



# Hybrid meats CNTA & CARTESA

Like a  
**PRO**



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**LIKE-A-PRO is a EU-funded project aiming to facilitate sustainable and healthy diets by mainstreaming alternative proteins and products, making them more available, accessible and acceptable.**

## Benefits of hybrid meat products

Hybrid meat products combine conventional meat with alternative protein ingredients, offering a practical approach to reducing animal-derived protein consumption while preserving familiar sensory characteristics and culinary applications. By maintaining recognisable formats such as cooked ham, chorizo and pulled pork, these products facilitate gradual dietary transitions among flexitarian and meat-reducing consumers. They also offer manufacturers opportunities to diversify their portfolios with nutritionally differentiated products compatible with established eating habits.



## Development challenges

Developing competitive hybrid meat products requires integrating alternative proteins into conventional meat matrices without compromising taste, texture, juiciness or processing performance. Manufacturers must balance meat reduction with nutritional quality, sensory acceptance and microbiological stability while ensuring compatibility with existing production technologies. Consistent product performance and cost-effective industrial scalability remain essential for commercial implementation.



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## CNTA & CARTESA's solution

Within LIKE-A-PRO, CNTA and CARTESA/NATURUEL developed three hybrid meat concepts: cooked ham, semi-cured chorizo and pulled pork, combining conventional pork with alternative protein ingredients. Different sources, including pea, fava bean, fermented fungal, microbial and insect-derived proteins, were incorporated to achieve suitable nutritional, structural and sensory performance.

The cooked ham and chorizo formulations were developed using adapted conventional meat-processing methods, while hybrid pulled pork was produced through an experimental process simulating Power Heater technology. Industrial feasibility was successfully demonstrated for pea-based semi-cured chorizo through four production trials of approximately 100 kg each using CARTESA's existing manufacturing equipment. **The developed solutions offer four key advantages:**



### Nutritional differentiation and protein diversification

All formulations qualify as "high protein", providing 15.28–16.35 g/100 g in cooked ham, 19.65–21.46 g/100 g in chorizo and 15.53–19.16 g/100 g in pulled pork. Selected formulations also show reductions in energy, fat, saturated fat and sodium compared with conventional counterparts, alongside additional fibre and micronutrient contributions.



### Validated stability and sensory acceptability

Refrigerated shelf-life studies demonstrated stability for at least 55 days in cooked ham, 50 days in chorizo and 90 days in pulled pork under the tested conditions. Microbiological and physicochemical assessments supported product stability, while sensory evaluations confirmed acceptable flavour, texture and appearance across the developed formulations.



### Flexible formulations and familiar meat characteristics

The incorporation of plant, fungal, microbial and insect-derived proteins enables adaptation to different nutritional and functional requirements. Hybrid formulations preserve familiar sensory properties and culinary versatility, supporting consumer acceptance and diversification across established processed meat categories.



### Industrial compatibility and scale-up potential

The developed concepts are compatible with conventional meat-processing equipment, requiring minimal modifications. Industrial validation of pea-based semi-cured chorizo in approximately 100 kg batches confirmed scalability, while cooked ham and pulled pork showed potential for future industrial production.

## Commercial potential and B2B value proposition

CARTESA/NATURUEL's hybrid meat products offer opportunities across retail, private-label, distribution and foodservice channels. Leveraging its pork-processing expertise and existing infrastructure, the company provides B2B partners with differentiated reduced-meat products, available under own-brand or distributor brands, supporting portfolio diversification and commercial innovation.

Overall, the developments achieved within the LIKE-A-PRO project demonstrate the feasibility of incorporating alternative protein ingredients into familiar processed meat products while maintaining acceptable sensory and technological performance. By combining protein diversification, product-specific nutritional improvements and compatibility with established manufacturing processes, CNTA and CARTESA's hybrid meat concepts offer a promising approach to next-generation meat products, supporting gradual dietary transitions and new commercial opportunities in the evolving alternative protein market.

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