

THE ECOXTRACT PROJECT CONSORTIUM

Delivering a new, efficient and biobased plant oil and protein extraction system



OUR AMBITION

The ambition of the EcoXtract consortium is to bring EcoXtract® to the market to replace petroleum-based hexane. Our work will take the first commercial steps to replace hexane in a million tonne/year market leading to transformation of this global agri-food sector. We will do all the testing, engineering investigations, planning and marketing needed to allow to construct the world's first large-scale and first small-scale EcoXtract-based oil extraction plants in Europe. The hexane-free oils, high-protein meals and ingredients, and fine plant products will be produced and brought to the market.



OUR CONSORTIUM

Our consortium comprises five complementary European businesses :



· Vivaorganic from Germany is a developer of agri-food plant protein- and oil-based value chains.



· Pennakem from France is a global leader in green solvent systems. It developed and now owns the EcoXtract solvent technology.



· De Wit is a world leader in extracting and marketing high-value oilseed products based in the Netherlands.



· NHE in the United Kingdom is a leader in operating niche extraction systems.

· Donal Murphy-Bokern from Germany guides the consortium on policy, project management and communications.



OUR OBJECTIVES

Our consortium comprises five complementary European businesses :

- 1 to provide key data from commercial-scale testing, validation and prototyping on effects of extraction operational parameters on product quality, process efficiencies, solvent loss, and emissions
- 2 to provide a full assessment of the social and environmental performance of EcoXtract® to inform all relevant stakeholders in the relevant value chains
- 3 to provide engineering, business and marketing plans and commercial structures for the large-scale processing of soybeans using EcoXtract® by integrating the results from Objectives 1 and 2 into a large-scale value chain plan
- 4 to provide engineering, business and marketing plans and commercial structures for the niche (high value)-scale processing of oilseeds using EcoXtract® by integrating the results from Objectives 1 and 2 into a niche product value chain plan
- 5 to extend the innovation beyond the project and support marketing with a programme of dissemination and communication

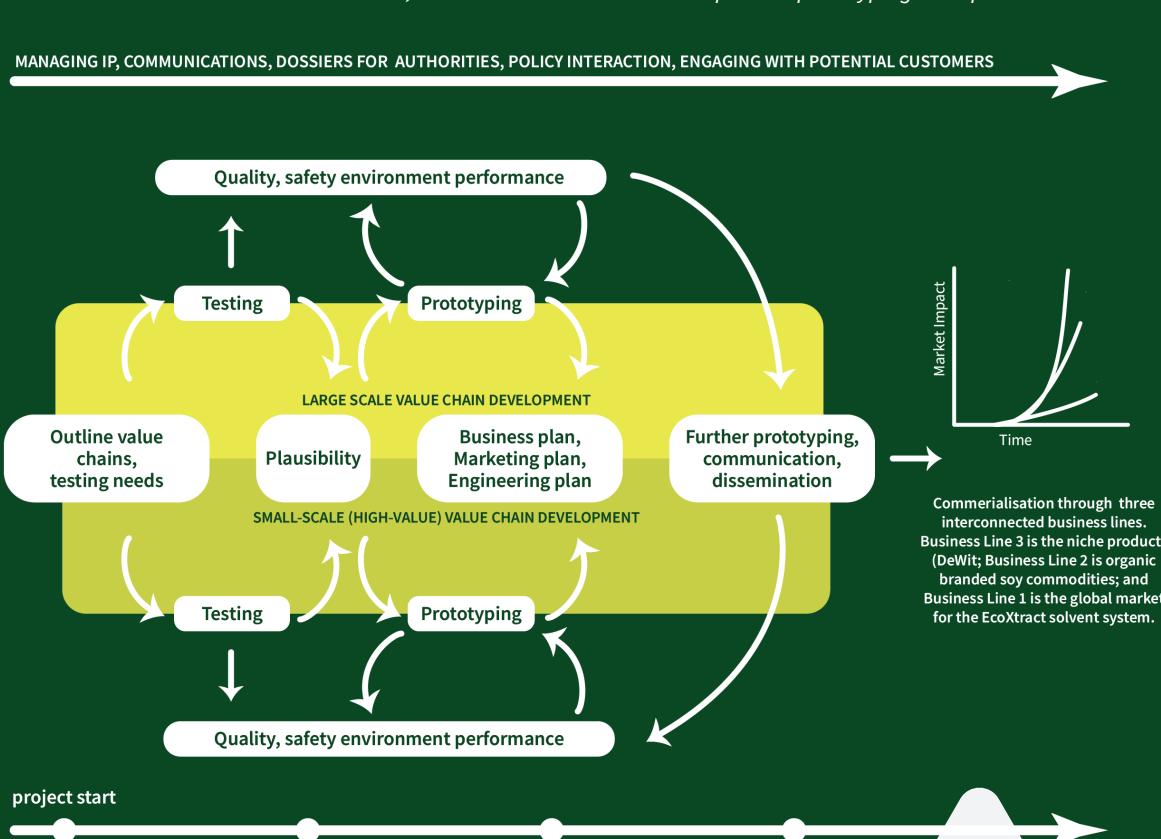


OUR WORK

An extensive programme of industrial-scale system testing, validation and optimisation followed by product prototyping lies at the heart of the project. Following this, supported also by prototyping with clients, we will develop three new mutually supporting business lines within the EcoXtract® framework pioneering global transition of the sector to this new technology.

We need integrated business, product quality, marketing, engineering and environmental assessment activities to reach this goal. Engineering testing will enable us to optimise commercial scale-up to raise the technology readiness level (TRL) from 6 to 8. This supports our business plans and marketing with new information on operational costs, yields, losses of the solvent, extraction efficiency and the quality of the product (oils, proteins, lecithins etc.). This comes together to realise and market EcoXtract®-based processing in high volume commodity processing (soybean) and in niche high value products.

Schematic overview of the concept to bring EcoXtract to the market. From left to right: the outlining of our two new extraction system value chains will define the precise needs for subsequent business, market and engineering plans, in particular test/validation data and demonstration needs. After thorough plausibility checking, testing and validation leads to prototype products and related data that used in the examination of quality, safety and environmental performance. All technical and value chain development work will be completed by Month 24. Year 3 will support the emerging value chains with further communication, dissemination and co-creative product prototyping as required.



THE FUTURE

Oilseeds account for about one-fifth of global crop production. This project will revolutionise processing by introducing a biobased alternative to hexane in both low and high volume markets. The commercial-scale optimization of EcoXtract® will be a big step forward for the biobased sector and advance Horizon 2020's impact on the sustainable development of our agri-food systems opening up new markets for the biobased solvent and its extraction products.

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