

GIS SOLVAY

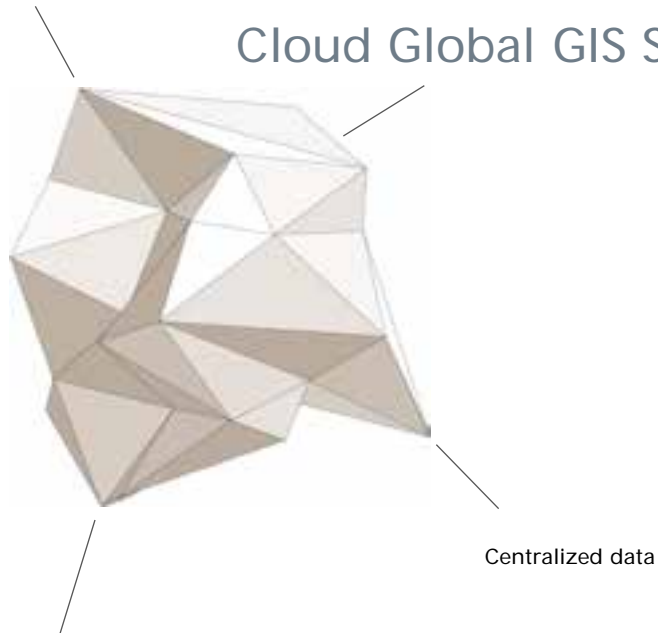
Cloud Global GIS System for Mining activities at Solvay

ESRI EMEAUC

24/10/2013

Francisco Vega
Delivery Manager GIS
Altran Spain

GIS in the cloud



In operation since June 2013

INDEX

1. General description
2. How GISSolvay works?
3. Benefits of using GISSolvay
4. Demonstration
5. Questions

1 // GENERAL DESCRIPTION

1. Context:

Solvay is a Belgian chemical company founded in 1863, ranked among the top three manufacturers. It employs 29,100 people in 55 countries.

World's largest producer of sodium carbonate and bicarbonate, and hydrogen peroxide.

No GIS existed to manage the monitoring data for brine fields, limestone quarries and settling ponds.



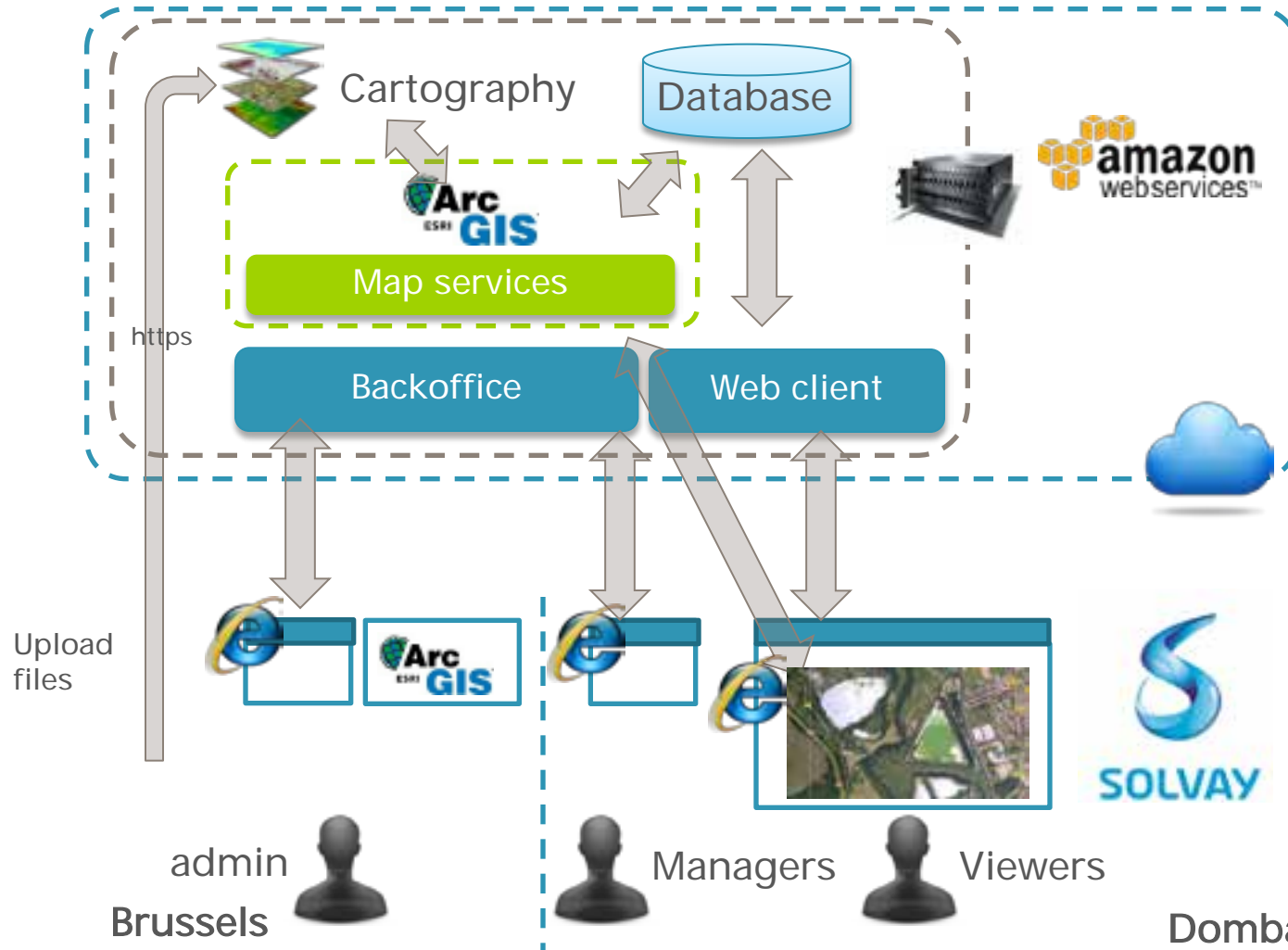
1. General description:

Global GIS for Solvay is a system to access and share site information through an interactive map.

This system is **based in the cloud** and it is **available for any site** that needs to manage and share its geographic information.

The system allows different content, maps and configuration for each site.

1. General description: general diagram



1.General description: GISSolvay main features:

Main features

- › Multisite, multiuser and multilingual
- › System developed using the latest GIS technologies (ESRI ArcGIS Server 10.1)
- › Deployed in the cloud
- › Accessible from Internet/Intranet
- › Licenses can be mutualized à One license of ArcGIS Server is enough for many sites
- › Secured connection to the Solvay network for data transfer purposes.
- › Customizable (new layers, labels, logos, etc...)
- › Evolution of data and trends can be shown on graphsà customizable tools created for Solvay
- › Advanced GIS operations & data edition can be done using ArcGIS Desktop, sharing floating licenses
- › Data access from Google Earth (kmz) or in mobile devices (iOS, Android or Windows Phone)

1. General description: current data

Stations

- › Measures

Wells:

- › Section
- › Status
- › Measures

Piezometers:

- › Chemical analysis
- › Section
- › Water level

Cables

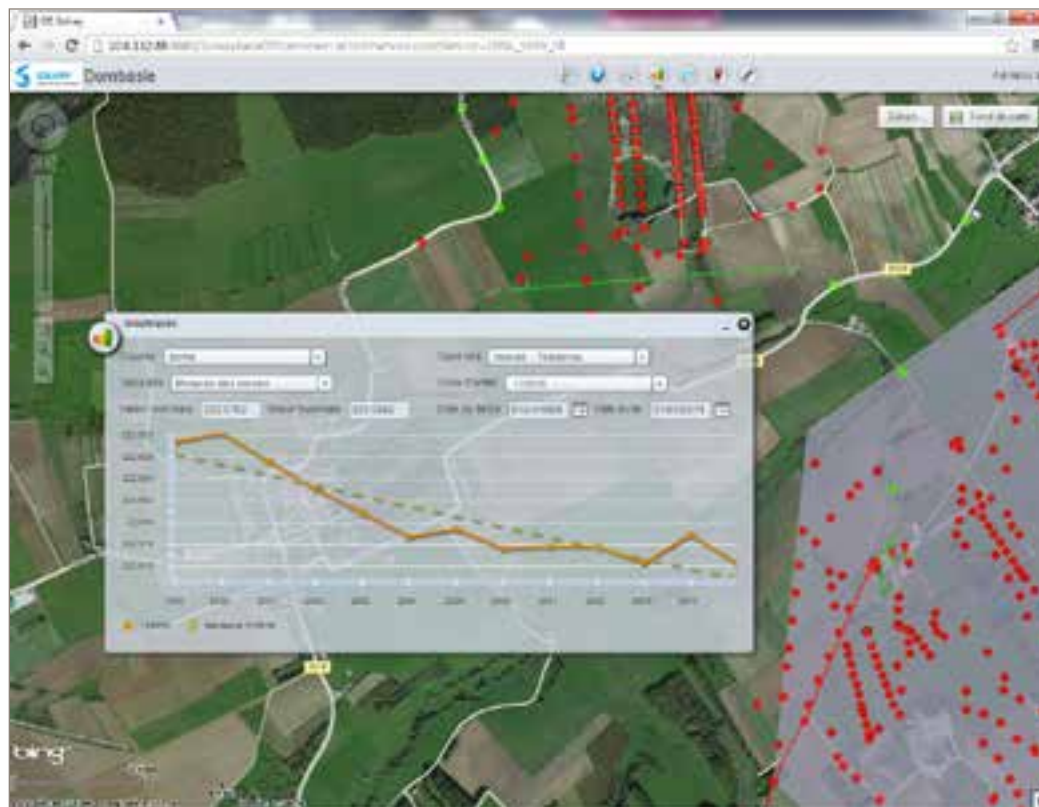
Technical installations

Pipes

Concessions

Incidents

- › Events for those incidents



1. General description: current data (2)

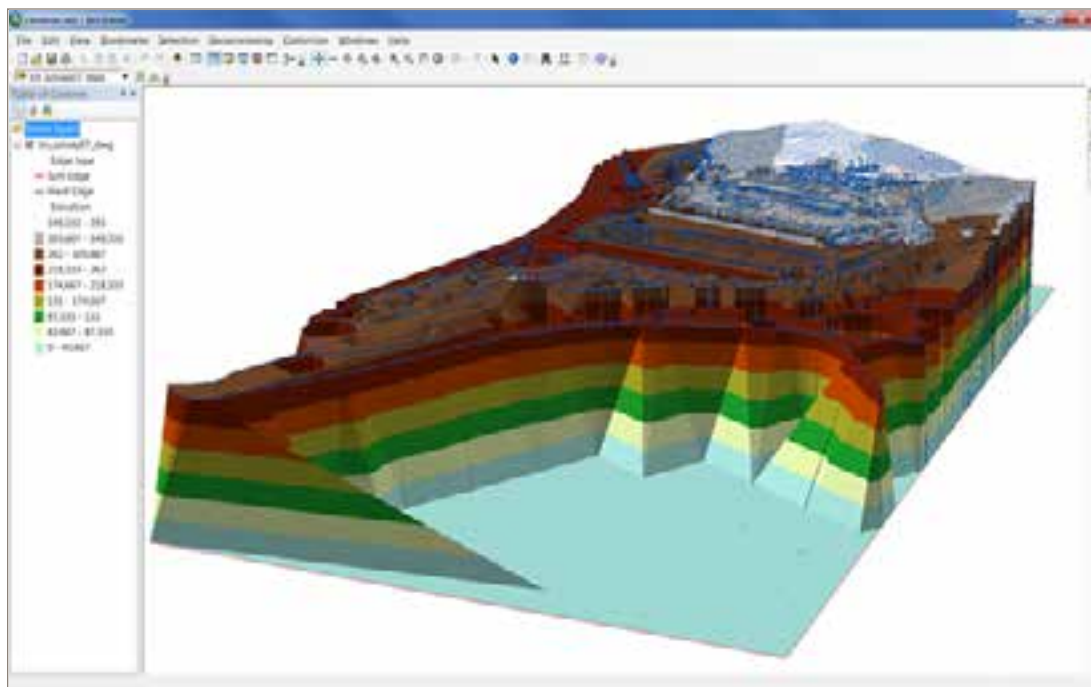
Quarry:

- › Piezometer characteristics and chemical analysis
- › Noise measures
- › Dust fall measures
- › Vibration measures
- › Water runoff

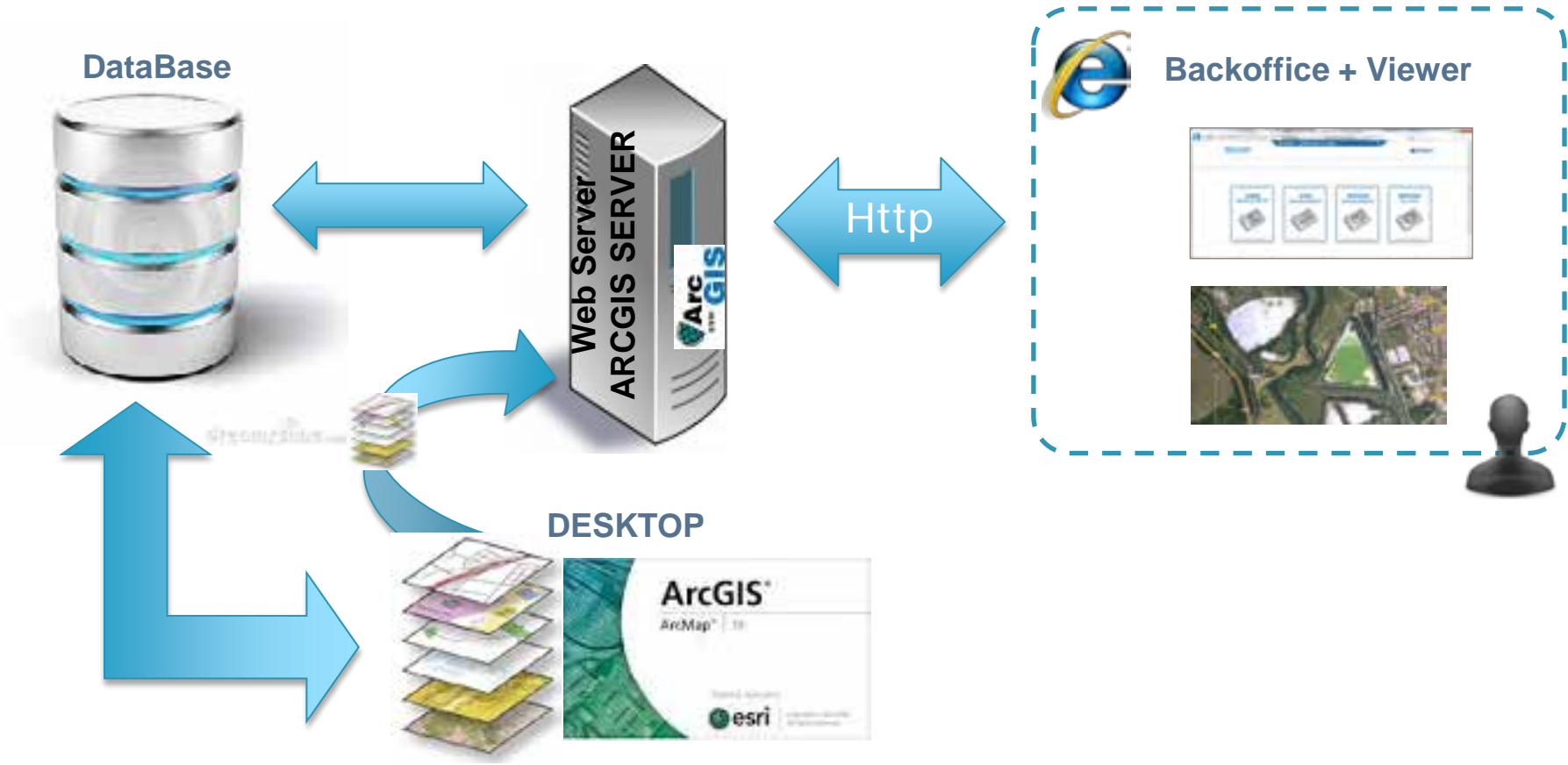
Geological map

Satellite photo

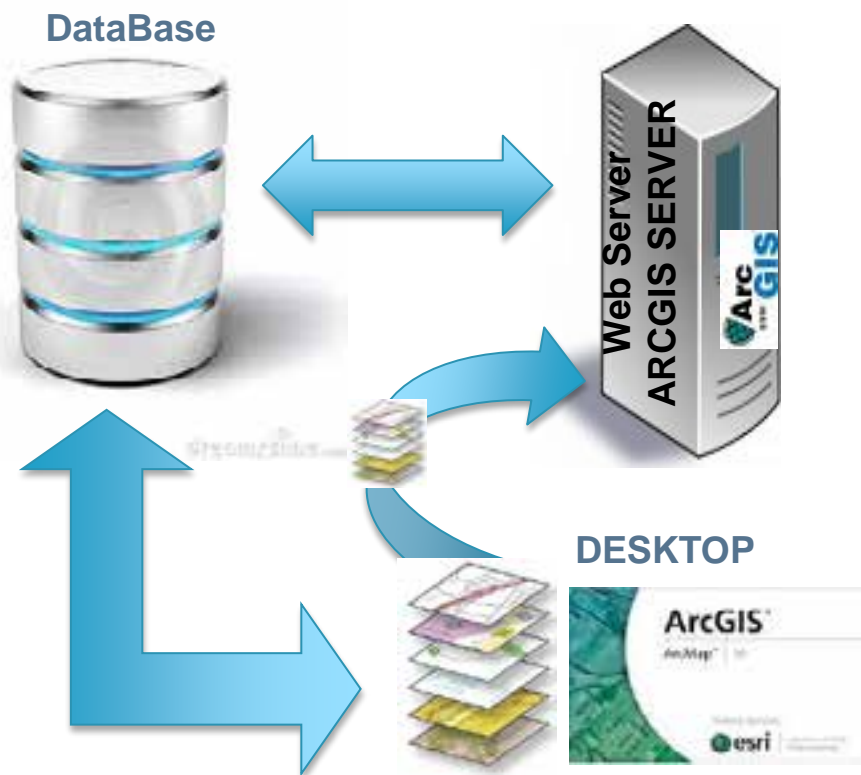
3D model (accessible via desktop + extension)



1. General description: GISSolvay main technologies:







1.General description: GISSolvay server technologies:



- › Java, v1.6
- › PostgreSQL. V9.0.5
- › Apache Struts, v2.1.8.1, Apache Software Foundation
- › Apache Tiles, v2.1.8.1, Apache Software Foundation
- › Hibernate, v3.3.2.GA, JBoss Community
- › Spring, v3.0.2.RELEASE, SpringSource
- › Python v2.7.2
- › ArcGIS ArcPy, v10.1.1, ESRI
- › ArcGIS ArcObjects for Java, v10.1, ESRI

1.General description: GISSolvay client main technologies:

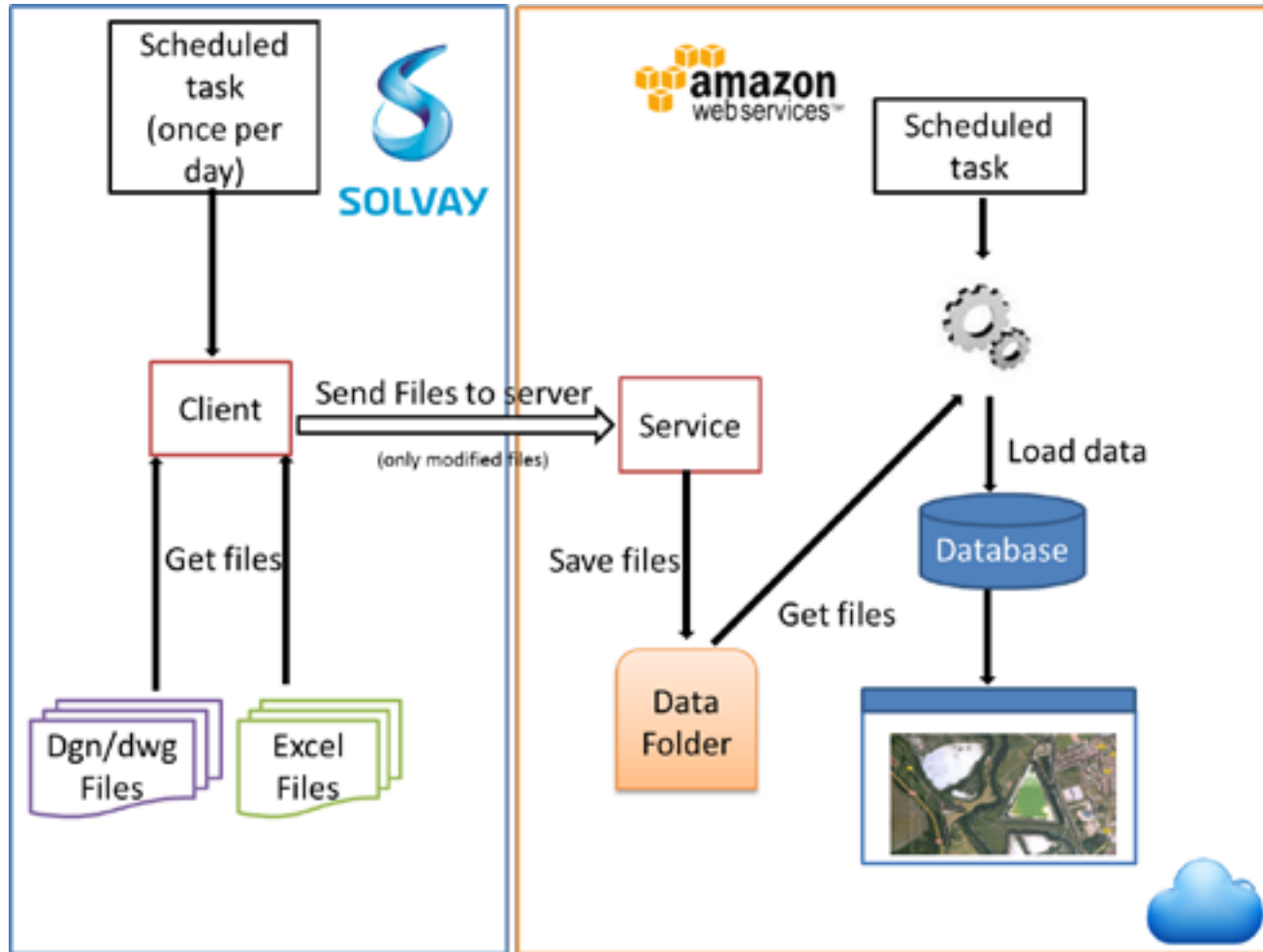
 **Backoffice + Viewer**



- › Adobe Flex SDK 4.6.1, Adobe
- › HTML v4.01 + CSS2
- › JSP v2.2
- › Javascript

2 // HOW GISSOLVAY WORKS

2. How GISSolvay works: automatic data insertion/update



2. How GISSolvay works: Licensing usage



Backoffice: Web application to add/manage users and its access rights, site characteristics and service configuration



Viewer: Web application to query and analyse the information on the map, see trends, get measures, reports, print maps, etc



Automatic Data update/insertion to the system via dwg/dxf/Excel



Access to the information from mobile devices



Windows client: to create and update maps and for advanced GIS operations

ONLY ONE LICENSE
AND ONE SERVER
IS ENOUGH FOR ALL
SITES

FLOATING LICENSES
SHARED BETWEEN SITES

3 // BENEFITS OF USING GISSOLVAY

3. Main benefits of using GISSolvay



A fast and efficient entry point for the complete geographical information of the site. Everybody can access from everywhere with security



With the new graph tools for monitoring data it's very easy to anticipate trends and future measurements



Accessing the information through the territory allows the user to save time and better understand the information



It is possible to have direct access to other systems, like Historian database, without any intermediation from the users. This model can be replicated for any system in Solvay.



The pilot has shown that mobile access from the field is possible and very interesting for the users. New functionalities can be added when needed.

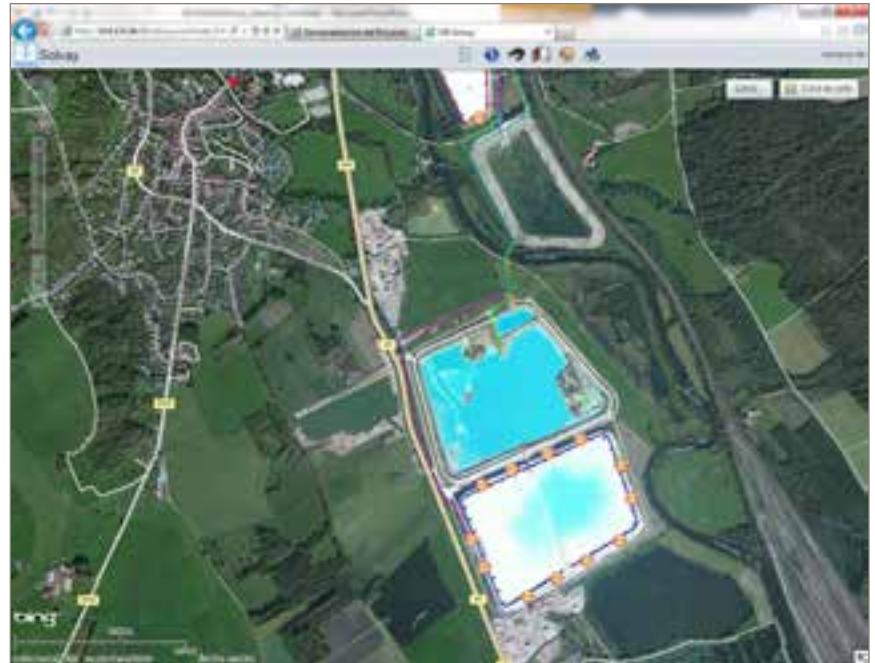


The users will understand the GIS as an open system as the information can be exported and managed with Excel and other systems.

4 // DEMONSTRATION

4. Demonstration

› [GIS Solvay](#)



5. Questions?



INNOVATION MAKERS



Francisco Vega

Francisco.vega@altran.com

altran.es

altran360.es



altran