



An Introduction

The project concept and objectives



The Leg Value project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 727672.

- Rationale
- Goals and Objectives
- Concept and How it will work
- Consortium – Why it will work
- Outcomes anticipated and Impacts
- Resources



The system and consequences

- EU is characterized by **self-sufficiency on cereals** and **massive imports of soybean**.
- Several **self-reinforcement** mechanisms that **lock in this system**
- Relevant **consequences** in terms of **costs** and **environmental impact**.
- LEGVALUE will provide **knowledge** on a large **range of legume species** and **cropping systems** and their **expected performances**:
 - offering a variety of **locally-adapted crops** for agricultural conditions in Europe.
 - pure crops, intercrops, cover crops, etc. offering a **diversity of services** within the system
 - **towards the ecosystem**: biological weed control and nitrogen supply, reduced greenhouse gas emissions, decreased non-renewable energy use and global warming potential, reduced acidification and eco- and human-toxicity
 - **identify the conditions for reaching the targeted services.**



Growers and Markets

- LEGVALUE will identify and **share optimal crop management** strategies, and their impact on the increase of the ecosystem and economic services gained, thus **increasing the benefits that are gained from legumes**.
- LEGVALUE will develop tools for farmers to **highlight the interests of legume crops** within a cropping or a grassland system which occur
- Legume species use is highly **dependent on the other actors of the chain**.
 - The organisational **design of supply chains** and **added value sharing**
 - Institutional **collective rules** also **influence innovation** capacity
 - More **market information** would also better connect the production with the range of end uses.



Policy makers

- Policies affect **incentives to legume cultivation** and the development of the related **value chains**.
- Policies **interact with market drivers**.
- A need for **consistent policy implementation** to account for potential from legumes cultivation.
- LEGVALUE was built **to help** find technical, policy and governance solutions and proposals for farmers and **all stakeholders involved in legume based value chains**, through agronomic, economic, social and policy studies.



Goals

- To **Develop** sustainable and competitive legume-based farming systems and agri-feed and food chains in the EU.
- To **Assess** economic & environmental benefits for the EU agro industry to widely produce and use legumes in a sustainable manner.
- To **Demonstrate** the added value of various existing legume value chains in the EU
- To **Provide** a range of alternative solutions to improve the economic situation of each actor involved in the various chains described.
- To **Contribute** to increase the autonomy of the EU regarding the production of legume proteins for both feed and food.



Objectives at 5 levels

1. Scientific level:

- Assessment **potential** for legume value chains
- **Quantify** economics, agro-ecosystem services, diversity & cropping management systems
- **Analyse** bottlenecks and intervention opportunities

2. Socio-technological level:

- Develop a **strategy of changes** to stimulate the adoption of legume cropping systems
- Identifying **windows of opportunity** for changing mainstream agricultural practices
- Identify **technological breakthroughs** that can foster the use of legume in various supply chains both for feed and food
- Provide analysis of the **dynamics of transition pathways** that will lead to increased use of legumes in sustainable European cropping systems



3. Agricultural level:

- **Demonstrate** the agronomic functions and the ecosystem services provided by legumes
- Identify and share successful approaches to **increase in practice the competitiveness** of the legumes across a diversity of sustainable cropping systems

4. Industrial level of the agri-food chain:

- Elaborate price-setting indicators and quality standards to **facilitate trade on legumes** at the EU scale.
- Identify solutions that **fulfil the economic interest** of each actor involved and the interaction among actors, and to explore innovative value chains
- Provide **best practice strategies for upscaling** of sustainable local and regional legume-based value chains while matching production and processing to markets
- **Analyse the behaviour of several value** chains with different end uses and scale levels
- Provide the actors of the legumes value chains with information and coordination instruments to **facilitate trade** and to create **innovative value-chain arrangements**

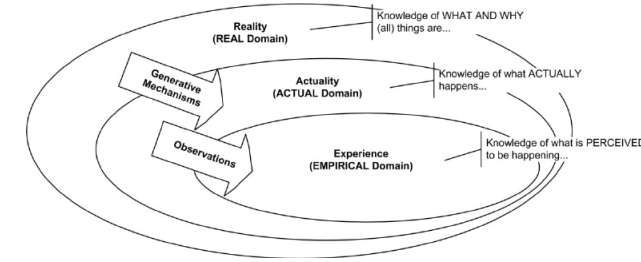


5. Policy level:

- **Identify levers** for EU and national policies through the analyses of the impact of the last CAP and a comparison of national initiatives recently set up .
- **Highlight the pivotal position of legumes** among the different policy areas.
- **Provide recommendations** on the combination of levers and specific policy measures acting at different levels of the value chains to foster sustainable transition.



Overall concept

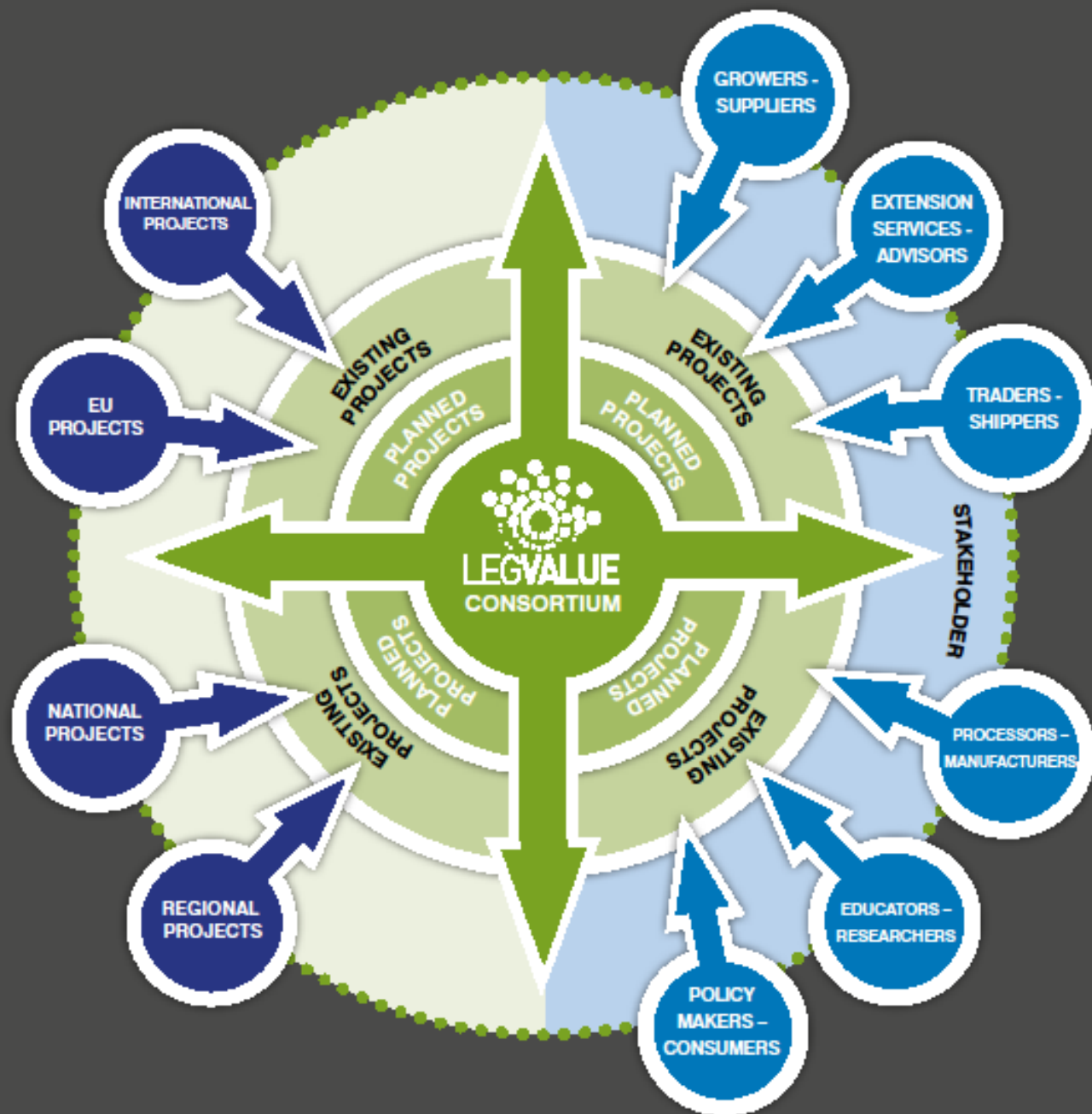


- Based on a **multi-actor** approach,
- Co-design **cropping systems and scenarios** of their spatial arrangement
- Design **workshops** and model-based **simulations**.
- On-farm **innovation tracking** will quantify **realistic and satisfactory** legume-based systems
- Assessment of these scenarios to **quantify changes** and improve **stakeholder decision-making**.
- The project will be based on several **pilot cases (24 farm networks and 31 value chains** brought and already followed by the partners of the consortium).
- All the pilot cases are already in place represent more than **100 stakeholders and about 400 farmers**
- **Dissemination** of innovation and learning by LegValue researchers from **different disciplines** ,advisors from public extension services, farmer-based organisations and representative actors of the value chain.



LEGVALUE

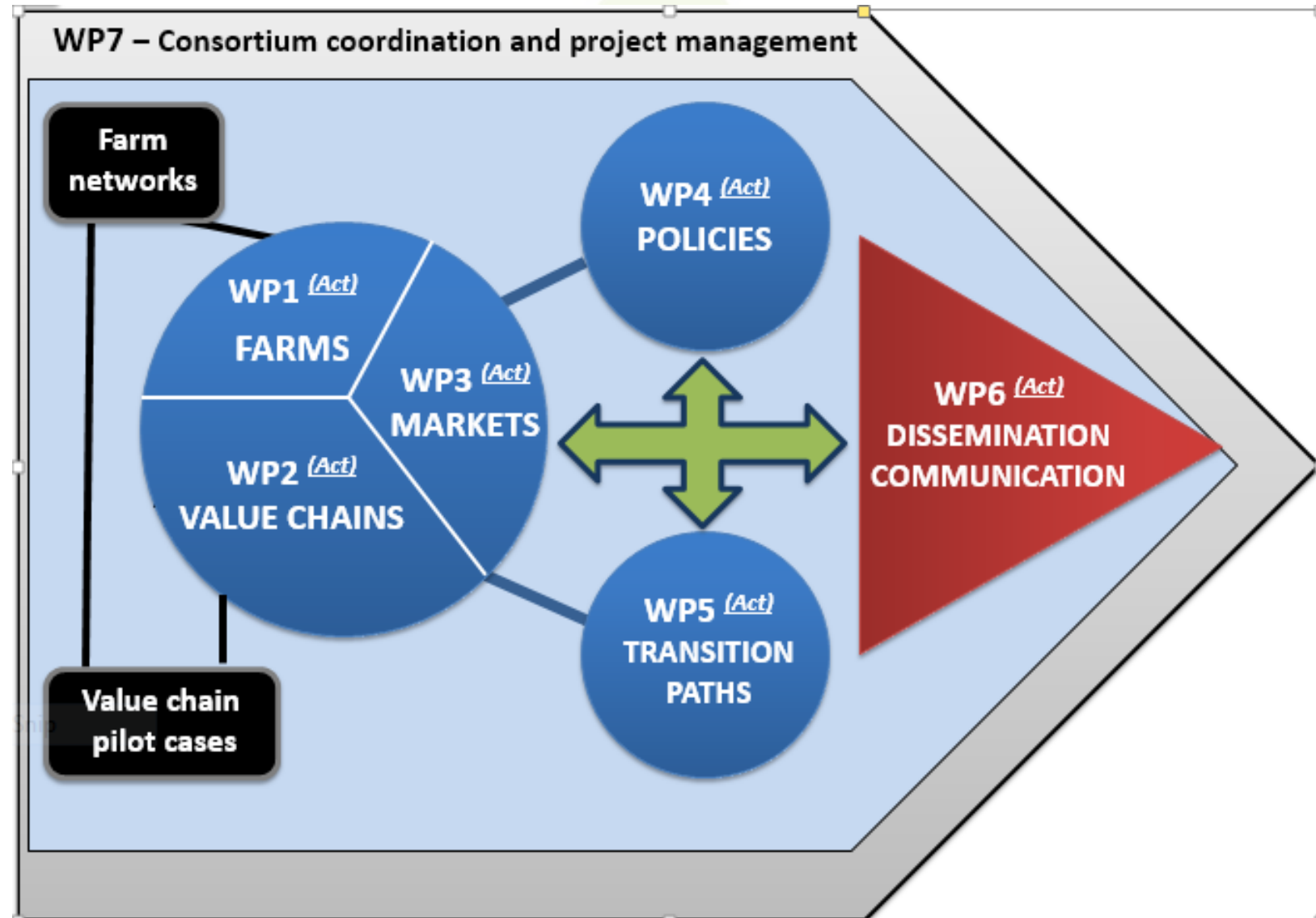
LEGVALUE AND YOU



How it will work



How it will work



The 6 work packages of LEGVALUE will concentrate analyses on the most economically, ecologically or socially important legume species in Europe.

- **Legume species**

- The most economically, ecologically or socially important legume species in Europe
 - Soybean , pea, faba bean - **the three major** grain legumes produced.
 - **Lentils and chickpea** – the two major legumes imported - LegValue will analyse and propose pathways to EU self-sufficiency.
 - **fodder legumes**: alfalfa, clovers, vetches and sainfoin. Identify the conditions to increase the production.

- **Studying and analysing**

- 24 European **Farm Networks**
 - 8 Organic, 16 conventional
- 31 existing **value chains**



Consortium set up

- LEGVALUE includes several **RTD's** (from public and private institutions) **and industrial partners** (including SMEs) with **complementary expertise**.
- **Stakeholders** are engaged at **all stages** via the project's External Advisory Board
- Actors of the pilot cases include **farmers, breeders, seed producers, advisors, suppliers, traders and brokers, collectors and processors, end users** in feed and food, and **industry associations** and decision and **policy makers**.
- The consortium has been composed to ensure an **efficient knowledge transfer** and exploitation strategy, allowing stakeholders to both help the project and directly **use** the research results and **implement** them when possible under current legislation.



WP1: On farm assessment of innovative legume crop management practices and ecosystem services

Actors involved in WP1:

Farmers, farmer advisors, technical institutes, breeders, seed producers, input suppliers, researchers.

Input from actors:

- *On-farm assessment*
- *Local crop management practices choice of species*
- *Development of decision making support tools*

- A map of the EU areas suitable for growing legumes, achievable yields for each one, with a quantification of the offer for the value chains and the opportunities for farmers.
- Agronomic, environmental and economic impacts of increasing legume crops at field, farm, territorial and European levels.
- A list of quantified agro-ecosystem services provided by legume-based cropping at field, farm, regional and European scales.
- A decision-support system to help the choice of optimal ways to introduce and manage legumes in cropping systems.



WP2: Development of legume value chains

Actors involved in WP2:

Farmers, advisory services, technical institutes, input suppliers, cooperatives, merchants, manufacturers, feed and food industries, institutional organizations, researchers.

Input from actors:

- *Economic interest assessment*
- *Value chain management*
- *Marketing information*
- *Quality management*

- Inventory of various legume value chains and assessment of their importance to the EU agro-industry.
- Price indicators and quality standards (based on common criteria parameters) required by downstream users (WP2 and WP3).
- Technological breakthroughs and new added values in feed and food supply chains.
- Opportunities and bottlenecks in the development of legume value chains and strategies for their successful upscaling (WP2 and WP5).

WP3: Economic analysis of European legume markets

Actors involved in WP3:

Institutional organizations, agroindustry, traders, technical institutes, brokers, researchers.

Input from actors:

- *Market assessment*
- *Trade fairs*
- *Price indicators*
- *Socio economic value*

- List of lock-ins and levers in the development of legume markets in the EU.
- Solutions for the actors of legume production, end uses and policy-makers to overcome constrains (WP2 and WP3).
- Assessment of the current and potential economic value of the legume value chains in the EU distinguishing field/farm-effects and regional/European-effects.
- Establishment of a European legume market information system.
- Easy-to-use tool for farmers to calculate the economic value of legumes.

WP4: Identification of Levers for EU national policies to facilitate the development of legumes in Europe

Actors involved in WP4:

policy makers, institutional organizations, researchers.

Input from actors:

- *Identification of levers*
- *Testing of new policies*

- Analysis of current policy settings and their effects on legumes.
- Identification of improved policy measures to support legumes development at different scales (from farm to EU levels).
- Models of policy mixes to incentivise sustainable legume cropping systems.
- Recommendations for future policies and good practices to boost legume cultivation in the EU.

WP5: Transition path analysis

Actors involved in WP5:

Farmers, advisory services, technical institutes, input suppliers, cooperatives, merchants, manufacturers, feed and food industries, institutional organizations, policy makers, researchers.

Input from actors:

- *Identification of socio-technical innovations*
- *Development of management tools*

- Set of legume transition scenarios based on demographic, economic, social, technological, ecological and political analyses, and their development strategies.
- Identification of successful socio-technical innovations in legume value chains for food and feed.
- Recommendations to scale up use of legume farming systems
- Identification of successful transition pathways for sustainable European legume-based value chains, including policies that can support them.

WP6: Outreach, dissemination and Knowledge/ technology transfer

Actors involved in WP6:

Farmers, advisory services, breeders, seed producers, input suppliers, technical institutes, cooperatives, merchants, feed and food industry, institutional organizations, researchers.

Activities for actors:

- *Workshops*
- *Best practice manuals, training sessions*
- *Regional conferences, final project conference*
- *Web legume portal*
- *Newsletters*
- *Success stories*

- User-targeted communication and dissemination materials.
- Events for actors/stakeholders: workshops, training sessions for practitioners, participation to conferences and existing platforms.
- A legumes website portal acting as a repository for all information for legume chains actors.

Expected Impacts

- Development of **sustainable legume based cropping** and grassland systems and agri food and feed chains
- **Increase the competitiveness** of legume crops from farm to agri-food and feed chains
- **Reduce environmental impacts** of agricultural activities (e.g greenhouse gas emissions and water pollution)
- **Scientific support for relevant EU policies** (CAP, Water frame wrok Directive, climate change objectives)
- **Strengthening of transdisciplinary research** and long lasting implementation



The project in figures:

Duration: 4 years Starting date: 1st June 2017

Total cost: 6.000.000 Euros EU grant: 5.000.000 Euros

Consortium size: 24 partners

Participation:

A project accessible to all commercial companies who wish to **contribute to the success of the project through the contribution of new market sector case studies and / or projects that meet the objectives of LegValue.**

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Partner list

N°	Participant organisation name (acronym)	Country
1	Terres Inovia (TERIN)	France
2	Institut de la Recherche Agronomique (INRA)	France
3	Alma mater studiorum – Universita di Bologna (UNIBO)	Italy
4	Stichting dienst landbouwkundig onderzoek (DLO)	The Netherlands
5	Fachhochschule Südwestfalen (FH-SWF)	Germany
6	PGRO Research Limited (PGRO)	United Kingdom
7	INRA Transfert (IT)	France
8	Research Institute of Organic Agriculture (FiBL)	Switzerland
9	Wageningen University (WU)	The Netherlands
10	Universität Hamburg (UHH)	Germany
11	Chambre Régionale d'Agriculture de Normandie (CRAN)	France
12	Institut für Lebensmittel- und Umweltforschung eV (ILU)	Germany
13	VALOREX SAS (VAL)	France
14	AICF Agro Inovação (AICF)	Portugal
15	Instituto Nacional de Investigação Agrária e Veterinária (INIAV)	Portugal
16	Terres Univia (TUN)	France
17	SEGES PS (SEGES)	Denmark
18	ADAS UK Limited (ADAS)	United Kingdom
19	Latvian Rural Advisory and Training Centre (LLKC)	Latvia
20	Roskilde Universitet (RUC)	Denmark
21	Association de coordination technique pour l'industrie agroalimentaire (ACTIA)	France
22	Scuola superiore di studi universitari e di perfezionamento Sant'Anna (SSSA)	Italy
23	Università di Pisa (UNIFI)	Italy
24	Lietuvos agrariniu ir misku mokslucentras (LAMMC)	Lithuania



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Conclusion

LegValue

“To develop sustainable legume-based farming systems and agri-feed and food chains in EU”

Thank you

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