



- **** It will establish 4 new cross-sectoral interconnections in the bio-based economy.
- It will create 17 new bio-based value chains: 5 in the nut by-products sector, 7 in the olive by-products sector and 5 in the grape by-products sector.
- It will contribute to develop 9 new products from its 4 bio-based specialty ingredients. Eight of the products will be used in the nutraceutics sector and one in the cosmetic sector.

Environmental outcomes

- >>> By using discarded food streams as a source material, it does not require any new crops to be grown, reducing the impact on land and on the use of water and fertilizers.
- The planned zero-waste process approach eliminates the production of residues and avoids the need to use landfill for disposal. This, in turn, helps to mitigate climate change by eliminating methane release.















Coordinator. Access to raw material. Production Process for obtaining water rich in polyphenols, fibre, oily extracts and XOS. Pre-industrial UP4HEALTH bio-based Plant. Validation of Up4health ingredients in snack bars and healthy drinks.



Validation of Up4health ingredients

LCSA & Ecodesign

in smoothfood.





Validation of Up4health ingredients in nutraceuticals and cosmetics.



Validation of Up4health ingredients in food



Validation of Up4health ingredients in drinkable gels and snack bars.



Validation of Up4health ingredients in vogurts and dietary supplements.



Characterisation of raw materials. Encapsulation

UniversidadeVigo



Bioavailability and Bioactivity studies.







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The future is today

New biological products from food by-products

Sustainable and cost-effective production process for the upcycling of olive, grape and nut by-products into four natural and healthy ingredients for nutraceutical and cosmetic applications.









from constipation

people

factors to suffer NCDs

The Concept

The **UP4HEALTH** project provides the demonstration at pre-industrial scale of an **integrated biorefinery** for the recovery of valuable biomolecules from food processing by-products (grape and olive pomaces, olive stones, grape seeds and nuts by-products) and their conversion into natural, healthy and sustainable high added-value products for the **nutraceuticals** and **cosmetic** sectors.

The **UP4HEALTH** upcycling process integrates a unique **ZERO WASTE** sustainable process for 4 locally available Mediterranean feedstocks (olive pomace, grape pomace, nut by-products and olive pits) to deliver **four organic**, **natural**, **sustainable & healthy ingredients**:

The **UP4HEALTH** ingredients will be integrated into functional food, nutraceutical supplements and cosmetics. These ingredients will be of suitable quality to meet market requirements of **consumers** and **industry**.

The functional ingredients obtained in **UP4HEALTH** are:









The recovery of food by-products will tackle objectives at private and institutional perspectives to solve industrial, economic and social problems derived from the generation of residual streams in the food processing industry and the increasing demand for natural and healthier products by consumers and industry in a scene of limited resources.







