GeoZone – ISO course
International standard for geographic information
Chapter 2.

Istituto Zooprofilattico Sperimentale delle Venezie

ISO 19000 series of standard

- Standards that specify the infrastructure for geospatial standardisation

- Standards that describe data models for geographic information

- Standards for geographic information management

- Standards for geographic information services

Open Geospatial Consortium (OGC)

An international industry consortium of more than 300 companies, government agencies, and universities participating in a consensus process to develop publicly available specifications.

OGC — Making location count. Geography Markup Language

ISO 19136 – Geography Markup Language (GML)

Profile

A choice of a subset of clauses, classes, options, and parameters of ISO standards needed to support the use of a given application.

Simple

Selection of options from just one 19000 ISO standard

Class 1

Entirely from the 19000 series ISO standards

Complex

Selection of elements from several 19000 ISO standards

Class 2

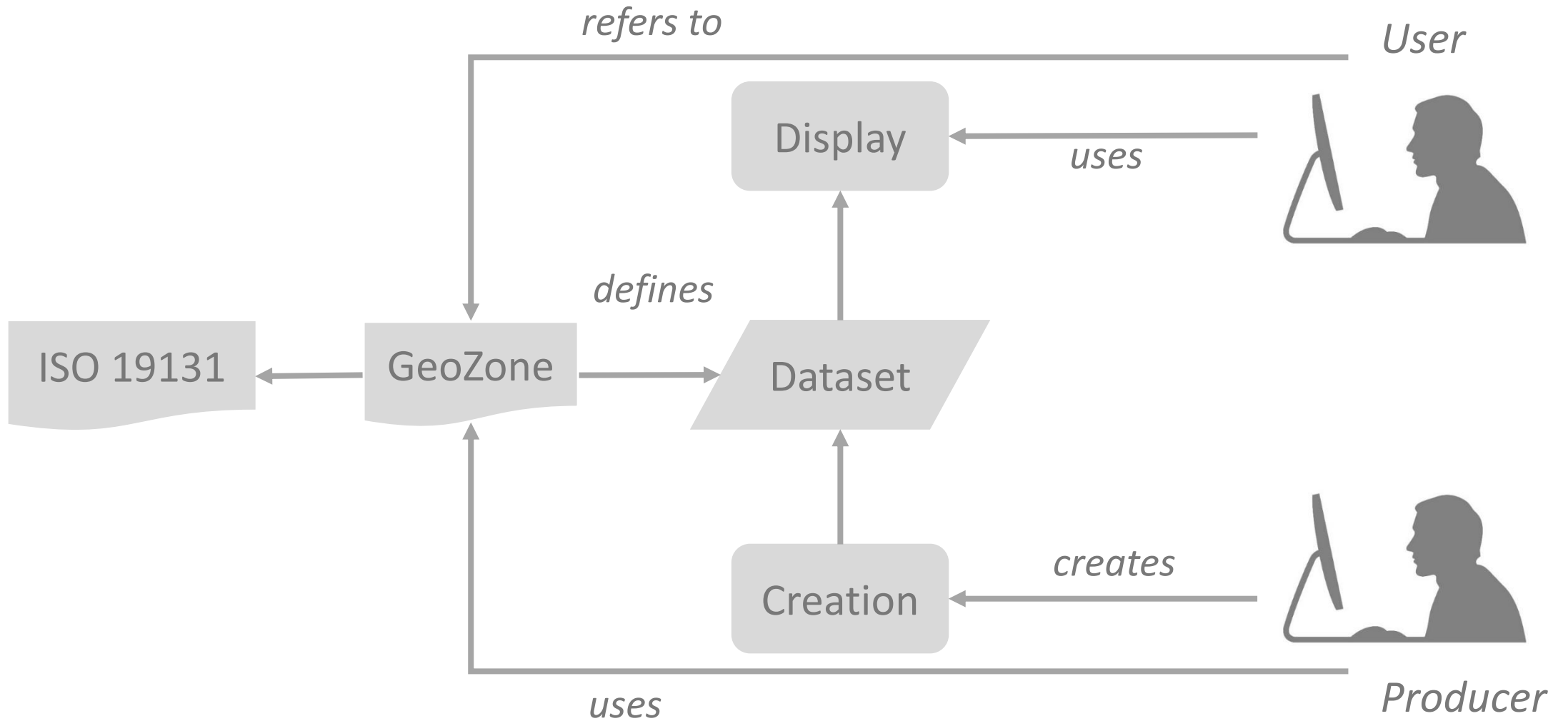19000 series + non-ISO geographic information

Data Product Specification

It characterizes a geospatial data product

It includes information on :

> **data product identification**

> **data content and structure**

> **reference systems**

> **data quality aspects**

> **data capture**

> **maintenance**

> **delivery**

> **metadata**

The main reason for creating a data product specification is to define the characteristics of a newly developed data product
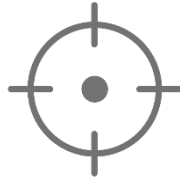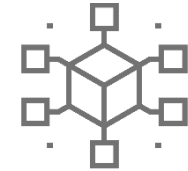
GeoZone and ISO 19131

GeoZone clauses

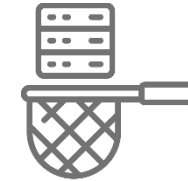Overview

Specification scopes

Data content and structure

Reference systems

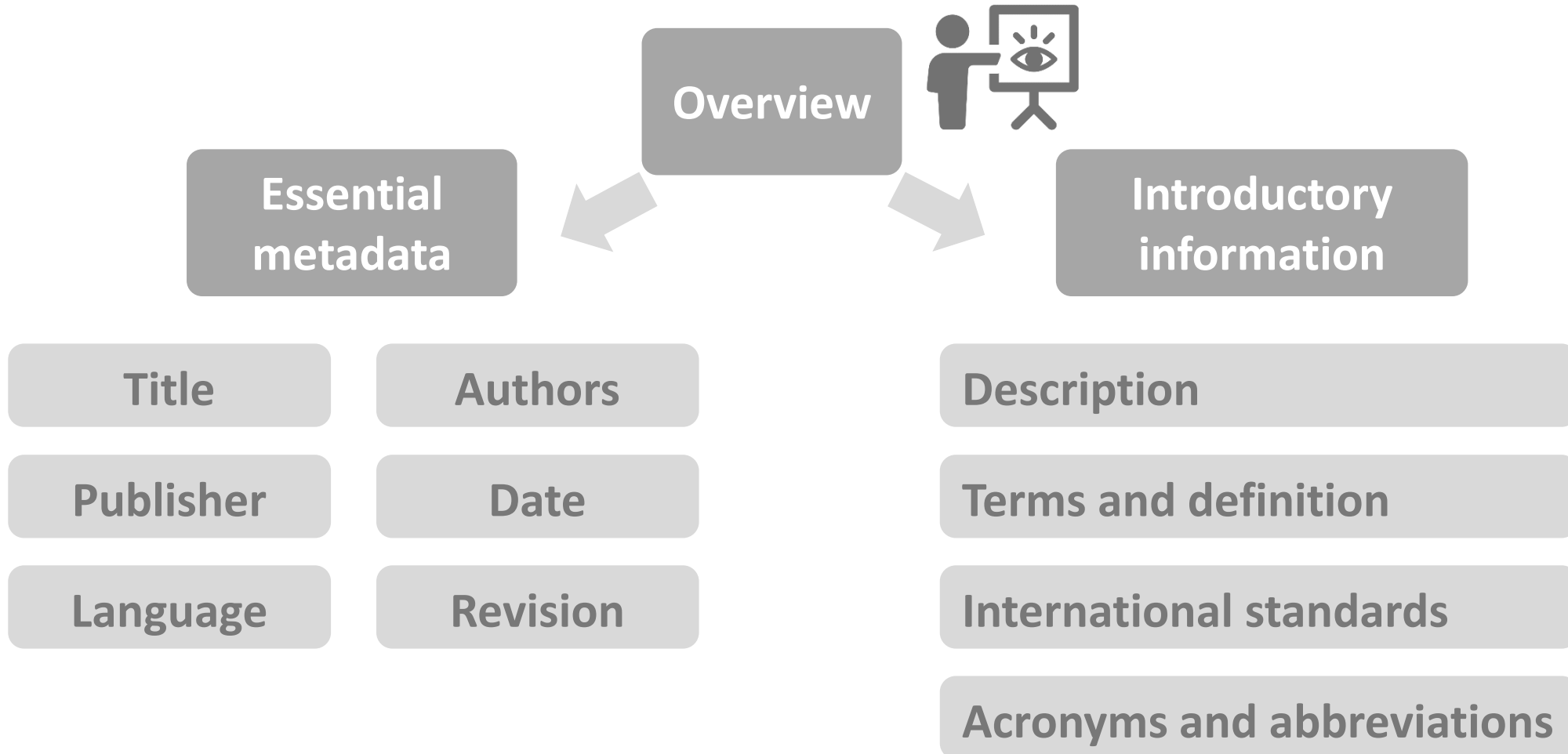Data quality

Data capture

Portrayal

Data product delivery

Metadata

Additional information: use cases and a data supply chain

Overview

It provides the general introductory information on the data product along with product specification essential metadata.

Overview

Essential metadata

Introductory information

Title	Authors
Publisher	Date
Language	Revision

Description

Terms and definition

International standards

Acronyms and abbreviations

Specification Scope

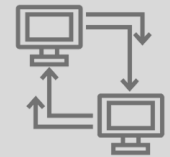It defines the requirements for producing or acquiring *zones* geospatial data.

GeoZone provides a set of specifications to assist OIE Member States in harmonising:

- the production or acquisition of geospatial data related to a *zone*

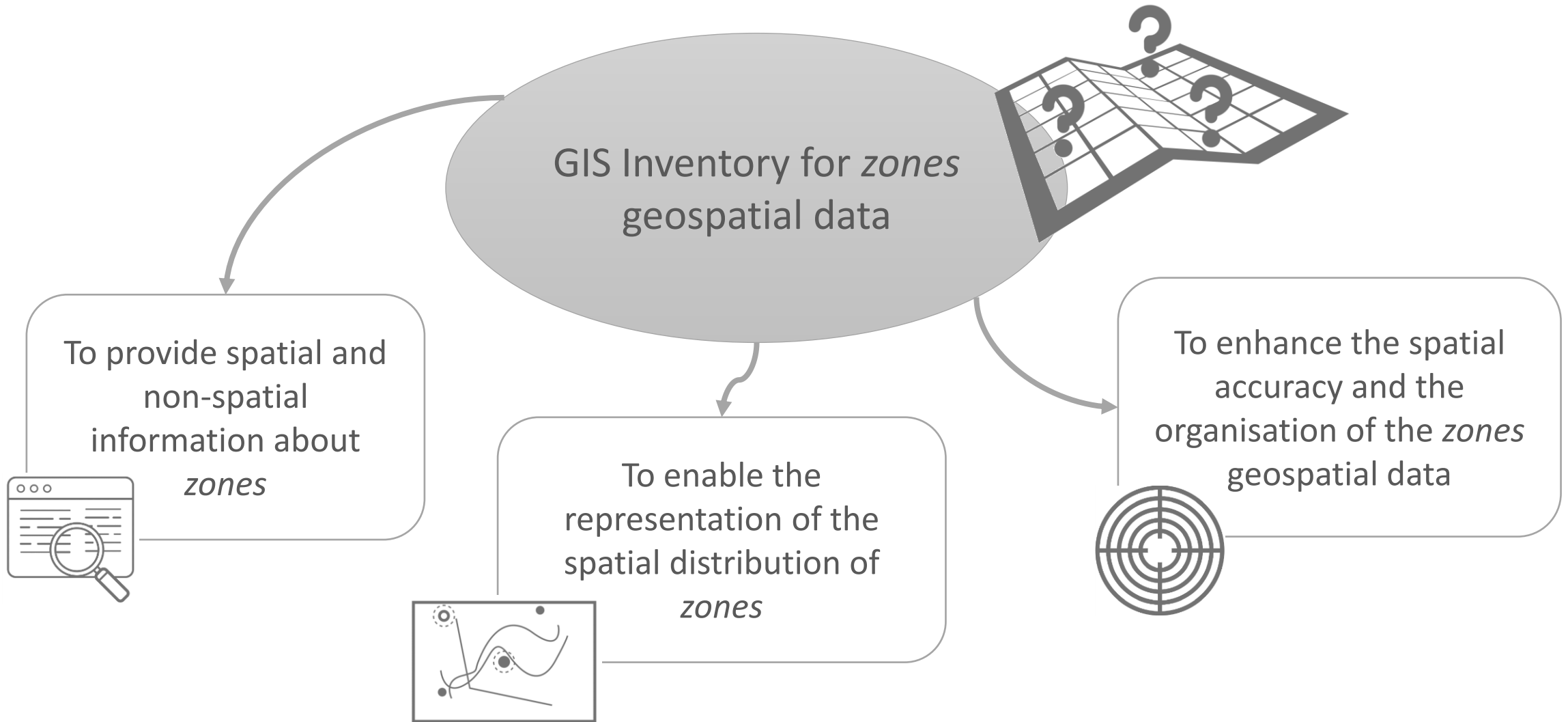- the transmission of geospatial data related to a *zone* to and from OIE

Spatial information of OIE *zone*

Sharing data

GIS Inventory for *zones* geospatial data

To provide spatial and non-spatial information about *zones*

To enable the representation of the spatial distribution of *zones*

To enhance the spatial accuracy and the organisation of the *zones* geospatial data

Specification Scope.. continue

A clear description of what the product does, including what is "in scope", what is "out of scope", and the modelling assumption
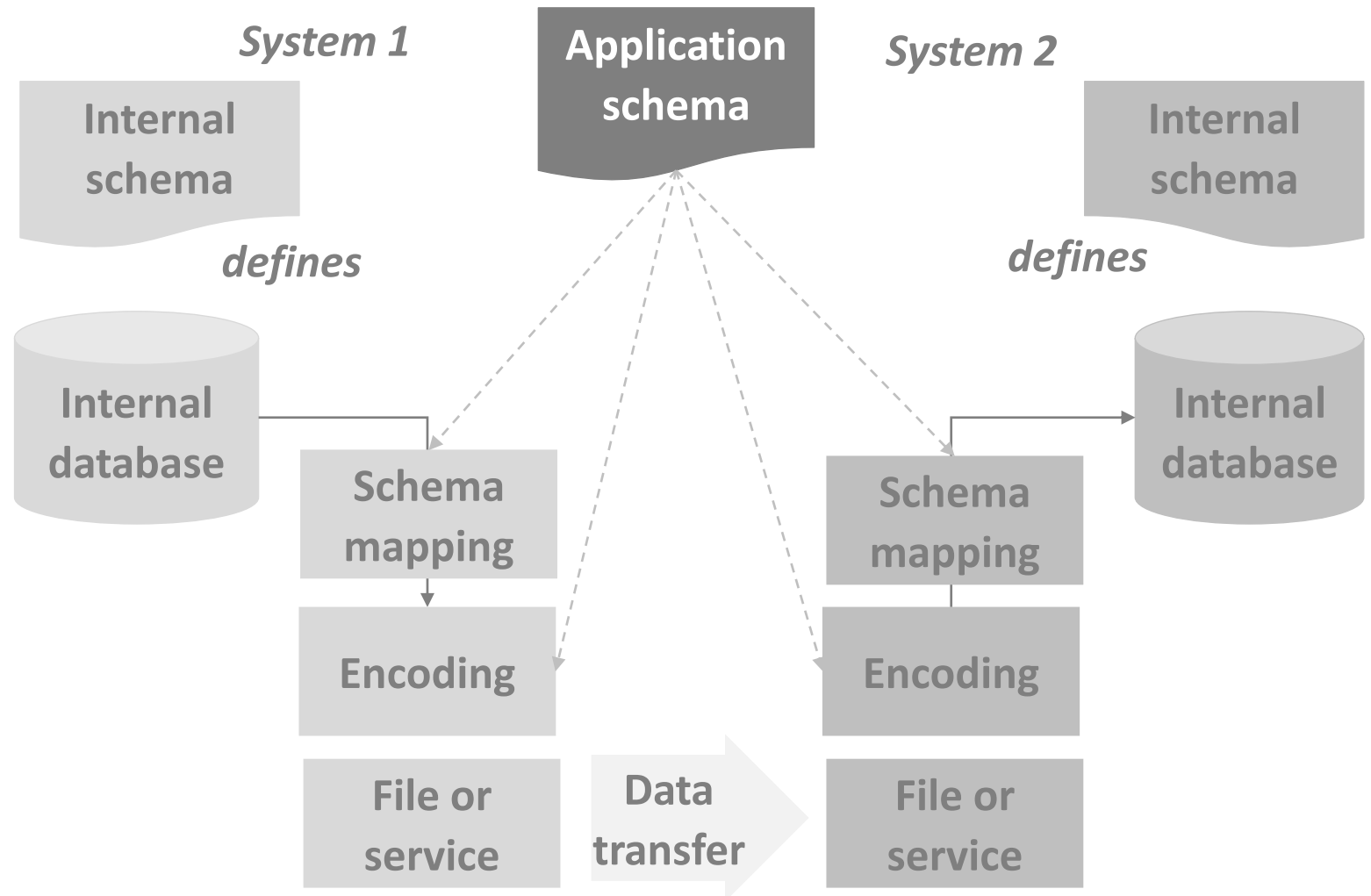
The GeoZone modelling assumption are:

> The geographical limits should be established based on natural, artificial or legal boundaries.

> A *zone* is represented by its geographical extent and by some other non-spatial information, both necessary to characterise it.

> GeoZone is a tool to help the collection and exchange of *zones* geospatial data.

Data content and structure

An Application schema defines the content and structure of data, which makes it possible to achieve a common and correct understanding of the data

1) To provide a computer-readable data description by using the UML

2) To achieve a common and correct understanding of the data

System 1

Application schema

System 2

Internal schema

Internal schema

defines

defines

Internal database

Schema mapping

Schema mapping

Internal database

Encoding

Encoding

File or service

Data transfer

File or service

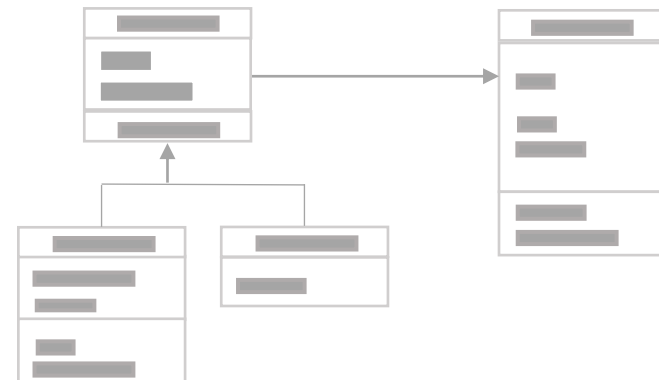# Data content and structure.. continue

An informally description of the data structure

the **Feature catalogue**

the **UML scheme**

Name: **geometry**
Value type: GM_Object
Definition: Geometry representing the spatial extent of the zone
Description: The geometry of a zone should be encoded as a GM_Polygon.
Multiplicity: 1

Class Diagram
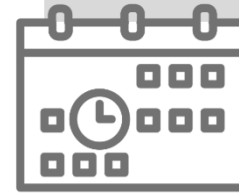
Reference systems

Spatial reference system

EPGS code: a collection of definitions of coordinate reference systems and coordinate transformations maintained in the online registry "epsg-registry.org".

**GeoZone's Reference System →
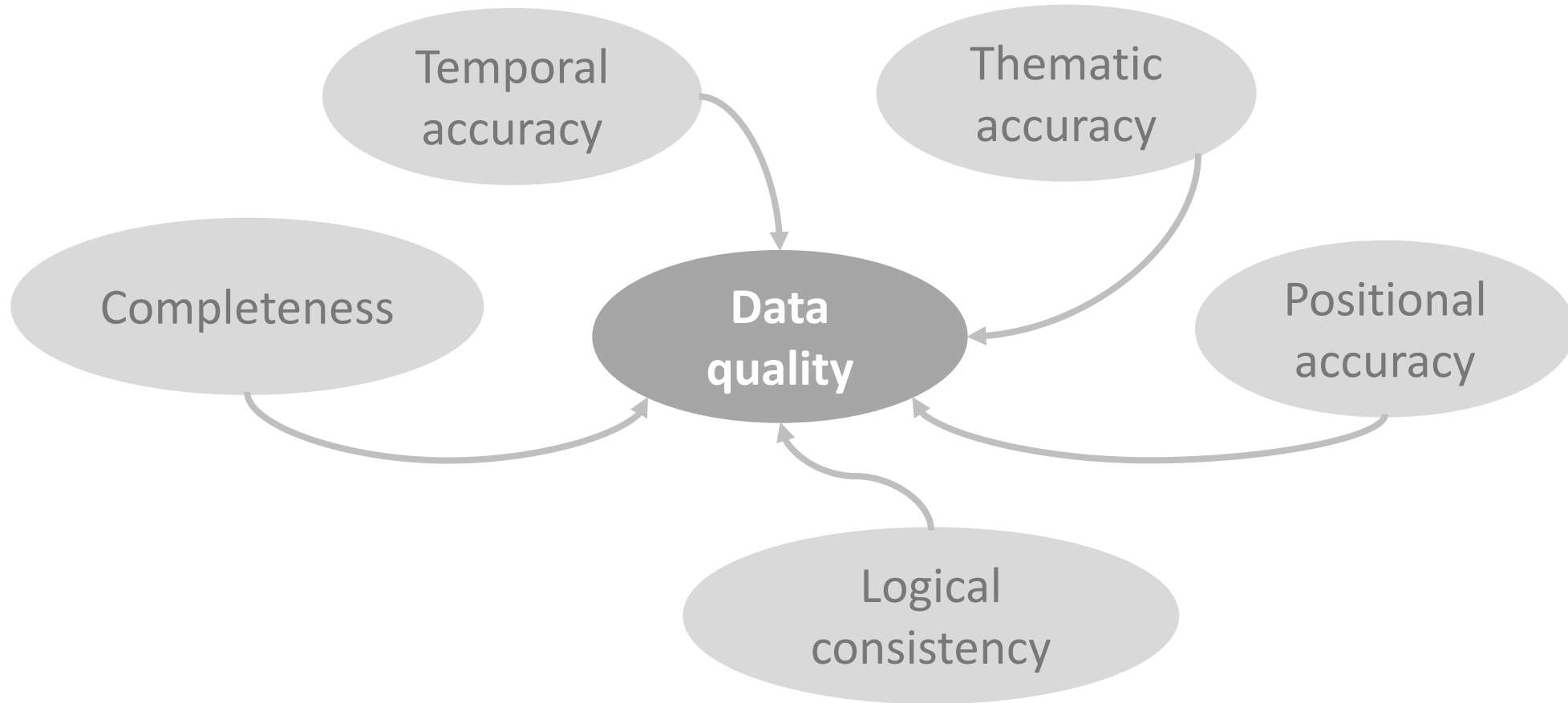WGS84 – EPSG 4326**

Temporal reference system

Year – month- day

↓

yyyy-mm-dd.

**First day of the year
2021-01-01**

Data quality

Data capture

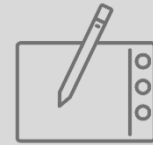Description of the data collection workflow

Primary method

Collecting data by surveying with the GPS receiver

Secondary method

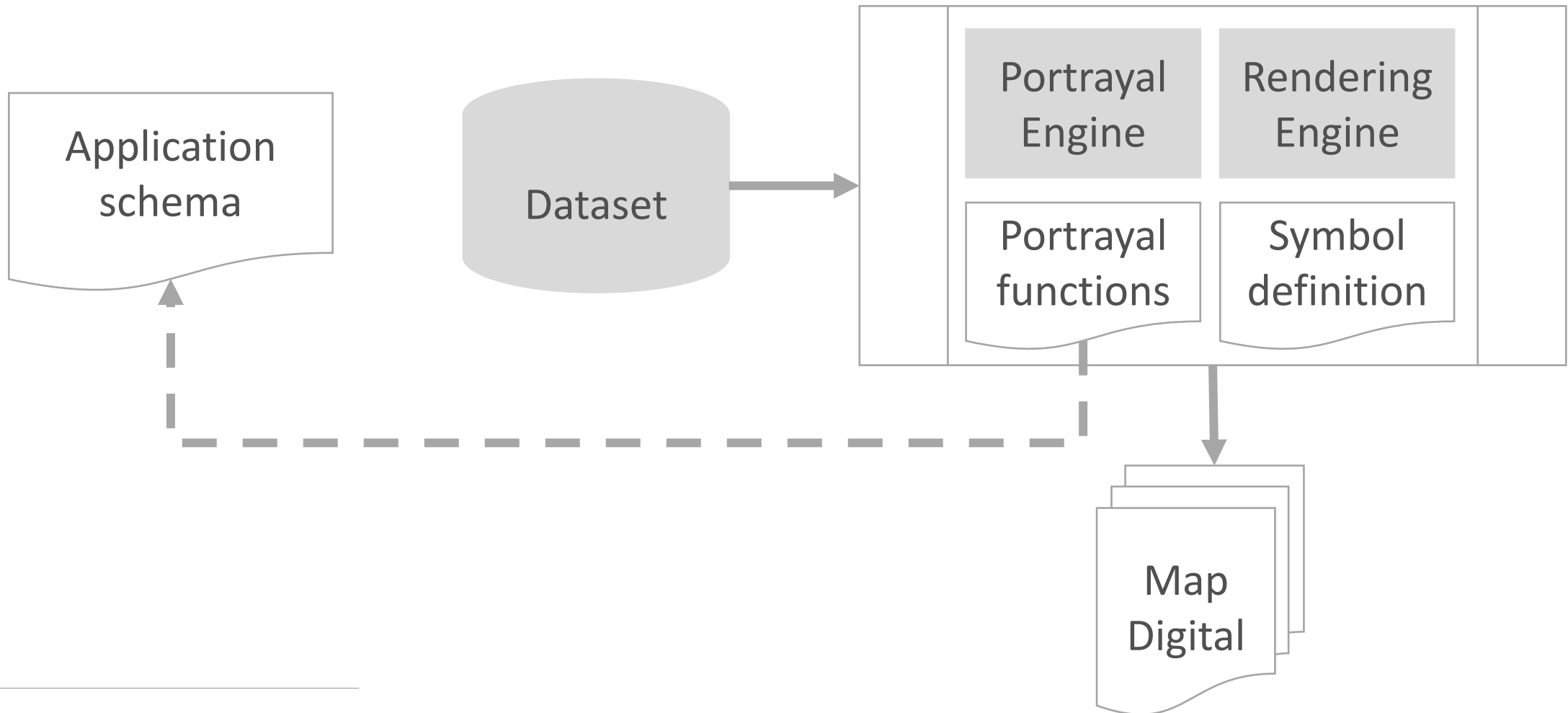Digitizing the vector object by using a printed or scanned map

Tertiary method

Obtaining data from the spatial data catalogue by means of web services

Portrayal

Rules and symbols definition on how data are presented as graphic output

Portrayal.. continue

In GeoZone the Portrayal clause defines the symbols to be used for portrayal the zones

Style name	Zoning.InfectedZone.Default
Spatial object type	zoneType = infectedZone
Abstract	The geometry is rendered using a red (#FF0000) fill with a transparency of 50% and a solid red (#FF0000) outline with a stroke width of 2 pixels
Example	

Data product delivery

It identifies the requirements for data product delivery

Delivery format information

> **Name (SHP, GML, ecc)**

> **Version of the format**

> **Language**

> **...**

Delivery medium information

> **File transfer**

> **Web service**

> **...**

Data product delivery... continue

To be defined during the GeoZone pilot project :

an appropriate data format

data delivery mechanisms

delivering in real-time, near real-time, batch process

constraints and requirements

Metadata

Description of the extent, quality, spatial and temporal scheme, spatial reference, and distribution of digital geographic data

ISO 19115 - Metadata

> Structure for describing digital geographic data

To describe the content, reference system, quality, and other characteristics of the data

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