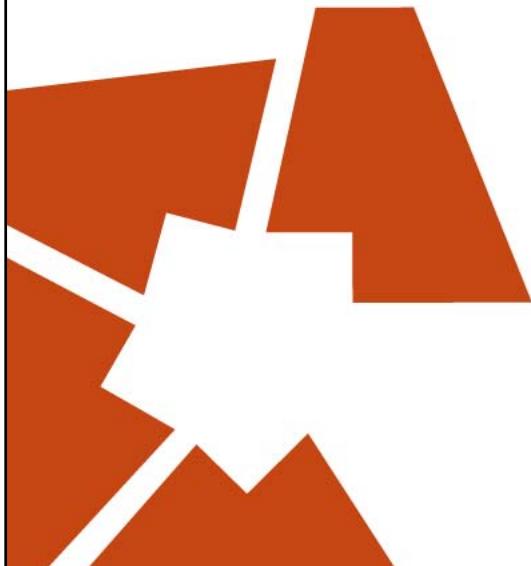




**FIG Working Week 2012**  
Rome, Italy 6-10 May 2012

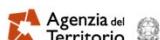


Innovative Cadastre and  
Land Rights Management

**The evolution of cadastral cartographic system  
for the management of the territory in Italy**

Flavio C. Ferrante  
Head of Cartographic Services Division  
Agenzia del Territorio

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### Definitions

**By the term “real estate geo-referencing” the Land Agency means the ability of its information system to detect buildings throughout the nation in an unequivocal and simple manner**

**The Land Agency governs the information system of the Italian Real Estate patrimony, including detecting technical features, descriptions, taxation, values and rights**

**The geo-referencing of real estate assets is based on the cadastral cartographic system**

**As the National Cartographic Authority, the Cadastre is responsible for the management of the high scale cartographic system and its continuous updating**

**Agenzia del Territorio**

The cartographical system of the cadastre as the base of real estate geo-referencing

**It is based on high-scale maps**

240.000 maps scale 1:2000  
30.000 maps scale 1:1000  
30.000 maps scala 1:4000

Scale	Percentage
1:2000	80%
1:1000	10%
1:4000	10%

**It is complete and homogeneous all over the nation**

**It is totally managed in vector format**

**It is directly related to the administrative census DB of the Land Cadastre through a unique identifier: the parcel number**

**It is integrated with a high resolution ortho imagery and National road maps**

**It is updated automatically and in real time by professionals through an infrastructure and an organizational concept based on its software application Pregeo 10**

**Agenzia del Territorio**

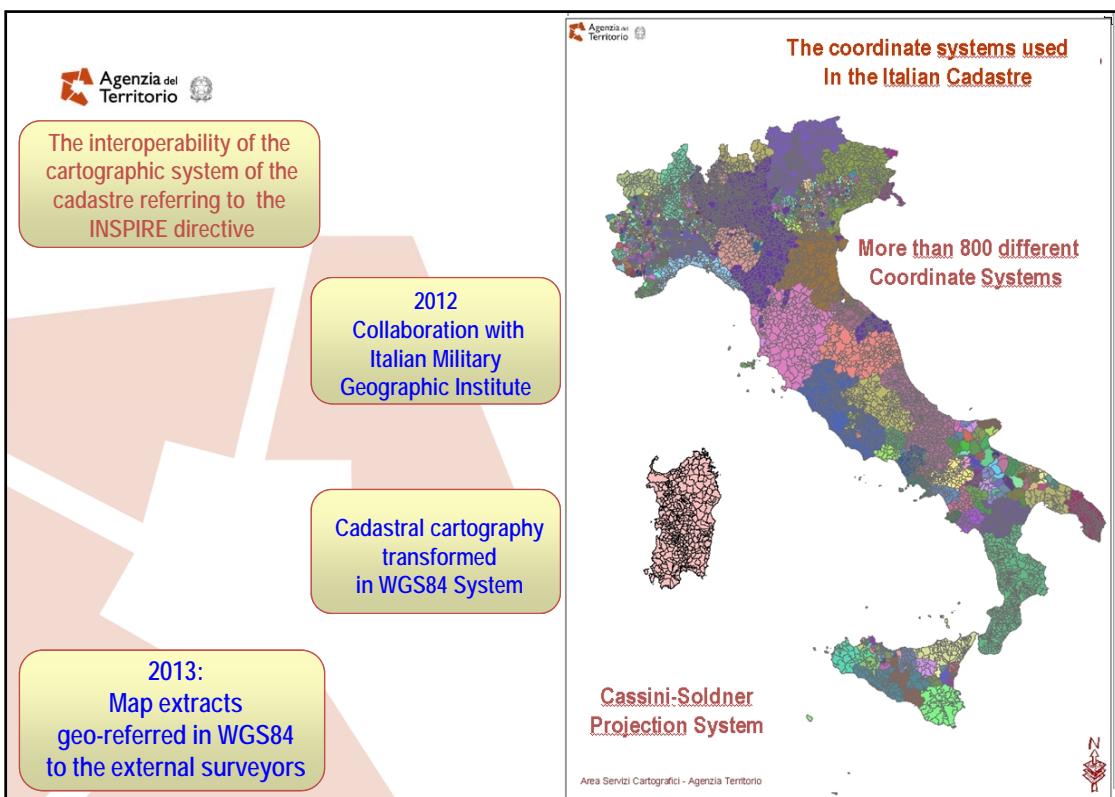
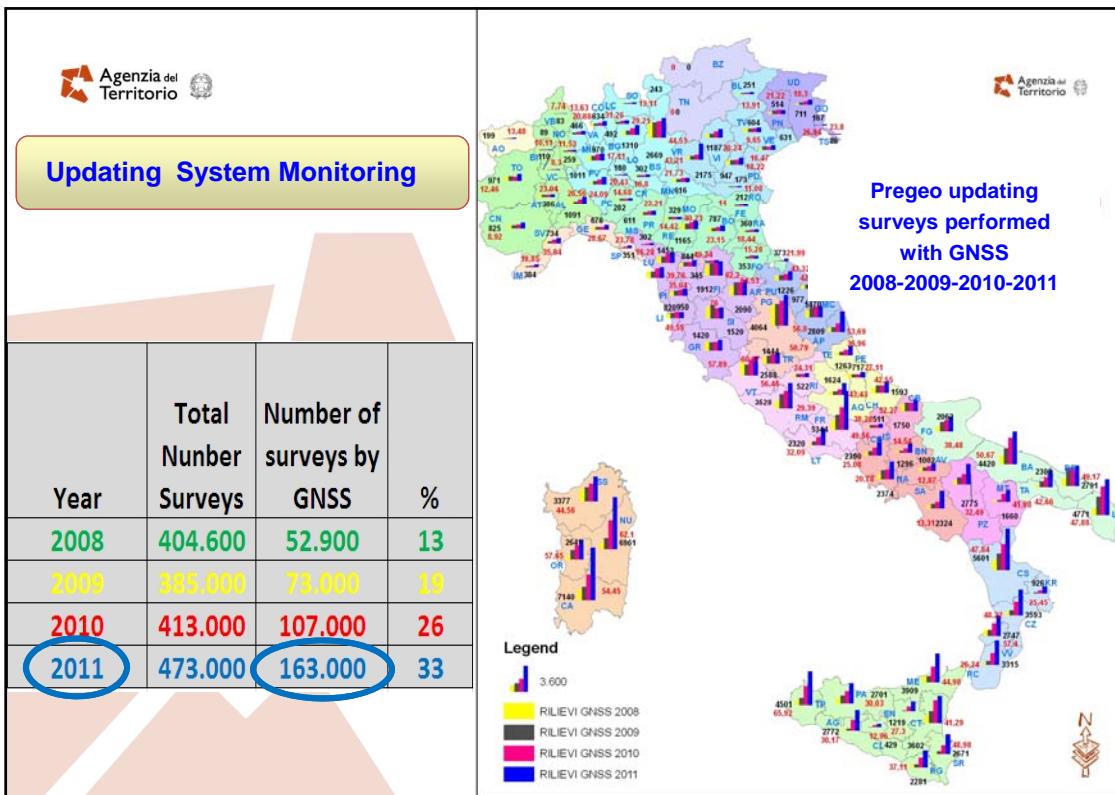
Some considerations about the new updating system

**The cadastral updating system involves external surveyors in updating the cadastral data base directly from their own offices**

**The checks are completely transparent because they are performed by a software application based on shared rules**

**By applying the new updating map the Land Agency and the external surveyors have taken a new step in administrative culture**

**The new updating system of the Land Agency represents an organization model to be proposed to other departments of Public Administrations**



**The cadastre for the fight against tax evasion**

**Elevation Surface Model (ESM)**

**Classification of objects aboveground based on height**

From 2007 to 2010  
more than 1,000,000 buildings not declared to the Italian cadastre have been automatically Identified

**Classification of buildings (red) and vegetation (green) with infrared images**

**Automatic identification of buildings not present on the cadastral map**

Shape	Polygon
Id_port	61149529
Panoramica	196
Foglio	004600
Comune	PIAS

**Aerial Imagery**

**Aerial imagery acquisition by oblique camera system**

**The Future 2012-2014**

**AC 1**

**AC 2**

**Vexcel Camera**

**Number of floors = 8**  
**Height of the Building = 29,8m**

The Future

**Agenzia del Territorio**

Integration between Cadastre - Real Estate Rights Register

The screenshot displays the Agenzia del Territorio software interface, specifically the 'Geopoi' version. It shows a satellite map of a city area with several buildings and roads. Overlaid on the map are three main windows: 1) 'Map Extract' showing a detailed cadastral map with property boundaries; 2) 'Unit Plan' showing a specific plot with dimensions and ownership details; 3) 'Integrated certificate Cadastre- Rights Register' which contains a digital signature and identification information. The top right corner of the interface shows the Agenzia del Territorio logo and navigation links like 'Ricerca', 'Opzioni Visualizzazione', and 'Documentazione'.

**FIG** INTERNATIONAL FEDERATION OF SURVEYORS

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Thanks for Your attention

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