



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

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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

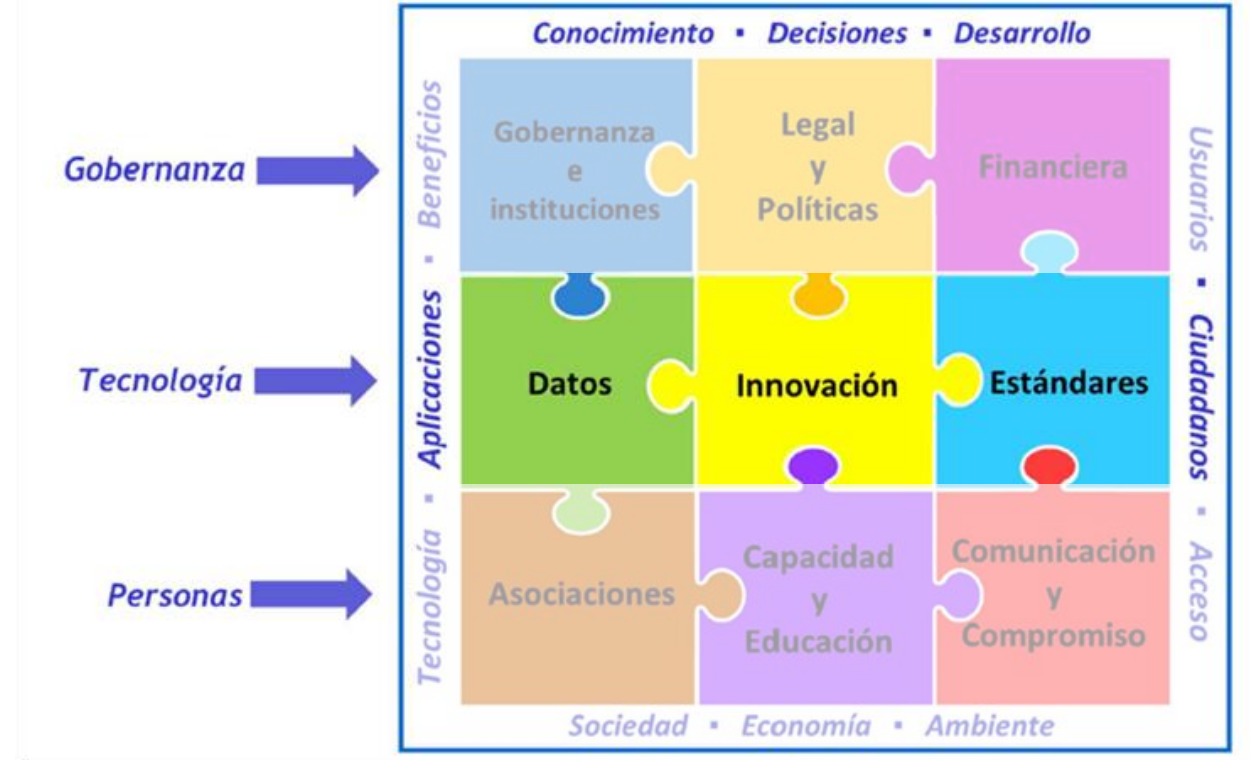


- Examine the implementation of the Integrated Geospatial Information Framework (IGIF) in an accessible and sustainable manner through open-source technologies.
- Explore effective strategies for integrating statistical and geospatial information in an open-source environment. [USE CASE]
- Demonstrate 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



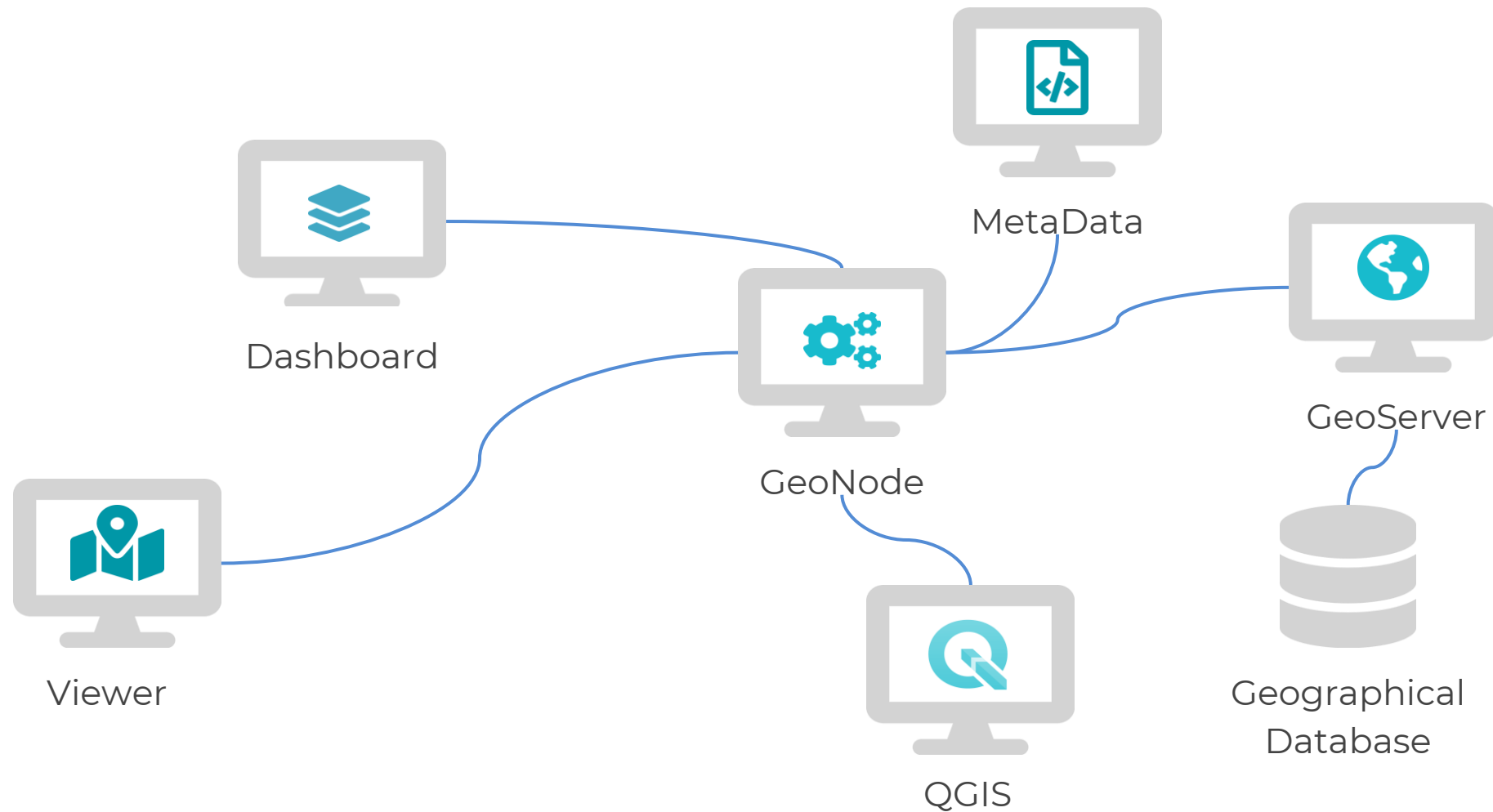
Adaptability and scalability

Community involvement

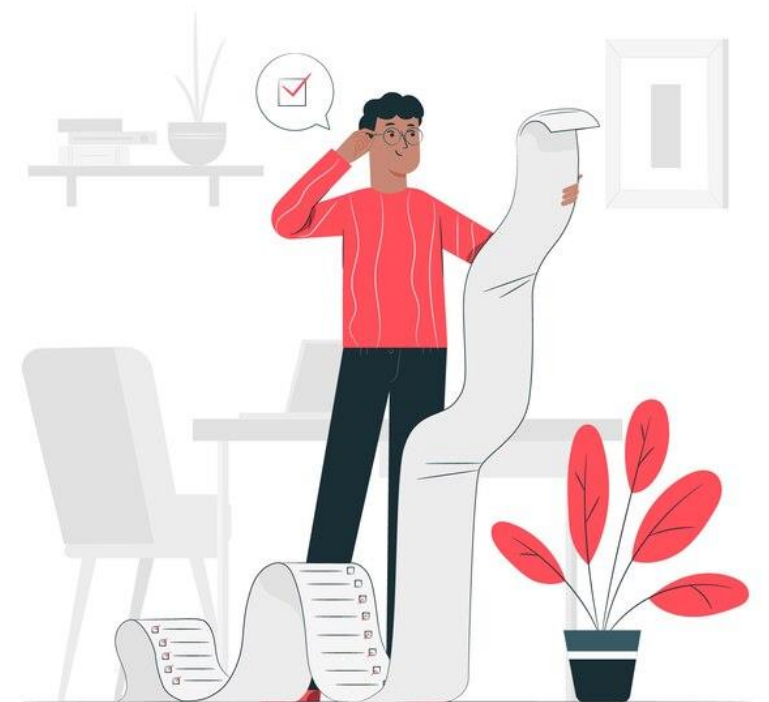


Access and democratization

Stack SDI- Open Source



Use Cases



Use Cases



Dominican Republic

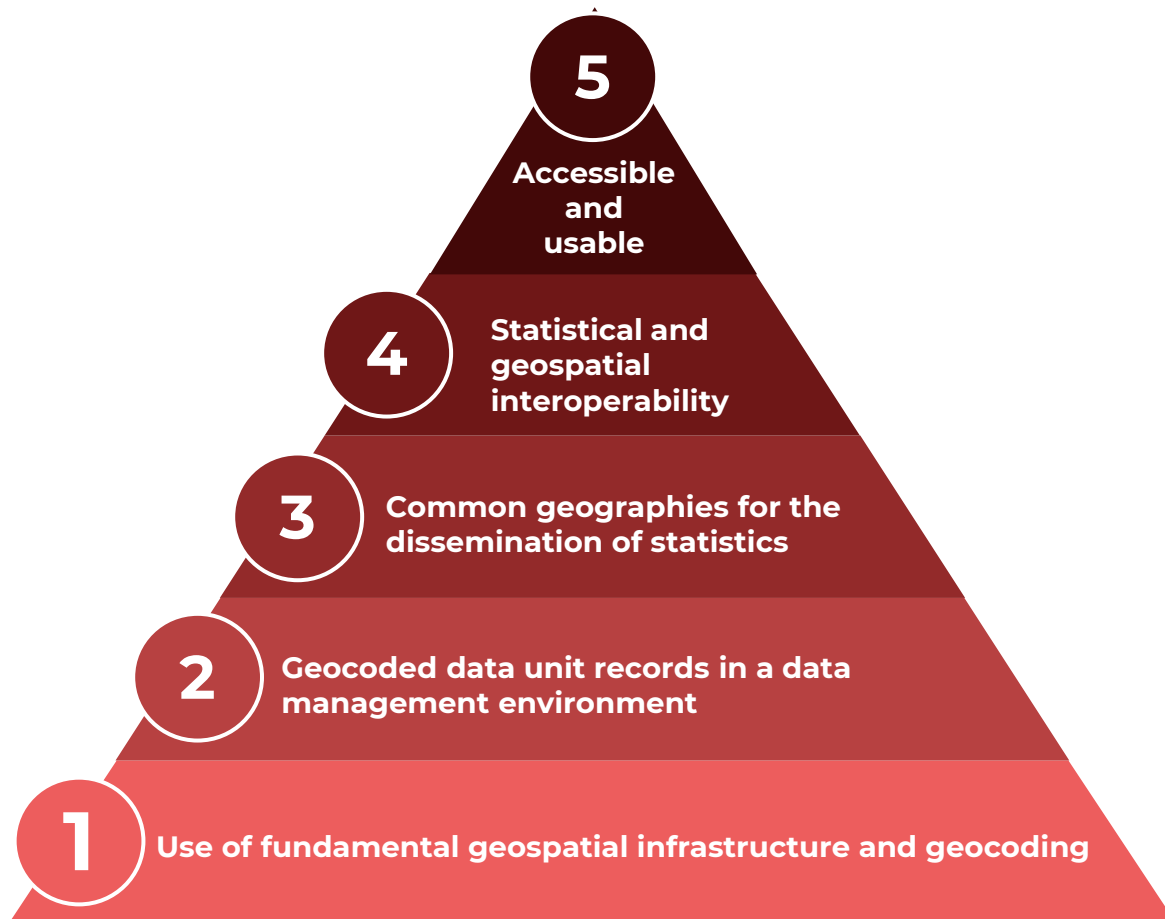
- [Data Cube](#)
- [Statistical data manager](#)
- [GeoNode](#)
- [Geoportal \(Viewer\)](#)



Argentina

- [Data Cube](#)
- [Statistical data manager](#)
- [GeoNode](#)
- [Geoportal \(Viewer\)](#)

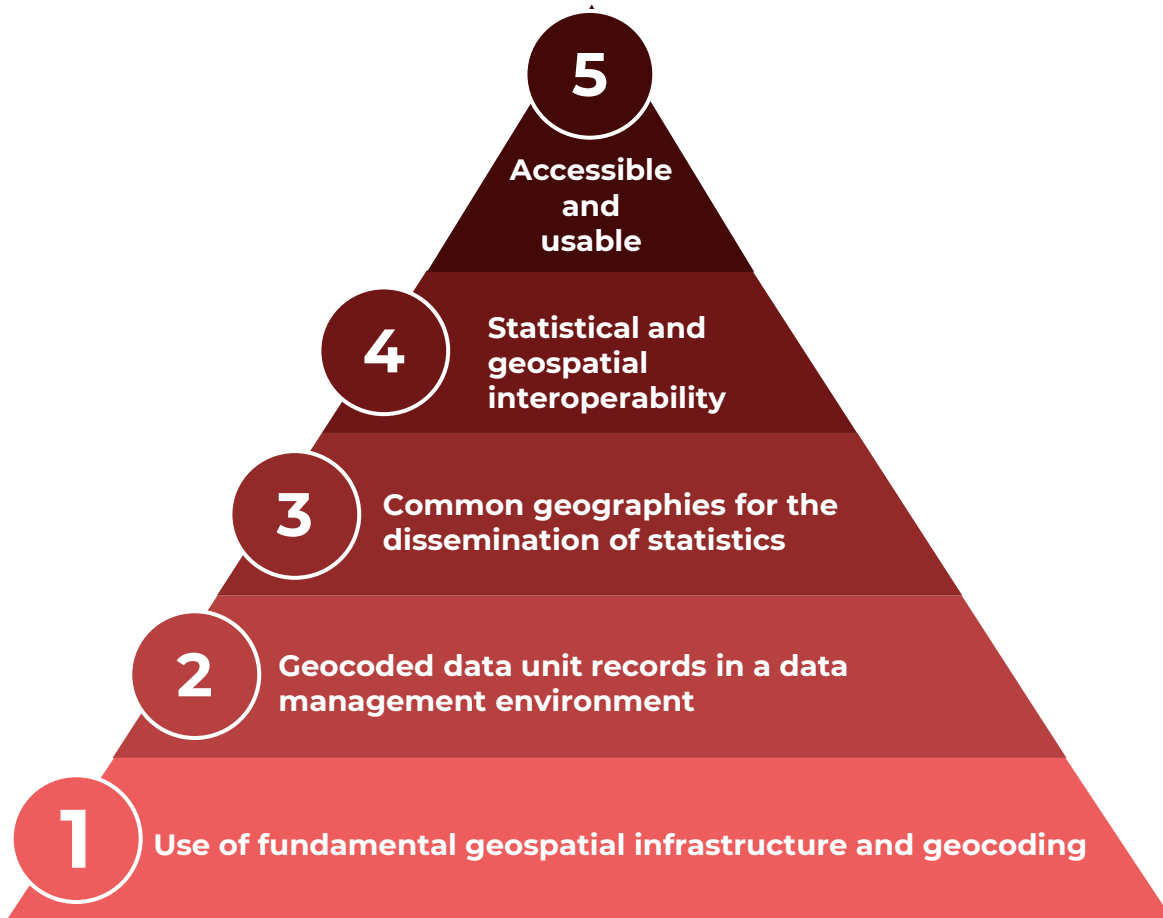
The Integrated Geospatial Information Framework GSGF



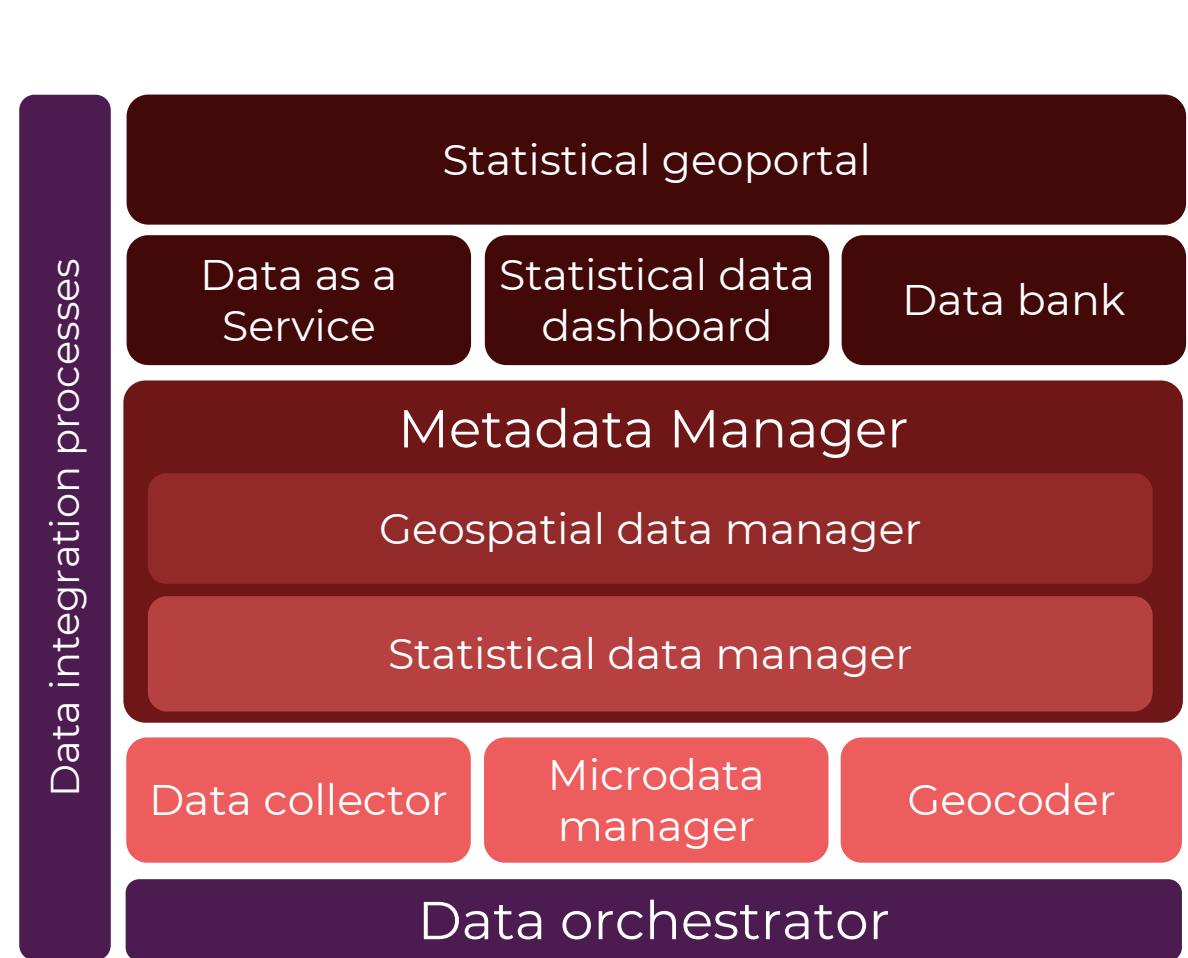
The Global Statistical and Geospatial Framework (GSGF) is a comprehensive **strategy** that **merges statistics** and **geospatial information** to **improve decision making**. It is central to the UN-GGIM Americas initiative and **allows** for a **more complete** and **accurate view** by combining statistical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

Components

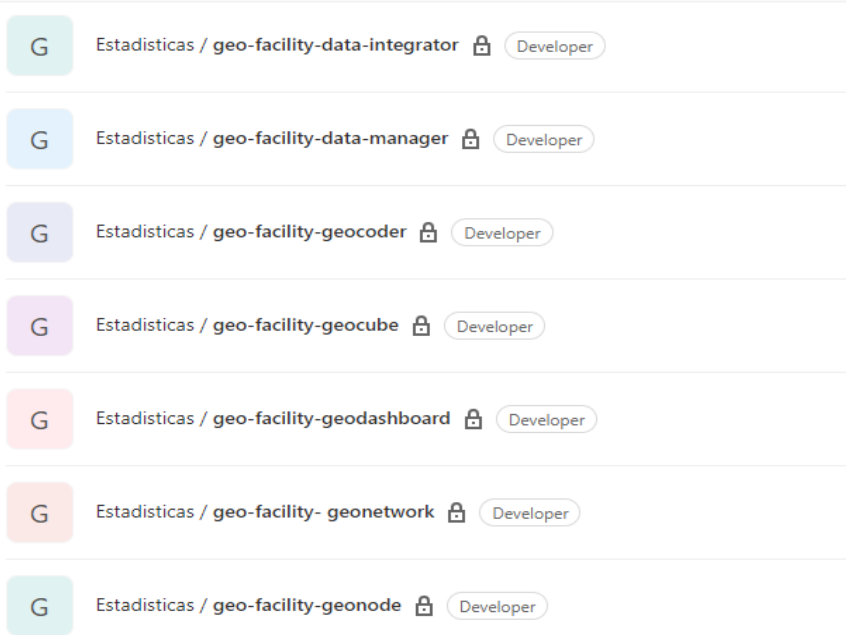
Includes these elements

Repository code

Usage Guide

Methodology Guide

Gitlab Repository



A screenshot of a GitLab repository listing showing seven projects under the 'Estadísticas' namespace. Each project name is followed by a lock icon and a 'Developer' badge. The projects are: geo-facility-data-integrator, geo-facility-data-manager, geo-facility-geocoder, geo-facility-geocube, geo-facility-geodashboard, geo-facility-geonetwork, and geo-facility-geonode. Below the listing is the GitLab logo, which consists of a stylized orange and red mountain shape and the text 'GitLab'.

Data Collector

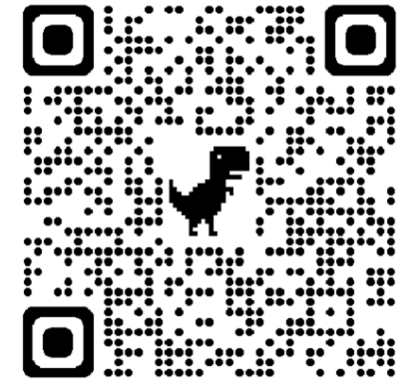
Statistical Data Manager

Geospatial Data Manager

Statistical Dashboard

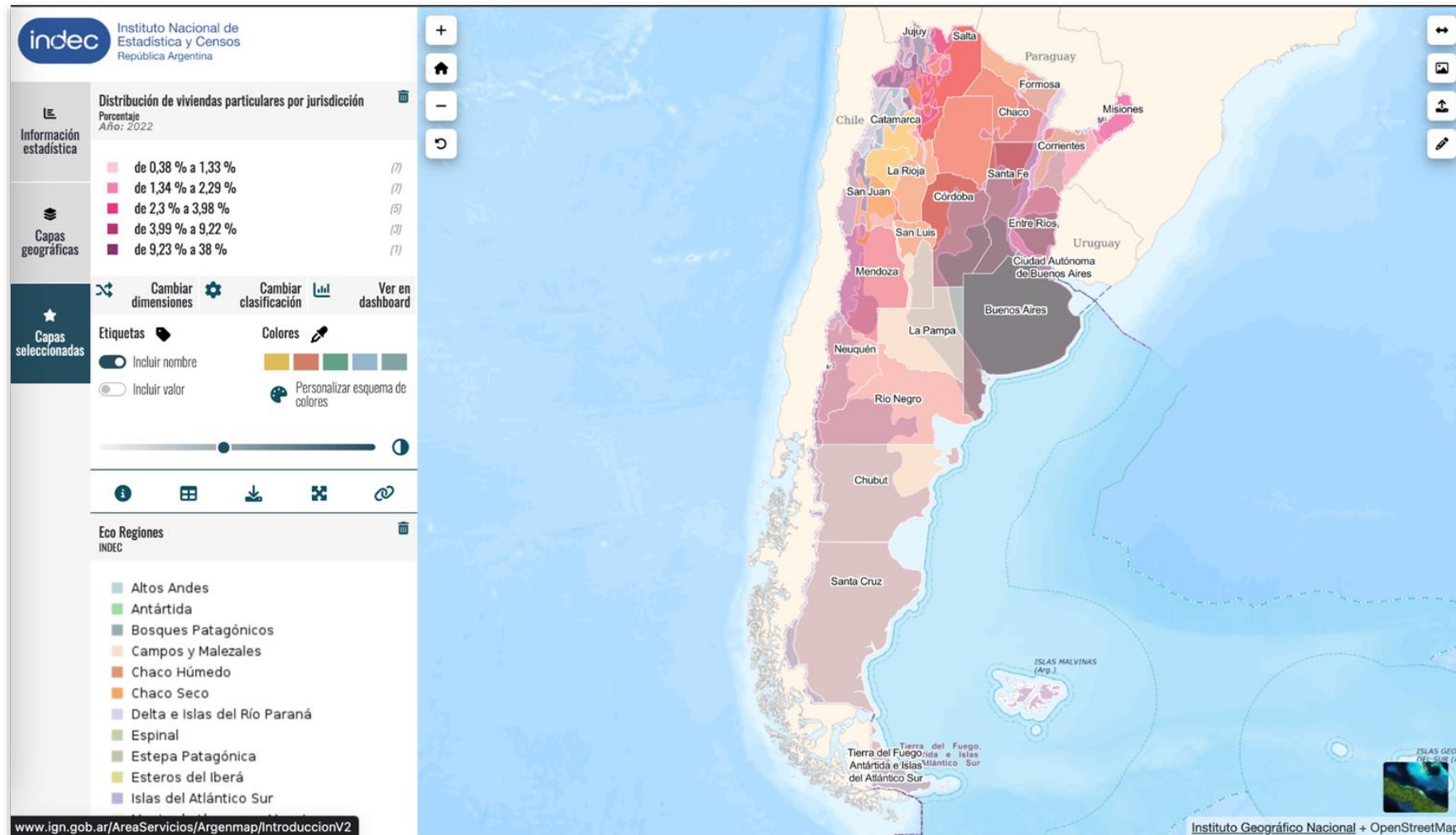
Statistical Geoportal

7 más ...



<https://git.cepal.org/geo>

INDEC- Argentina



INDEC- Argentina



Instituto Nacional de Estadística y Censos
República Argentina

- Data ▾
- Maps
- Apps
- About ▾

Sign in



Bienvenidos al Gestor de datos geoespaciales

Geoportal INDEC

Search for Data.

INDEC- Argentina



Indicators of the INDEC Geoportal

Selected indicators

Distribución de viviendas particulares por jurisdicción

+ add indicator - remove indicator

... / Viviendas

Distribución de viviendas particulares por jurisdicción [factsheet](#) [dashboard](#)

(Porcentaje)

Provincias 27

search...

- Select by level
- Santa Fe
- Santiago del Estero
- Tierra del Fuego, Antártida e Islas del Atlántico Sur
- Tucumán
- Total

Select all

Clear all

Año 1

search...

- Select by level
- 2022

Select all

Clear all

Options

Table

FLAT (TIDY)

PIVOT

Organize data ⓘ

Rows

Año

Provincias

Columns

INDEC- Argentina



Gestor Estadístico API ^{v1}

[Base URL: datosestadisticos.indec.gob.ar/api/v1]

<https://datosestadisticos.indec.gob.ar/docs/?format=openapi>

Gestor Estadístico API

Schemes

HTTP ▾

Django Login

Authorize 

Filter by tag

area



dato



dimension



fuelle



indicator



nota



thematic-tree



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

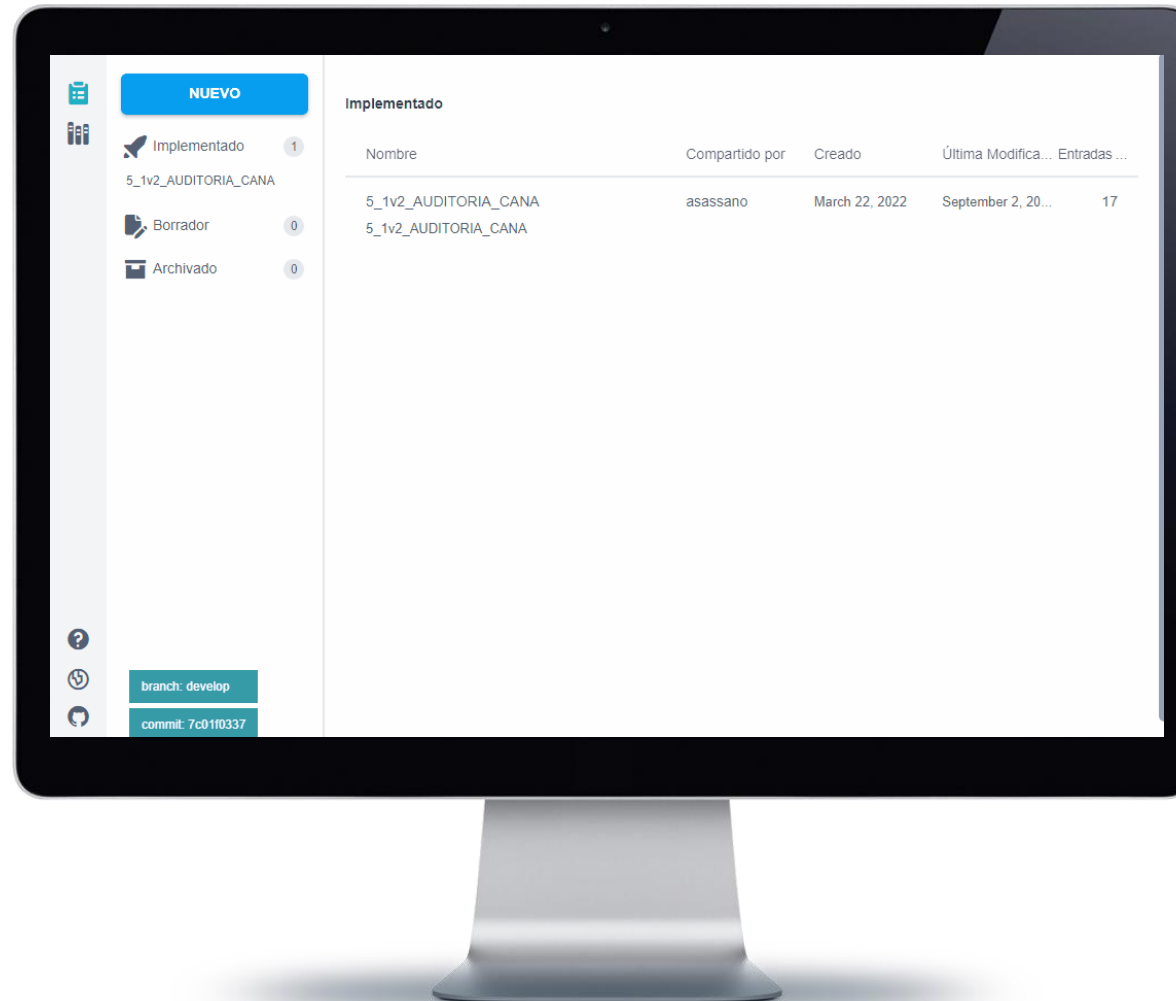


Data Collector

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

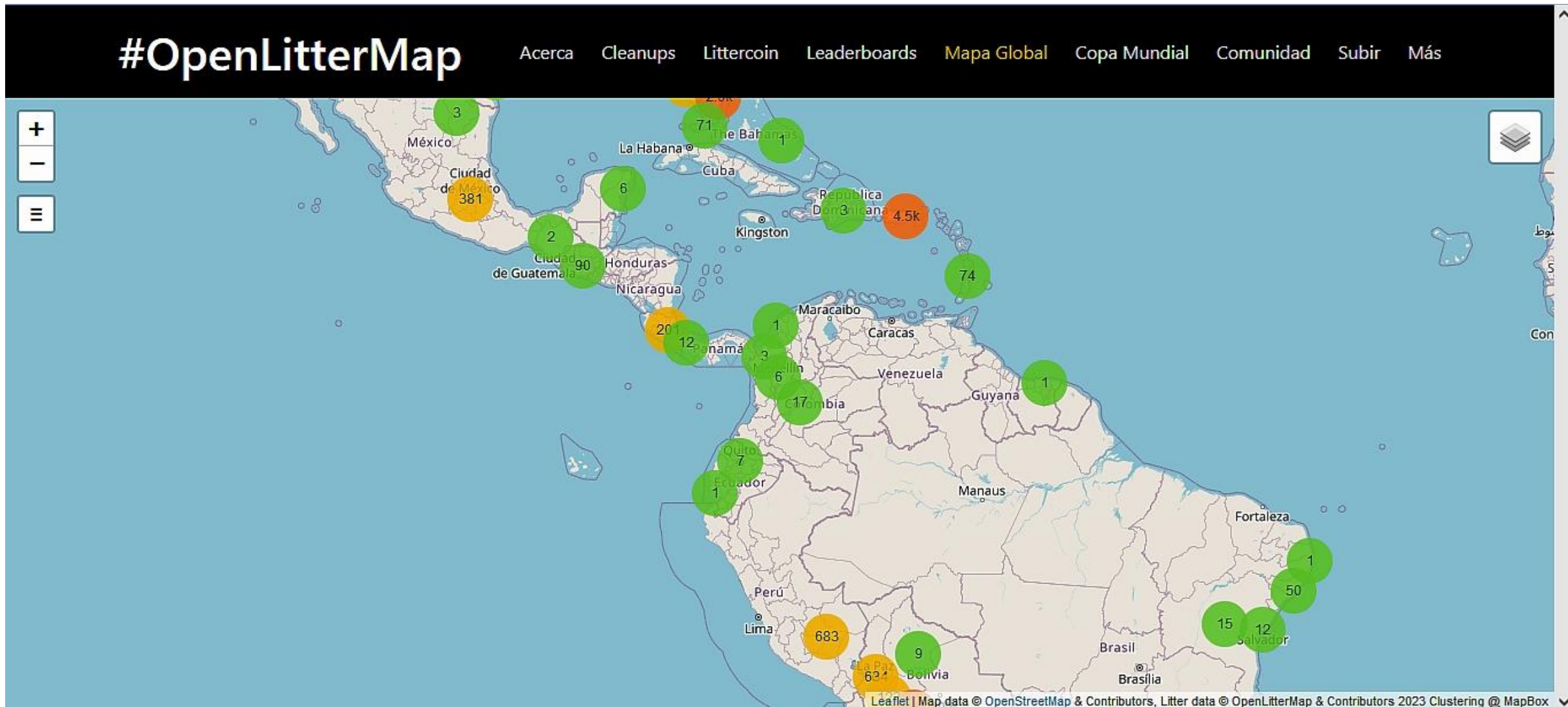


Automation



Viewer

Example | HOT - Open Litter Map



Q&A



Thanks!

