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Good practice - Food crossing district: a systemic approach for industrial symbiosis at regional level

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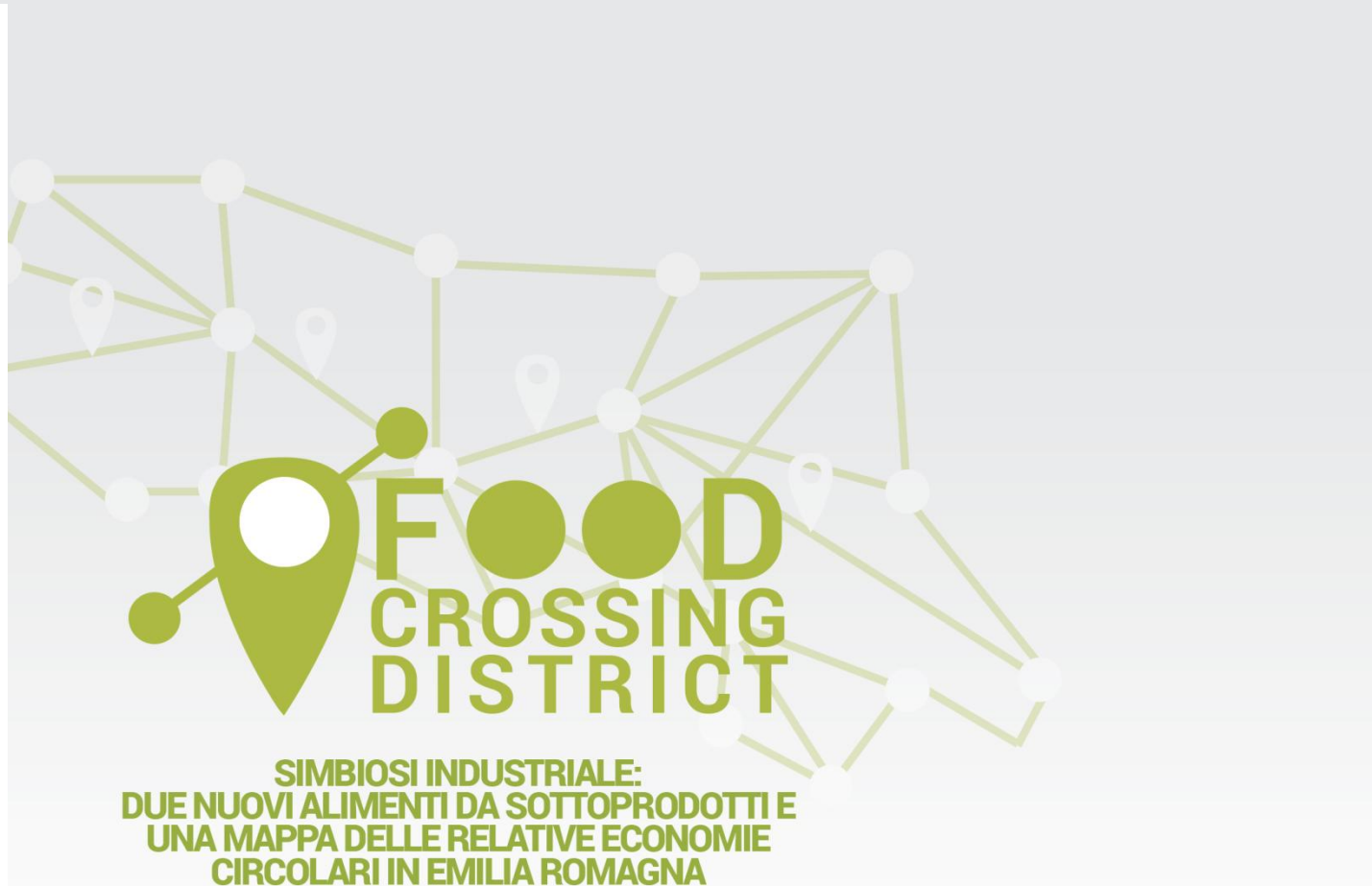
Barilla

The Italian Food Company. Since 1877.



CASALASCO

Consorzio Casalasco del Pomodoro



Industrial Symbiosis: two new food products from by-products and a map of circular economies in the Emilia Romagna region



Aim: design of two circular agri-food supply chains

- 1) Oil and tomato supply chain
- 2) Durum wheat bran supply chain

Activities

- 1) Development of innovative technologies for byproducts valorization:
 - Co-milling process
 - Technology standardization for wheat bran defatting
- 2) Evaluation of the environmental sustainability of the by-products' valorization processes used in the two supply chains
- 3) Marketing and promotion of developed products:
 - Co-milled oil
 - Wheat bran oil
 - Defatted wheat bran
- 4) Implementation of an online platform for companies to register their byproducts: GIS mapping of potential IS synergies (120 companies in total) with a specific focus on the strategic companies for the two investigated supply chains



Advantages

- Technological innovation: optimization of low-environmental impact co-milling and defatting technology
- Valorization of low value byproducts towards functional food
- Development of new market opportunities via product innovation
- Improved knowledge on the availability of byproducts from agrofood supply chains in Emilia-Romagna
- Increased awareness on IS in the regional business sector (120 companies involved)
- The developed platform can serve as trigger for new IS initiatives

Impact and success factors

- New patented technology for co-milling process
- Registered trade mark for a new product Tolly®
- Awarded with Think4Food prize for innovative and sustainable solutions in the food value chains
- Effective cooperation between companies and research sector (High Technology Network of Emilia-Romagna)
- Large potential at national level: in Italy 4,9M tons tomatoes are processed (12% of worldwide production, and 55% of the EU production) and 10-30% is a byproduct (skin and seeds)
- Wheat byproducts amount to 20% of processed wheat
- Number of mobilized companies

Limitations

- ☐ Regulatory aspects need to be verified more in depth (definition of byproducts)
- ☐ Interest by several industrial partners but the company who can develop the product at industrial scale needs to be identified yet
- ☐ Final results at TRL 5 scale (prototype), still steps needed towards full market scale implementation
- ☐ Practical realization of potential IS pathways identified via the platform still need supportive actions to be translated into concrete initiatives

More information

Good practice useful for:

- Business sector: replication/financing of a scale up also in other regions
- Policy makers: example of supported R&D for initiating circular business models
- R&D sector: example of project where the environmental and economic sustainability were used as combined criteria for designing solutions

For more info please refer to project leader

University of Bologna

Prof. Tullia Gallina Toschi – [project website](#)



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Thank you!

Questions welcome



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