

Refrigerated pickup station – cool lockers (Temperature-controlled lockers for groceries)

D2.1 Template for description of innovative solutions for Short Food Supply Chains (draft prepared by Campden BRI Hungary)

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Template for good practice cases

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Dissemination Level		
PU	Public	
PP	Restricted to other program participants	
RE	Restricted to a group specified by the consortium	
CO	Confidential, only for members of the consortium	

1. Title of the case description

Refrigerated pickup station – cool lockers
Temperature-controlled lockers for groceries

2. Indicate your role in the Smart Food Supply Chain:

- individual member of the chain:
- chain operator:
- network operator:
- association:
- technical, scientific, or management expert:
- advisor:
- policy maker:
- other:

3. Indicate the region (if applicable): local and/or regional supplier network

4. WP2 Cross-reference table

Please indicate with an X in the relevant box of the matrix for which needs and the steps / functions of the supply chain the described innovative solution is applicable

		Individual steps of the SFSC							Short food supply chain as whole						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Needs of the consumers (citizens)	food safety					X	X	X			X				
	food quality					X	X	X			X				
	trust					X	X	X			X				
	ethical aspects														
	accessibility					X	X	X			X				
Needs of the chain actors	fair price														
	increased negotiating power														
	shared use of available resources														
	product development support														
	access to markets and consumers					X	X	X			X				
	access to infrastructure														

1: Farming

2: Primary production

3: Transport

4: Processing and packaging

5: Storage

6: Logistics

7: Sale

8: Product integrity, authenticity, transparency

9: Marketing concepts

10: Food chain management and networking for enhancing cooperation among chain actors

11: Business modelling

12: Policy environment

13: Legal requirements

14: Labelling

5. Short description of the innovative solution

- **Describe the specific need or problem being addressed by the case and please explain what is the novelty of this innovative solution**

The consumers rely on the quality of the goods, but the organization cannot compete with the opening hours of the large supermarket chains and thus they lose their consumers. The consumers just want to pick up their purchased products even on Sundays, on public holidays or in the middle of the night. With the refrigerated pickup stations, the shop can be open on each day in 24 hours and offer to the customers the goods. They just order the food online and pick up them anytime at the lockers station. Uncooled, chilled and frozen goods can be sold/purchased.

It's possible to invest in a collaboration with other small enterprises too and the investment costs can be shared.

- **Describe the enabling function(s) and the practical benefit(s) - (e.g. for which types of problems and opportunities is used and can it be used, and how)**

Benefits for the operator:

- Increase in sales – the shop is open 24 hours every day
- Competitive advantage – the shop offers its customers innovation and more flexibility
- Save time and costs – the operator reduces staff and space costs

Benefits for the customers:

- More flexibility when shopping
- Pick up on each day of the week in 24 hours, not depending on opening hours
- Chilled pick-up boxes, even perishable goods can be delivered

- **Describe the method/procedure/technology/solution implemented. (Please explain, whether the innovative method is a product / service / process / marketing or organizational / management innovation) After completing the description, please indicate, whether this innovation is a technological or non-technological one.**

The modules can be equipped with cooled, frozen and heated compartments and combined as desired. The locker systems are available in different colours - of course also in special colours and your personal design of your organization. The user station consists of a PC and touch screen with a possible multilingual, intuitive user interface and is available integrated and separately. The opening and closing mechanism of the compartments can be done by PIN entry on the touchpad or scanning a barcode, using RFID-code or fingerprint, which method you choose.

1. Your customer orders goods **online** on your website, simply by phone or in person at your store.
2. You prepare the goods and put them into a refrigerated locker at the customer's requested time, **ready for pick-up.**
3. Your customer **collects** the goods conveniently at the cool lockers station– outside the opening hours and without queuing at a till.

technological

non-technological

The refrigerated locker systems used by groceries:



1. Figure: The refrigerated pickup station with the online order system

- **Describe the business, which implemented the innovated solution (size, country, region, location, type of food)**

It is a system, what makes the sell easier for the organization. It's up to the size and the type of the organization which size of the lockers are set up. Farmers, producers and manufacturers of the location can buy the locker system in collaboration, in this way the costs can be shared. It's a kind of method to sell their products anywhere in the region.

Products directly from growers, milk-, meat- and bakery products, jams, wine, artisan foods can be sold.

- **Describe the distribution channels of the product(s)**

The locker system can be set up everywhere you want, it needs only electrical current for function. The products of the farmers and producers can be purchased, where the customers easily can achieve (e.g. in the town/city center, in shopping centers, directly by the enterprise/manufactory, on the field).

- **Describe what makes the innovation work.**

- Fresh fruits and vegetables, meat, cheese, dairy products, wines, etc. can be retailed
- Cooled, frozen, heated equipment as desired by the product, each food can be kept on the right temperature
- Products come directly from growers/producers
- Promotion of the products made/growth by local farmers, producers
- Transport time and distance is shorter (time and costs efficiency)
- It's not region or product specific, so easy to adopt and set up the equipment anywhere
- Local products of the farmers/small producers can be sold in towns/cities (e.g. in locker systems set up in supermarkets, shopping centers)
- The equipment can be set up directly in the near of your field, by your shop, or in a central place of the town/region, in shopping centers, etc. where the electrical current is ensured
- One-time investment, individually or in collaboration with the other members of the food chain
- After the investment of the equipment the operating costs are low (in collaboration much lower)
- The prepared, packed product is put in the box, after that the box is open for you in 24 hours a day
- Smart unlocks
- Easy integration
- Low consumption

- **Describe the specific prerequisites for the business related to the implementation of the method and/or related to the location, method, procedure, solution**

a: List the relevant necessary resources (including the estimated cost) for the specific innovation.

Please list the relevant ones only (list is annexed)

MATERIALS:

- products from the local growers (fresh vegetable and fruits)
- products from the local producers (traditional foods, sausages, hams, cheeses, jams, bakery products, artisan products)

TECHNOLOGY:

- the fixed or the locker system equipment with built-in refrigeration and humidifier system

FINANCIAL

- investment costs (one time) for the locker system
- low electrical costs

b: List the relevant necessary capabilities for the specific innovation.

Please list the relevant ones only (list is annexed)

FOOD SAFETY AND QUALITY:

- policy requirements and legal regulations concerning the small producers is applicable

ACCESS TO MARKETS AND MARKET SUCCESS:

- the system provides good opportunity for the success sale for small retailers, producers and manufacturers.

- **The method/technology was established by**

NAME: Penguin Lockers (Italy), LockTec (Germany)

DEALER AND SERVICE POINTS:

worldwide extended network

APPLICATION AREAS:

Products like: fresh and rare products, processed-, preserved foods and drinks

6. Describe the results, achievements and typical failures

- New opportunity to sell products, it's a kind of sale-channel for farmers, producers and manufacturers
- The sale and the purchase not depend on the opening hours
- 24h/7days refrigerated technology
- Save time and labor force
- It builds a consumer trust: availability every time, in fix place

7. Summarize what makes the case to a good practice for the members of the SFSCs (e.g. lessons learned)

Collaboration, fixed system, “24h/7d” availability, consumer trust, save time and money, opportunity for selling, promotion of the local products and the local market, local products availability in the cities

8. Aspects, methods for transfer of methods for other SFSC members

The locker system can be set up everywhere you want, and the electric power source is ensured. Farmers, producers, manufacturers, retailers can use the system for sale. The system can be easily transfer to anywhere.

9. Recommendations for members of other SFSCs for further applications

The refrigerated pickup stations with the chilled locker system are offered for each farmer, small producer and manufacturer to sell and promote their products. Look and find a perfect place to establish the refrigerated locker system and began to sell the artisan, local products on this new way either in your rural region, or in a shopping center in the city.

10. More information is available at (web), if it is relevant

<http://www.penguinlockers.com/index>

<https://www.locktec.com/en/products/cool-lockers/>

Annex

1. Checklist for necessary resources (tangible and non-tangible):

- materials (access to: raw materials/ ingredients - including volume, land – including size, packaging materials)
- human: labour force: size, knowledge & skills (production, technical, marketing, managerial, ICT, financial, etc.)
- technology: patents, know-how, trademarks, copyrights, trade secrets
- infrastructure, equipment, facilities, - size, minimum volume of production/sales, IT infrastructure
- information, reputation, brand, trust
- financial*

*: estimated cost:

0 - 10 000 Eur
10 001 - 50 000 Eur
50 001 - 100 000 Eur
100 001 - 300 000 Eur
300 001 – 1 000 000 Eur
1 000 000 Eur above –

- other specific necessary resources for the application of the specific innovation

2. Checklist for the necessary capabilities

- **food safety:**
 - basic skills to comply with the EU food safety regulations
 - ability to understand what makes the product safe (the key controls, which ensure the safety of the product – biological, chemical and physical hazards, providing the safety shelf life of perishable products)
 - food safety culture (motivation, responsibility for food safety) and basic skills for the implementation of HACCP

- **food quality:**
 - ability to define the target segments of consumers for SFSCs
 - ability to define the product characteristics which are (tacit) basic requirements for the target segment(s) of consumers;
 - ability to define which product attributes/levels and augmented services represent an added value for the target segments of consumers;
 - food quality culture (motivation, responsibility for food quality);
 - production experiences which help to provide the expected quality reliably, uniformly;
 - ability to provide distinguishable quality which meets the needs of the targeted consumer segment;
 - meeting (local) legal requirements, application of the labelling rules;
 - ability to access the consumer willingness to pay for specific products of SFSCs.

- **trust:**
 - ability to ensure product integrity, authenticity and transparent information for the consumers (including systems, tools);
 - ability to access external trust enhancers (third party certification, internal certification system, participatory guarantee systems);
 - application of the labelling rules and branding (mandatory and voluntary);
 - ability to meet third party certification requirements

- **ethical aspects**
 - ability to understand consumer needs for ethical behaviour related to the specific product(s) of the SFSCs;
 - culture for ethical food production and supply;
 - ability to implement necessary measures to ensure ethical food production and supply;
 - ability to access the consumer willingness to pay for products meeting ethical aspects

- **accessibility to consumers:**
 - ability to organize logistics efficiently and to exploit innovative solutions and distribution channels;
 - efficient, innovative sales methods;

- ability to develop and implement new business models for ensuring access of consumers to products and augmented services;
- **fair price:**
 - collecting marketing information;
 - ability to enhance and maintain cooperation among chain actors including the combined use of available complementary resources, capabilities, competences of SFSCs actors, networking, understanding the principles of food value chain management;
 - ability to define, develop or maintain unique quality of products and augmented services;
 - ability to develop and implement new business models;
 - ability to access the consumer willingness to pay for fair price
- **increased negotiation power:**
 - collecting marketing information;
 - ability to enhance and maintain cooperation among chain actors including the combined use of available complementary resources, capabilities, competences of SFSCs actors, networking, understanding the principles of food value chain management, cooperation culture;
 - ability to define, develop or maintain unique quality of products and augmented services;
 - ability to develop and implement new business models;
- **shared use of available resources:**
 - ability to enhance and maintain cooperation among chain actors including the shared and combined use of available complementary resources, capabilities, competences of SFSCs actors, networking, understanding the principles of food value chain management, cooperation culture;
 - the level of value chain management culture;
 - ability to access the consumer willingness to pay for food with reduced environmental impacts

- **input for R+D:**
 - ability to monitor, research, evaluate, and understand the needs and wants of customers and consumers;
 - ability to develop new products, processes, packaging, preservation techniques, systems and access to new markets, including in other categories;
 - access to innovative technologies; distribution and marketing solutions and methods. management systems;
 - access to local input for R+D covered by other aspects

- **access to markets: and market success**
 - effective promotion, customer service, efficient and innovative sales methods;
 - ability to understand consumer's needs;
 - ability to organise logistics efficiently and to exploit innovative solutions and distribution channels,
 - unique value propositions;
 - ability to develop and implement new business models for ensuring access of consumers to products and augmented services, develop the market accessibility for the suppliers.
 - stock control;
 - ability to access to required raw materials within a restricted geographical area

- **access to infrastructure:**
 - ability to use existing own infrastructure in a focused way to serve consumer needs or to combine it with complementary infrastructures of other SFSC actors, cooperation culture;

- **management:**
 - to implement management systems for vision, planning, implementing), coordinating, controlling, monitoring, continuously;
 - improving; ability to motivate, authorize staff;

- **production, processing:**
 - management system, production experience, specific controlling, monitoring, continuously;
 - willingness to consider and ability to evaluate the adoption of TECI and NTI in the current production processes;
 - any additional specific resources necessary for the application of the specific innovation.