LIFE+ FRESH BOX **- LIFE13/ENV/ES/1362**

*a **sustainable** transport solution conserving **quality** of fresh produce, reducing **waste and fuel** consumption*

AFTER-LIFE COMMUNICATION PLAN

The problem: *Within the European Union, around **27 million tons** of EU-produced fruit and vegetables are shipped annually among Member States. The European Commission estimated in 2012 that 50% of most fresh produce is transported by truck (50%), and in lesser volumes by boat (40%), train (<10%) and airplane (0.1%). **Transportation of fresh produce** on roads contributed to approximately **878 million tons of CO_2** equivalent, just in 2012. On the other hand, **food waste** in the EU amounts up to 89 million tons/year, or **170 tons of CO_2** equivalent.*

Transportation of fresh produce is usually performed with standardized containers that do not adapt to the respiration rates and atmospheric conditions of each commodity, cutting commercial shelf life short.

The FRESH BOX Container: A **versatile container** made of a blend between polyethylene (PE) and **biodegradable polylactic acid** (PLA) which guarantees a **controlled atmosphere**. When paired with the **specially designed permeable lids**, different levels of temperature, relative humidity and O_2/CO_2 are obtained for each specific commodity during transport. An innovative **Integrated Sensor Kit measures** and records the atmosphere during transport.

The project aimed to:

- *Develop **a lighter-weight container** made with **environmentally sustainable material** to counter the use of plastic-based and energy-intensive container production.*
- *Demonstrate a **30% increase in shelf life** compared to conventional containers.*
- *Demonstrate a **20% decrease in food waste** compared to conventional packaging.*
- *Obtain **improved organoleptic characteristics** compared to conventionally transported fruit.*

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Through the AFTER-LIFE Communication Plan, project partners will disseminate the results of *the* ***FRESH BOX*** *project* during at least the following 5 years with their own resources. To this purpose, several actions are expected to be carried out at regional, national and European level following three pillars: **Inform, Involve & Inspire**.

Inform

- *Disseminate the projects' purpose, aims and outputs to reach a broader audience, outside the project boundaries, using the material compiled during the project (Layman's Report, project website, Technical Evaluation, Socioeconomic Impact Assessment, etc.).*
- *Encourage new stakeholders to adopt a more sustainable fresh produce supply chain, from farm to table and to further develop innovative technologies in the sector.*

Involve

- *Contribute to policy deliberation in order to continue making reducing food waste a top priority.*
- *Keep key stakeholders updated via* ***Fresh Box*** *communication channels and events.*

Inspire

- *Convince important market actors and end-users to innovate in the fresh produce sector in an increasingly aware society where unsustainable practices are held accountable.*
- *Engage interested parties in committing to reducing food waste and minimizing food transport's environmental footprint by "leading by example".*





Beyond the boundaries of the project, the Consortium has established a **network of interested parties** for **purchasing/commercializing the FRESH BOX** (fresh produce growers, distributors, import/exporters, etc.) from around Europe, Latin America and Africa. Along with the conclusions of the **socioeconomic impact assessment** and the Technical Evaluation report, these results show a **positive interest** from potential end-users and that there is a **market gap** for future take-up of this technology. Partners have seen that a **high demand** for a container to **effectively extend shelf life** exists, since this automatically translates to **more savings and higher income**. In this regard, the project partners have proven that the Fresh Box technology (especially the innovative, tailored and permeable lid) **is very beneficial** in the case of **delicate produce during longer road transport and storage** duration. However, a few barriers still limit the container from being completely competitive in the market and being sold at higher volumes.

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***Further obstacles** to overcome in the project's AFTER LIFE and **provide a close-to-market product** include lowering the manufacturing costs, providing a more adaptable/flexible structure, including other actors from the distribution supply chain and exploiting the container's most significant benefits. Given the **excellent results** during the pilot project and **positive feedback from stakeholders**, partners are very interested in using their own resources and seeking other funds to continue these developments and produce a more competitive product.*

Opportunities for bringing FRESH BOX technology CLOSER TO MARKET

Improving the container's versatility

After the simulations of real transport tests, partners have identified further options to make the container **more efficient in terms of space** (e.g. foldable containers, using the lid in more flexible, plastic bag pallet systems, etc.). Also a simpler version could also be targeted to end-users and direct consumer (households, smaller retail, etc.).

Lowering manufacturing costs

High manufacturing costs overshadow the savings in food loss and environmental footprint. This is a severe limitation to commercial actors interested in the economic savings. However **biomaterials are now less expensive** and the container can be **biobased** but not necessarily biodegradable, making it green and also lowering production costs.

Exploiting the container's clear advantages

The FRESH BOX tests have proven that it is most beneficial for produce with higher added value and/or higher vulnerability to post-harvest or storage during transport and distribution (especially for long distances). Further testing could take place during **longer transports** (e.g. road, boat, air cargo) or with **more delicate products** (e.g. tropical fruits, berries, mushroom). Specializing in this area would make the FRESH BOX more competitive since extending commercial shelf life is crucial to **adding value** for producers and distributors.

Testing in other sectors

Partners do not discard the possibility of using the FRESH BOX for other commodities that are vulnerable to cold chain disruption or require delicate care, e.g. flowers, aromatic plants or even pharmaceutical and cosmetic products, etc.

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