



UNECE
Working Party on Land Administration

HIDDEN BUILDINGS PROJECT

*an Italian best practice
for a more effective land administration*

WPLA SIXTH SESSION
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Agenzia del Territorio
Regional Director for Sicily



AGENZIA DEL TERRITORIO



**AGENZIA DEL TERRITORIO
IS A NON - PROFIT PUBLIC BODY
RESPONSIBLE IN ITALY FOR THE**

CADASTRE,

***PUBLIC REGISTERS
OF REAL ESTATE RIGHTS***

AND

REAL ESTATE MARKET OBSERVATORY

**THE AGENCY, AUTONOMOUS FROM AN ORGANISATIONAL, ADMINISTRATIVE AND
FINANCIAL POINT OF VIEW, ACTS UNDER THE SUPERVISION OF THE
MINISTRY OF ECONOMY AND FINANCE**



THE HIDDEN BUILDINGS PROJECT



Agenzia del Territorio (AdT), as managing body of the nationwide real properties register (Cadastrale), is engaged in several initiatives aiming at reducing tax evasion and avoidance in the real estate field.

*Among these initiatives, the **HIDDEN BUILDINGS PROJECT** is particularly significant, aiming at identifying buildings that, although existing, "are unknown to the Cadastrale"*

The strongly innovative elements are the use of advanced technological platforms and the integration of AdT databases with external ones.



THE INNOVATIVE OPERATING APPROACH

THE MASSIVE EXTRACTION OF BUILDINGS “UNKNOWN TO THE CADASTRE” THROUGH THE PHOTO-INTERPRETATION OF HIGH RESOLUTION AERIAL IMAGES

▪ **Analytical procedure**

- **Automatic** methodology including the analysis and processing of:
 - Digital Terrain Model (DTM) and Digital Surface Model (DSM);
 - Infrared images;
 - Vectorial cadastral cartography;

- **Human check** of the inconsistencies through:
 - Colour high resolution ortho-photos (50 cm)

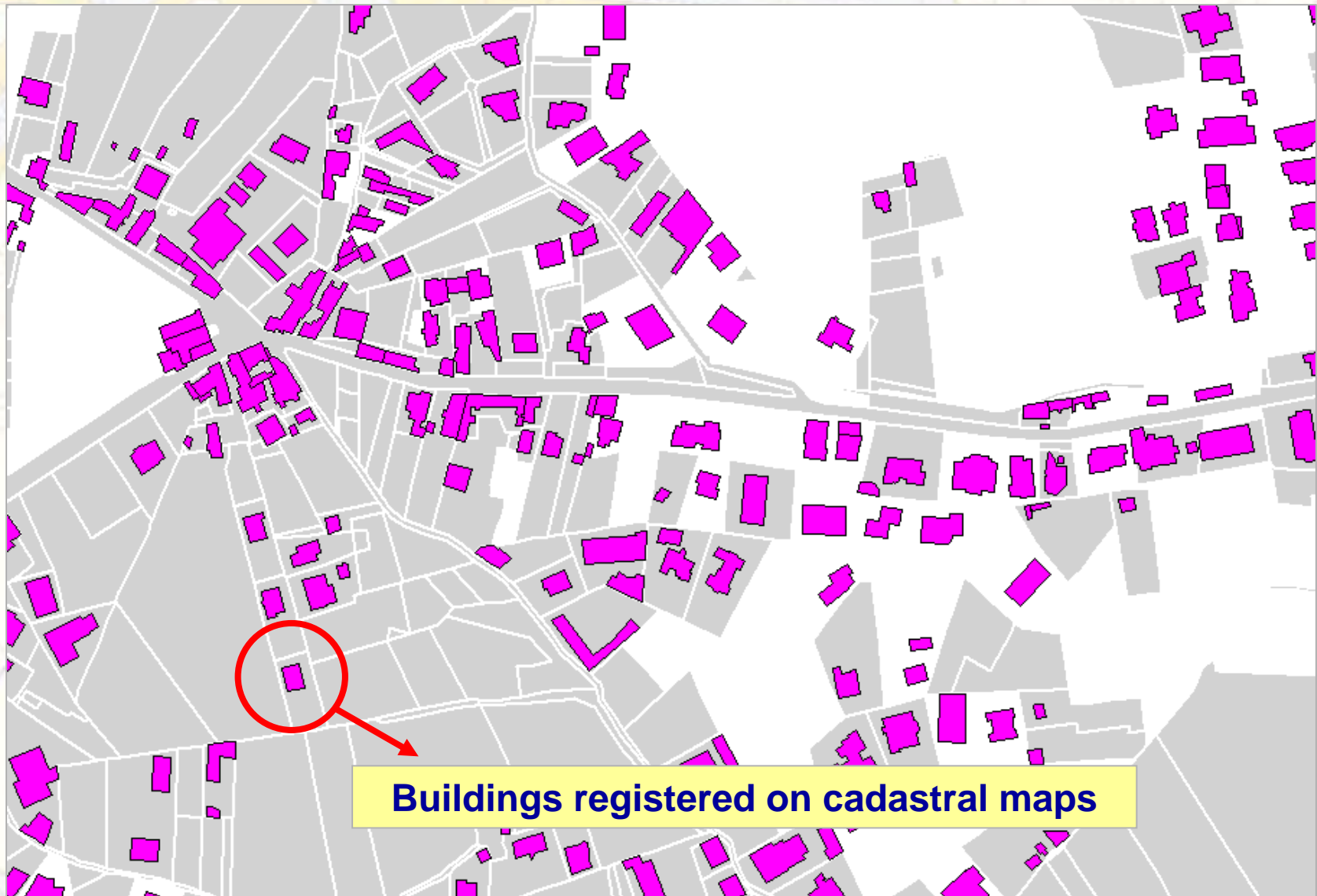


DIGITAL ORTO-PHOTO WITH GROUND SOLUTION 50 CM



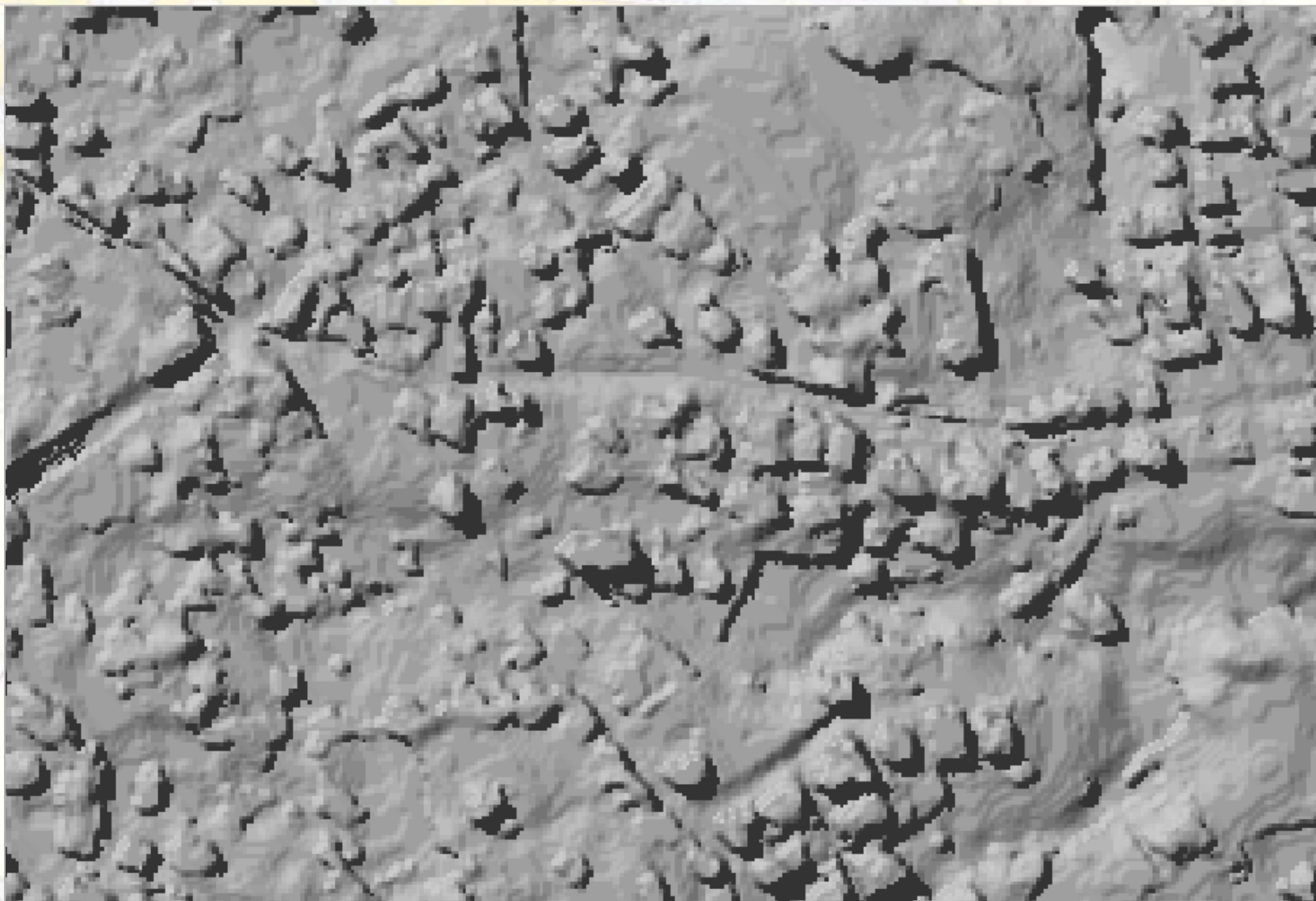


DIGITAL CADASTRAL CARTOGRAPHY IN VECTOR FORMAT



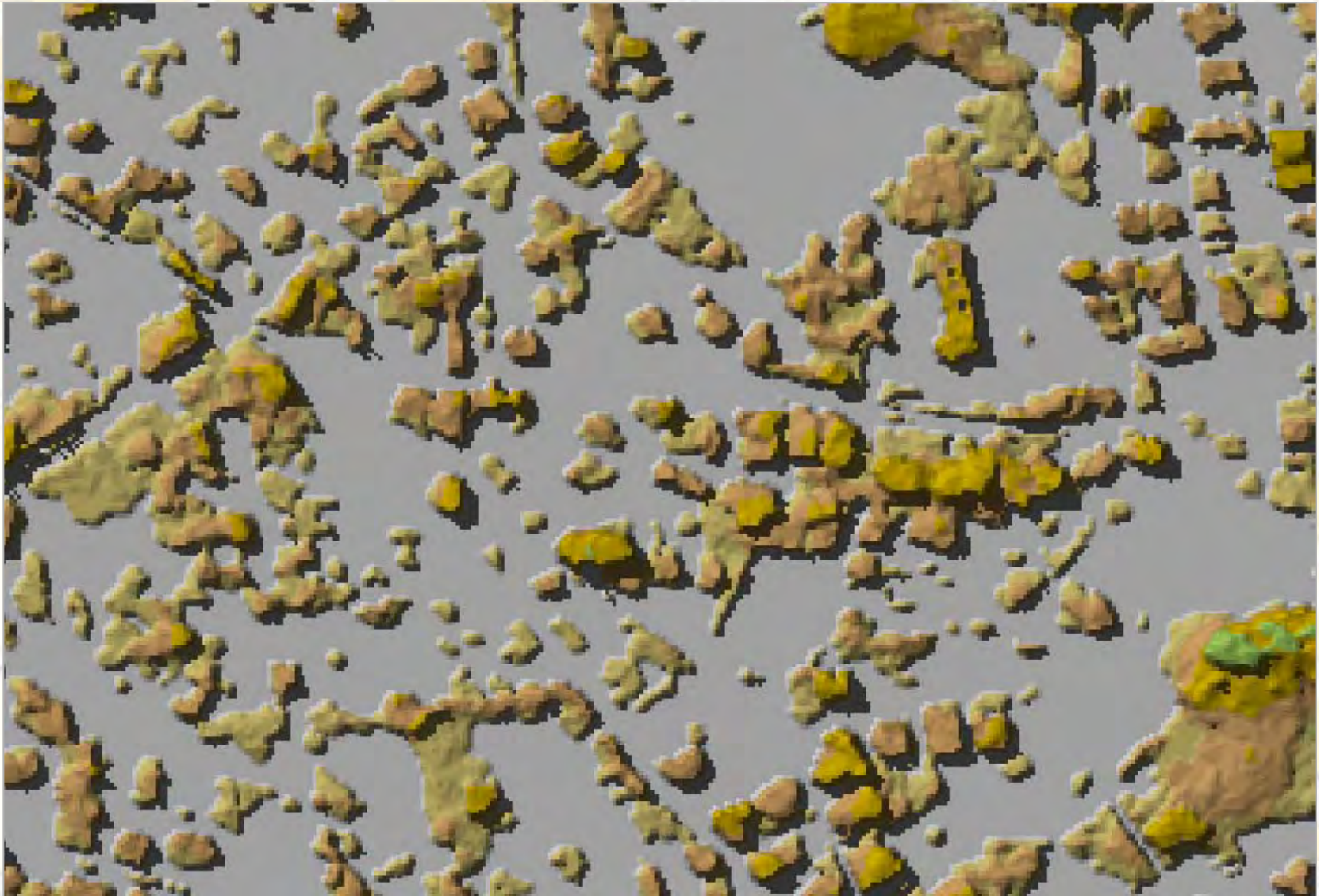


DIGITAL SURFACE MODEL (DSM)



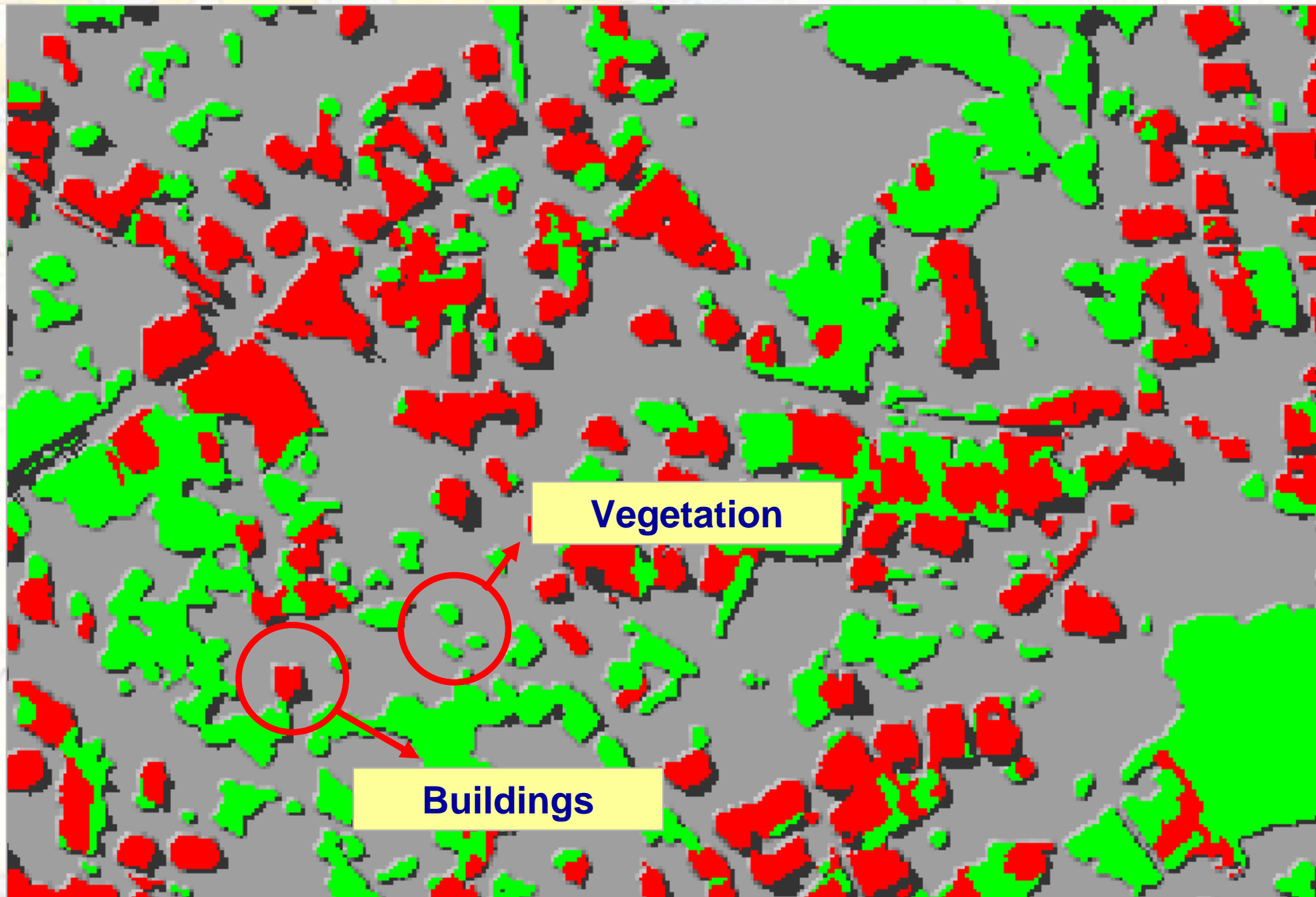


OBJECTS BEING ON THE GROUND DIFFERENCE BETWEEN DSM AND DTM



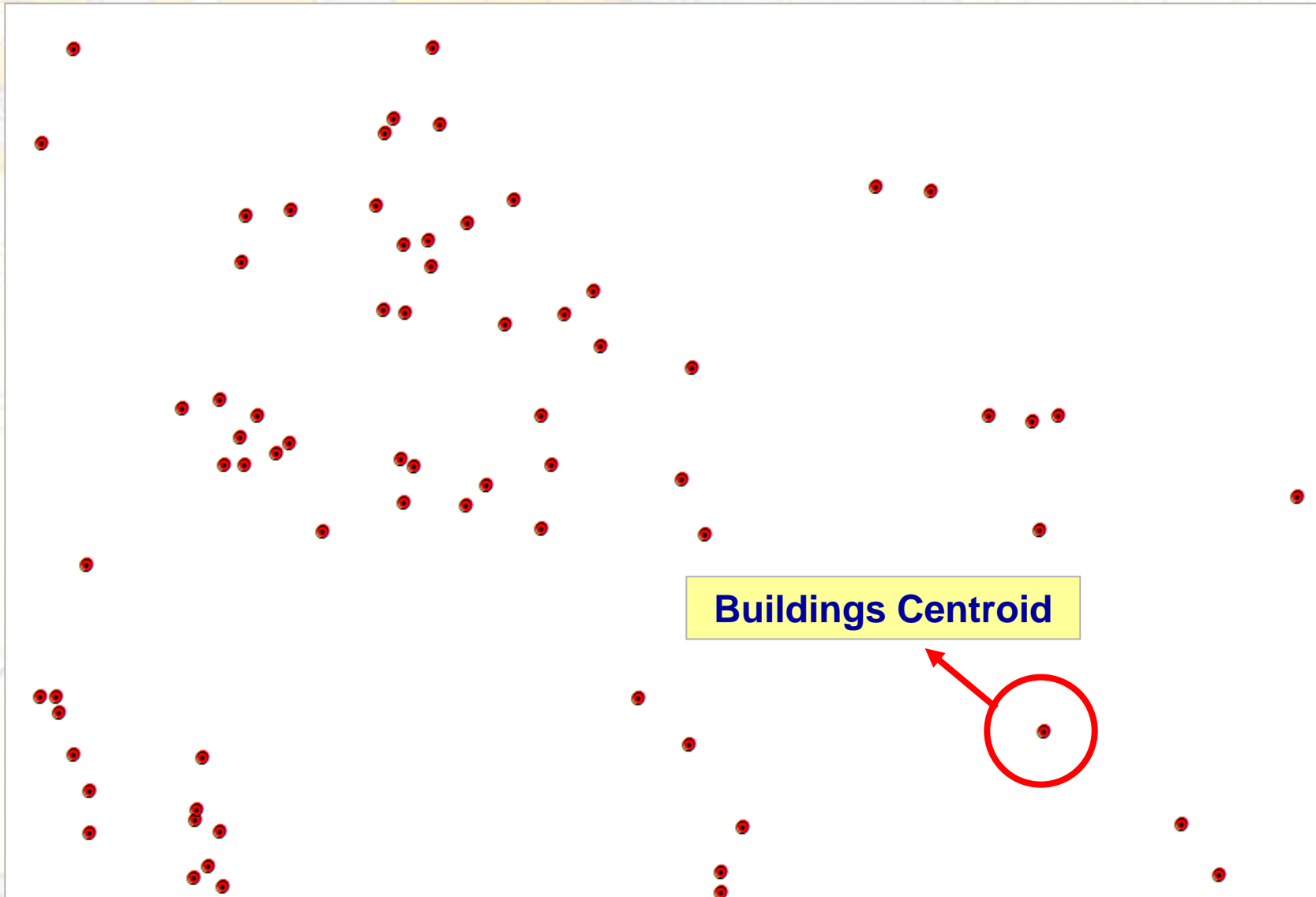


BUILDINGS AND VEGETATION DISCRIMINATION THROUGH INFRARED IMAGES



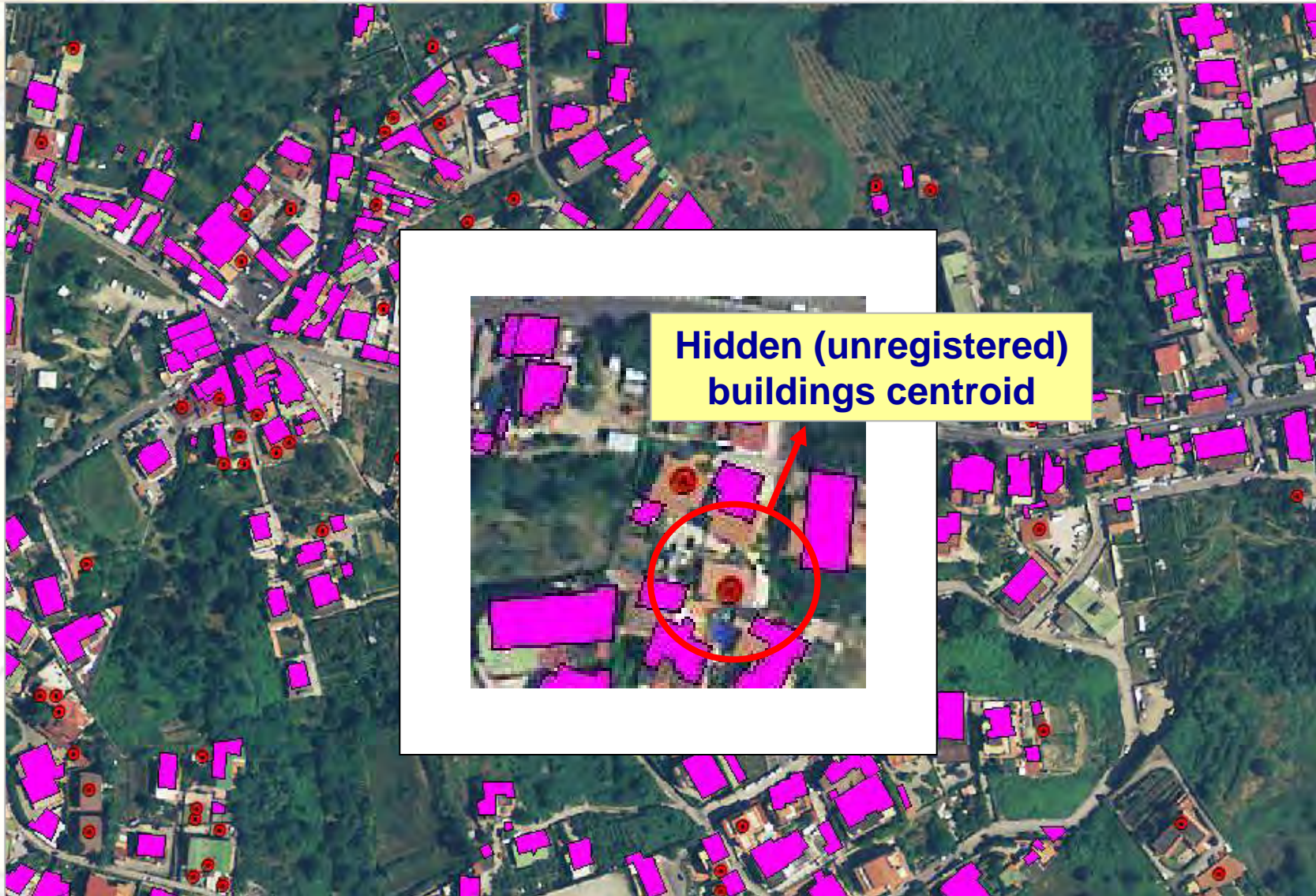


AUTOMATIC SET UP OF THE BUILDINGS CENTROIDS FROM THE DSM



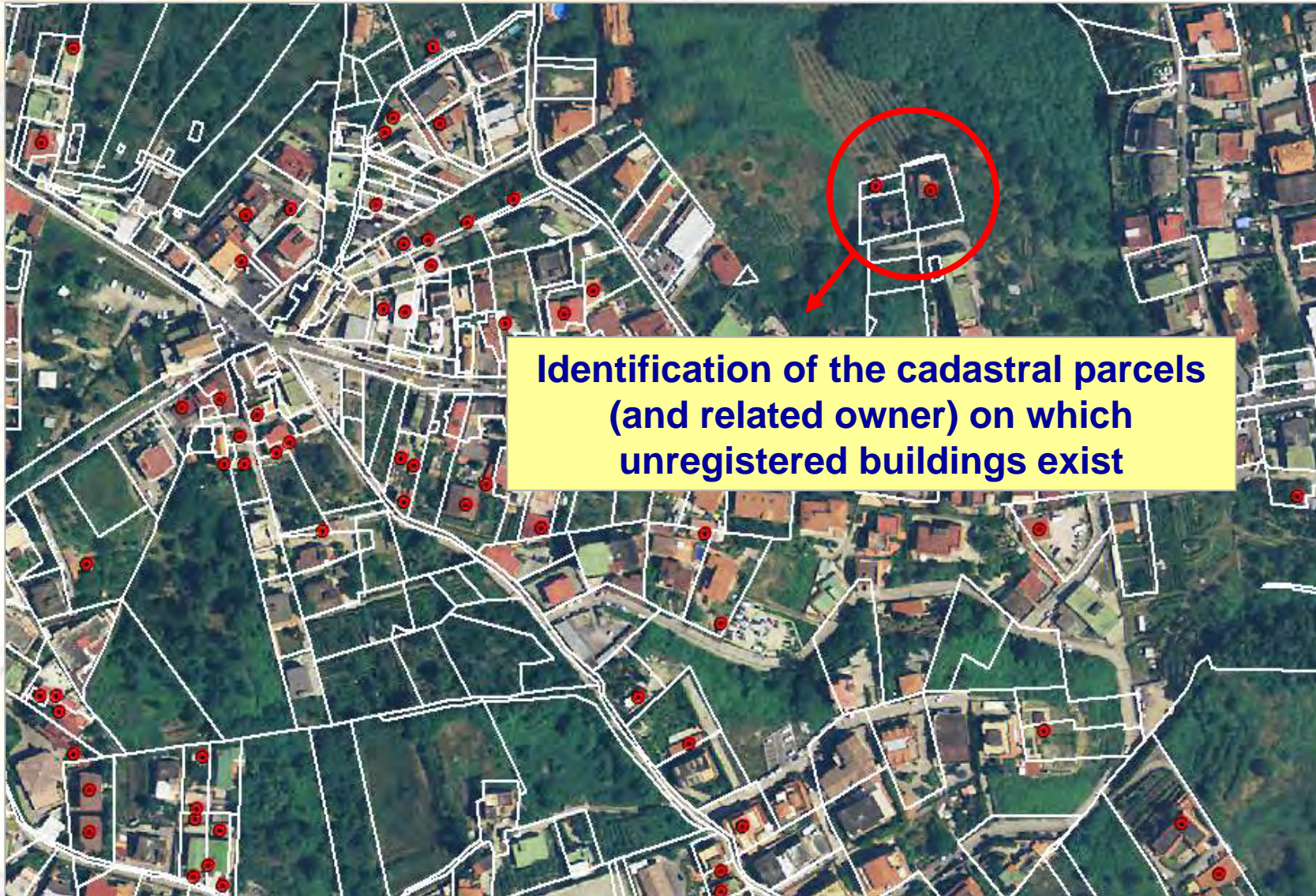


CENTROID REMOVAL FOR THOSE BUILDINGS ALREADY REGISTERED IN THE CADASTRAL MAPS





HIDDEN BUILDINGS CENTROIDS ON VECTORIAL CADASTRAL MAPS



BUILDINGS “UNKNOWN TO THE CADASTRE”

Automatic phase RESULTS	
Involved Provinces	77 out of 101
Involved Municipalities	5.356 out of 7.759
Map sheets processed	200.000 out of 330.000
Investigated area (km²)	215.000
HIDDEN BUILDINGS IDENTIFIED	1.505.000





THE HUMAN CHECK PHASE

Total selected buildings
coming from
automatic extraction phase

HIDDEN BUILDINGS

(EXPECTED)

HUMAN CHECK
(STILL IN PROGRESS)

HIDDEN BUILDINGS
to be registered

Registration requested
to the owners

Buildings not interesting
for Cadastre

Errors in the
automatic extraction



Licensed Professionals



UNIQUE DIGITAL FORM FOR BUILDING

REMOVAL OF INCONSISTENCIES COMING FROM THE INVOLVEMENT OF DIFFERENT INSTITUTIONS IN THE LAND AND URBAN ADMINISTRATION

An unique digital document for planning permission and cadastral updating



Professionals

Results



Unique submission

Planning permission – Local real estate taxation
Municipality



DATA EXCHANGE

Cadastre

Registration and valuation for fiscal purposes



Many thanks for your kind attention



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