

Thematic Session 2

# Tracking Reconstruction of Infrastructure

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CICG, Room 5  
Geneva, Switzerland

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**GFDRR**  
Global Facility for Disaster Reduction and Recovery



**ISDR**



Global Platform  
for Disaster Risk Reduction

# Overview

- **Context:** post-disaster/post-crisis reconstruction of infrastructure
- **Tracking:** documenting location-specific project progress
- **Toolset:** managing the process
- **Outlook:** expanded scope and further work



# Context



Before



After

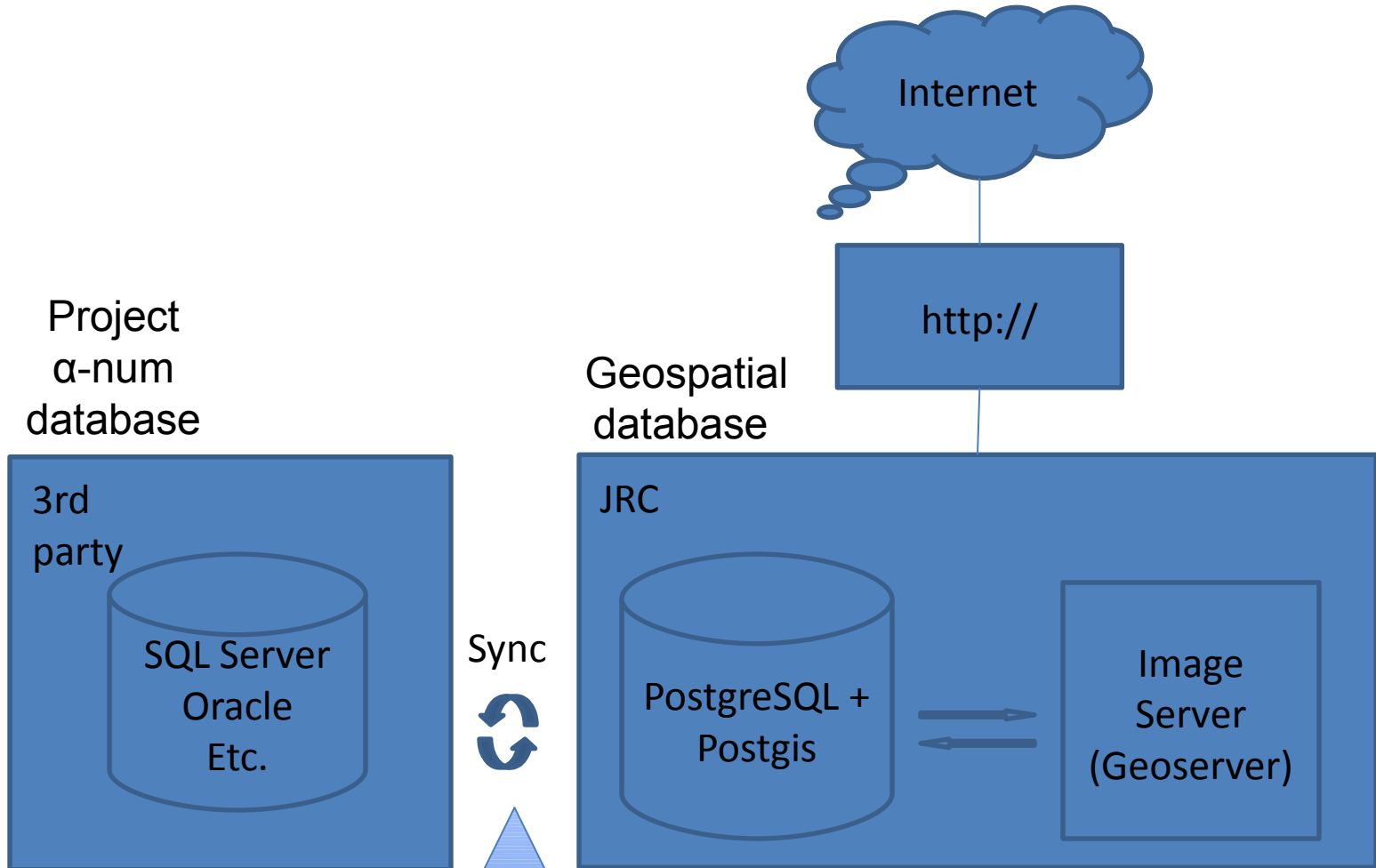




# Tracking

- **What:** reconstruction of physical infrastructure
- **How:** repository of geo-tagged, time-stamped digital project information, web-enabled
- **Who:** gov't, donors, contractors, "the public"
- **Why:** support transparency





Using web

Lebanon - EU 504Leb - Mozilla Firefox

http://504leb.irc.it/geoserver/lebanon/

### Geo-Spatial Information Analysis for Global Security and Stability

## ISFEREA

Map Images

Open Project Geocoding Window

Id	Name	Description
bed60735-3c34-4119-9f63-07ae569262e	MED:0007144-734CCDR101(1)	Haris - Rehabilitation of training Agricultural Center
3f627578-09e0-4855-9dcd-0dc88576ac6	MED:0007144-734CCDR101(2)	Nabehet El Faqos - Construction of an Agricultural Center
62683650-619d-4403-9175-749a6512a0f1	MED:0007144-734CCDR101(3)	Roumin - Construction of a Municipal Building
cc297933-6743-436a-940d-44d2939e65f7	MED:0007144-734CCDR101(3)	Roumin - Construction of a Municipal Building
94c3a629-652c-4746-ae75-4b0ce36ef51	MED:0007144-734CCDR101(4)	Tar Debla - Construction of a Souk(Market) and a Retaining Wall
3c6473f5-9789-45a1-9298-25d748591394	MED:0007144-734CCDR101(4)	Tar Debla - Construction of a Souk(Market) and a Retaining Wall
9413ac38-9f6c-4e3c-863c-86503e076e6d	MED:0007144-734CCDR101(5)	Qasabé - Construction of a Municipal Building
ce973a68-4f8a-4f8a-9e77-6e136485e25d	MED:0007144-734CCDR101(6)	Haris - Construction of a Municipal Building
4b42a268-e58d-4745-910a-44805917c1b5	MED:0007144-734CCDR101(6)	Haris - Construction of a Municipal Building

Map Scale: Scale = 1 : 217K  
 WGS84 Decimal Degrees: 35.257, 33.430  
 Measurement: Distance: 195.679 km

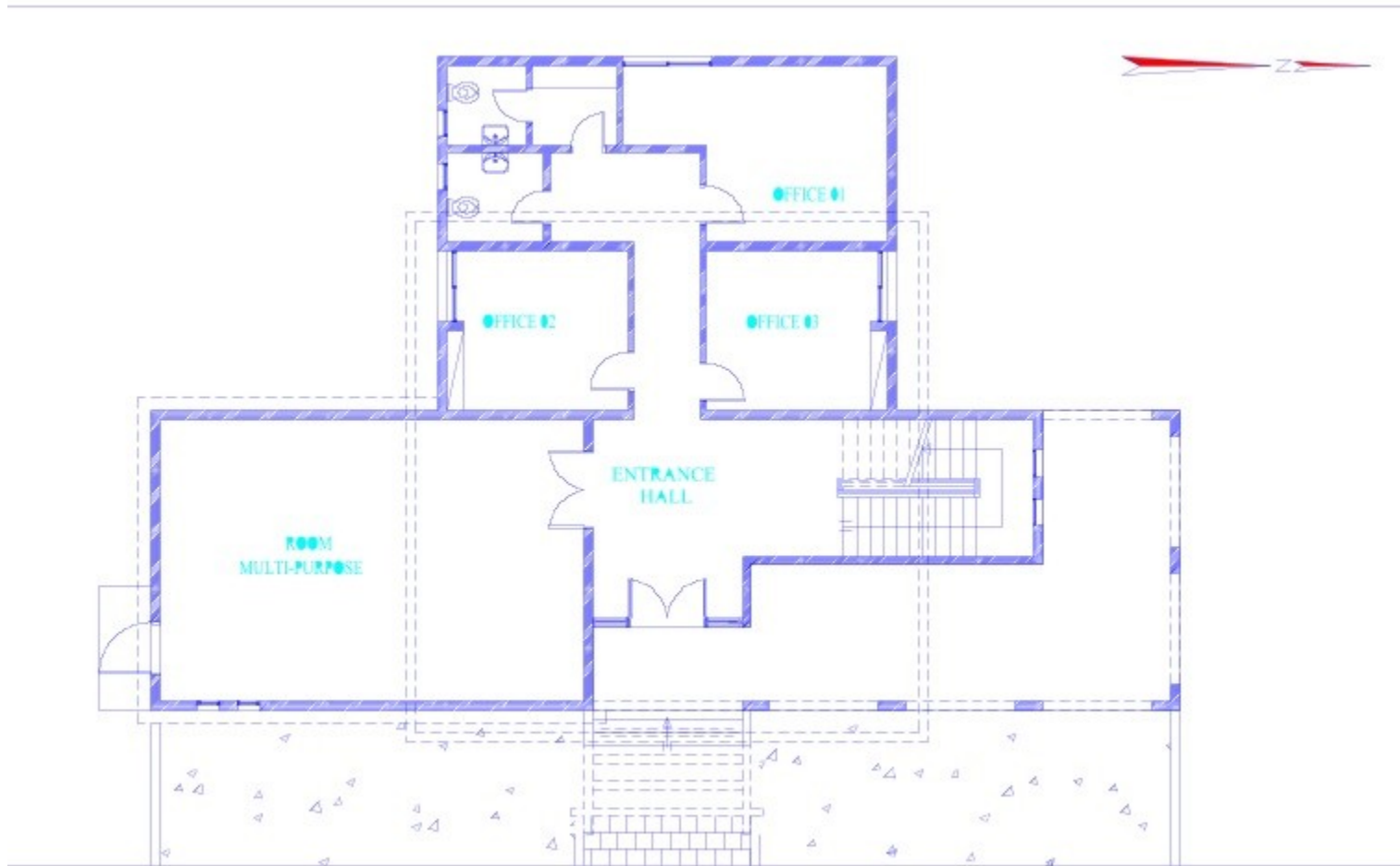
Slide 11 of 11 | Office Theme | English (US) | 11:17 AM



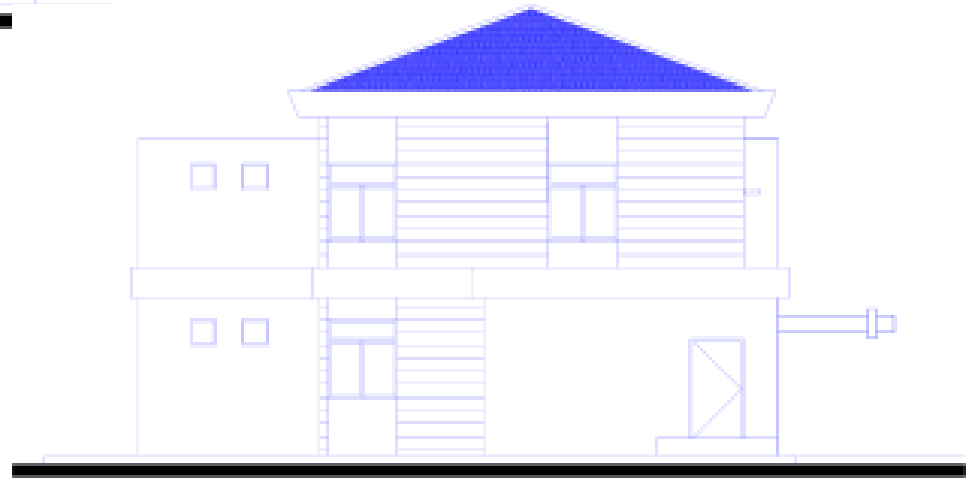
# Project

- **What:** physical infrastructure, e.g. a community building, waterworks, road, etc.
- **$\alpha$ -numerical attributes:** beneficiary, contractor, price, cadastre ID, donor, etc.
- **geospatial attributes:** location, extend, area, topology, 3D structure, etc.
- **“time” attributes:** design accepted, start, ground-breaking, first floor ready, roof closed,



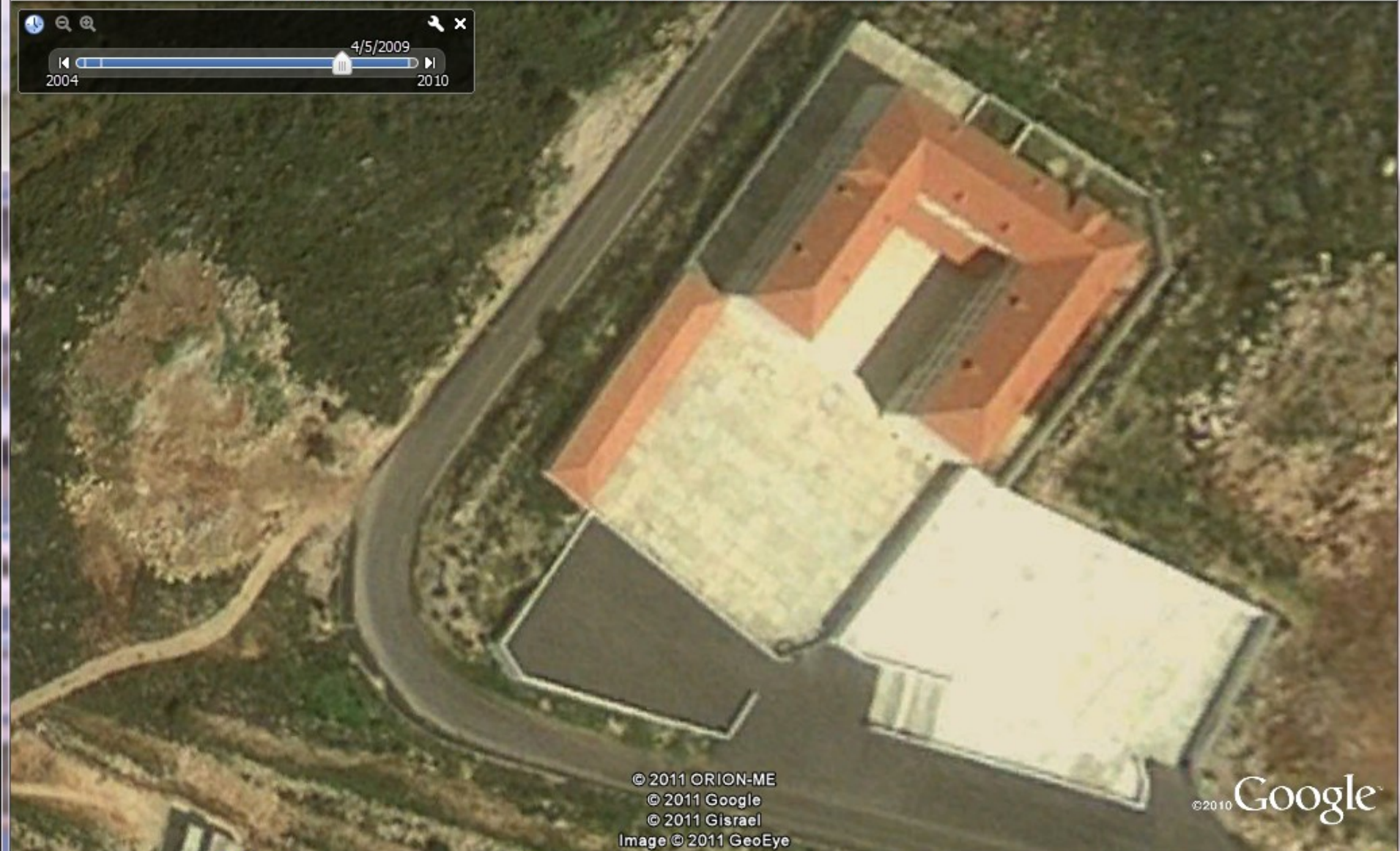








Timeline interface showing a slider from 2004 to 2010, with a marker at 4/5/2009.



© 2011 ORION-ME  
 © 2011 Google  
 © 2011 Gisrael  
 Image © 2011 GeoEye

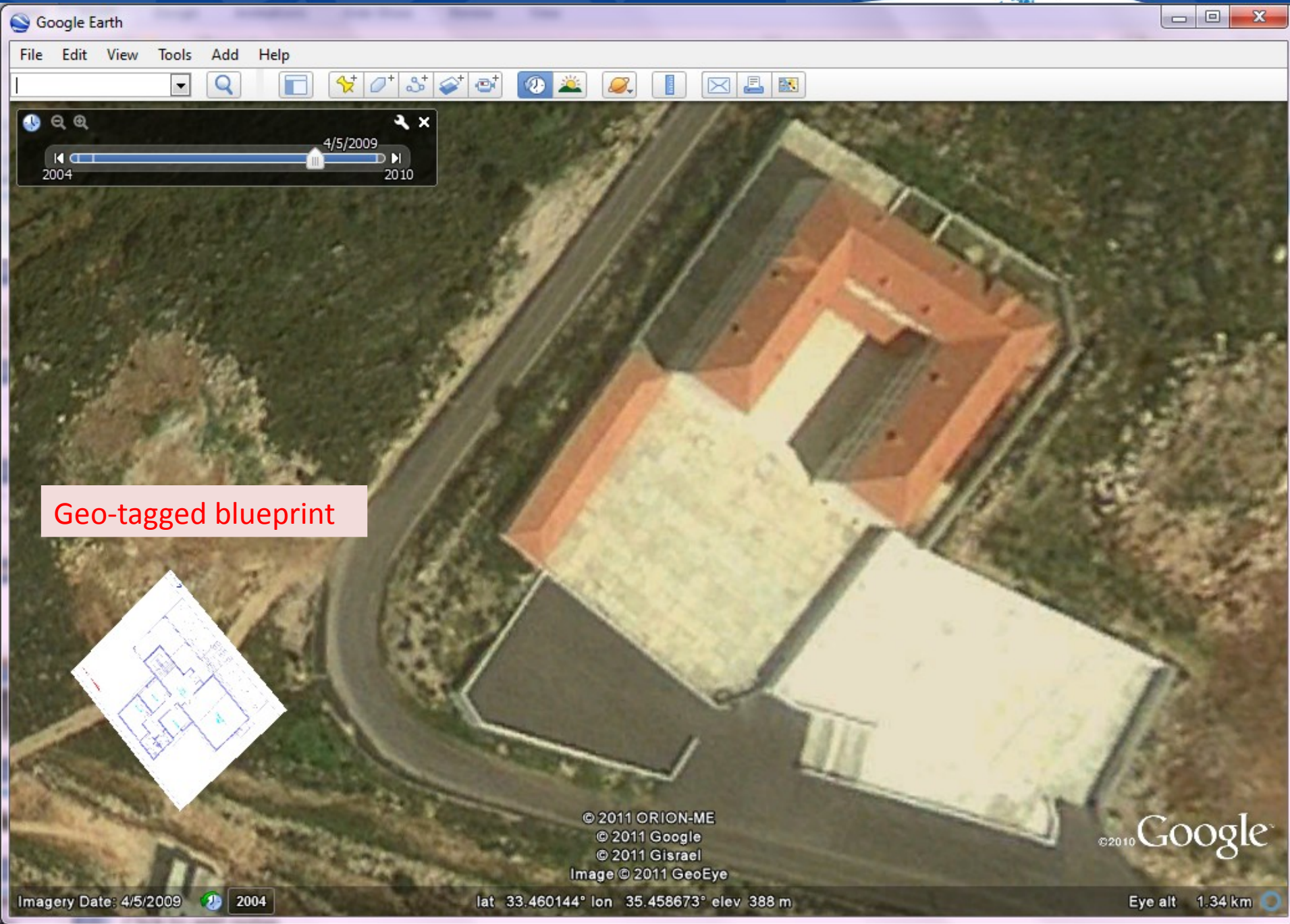


Imagery Date: 4/5/2009 2004

lat 33.460144° lon 35.458673° elev 388 m

Eye alt 1.34 km





Geo-tagged blueprint



© 2011 ORION-ME  
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Image © 2011 GeoEye

©2010 Google

Imagery Date: 4/5/2009 2004

lat 33.460144° lon 35.458673° elev 388 m

Eye alt 1.34 km



# Toolset

- **Data base:** synchronises required project information with 3rd party system using standard web-service. Adds geospatial attributes
- **GPS-photography:** simple addition to standard project supervision task
- **Web-upload:** form based GPS photo-upload, automatic EXIF reading on server, automatic ge location with project, project phase



Ground breaking, 9 July 2009





First floor, 1 December 2009





EXIF record dump

Lebanon - EU S014Leb - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://sd4eb.brc.it/geoserver/lebanon

Most Visited Getting Started Latest Headlines Styler

Geo-Spatial Information Analysis for Global Security and Stability

ISPEREA

Tools

Photo: Select an image

Photo: Select an image

Photo: Select an image

Photo: Select an image

Photo: Select an image


Photo: Select an image

Photo: Select an image

Photo: Select an image

Photo: Select an image

Upload Reset



Delete Image

Tools

Lat: [dd.dddd] 33.4425

Lon: [dd.dddd] 35.407361111

Nsat:

Altitude (mt) 336

Timestamp: 2008:11:13 15:29:35

DOP:

Track:

Closest Projects:	Distance	Select Project
Nabateh El Fajaa - Construction of an Agricultural Center	11.27 km	<input type="radio"/>
Qesabie - Construction of a Municipal Building	11.73 km	<input type="radio"/>
Haris - Rehabilitation of a training Agricultural Center	29.56 km	<input type="radio"/>

Description:

Add In Database

Locations Info Image

Info

Map Projection EPSG:900913

Map Scale Scale = 1 : 217K

WGS84 Decimal Degrees 35.025, 33.424

Measurement Distance = 195.679 km

Done

Compatibility Mode - Microsoft PowerPoint

Picture Tools

Animations Slide Show Review View Format

Picture Shape

Picture Border

Picture Effects

Bring to Front

Align

Send to Back

Group

Selection Pane

Rotate

Arrange

Height: 1.24"

Width: 6"

Size

Click to add notes

Start

Adobe Dreamweaver CS...

Inbox - Microsoft Outlook

Lebanon - EU S014Leb...

Microsoft PowerPoint - ...

Search Desktop

11:20 AM

Slide 12 of 12 "Office Theme"

English (U.S.)

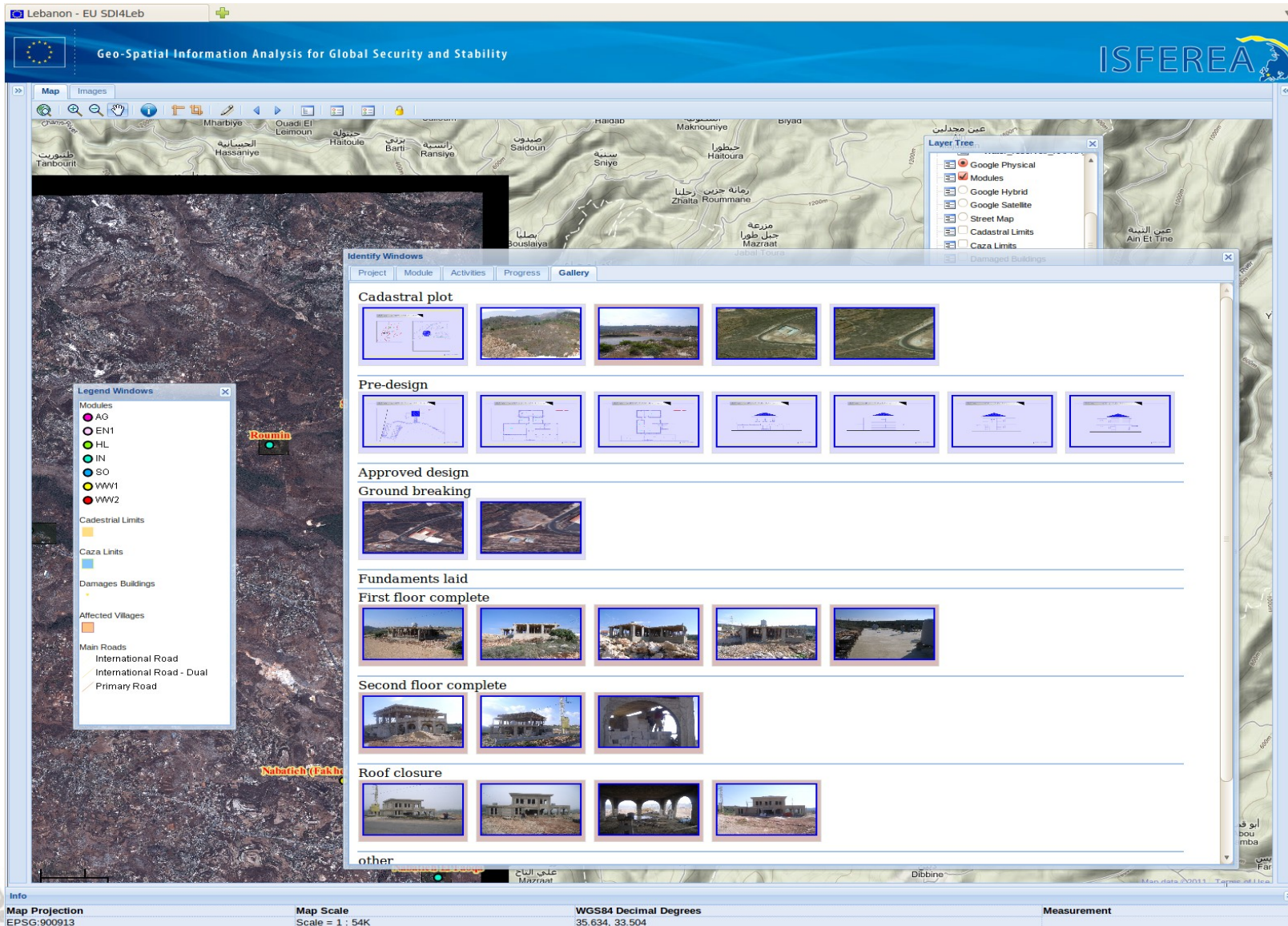
35%



Lebanon - EU SDI4Leb

Geo-Spatial Information Analysis for Global Security and Stability

ISFEREA



Map Projection: EPSG:900913

Map Scale: Scale = 1 : 54K

WGS84 Decimal Degrees: 35.634, 33.504

Measurement





6/29/2010

Completed, 29 June 2009

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Image © 2011 DigitalGlobe

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# Outlook

- **SDI4LEB**: prototype demonstrated in context of EU support to reconstruction in Lebanon
- **Multi-actor, multi-sector**: original scope was to deploy amongst multiple donors, beneficiaries
- **Toolsets**: open source base allows flexibility in support of other front-ends, analysis, etc.
- **Standards**: project tracking standards,

# Further information



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