

# National Geographic Institute (IGN) National Centre of Geographic Information (CNIG)

## Tenth United Nations Regional Cartographic Conference of the Americas



<http://www.ign.es>

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# Spanish National Land Observation Program (PNOT)

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National Geographic Institute

## SUMMARY

1. Who are we?
2. Global needs
3. Geospatial Information → New Production Model
4. Description
5. Applications
6. Characteristics
7. Conclusion



# 1. WHO ARE WE?



## Regional Administrations



## Spanish Central Administrations



## European Union



## 2. GLOBAL NEEDS

### for Geospatial Information (GI) :

- Cartography
- Emergencies and security
- Decision making
- Environment
- Land Management and Dynamic
- Agriculture
- ...

*measurable and comparable in time*

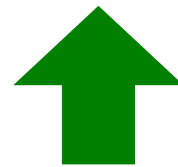
SUSTAINABILITY



**Crisis**

(→ Changes....)

→ **Sustainable Development**



Geospatial Information (GI) →  
→ Geospatial Reference Data (GRD)



Geospatial  
Information  
GI → GRD

Crisis →

→ Sustainable Development

GI → Three pillars



Principles and characteristics GI/UN

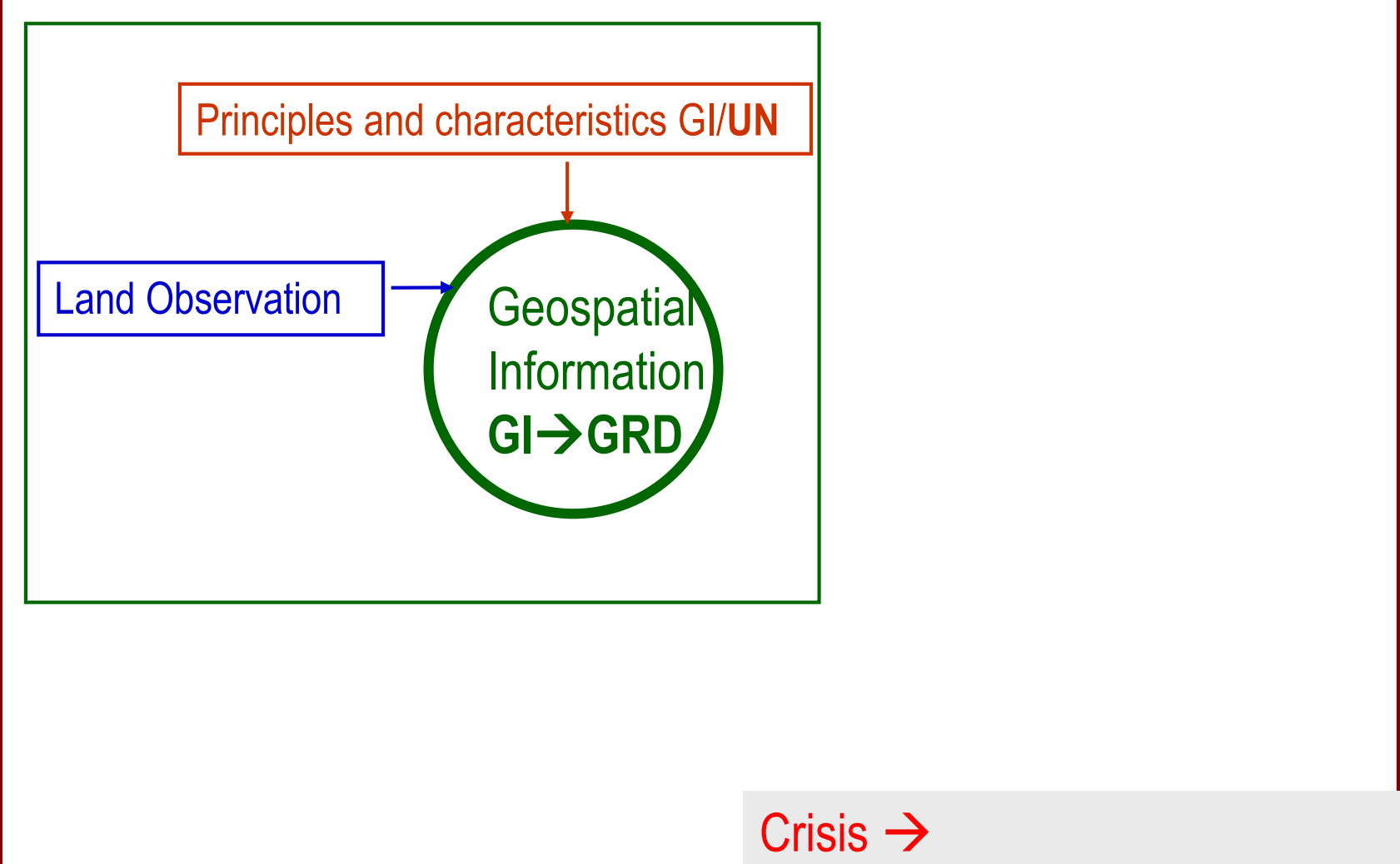
Geospatial  
Information  
GI → GRD

Crisis →

→ Sustainable Development

GI → Three pillars



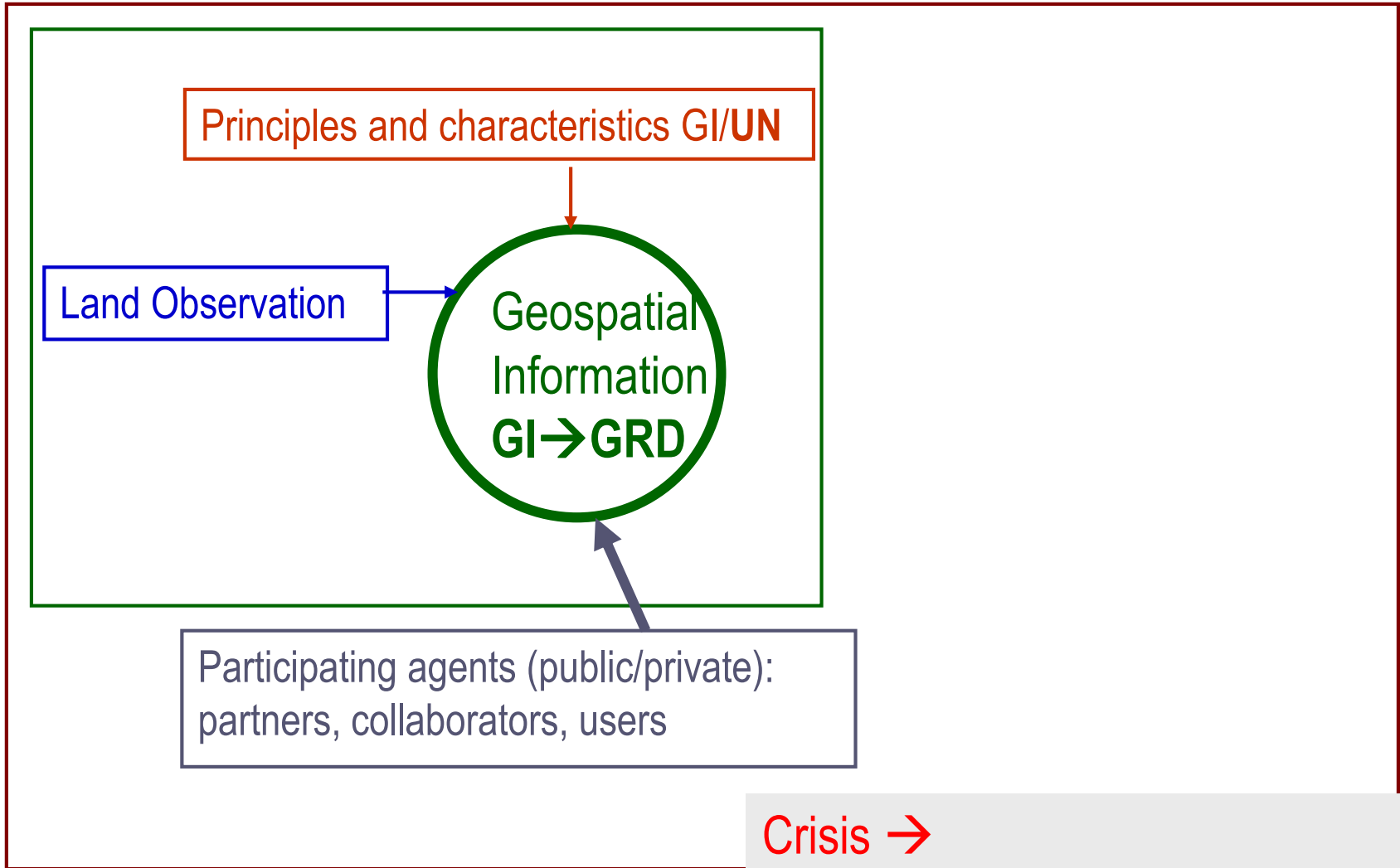


Crisis →  
→ Sustainable Development

## GI → Three pillars



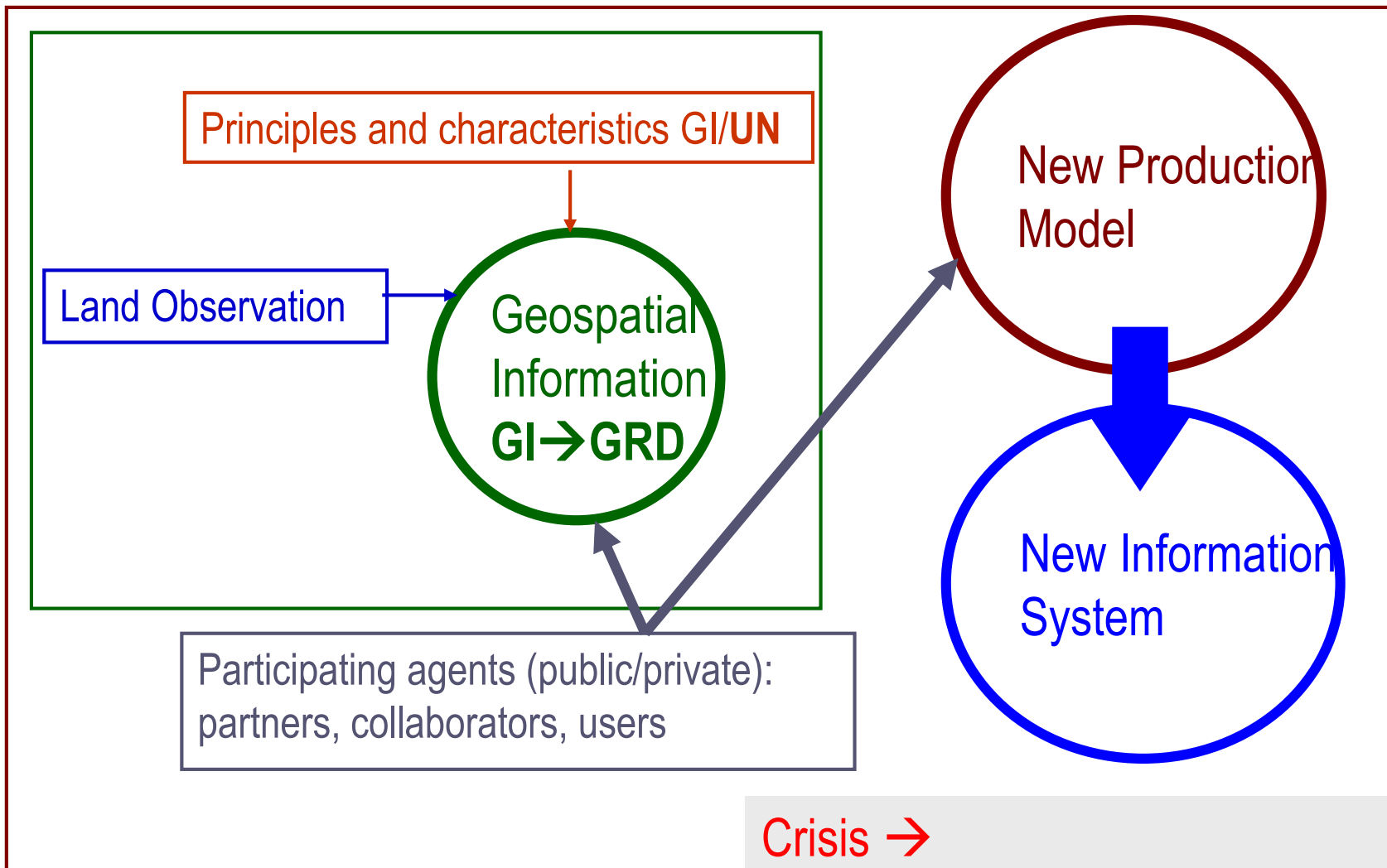




Crisis →  
→ Sustainable Development

### GI → Three pillars





Crisis →  
→ Sustainable Development



User Needs



Basic Geospatial Reference Data (GRD)

Private companies

Added value Geoinformation

New Production Model

Private companies

Public Institutions

Dialogue Agreement Compromise

Private companies

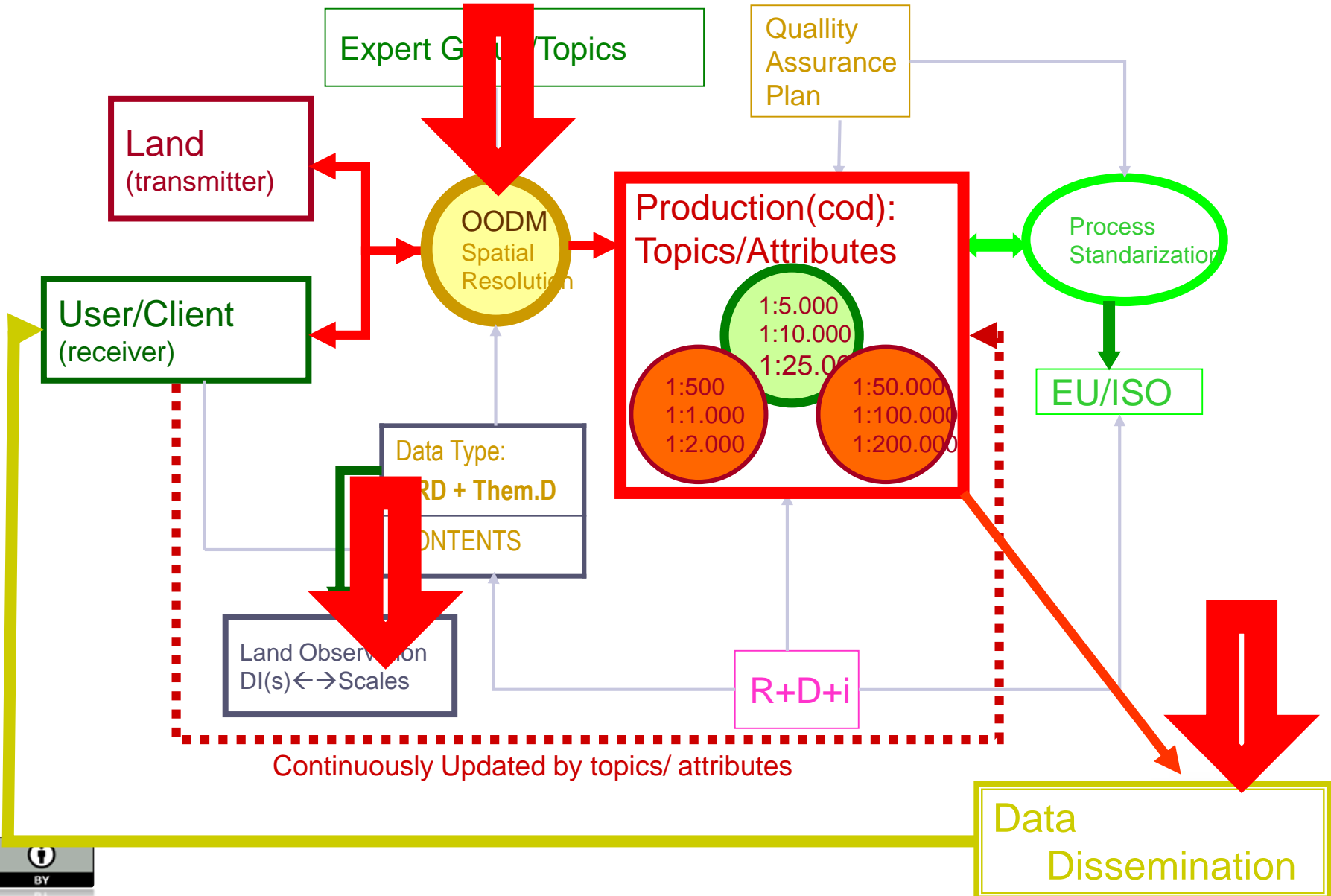
Regional Public Institutions

Decentralisation Collaboration

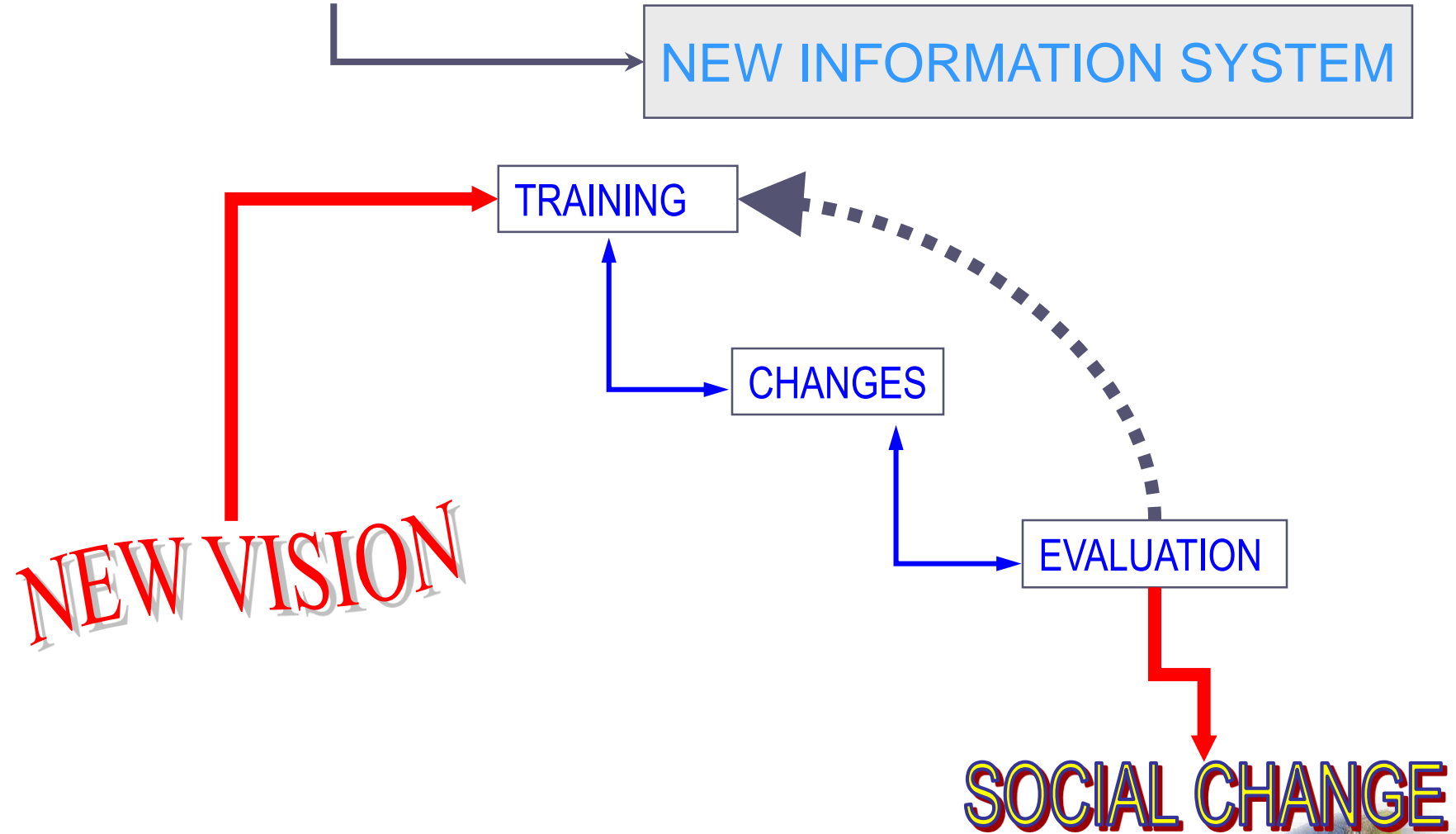
Dissemination

Private companies





### NEW PRODUCTION MODEL



## 4. DESCRIPTION (THROUGH NATIONAL PROJECTS)

**PNOT**

**National Plan for Aerial Orthophoto (PNOA)**

**National Plan for Remote Sensing (PNT)**

**Land Cover and Land Use Information System (SIOSE)**

Basic **Geospatial Reference Data (GRD)** in order to manage in efficient way the **Geospatial Information (GI)**.

*(PNOT start in 2004)*



## 4. DESCRIPTION (THROUGH NATIONAL PROJECTS)

### National Plan for Aerial Orthophoto (PNOA)

Coordination and definition the acquisition of high resolution of  
 aerial images (→ 10cm/50cm) and  
 accuracy digital terrain models (→ 30cm)  
*(every 2/4 years)*



## Scales → Resolutions (s)

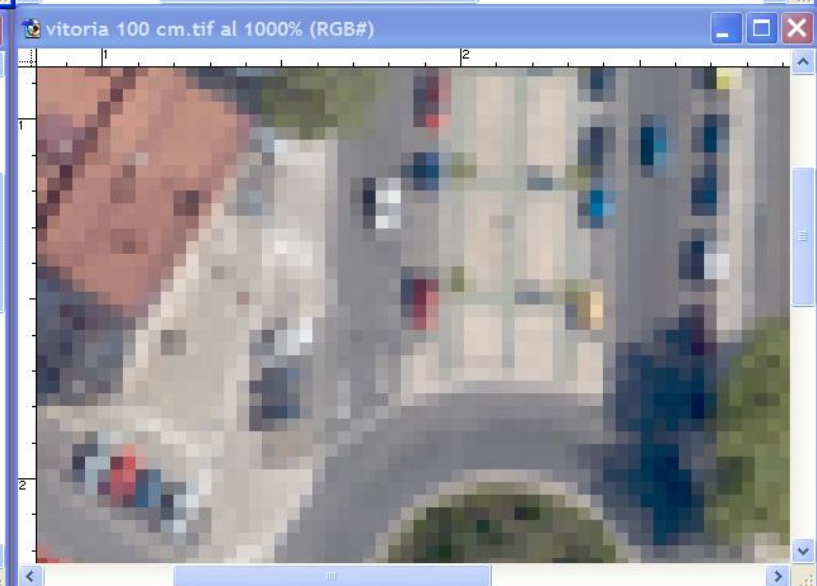
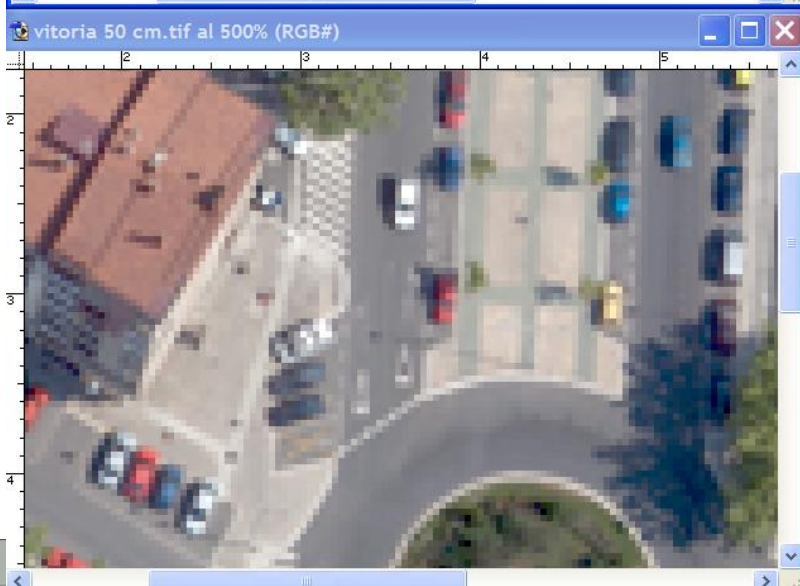
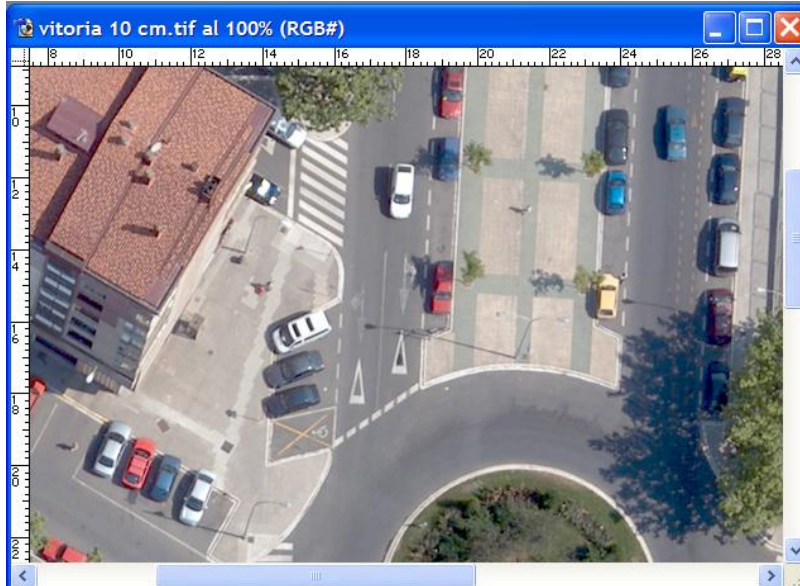
ema= maximum error

$s_v$ = pixel size for visualisation

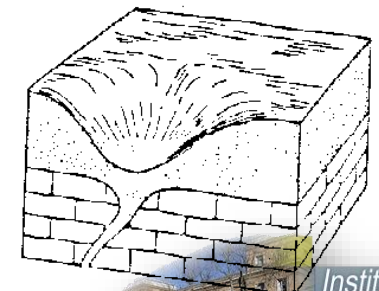
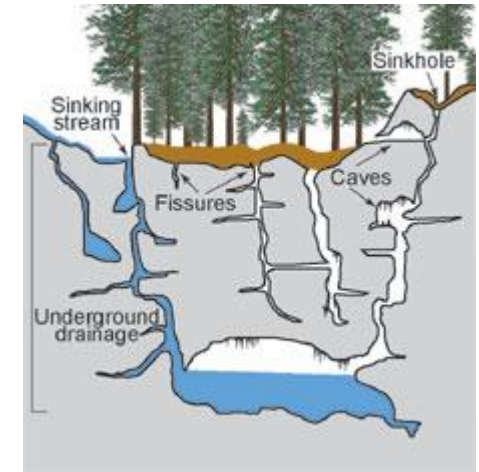
$s_c$ = pixel size for cartography

Scale	ema(m)	$s_v$ (m)	$s_c$ (m)
1:25.000	5	2,50	1,25
1:10.000	2	1	0,50
1:5.000	1	0,50	0,25
1:1.000	0,20	0,10	0,05/0,10

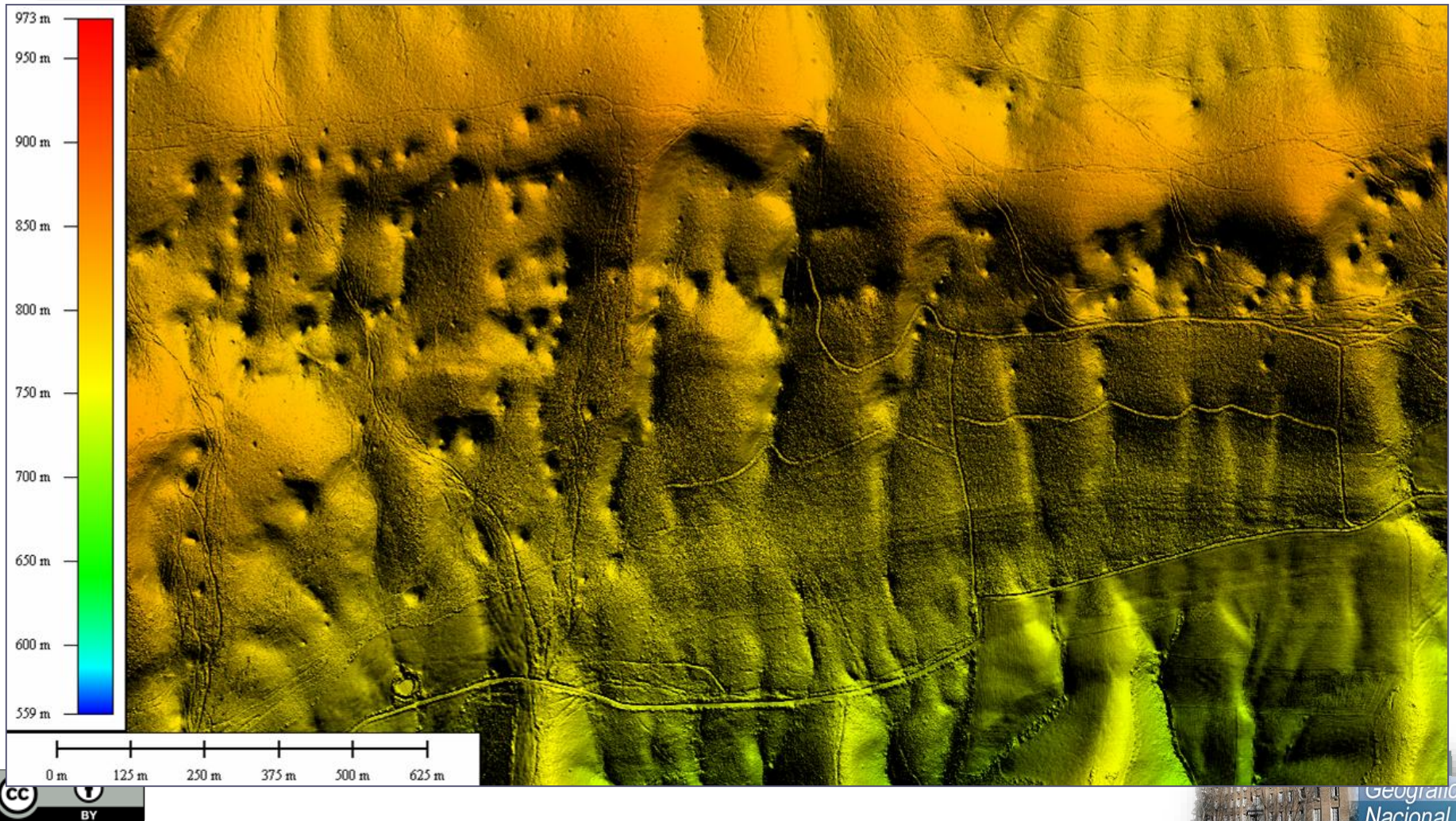




### Localization and capture : *Dolinas*



### Navarra - Oskotz Basin



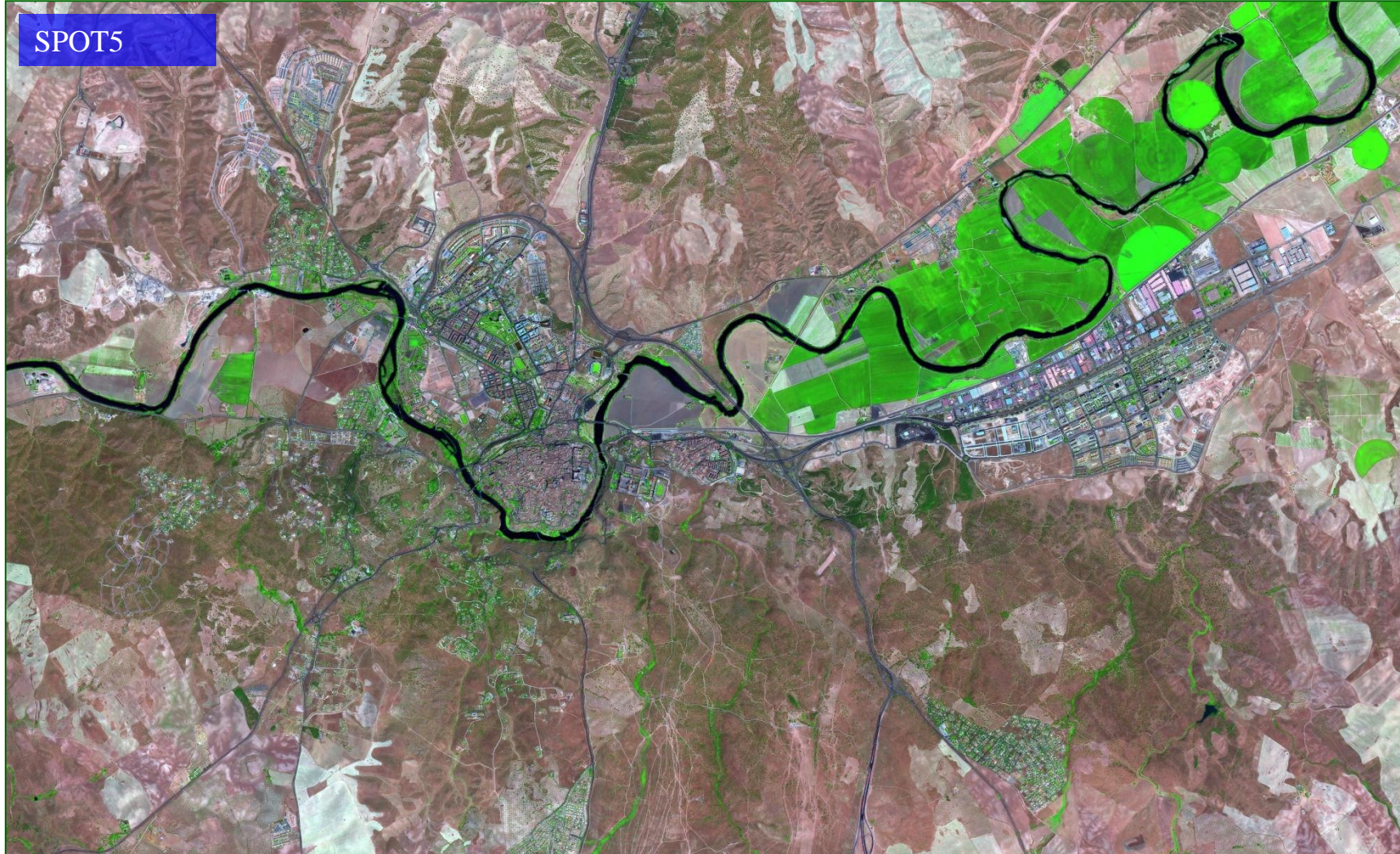
## 4. DESCRIPTION (THROUGH NATIONAL PROJECTS)

### National Plan for Remote Sensing (PNT)

Coordination in acquiring full coverage of images in Spain from the existing Earth Observation satellites (high and medium resolution)

*(every year)*

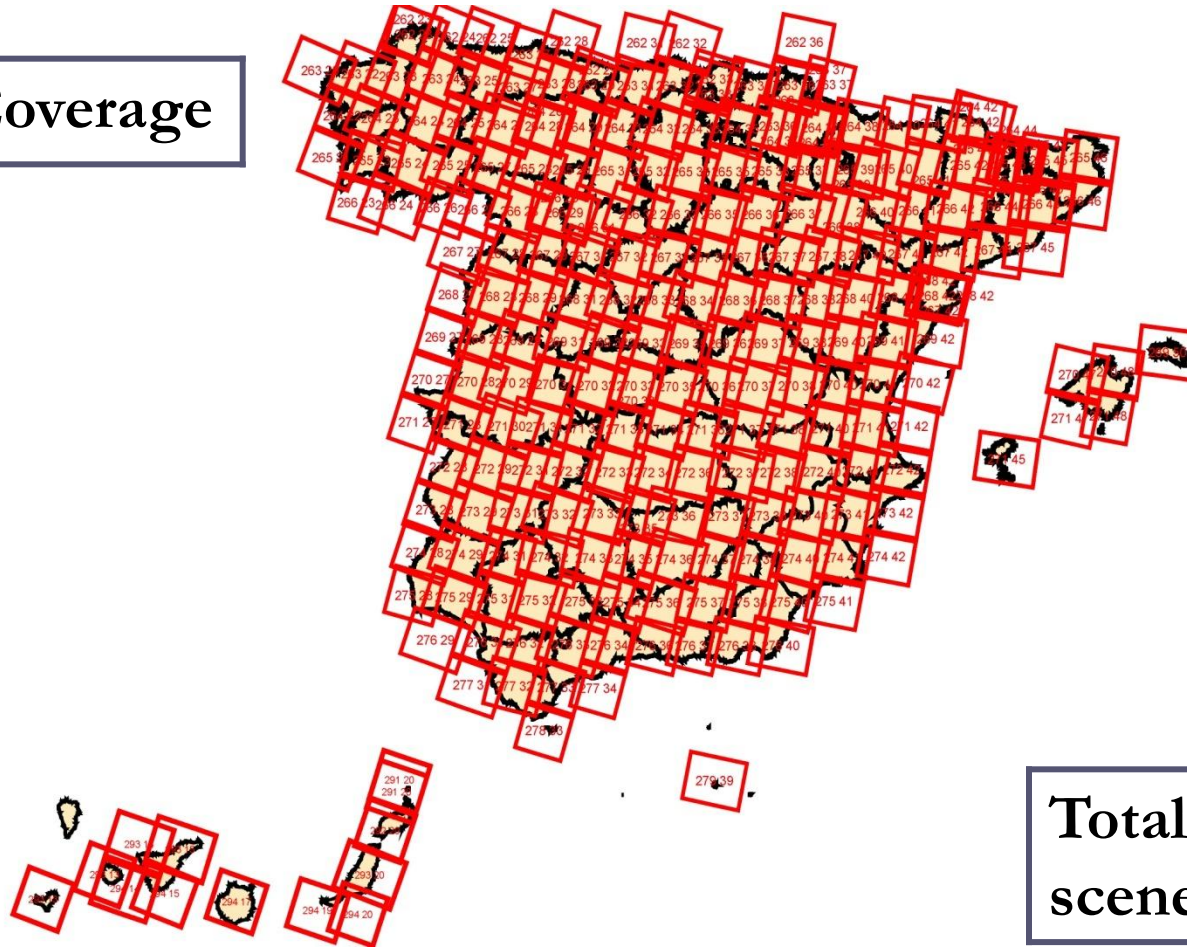




SPOT5



## SPOT5 Coverage



Total  
scenes: 248



## 4. DESCRIPTION (THROUGH NATIONAL PROJECTS)

### Land Cover and Land Use Information System

Describe precisely urban, agricultural, forest, wetlands and other artificial and natural areas.

Separating by the Object Oriented Data Model (OODM),  
Land Cover (LC) and Land Use (LU).

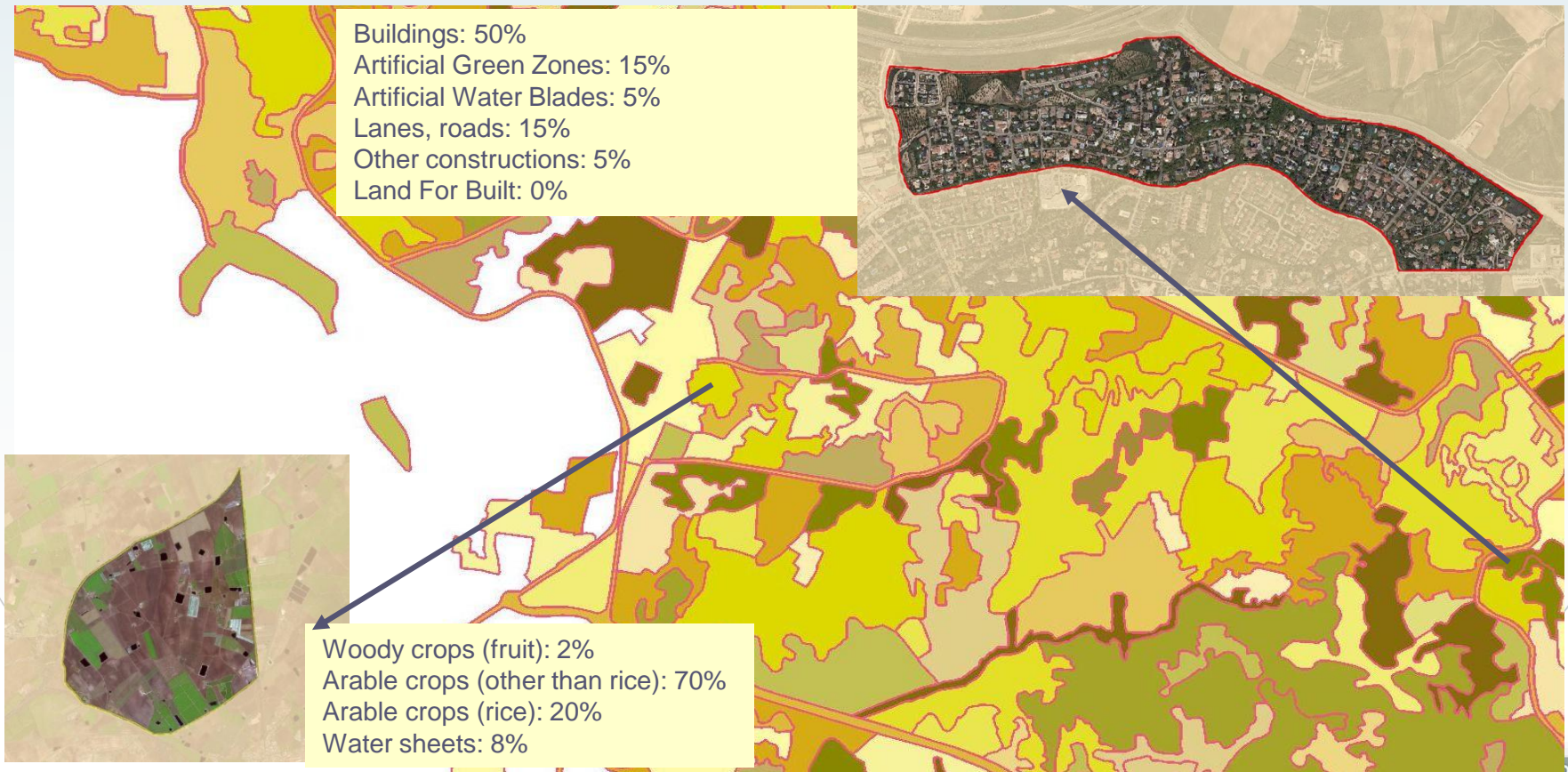
Production and validation at Regional level

***(every 3 years)***



### PRODUCTION System:

SIOSE Database: Update every 2-3 years, 1:25,000 scale equivalent and minimum size of polygons from 2 to 0.5Ha





## 5. APPLICATIONS

**PNOT**

**National Plan for Aerial Orthophoto (PNOA)**

**National Plan for Remote Sensing (PNT)**

**Land Cover and Land Use Information System (SIOSE)**



- Reference Information
- Security and Emergency
- Infrastructure
- Environment
- Land management
- Cadastre
- Geo-location
- Social and economic development
- Territorial policy
- Change detection
- Agriculture
- ....



## 6. CHARACTERISTICS

**PNOT**

**National Plan for Aerial Orthophoto (PNOA)**

**National Plan for Remote Sensing (PNT)**

**Land Cover and Land Use Information System (SIOSE)**

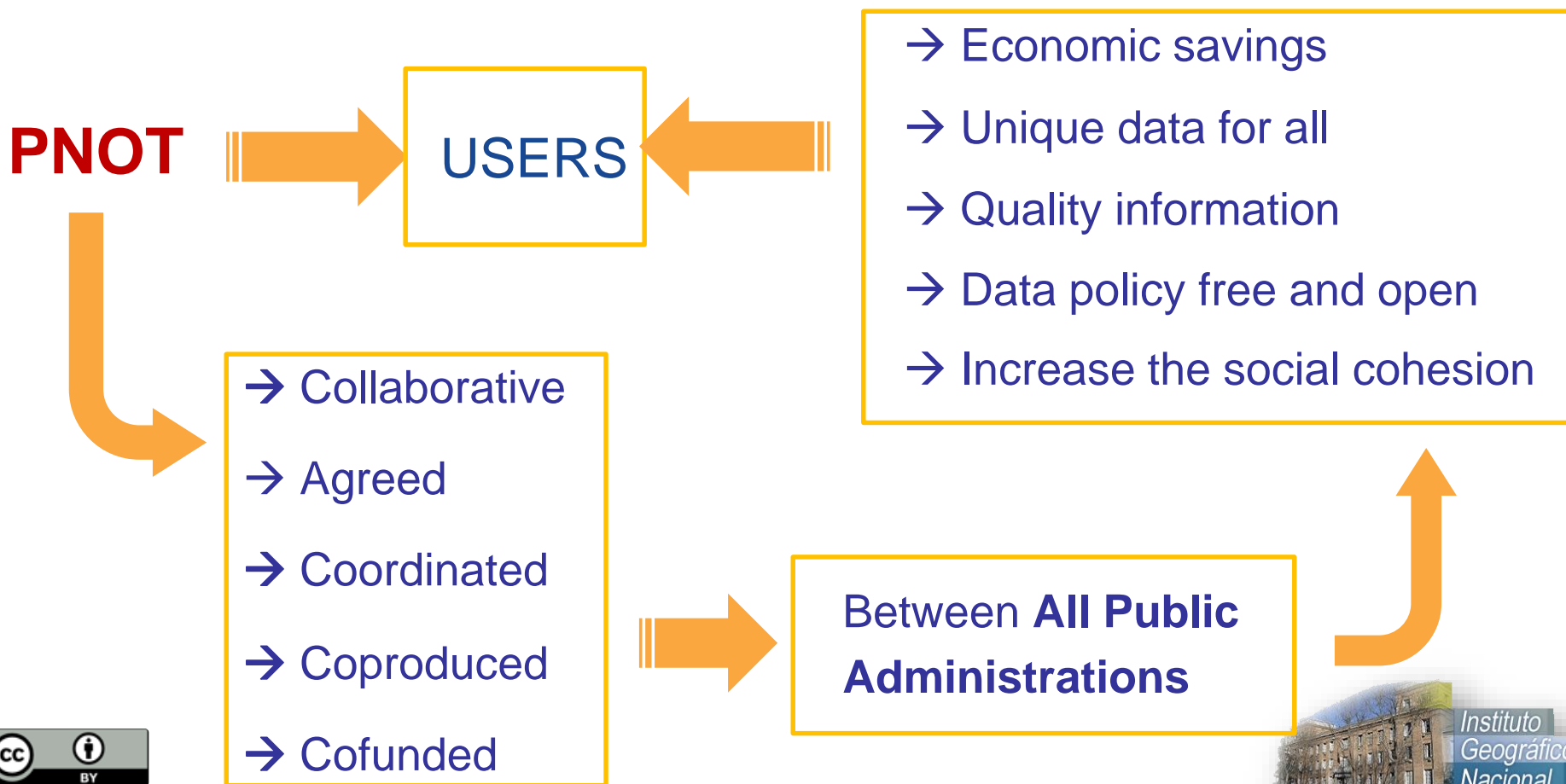
- Collaborative
- Agreed
- Coordinated
- Coproduced
- Cofunded



**Between All Public Administrations**



## 6. CHARACTERISTICS



## 7. CONCLUSIONS

The GRD produced inside PNOT (PNOA+PNT+SIOSE)

- **Authoritative and reliable** Data Sets
- Thinking from the beginning to the **users**
- **Quality** of Geographical Information services (based in high quality of GRD)
- **Sustainable** (cofunding)
- Data policy (**open and free** data)
- **Efficiency and cost reduction**
- **Exportable** model



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PUBLIC SERVICE AWARD 2013

*Thanks for your attention*