LAMASUS

Land Management for Sustainability

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LAMASUS
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LAMASUS Consortium

17 Partners

Stakeholder engagement and policies (WIFO)

Ex-post regional econometric modeling (INRAE)

Ex-post high-resolution econometric modeling (UV, UW)

Ex-post farm-level modeling (ZHAW, TI, UB)

Environmental impact models (PBL, UPS)

Ex-ante macro-level land use modeling (IIASA, WUR, EC)

Ex-ante high-resolution modeling (VUA)

Ex-ante farm-level modeling (BOKU, RUR)

Project coordination (AI)

JRC (spatial datasets, CAPRI modelling, LUISA, LUISA-BEES)

Science-based policy making

EUROPEAN COMMISSION

Brussels, 14.7.2021
SWD(2021) 609 final

COMMISSION STAFF WORKING DOCUMENT

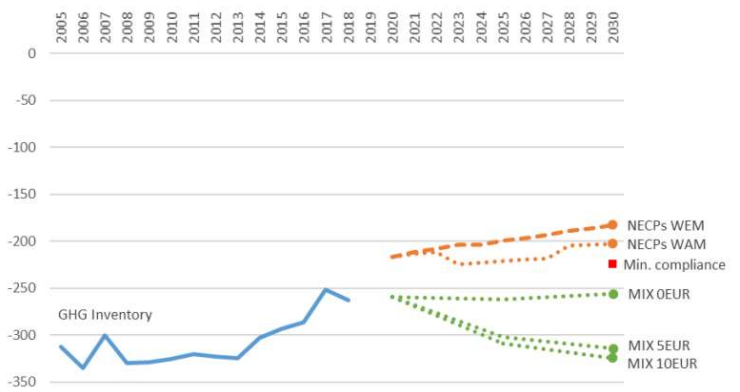
IMPACT ASSESSMENT REPORT

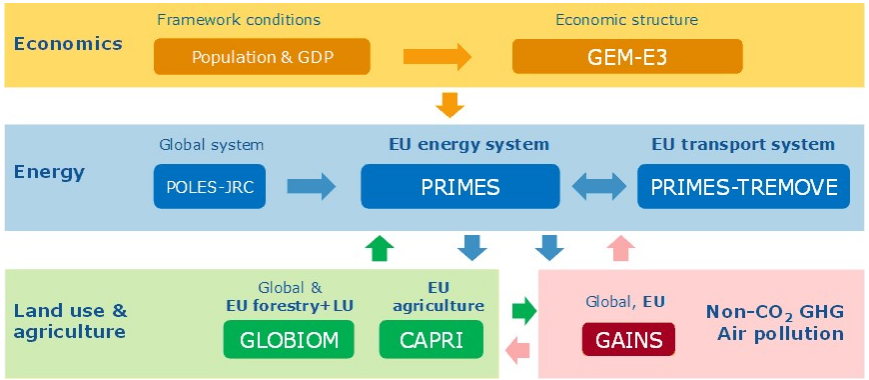
Accompanying the document

Proposal for a Regulation of the European Parliament and the Council

amending Regulations (EU) 2018/841 as regards the scope, simplifying the compliance rules, setting out the targets of the Member States for 2030 and committing to the collective achievement of climate neutrality by 2035 in the land use, forestry and agriculture sector, and (EU) 2018/1999 as regards improvement in monitoring, reporting, tracking of progress and review

{COM(2021) 554 final} - {SEC(2021) 554 final} - {SWD(2021) 551 final} - {SWD(2021) 610 final}





Policy making across spatial scales and goals

European Union

- CAP
- European Climate Law
- LULUCF Regulation
- Nature Restoration Law
- Deforestation-free products

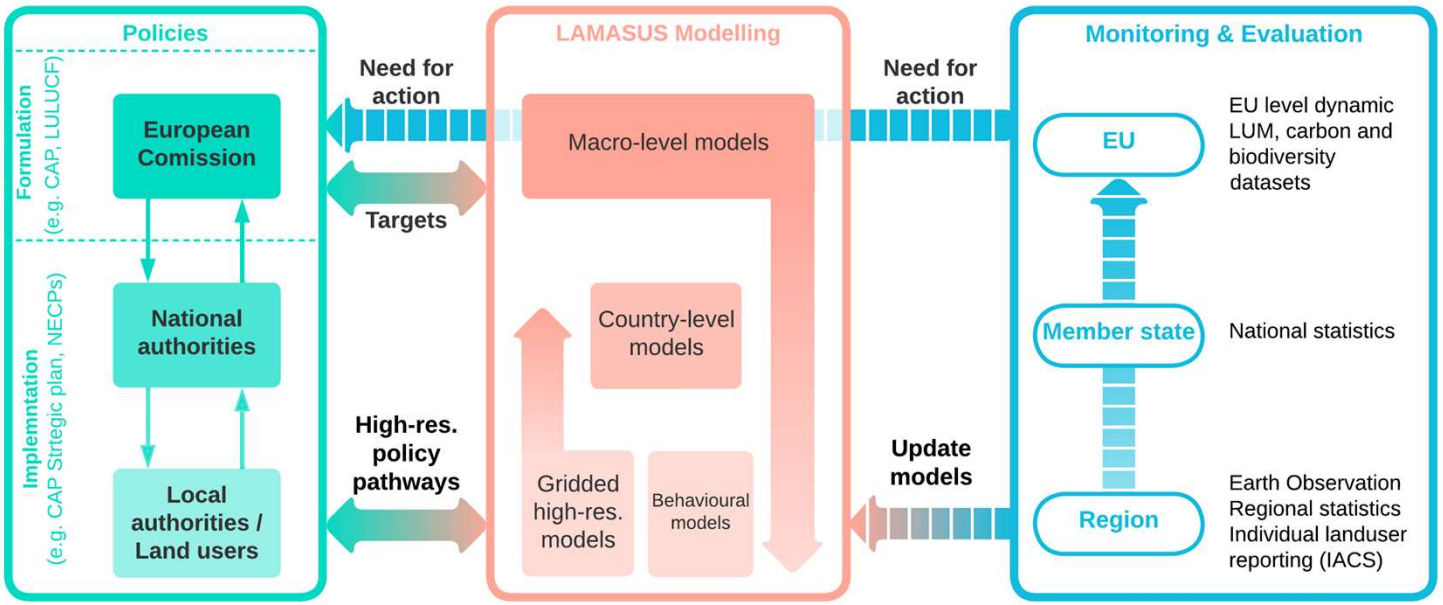
Member States

- CAP Strategic Plans
- National Energy & Climate Plans
- National Restoration Plans

Regulations

Planning tools

LAMASUS approach



- Guidance on multiple scales of the policy process
- Projections of current policy trajectories through the toolbox
- These are updated as new monitoring data comes in

LAMASUS objectives

Provide a novel governance model, and the tools required to build sound policies for the transition within European Green Deal

1. **Evidence** - Continuously updated high-resolution land-use, land-management, and policy database
2. **Understanding** - Role of agricultural and forest policies in land use dynamics, and their economic and environmental impacts
3. **Modelling toolbox** for the development, assessment and monitoring of land-related policies across multiple levels of geographical scales
4. **Multi-level policy co-design platform** - User-friendly, web-based interface supporting dialogue among land-users, policymakers and other stakeholders

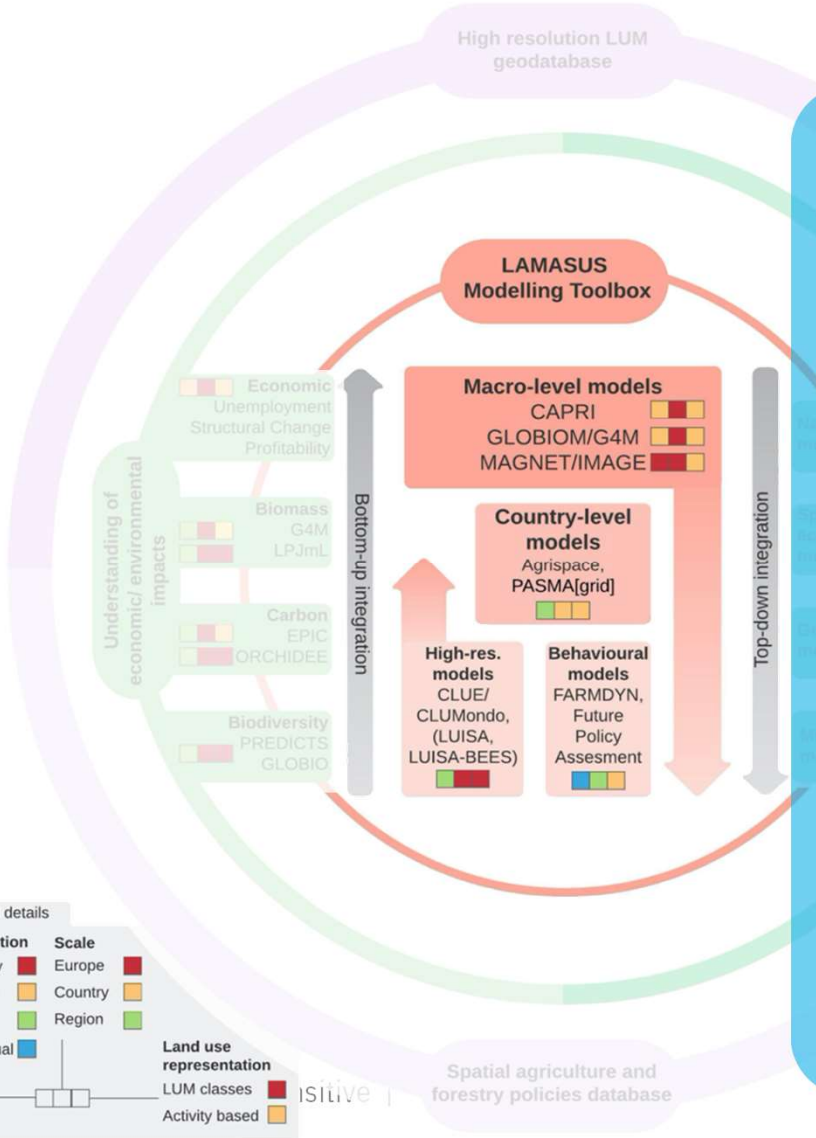
Modelling Toolbox

Toolbox links key tools/models in national/EU land-use policy impact assessments for setting of environmental targets and appropriate policy instruments

- ***Macro-level models***
- ***Country-level models***
- ***Behavioural models***
- ***High-resolution models***

For toolbox to work models need to "talk" to each other! Ensured by common:

- **Baseline**
- **Policy data**
- Database on land-use and **management**



Impacts

How do …

- EU agri-environmental policies (i.e., Green Deal, Farm-to-fork strategies, etc.)
- Markets
- Geo-political shocks

Impact land use/land-management (livestock, cropland, organic etc.) change, carbon, biodiversity, farm profitability?

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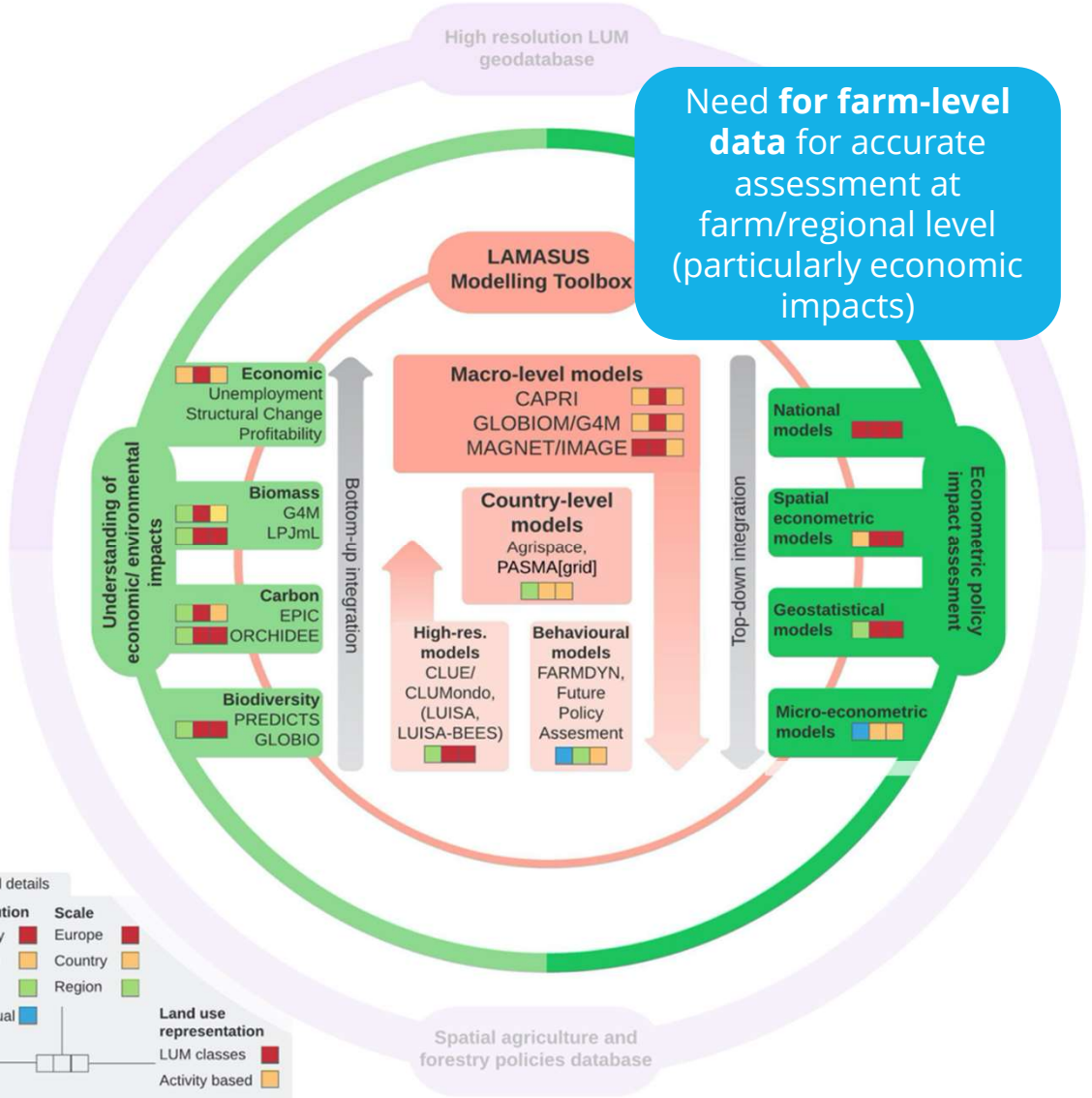
Modelling impacts

Policy impacts on land-use and land-management are linked to specialized models, which are integrated Toolbox:

- Economic
- Biomass / Carbon
- Biodiversity

Toolbox is informed **on elasticities of land-use and land-management to policy** decision: Estimated **using ex-post statistical** tools on observed data



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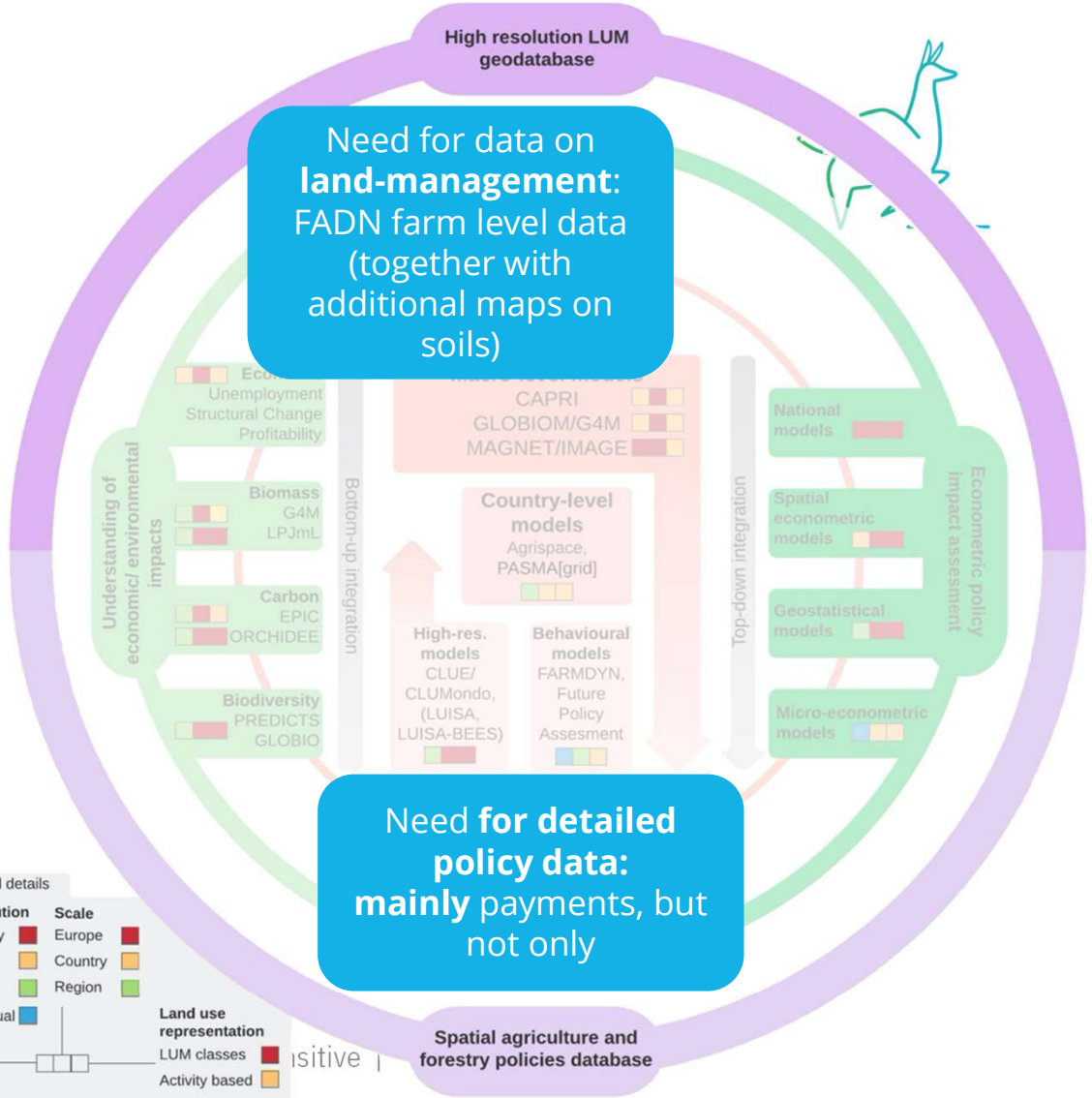
Databases

Two databases

- Land-use and –management, 1km2, 1990 – 2020
- Agriculture and forestry policies

ensure that

- Toolbox models have common consistent starting points and
- Shared understanding of policies and land-management



Land Use	Land-management class Class	Management dimension
Forests		
41.1 % of Total Area	Forests	
Cropland		
24.2 % of Total Area	Cropland	
Grassland		
17.4 % of Total Area	Grassland	

Land-management database in detail

- Based on existing data sets (statistical and remote sensing)
- Interpolated annual Corine, LUCAS
- Land-use is easy, land management needs farm-level details!

Land Use	Land-management class Class		Management dimension
Forests			
41.1 % of Total Area	Primary forests	Primary forests	Uneven-aged to even-aged trees
	Multifunctional forests	Protection forests	Harvest intensity (0 to 1) increasing from 0 to 1 across these classes
		NWFPs (cork extraction, mushrooms, pine kernels)	
		Recreation	
	Production forests	Intensive	
		Very intensive (plantation forestry)	
Cropland			
24.2 % of Total Area	Arable (eventually by major crop category)	Intensive farming, irrigated	Fertilizer (low, high, low chemical, organic), irrigation (irrigated/rainfed), tillage (conventional, reduced, no-tillage + mulching, rotation-adapted tillage), crop rotation (mono-cropping, crop rotation), plot size, productivity, crop residue management practices
		Intensive farming, rainfed	
		Extensive farming	
		Conservation farming	
		Organic farming	
	Permanent	Intensive farming, irrigated	Fertilizer (low, high, organic), irrigation (irrigated/rainfed)
		Intensive farming, rainfed	
		Extensive farming	
		Conservation farming	
		Organic farming	
		Short rotation coppice	
Grassland			
17.4 % of Total Area	Natural	Unmanaged semi-natural and natural grassland (not supporting any livestock)	Harvest intensity level (how much biomass is harvested), Input intensity (fertilizer and/or chemicals) / species (livestock), Harvest method (grazing or mowing), share of semi-natural elements (pasture vs. semi-natural/mosaics), altitude, slope, heathland maps, Copernicus high-resolution layers
	Managed	Extensively managed semi-natural grassland systems	
		Extensively managed pasture	
		Intensively managed pasture	
		Rough grazing	
		Silvopastural agroforestry	

Land-management database in detail

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How would it work in practice?

Example: Economic impacts

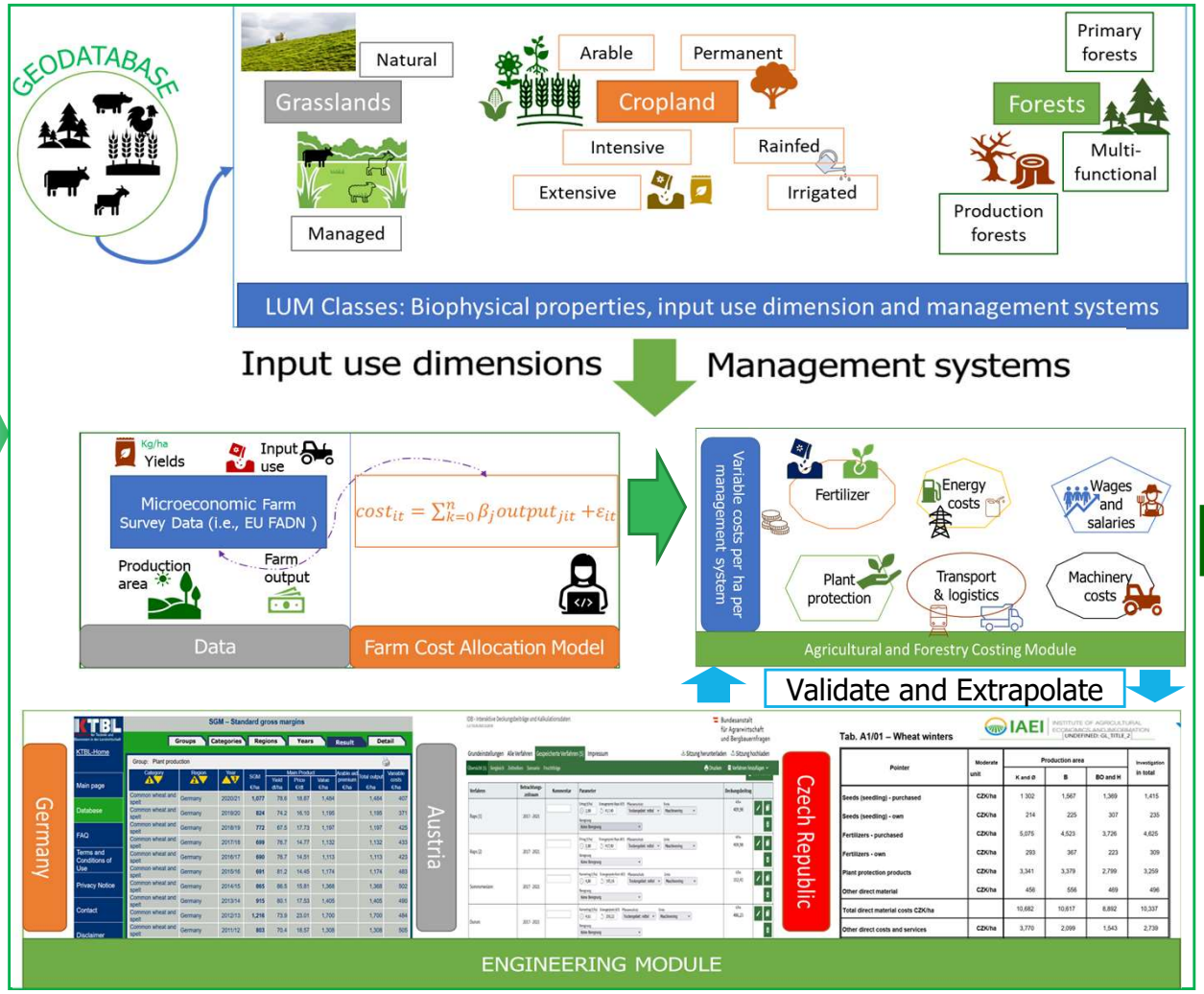
How do …

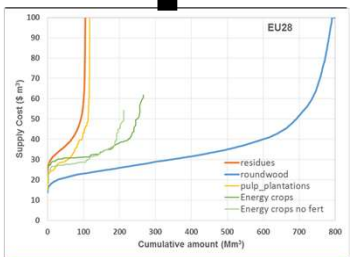
- EU agri-environmental policies (i.e., Green Deal, Farm-to-fork strategies, etc.)
- Markets
- Geo-political shocks

impact land-use/-management (livestock, cropland,organic…) change, carbon, biodiversity, farm profitability?

Estimate economic costs associated with land-use and -management

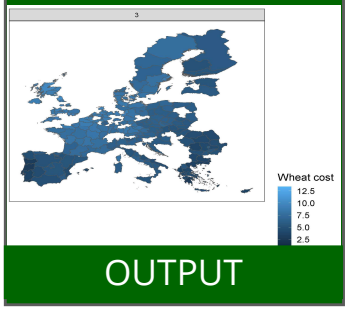
OBJECTIVES





National cost supply curves

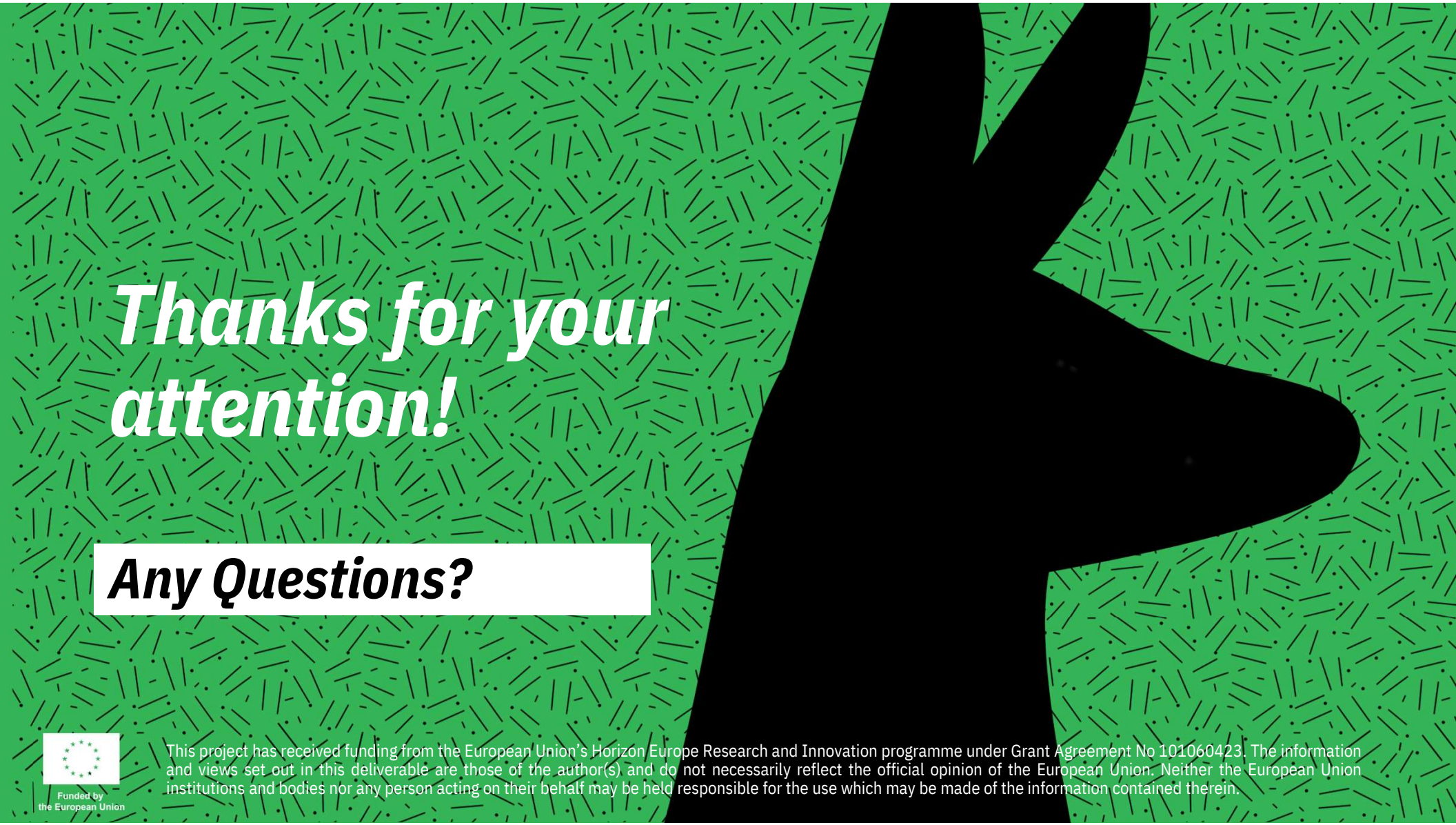
Spatially explicit production cost database across the EU



OUTPUT

Project needs

1. **Data access is paramount**
   - FADN data, shared with BrightSpace project will enable us to harmonise across projects; this needs to be shared among modelling teams (and across projects) to make sure our models are compatible
   - Other policy relevant data (e.g. CATS), mainly but not only payments, and any information on what happens at farms which we can assess and is not in the public domian
2. **A unified baseline**
   - Models have different strength and weaknesses in terms of capturing reality and outcomes
   - They need to align along relevant indicators to ensure that their projections compatible
3. **Policy relevant outcomes**
   - Toolbox aims to help shape the policy discussion
   - Need for clear communication on what (few) indicators are relevant from EC perspective



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