The implementation of GIS system for Port Management:
The experience in the Port of Lisbon

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The Port of Lisbon is a large European Port with an Atlantic orientation whose geo-strategic centrality gives it a high statute within the logistics chain of international commerce and in the main cruise circuits.
• The port of Lisbon is integrated in the railway network of the region of Lisbon which is articulated with the national and international transeuropean transport network.
The estuary of River Tagus, with an extension of 50Km and between 2 and 14Km in width, offers the Port of Lisbon excellent navigating conditions.

The main access channel of the port has depths of -15.5m ZH.

Port of Lisbon Authority (APL SA) concluded its transformation on a port authority model type “landlord” thanks to the development, over the last years, of a concessions program for private operators in general port activities.
SEIXAL
The Port spreads itself in a discontinued way and groups up in areas with different types of activities. The rest of the land is classified as “port reserve area”, or is dedicated to nautical recreational or sport purposes.
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<th>CARGO</th>
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<td>SOLID BULK</td>
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<td>BREAKBULK</td>
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<td>RO-RO</td>
<td>INLAND WATERWAY TRAFFIC</td>
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2013: 545.899 TEU (5.465.000 Tons)
Total capacity: 900.000 TEU
SOLID BULK TERMINALS

2013: 3,332,000 Tons
Total capacity: 6,000,000 Tons

Geospatial World Forum 2015
LIQUID BULK TERMINALS

2013: 1,616,000 Tons

Barreiro
Porto dos Buchos
Porto Brandão
Banática

Geospatial World Forum 2015
YACHTING FACILITIES
A lot of (Geo)Work to do
Why

GIS
It’s not easy to manage our territory
Frequently Asked Questions

I need a map...

Where is...?

Some area is or is not under the APL Jurisdiction

Identification of available spaces for certain uses

Projects linked with a specific area or building

Who is in that building?
In cooperation with Intergraph, we decided to implement a **Pilot Project**, in an area representative of the reality of the Port, in terms of uses and occupation and needs for data capture and update.
In a way to identify the suitability and feasibility of the system as a corporative tool to support the daily operations, promote the efficiency of the services and contribute to making better decisions.
PILOT PROJECT

Why THIS Pilot Project area?

LISBON - Between Jardim Tabaco and Santa Apolónia

USES
CONTAINER TERMINALS
CRUISE TERMINALS
YACHTING FACILITIES
SERVICES
COMMERCE
CAR PARKS
RESTAURANTS
ETC.

IN THE SAME PLACE
METHODOLOGY

MEETINGS WITH ALL DEPARTMENTS

• WHAT DATA THEY NEED
• WHAT DATA THEY HAVE
• OTHER NEEDS AND EXPECTATIONS
• ONE INTERLOCUTOR WAS APPOINTED

WEEKLY MEETINGS

✓ Participation
✓ Motivation
✓ Assets for services
✓ Confidence
✓ Cooperation
WE START TO INPUT ALL DATA AS WE CAN

WATER NETWORKS, ENERGY PIPELINES, TOPOGRAPHICAL MAPS, DOCK FENDERS AND MOORING BOLLARDS LOCATIONS, AGREEMENTS IN PDF, TRASH CONTAINERS LOCATIONS, JURISDICTION LINES, ORTHOPHOTOMAPS, OLD MAPS, ETC
GIS PILOT PROJECT - FINAL RESULT

AREA

ORTHOPHOTOMAPS
VECTORIAL DATA
BING MAPS
OLD MAPS

LAYERS
GIS PILOT PROJECT - FINAL RESULT
CITY RESTRICTION PLANS LAYER

Lisbon GIS wms + Port of Lisbon GIS
GIS PILOT PROJECT - FINAL RESULT
WATER AND ENERGY NETWORKS LAYER
GIS PILOT PROJECT - FINAL RESULT
PORT USE AREAS LAYER
- We tried to respond to all requests from all involved departments.
- Problem: lack of information in some areas.
- Useful to identify data update needs in some key areas.
- Opportunities to acquire and update information.
- Very useful: The database platform structure is now ready for the future.
- Only step by step we can respond to all requests.
- We concluded that we were too ambitious.
- All APL employees are now self-conscious of the importance of geospatial information.
WHAT WE DID AFTER

We redesigned and simplified the project

LESS LAYERS

BETTER LOOKING

PRINT & PDF MAPS OPTION
WHAT WE DID AFTER

BETTER STRUCTURE

FASTEST

FULL PORT COVERAGE

INTUITIVE
WHAT WE DID AFTER

LESS IS MORE

REPLACE BASE MAPS

PORTUGUESE ARMY RASTER IMAGE
• All departments are using the GIS system;

• The GIS system is a good corporative tool to support the daily port operations;

• The system promotes the efficiency of the services and contributes to better decisions;

• The departments demand more geospatial information;

• The final balance is positive.
THE SYSTEM

SOFTWARE / HARDWARE

• GeoMedia Desktop Essentials 2013
  • GeoMedia Professional

• GeoMedia WebMap Essentials 2013
  • GeoMedia WebMap Publisher
  • Geospatial Portal 2013

• Oracle Database 11g

• Windows Server 2008
The biggest regatta around the world and one of the world's top three nautical events is back to Lisbon. During 14 days of stopover in the village, there will be a program of free activities, from fairs, exhibitions, concerts and other events, all regarding a major theme, the sea. It will be possible to get in touch with the seven teams and respective boats.
Thank you for your attention!!

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