Sustainable food packaging from agro-waste: from Nature for Nature

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Background

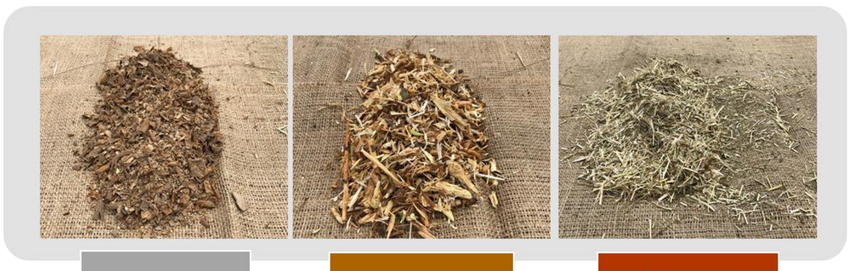
Problems related to:
- ✓ the depletion of oil, from which the 98% of plastics derives,
- ✓ the plastic pollution, mainly due to not biodegradable materials,

have driven research, industrial and end-user interests towards **sustainable plastic products**, derived from biomass and responding to the principles of the circular economy in terms of end-of-life.

Strategy

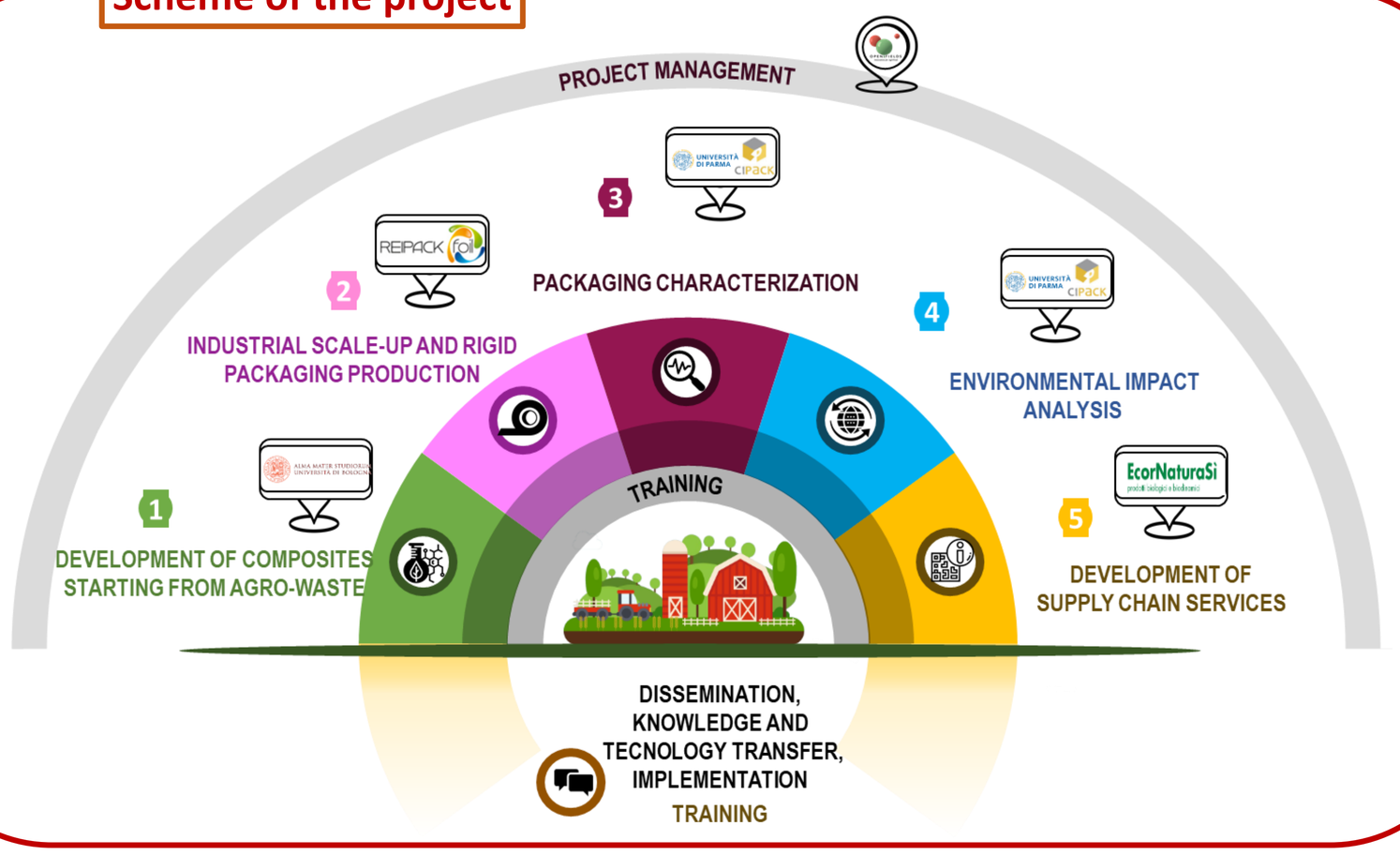
The project aims to develop a new packaging for fresh fruits and vegetables.
The packaging is made up by a biobased and compostable polymer to which a certain amount of agro-waste is added at the molten state.
The agro-waste can act as a filler and can improve mechanical performances of the polymeric matrix.
In this way new composites, that can replace, in terms of performances and costs, materials derived from non-renewable and non-biodegradable sources, are formulated and characterized.

Agro-waste



The agro-wastes are chosen according to their seasonality and availability and properly pre-treated, in order to improve their affinity with the polymeric matrix.

Scheme of the project



The project covers the full value chain, from farms, for the supply of vegetable waste, to research centers and companies interested in the development of the new packaging, designed also according to LCA analysis, up to final end-users that will use a traceability system of the product.

Partners

ECOMONDO THE GREEN TECHNOLOGY EXPO

Ecomondo Green Technology Expo – 26th - 29th October 2021, Rimini

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