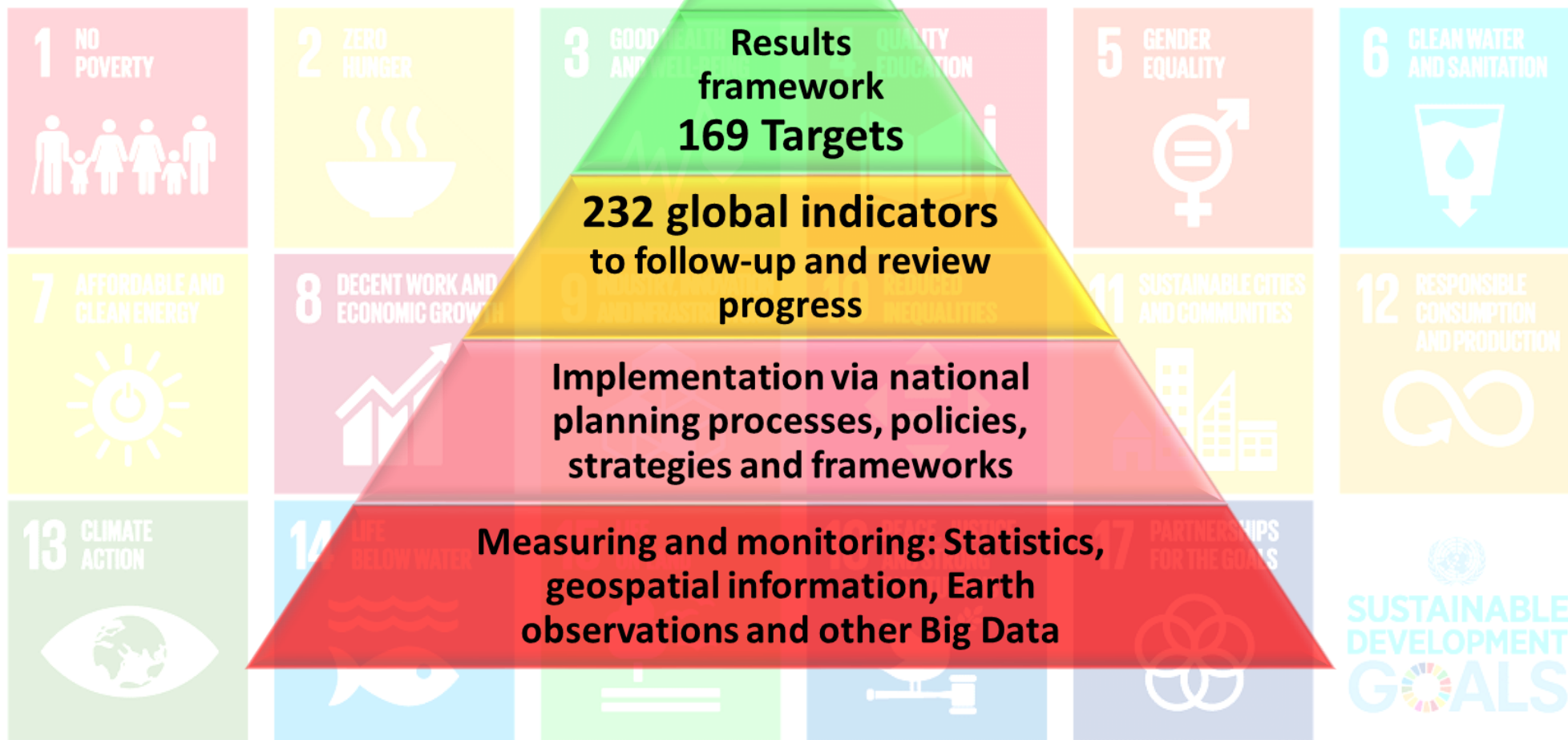
# SUSTAINABLE DEVELOPMENT GOALS

<b>1</b> NO POVERTY 	<b>2</b> ZERO HUNGER 	<b>3</b> GOOD HEALTH AND WELL-BEING 	<b>4</b> QUALITY EDUCATION 	<b>5</b> GENDER EQUALITY 	<b>6</b> CLEAN WATER AND SANITATION 
<b>7</b> AFFORDABLE AND CLEAN ENERGY 	<b>8</b> DECENT WORK AND ECONOMIC GROWTH 	<b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE 	<b>10</b> REDUCED INEQUALITIES 	<b>11</b> SUSTAINABLE CITIES AND COMMUNITIES 	<b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION 
<b>13</b> CLIMATE ACTION 	<b>14</b> LIFE BELOW WATER 	<b>15</b> LIFE ON LAND 	<b>16</b> PEACE, JUSTICE AND STRONG INSTITUTIONS 	<b>17</b> PARTNERSHIPS FOR THE GOALS 	 <b>SUSTAINABLE DEVELOPMENT GOALS</b>





# SUSTAINABLE DEVELOPMENT GOALS



# Leave No One Behind...

- The overarching principle of the 2030 Agenda for Sustainable Development is that **no one should be left behind**.
- *"Data which is high quality, accessible, timely, reliable and disaggregated by income, sex, age, race, ethnicity, migration status, disability and geographic location and other characteristics relevant in the national contexts" is called for (A/RES/70/1).*
- To support implementation at all levels, the 2030 Agenda included the need to exploit the contribution to be made by a wide range of data, including Earth observations and geospatial information.
- To leave no one behind... and reach those furthest behind first we need to know **where people are being left behind** and provide decision and policy makers with **usable, integrable data for informed, data-driven, evidence-based decision-making**



# The Challenge

**“There is an urgent need for a mechanism, such as a global statistical-spatial framework, to facilitate consistent production and integration approaches for geo-statistical information.”**

The Global Forum on the Integration of Statistical and Geospatial Information, **New York 2014**

**“... develop the Global Statistical Geospatial Framework as a common method for geospatially enabling statistical and administrative data to ensure that data from a range of sources can be integrated based on location and can be integrated with other geospatial information.”**

UN-GGIM, Committee of Experts, **New York 2015**



# The Need

**Geospatially enabled statistics will serve to strengthen the analysis of data to support informed, data-driven, evidence-based decision-making...**

- The demand for data in the SDGs is immense...**
- We need to Geocode statistical data**
- We need the ability to create, analyse, and compare local geographies at a finer scale**
- We need to integrate data when it is available – especially if traditional sources of production are lack the capacity to produce data**



## The integration of statistical and geospatial information — a call for political action in Europe

2019



## The power of data integration

### Example 1

The third goal of the SDGs is addressing health, promoting well-being for all at all ages. Fully understanding health issues requires both geospatial and statistical data from official sources. In France, Asbestos emitting sites and persons suffering from DO-Mesotheliome - an illness caused by Asbestos - were located and the correlation between the location, duration of exposure and occurrence of DO-Mesotheliome according to the duration of exposure was established. This information helps to identify high risk areas and persons and take preventive action.

Today, citizens, administrations and businesses already take many decisions based on data integration. In particular, administrations and politicians rely on trustworthy information from official and other reliable sources to draft impact assessments and support the communication of policies (see Examples).

### Example 2

In many daily life decisions, data integration supports public, economic and also private choices. In Germany, a study combined the road network, the location of schools and the composition of households to calculate the distance between primary schools and households with children. The results are not only important for families' decisions on where to live, but also to support long-term planning processes and inform political decision-makers on school planning.

They all combine consciously, or sometimes unconsciously, statistical (What?) and geospatial information (Where?) to obtain an answer about "Why?", "How much?" and "When?". This is what we call data integration.



eu

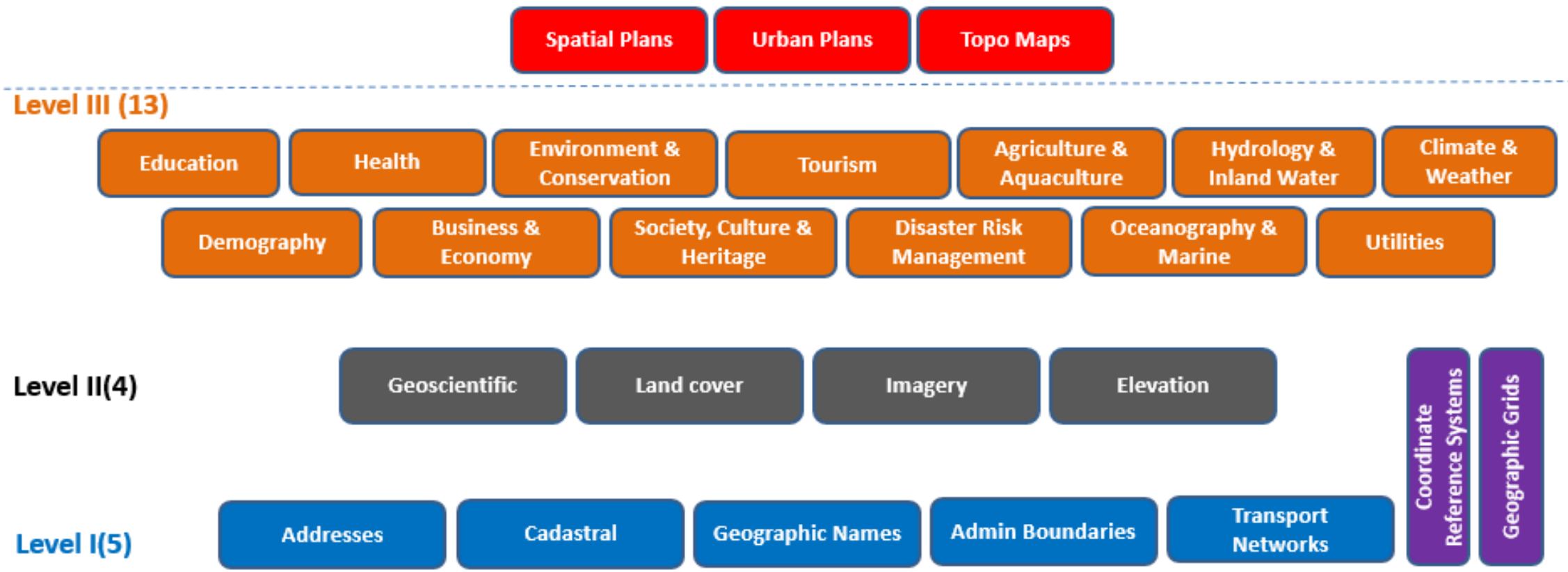


# Namibia Country Example

- 2017 included the GSGF into the Strategic Plan
  - Integration of statistical and geospatial information (*Statistics Act, National Spatial Data Infrastructure, addresses gazetted as a fundamental data theme*)
  - Geographic location a component of the census questionnaire
  - Use of common geographies
  - **Leave No-One Behind** to be gazetted as national standard (to include geographic location)



# GSGF Principle 1: Use of fundamental geospatial infrastructure and geocoding (NSDI Namibia)



22 x Main Fundamental Data Themes



# Linking people and businesses



Namibia Statistics Agency

Select by Region

Zambezi

Select by Constituency

Katima Mulilo Urban

Select by EA

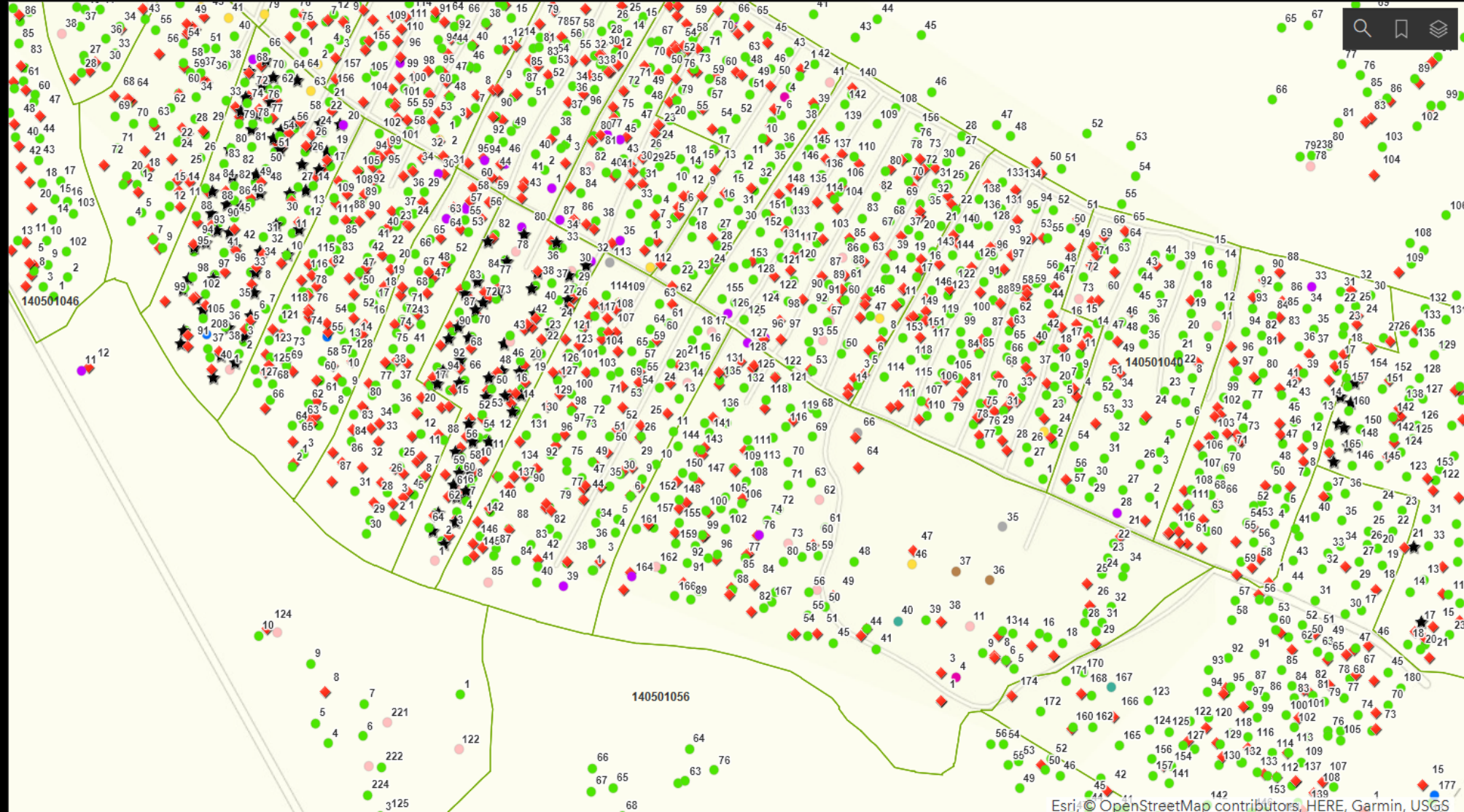
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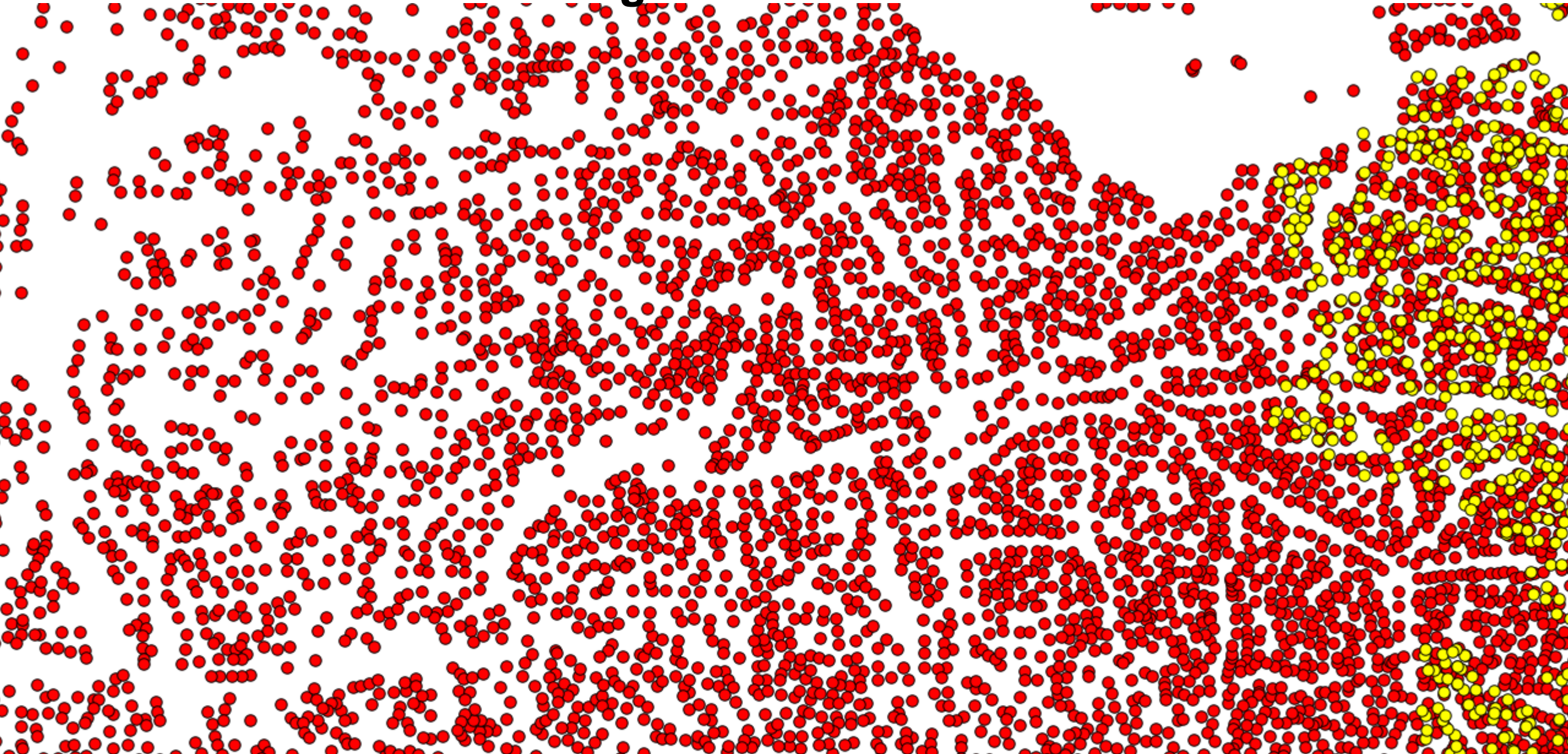
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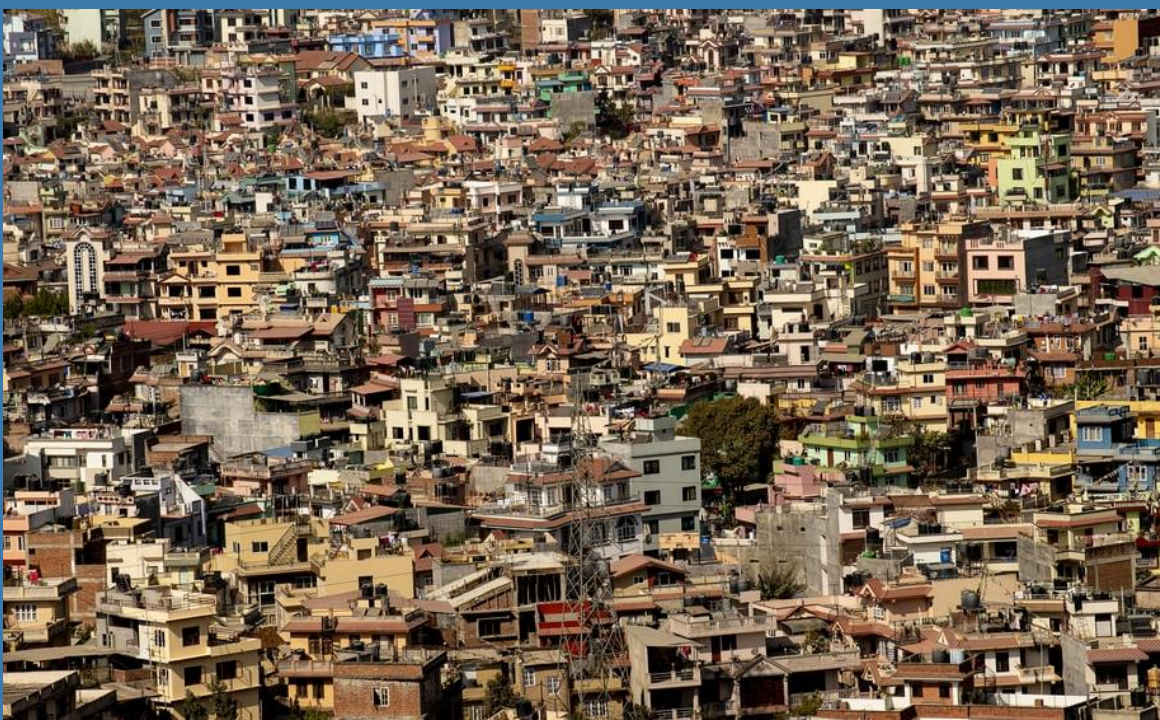
Select by Status

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# Principle 2: Households geocoded unit record data in a data management environment





**No one left behind...**

**Reaching those furthest  
behind first**

# PRINCIPLES

Accessible & usable

Statistical and geospatial interoperability

Common geographies for dissemination of statistics

Geocoded unit record data in a data management environment

Use of fundamental geospatial infrastructure and geocoding

# KEY ELEMENTS

Standards and Good Practices

National Laws and Policy

Technical Infrastructure

Institutional Collaboration

# INPUT

Geospatial

- Fundamental data
- Supplementary data
- New data sources

Statistical

- Censuses
- Surveys
- Administrative data records
- Big data and other sources

# OUTPUT

Integration

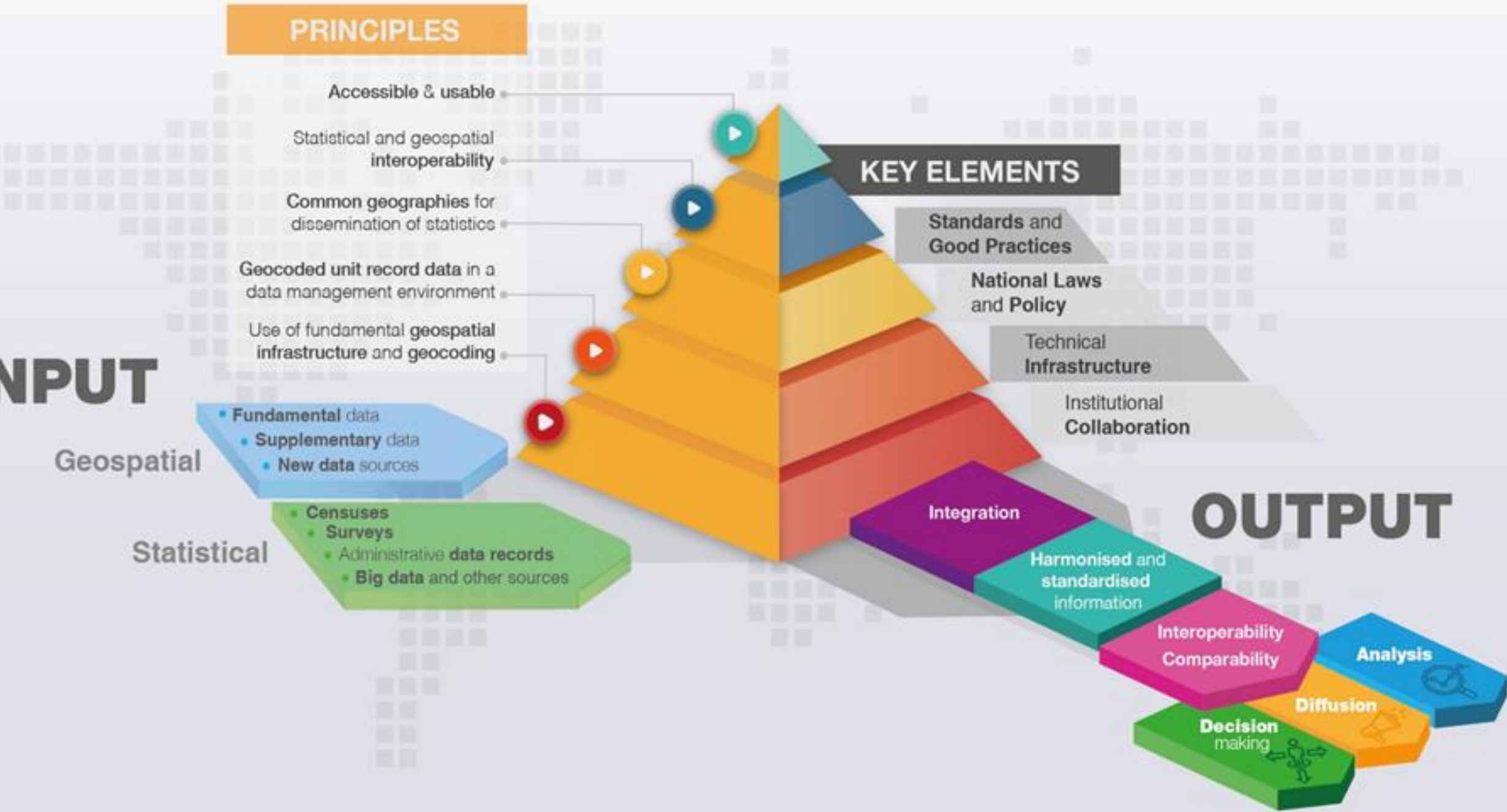
Harmonised and standardised information

Interoperability Comparability

Analysis

Diffusion

Decision making



The Global Statistical Geospatial Framework (GSGF) facilitates the integration of statistical and geospatial information. A Framework for the world, the GSGF enables a range of data to be integrated from both statistical and geospatial communities and, through the application of its five Principles and supporting key elements, permits the production of harmonised and standardised geospatially enabled statistical data. The resulting data can then be integrated with statistical, geospatial, and other information to inform and facilitate data-driven and evidence-based decision making to support local, sub-national, national, regional, and global development priorities and agendas, such as the 2020 Round of Population and Housing Censuses and the 2030 Agenda for Sustainable Development.

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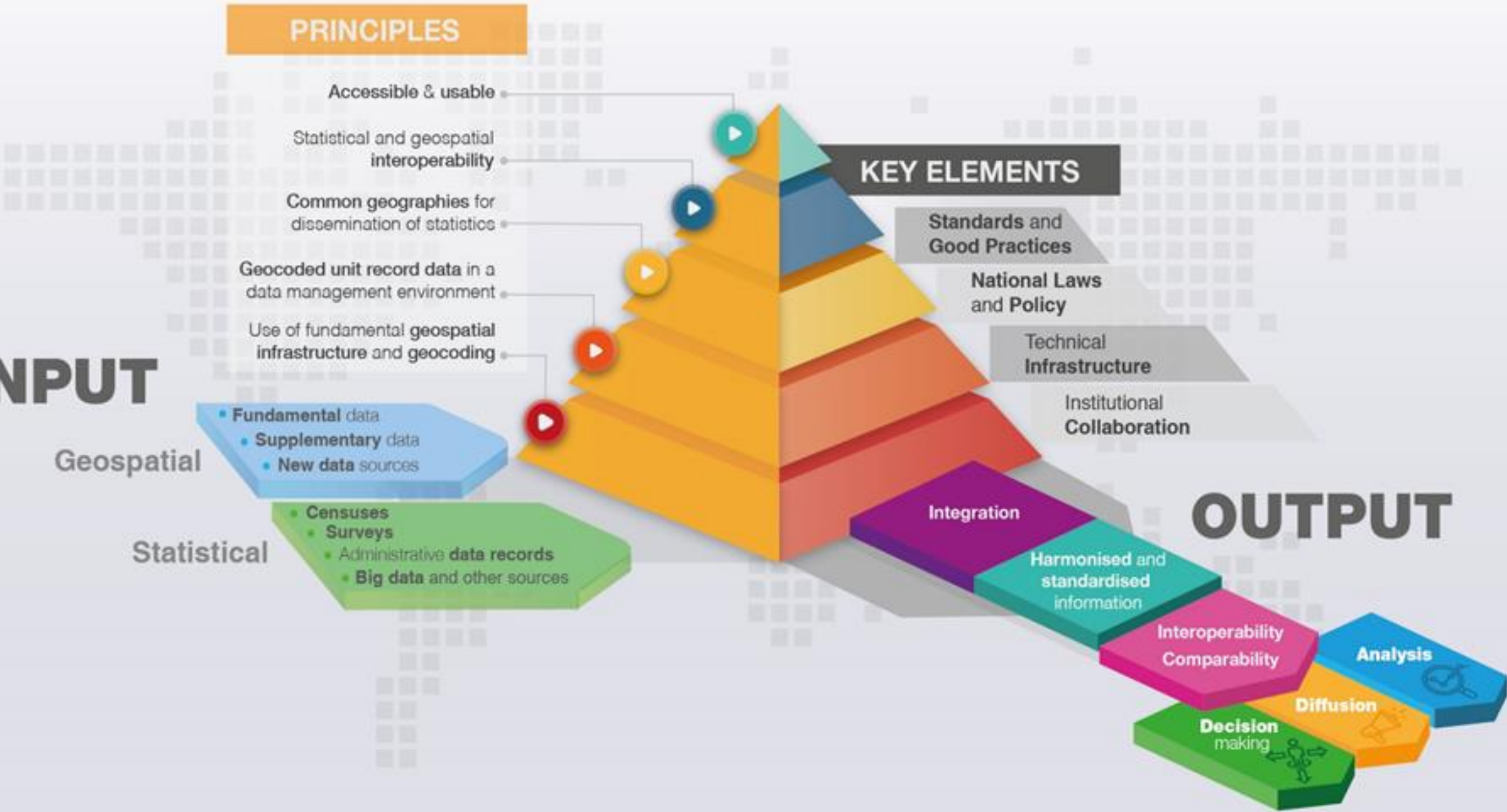
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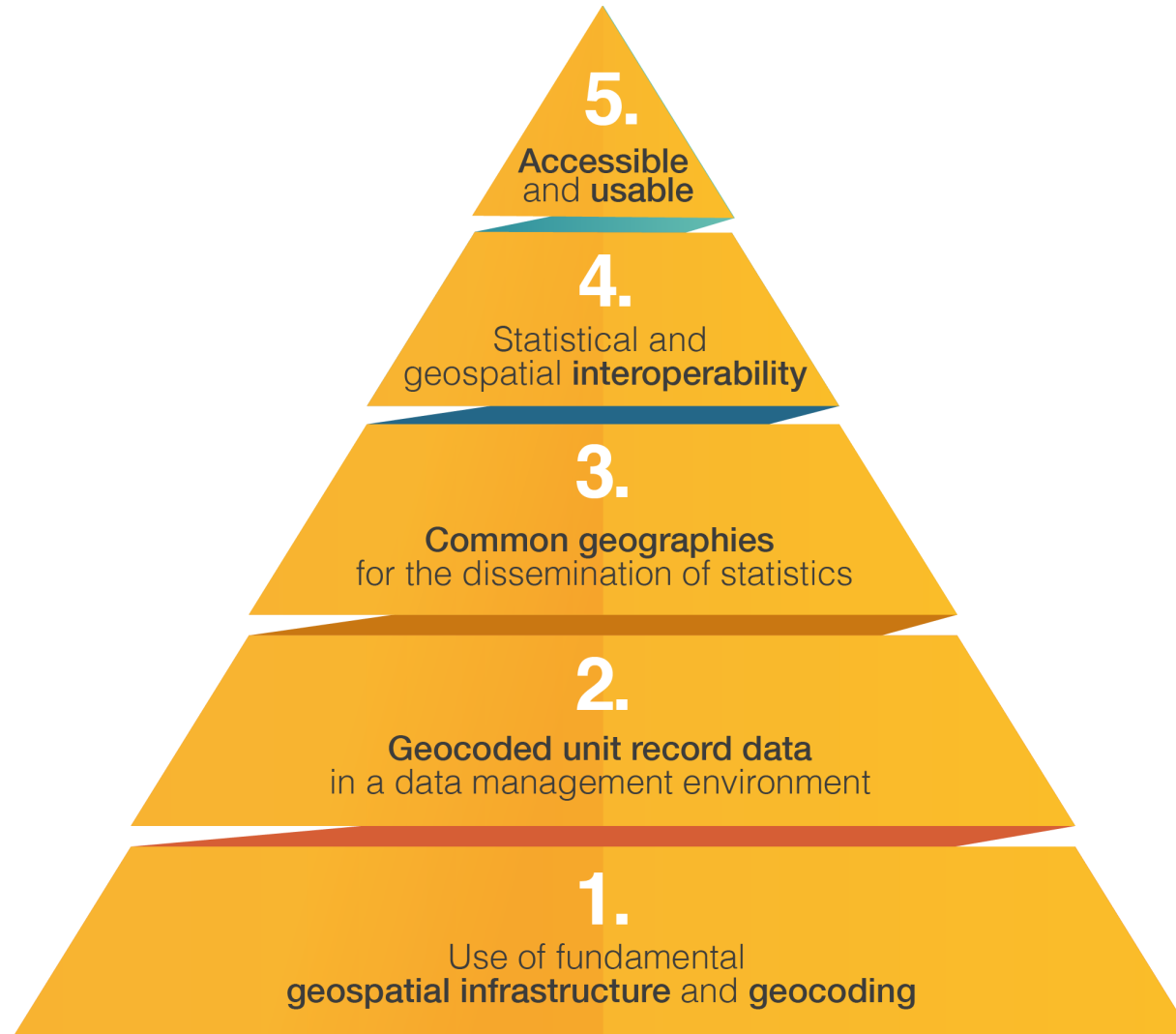
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Statistical

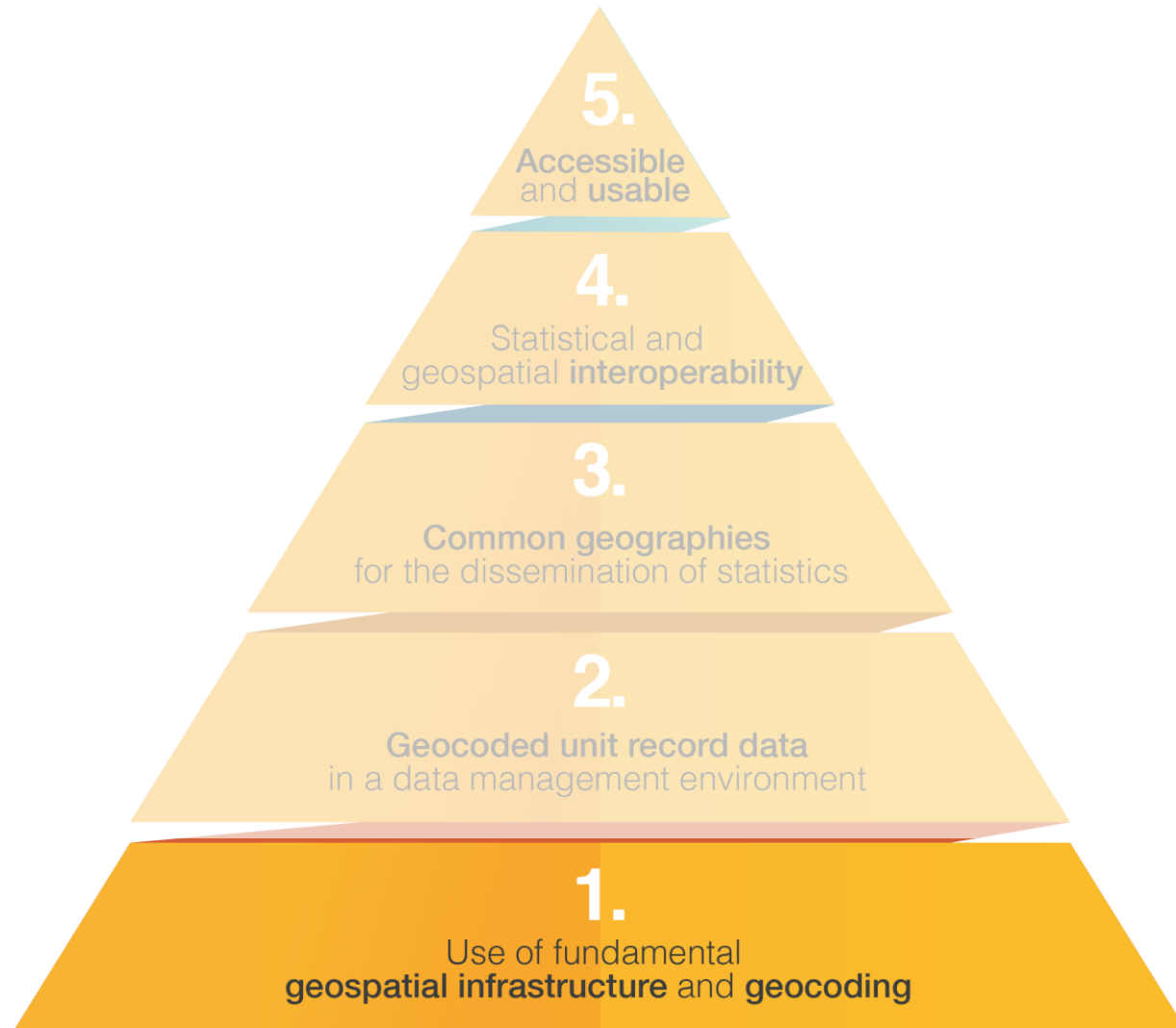
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# The Five Principles



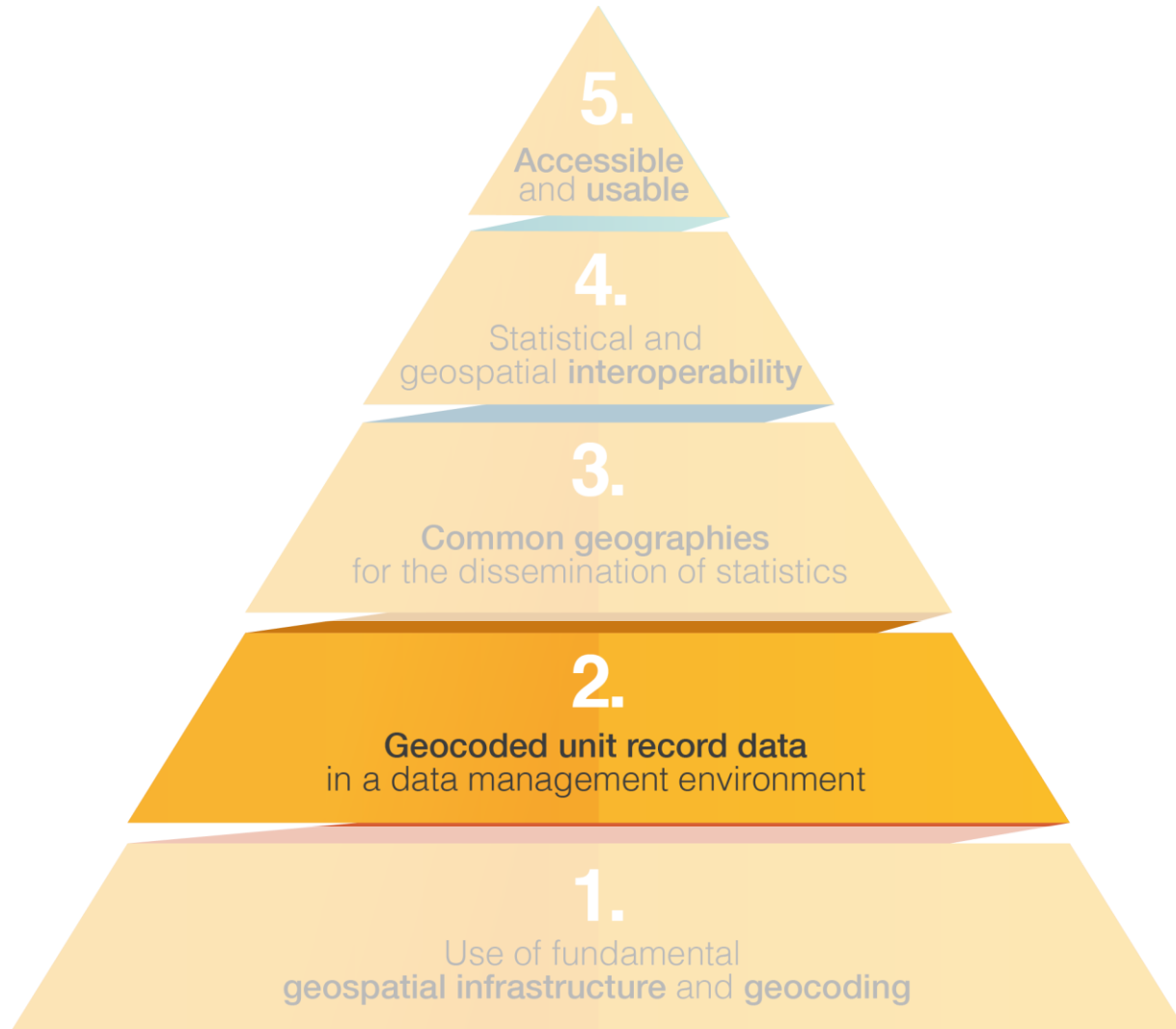
# 1. Geospatial Infrastructure and Geocoding



Creating infrastructure that enables the implementation and socialisation of the GSGF.

Creation of high-quality, standardised location references such as a physical address, property or building identifiers, or other location description, and ensures the accurate assignment of coordinates and standard grid references

## 2. Geocoding

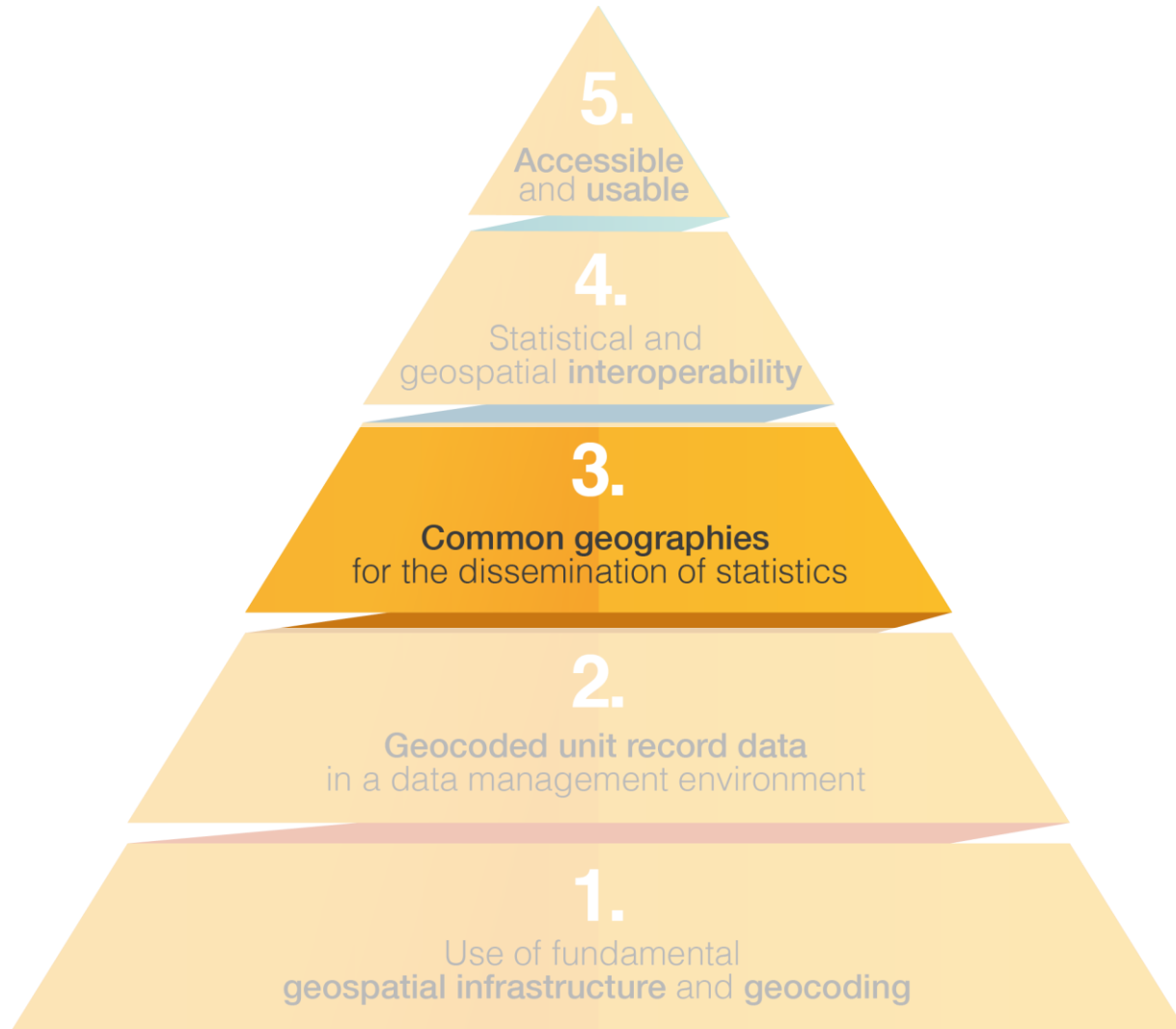


The linkage between a geographical point location/boundary and statistical records

Necessary to spatially locate statistical records to a high degree of accuracy and the foundation of aggregation

Support integration or linkage of data from other data sources and mitigate challenges that arise with new geographies or changes in existing geographies

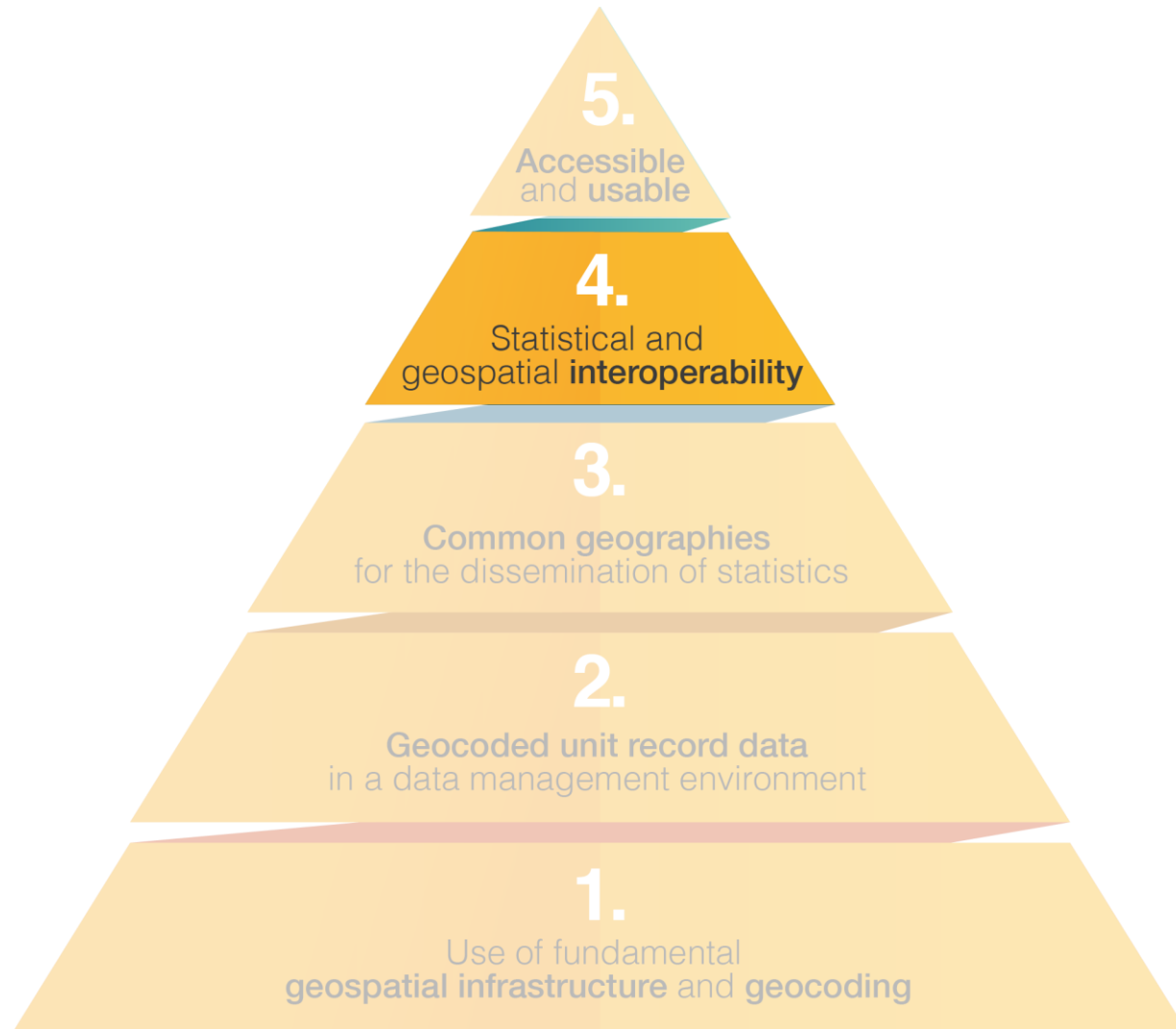
# 3. Common Geographies



## Essential for comparability

A common set of geographies ensures that statistical data is geospatially enabled in a consistent manner and is capable of being integrated at the aggregate level; and also ensures that users can discover, access, integrate, analyse, and visualise statistical information seamlessly into geographies of interest.

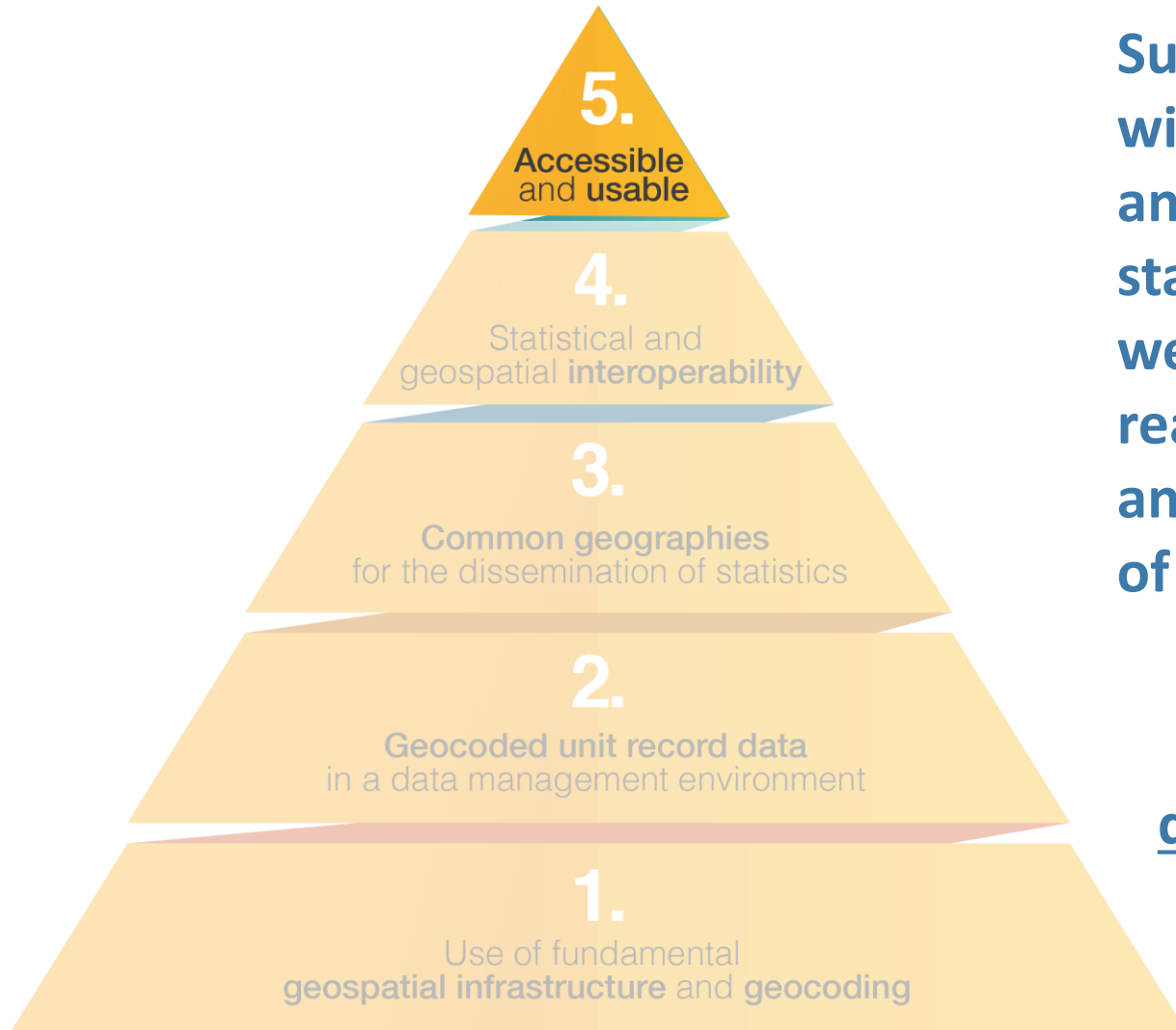
# 4. Interoperability



Enable greater standardisation and interoperability of data which will lead to improved efficiency and simplification in the creation, discovery, integration, and use of geospatially enabled statistics and geospatial data

Increase the potential application of a larger range of data and technologies, and thereby enable a wider range of information to be available and accessible for use in decision making

# 5. Accessible and Usable Data



Support data custodians to release data with confidence, improve the discovery and access of geospatially enabled statistics (particularly through promoting web services to provide machine readable and dynamic linkage to data), and to support analysis and evaluation of data in decision making.

Enable the use of data for informed, data-driven, evidence-based decision-making

# OUTPUT

Integration

Harmonised and  
standardised  
information

Interoperability  
Comparability

Analysis

Diffusion

Decision  
making



# We are not alone

GSGF requires the availability of data that is geocoded as a fundamental component.

Countries are urged to consider how to take advantage of novel and emerging technologies and methods to ensure the production and use of geospatially enabled statistics

**17** PARTNERSHIPS  
FOR THE GOALS



Implementing the GSGF will be a journey for all countries, regardless of the starting point. Many will need assistance from their neighbours, from within their region and from those that have already made progress in implementation

