

## FRESH WAYS – Cross-border mechanisms for Green Intermodal and Multimodal Transport of fresh products

### Executive Summary

The project **FRESH WAYS – Cross-border mechanisms for Green Intermodal and Multimodal Transport of fresh products** has been approved under the INTERREG Greece – Italy 2014 – 2020 Cross-Border Cooperation Programme, Axis 3: Multimodal Sustainable Transport System.

The overall objective of FRESH WAYS is to develop a strategy to optimize the transport system by **reducing the dependency** on **road** and **maritime** solutions and **increasing** the range of available **connection** between the two Countries involved. It aims to optimize existing passengers' air routes to ship fresh products in the aircraft holds along with passengers' transport between Italy and Greece. By intensifying exchanges between Italy and Greece, Fresh Ways project works to increase non-seasonal tourism and deepen south-south connections in the Mediterranean area of Europe.

The project is co-funded by European Union, European Regional Development Funds (ERDF) and by National Funds of Greece and Italy for a total budget amount of 2.737.235,00 €.

The project lasted 59 months, from July 31, 2018 to June 30, 2023.



## Introduction

The Project “**FRESH WAYS – Cross-border mechanisms for Green Intermodal and Multimodal Transport of fresh products**” aims to promote sustainable transport solutions for high-quality fresh products, reducing the dependency on more harmful transport solutions (sea and road transport) and boosting economic growth in the participating areas.

Airports of Puglia S.P.A. led the project partnership, which is composed of the Chamber of Commerce, Industry, Crafts, Agriculture of Bari, the University of Salento – Department of Innovation Engineering, the Chamber of Commerce of Preveza, and the University of Patras – Department of Civil Engineering. The Department for Local Public Transport and Major Projects of Puglia Region participated to the project implementation as associated partner.



The project aims at increasing passenger traffic between Italy and Greece and testing the use of the available space inside the aircraft holds to transport **fresh products**. LP carried out some infrastructure works within the airport area in order to build a hangar for goods and fresh products.



In particular, works carried out consist on: the logistical and operational adaptation of the facilities, including the improvement and upgrading of the electrical system, the creation of a security system, external lighting, and a fibre optic connection to the telephone lines. In addition, specific machinery and equipment were purchased, including an x-ray machine for checking goods, containers for storing and preserving food products, a forklift, a cargo loader and other technical equipment for functionality of hangar.

In this way, LP created a specific area in the airport that allows the store, check and preserve the fresh products that can be transported by flights. Moreover, a cooperation **platform**, involving Public Administrations, research centres and the business sector, has been developed and promoted in order to identify the most innovative and suitable future solutions in the field of **eco-sustainable transport**.

# THE FRESH WAYS PROJECT

## Objective and concept

The general objective of the Project, as infrastructural intervention is to promote **sustainable transport** and **cost effective solutions**, reducing the dependency on trucks which is not an environmentally-friendly way of transport. Therefore, the project aims to improve **commercial exchange** along with **passengers' transport** between **Puglia and Greece**, following its specific objective of establishing new ways to ship fresh products and extend the availability of Puglia-Greece routes covered by passengers' **airlines** in the eligible area.

The **specific objective** is pursued through assessing the use of passengers' airlines to **ship fresh products** in their hold. Furthermore, in line with the triple helix approach, the work promotes a **cooperation platform** between Public administrations, research centres and the business sector in order to identify the potential and pave the way for future eco-sustainable transport investments.

The project aims to enforce an advanced model for **tourism** that is seasonally adjusted, and will have spill over effects on the Adriatic countries within EUSAIR strategy. For this reason, **FRESH WAYS aims to reduce dependency** on road transport for freight by developing interventions which will be:

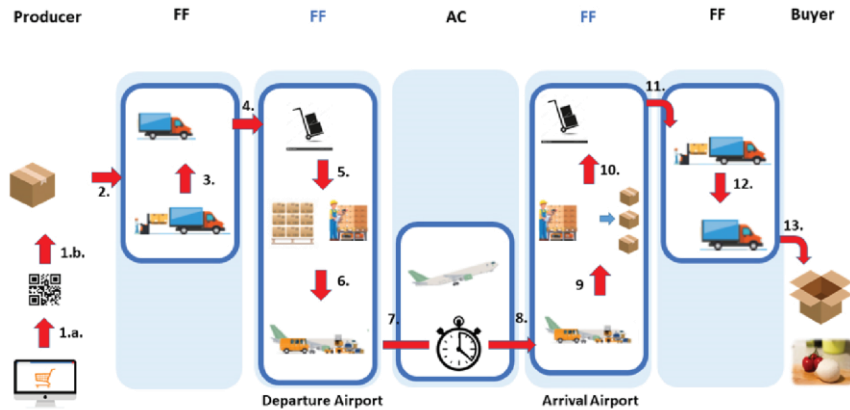
- environmentally friendly by using the case of flights already programmed for passenger transport, with the hold partially used, for the transport of fresh goods;
- intermodal since the supply chain integrates road and airlines modes, both in Greece and Italy;
- cross border by matching demand and supply: the typical local products are sold on the other side of the Adriatic and vice versa;
- integrated since the supply chain is managed to assure all logistics aspects to market and an outstanding flow of shipments from the Italian to Greek producers and vice versa.



# THE FRESH WAYS PLATFORM

## FRESH WAYS method A – Logistic Matching

An application to allow **voluntary traceability** of fresh **food products** along the FRESH WAYS transport **supply chain** was developed. The ICT tool supports Buyers and Suppliers from Puglia (Italy) and Greece that use the innovative FRESH WAYS shipping mode.



This infographic shows **fresh food products transport chain** under the FRESH WAYS project: the set of activities, people, entities, information, and resources that allow the distribution of fresh food **from Puglia to Greece** and vice versa by **land and air transport** modes.

## Components of the FRESH WAYS platform

The **Method A – Logistic Matching** components consist of **three modules** enabling a **B2B approach to logistics** supporting the exchange of fresh food products from Puglia (Italy) to Greece and vice versa. The modules are:

- A solution for **comparing** the FRESH WAYS shipping modality and the traditional one in terms of **price, timing, and CO<sub>2</sub>**, after the demand and supply of fresh food products are matched, through *ad hoc* functionalities.

- An algorithm manageable through WEB interface to **estimate** the **airline shipping price** included in the total shipping price of fresh food from Puglia to Greece and vice versa.

- A solution for **voluntary traceability** of shipped fresh food products.

## The main Buyer's use cases of Method A – Logistic Matching

- The search for a fresh food product among those inserted by the Producers in the FRESH WAYS platform;
- The selection of one product (e.g. pasticciotto pastry);
- The display of a comparison table of the existing shipping alternatives (the FRESH WAYS modality and the traditional one) based on Time/Price/CO<sub>2</sub>;
- The selection of the FRESH WAYS modality;

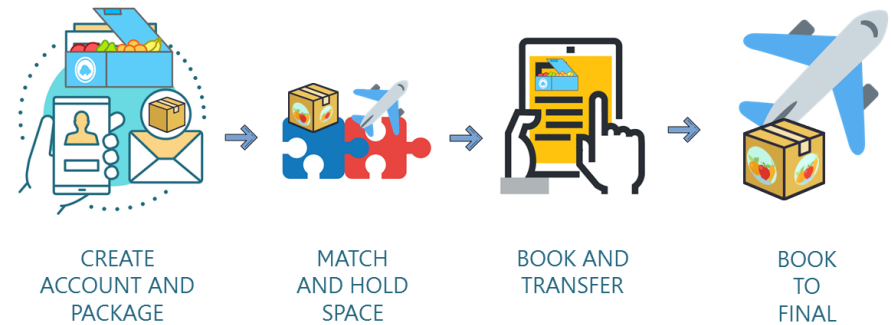
## FRESH WAYS method B – Demand and Supply

A new **service** that facilitates the shipment of fresh products between **Italy and Greece** is established. This service will empower Italian local producers to effectively export and transfer their products with **fresh value** to Greek enterprises and will empower Greek local producers to effectively **export and transfer** their products with fresh value to Italian enterprises. The service will be enabled through an **integrated ICT platform**.



As an option to the end user (seller or buyer), the **platform** will allow him to find the **proper carrier for shipping his fresh products** to the airport of origin in case the user cannot make the transfer themselves. Similarly, following the arrival of the products to the airport of destination, the user will **identify the best carrier** to reach the **final destination**. The core architecture will focus on **matching demand and supply** for freight transport before and after products are transported by passenger airlines, and there will be customized matching criteria that optimize the results from the **proposed matching for the users**.

The services of the platform will support the identification of demand and supply and the booking of the transport. These services will be accomplished in four steps.



*Four Steps of the ICT platform*

🌱 The platform will exhibit traceability features and provide location information to the users, supported by special equipment used by the involved parties of the supply chain. The necessary equipment involves **RFID tags** and **portable RFID readers**, as well as **GPS devices** with tracking capability and the supporting infrastructure.

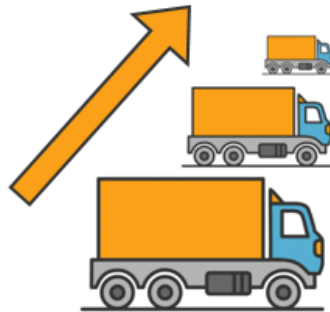
🌱 If the user selects one of the carriers **proposed by the platform**, the carrier will have to pick up the freight, place on it an RFID tag, and read the tag with the portable RFID reader, while recording the initial location of the shipment.

🌱 The carrier will also activate the GPS device or smartphone for tracking his location consistently until arrival at the desired node/hub (e.g. airport) of origin, and for updating the platform accessed by the user. Then, the airport authorities will have to be equipped with compatible portable RFID readers for confirming products arrival.

## RESULTS

The main foreseen results from the implementation of the **FRESH WAYS** project aim on the expected benefits that are listed below.

**Reduce the annual road freight transport** loaded in the eligible area by 333 tons, **avoiding intensive maritime and/or road transport solutions**



**Develop an integrated system** to optimize freight management logistics from/to airports and **reduce environmental impact** of road and maritime transport in the eligible area.



Trading relationships between the neighboring countries, Greece and Italy, will be enriched along with local economies and small businesses in both regions.

**Increase** the number of **travelers** between the two Countries throughout the year, **non-seasonal tourism** and deepen **south-south connections** in the **Mediterranean** area of **Europe**.



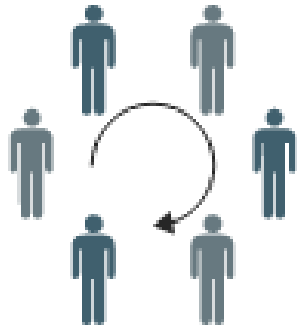
Transfer main project findings (integrated model, project pilot actions, cross-border platform for logistics management, cross-border supply chain model) and possible best practices to other regions with similar needs.



## TRANSFERABILITY

The **FRESH WAYS** project is developed multimodal and intermodal so that it enhances the transferability of its results and benefits at national and regional level, on neighbouring countries that match Greece – Italy's trade relationship status.

Communication between countries is being enriched and different economies are fruitfuling in the scope of transparency as mass use by consumers, producers and carriers is foreseen.

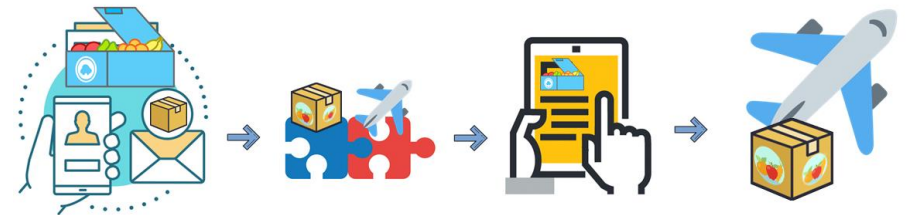


**FRESH WAYS** project's transferability is considered widely accepted since the knowledge base systematizes existing innovative practices, tools, solutions, and methods related to the logistics sector, not only for the intermodal but also on the last-mile transportation of fresh products.

As well, the project aims at triggering behavioral change by transferring existing knowledge obtained within the project's pilot actions and during its preparation, to project stakeholders and target groups.

Furthermore, the platform that was created and put into operation can be adopted and used multimodally by different countries across the European Union, without further operations needed to be done in order to implement trading actions.

Also the project encourages related research and technology transfer to other EU countries that intend to innovate on the logistics sector intermodally and multimodally.



By adopting innovative logistic technologies more and more small businesses will be cherished on the agriculture sector and the promotion of fresh products will have an immediate impact on people's health.

## POLICY IMPLICATIONS

The main goal of **FRESH WAYS** is to promote environmentally sustainable transports, by **reducing freight transport by truck** which is the bulk of worldwide CO2 emissions (about **75%**). EU countries have agreed on a new 2030 **Framework for climate and energy**, including EU-wide targets and policy objectives for the period **between 2020 and 2030**. In this frame the project's purpose creates new horizons.

Also, it is complementary with EU 2020 Strategy about delivering **sustainable** growth, thanks to a decisive move towards a **low-carbon economy**.



The project supports the **modernization of the transport sector** by acting to make it more efficient and environmentally-friendly while promoting **inter-modality**.

**At national level** the project meets the objectives of the main pillars of national **Greek energy planning**, which aim to **reduce national dependence on imported energy**, maximize the penetration of **renewables**, achieve a significant **reduction of GHG** emissions by 2050, and reinforce consumer protection.

The project also relies on the **White Paper** on transport "Roadmap to a single European transport area", National Operational Programme on Infrastructures and Networks, priority axis 2, investment priority 7.b: "**Developing platforms and info-mobility tools for the monitoring and management of freight transport flow**" and on the Apulian Regional Transport Plan – Implementation plan 2015-19 – Air transport – Actions for Freight mobility.

Further, the overall objective of the project aligns well with the national guidelines of the new **Italian** document "**Strategies for transport infrastructure and logistics**" presented by **Ministry of Infrastructure and Transport** (2016) in the Financial-Economic Document, which specify a long-term vision promoting sustainable and safe mobility.

**At regional level**, the project aligns with the second strategic goal of **Western Greece Region Operational Programme** 2014-2019, which focuses on strengthening the productive base of the region through **sustainable development**.





## PARTNERSHIP

**Airports of Puglia S.p.A. (AdP)** manages the entire the airport system in Apulia and constitutes a key factor for the economic and social development of the region. Its favourable position at the heart of a strategic area such as the **Mediterranean constitutes** an added value and an essential advantage in international transport networks.



The **Chamber of Commerce, Industry, Artisanshship and Agriculture of Bari (CCIAA Bari)**

Its function is to promote the general interests of the involved business system and to enforce the development of local economies.



The **University of Salento – Department of Innovation Engineering** develops innovative technologies in many fields such as **Information and Communication Technologies (ICT)**.



The **Preveza Chamber** of Commerce's basic competences can be categorized as follows: **Advisory role** related to the operation of the business environment and to local development. **Administrative role** by conducting expert opinions, arbitrations, granting certificates of origin.



The main purpose of the **University of Patras, Research Committee (ELKE)** is to manage funds from any source, intended for the implementation of research programs, training and development projects and studies, according to the rules of the funding body, the Guide of financing and the existing institutional framework.





## CLOSURE NOTE

**FRESH WAYS** is about promoting **solidarity** through neighbouring countries. **FRESH WAYS** tackles the needs for the producers and consumers of **fresh products** and enhances their **prosperity** in the commercial sector by providing sustainable and more efficient options of transfer. **FRESH WAYS** aspires to trigger **transformation** and change the way that small businesses perform, having long term effects in smart and sustainable growth, while minimizing losses and improving the quality of life.

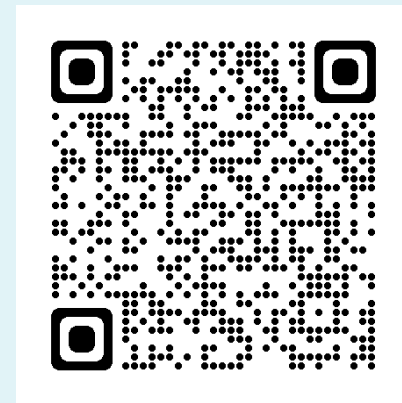


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