2nd UK Overseas Territories GIS Conference

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Development of Gibraltar's GIS platform

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INSPIRE
Infrastructure for Spatial Information in the European Community

Gibraltar….Gateway to the Mediterranean

Evolution of Gibraltar's GIS Platform

Before…..

- Proprietary Servers with few licensed users – ArcGIS, STAR- APIC
- Different platforms incompatible with each other - Autocad
- Few layers updated and these checked irregularly
- No Geo-portal
- No public access
- Very few departments working on the system
- No metadata or catalog data
- GIS used as an isolated system without any coordination

Evolution of Gibraltar's GIS Platform

Now…..

- Open System
- Designed to be INSPIRE compliant
- Follows EU recommendations and applicable directives
- Follows other international recommendations and standards
- 178 Layers in total and increasing
- Complete INSPIRE and Gibraltar Government Geo-portal with Map Viewer, 3D Viewer, Discovery (Search engine) and Download services

Evolution of Gibraltar's GIS Platform

Departments using the new GIS Platform

Technical Services
Land Property Services
Town Planning and Building Control
Civil Contingency
Ministry for Health and Environment
Information Technology Department

Museum
Environmental Health
Gibraltar Fire Service
Statistics
Roads

Coming soon….Utilities, HM Customs & Royal Gibraltar Police

Managing Gibraltar's GIS platform

Where are we now?

INSPIRE Data themes		
Annex I	**Annex III**	
1 Coordinate reference systems	1 Statistical units	16 Sea regions
2 Geographical grid systems	2 Buildings	17 Bio-geographical regions
3 Geographical names	3 Soil	18 Habitats and biotopes
4 Administrative units	4 Land use	19 Species distribution
5 Addresses	5 Human health and safety	20 Energy Resources
6 Cadastral parcels	6 Utility and governmental services	21 Mineral Resources
7 Transport networks	7 Environmental monitoring Facilities	
8 Hydrography	8 Production and industrial facilities	
9 Protected sites	9 Agricultural and aquaculture facilities	
	10 Population distribution and demography	
Annex II	11 Area management /restriction /regulation zones & reporting units	
1 Elevation	12 Natural risk zones	
2 Land cover	13 Atmospheric conditions	
3 Orthoimagery	14 Meteorological geographical features	
4 Geology	15 Oceanographic geographical features	

GREEN → STATUS OK
YELLOW → TO BE UPDATED/MAINTAINED
RED → IN FINALISATION STAGES

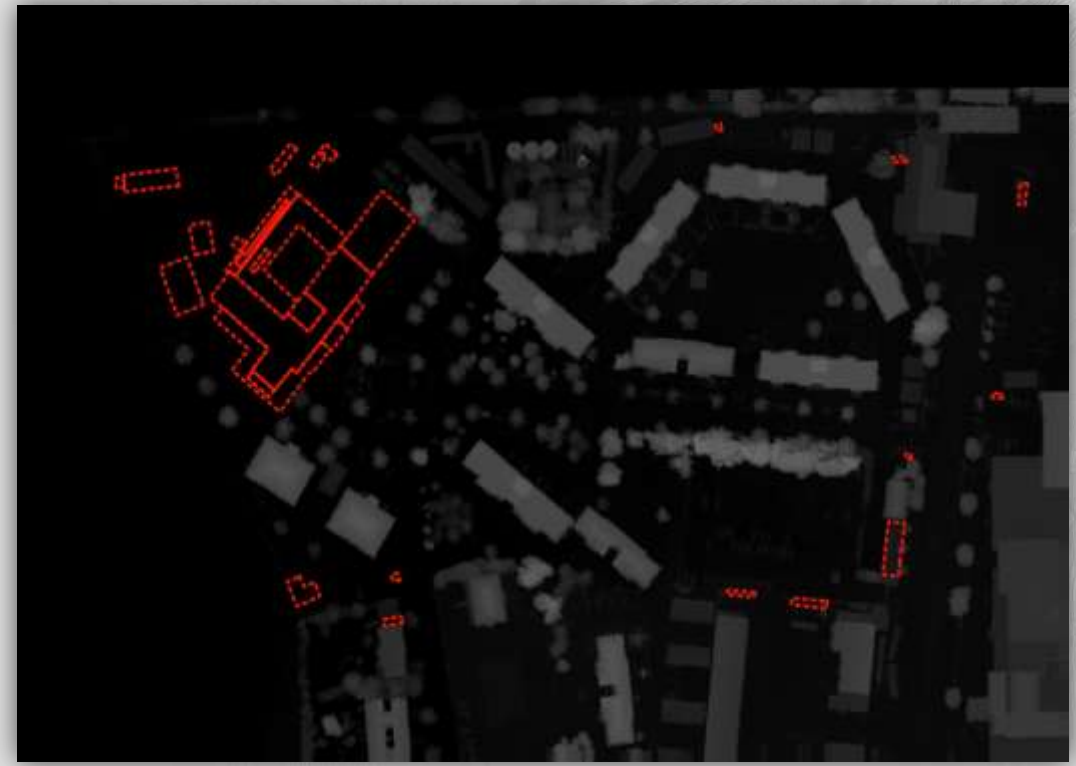
- Inter and intra-departmental collaboration required
- Cooperation is essential to achieve compliance with INSPIRE data themes
- INSPIRE Directive continues to be the main legal driver behind the development of GIS in Gibraltar

Recent developments

Geoportal published

New Gibraltar Basemap

Updating the basemap



Advanced geo-processing

- Aerial photography and Lidar commissioned in 2013
- Automatic detection of missing or new buildings – compares new basemap with older version(s)
- Aerial ortho-image used for checking automated process

Updating the basemap

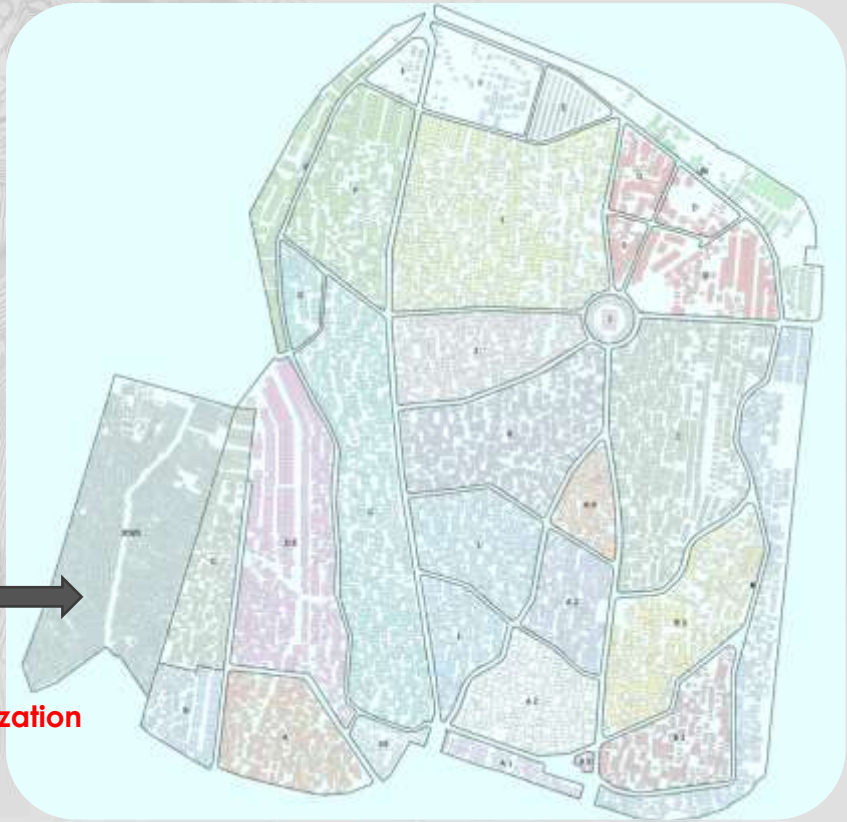
Advanced geo-processing

- LIDAR measurement example
- Height calculations for building layer metadata are automated via geo-processing
- Point to point measurement carried out in a total 3D environment

Ongoing Projects

Cemetery schema

- 10325 tombs already drawn (geo-referenced)
- Tombs will be linked with all existing alphanumeric data
- Public service to be directly guided via smartphone GPS to the desired tomb



High resolution digitalization

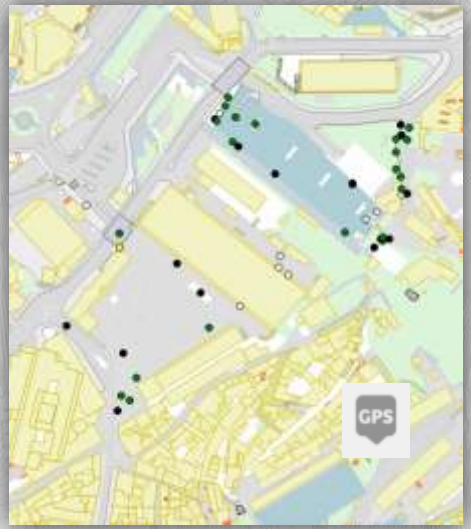
Ongoing Projects

Statistics schema

- All 2012 Census Data loaded in GIS database
- Linked to administrative zones (all zones re-drawn and reviewed)
- Near real-time analysis for any field or combination of them
- 2D and 3D presentation capabilities

Ongoing Projects

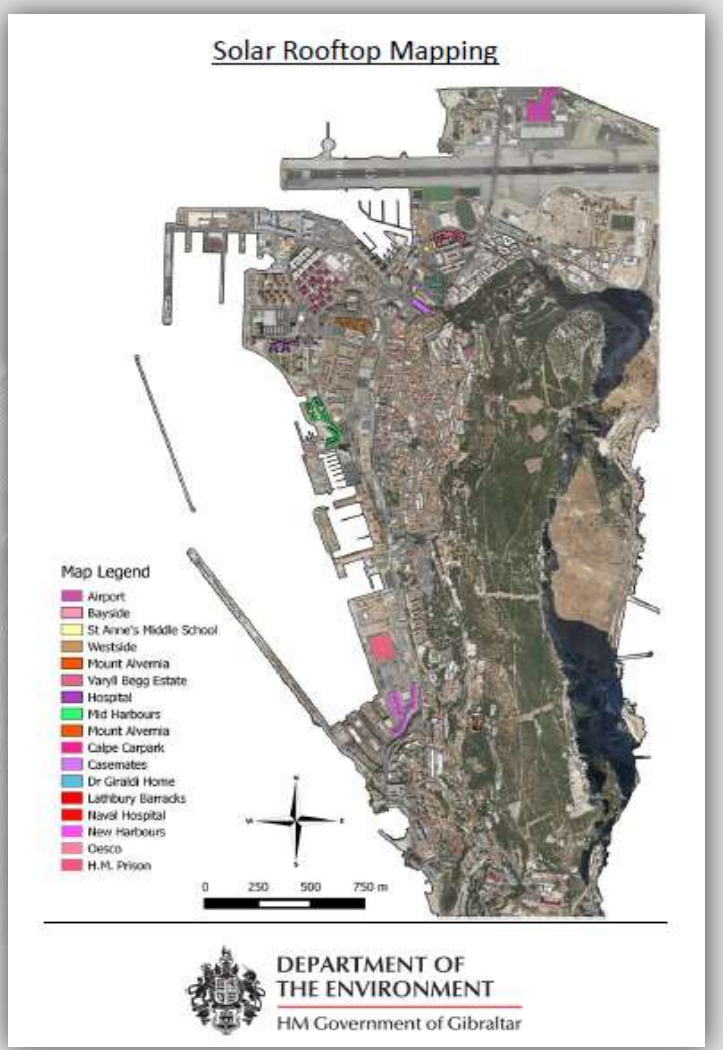
Mobile Highway Defects Tool



Ongoing Projects

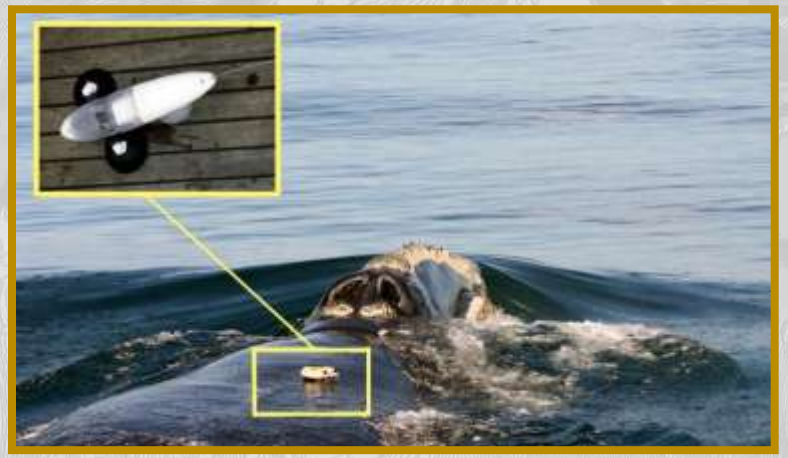
Renewable energy – Solar mapping

- Maximising use of LIDAR
- Assists the economic assessment of solar thermal & solar photovoltaic projects



Coming soon….

Wildlife Tracking Programme



Migratory birds

Short-toed eagle
Pallid swift
Yellow-legged gull

Cetaceans & tuna

Minke Whale
Striped dolphin
Bluefin tuna

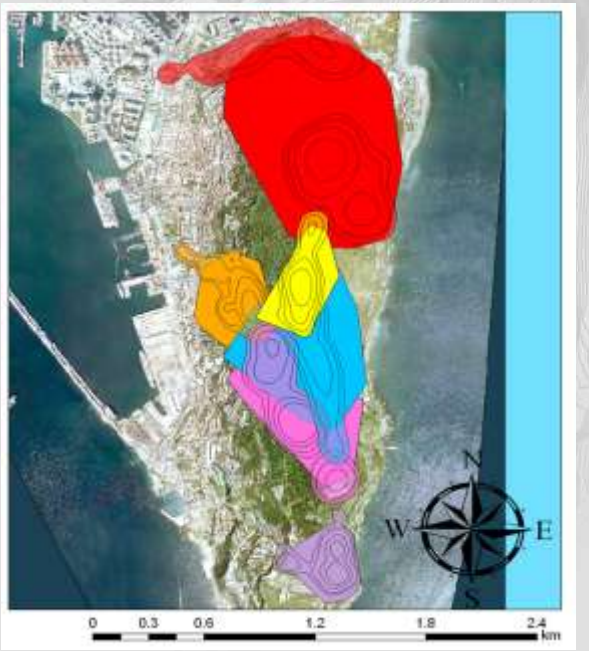
Chiroptera

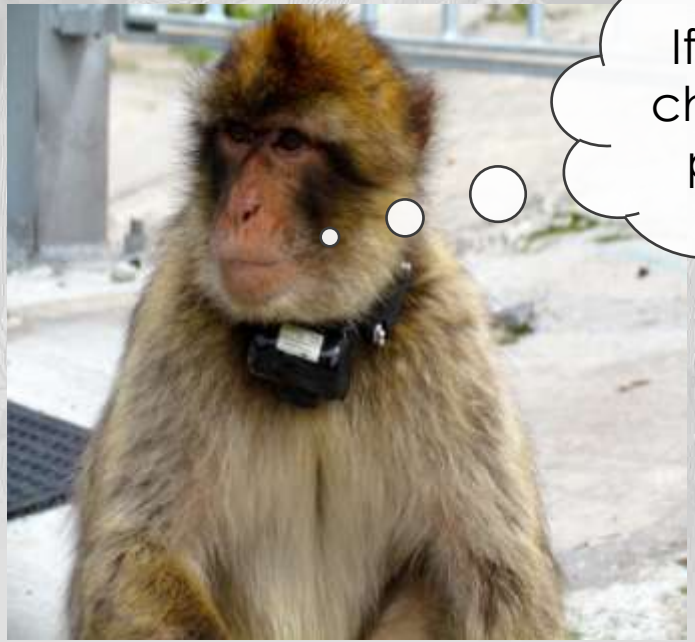
Schreiber's bat
Free-tailed bat

Thanks….on behalf of most of us

Department of the Environment
HM Government of Gibraltar

Barbary Macaque tracking





If only I had changed the projection