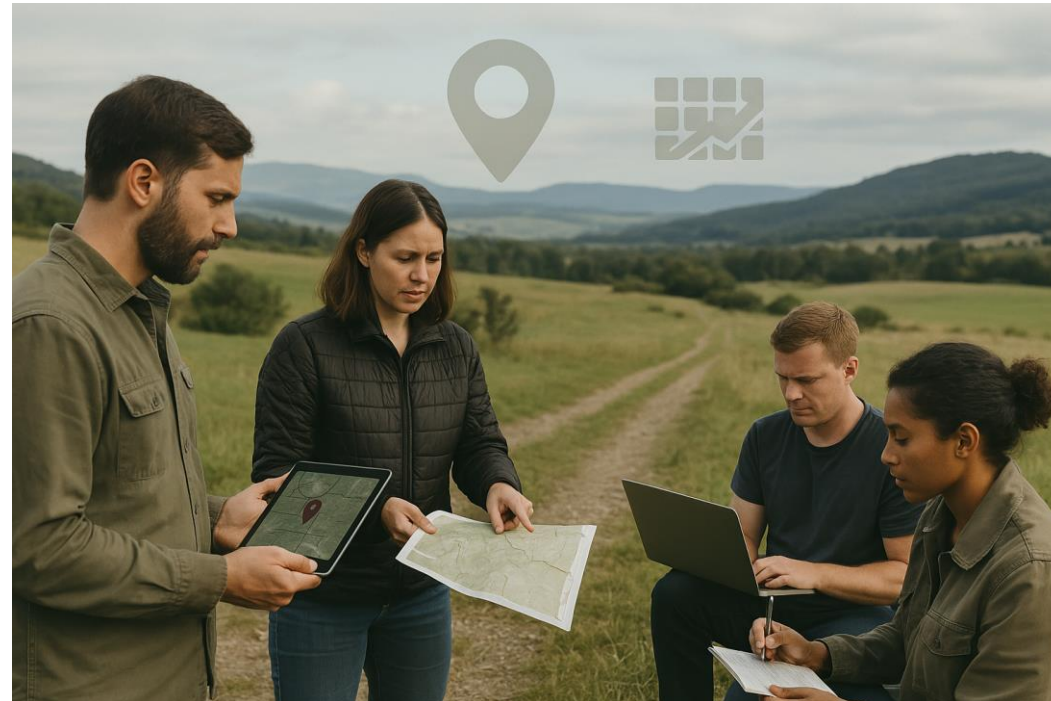
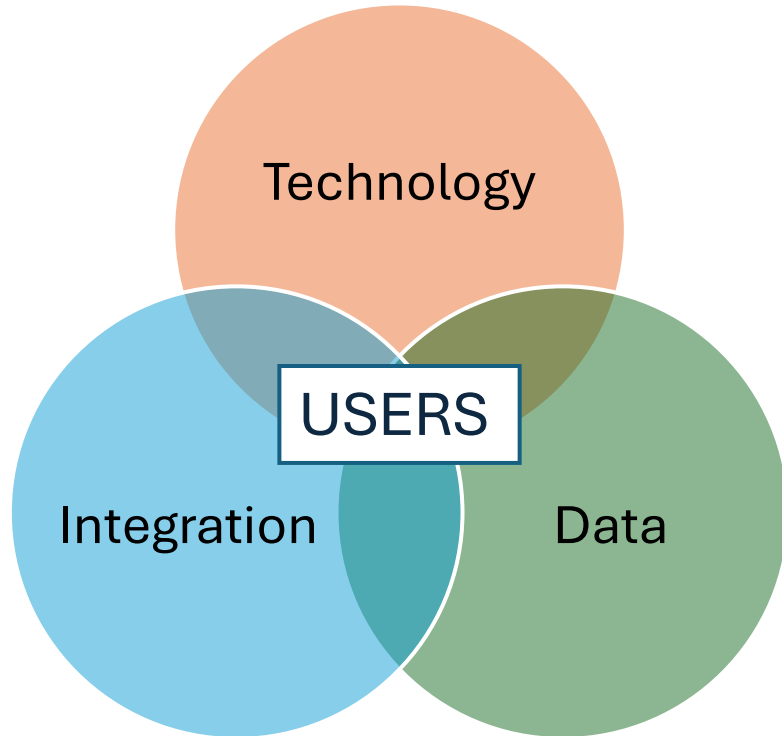


The Challenge of Moving GI to the Next Level

GISTAM Conference, Porto 2025

Objective

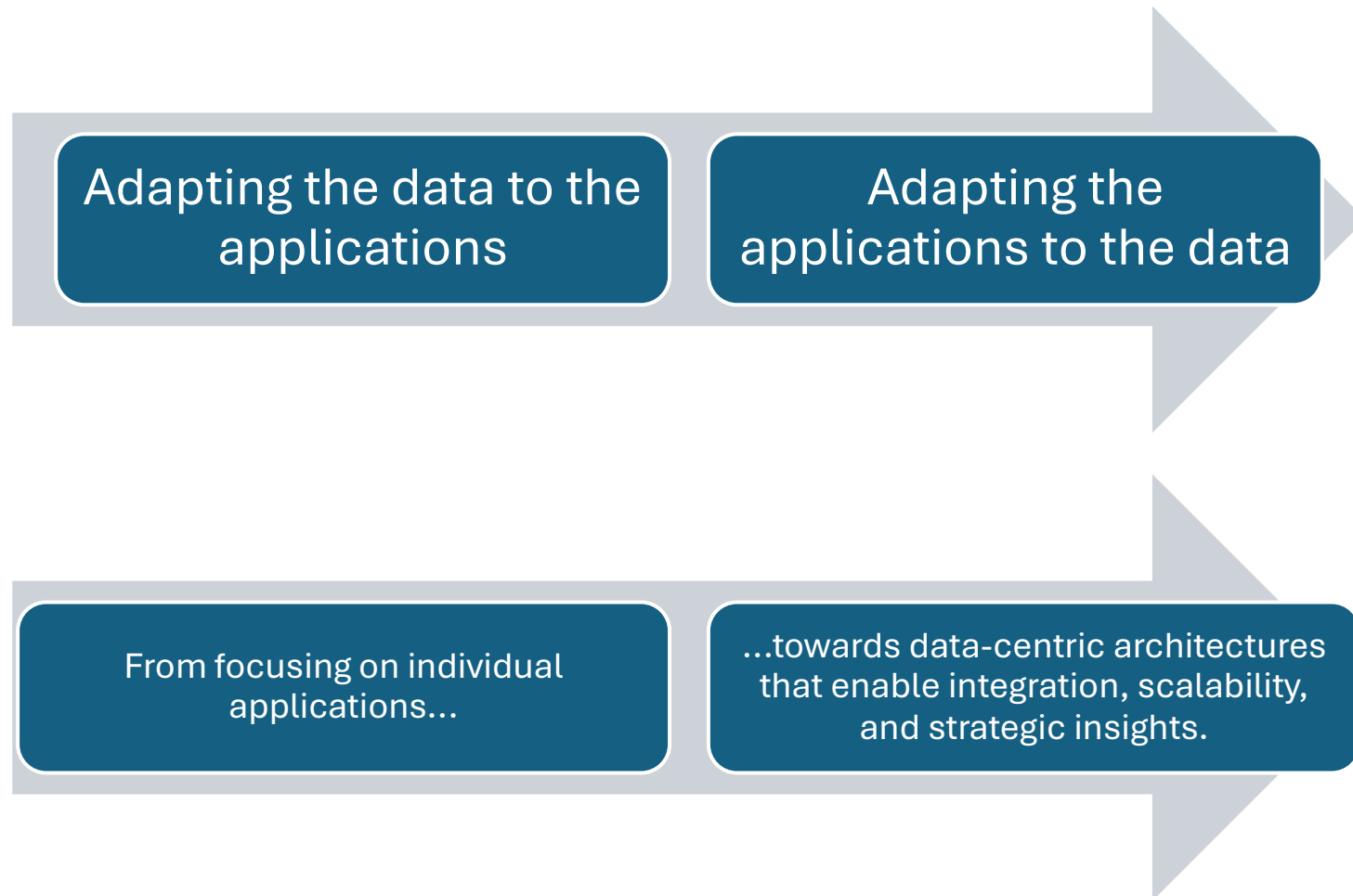
To share ideas, challenges, and trends shaping the future of geographic information



Technology challenges

- Evolving towards **GIS as a Service**: spatial operations such as *Near*, *Route*, *Overlay*, or *Buffer* are now as fundamental and seamless as standard data operations like *Sum*, *Sort*, *Select*, or *Relate*

From apps to data



Integrating GI into Business Processes

- The goal is **not just producing a map**
- Visualizing, filtering, searching, and querying are valuable — but insufficient
- The key challenge: **understand the “why”** — focus on real use cases and decision-making needs

Facilitating GI for End Users

- GI can be perceived as time-consuming or complex — its value must be immediate and transparent, especially for non-expert users
- Strategic challenges:
 - Make GI seamless and almost invisible
 - Ground development in real, well-defined use cases
- Example (next)

Example: Car Navigation Systems – A Model for GI Value

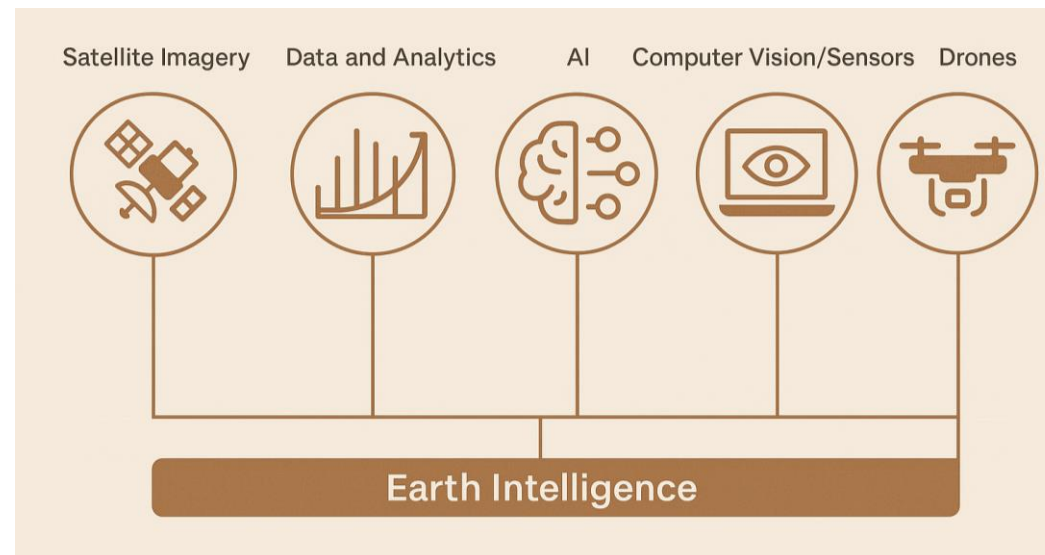
- Traditional dashboards (KPIs) inform about the **vehicle** (speed, fuel level, temperature, oil), but not the **journey**:
 - Destination
 - Route disruptions
 - Time remaining
 - Decision points (where to turn)
 - Fuel or battery requirements
 - Where and when to refuel, recharge, or rest
- The challenge: make GIS enhance and go beyond existing KPIs by supporting decision-making throughout the process.
- Interestingly, the main output of a navigation system is not a map, but a voice instruction or chart — the complex geospatial stack remains invisible:
 - Satellites, coordinate systems, geodata formats
 - Geodesic calculations, real-time road updates, data integration
 - All seamlessly working in the background
- The user only inputs the destination — and even that, ideally, should be as effortless as possible (It is not always easy!)

GI focused on analysis and decision-making

- Are we reaching the **MECA** of GI?
 - **Monitor:** continuously observe key indicators
 - **Evaluate & Understand:** interpret patterns, trends, and causes
 - **Communicate:** share actionable insights across stakeholders
 - **Alert:** trigger early warnings and informed responses

Earth Intelligence will change how to manage everything

The use of geospatial data and analytics—often from satellites, sensors, and AI—to generate insights for better decision-making across industries



Making Data AI-Ready

- Findable: catalogued and easily discoverable
- Understandable: properly documented and described
- Usable: structured, standardized, and well-formatted
- Integrable: interoperable with other sources and systems

The true value of AI lies in its ability to combine diverse data sources to uncover new insights.
Geospatial data is just one component within broader AI-driven processes.

Analysis Ready Data

Its not only to provide data, but prepare it for analysis and integration

- **Clean and high-quality data**
 - No missing values
 - No duplicates
 - Errors corrected
- **Consistent and well-structured format**
 - Logical table organization
 - Correct data types applied
 - Standardized schema and layout
 - Easily integrated into analysis tools
- **Contextual information and documentation**
 - Complete metadata available
 - Clear definitions for each column
 - Units of measure and classifications provided
 - Enables correct interpretation and usage
- **Accessible and readily available**
 - Stored in accessible systems or platforms
 - Compatible with common tools and workflows
 - Fast retrieval and query-friendly
 - Supports collaboration across teams

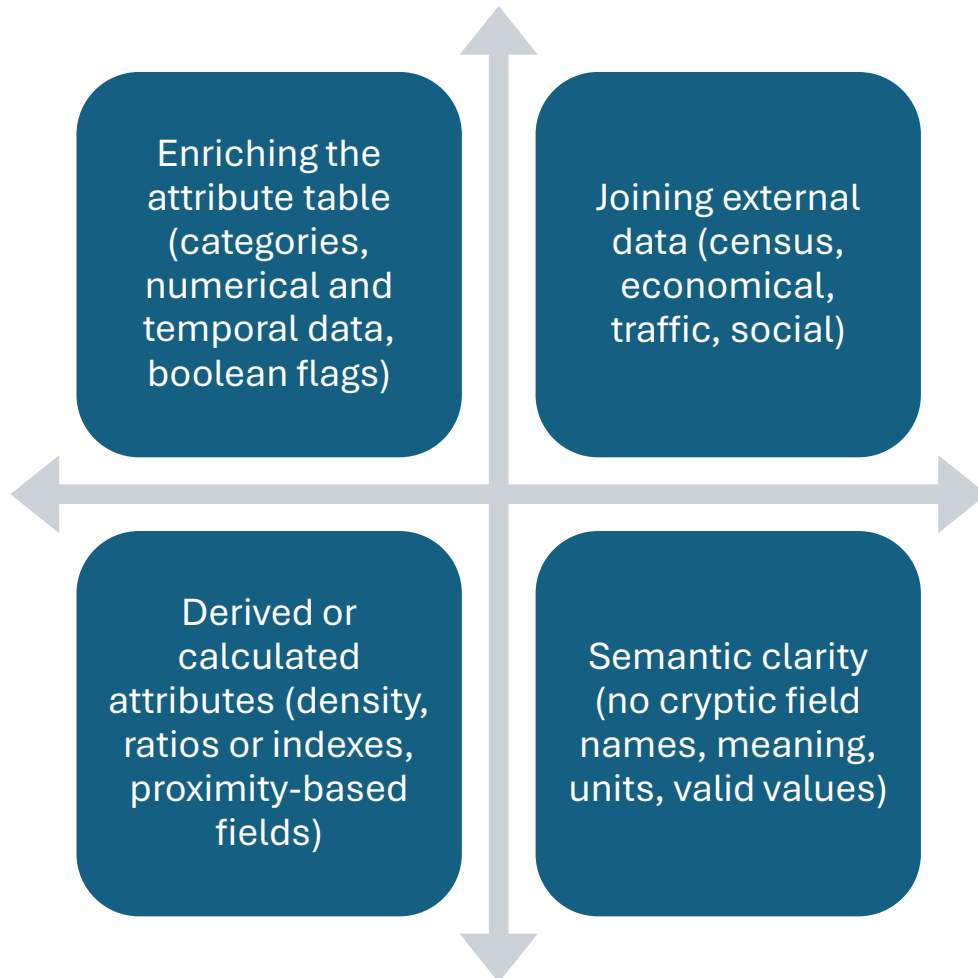


ARD, for GI

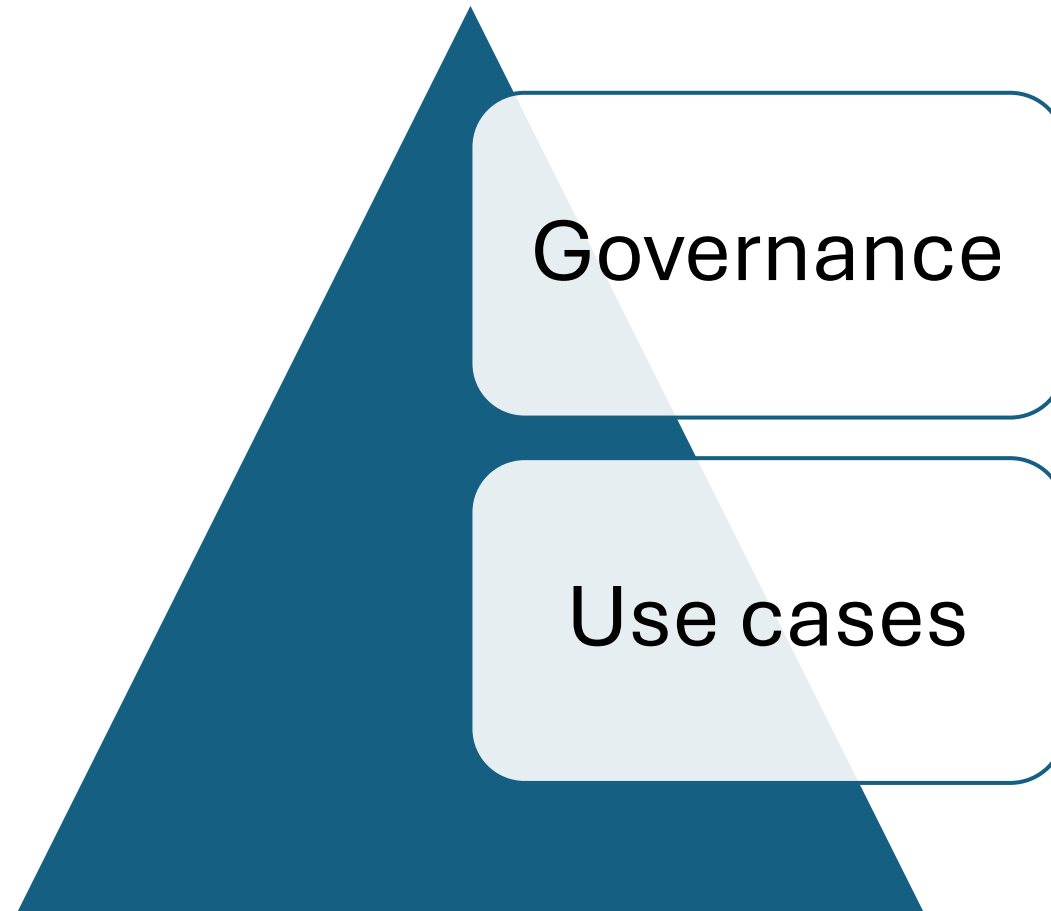
- Valid and consistent geometries
- Defined and unified spatial reference system
- Clean and standardized attribute data
- Complete and clear geographic metadata
 - Data source
 - Acquisition date
 - Scale
 - Spatial accuracy
 - Purpose and intended use
 - Usage constraints and licensing
 - Attribute descriptions



ARD, for GI (II)



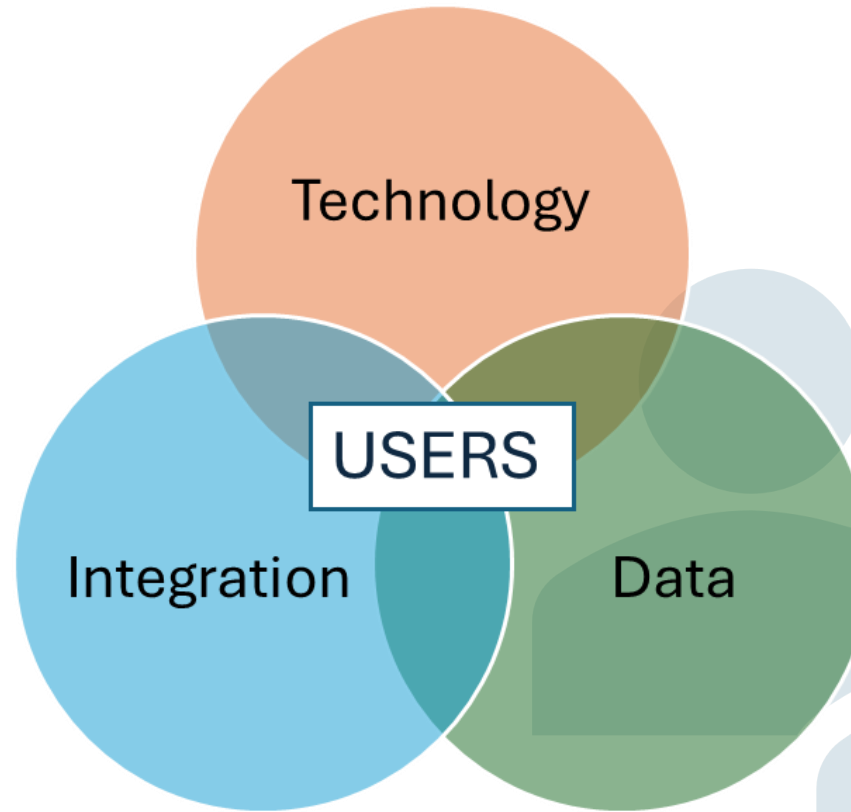
How to start?





Q & A

Thanks!



Alejandro.guinea@geograma.com

GEOGRAMA
digital maps