

# VISIONS OF LAND USE TRANSITIONS IN EUROPE

## ***VOLANTE***

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Coordinators Meeting, DG Research & Innovation, Brussels, 10-11 June 2013  
[www.volante-project.eu](http://www.volante-project.eu)



**Collaborative Project (large scale integrating project) under  
the 7<sup>th</sup> Framework Programme of the European Commission.  
Running from 1 Nov. 2010 until 30 April 2015  
Budget: 6,997,101.75**

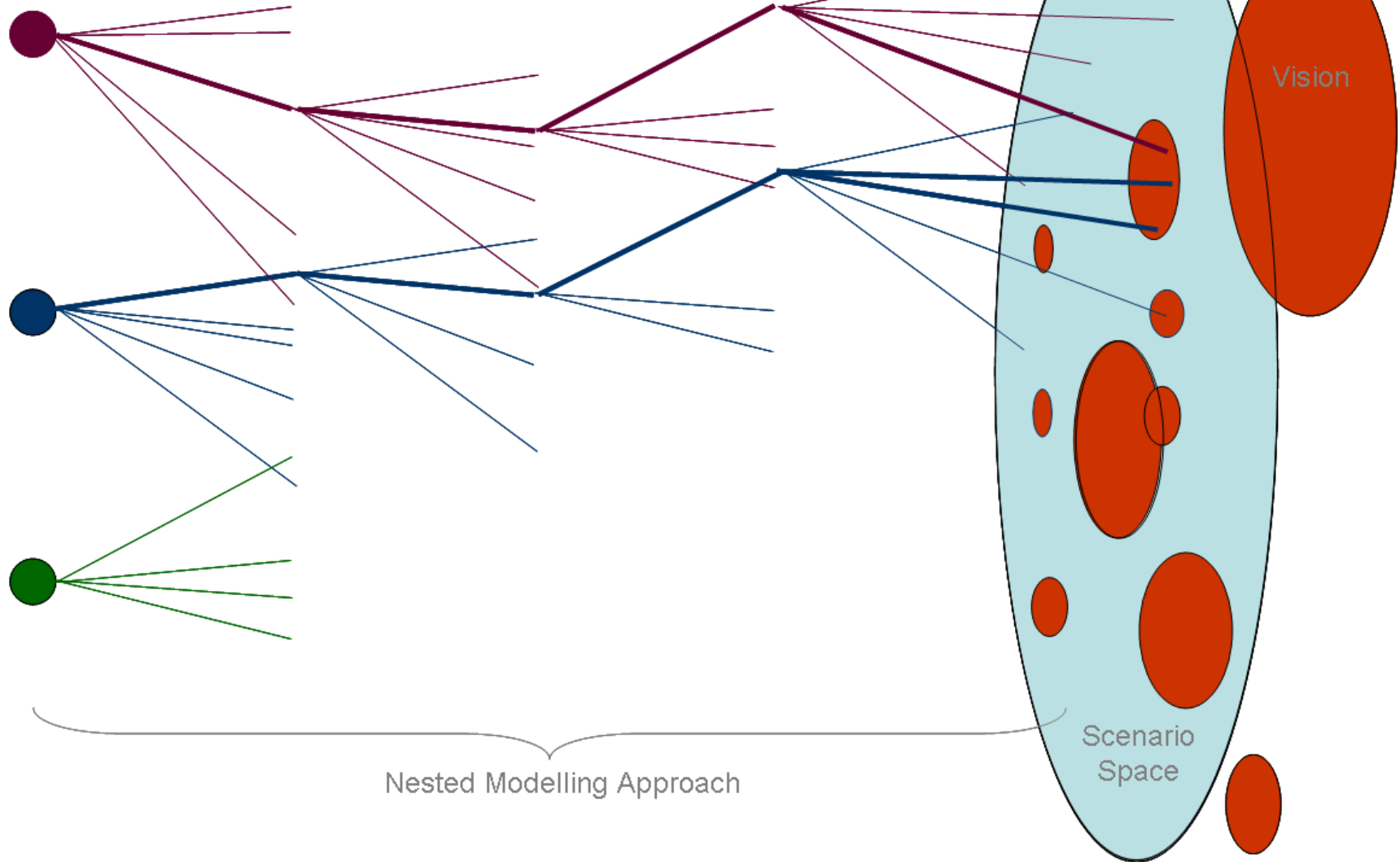
<b>Alterra</b>	<b>Lead Partner – DLO Wageningen UR</b>	<b>The Netherlands</b>
<b>UEDIN</b>	Edinburgh University	<b>United Kingdom</b>
<b>UNIKLU</b>	Institute of Social Ecology	<b>Austria</b>
<b>VUA</b>	VU University Amsterdam	<b>The Netherlands</b>
<b>PIK</b>	Potsdam Institute for Climate Impact Research	<b>Germany</b>
<b>UCPH</b>	Copenhagen University	<b>Denmark</b>
<b>EFI</b>	European Forest Institute	<b>int.</b>
<b>CNRS</b>	CNRS Grenoble	<b>France</b>
<b>Aegean</b>	University of the Aegean	<b>Greece</b>
<b>UNIBUC</b>	Bucharest University	<b>Romania</b>
<b>JRC</b>	JRC-IES	<b>int.</b>
<b>UBER</b>	Humboldt University Berlin	<b>Germany</b>
<b>NERI-AU</b>	National Environmental Research Institute	<b>Denmark</b>
<b>PROSPEX</b>	PROSPEX bvba (SME)	<b>Belgium</b>

# VOLANTE: about future land use

Aiming to:

- Identify **clear visions** of European land use policy and land management
- Reduce the large variation in possible land use **scenarios for the future** to a manageable set
- Identify crucial **points of no return** both in history and in potential future
- Identify and evaluate **policy options** for the various landscapes of Europe and for shorter and longer term perspectives, to achieve desired futures
- Focus on a **Roadmapping workshop** where prominent decision makers and stakeholders interactively discuss the conclusions of this evaluation
- Result: **Portfolio of Roadmaps** for Future Land Resources Management in Europe

Marker  
Scenarios

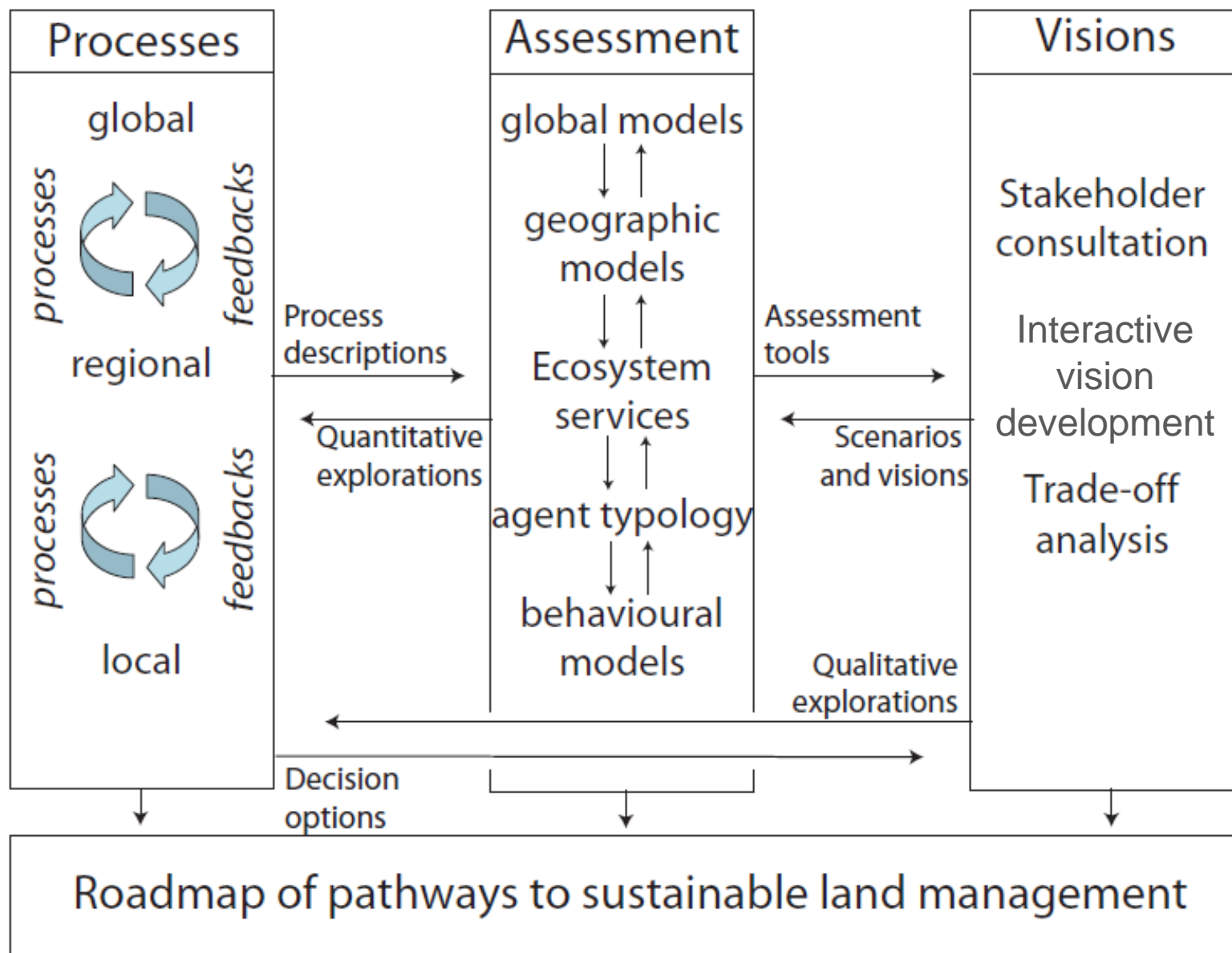


Nested Modelling Approach

Scenario  
Space

Vision





# Processes Case studies (Municipalities)



1. Roskilde (DK): intensive, rapid transformation, urban.
2. Reichraming (AU): rural, forested, land abandonment and agricultural intensification.
3. Stăncuța (RO): wetland area, Natura 2000, integrated nature protection / sustainable use.
4. Rătești (RO): Post-socialist land use change processes.
5. Aegean Islands (GR): tourism and the associated functions and lifestyles.
6. Portofino regional park (IT). Abandonment, forestry and tourism development.
7. Heerde (NL): Agricultural landscape, urban pressure

# Preliminary results

## Case studies

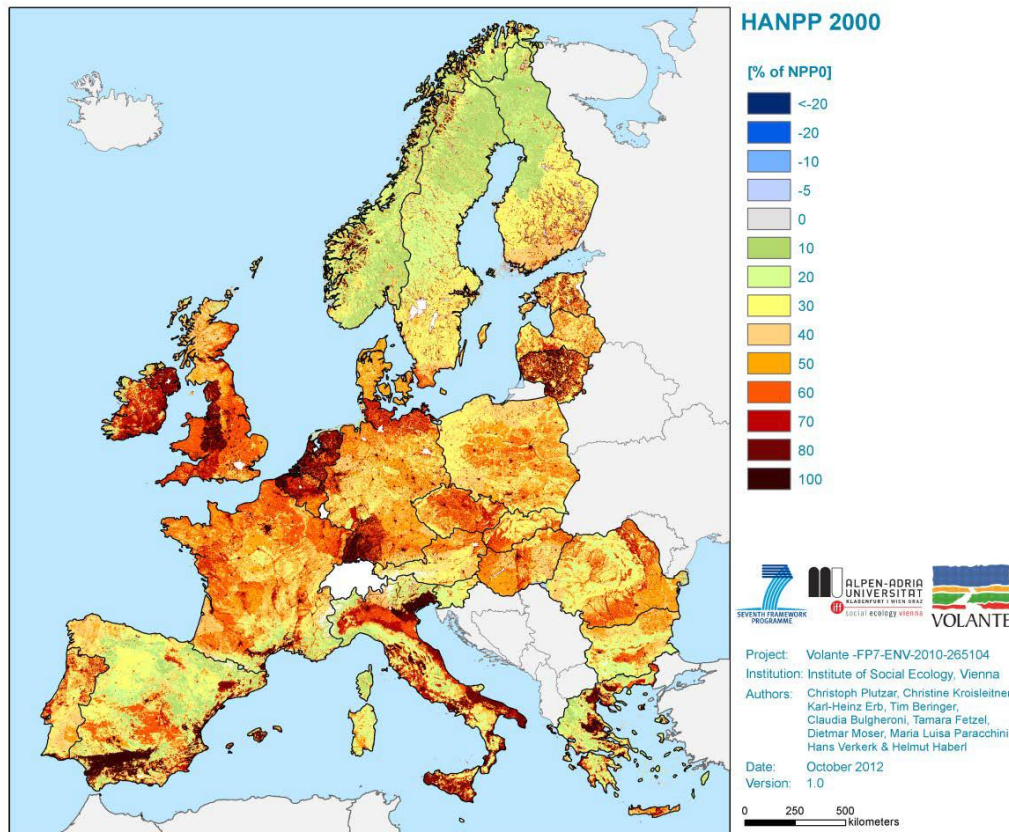
- Portofino regional park (IT) and Aegean Islands (GR) show **decrease** in land use intensity.
- Stăncuța (RO) and Rătești (RO) show an **increase** in land use intensity. Also Reichraming (AU) has a tendency of increased land use intensity.
- Roskilde (DK) and Heerde (NL) remain the same, but the farming population is different, since there are fewer full-time farmers and urban pressures are evident.

# Literature study on land use and landscape change as a result of European policies

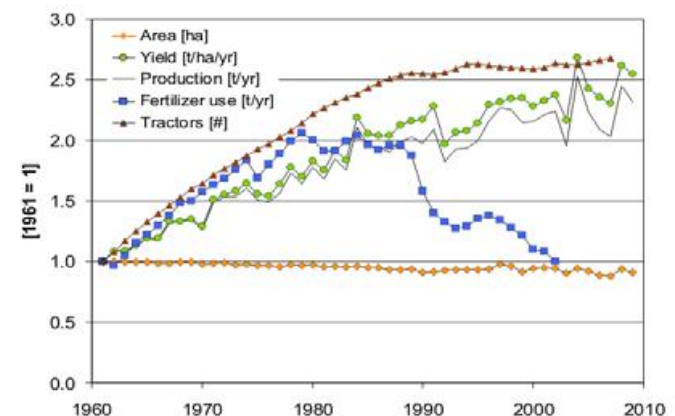
- Italy, Denmark, Greece, Malta, Cyprus, Netherlands, Romania, Sweden
- Only a small number of studies include detailed spatial inventories and are of good quality.
- A **knowledge gap** concerning the impact of several policies. CAP and Natura2000 have been studied better.
- Countries are in different stages of transposition of EU policy and implementation. In southern Europe progress is limited. In Romania, Malta and Cyprus the accession to the EU is recent, not documented
- **Little result-oriented research** takes place; the larger evaluation programs rather focus on 'output' measurement and evaluation.
- There appears to be a sectoral approach, focused on landscape or policy analysis, the socio-economic and political issues are drivers for land-use change, but no specific policy is studied in a **spatial analysis of impacts**.



# Preliminary results: European-wide maps of recent changes in agriculture, forest systems and Human Appropriation of Net Primary Production



HANPP is an indicator of land use intensity that compares the amount of biomass energy remaining in ecosystems under current land use with the amount that would be available without land use.

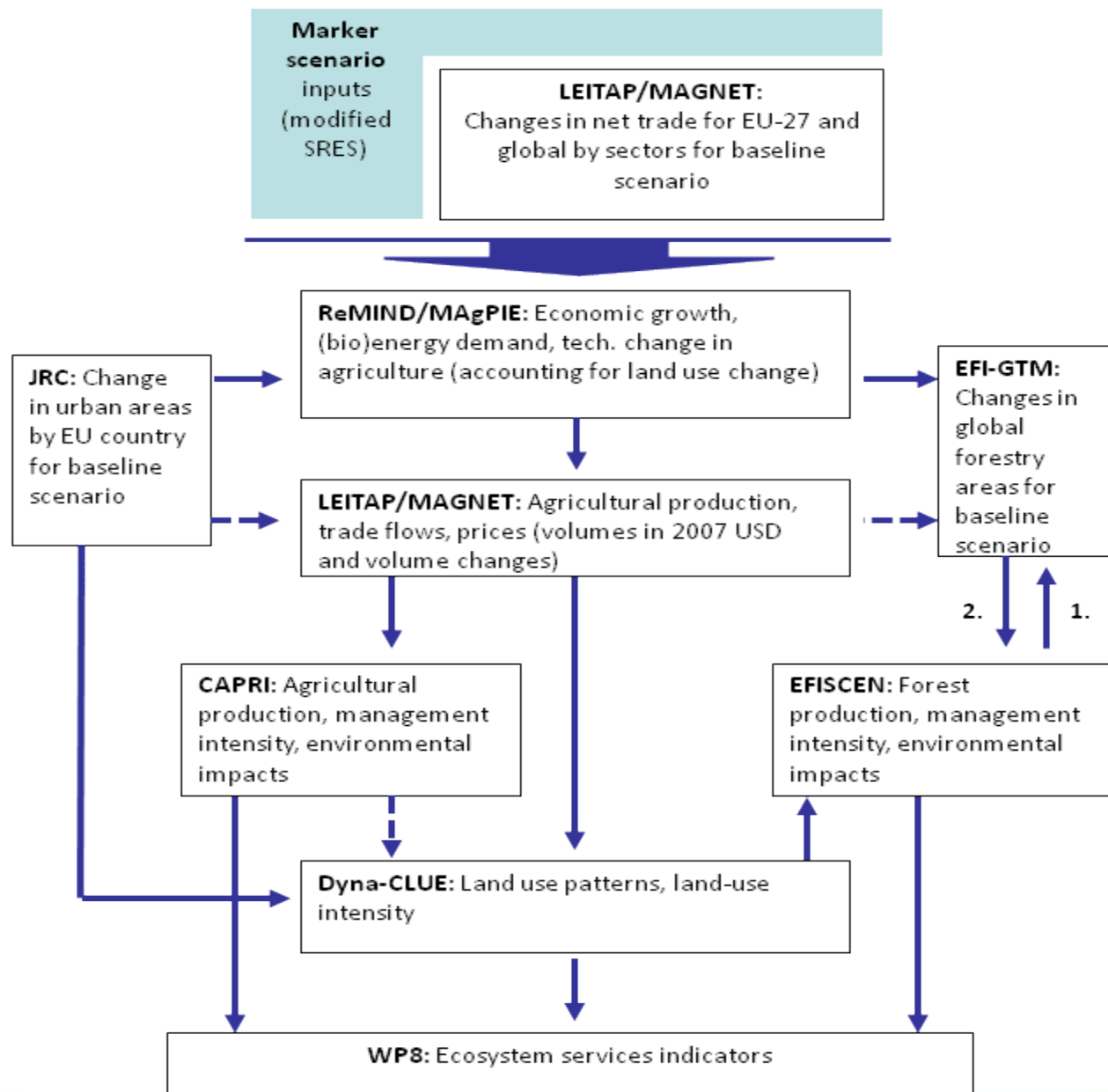


Visions of Land Use Transitions in Europe

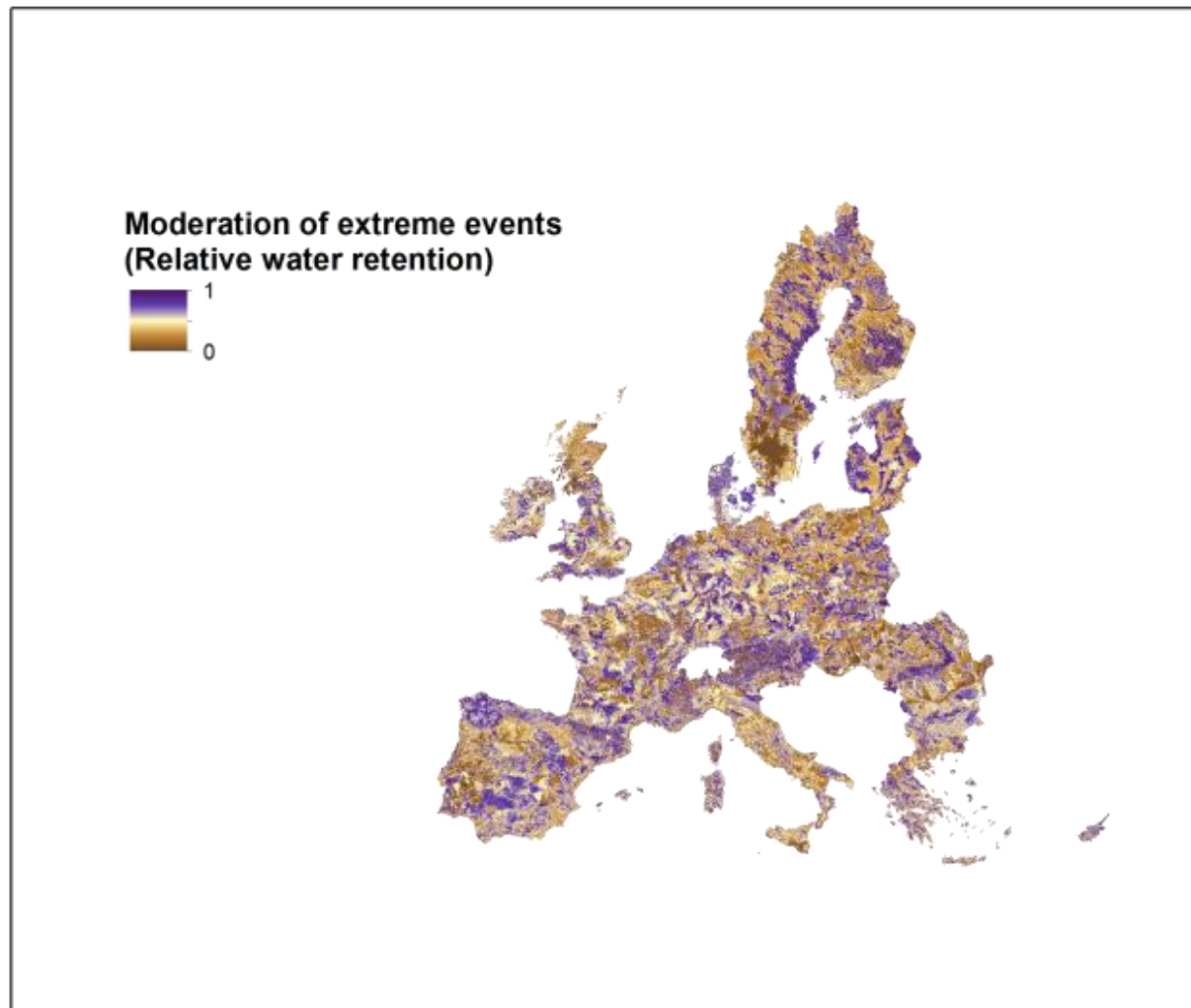
Coordination Meeting, DG Research & Innovation, Brussels, 10-11 June 2013

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## Preliminary results: linking models



## Preliminary model results: Ecosystems in Europe



**Moderation of flood events estimated by the relative water retention potential**

# Extracting visions: Canvas tool

Fill the narrative canvas with photos and text by clicking on the empty boxes

**1. When I am at home...**

Where do you live?

Close to a nature reserve, in a small hamlet. A village nearby for shops.

What type of house do you live in?

Detached, 4 bedrooms and with large garden.

How is your household?

Click to start typing

(size, composition, e.g. living with seniors)

What does your house look like inside?

Click to start typing

(e.g. lots of technology, smart products, materials)

What does your house look like inside?

Click to choose a photo

And now, off to work...

Next page ►

**Pages**

1. Home
2. Work
3. Food consumption
4. Recreation & leisure



# Extracting visions: Crowd sourcing



## Where will you live?



## Housing



Visions of Land Use Transitions in Europe

Coordination Meeting, DG Research & Innovation, Brussels, 23 October 2012

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# Canvas tool: sectoral

## Themes

### Primary Production Land Use

For example:

- In your vision, how much land is used in your sector?
- Where is this land located?
- How intensively is it used?

## Pictures per theme

Changes

Products

Functions

Icons and Pie charts

Drag pictures on your canvas. The pictures are grouped per theme. Press the button of the theme to see the pictures.

## Primary Production Land Use

Choose background

Add textbox

Textboxes can be added to canvas as free text or to pictures.

## Factors

Connect the pictures in your canvas to related factors.

- Distribution of land use cover classes
- Land Use for Feed Fodder Fuel Fibre Timber
- Agricultural Management Intensity
- Forest Management Intensity
- Your factor Click to type

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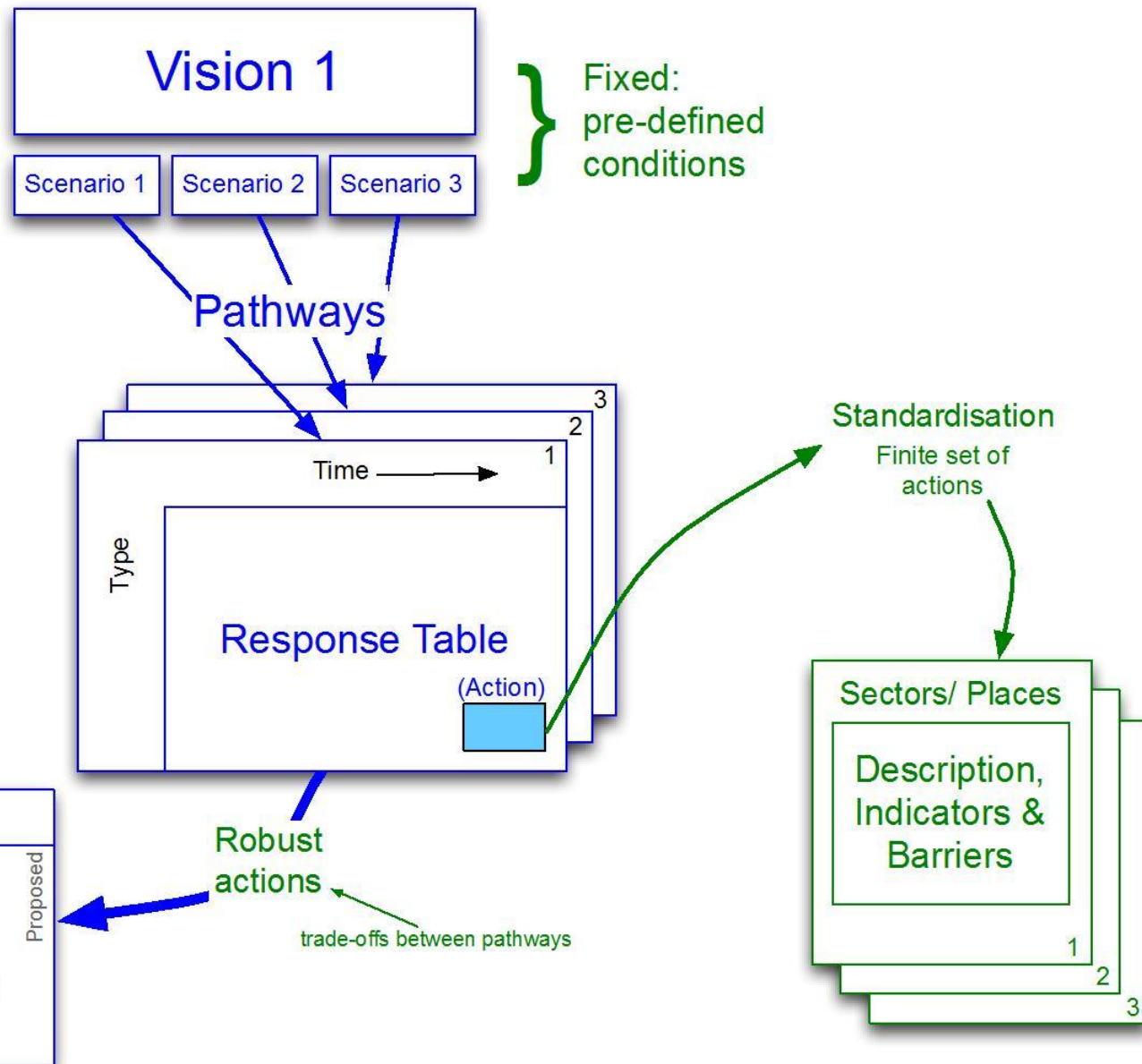
## Preliminary results: one of the visions

- Density as opposed to urban sprawl, so using space efficiently (e.g. vertical living, using brownfields)
- Polycentric development of medium sized cities, growth limited by green belts: urban sprawl would increase travel and make transport inefficient
- Social contacts and services of general interest are near
- Well planned infrastructures; intra-urban, inter-urban and interregional

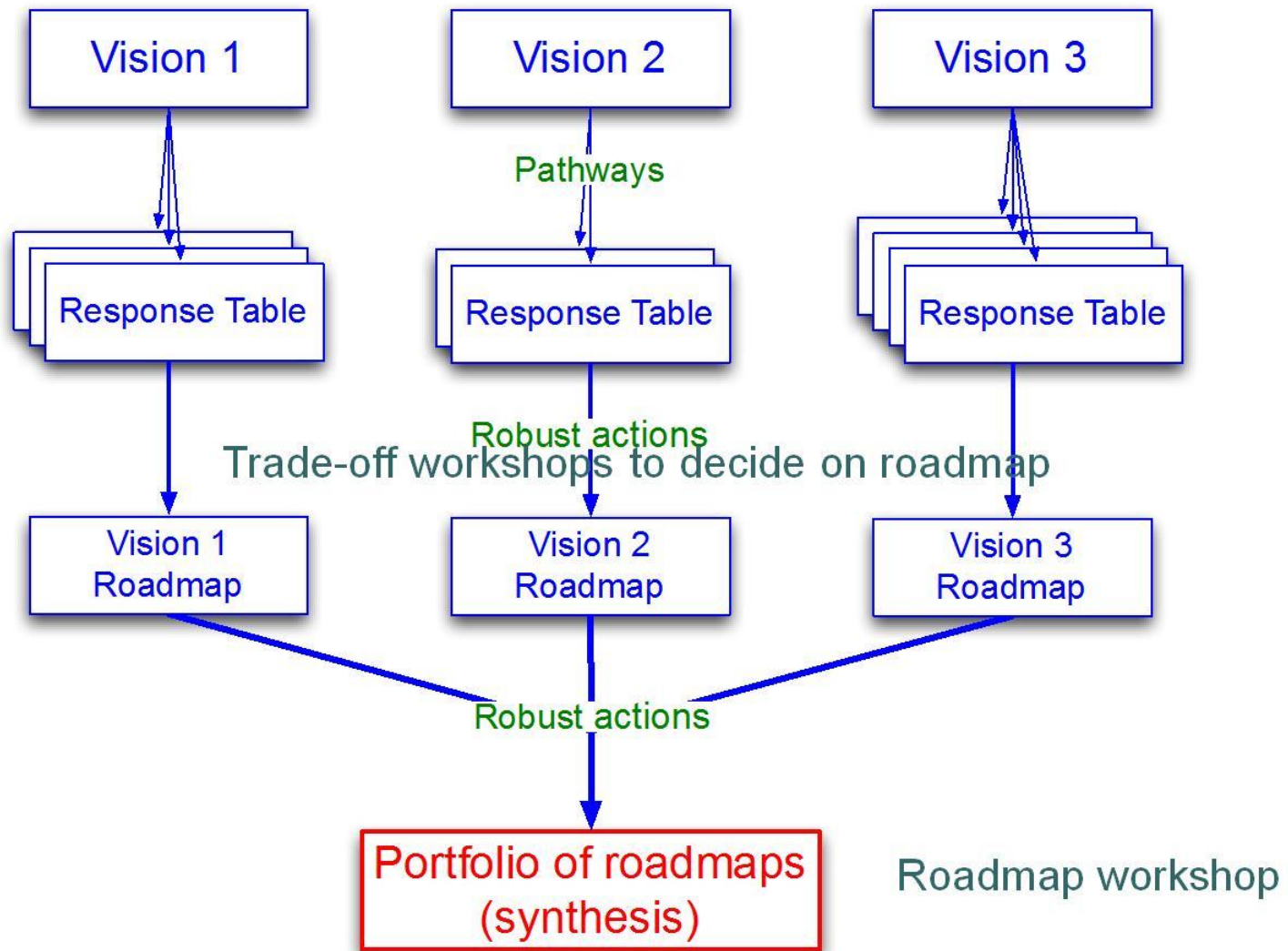
# Aims of the Roadmapping Process

- Produce outcomes that are
  - a) relevant for decision-makers (*Salient*);
  - b) *Credible*: adequate scientific methodological and empirical work;
  - c) *Legitimate*: incorporating divergent values in a non-biased context.
- Provide optimal synthesis and integration of project results and provide the basis for **knowledge transfer** from VOLANTE to the identified stakeholder groups
- Decide on recommended **pathways** for land use development
- Create Roadmaps for Future Land Resource Management, as a meaningful set of **recommendations**, supported by high level representatives of policy, NGO and private sector stakeholders

Database:  
**VOLANTE**  
**NAVIGATOR**









# Roadmapping Products

1. Concise **report** with focus on Recommendations for Future Land Resource Management in Europe.
2. **Policy Brief**: main messages of the VOLANTE Roadmapping exercise.
3. Video presentation/**You-Tube** film with main VOLANTE findings.
4. VOLANTE Navigator: a **queriable database** consisting of a portfolio of roadmaps, pathways and indicators, including exemplars of land use change.
5. Post-VOLANTE Roadmapping **implementation plan**

# Dissemination and exploitation plan

- Communication plan including **social media** is in development.
- Stakeholder **database** of over 250 entries: joint partner effort.
- Stakeholder involvement in **workshops**:
  - Scenario workshop
  - Four vision workshops
  - Trade-off workshops (in 2014)
  - Road mapping meeting for high level – first in October 2013
  - Scientific publications and conferences
- Dissemination **tools**: website, newsletters, leaflets, open source databases and maps.
- **Crowdsourcing** for visions (begin 2014)

# Outreach and Dissemination (selection)

- Exchange meeting of EEA and VOLANTE October 2012;
- Steering Group of EU *Danube Region Transport Vision* in Belgrade 27 September 2012.
- 6<sup>th</sup> of May presented to the European Investment bank in Budapest.
- EIONET *Forests & Foresights* workshop in Stockholm 8-10 October 2012
- Coordination meeting at DG Research & Innovation 22-23 October 2012
- OSCE workshop on *Environment & Security* in the Southern Caucasus 28 – 30 November Tbilisi.
- Interest ROBECO (visions for sustainable land use);
- Several high level commitments to IPCC work.
- Many presentations in conferences, many publications



# Future research priorities

- Rounsevell, M.D.A., et al., Challenges for land system science. Land Use Policy (2012), doi:10.1016/j.landusepol.2012.01.007
- 1. How can the analysis of empirical and historical land system datasets provide insight into human–environment interactions?
- 2. How can integrated modelling and the ecosystem service concept contribute to the testing of hypotheses about land system functioning and decision making?
- 3. How can our current understanding of land systems inform the choices that society has about future landscapes?



# VOLANTE

*Well underway  
towards a new  
European landscape  
management paradigm  
for the future !*