

30 Novembre 2021

QUALE VALORIZZAZIONE TERRITORIALE DEI RISULTATI DEI PROGETTI DI RICERCA EUROPEI?

Workshop per presentare alcune ricadute territoriali dei progetti finanziati nell'ambito della bioeconomia in Horizon 2020

LE RICADUTE TERRITORIALI DEI PROGETTI EUROPEI

Cecilia Giardi

Novamont S.p.A

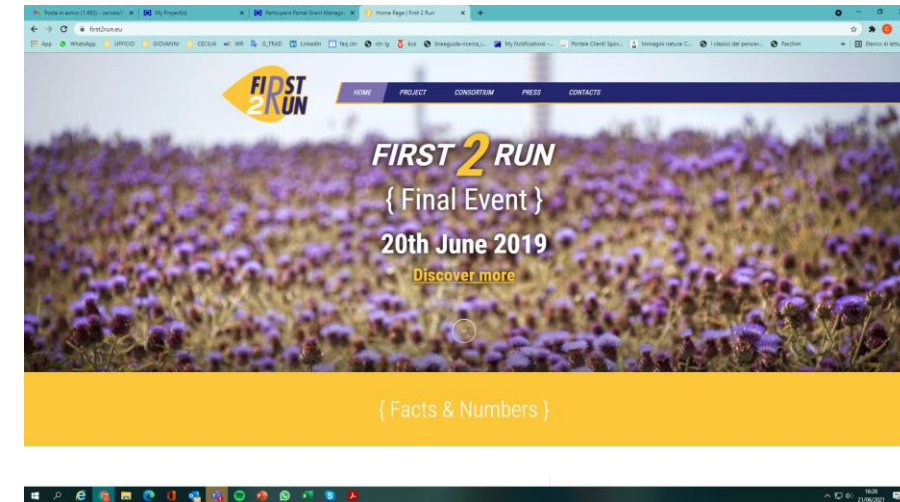
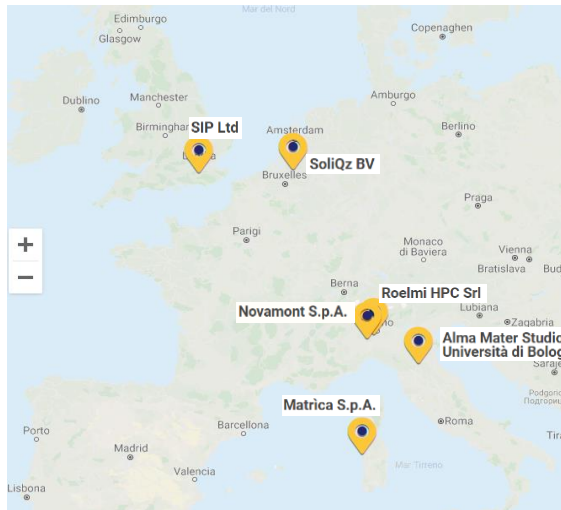
FIRST2RUN



Facts & Numbers

“FLAGSHIP DEMONSTRATION OF AN INTEGRATED BIOREFINERY FOR DRY CROPS SUSTAINABLE EXPLOITATION TOWARDS BIOBASED MATERIALS PRODUCTION”

- Horizon 2020 / BBI-JU; Call: H2020-BBI-PPP-2014-1
- Topic: BBI.VC3.F1/ Type of action: BBI-IA-FLAG
- Action type: innovation action
- 6 partners from 3 different countries
- Starting date: 01/07/2015 and duration of 48 months
- Number of Work packages: 8
- Number of expected deliverables: 44
- Number of Milestones: 6



THE TOTAL EFFORT IN THE PROJECT IS RELEVANT WITH A **TOTAL ELIGIBLE COSTS CLAIMED OF 32.260.828,51 €** WITH A **TOTAL IN-KIND CONTRIBUTION OF 15.264.946,51 €** AND **ADDITIONAL INVESTMENTS OF 57.5 MI €** (MAX GRANT: 16.995.882,00 €)





Project scope and objectives

The FIRST2RUN project aims at demonstrating the technical, economic, environmental and social sustainability at pre-industrial/large scale (TRL8) of a value chain in which low input and underutilized oil crops (i.e. cardoon) grown in arid and marginal lands and not in competition with food nor feed, are exploited for the extraction of vegetable oils to be further converted into bio-monomers (mainly pelargonic and azelaic acids) as building blocks for high added value bioproducts, biolubricants, cosmetics, bioplastics, additives through the integration of chemical and biotechnological processes.

1. Agronomic objectives

2. Industrial objectives

3. Energetic objectives

4. Enviromental objectives

5. Social objectives

OBJECTIVES

- Large scale cultivation, thanks to strong involvement and support of local farmers, of low input and underutilized oil crops
- Application of sustainable processes to produce biobased azelaic and pelargonic acid and demonstration at flagship scale;
- Integration of chemical and biotech processes for biobased and low impact biolubricants, bioplastics and cosmetics
- Valorization of downstream process by- and co- products, as feed as well as the use compost (coming from the composting of bioplastics) to improve soil fertility
- Increase of the energy independency of the biorefinery from fossil energy sources while increasing the process efficiency
- Push the adoption of new business models of collaboration among the different key players of the whole value chain



The results in numbers



	PROTEIC MEAL	BIOMASS	BIOPLASTICS	COSMETICS	BIOLUBRICANTS
APPLICATION	Feed for sheep and poultry	Bioenergy	Mulch film	Blush formulation	Hydraulic oil
BENCHMARK	Soybean meal	Wood chips	Low density polyethylene (incineration)	silicones and nylon	Fossil lubricants
GWP	-82%	-23%	-57%	-50%	-50%
NRER	-28%	-42%	-62%	-50%	-50%

- The GWP and NRER savings related to the First2Run agro-industrial value chain implementation processes have been estimated to be respectively around 63% and 46% compared to standard value chain for obtaining benchmark products.
- **New bio-based products (Azelaic Acid, Pelargonic Acid) as key tool for “making more with less” in bioplastics, cosmetics, lubricants**
- **Proteic meal, biodegradable in soil mulch film and biolubricants have been validated directly by farmers along the project**
- **150 events and more than 10,000 outreached stakeholder; dissemination activities are still in progress**

- **New cross sector interconnections:**



AGRICULTURE AND INDUSTRY (BIOREFINERY) FOR:

- implementation of large scale cultivation of oil crops in marginal lands
- valorization of residues and by-products from new agro-industrial value chain
- new BBs and intermediates production



INDUSTRY (BIOREFINERY) AND END-USERS (MOSTLY SMES)

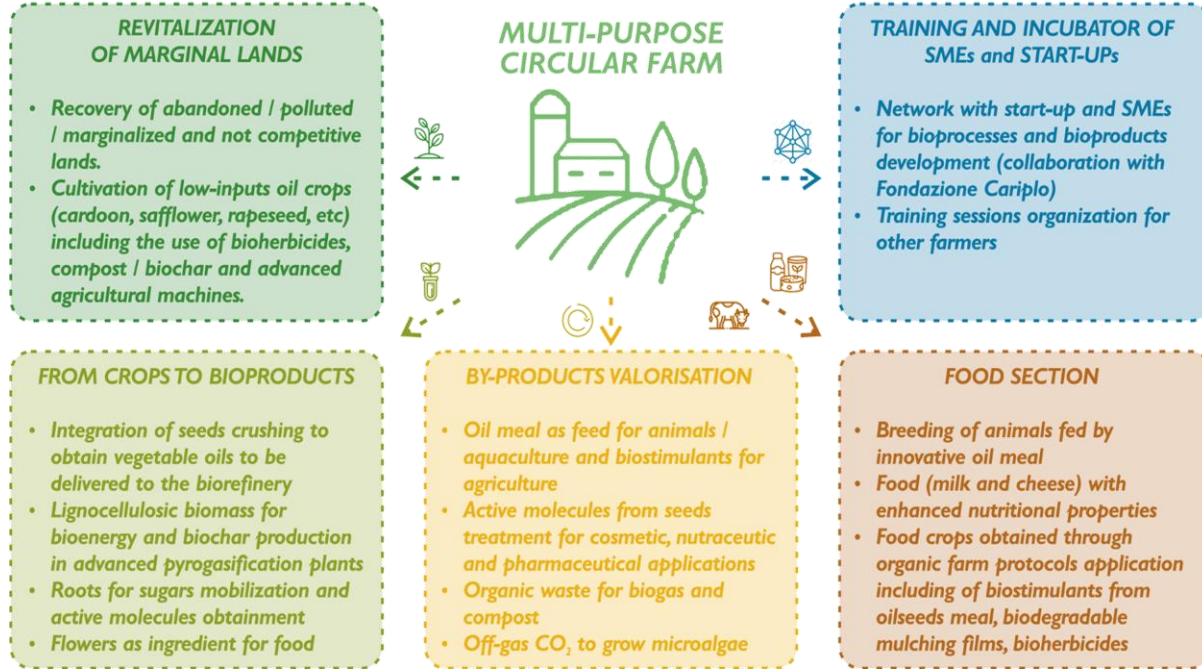
- for the development and application of new biolubricants, cosmetics and bioplastics products



INDUSTRY (BIOREFINERY) AND TECHNOLOGY PROVIDERS / RTO

- for the realization of enhanced equipment needed along the new value chain

Beyond First2Run



MULTIPURPOSE CIRCULAR FARM (MCF)

interconnected with the biobased industry, which could:

- Promote **oleaginous low input dry crops with the ability to regenerate organic carbon in soil**
- **Valorize of biowastes / byproducts from agri-food as feedstock**
- **Reduce of the environmental impact on soil, water and air** through the use biobased products which don't accumulate in soil)
- Diversify their business by increasing the range of biobased intermediates that they can obtain and directly sell from on-site transformation of the oil crops fractions

FIRST BIOPRODUCTS NOW COMMERCIALY AVAILABLE:

- **BIOLUBRICANTS FOR APPLICATION INTO AGRICULTURAL MACHINES**
- **PELARGONIC ACID FORMULATIONS**

2015 agreement with Coldiretti for cardoon cultivation

2019 agreement with Coldiretti for sunflower oil

2021 a company dedicated to finished products for farmers together with Coldiretti

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GRAZIE PER L'ATTENZIONE

cecilia.giardi@novamont.com