Open Source technologies for geospatial information management and their role in the implementation of the IGIF

Walter Shilman y Julia Martinuzzi

OSGEO and Geolibres: Empowering Global Geoinformation

OSGEO (Open Source Geospatial Foundation)

- Open source geoinformation promoters
- Boosters of globally renowned projects, such as:
  - **QGIS Desktop**
  - **GRASS GIS**
  - **PostGIS**
  - **GeoServer**
  - **OpenLayers**
  - **MapServer**

Geolibres - Geoinquit@s Argentina - Local Chapter

- Promotes open access in geoinformation and mapping
- Advocates for the democratization of geospatial data
- Encourages the creation of open spatial data infrastructures
- Drives collaboration and adoption of open standards in the geospatial community
- Contributes to equity and sustainability in the access and use of geographic information.

They work together to democratize geoinformation and geospatial technologies

Objectives

- Examine the implementation of the Integrated Geospatial Information Framework (IGIF) in an accessible and sustainable manner through open-source technologies.

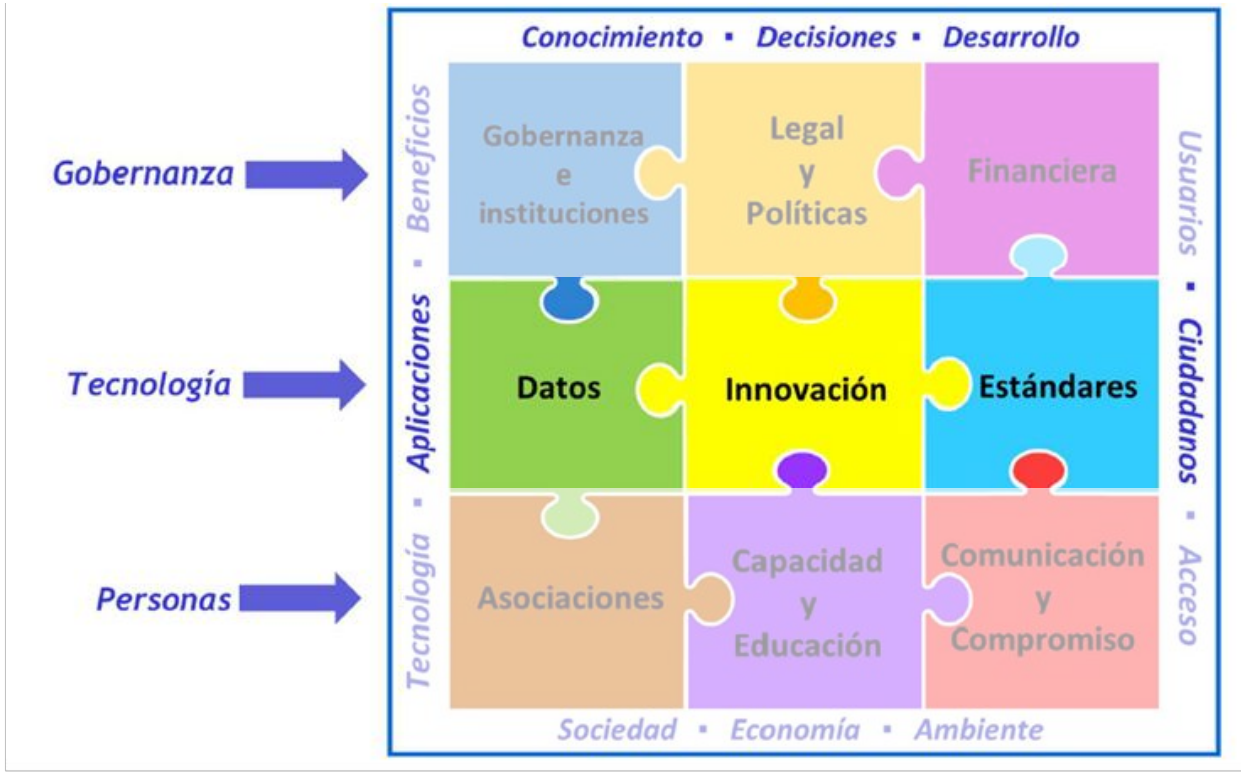
- Explore effective strategies for integrating statistical and geospatial information in an open-source environment. [USE CASE]

- Demonstrate the role of geoinformation and open-source technologies in disaster management and decision-making. [USE CASE]

IGIF

The framework is structured using 9 strategic pathways associated with three levels: **governance**, **technology** and **people**.

Each strategic pathway contains a set of specific elements to organize the definition of activities, outcomes and outputs.



Fuente: UN-GGIM Integrated Geospatial Information Framework

Introduction

- What do we consider as a sustainable solution?

What do we consider as a sustainable solution?

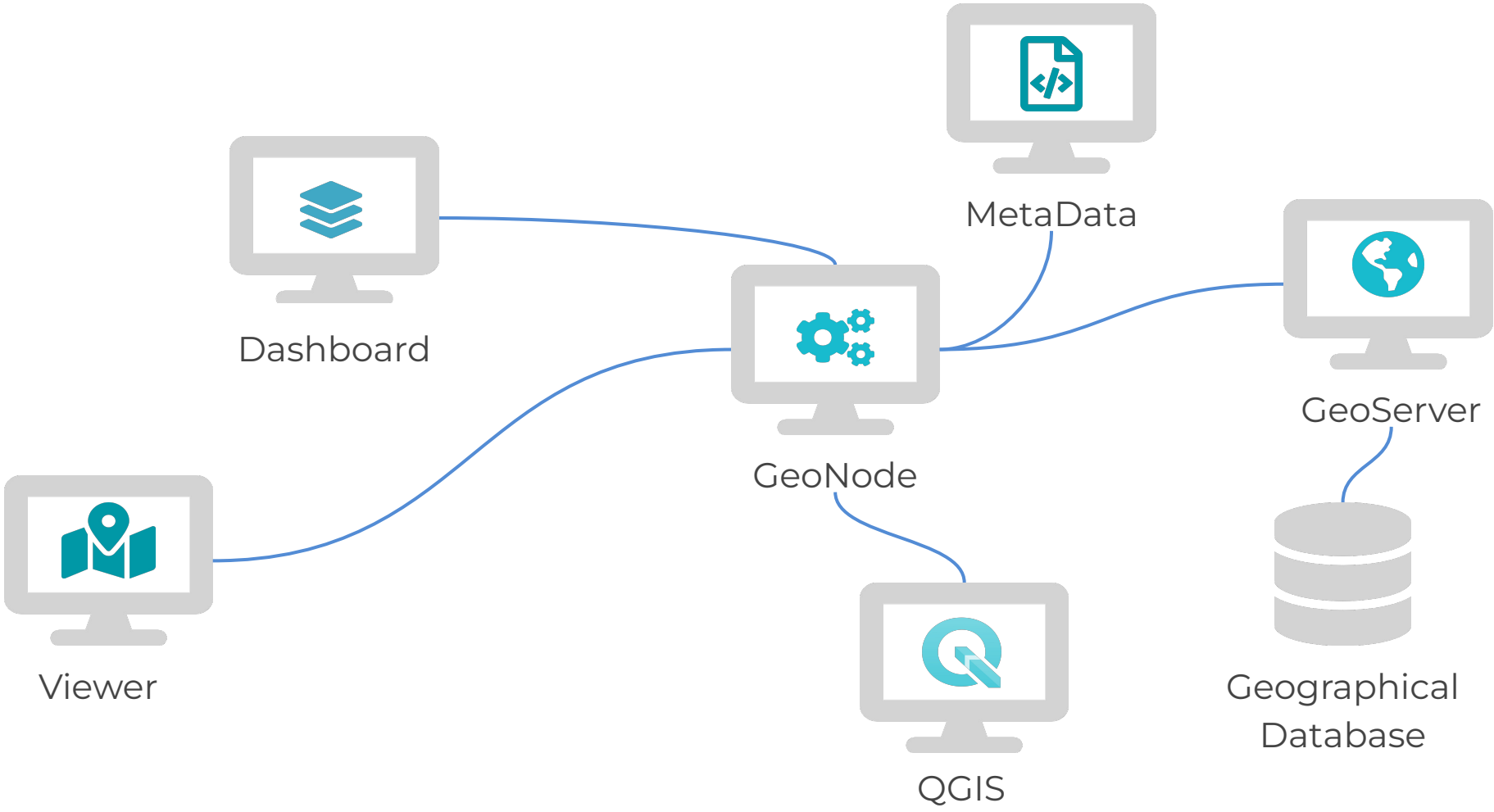
A **sustainable solution** in the context of **open source technologies** refers to the **implementation** of **tools** and **systems** that **promote environmental**, **social** and **economic sustainability**, while fostering **transparency**, **collaboration** and **open access**.

Thinking in open source

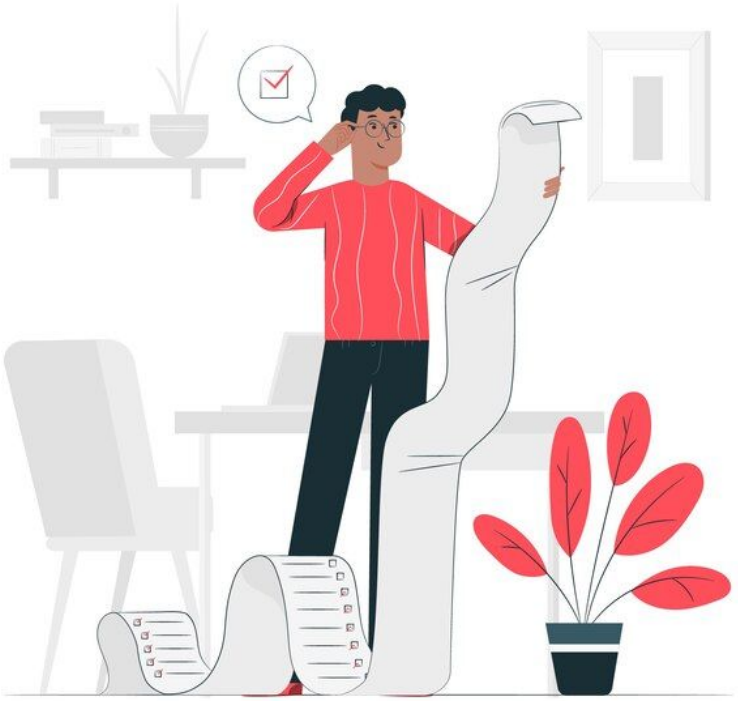
Challenges

Security	➡	Open collaboration
Governance and standardization	➡	Adaptability and scalability
Community involvement	➡	Access and democratization

Stack SDI- Open Source



Use Cases



Use Cases

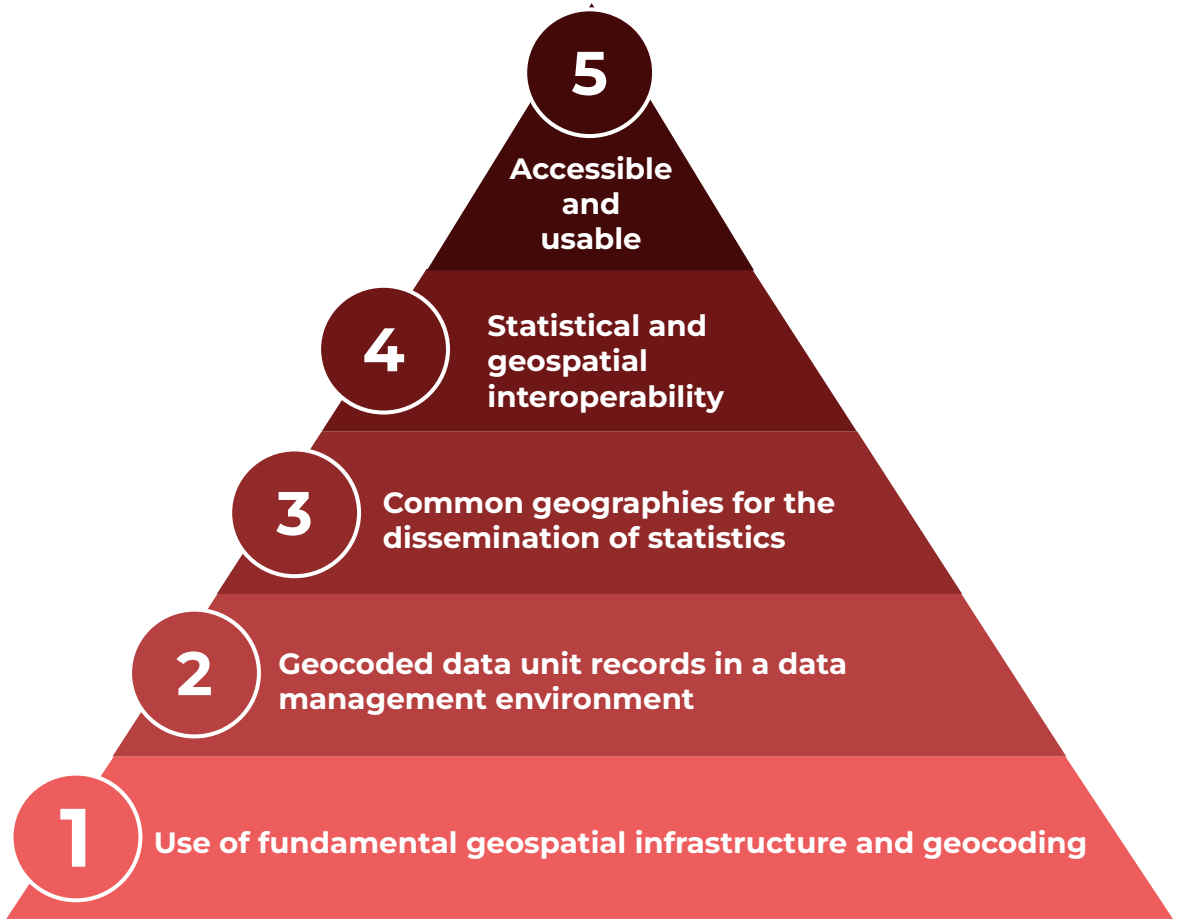
Dominican Republic

- Data Cube
- Statistical data manager
- GeoNode
- Geoportal (Viewer)

Argentina

- Data Cube
- Statistical data manager
- GeoNode
- Geoportal (Viewer)

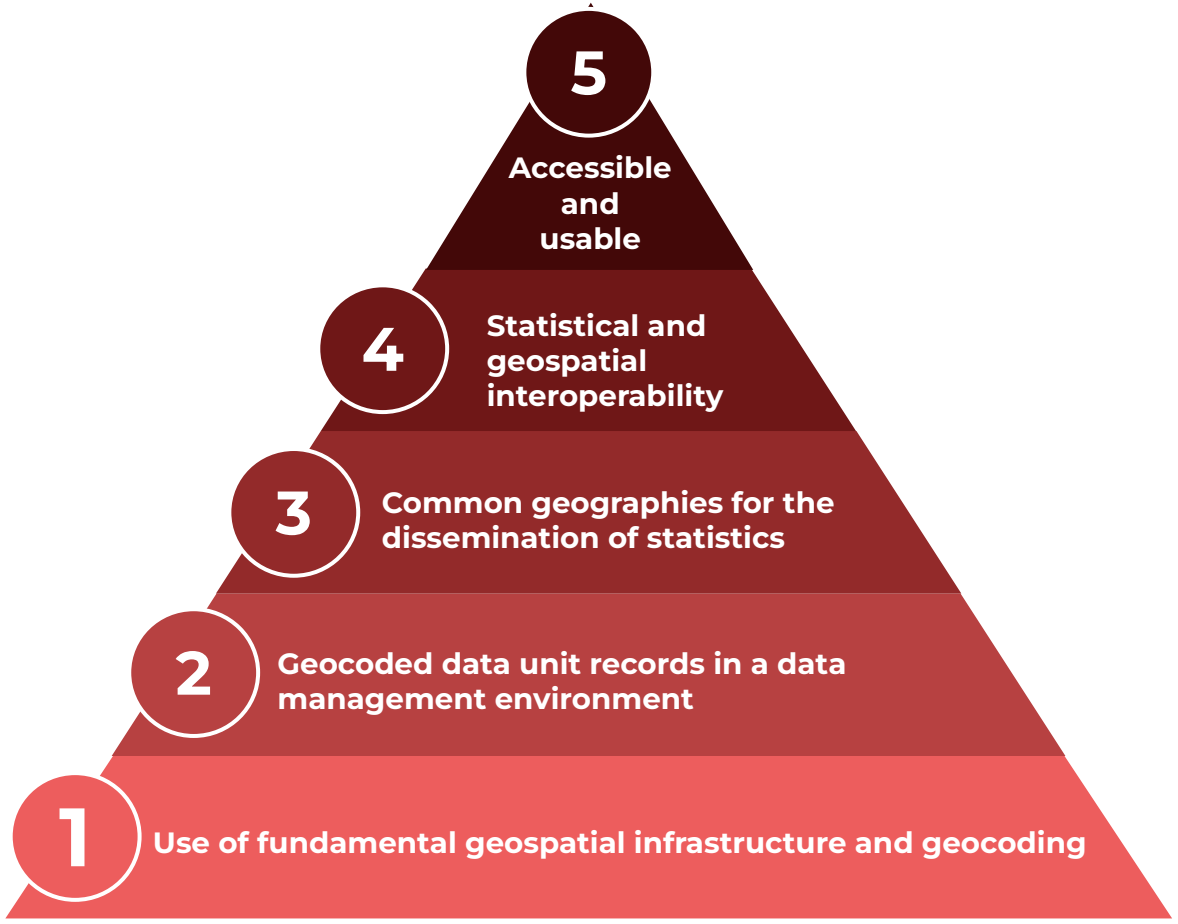
The Integrated Geospatial Information Framework GSGF



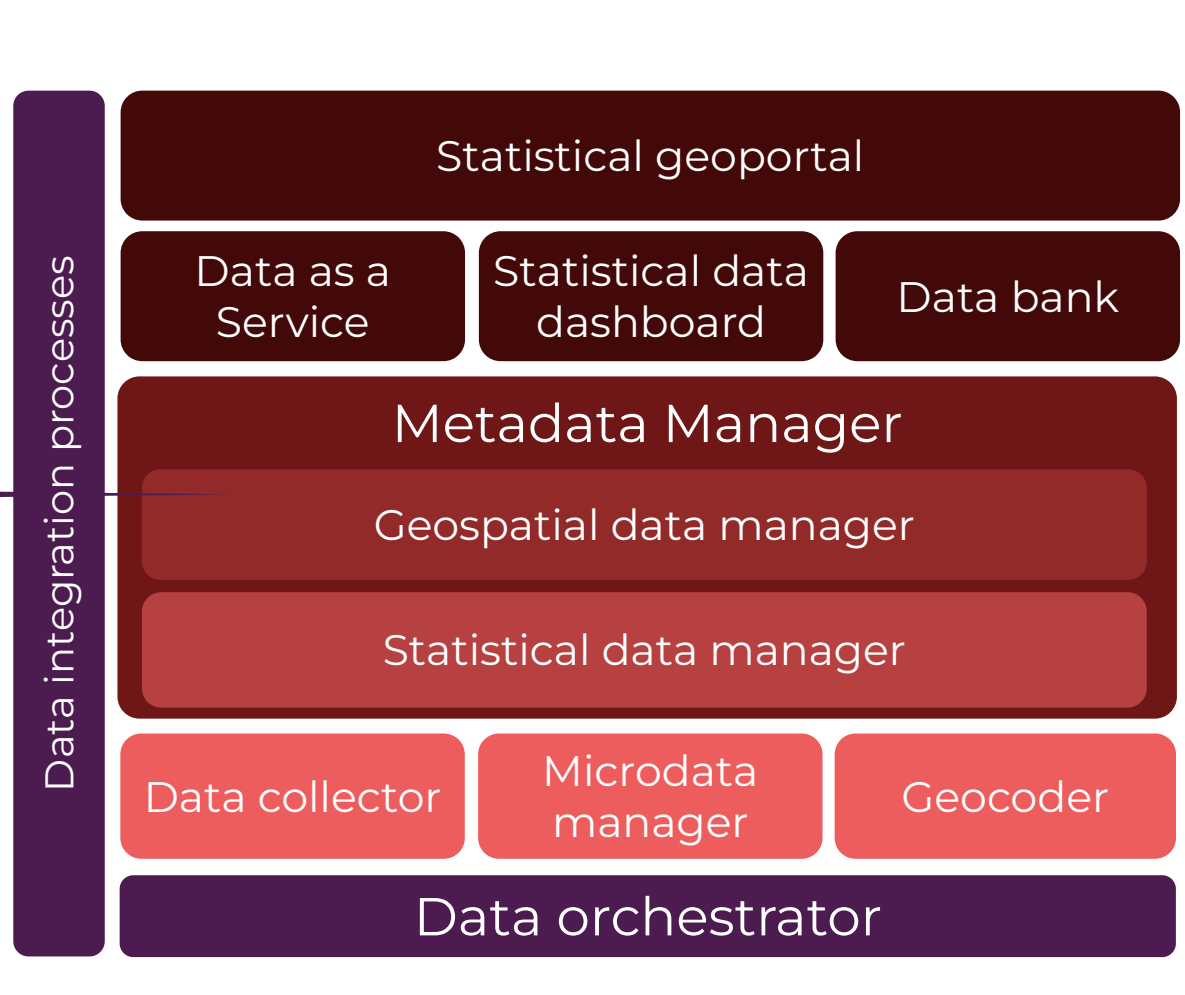
The Global Statistical and Geospatial Framework (GSGF) is a comprehensive **strategy** that **merges statistics** and **geospatial information** to **improve decision making**. It is central to the UN-GGIM Americas initiative and **allows** for a **more complete** and **accurate view** by combining statistical and geographic data.

Proyecto Facility - CEPAL

Global Statistical and Geospatial Framework (GSGF)



Proposal of technological components



Target countries

Guatemala

Ecuador

Argentina

Dominican Republic

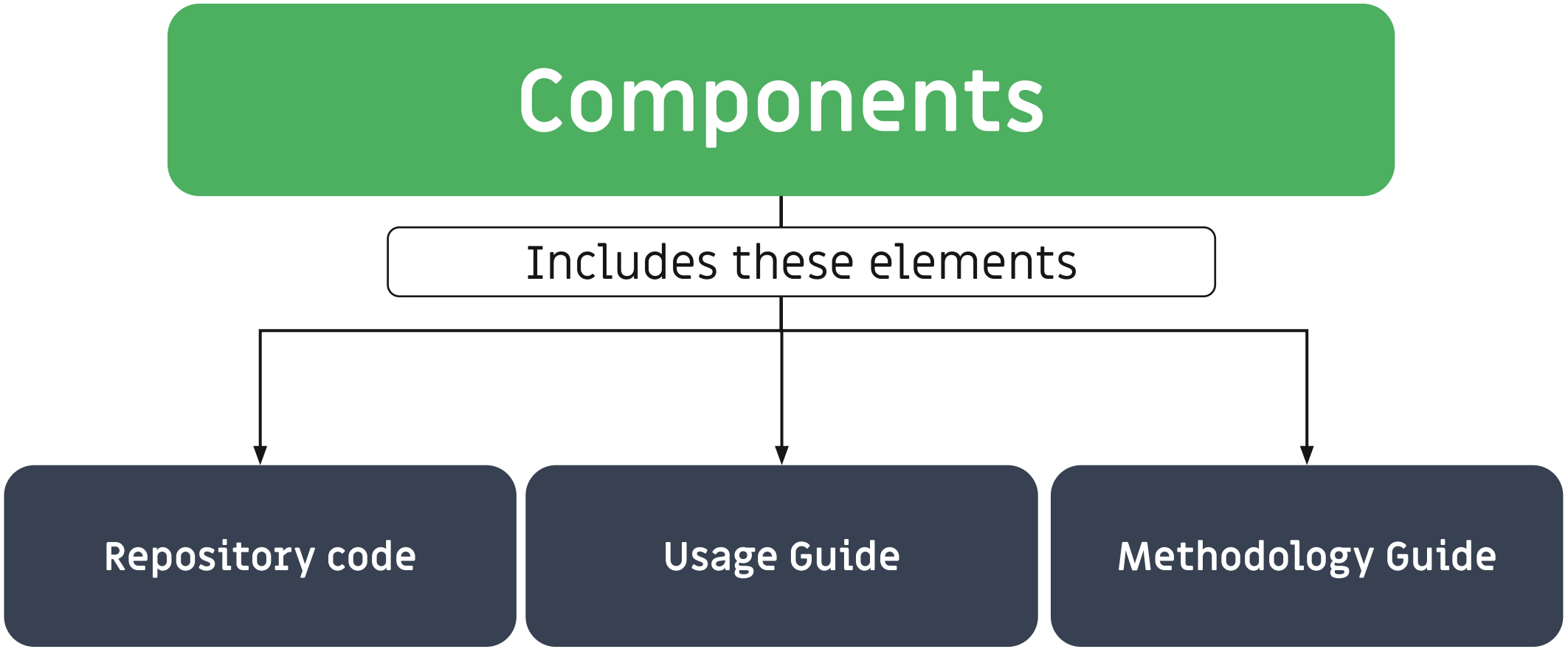
Honduras

El Salvador

Paraguay

Costa Rica

Modular components

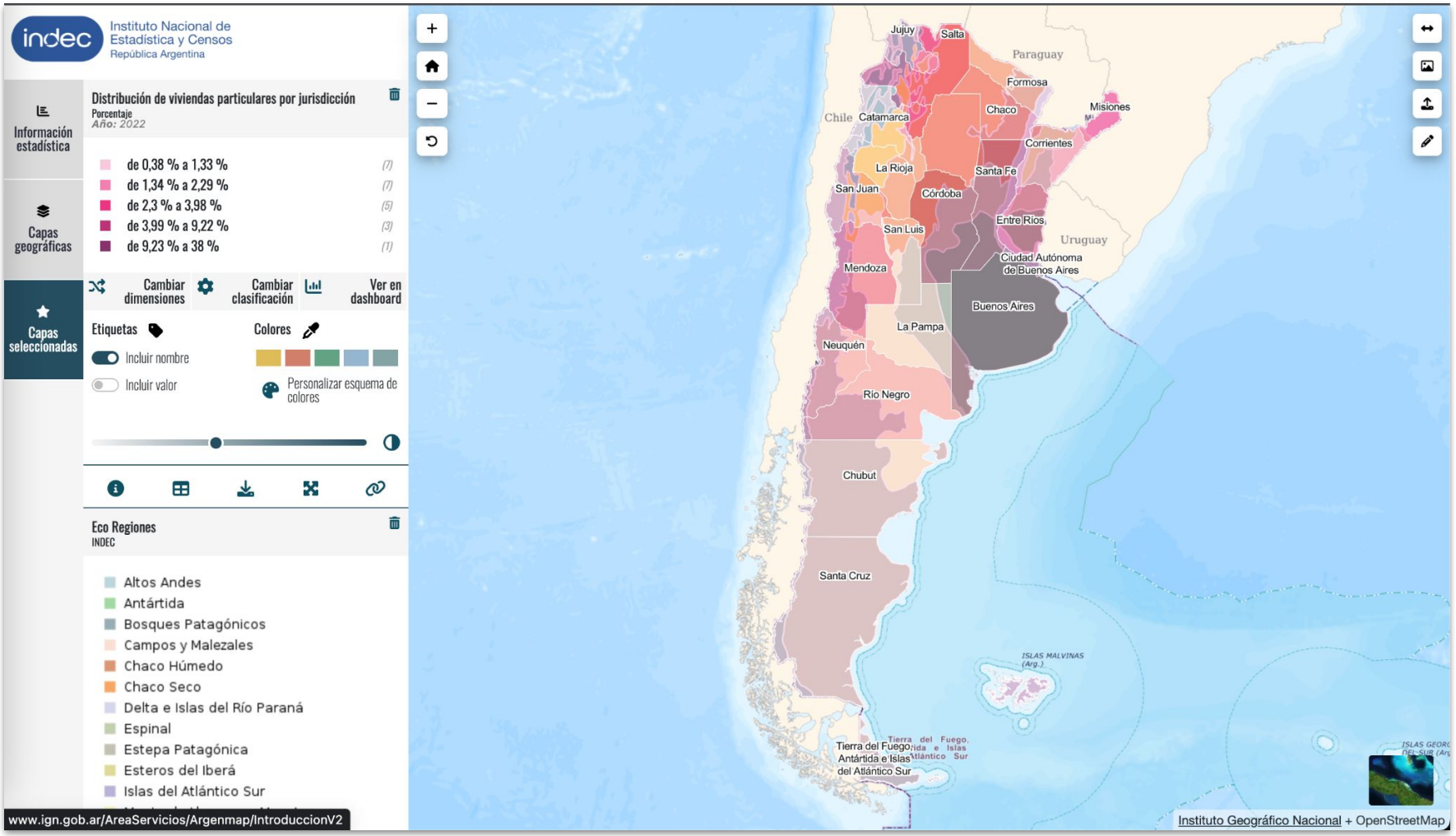


Gitlab Repository

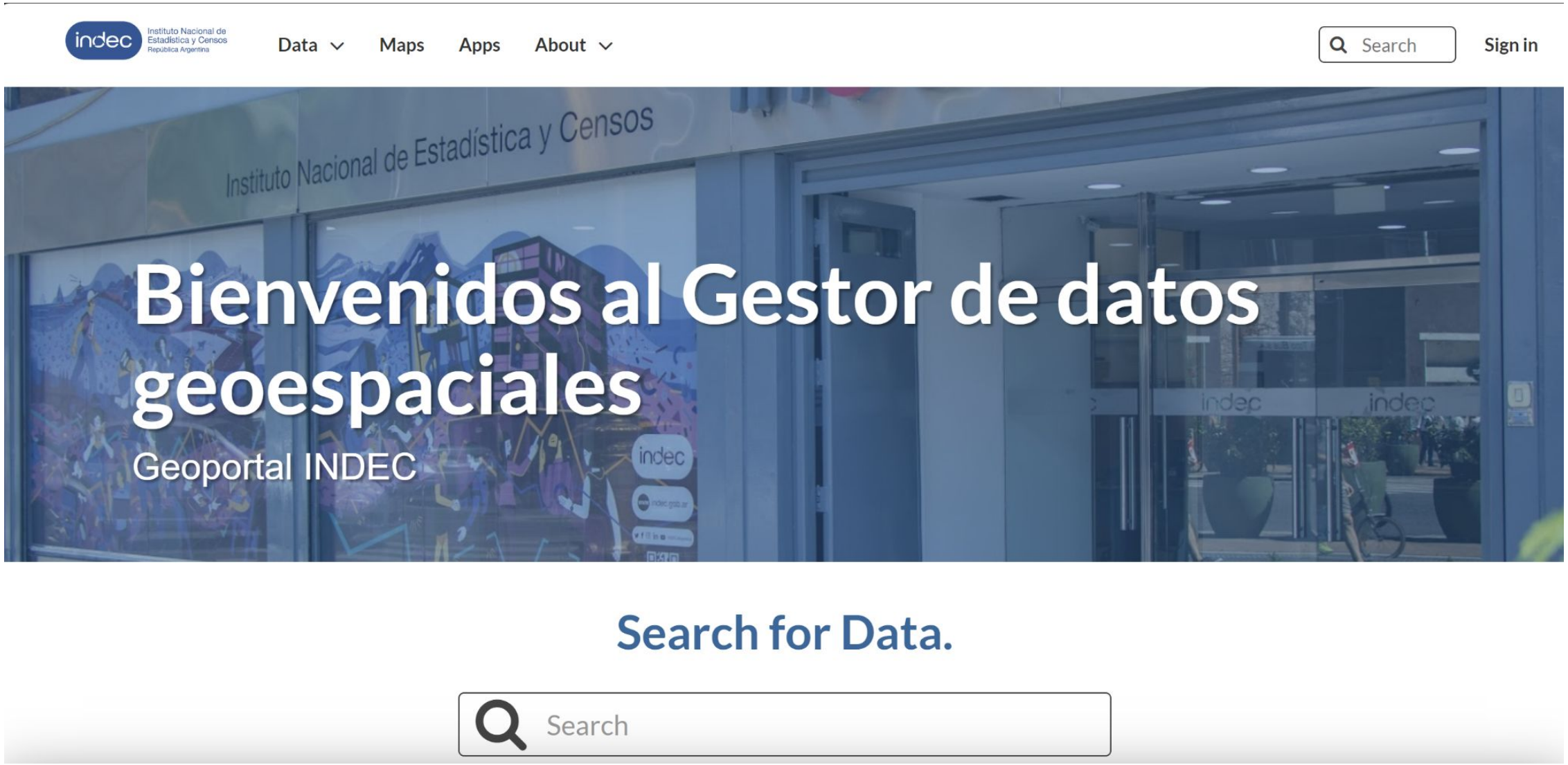
- Data Collector
- Statistical Data Manager
- Geospatial Data Manager
- Statistical Dashboard
- Statistical Geoportal
- 7 más ...

https://git.cepal.org/geo

INDEC- Argentina

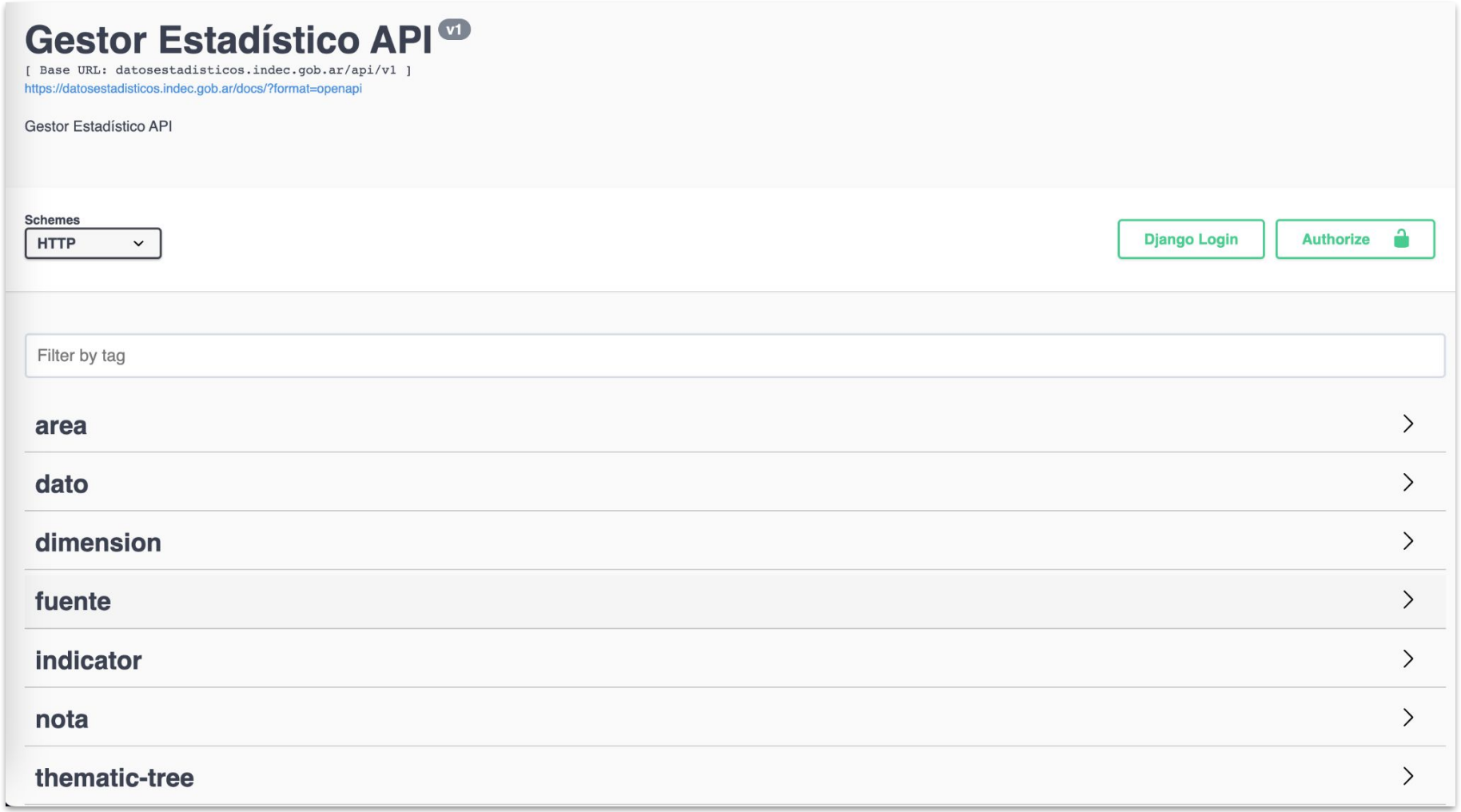


INDEC- Argentina



INDEC- Argentina

INDEC- Argentina



Challenges

- Technical knowledge for the implementation of the components
- Strong encapsulation in proprietary technologies that does not allow communication with other components.
- Lack of data integrity

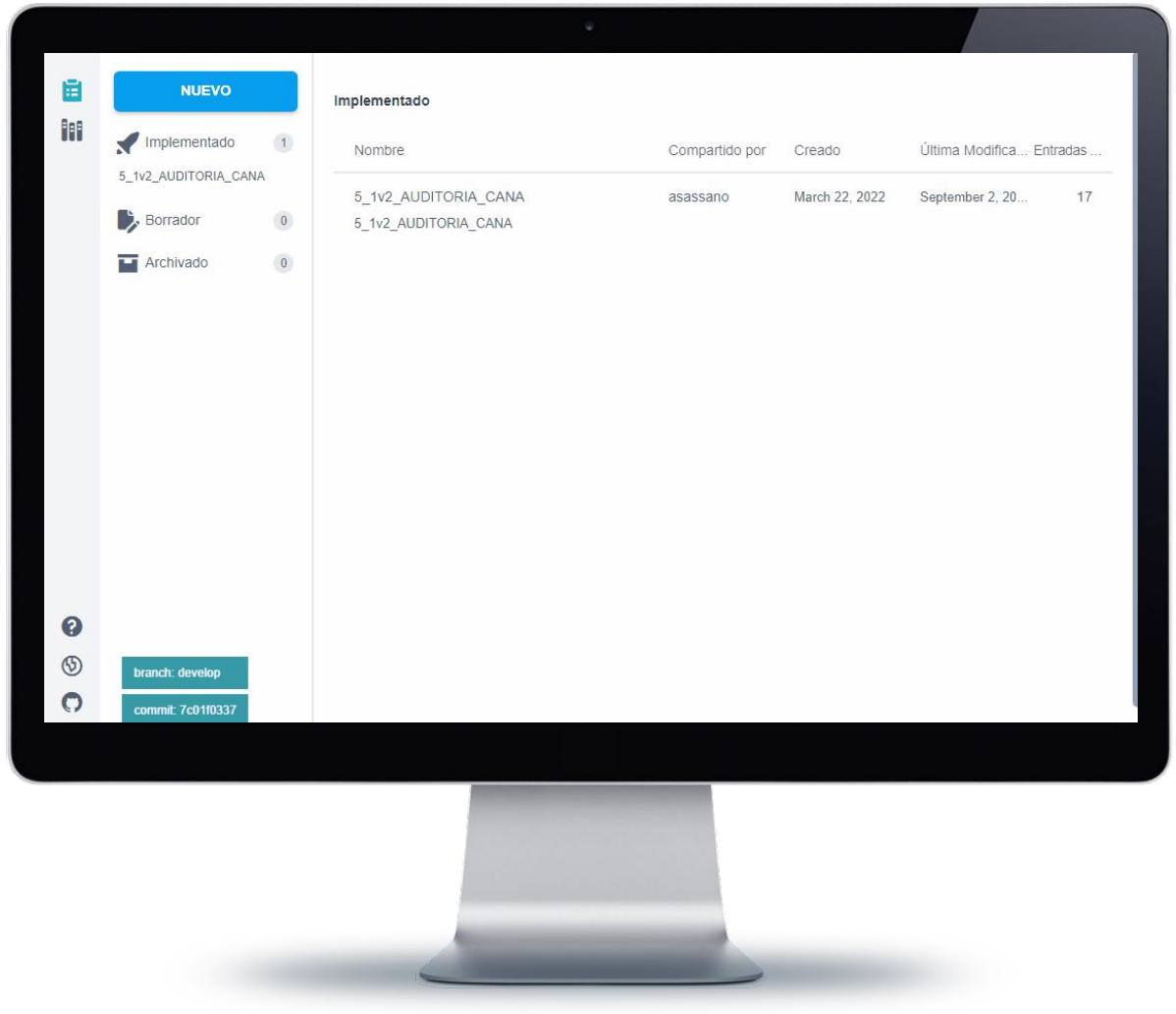
Use case (2) Map Viewer

Data Collector

IT HELPS ORGANIZATIONS WITH NON-EXISTENT OR INCOMPLETE DATA

ALLOWS YOU TO CREATE CUSTOM FORMS AND SURVEYS

HOST AND INTEGRATE WHERE AND WITH THE APPLICATIONS YOU WANT



Workflow Example | Risk Management

Incident registration

+

Automation

+

Viewer

Example | HOT - Open Litter Map

Q&A

Thanks!