

REPORT ON INVESTMENTS

D.T2.3.3

Investments for technical equipment for the
implementation of Web-GIS platform in Mantova



Local support group designing Mantova Web-GIS platform. Picture by Maria Giulia Longhini.

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GENERAL OBJECTIVE OF BhENEFIT WEB-GIS PLATFORM

BhENEFIT project has developed a Web-GIS platform for the integrated monitoring of changes and modifications in Historic Built Areas (HBA). The platform is an ICT product able to collect different data through GIS technology and show them and their interactions in an user-friendly way through a specific web interface. Final users from public administration do not need specific expertise to monitor ongoing phenomena.

The platform will analyze different fields regarding HBA sustainability: social sustainability and energetic and environmental sustainability. Economic sustainability is horizontally examined.

“MANTOVA SI RIGENERA”

Mantova Municipality focuses its pilot action on social sustainability working on urban regeneration within HBA.

The platform developed is based on GIS technology and compares existing data (from different subjects: Mantova Municipality, local police department, Tea SpA – the multi-utility working within the municipality, Ministry of Culture and Art, Head of artistic and historical monuments) with new data collected from field surveys and questionnaires to citizens, city users, associations and groups of interests acting within HBA.

The data from citizens/associations/groups of interests are collected through an on-line platform allowing users to indicate the area/street/building they consider subjected to decay.

The intersection on new and existing data will help the local authority to take strategic decisions about areas to be regenerated.

To build up this system and collect data, Mantova Municipality PP1 and Politecnica PP13 made some equipment investments this document will describe.

The reasons of those investments are based on the need to have software's availability, that allows PPs to:

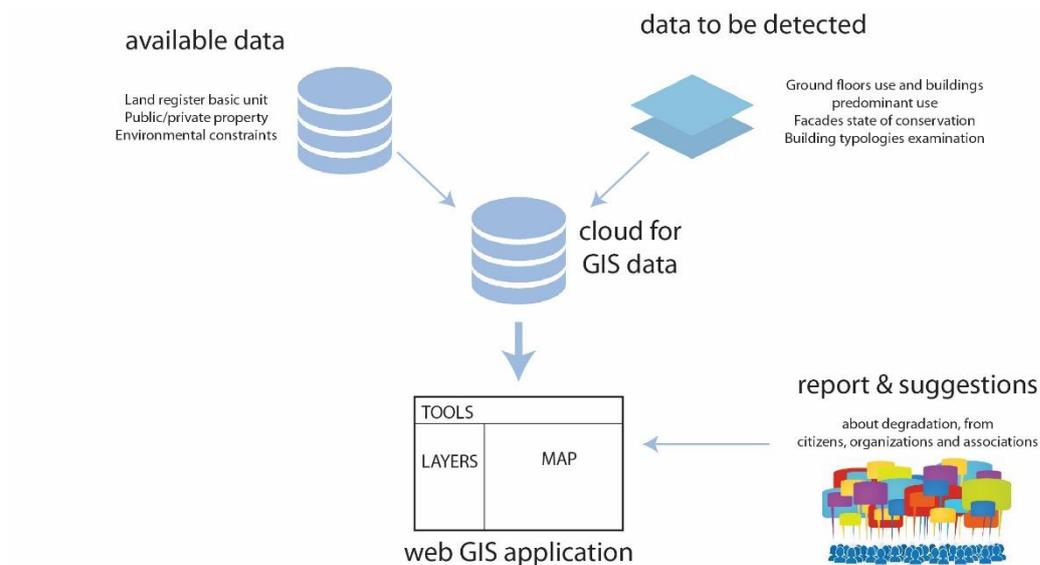
- **Produce GIS data to be inserted in the platform, but at the same time compatible with the previous PPs equipment and ICT abilities**
- **Produce GIS maps able to interact with 3Dmodels**

Gis Cloud service (purchased by PP1)

REASON OF THE PURCHASE

Mantova needed Gis Cloud to:

- collect different data through GIS technology and show them and their interactions in a user-friendly way through a specific web-interface (Branded and customized browser Portal)
- collect data and/or report from citizens and/or associations on a single topic.



To reach these objectives the interface of the queryable map had to include:

- a **Toolbar** with tools for basic operations with maps (save the map, zoom, etc).
- a **Legenda** with a list of all layers in the map.
- a **Map View**: a map display of visible layers and cartographic features.
- an **Info Panel**: attribute info about selected feature.

And to guarantee these technical details:

- citizens, visitors, attendees, public... can **submit reports**, including photos and comments, of any kind using Public Portal
- admin can export data collected from the gis cloud platform as a shapefile
- admin validation: PA technicians can approve submissions. Only approved submissions will be publicly visible
- data visibility can be set up

The final portal is a public web-portal solution (Branded and customized browser Portal) to collect data on a single topic with:

- Storage: map of Mantova HBA (historic built area), land register basic unit, public/private property, environmental constraints, ground floor use and buildings, predominant use, facades state of conservation, building typologies examination
- Map views: 50.000 for the public portal
- Internal admin app for managing anonymous report:

GIS Cloud system is dedicated to building a collaborative mapping platform for users of all profiles. It strives to deliver a cutting-edge mapping technology accessible to a wide variety of users and companies, regardless of their expertise, position, industry or size. Namely, its mission is to create advanced technologies that are simple to use, bringing the benefits of GIS to every corner of the world.

GIS Cloud offers a complete location-based solution for different workflows in a wide range of industries: roadworks, tree inventory and inspection, retail, smart cities, utilities such as water and pipeline management, natural resources, public city maps and many more. At the same time, GIS Cloud is a platform that allows you to build your own web and mobile apps on top of the fastest vector map engine technology available today.

This is the reason why GIS Cloud represents the most suitable solution to deploy a GIS-platform coherent with the general structure and functioning described on DT224 and the local needs and specific features of Mantova Municipality.

PROCESS

The process started in May 2018. The municipality opened a service procurement procedure with ASTER, the municipality in-house agency to acquire the service.

Gis Cloud service is provided by a foreigner subject, for this reason the municipality could not buy it itself but lean on ASTER.

The final payment to Gis Cloud occurred at the end of September (due to delays in the coordination with ASTER).

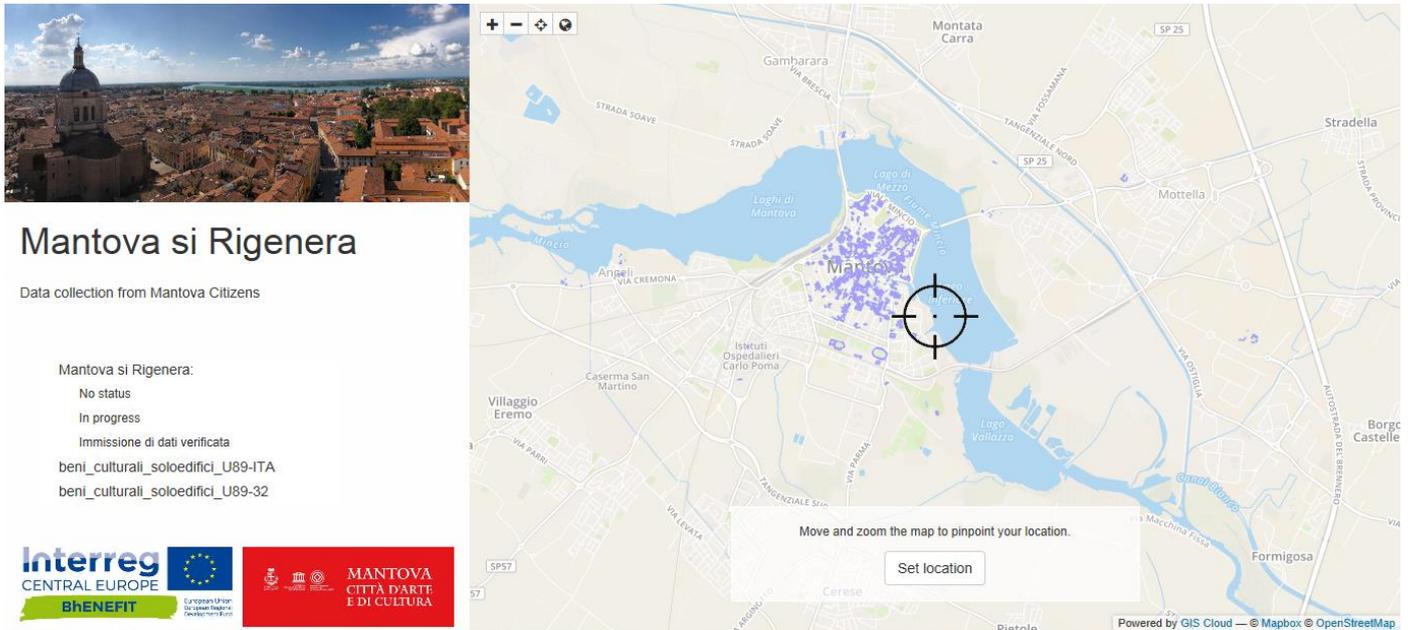
In October Municipality could be able to create the new Crowdsourcing project on the web portal providing Gis Cloud company:

- Name of the crowdsourcing project;
- Domain;
- Username;
- Image;
- Color of the front-office;
- Logos and their position within the page

The interface once defined could not be changed

Also items wish to be collected from anonymous users have to be defined but changes in the data collection project can be made from the municipality end (items could be later on be upgraded or edited).

Final front-office of Mantova web-GIS platform



Mantova si Rigenera

Data collection from Mantova Citizens

Mantova si Rigenera:

- No status
- In progress
- Immissione di dati verificata
- beni_culturali_soloedifici_U89-ITA
- beni_culturali_soloedifici_U89-32

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Notebooks (purchased by PP1)

REASON OF THE PURCHASE

In order to collect data, there is the need of an useful hardware to be used for field surveys within the city centre HBA.

The municipality acquired two notebooks and used them to collect data from public and private HBA buildings:

- level of usage,
- ground floor usage,

- building predominant use (residential, business, commercial, ...),
- facades level of conservation,
- presence of abandoned or unfinished building sites.

The notebooks will be then used to analyze mapped informations collected from citizens and other subjects but also compare all data with existing ones using an adequate informatics support.

PROCESS

The process started in September but faced several problems because of internal bureaucratic difficulties due to the nature of the procurement: Notebooks are considered an “infrastructure”, a physical product, and must be procured with a specific national procurement platform. The notebooks could be acquired in October.

ArcGIS licenses (purchased by PP1 and PP13)

ArcGIS is a geographic information system (GIS) for working with maps and geographic information. It is used for **creating and using maps, compiling geographic data, analyzing mapped information, sharing and discovering geographic information, using maps and geographic information in a range of applications, and managing geographic information in a database.**

The system provides an infrastructure for making maps and geographic information available throughout an organization, across a community, and openly on the Web.

ArcGIS Desktop Basic, formerly known as ArcView, is the entry level of ArcGIS licensing offered. With ArcView, one is able to view and edit GIS data held in flat files, or view data stored in a relational database management system

Criticisms

Esri's transition to the ArcGIS platform, starting with the 1999 release of ArcGIS 8.0, rendered incompatible an extensive range of user-developed and third-party add-on software and scripts. A minority user base resists migrating to ArcGIS because of changes in scripting capability, functionality, operating system (Esri developed ArcGIS Desktop software exclusively for the Microsoft Windows operating system), as well as the significantly larger system resources required by the ArcGIS software. Esri has continued support for these users.

Other issues with ArcGIS include perceived high prices for the products, proprietary formats, and difficulties of porting data between Esri and other GIS software.

REASON OF THE PURCHASE

PP1 and PP13 needs GIS software devoted to Bhenefit project and activities, compatible with existing ICT abilities of their staff and also with the already existing GIS data and files. PPs needs to analyze information.

ArcGIS ICT solution is the most suitable to obtain both mentioned results. PP1 and PP13 have past work experiences with this software, GIS system of PP1 is developed through that software and PP13 is able to interface GIS data developed through ArcGIS with BIM files developed through REVIT softwares.

PROCESS

Mantova Municipality PP1

The process started in September but faced several problems because of internal bureaucratic difficulties due to the nature of the procurement: ArcGIS is an infrastructure, a physical product, and must be procured with a specific national procurement platform. The licenses could be acquired in November.

Politecnica PP13

For private companies, ESRI has a commercial network, based on local authorized sellers. A private company that want to purchase ESRI softwares and/or services should ask preferably to local reseller. In case of PP13, the local reseller is the company SEMENDA, located in Modena and already provider in the past of GIS software for Politecnica. This is the reason why PP13 decided to purchase the ArcGIS software directly by Semenda, obtaining in this way a special discounted rate.