

# Knowledge Futures: AI, Technology, and the New Business Paradigm

## CALL FOR ABSTRACTS – IFKAD 2025

Special Track n.: 15

Thematic Area: AI and Supply Chains

### Decision Support Methods for Food Waste Reduction in Agri-Food Supply Chain: The KILOWATT Project

#### Description

The track aims to collect contributions that fuel the academic debate on one of the biggest issues that companies in the agri-food supply chain face every day, namely the management of fresh products and their perishability.

The shelf life, an element that becomes crucial in the case of fresh foods, is one of the aspects to be taken into account most when their transportation lasts a long time.

The decay of food products is slower when the product is intact and is transported and/or stored in a controlled atmosphere and climate (temperature and humidity). The action aims to preserve the integrity of the food product by providing for the creation of “intelligent” systems for the management of stocks, packaging and some sales processes, aimed at reducing food waste. Food and drink companies as well as large-scale retail trade are in fact increasingly involved in the delivery of products that must always be fresh and of guaranteed quality.

It is therefore of fundamental importance that the approval of goods proceeds without interruptions. This means ensuring that the supply chain, whether internal or external, uses the most advanced technologies (AI, multi-criteria and optimization models) to safeguard the delivery activity and that the entire process related to food product logistics effectively integrates the use of enabling technologies and “smart” systems with new sustainable business and logistics chain optimization models.

All players in the logistics chain must therefore start a logistics model based on the integration and creation of collaborative networks with companies, customers and suppliers. The development of such solutions requires the definition of innovative optimization models that take into account the specificities mentioned above developed heuristic and metaheuristic algorithms that can solve the optimization models formulated efficiently.

The aim of the track is to discuss methodological approaches that allow an improvement in the competitiveness and sustainability of national agri-food production linked to the reduction of the quantities of lost and/or wasted product and pursued through a coherent set of innovative interventions:

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- optimization of the logistics activities of fleet movement, both upstream and downstream, through the implementation of specific models and algorithms aimed at reducing emissions due to transport activities;
- definition of models and techniques for forecasting sales at the different points of the network that, by combining the characteristics of qualitative and quantitative approaches, overcome the limits of applicability of existing techniques and their accuracy;
- definition of models and techniques for calculating explanations relating to the sales forecasts provided;
- the enhancement of the vocation of the territories preparatory to the creation of added value linked to the origin of the products, as well as to the improvement of their sustainability thanks to more efficient interrelations between agro-ecosystem and production process;
- optimizing product positioning in the various sales channels in terms of time/quality/price ratio, through an iterative refinement process of the offer based on the information deriving from sensors that constantly monitor the products;
- improving the efficiency of the logistics and distribution system in terms of time, economics and the environment;
- improving the packaging management process, thanks to new biocompatible packaging appropriately studied and designed;
- reducing costs in all segments of the supply chain resulting from the reduction of "waste" and its reintroduction into the production and consumption cycle, through innovative uses for energy purposes.
- obtaining active and intelligent biocompatible packaging starting from high added value raw materials coming from waste from the agri-food supply chain.
- analysis of organizational changes following the introduction of intelligent systems in the agri-food supply chain.

## Keywords

*Supply chain agri-food, multi-criteria models, optimization models, organizational models*

## Organizers

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## Guidelines

Researchers wishing to contribute are invited to submit an **EXTENDED ABSTRACT** (ineditable format) of **min 500 and max 1000 words** not later than **31 JANUARY 2025**, using the submission procedure available on the website. The abstract should address theoretical

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background, research objective, methodology, and results in terms of expected contribution to Knowledge Management theory and practice. Authors are required to follow the guidelines for both extended abstracts as well as full papers available on IFKAD site: [www.ifkad.org](http://www.ifkad.org)

## Important dates

31 January 2025	<i>Extended Abstract submission deadline</i>
24 February 2025	<i>Acceptance notification to authors</i>
20 April 2025	<i>Early-Bird registration cut off</i>
02 May 2025	<i>Full paper submission deadline</i>
31 May 2025	<i>Registration deadline</i>
2-4 July 2025	<i>Conference sessions</i>

## For further information

For any information related to the event, please see the event website at [www.ifkad.org](http://www.ifkad.org) or contact the conference manager at [info@ifkad.org](mailto:info@ifkad.org)