

bienvenidos a  
este Dìa SIG y  
open Data





16.04.2018

THE ADMINISTRATION OPENS  
COOPERATION PROJECT CACAO CORRECTO  
THE OPEN GIS AND THE OPENDATA  
INITIATIVE IN THE AUTONOMOUS  
PROVINCE OF BOLZANO

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# CHAPTER 1

# SPATIAL DATA INFRASTRUCTURE

# WHY GIS IN OUR ADMINISTRATION?

80% of public administration activities are related to the territory (\*)

→ there is a need to "georeference" administrative procedures

the "map" has the function of a "geographic menu" for access to non-geographic administrative data and allows you to discover their interrelations

→ administration is more efficient

\* Prof. J. Strobl, University of Salzburg

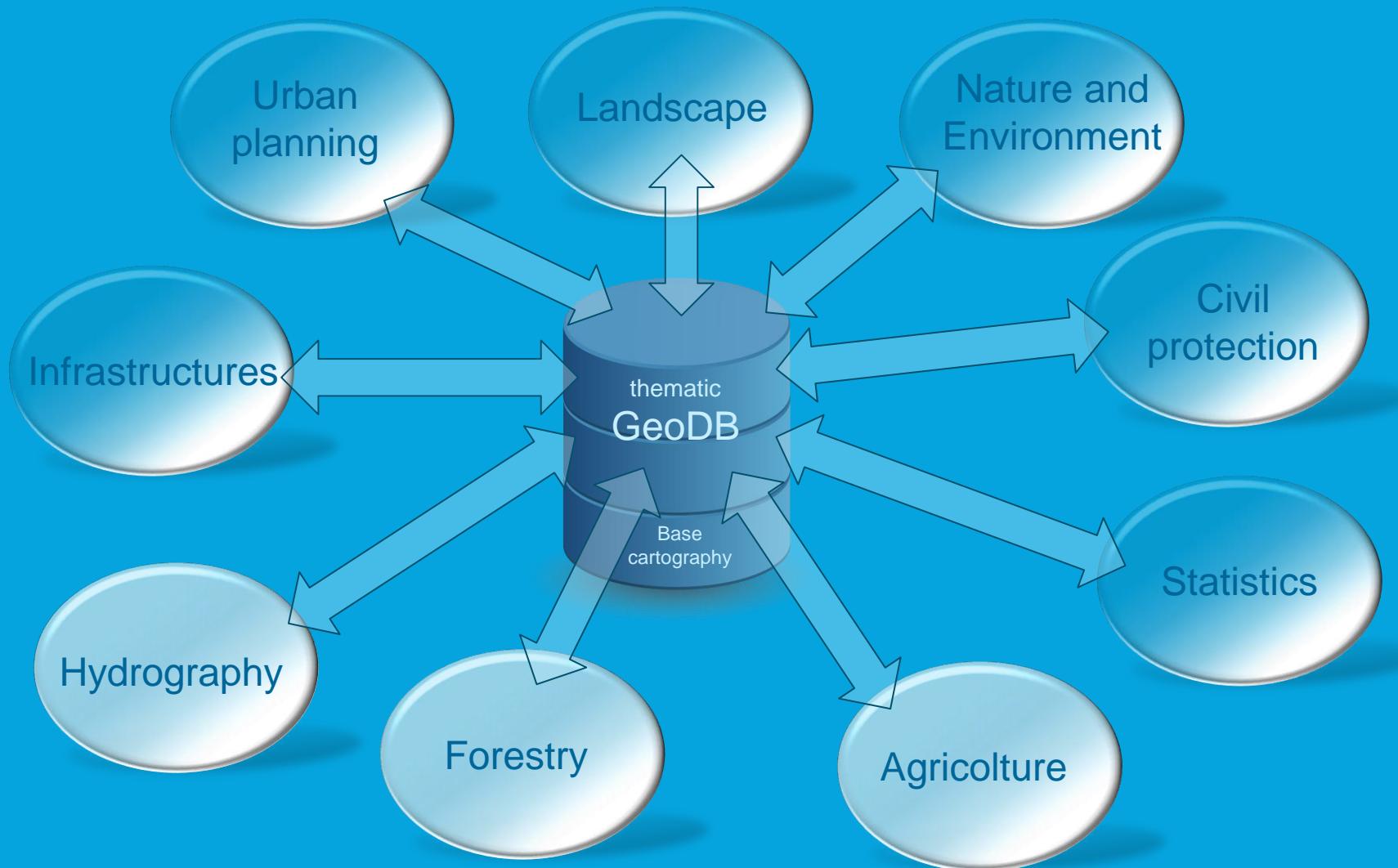
# THE VALUE OF TERRITORIAL DATA IN OUR ADMINISTRATION

80% of the value of a territorial information system is given by data and not by hardware, software, etc. (\*)

→ there is a need to preserve and update the "data treasure" over time

\* Prof. J. Strobl, University of Salzburg

# THE MOST IMPORTANT AREAS WITH GEODATA



# THE GIS OF THE AUTONOMOUS PROVINCE OF BOLZANO FROM THE BEGINNING TO TODAY

**1988 first GIS based on filesystems**

**1998 central geodatabase (SDE + METADATA)**

**2002 first WebGIS**

**2005 GIS-as-a-Service**  
only internal and on proprietary services

**2011 INSPIRE**  
first opening and standardized interfaces

**2014 cooperative GIS**  
State, Regions, Provinces, Municipalities

**2015 OpenData GIS**  
data and services for private companies

**2018 participatory GIS?**

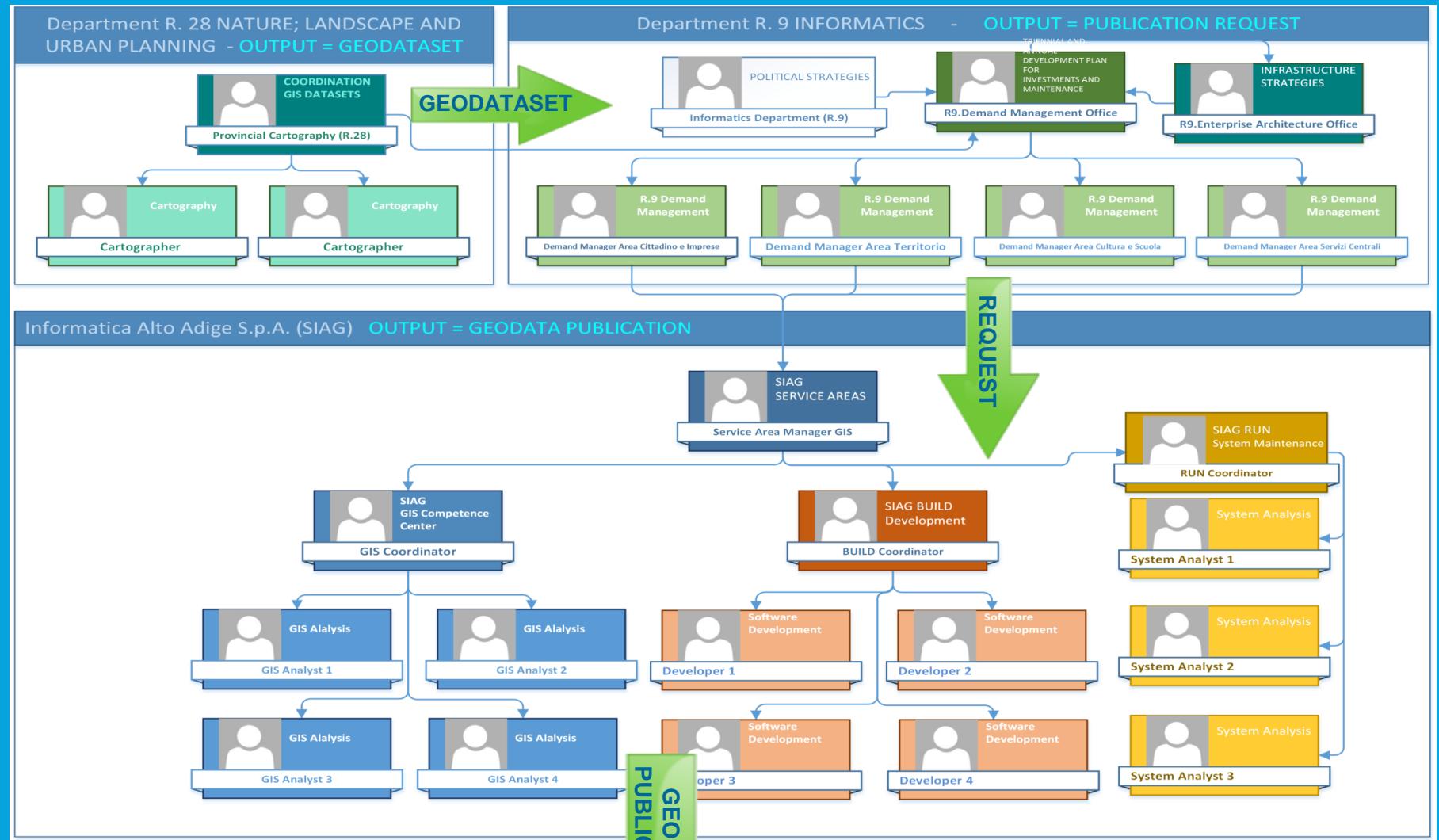
OpenStreetMap +  
data from private sector

# EVOLUTION: FROM DATASETS TO NETWORK SERVICES

in recent years we have seen a considerable evolution of the geoinformation diffusion system :

- 2000: exchange of magnetic media
- 2003: GeoBrowser for viewing
- 2005: GeoBrowser with download (SHP and DXF)
- 2011: INSPIRE web services (first prototypes)
- 2012: INSPIRE web services evolved
- 2014: application co-operation → federation
- 2015: Geoportale Alto Adige and Open Government Data

# ORGANISATION: FROM THE DATA OWNER TO THE PUBLIC



# THE EUROPEAN INSPIRE DIRECTIVE

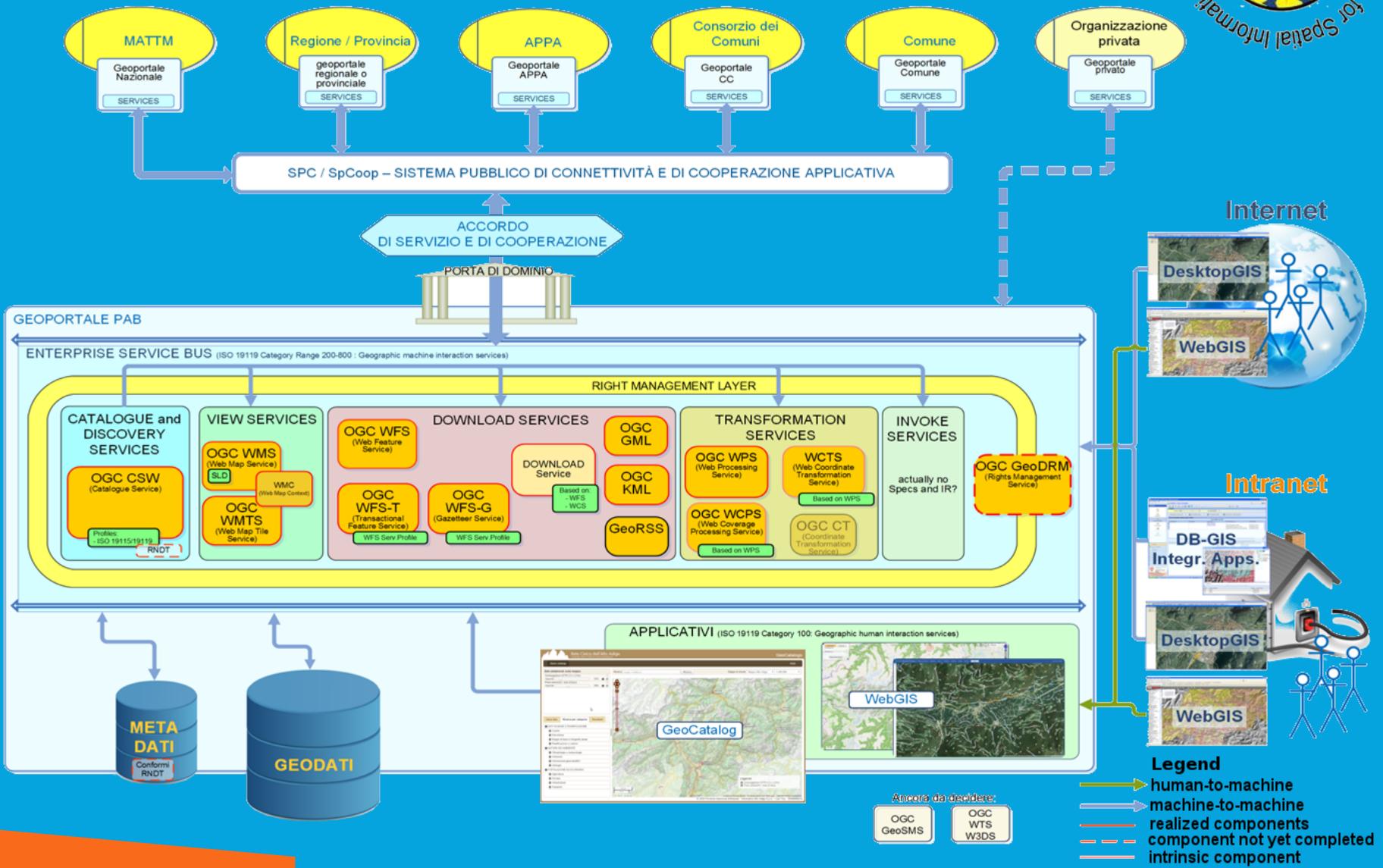


the European directive "INSPIRE" envisages the creation of a Spatial Data Infrastructure (SDI) covering the whole European Union

the SDI of the Autonomous Province of Bolzano is integrated in the national and European SDI through the sharing of standardized web services

the web services meet the standards developed by the Open Geospatial Consortium (OGC) and extended by the European Commission

# THE SPATIAL DATA INFRASTRUCTURE OF THE AUTONOMOUS PROVINCE OF BOLZANO



# OPEN SOURCE VS. PROPRIETARY SOFTWARE

the Italian law imposes the use of open source solutions where the functionality is comparable  
(art.68 CAD, the national code for digital administration)

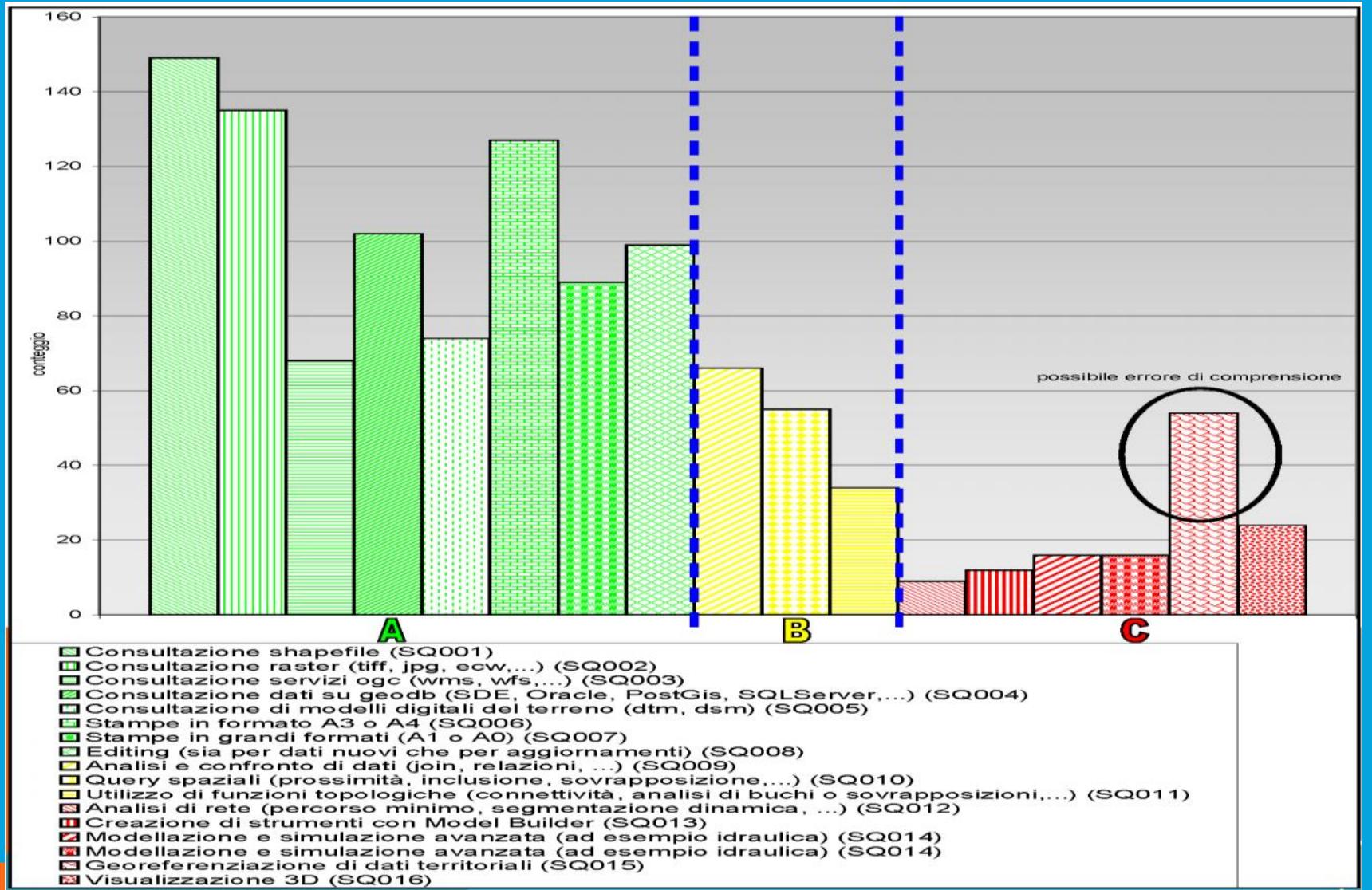


- pragmatic approach
- OpenSource + proprietary mix
- the OpenSource part is growing (e.g. QGIS)



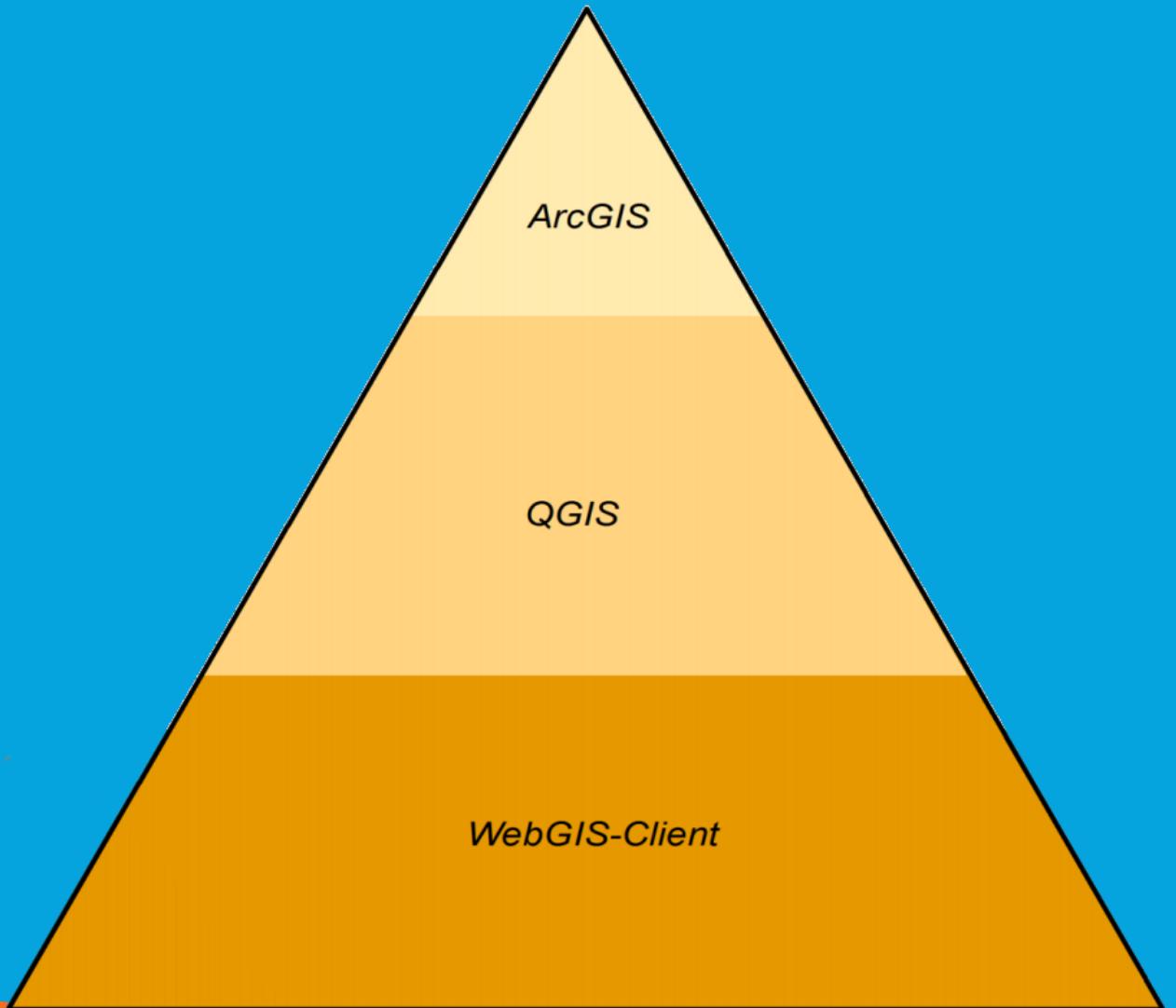
# OPEN SOURCE VS. PROPRIETARY SOFTWARE

## THE DAILY USE OF GIS FUNCTIONALITIES



# OPEN SOURCE VS. PROPRIETARY SOFTWARE

## THE DISTRIBUTION OF CLIENTS



# THE SPATIAL DATA INFRASTRUCTURE IS CROSS-ADMINISTRATIVE



# THE SPATIAL DATA INFRASTRUCTURE (SDI) OF THE PROJECT "CACAO CORRETTO"

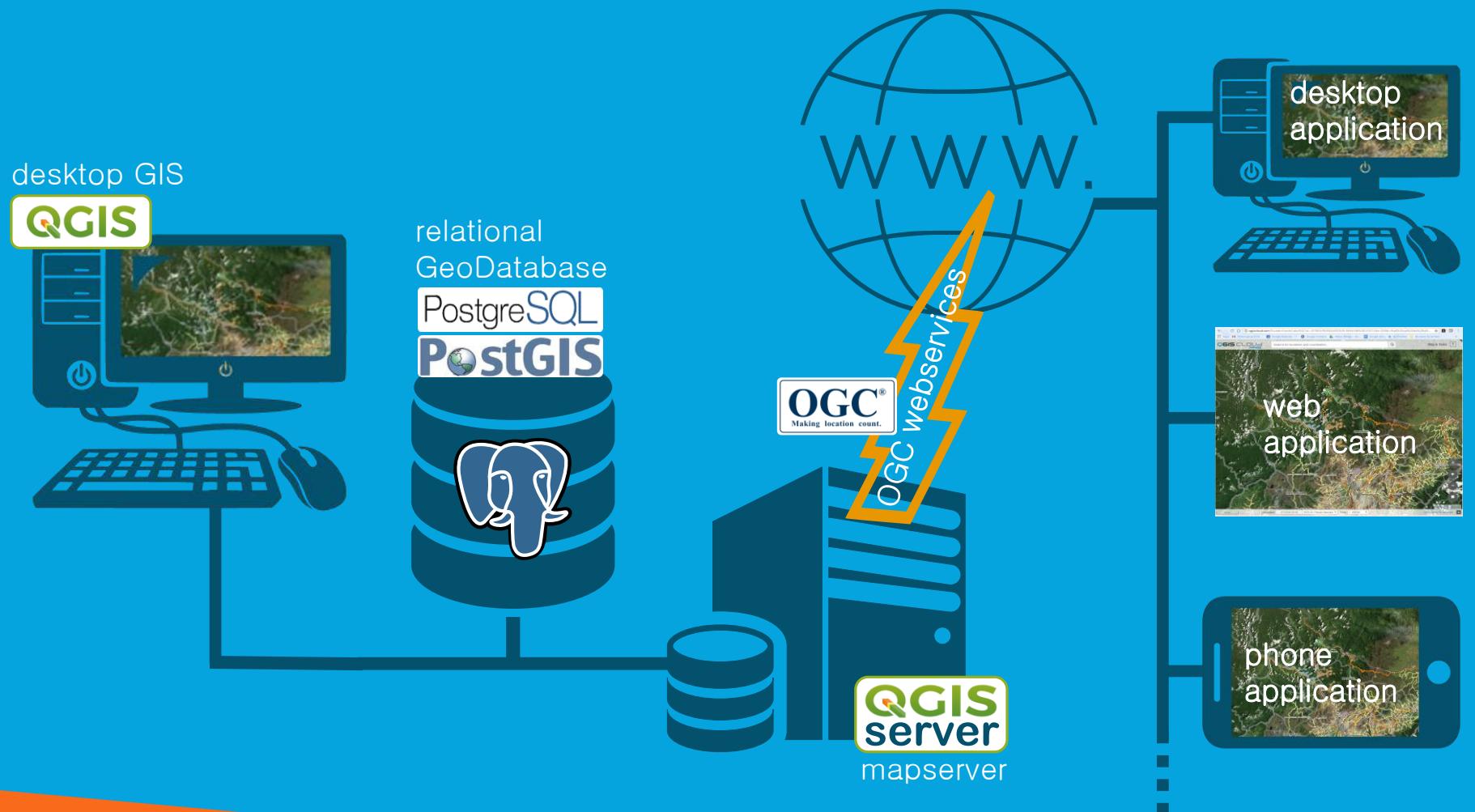
FOR EDUCATIONAL PURPOSES ONLY (NON COMMERCIAL OR ADMINISTRATIVE USE)

it has exactly the same features of a large national or regional SDI:

- internet connectivity
- desktop viewing and editing client
- geodatabase
- mapping server
- OGC compliant geographical webservices
- webserver
- web application (interactive cartography)

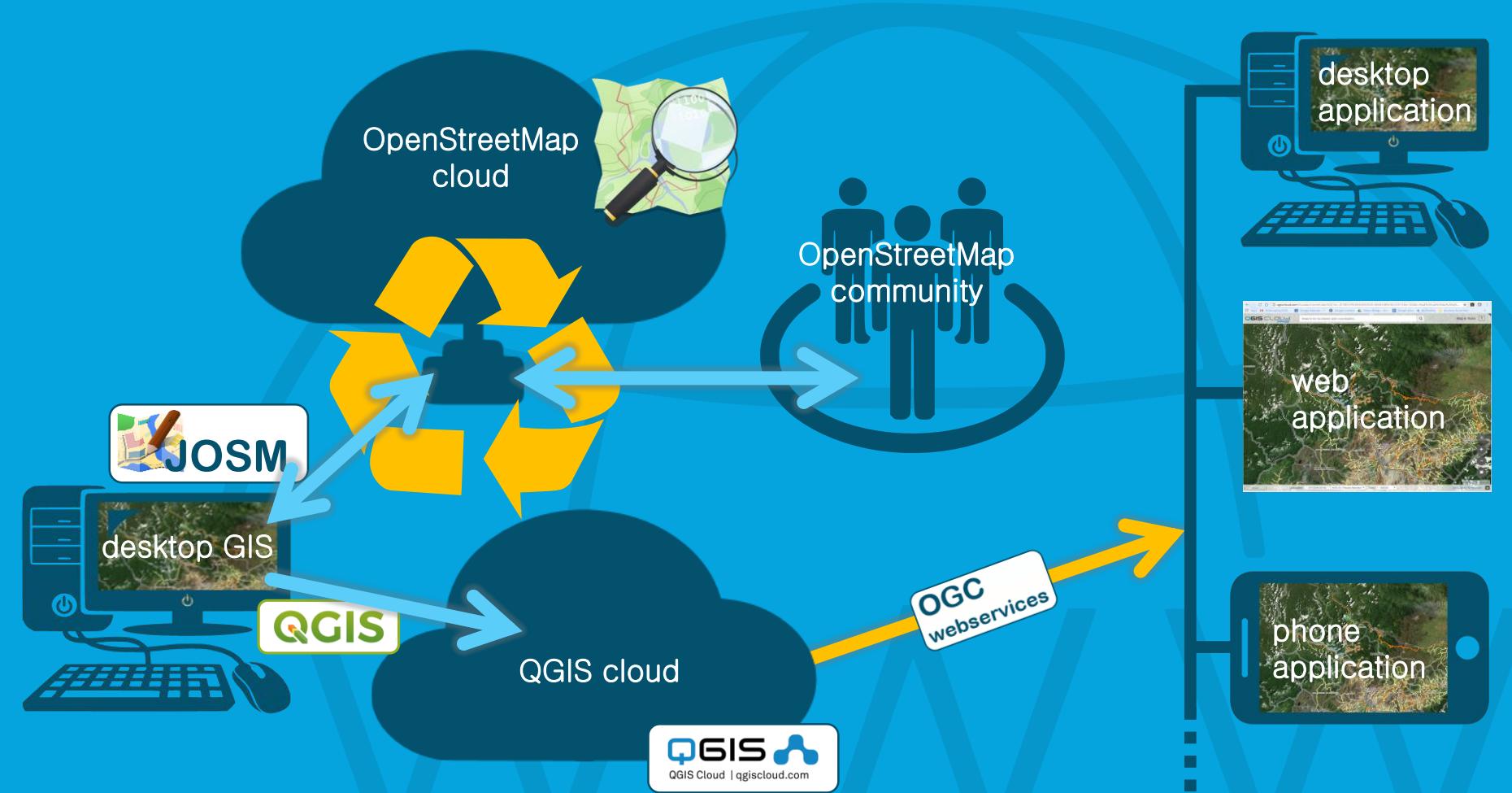
# THE SPATIAL DATA INFRASTRUCTURE (SDI) OF THE PROJECT “CACAO CORRETTO”

FOR EDUCATIONAL PURPOSES ONLY (NON COMMERCIAL OR ADMINISTRATIVE USE)



# THE PARTICIPATION CIRCLE WITH CROWD SOURCING OPEN STREET MAP

## WHICH MEANS FOR OUR PROJECT: “OPENNESS FROM THE BEGINNING TO THE END”



# LET THE CROWD PARTICIPATE IN YOUR WORK!

# THE INTEROPERABILITY WITH EXISTING NATIONAL AND INTERNATIONAL WEBSERVICES



Centros de acopio de cafe o cacao

<http://geoportal.sigtierras.gob.ec:8080/geoserver/sigtierras/wms>

Ortofoto del Ecuador

<http://181.112.137.164:8080/geoserver/wms?>

Vias asfaltadas

<http://geoportal.sigtierras.gob.ec:8080/geoserver/wms>

...and much more



Mapa Base Ecuador

<http://www.geoportalgm.gob.ec/geoserver/mapabase/wms>

RIOS 25k

<http://www.geoportalgm.gob.ec/25k/wms>



Población Mancomunidad Norte Ecuador

<http://geoservices.retecivica.bz.it/geoserver/ecuador-mne/ows>



Basemaps

Civic Network of South Tyrol

OGC  
webservices

desktop GIS

QGIS

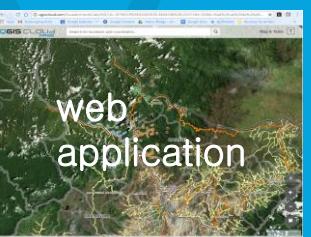
OGC  
webservices

QGIS cloud

QGIS  
Cloud | qgiscloud.com



desktop  
application



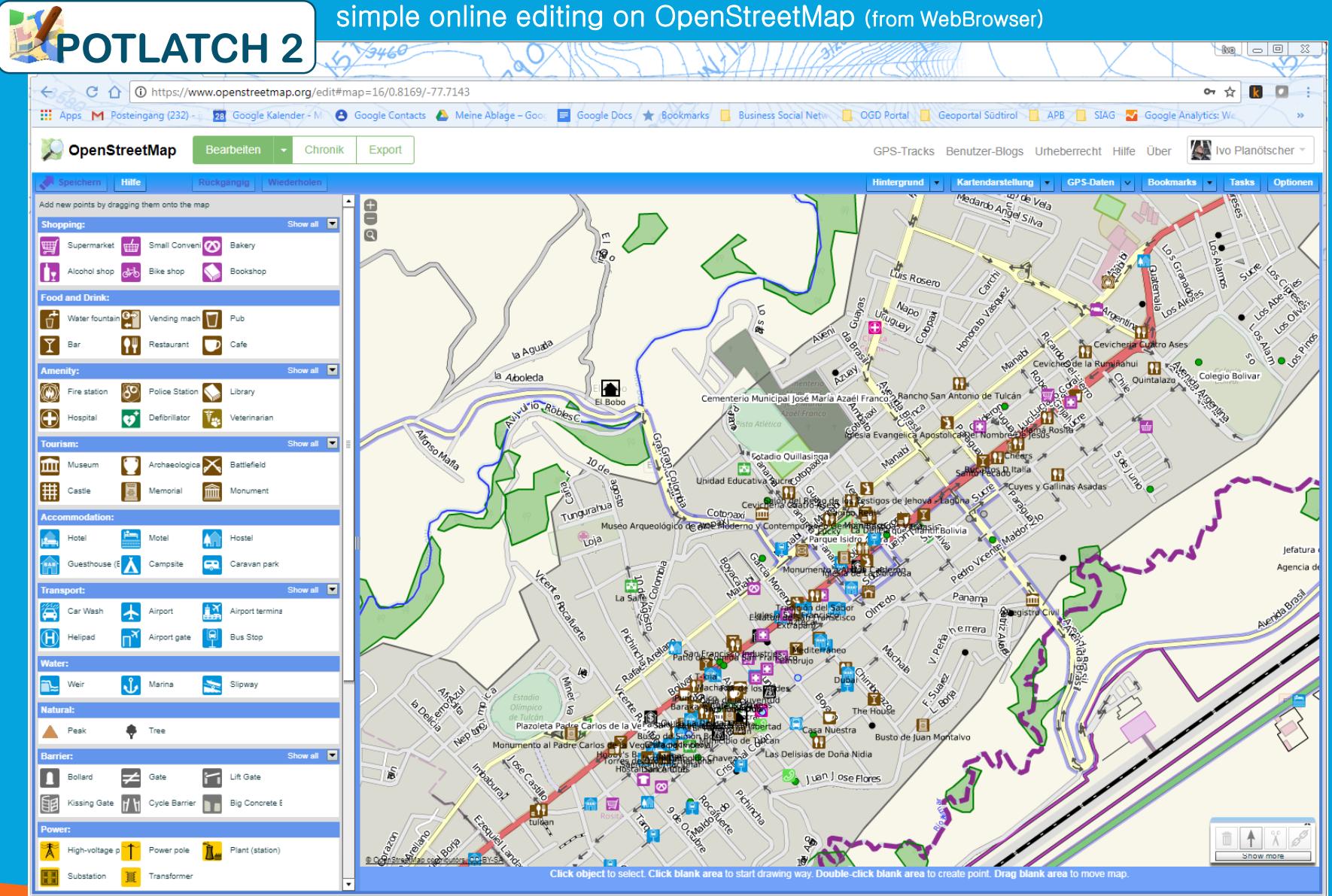
web  
application



phone  
application

# APPLICATIONS USED IN THE PROJECT (1/8)

simple online editing on OpenStreetMap (from WebBrowser)



POTLATCH 2

https://www.openstreetmap.org/edit#map=16/0.8169/-77.7143

OpenStreetMap Bearbeiten Chronik Export

GPS-Tracks Benutzer-Blogs Urheberrecht Hilfe Über Ivo Planötscher

Speichern Hilfe Rückgangig Wiederholen

Add new points by dragging them onto the map

**Shopping:**

- Supermarket
- Small Conveni
- Bakery
- Alcohol shop
- Bike shop
- Bookshop

**Food and Drink:**

- Water fountain
- Vending mach
- Pub
- Bar
- Restaurant
- Cafe

**Amenity:**

- Fire station
- Police Station
- Library
- Hospital
- Defibrillator
- Veterinarian

**Tourism:**

- Museum
- Archaeologica
- Battlefield
- Castle
- Memorial
- Monument

**Accommodation:**

- Hotel
- Motel
- Hostel
- Guesthouse
- Campsite
- Caravan park

**Transport:**

- Car Wash
- Airport
- Airport terminals
- Helipad
- Airport gate
- Bus Stop

**Water:**

- Weir
- Marina
- Slipway

**Natural:**

- Peak
- Tree

**Barrier:**

- Bollard
- Gate
- Lift Gate
- Kissing Gate
- Cycle Barrier
- Big Concrete E

**Power:**

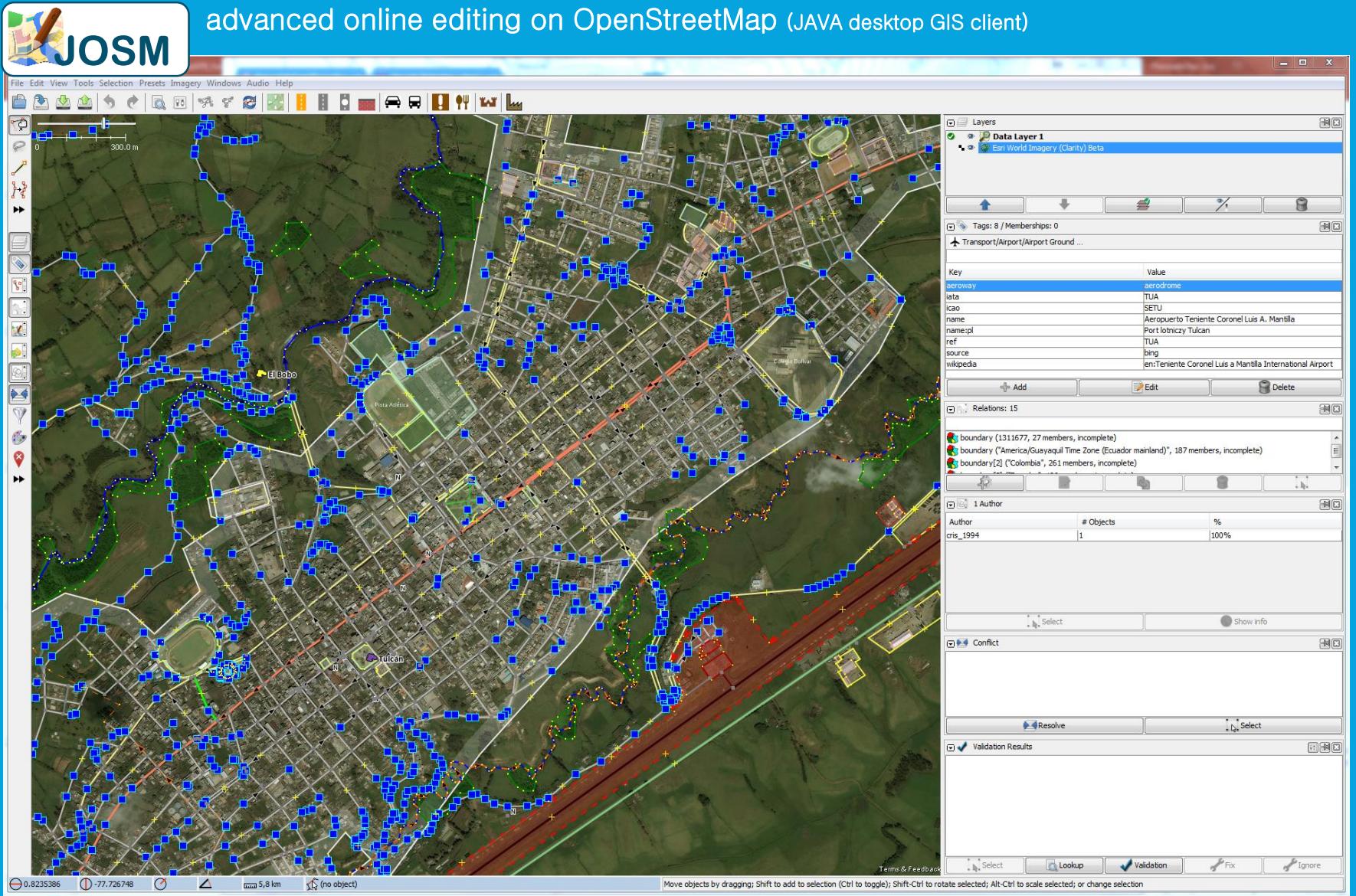
- High-voltage p
- Power pole
- Plant (station)
- Substation
- Transformer

Hintergrund Kartenendarstellung GPS-Daten Bookmarks Tasks Optionen

Click object to select. Click blank area to start drawing way. Double-click blank area to create point. Drag blank area to move map.

<https://www.openstreetmap.org/edit?editor=potlatch2>

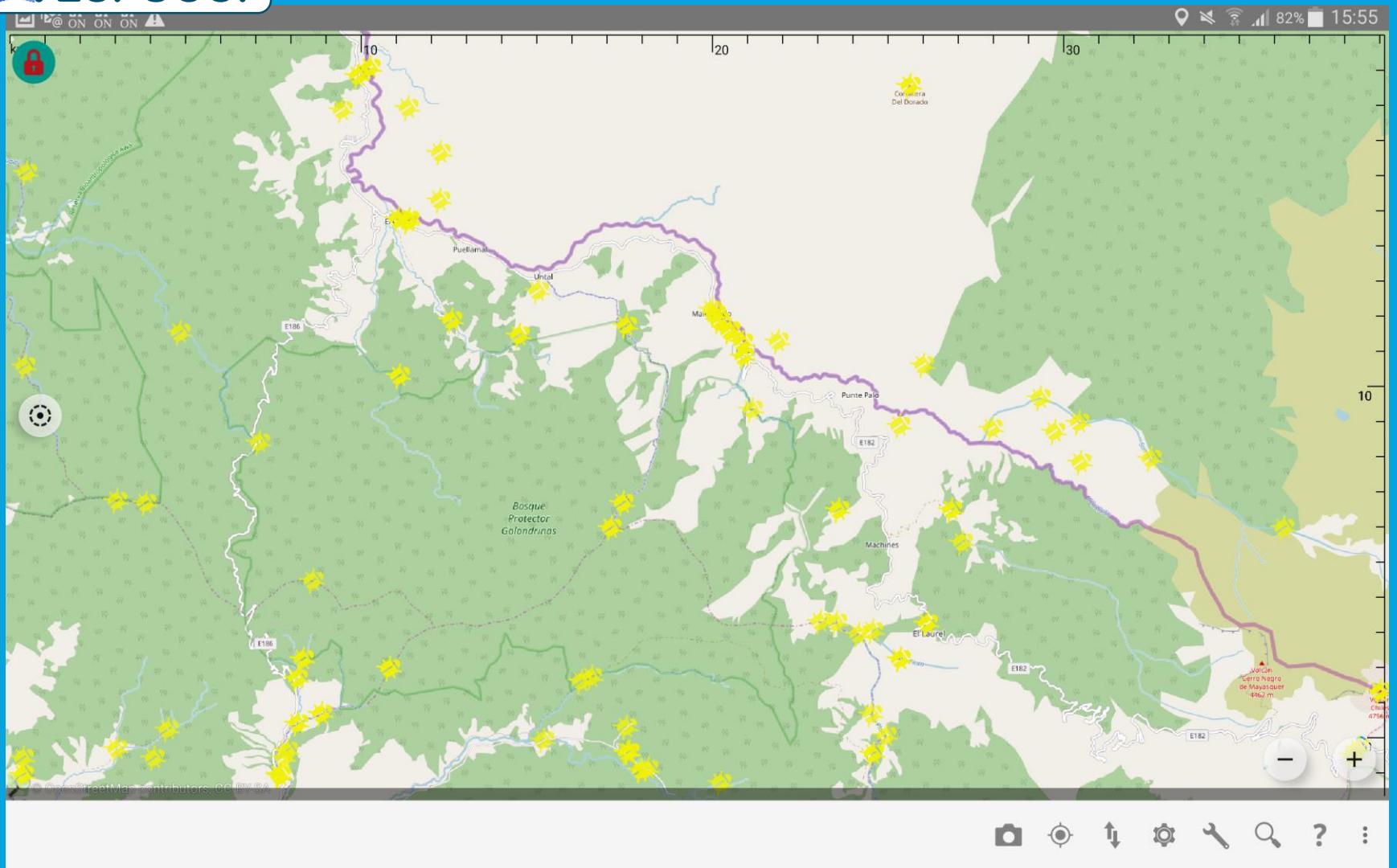
# APPLICATIONS USED IN THE PROJECT (2/8)



## APPLICATIONS USED IN THE PROJECT (3/8)



## mobile editing on OpenStreetMap (Android app)



# APPLICATIONS USED IN THE PROJECT (4/8)

OVERPASS TURBO

data download from OpenStreetMap

Node 3362081076

Tags:

name=Albita  
operator=Meneses Amanda  
phone=062969 073  
stars=3  
tourism=hostel

Coordinates:

0.9121437 / -78.1066461 (lat/lon)

Ausführen Teilen Export Wizard Speichern Laden Ausloggen Einstellungen Hilfe overpass turbo

1 /\*  
2 Abfrage "POIs tourism"  
3 Diese Abfrage dient der Extraktion aller  
4 POIs (außer der Zentroid-Nodes der  
Flächen mit POI-Information)  
Anmerkung: diese Abfrage extrahiert  
nicht die Zentroid-Nodes von Flächen,  
die POI-Information beinhalten (z.B.  
Tankstellen). Dies erledigt die Abfrage  
"AmenityAreas-to-AmenityNodes"  
\*/  
5  
6 [out:json];  
7 ( node["tourism"]{{bbox}} );  
8 );  
9 out body;  
10 >;  
11 out skel qt;

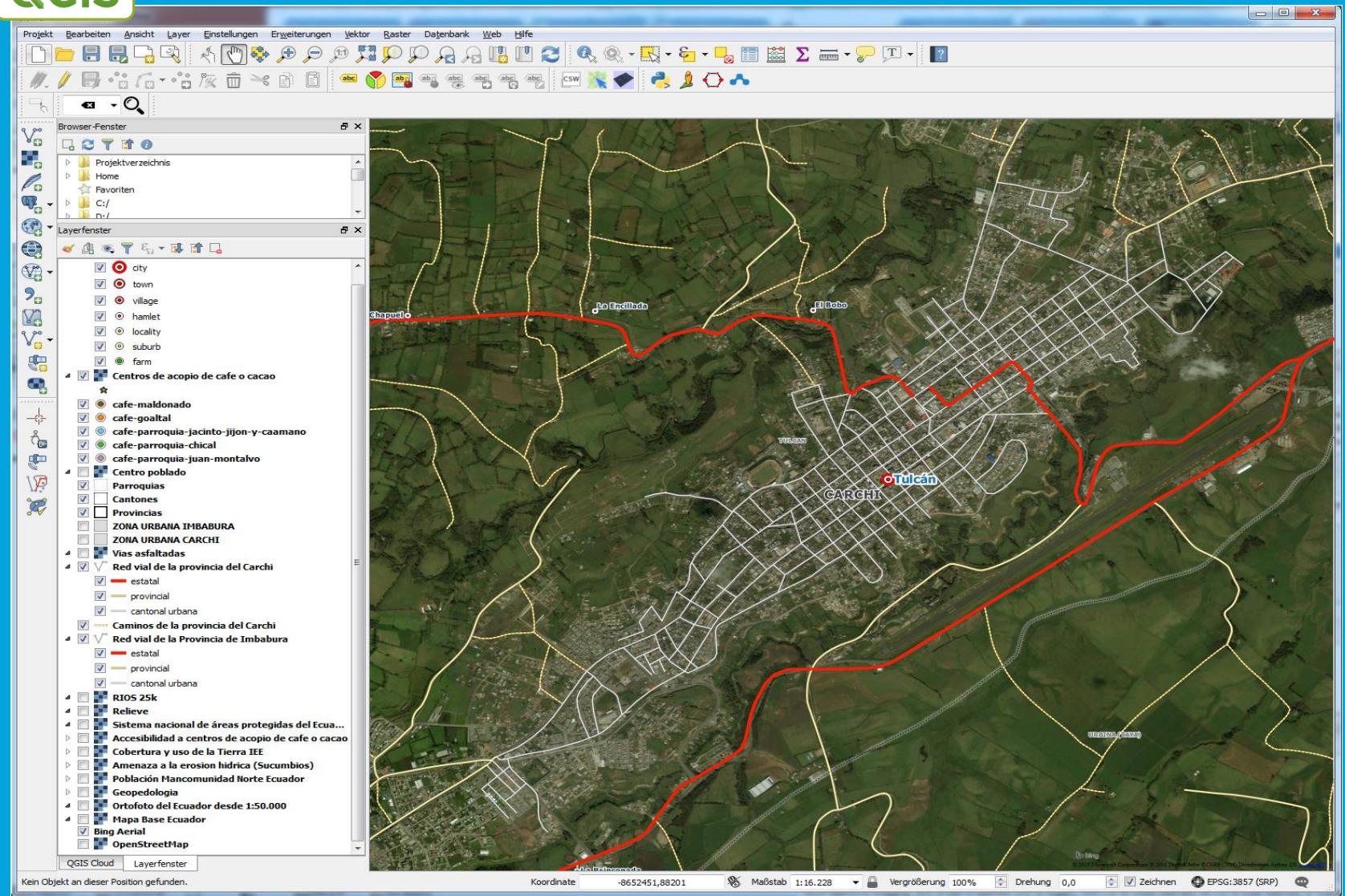
geladen – Nodes: 1332, Ways: 0, Relations: 0  
angezeigt – POIs: 1332, Linien: 0, Polygone: 0

https://overpass-turbo.eu

# APPLICATIONS USED IN THE PROJECT (5/8)



Desktop GIS, online editing and publication on QGIS Cloud



# APPLICATIONS USED IN THE PROJECT (6/8)



the Geodatabase in the QGIS Cloud

QGIS Cloud for educational purposes ONLY (non commercial or administrative use)

The screenshot shows the DB-Verwaltung (DB Administration) interface for a PostgreSQL database. The left sidebar lists various connection types: GeoPackage, Oracle Spatial, PostGIS, and others. The main area displays the schema tree for the 'cafe\_goalta' database, which includes tables like 'cafe\_goalta', 'cafe\_maldonado', 'cafe\_parroquia\_chical', etc., and spatial/geometric tables such as 'geography\_columns', 'geometry\_columns', 'raster\_columns', and 'raster\_overviews'. A 'PostGIS' tab is selected, showing detailed information about the 'cafe\_goalta' table, including its definition, geometry type (MULTIPOINT), dimension (2), and coordinate system (WGS 84 / UTM zone 17S). The 'Felder' (Fields) tab provides a detailed view of the table's columns:

#	Name	Typ	Länge	Null	Voreinstellung
1	qc_id	int4	4	N	nextval('cafe_goalta_qc_id_seq')::regclass
2	wkb_geometry	geometry (MultiPoint,32717)		Y	
3	nº	int4	4	Y	
4	apellidos	varchar		Y	
5	nombres	varchar		Y	
6	masculino	int4	4	Y	
7	femenino	int4	4	Y	
8	cedula	int4	4	Y	
9	asociacion	varchar		Y	
10	provincia	varchar		Y	
11	canton	varchar		Y	
12	parroquia	varchar		Y	
13	comunidad	varchar		Y	
14	edad	int4	4	Y	
15	numero de miembros del hogar	int4	4	Y	
16	altura	int4	4	Y	
17	coordenada x	int4	4	Y	
18	coordenada y	int4	4	Y	
19	ubicación/referencia	varchar		Y	
20	tipo de suelo	varchar		Y	
21	cultivo 1	varchar		Y	
22	numero de hectareas	varchar		Y	
23	cultivo 2	varchar		Y	
24	numero de hectareas_1	varchar		Y	
25	cultivo 3	varchar		Y	
26	numero de hectareas_2	float8	8	Y	
27	cultivo 1_1	varchar		Y	
28	variedad	varchar		Y	
29	numero de hectareas_3	float8	8	Y	
30	nº plantas	varchar		Y	
31	productividad	varchar		Y	
32	edad de la plantacion	varchar		Y	
33	cultivo 2_1	varchar		Y	
34	variedad_1	varchar		Y	
35	numero de hectareas_4	float8	8	Y	

# APPLICATIONS USED IN THE PROJECT (7/8)



Webservices exposed by the QGIS Cloud  
for educational purposes ONLY (non commercial or administrative use)

The screenshot shows the QGIS Cloud interface. At the top, there are tabs: Karten (selected), Daten laden, Benutzerkonto, and Über. Below the tabs is the QGIS logo and the text "QGIS Cloud | qgiscloud.com". There are two main buttons: "Hintergrundebene hinzufügen" and "Karte publizieren". Below these buttons is a section with links:

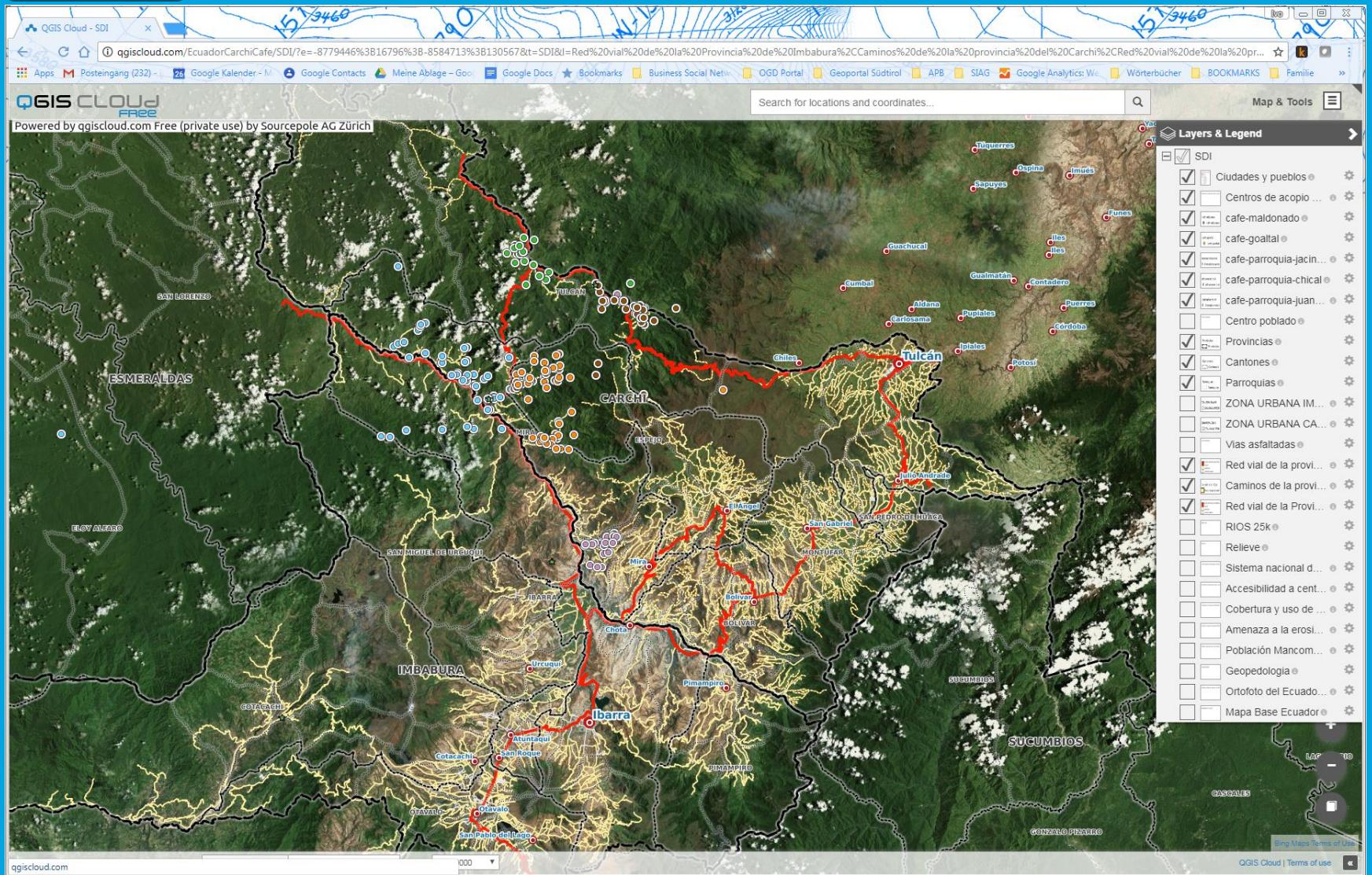
Webmap	<a href="https://qgiscloud.com/EcuadorCarchiCafe/SDI">https://qgiscloud.com/EcuadorCarchiCafe/SDI</a>
Öffentlicher WMS	<a href="https://wms.qgiscloud.com/EcuadorCarchiCafe/SDI/">https://wms.qgiscloud.com/EcuadorCarchiCafe/SDI/</a>
Kartenadministration	<a href="https://qgiscloud.com/maps">https://qgiscloud.com/maps</a>
Hilfe	<a href="mailto:support@qgiscloud.com">support@qgiscloud.com</a>

At the bottom, there is a section titled "Veröffentlichte Karten" containing a list box with "SDI". Below the list box are two buttons: "Projekt öffnen" and "Löschen".

# APPLICATIONS USED IN THE PROJECT (8/8)



Webapplication hosted by the QGIS Cloud  
for educational purposes ONLY (non commercial or administrative use)



<https://qgiscloud.com/EcuadorCarchiCafe/SDI>

## CHAPTER 2

# OPEN GOVERNMENT DATA



# OPEN GOVERNMENT DATA, WHY?

Transparency: Citizens and businesses must have access freely to public administration data.

Transparency is not only access to information eg on PA expenses, but is also sharing and reusing data (possibly native) that arise daily in administrative processes.

Social and commercial value: Public data is a fundamental resource for social and economic activities.

They stimulate the creation of innovative products and services that bring social and commercial value, especially at the territorial level.

Stimulation for citizen participation: With open data, citizens have the opportunity to have more information and to be more involved in decisions.

# WHO ARE THE USERS OF OPEN DATA ?

Citizens and non-profit organizations:

Open Data, increases the transparency and the ability for the citizen to better control the administration.

**Companies:** Open Data can be a flywheel for the economy.

Open data can stimulate the development of innovative products at companies by creating new market opportunities.

Standardization of data structures (e.g. interoperability in EU-ISA<sup>2</sup>) is very important in this context.

Local companies should be able to access the data in the same way across Europe → 16 measures of the European Single Digital Market

**Public administrations:**

Reuse data → redundancy reduction → cost savings and organizational improvements.

**Territory:** Increasing the attractiveness of the territory and its promotion

# OGD → CHANGE

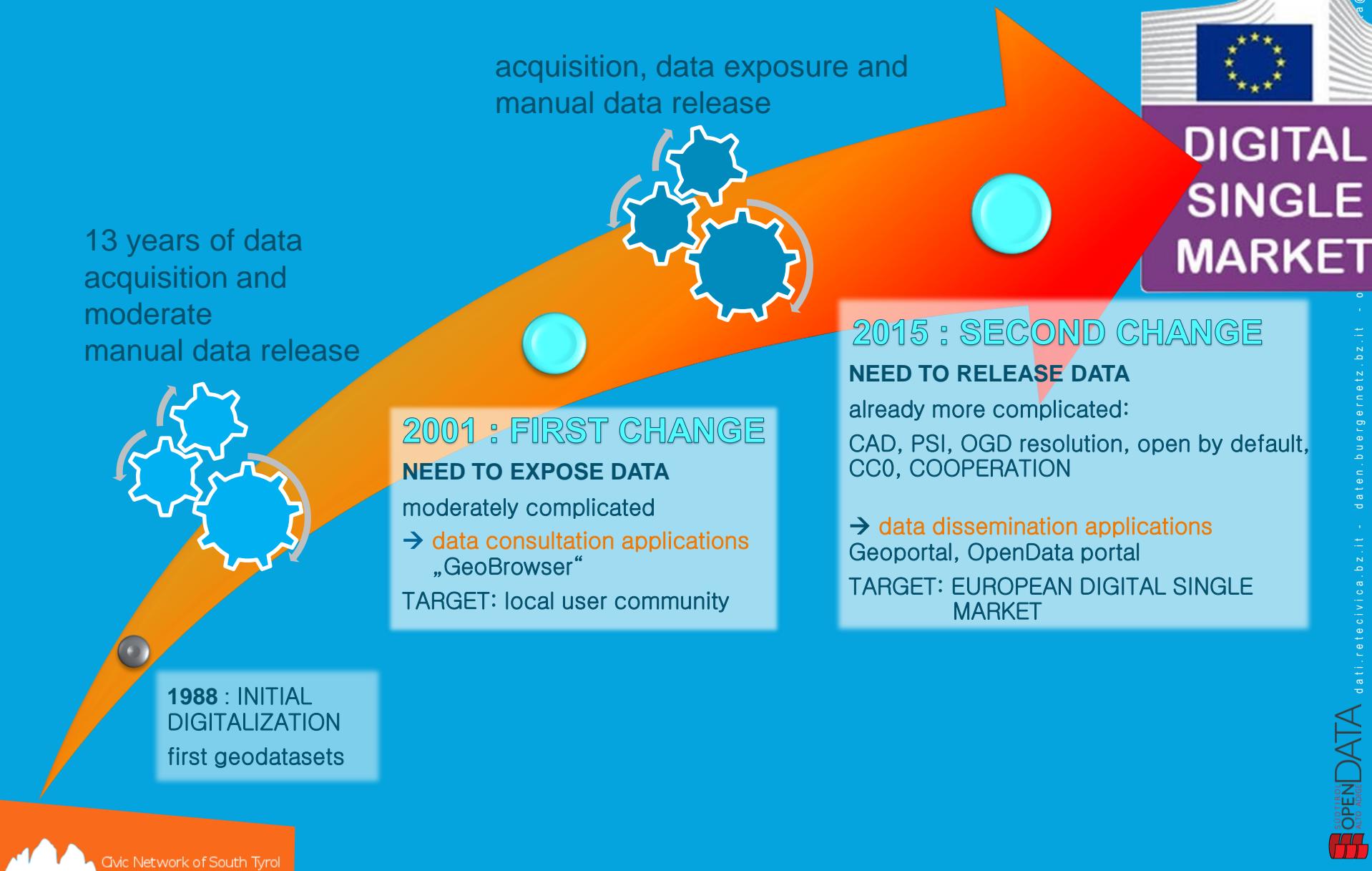
We are dealing with a cultural transformation involving companies, civil society and public administration.

In order to arrive at a common vision, the traditional focus of public administration should be adapted to the needs of the private sector.

This is a prerequisite for creating a common system for improving public information resources.

# in reality there is now the second “CHANGE”

(the example of evolution in releasing geographic data)



# THE PROVINCIAL OPEN DATA RESOLUTION

- n. 94 of 02/02/2016 "Publication of data of the public administration of South Tyrol as Open Data"
- it is added to the existing national code of the digital administration, to EU directives "Public Sector Information" and "INSPIRE"
- data is defined as "high value assets"
- use and reuse by citizens and businesses must be in the least restrictive way possible
- the participation of the population and businesses in decision making is promoted
- **exclusive agreements** are forbidden
- "Open by default" → free data, default waiver declaration CC0
- the **Open Data Alto Adige portal** is the only open data catalog of the Southtyrolean public administration
- the federation with other OpenData portals is required (regional, national, European)

# THE SOUTH TYROLEAN OPEN DATA PORTAL

- it came into production on December 9, 2015
- is a further step in the OpenData strategy after the GeoPortal which came into production in May 2015
- the Geoportal is automatically included in the Open Data Portal
- it involves several institutions (Provincial Administration, urban Bus SASA, Trentino Alto Adige Region, Municipal Consortium, Eurac Research)
- currently offers 457 datasets with approx. 2400 resources of 31 partner organizations
- the data is free and largely provided with the **Creative Commons Zero** copyright waiver (-> Public Domain)
- made with open source CKAN catalog publishing platform

**the quantity and quality of the data currently offered represent only the beginning of a process !**

# FUTURE EVOLUTION OF OPEN DATA

- internal awareness-raising actions for the administration: growing awareness that the data, the information being processed, is a "common good"
- involvement and awareness of local businesses
- involvement of other public bodies
- increase the number of datasets and major releases in interoperable formats (eg WebService)
- technological development of data exposure modes (eg standard interfaces, StatDCAT-AP)
- close collaboration with the Agency for the Digital Italy (AgID)

# SIMILARITIES BETWEEN THE ECUADORIAN OPEN DATA PORTAL AND THE SOUTH TYROLEAN OPEN DATA PORTAL

The screenshot shows the homepage of the Ecuadorian Open Data Portal. At the top, there's a banner with a sunset over water and a large bird wing graphic. The title "Datos Abiertos" is on the left. On the right, it says "Ecuador". Below the banner are three main sections: "Noticias" (News), "Servicios" (Services), and "Enlaces de Interés" (Links of Interest). The "Noticias" section features a collage of images related to women in Ecuador. The "Servicios" section has three buttons: "Catálogo Datos Abiertos", "Guía de Datos Abiertos", and "Datos de Interés". The "Enlaces de Interés" section includes links to "Qué son los Datos Abiertos?", "Catálogo de Datos Abiertos", "Gobierno Electrónico Ecuador", and "Información Mundial Datos Abiertos". At the bottom, there are footer sections for "Contacto Ciudadano", "Proyecto Personajes Emblemáticos", and "Sistema Nacional de Información (SNI)". The footer also includes the logo of the Government of Ecuador and the "ecuador ama la vida" campaign.

www.datosabiertos.gob.ec

Apps Posteingang (232) Google Kalender - Google Contacts Meine Ablage – Google Google Docs Bookmarks Business Social Network OGD Portal

Datos Abiertos

Ecuador

MENÚ

Noticias

"Humanas: Mujeres en el Arte Ecuatoriano" inició el homenaje a la Mujer

Servicios

Catálogo Datos Abiertos Guía de Datos Abiertos Datos de Interés

Enlaces de Interés

Qué son los Datos Abiertos?

Catálogo de Datos Abiertos

Gobierno Electrónico Ecuador

Información Mundial Datos Abiertos

Entérate

Medidas de prevención ante la Influenza

Tu Gobierno informa

Contacto Ciudadano

Proyecto Personajes Emblemáticos

Sistema Nacional de Información (SNI)

GOBIERNO NACIONAL DE LA REPÚBLICA DEL ECUADOR

Juan León Mera Nro. 19-36 y Av. Patria Código Postal: 170517 Quito - Ecuador Teléfono: 593-2 3 97-8900

ecuador ama la vida

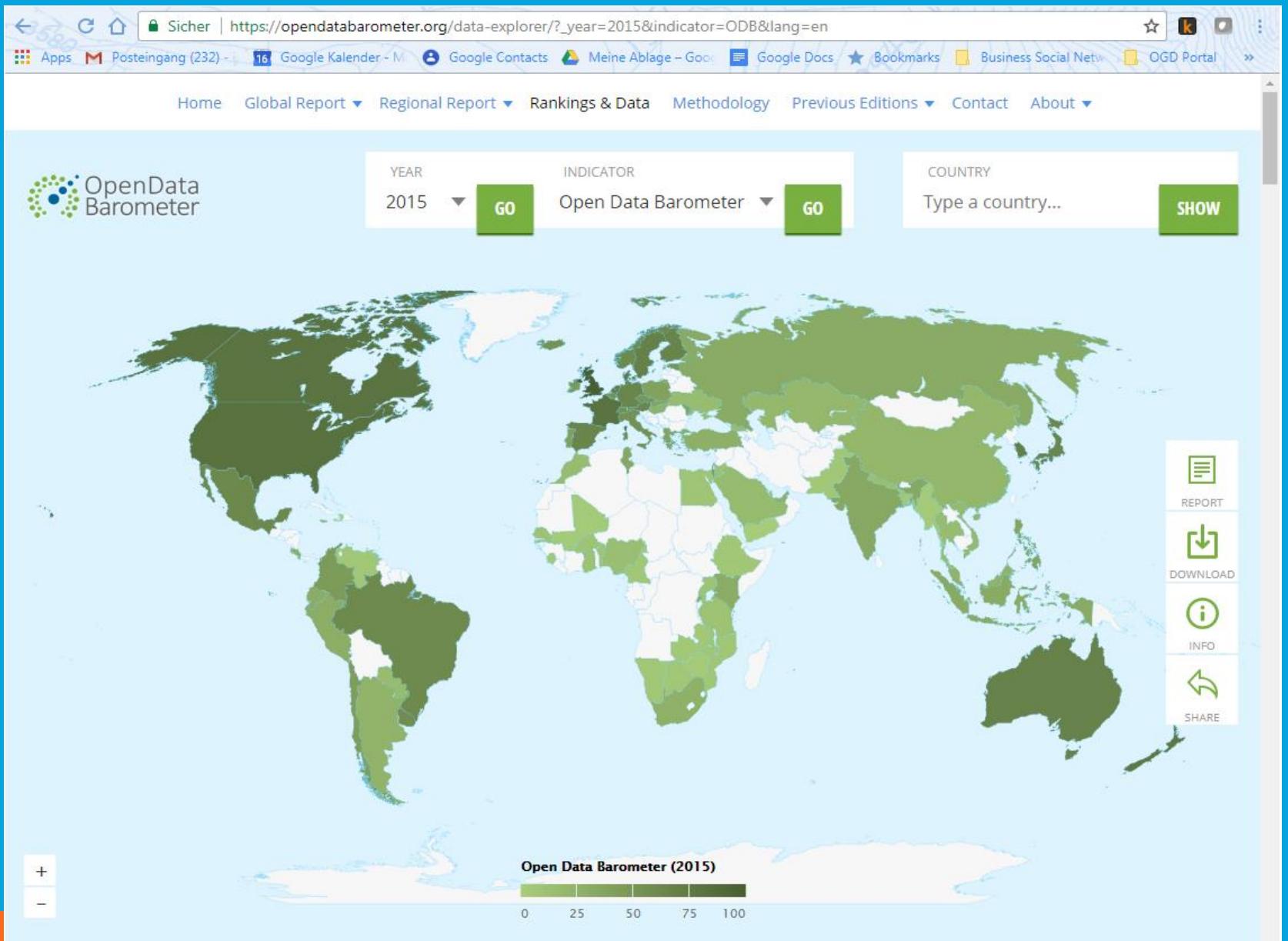
SOUTH TYROL AUTO ADME OPEN DATA

# SIMILARITIES BETWEEN THE ECUADORIAN OPEN DATA PORTAL AND THE SOUTH TYROLEAN OPEN DATA PORTAL

The screenshot shows the Ecuadorian Open Data Portal's interface. It features a sidebar with links to 'Organizations' (Instituto Nacional, Servicio Integrado, Petroamazonas EP, etc.) and 'Groups' (Administración, Economía, Social, etc.). The main content area displays a search bar and a list of 108 datasets found, categorized by organization. Examples include 'Estructura orgánica funcional - Servicio Integrado de Seguridad' (with XLS and XLSX download links) and 'Presupuesto Anual - Servicio Integrado de Seguridad ECU'.

The screenshot shows the South Tyrolean Open Data Portal's interface. It includes a sidebar with 'Organizations' (PAB, Provincia Autonoma, Agenzia per la prot...), 'Categorie' (Gestione del territorio, Salute, Ambiente, Economia, etc.), and a 'Geocatalogo'. The main content area displays a search bar and a list of 457 datasets found, categorized by organization. Examples include 'Associazioni turistiche in Alto Adige' (with XLS and ODS download links), 'Scuole di alpinismo in Alto Adige' (with XLS, CSV, and ODS download links), and 'Rifugi alpini dell'Alto Adige' (with XLS, CSV, and ODS download links).

# OPENDATA BAROMETER 2015

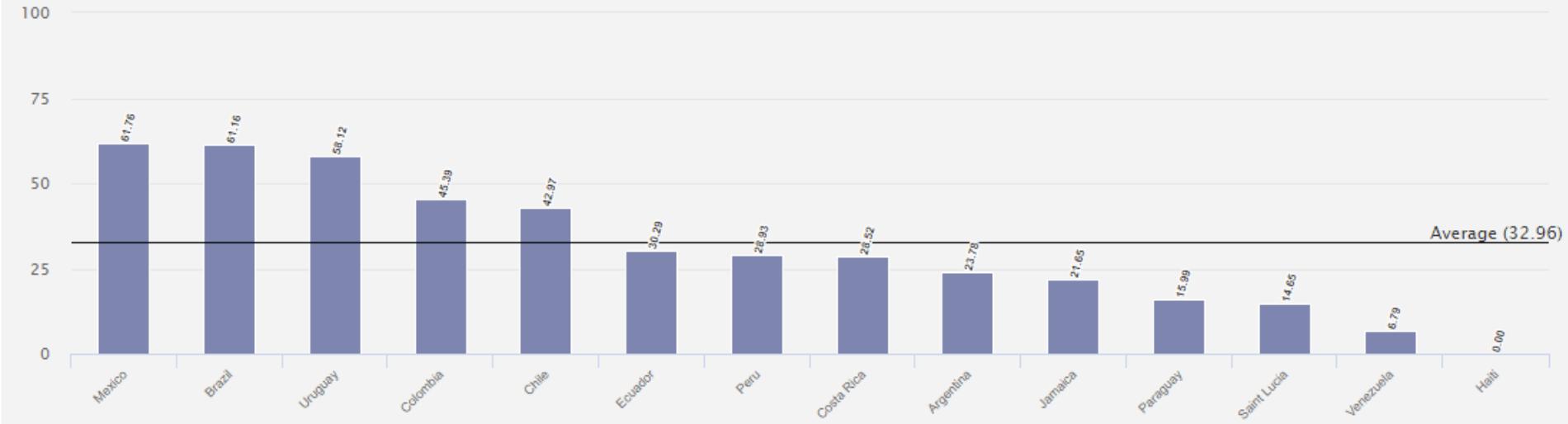


# OPENDATA BAROMETER 2015

## Ranking Latin America & Caribbean

Open Data Barometer (2015)

Source: ODB Expert Survey 2015



# UNIGIS IN ECUADOR

**UNIGIS** América Latina  
Educando en SIG  
a profesionales de todo el mundo

¡BIENVENIDOS! PROGRAMAS NODOS ¿CÓMO ESTUDIAR? COMUNIDAD UNIGIS

**UNIGIS en Ecuador**

Universidad San Francisco de Quito

Home

## UNIGIS en Ecuador

Desde 1999, la Universidad San Francisco de Quito (USFQ) en Ecuador ha sido la sede de UNIGIS y el centro base de la red UNIGIS América Latina. Como representación oficial de la Asociación Internacional UNIGIS para la región, y en convenio con la Universidad de Salzburgo, la sede de UNIGIS en la USFQ es el punto de apoyo principal para todos nodos en América Latina. Más aún, todos los aspirantes, estudiantes y egresados del programa UNIGIS tienen su "casa" en Quito.

UNIGIS ofrece estudios de posgrado en Español para la comunidad de usuarios SIG en Ecuador y toda América Latina, a través del convenio de cooperación vigente entre la USFQ y el Departamento de Geoinformática Z\_GIS de la Universidad de Salzburgo.

- La Maestría UNIGIS en modalidad a distancia se ha convertido en el programa líder en América Latina para profesionales en el campo de la Ciencia y Sistemas de Información Geográfica
- La Especialización UNIGIS Professional, a distancia y ofrecida por la Universidad de Salzburgo/UNIGIS América Latina
- Los cursos presenciales del GeoCentro USFQ abiertos a la comunidad en general, facilitando así un modelo de capacitación presencial, virtual y práctico, para profesionales, estudiantes y técnicos que buscan ampliar y profundizar sus conocimientos y habilidades en SIG.

De la mano con el programa de Maestría se llevan a cabo, en el GEOcentro, proyectos de investigación aplicada en varios tópicos donde los SIG se convierten en una herramienta clave para una verdadera propuesta de cambio y mejora. Iniciativas de la GeoComunidad son el producto en constante desarrollo de estas propuestas de investigación y aplicación directa de los SIG.

Sistema de Beneficios

Paquetes institucionales	Estudiantes vinculados	Beneficios / Becas
SILVER	3 a 5	-10% clú
GOLD	6 a 8	2 becas 50%
PLATINUM	9 a 14	4 becas 50%
DIAMOND	15+	3 becas 100%

Sé parte de UNIGIS  
El primer paso es fácil, completa la

**Solicitud de Admisión**

<http://quito.unigis.net/>

credits:

Autonomous Province of Bolzano,  
Family Department and Administrative  
Organization

Autonomous Province of Bolzano,  
Section 9, Information Technology

Informatica Alto Adige S.p.A.,  
OpenData Competence Center

author: Ivo Planötscher, ivo.planetscher@siag.it