gvSIG

Generalitat Valenciana

March 29th 2017, Lisbon, Portugal

ISA²

Agenda

- Context
- State of play
- Design
- Governance
- Impact and results
- Sustainability
- Next Steps

The importance of “Geo”

Before starting...

Geography is increasingly being recognised as a critically important element of data.

Reality is expressed on the territory.

Tools that allow us to manage the territory will allow us to manage the reality.

For that, our Information Systems have to have the capacity to integrate the geographic dimension in its core.

Locations where people live & where organisations operate

Industrial management

Does your organization want to:
visualise data in paper or digital maps or 3D models?

Does your organization want to:
plan optimal transportation routes or allocate the nearest resources to carry out a task?

Does your organization need to :
accurately record or analyse data that is related to street addresses?

Does your organization:
plan for and manage the infrastructure to support utilities and/or telecommunications?

Does your organization want to:
understand the ownership and/or rights over property? Maybe including who is 'occupying' a property even if they aren't the owner?

Does your organization want to:
plan for future construction or development?

Does your organization want to determine:
people, assets or other organisations located in an area that could be impacted/influenced by something happening nearby?

Does your organization do one or more of these?

If so then you should use GIS.

Geolocating ICT

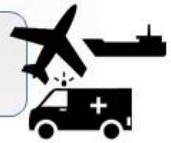
Does your organization want to:
manage buildings, built assets and property estates?

Does your organization need to :
understand demographic preferences, differences and trends- including differences that are distinct between geographic regions, for your customers or citizens?

Does your organization want to:
analyse soil types or geology and mineral deposits?

Does your organization want to:
plan for and manage the optimal use of productive land or water?

Does your organization want to:
know where personnel or assets are currently located, and where they are going?



Does your organization want to:
make a contribution to the protection of the natural environment or society?

Does your organization want to:
identify, mitigate, control and recover from natural or man-made threats?

Does your organization want to:
understand how property values are changing?

Does your organization want to:
understand the history or archeology of the land?

Safety of people & assets

Land use & performance/impact of land use

Context

Owner

Generalitat Valenciana (2002 – 2009).
Regional government of Comunidad Valenciana
gvSIG Association (2010 -)
Non-profit association composed of SME's and non-business organizations (universities, public administrations, technological institutes, etc.)
"Benefits" of its activity reverts for the sustainability of the project (structure and infrastructure).
Generalitat Valenciana is its first and main honour member.
5 business members, 61 collaborators and 51 honour members.

Context

Budget

Cost of development:

- 2002-2012 (1.400.000 €)
- Since 2012 Generalitat Valenciana guides the project to the SME's development (the gvSIG Association is born). Generalitat Valenciana benefits from the contributions around the gvSIG Association.

Cost of maintenance: It is now self-sustaining. Contributions to the development of organizations around the world.
The gvSIG Association maintains a professional structure (4 people) that performs the transversal tasks: releasing new versions, spreading, etc.
The gvSIG Association offers services in more than 30 countries. The sustainability of the project is derived from this economic activity.

Generalitat Valenciana continues making improvements in gvSIG related to the needs of its own users. In 2017 there are 2 resources dedicated to the improvements development. The core idea is that everything is released and contributes to the project.

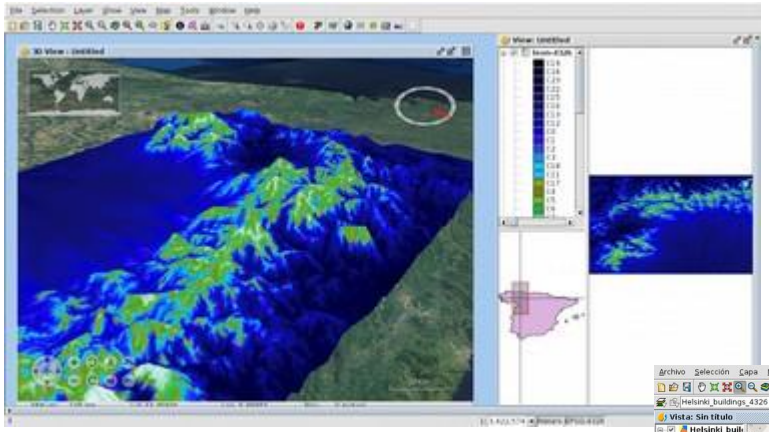
Context

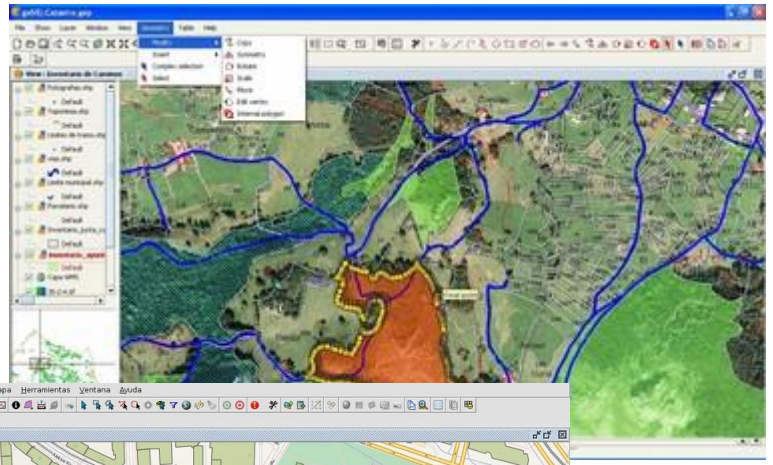
Characteristics

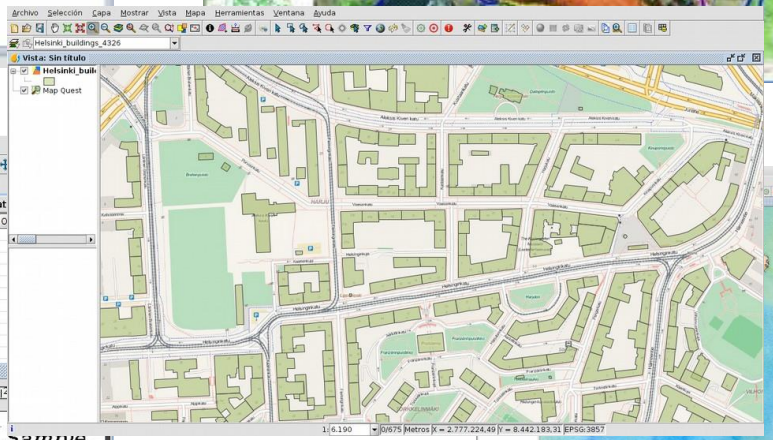
Main solution: gvSIG Desktop

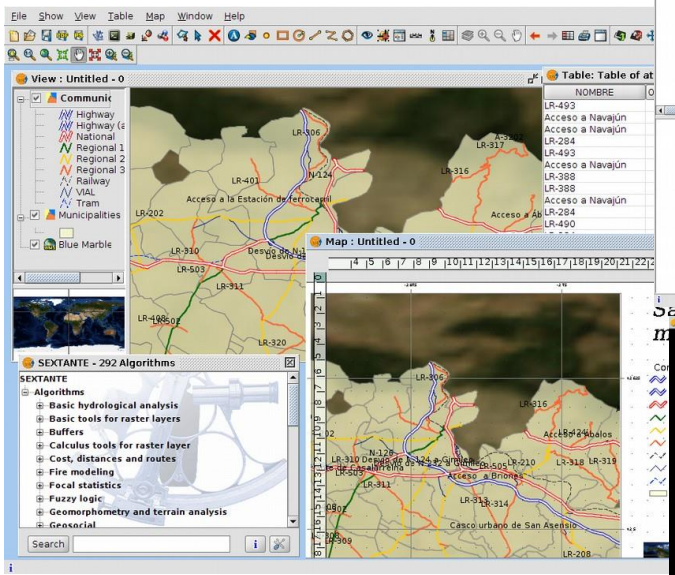
Geographic Information System. It includes several extensions for 3D analysis, geoprocessing, map server publishing, etc
The most common tasks to do with gvSIG are:

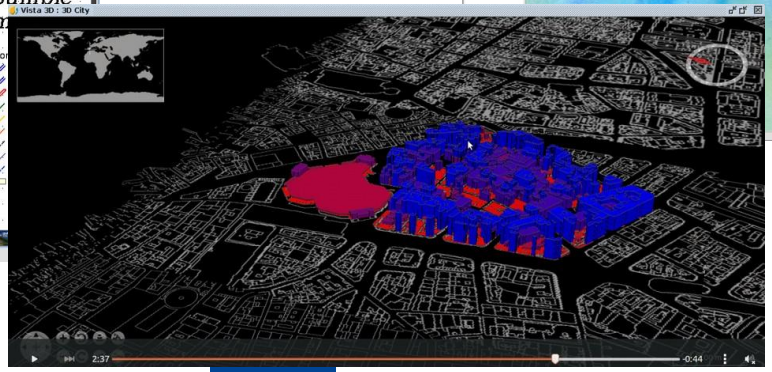
- To represent data spatially. gvSIG allows you to open all format types (vector and raster; archives, databases and remote services) and represent them spatially in the different coordinate systems. You can apply all kind of legends to represent your data.
- To design maps to print, gvSIG has tools to easily design maps.
- Editing. It offers a huge range of tools to edit either cartographic data or alphanumeric.
- Analysis. gvSIG has tools to facilitate the analysis of the existent data, either cartographic or alphanumeric data. More than 350 geoprocessing tools are available in gvSIG.
- To customize gvSIG. Java, Python, Groovy, R.

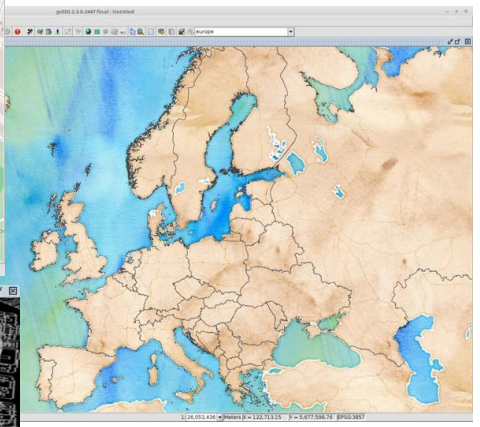










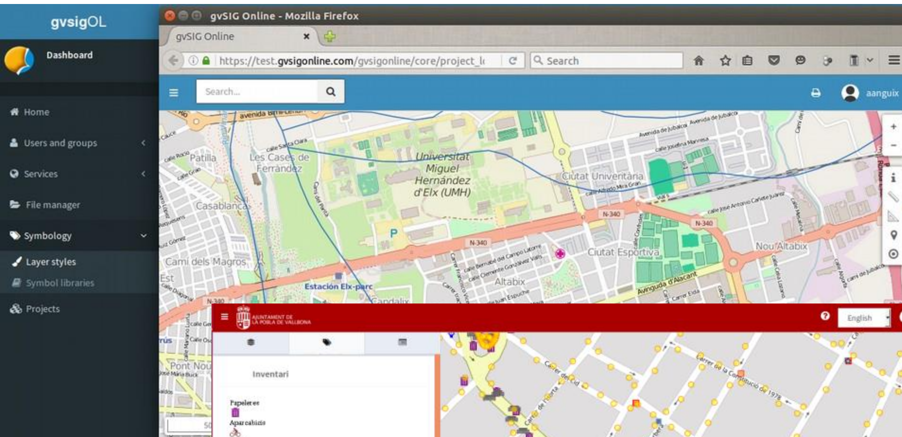


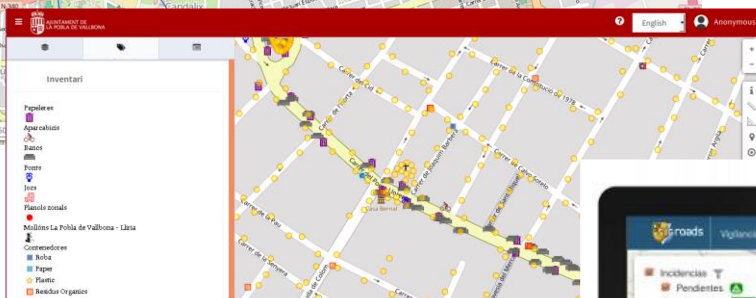
Context

Characteristics

Derivative solutions: gvSIG Suite
Currently we can speak about a suit of solutions based on gvSIG

- gvSIG Online: integral platform for the Spatial Data Infrastructure (SDI) implementation. Solution to achieve INSPIRE Directive.
- gvSIG Mobile: Mobile application for Android to take field data.
- gvSIG Roads: Platform to manage roads inventory and conservation
- gvSIG Educa: gvSIG adapted to geography learning in pre-university education
- ...and others (gvSIG Crime; gvSIG Water;...) are coming


gvsigOL
gvSIG Online - Mozilla Firefox
Dashboard
Home
Users and groups
Services
File manager
Symbology
Layer styles
Symbol libraries
Projects


English
Anonymous
Inventari


gvSIG Educa 2.2.0.2313 final : Untitled
File Show View Map Portable View Tools Window Help
Portable View: Rome (Ancient World Map)
Pleiades
ba_bridges
aqueducts
ba_roads
inlandwater
coastline
openwater


zoom 16
zoom 17
zoom 16+scaling
zoom 16+scaling twice
Tscherms


Incidencias
Pendientes
Resueltas
Órdenes de trabajo
Mediciones

ISA²

Context

Target Audience

Downloads of the latest released version: +100.000 downloads. +160 countries
Available in +30 languages
Mailing lists: +6.000 registered users
Blog: +140.000 annual visits

Besides users and developers communities, there are communities organized in Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French-speaking, Guatemala, Italy, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Russia In addition, there is a community focused in the educative use of gvSIG.

Conferences held in the last years:

- International gvSIG Conference. Spain. 12 editions.
- Latinamerican and Caribbean gvSIG Conference. Itinerant, they have been held in Argentina, Brazil, Mexico, Venezuela and Uruguay. 8 editions.
- Mexico Conference. 3 editions; Paraguay Conference. 2 editions; Peru Conference. 3 editions; Brazilian Conference. 5 editions; Gironate Italiane. 5 editions; German Conference. 1 edition; Uruguay Conference. 4 editions; Argentina Conference 5 editions; Journées francophones. 1 edition; Russian Conference. 1 edition; Chile Conference. 1 edition.

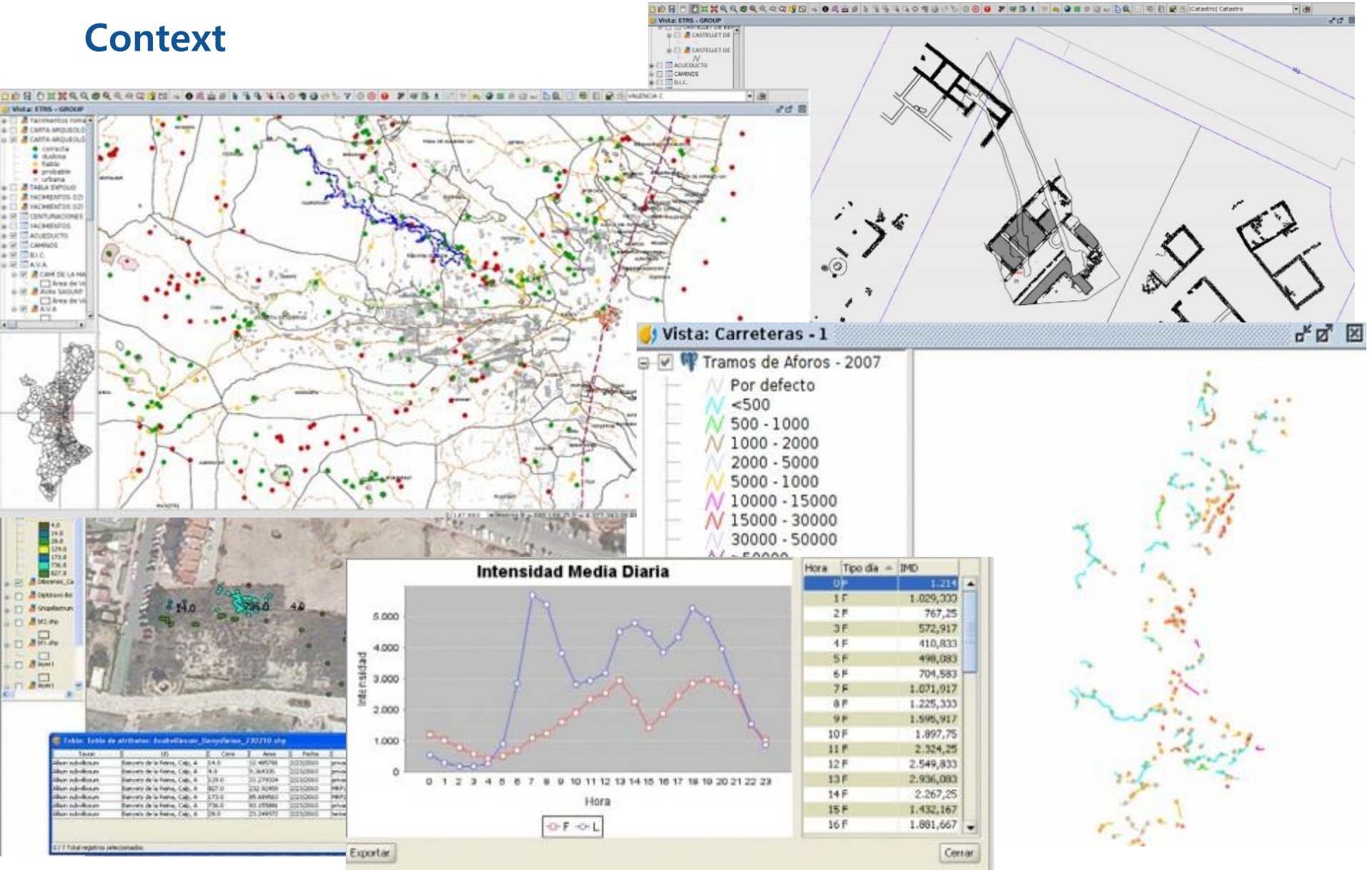
Context

Target Audience

Uses in the Generalitat Valenciana

- Exponential increase of users (from 50 to more than 300)
- Some examples of use:
  - Urban inspection: Detection of illegal buildings
  - Cultural and archaeological heritage
  - Road safety: accidents, capacity management (average intensities of traffic),...
  - DGTIC: ICT resources management
  - Environment: monitoring of the threatened flora in the Valencian Community
  - Emergencies (112): statistical studies (gvSIG+R+Big Data)
  - Ports and Coasts: ports and coasts management
  - Education: to teach geography in secondary school.
  - ...

Context


Vista: Carreteras - 1
Tramos de Aforos - 2007
Por defecto
<500
500 - 1000
1000 - 2000
2000 - 5000
5000 - 1000
10000 - 15000
15000 - 30000
30000 - 50000
Intensidad Media Diaria
Intensidad
Hora
F
L
Hora
Tipo día
IMD
1 F 1.029,300
2 F 767,25
3 F 572,917
4 F 410,833
5 F 498,083
6 F 704,583
7 F 1.071,917
8 F 1.225,333
9 F 1.595,917
10 F 1.897,75
11 F 2.324,25
12 F 2.549,833
13 F 2.936,083
14 F 2.267,25
15 F 1.432,167
16 F 1.881,667
Exportar
Cerrar

Context

Target Audience

Uses around the world

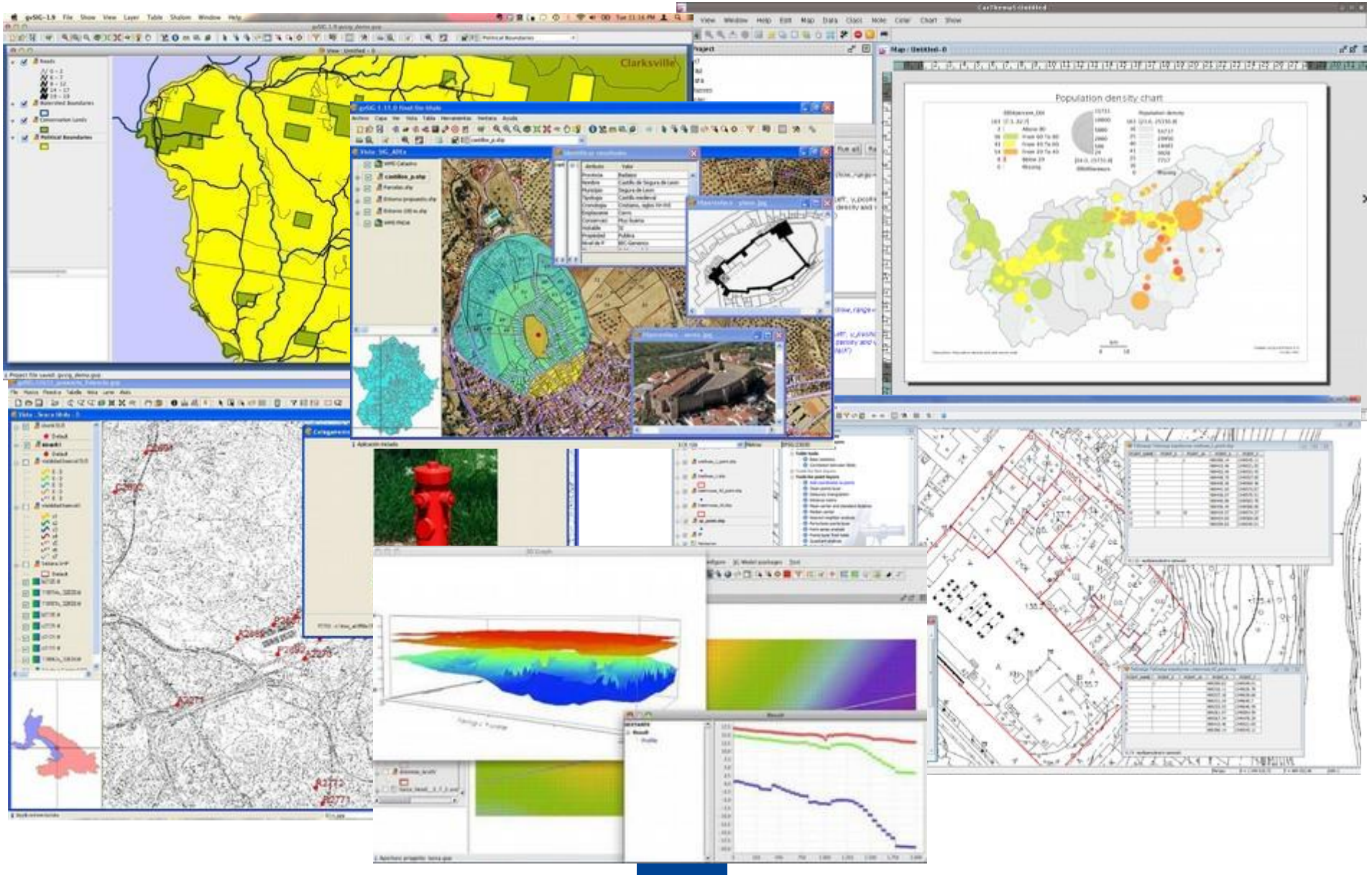
- Web about case studies: http://69.195.124.106/~gvsigorg//case-studies
- Examples of entities that use gvSIG:
  - Supranational entities: IUCN (International Union for Conservation of Nature), UN-Habitat, FAO, IAEA (International Atomic Energy Agency), CIMMYT (International Maize and Wheat Improvement Center),...
  - National entities: Instituto Geográfico Nacional (Spain), German Aerospace Center (DLR), NASA (USA), JRC (Joint Research Centre), Secretaría de Turismo (Mexico), Ministerio de Obras Públicas y Topografía (Uruguay),...
  - Regional entities: Junta de Andalucía (Spain), Gobierno Vasco (Spain), Región Larnaca (Chipre), Pays de Ploërmel-Cœur de Bretagne (France), Province of Trento (Italy), Lipetsk Region (Russia),State of New Hampshire (USA),...
  - Local entities: Munich Council (Germany), Diputación de Valencia (Spain), City of Brescia (Italy), Cusco Council (Peru),...
  - Private companies: Grupo Aguas de Valencia (Spain), PDVSA (Venezuela), Itaipú Binacional (Brazil, Paraguay)
  - Universities: UPV, UCM, UV, UMH, UOC, UPC... (Spain), New York University (USA), Centre for Geospatial Science - University of Nottingham (UK), Université Rennes 2 (France),...
  - NGO: Engineers Without Borders (Spain), ONG2Zero (Italy), Green Hand (Liban),...

Context

Target Audience

Applied to...(some examples)

- Cadastre management in Spain, Mexico, Peru or Serbia.
- Agriculture in Spain, Italy, Brazil, Argentina, Mexico, Ecuador, Ethiopia, Mozambique, Russia, Cuba and Algeria
- Forestry and environment management in Italy, Slovenia, Brazil, Australia or Spain.
- Hydrology in Spain (Hydrological confederations), Brazil, Mexico, Paraguay or Italy.
- Tourism in Italy, Peru, Colombia and Spain.
- Petrol exploration in Venezuela.
- Civil protection, emergencies and safety in Argentina or Spain.
- Cultural and archaeological heritage in Russia, United Kingdom, Spain, Argentina, Brazil or Mexico.
- Commerce and marketing in Germany, Spain,...
- ...


Clarksville
Population density chart

State of play

Numbers

- Number of users: +100.000; Downloads last version; +160 countries
- Number of data sources: files, databases, OGC, OSM, Google Maps, Bing Maps
- Number of standards: WMS, WFS, WCS, WMTS, Catalogue, Gazetteer, symbol libraries,...
- Number of tools: Adding and exporting data, navigation, selection, editing, symbology, 3D, animation, geoprocessing,...Manual +500 pages.

Other numbers:

- Communities: users, developers and +15 geographical communities
- Mailing lists: +6.000 users
- Conferences: +50 conferences in 13 different countries
- gvSIG Association members+collaborators: +100 organizations
- Blog readers: +140.000 readers/year
- Awards: 2015 "Europa Challenge" (NASA); 2016 "Europa Challenge"; 2016 "Software libre más revolucionario" and "Mejor app móvil" in "Premios software libre" Portal Programas.

Design

Technology, solutions, services and standards

List of technologies used. Technologies that ensure reusability, easy accessibility and scalability

- gvSIG is developed in Java with scripting in Python, Groovy and R.
- gvSIG has distributions and portable versions for Linux, Windows and Mac OS X. gvSIG Mobile for Android.
- gvSIG integrates technologies like R (statistics), JGRASS and Sextante (geoprocessing), EPANET (water management), GDAL (projections and spatial formats supporting), NASA World Wind (3D Earth/Views) .
- gvSIG is easily scalable and customizable: it has a plugin that allows you to create your own customized distribution of the application.
- OGC Standards (WMS, WFS, WMTS, WCS,...). INSPIRE.

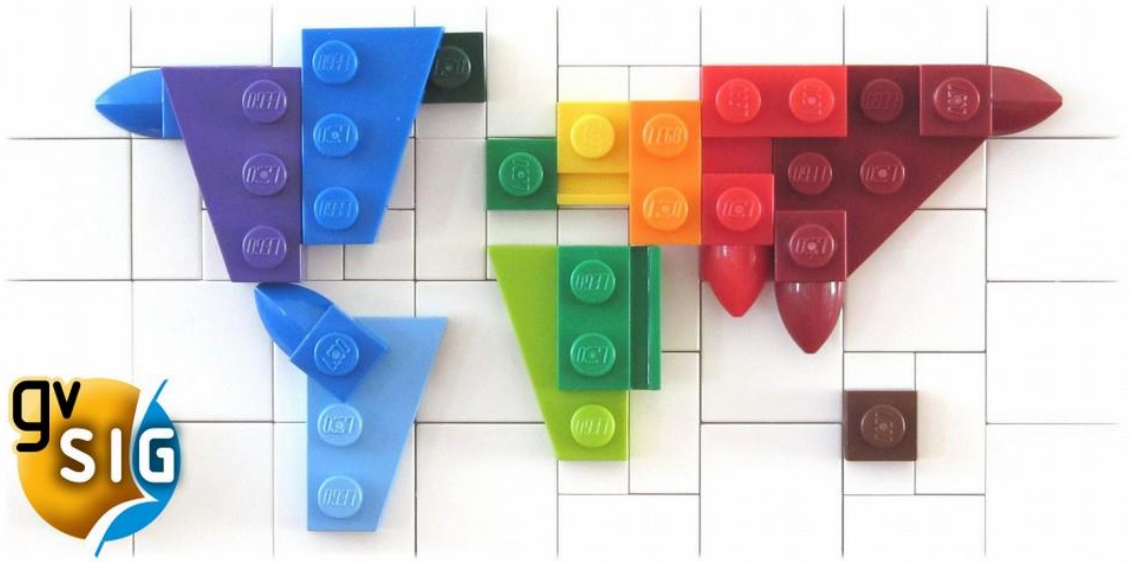
Governance

Governance body and involvement

gvSIG Association:

- Board. 1 member for SME.
- 3 from Spain and Italy

- Contributions for a long number of countries: Spain, Italy, France, Germany, Mexico, Uruguay, Brazil, Russia,...



Impact and results

Benefits

- Use of GIS was very reduced, mainly due to the high prices for the acquisition and maintenance of the licenses. They only worked on Windows.
- The number of GIS users has been multiplied by 10.
- The management of geomatics has been popularized and democratized in the Generalitat Valenciana, especially among the highly specialized technical staff (Engineers, Architects, Biologists, Geologists, etc.)
- If it is an "isolated" technology, the geographical component has become an additional component in our Information Systems
- Technological independence allows the use of extensions (plugins) that adapt to our specific needs (roads, urbanism...)
- Use of GIS in Linux.
- Reuse of solutions developed by other administrations. Collaboration.
- Stop spending on acquisition and maintenance of Software licenses to move to a model of contracting Services (free and reusable) has allowed to transform the investment expense. Investment that has effects in the enhancement of a production model based on R & D & I

Sustainability

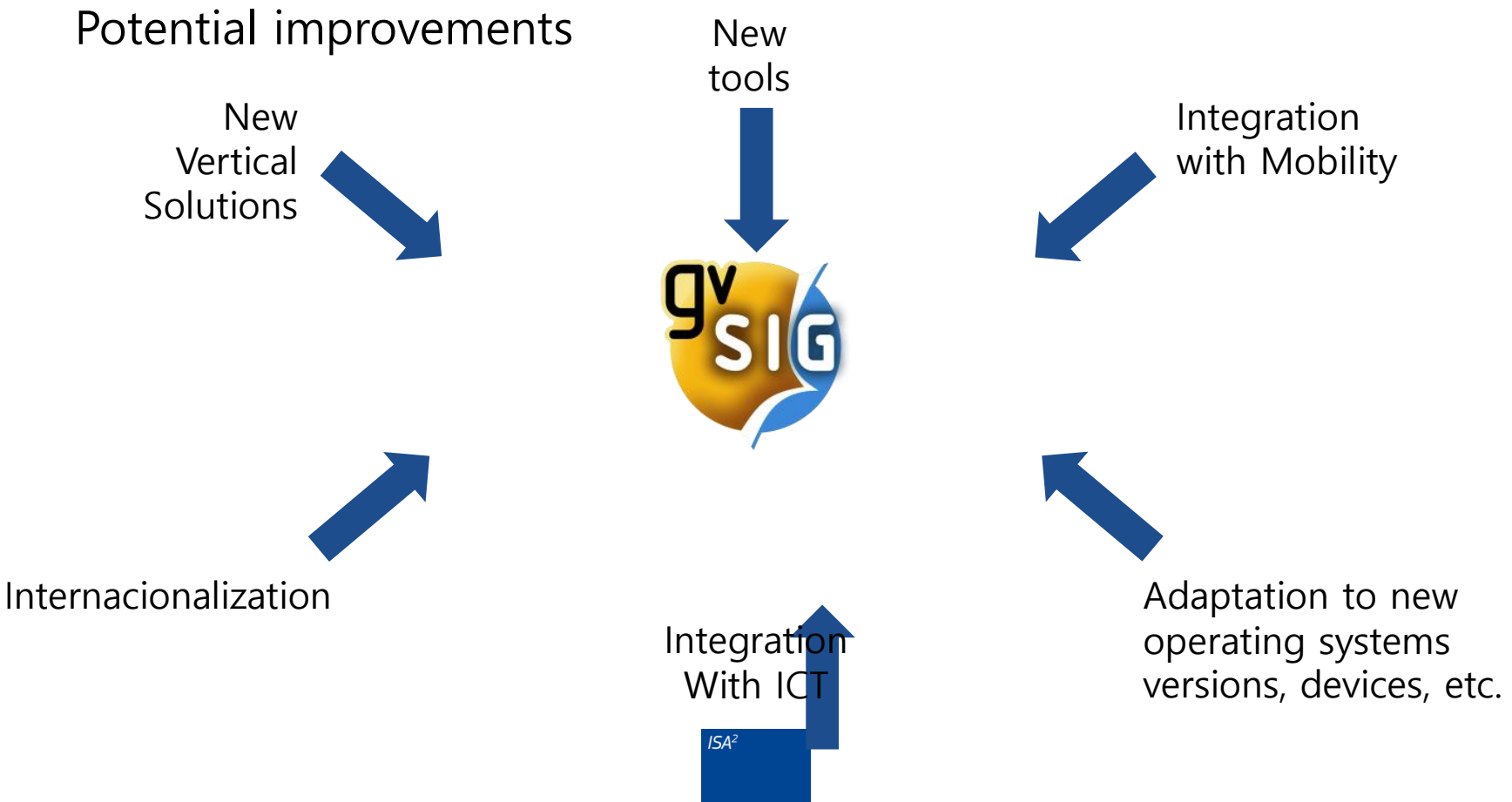
Challenges and Ensure sustainability

Geolocating ICT in the Generalitat Valenciana:

- Incorporating the geographical component in the Information Systems.
- Integral management of "Geo": Standards and Open Source
- Valueing gvSIG Suite: SDI+WEB+Desktop+Mobility in integrated platform.

Continuing increasing the users and developers community around the world.
Continuing improving gvSIG and its integration in other technologies.
Consolidating a productive model around the project.

Sustainability



Next Steps

Spreading gvSIG in all the departments of the Generalitat Valenciana.
Cover general and particular needs of the users.
Gradual integration of the geographical component in the Information Systems.

Continuing the new versions policy that integrates the new developments.

Consolidating the business and collaborative development around the gvSIG Suite philosophy.

"Wanderer, your footsteps are
the path, and nothing else;
wanderer, there is no path,
the path is made by walking"

Antonio Machado

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Contact Details


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