LIFE "The Laser Fence"

Laser systems for the prevention of food chain poisoning and minimization of chemical exposure to the environment

"LIFE Environment and Resource Efficiency" - LIFE15 ENV/UK/000386

	Summary	In a world with increasing demands for food and energy, effective and long lasting animal control is crucial. Farmers lose billions of euros each year through damages in crop production. Chemical poisons are often used to control rodent populations on farms, but studies in Europe show that anticoagulant rodenticides contribute to the deaths of a variety of mammals and birds that prey on or scavenge rodents. A virtual fence is then an interesting solution to contain animals in an area or keep them out of a defined range. This project presents an innovative technology, **Agrilaser,** to keep animals away from productive fields while maintaining animal welfare. The project's main **objectives** are to demonstrate: 1. Reduction of the impact of chemicals on fauna by the minimization of exposure to toxic chemicals through the application of innovative laser systems. Hereby we avoid animals intruding into agricultural fields, preventing poison entering the trophic chain, which in the long term also enhances local biodiversity 2. Calibration and improvement of the functionality of the laser systems towards animals other than birds (rodents i.e. rabbits and mice or bigger mammals i.e. deer, wild boars, bears, etc.) in ecologically sensitive areas where nature conservation increasingly conflicts with agriculture and daily economic activities 3. Cost-efficient and more sustainable agricultural management practices thanks to the incorporation of non-harmful technologies such as laser fences and drones, which are accurate and cheap to monitor farmlands, protected or difficult to reach areas, and over long distances. At the same time demonstrate to farmers and land owners the positive economics of this sustainable practice due to lower operating costs and decrease in yield loss in order to promote scale-up and replicability
		Expected **results** include: 1) A rodenticide reduction by 100% in the given areas by the end of the project. 2) Demonstrate that the Agrilaser technology allows for a significant lower exposure of birds to herbicides and pesticides by 80% in the given areas by the end of the project 3) Enhance ecosystem services, notably in increase of biodiversity in general by preventing poison entering the trophic chain and positive CO2 emissions reduction by rodenticide reduction 4) Decrease in crop losses caused by animal intrusion in the agricultural fields by 50% 5) Increased awareness and dissemination for reducing the use of chemicals and their impacts on the environment among other stakeholders (particularly on EU relevant legislation and objectives).
	Execution	01/09/2016 to 31/12/2019
	Total project budget	€ 3,135,928
	EU Financial Contribution	€ 1.777.985

			Involvement	**Country**
	Coordinating Beneficiary			
1	**Liverpool John Moores University** http://www.ljmu.ac.uk		Leader of the LIFE Project Design of management plan & large-scale implementation in all areas Project managing and monitoring, including performance indicators Policy recommendations in all areas Execution of trials in the UK	UK
	Associated Beneficiaries			
2	**Bird Control Solutions BV** http://www.birdcontrolgroup.com		Preparation of infrastructure and equipment Execution of Laser trials in NL, and assistance in all areas Provide technology, information and technical assistance	The Netherlands
3	**Cuarterola SL** http://acamacho.com		Technical assistance Execution of trials in Andalucia national park Doñana (olive and cereals)	Spain
4	**CUCANOCHE S.L.** http://acamacho.com		Technical assistance Execution of trials in Andalucia national park Doñana (cereals)	Spain
5	**Eoloaroz S.L.** http://acamacho.com		Technical assistance Execution of trials in Andalucia national park Doñana (rice)	Spain
6	**Game & Wildlife Scottish** http://www.gwct.org.uk/		Technical assistance Responsible for the execution of trials in Scotland Policy Recommendations	UK
7	**IRIS UAV services S.L.** http://www.irisdronespecialists.eu		Technical assistance Monitoring of populations through drones	Spain
8	**Volterra Ecosystems S.L.** http://www.volterra.bio		Communication and dissemination in all areas Responsible for the replication trial with third party	Spain