

LOWINFOOD

**Multi-actor design of low-waste food value chains
through the demonstration of innovative solutions
to reduce food loss and waste**

GA No. 101000439

D2.8 Report on demonstration vegetables withdraw software

Type of deliverable: Report - Dissemination level: Public - Due date: 30th April 2024 (M42)

Contact(s) of the deliverable's lead beneficiary:

Luca Falasconi, T 2.1 leader

Luca Falasconi. Email: luca.falasconi@unibo.it

Authors:

Claudia Giordano (LUKE), Luca Falasconi (UNIBO), Nicola Gianluca di Fiore (UNIBO), Roberto Pinghini (RER), Luca Zappi (RER), Renato Finco (RER), Claudia Ziosi (RER), Stefano Callegari (RER), Luca Contrino (AREFLH), Eriselda Canaj (AREFLH).

Acknowledgments:

Cristian Popescu (National University of Science and Technology Politehnica Bucharest),
Claudia Iuliana Oprescu (Valea Topologului Farmers Cooperative).

LIST OF PARTNERS THAT HAVE CONTRIBUTED TO PRODUCE/REVISE THE DELIVERABLES:
LUKE, UNIBO, RER, UNITUS, AREFLH



LOWINFOOD has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000439.

The views and opinions expressed in this document are the sole responsibility of the author and do not necessarily reflect the views of the European Commission.

LOWINFOOD Consortium

N.	Full name of the organisation	Short name	Country
1	Università degli Studi della Toscana	UNITUS	Italy
2	Alma Mater Studiorum Università di Bologna	UNIBO	Italy
3	Sveriges Lantbruksuniversitet	SLU	Sweden
4	FH Munster University of Applied Sciences	ISUN	Germany
5	The James Hutton Institute	JHI	United Kingdom
6	Universitaet Fuer Bodenkultur Wien	BOKU	Austria
7	Tampereen Korkeakoulusaatio SR	TAU	Finland
8	Charokopeio Panepistimio	HUA	Greece
9	Osterreichisches Okologieinstitut	AIE	Austria
10	Elhuyar Fundazioa	ELH	Spain
11	Matomatic AB	MATO	Sweden
12	Unverschwendet GmbH	UNV	Austria
13	Akademie Deutsches Baeckerhandwerk nord GGmbH	ADB	Germany
14	Foresightee (terminated on 30/01/2023)	FOR	Belgium
15	Leroma GmbH	LER	Germany
16	Mitakus Analytics UG	MITA	Germany
17	Kitro SA	KITRO	Switzerland
18	Regione Emilia Romagna	RER	Italy
19	Pianeta Cospea srl	PICO	Italy
20	Cogzum Bulgaria OOD	COZ	Bulgaria
21	Uppsala Kommun	UPP	Sweden
22	Recuperiamo srl	REG	Italy
23	Antegon GmbH	FT	Germany
24	Confederazione Nazionale dell'Artigianato e della piccola e media impresa Associazione di Viterbo e Civitavecchia	CNA	Italy
25	Assemblée des Régions Européennes Fruitières Légumières et Horticoles	ARE	France
26	L.V.L Anonymi Emporiki Toyristiki Kksenodoxeiaki Kataskevastiki Etaireia	BLU	Greece
27	Iridanos-Inabelos Anonymi Etaireiatouristikis Ksenodoxeiai Kai Agrotikes Epixeiriseis	THA	Greece
28	Luonnonvarakeskus (started on 01/11/2023)	LUKE	Finland



Table of contents

Summary	4
Introduction to the deliverable.....	5
1. Introduction to S.I.R. platform.....	6
2. Functions of the S.I.R platform.....	8
3. Methodology.....	11
4. Outcomes of the Demonstration Phase	15
5. Improvements to the platform.....	16
6. Challenges in the Replication phase.....	17
7. Learning and recommendations for future applications	22
Conclusions	23
References.....	24



Summary

This deliverable summarizes the results of task 2.1 of LOWINFOOD, which scales up the use of software created by the government of the Emilia-Romagna Region in Italy, the Common Agricultural Policy (CAP) managing authority, aimed to promote and facilitate market withdrawals in relation to the CAP fund for crisis prevention and management. The system, called S.I.R platform, allows surplus food to be donated to accredited charities and the quantities of donated food to be constantly monitored, while farmers who provided the surplus products get a refund from the CAP mechanism. The system has been in place since 2012 in Emilia-Romagna and gradually expanded to the whole Italian territory by the Producers Organizations - POs that operate at national scale even if their headquarters are in Emilia-Romagna and Lombardia regions. Given its efficiency and transparency, which also enables easy and quick auditing from the competent authorities, the software has been positively evaluated many times both by national and EU policymakers. The aim of Task 2.1 was to replicate the platform in another EU country where such a system was not in place already, by translating it in English for a wider replication potential and testing it. Despite many attempts, it was hard to find a replicating partner: not all the EU countries activated the option of withdrawals, opting for the choice of using insurance instead. Moreover, those who use the withdrawal mechanism already have a platform in place, in some cases at the regional level (Spain), while in other cases at the national level (France). Eventually, AREFLH was able to detect an interesting replicating partner, Romania, that has the withdrawal mechanism in place but, according to official data, does not use it to its full potential. Thanks to the involvement of Cristian Popescu, Associate Professor at National University of Science and Technology POLITEHNICA Bucharest, two farmer cooperative and three third-sector associations (charities) interested in getting to know more about S.I.R. platform, were engaged. A capacity-building training workshop was held in Bologna in October 2023, with all the interested partners.

The demonstration will let the partners know the amount of funds that the farmers would have been refunded by the CAP if the system had been already in place both in past years and the current harvesting season (2023-2024). Since the Ministry of Agriculture of Romania could not be reached, the demonstration is only theoretical, namely, no real money will be delivered at the end of the demo, as it should have been distributed by the Ministry on behalf of the EU Commission. But, given the results of the demonstration, we hope that the policymakers decide to adopt this platform quickly.

We hope that this task will push for the platform to be put into practice officially through the agency that manages the CAP funding in Romania, and with the support of the competent Ministry.



Introduction to the deliverable

LOWINFOOD is a project committed to co-design, together with actors of the food chain, low-waste value chains by supporting the demonstration of a portfolio of innovations in a set of value chains particularly concerned by food loss and waste (fruits & vegetables, bakery products and fish), as well as in at-home and out-of-home consumption. Each of these value chains corresponds to a single Work Package (WP) of the project.

The innovations are selected among promising solutions that have already been developed and tested by some partners of the consortium, with the aim to provide the necessary demonstration and upscale to allow market replication.

The LOWINFOOD consortium comprises 27 entities, located in 12 different countries, and ranging from universities and research institutes to start-ups, foundations, associations, and companies working in the food sector. During the 52 months of the project, the partners are committed to complete 30 tasks and to deliver 60 outputs (deliverables).

The Emilia-Romagna Region has been identified as a privileged partner for its consolidated activities in the prevention of food waste and for the experience gained in the digital system for the management of market withdrawals and donations of fresh fruit and vegetables, which is considered extremely advanced in the European context.

The innovation consists of software to promote and facilitate market withdrawals in relation to the CAP fund for crisis prevention and management: the system allows food to be donated to accredited charities and the quantities of donated food to be constantly monitored.

Thanks to the digital software created by RER, from 2012 to 2020 more than 36 thousand tons of fresh fruit and vegetables have been withdrawn from the market and distributed to charities operating in Emilia-Romagna under the umbrella of the crisis prevention and management programme, with more than 130 thousand distributed throughout Italy. One of the project's objectives is to transfer this successful model, namely the use of the Regulations for withdrawals based on a real-time and transparent software, to other European regions where it is not in place or is not digitalized to reduce food losses and waste: one of the European Union's priorities according to Farm to Fork and pledge to the Agenda 2030.

1. Introduction to S.I.R. platform

The S.I.R. platform (Withdrawal Information System) is an online IT tool created for the management of "Withdrawals from the Market" (art.33, paragraph 3, first subparagraph, letter f and art.34, paragraph 4 of Reg (EU) 1308/2013) and to facilitate contacts and collaboration between producer organizations (POs) and charitable organizations and institutions (as provided for by art.46, paragraph 2, subparagraph 5 of EU Reg 2017/891).

This Intervention Measure is one of the eight Crisis Prevention and Management measures the European Union has made available to POs to address Market Crises (e.g. surplus production).

The EU (art. 45 of EU Reg. 2017/891) compensates POs for the quantities of fresh fruit and vegetables withdrawn from the market (to prevent price collapses) and intended for human consumption (the most desirable destination) or "other destinations" (biogas, animal feed, composting, etc.).

In addition, the EU encourages distribution to charities, seeking to minimize the destruction of fruit and vegetable surpluses, by compensating the PO with three items that are the same across Europe:

1. Refund of the product
2. Reimbursement of sorting and packaging costs
3. Transport cost reimbursement (from the PO's processing center to the charity)

For products collected and used in "Other destinations", only the value of the product is reimbursed (much lower than the products donated for human consumption to charities).

Box 1-EU Regulations related to the SIR platform

The Regulation (EU) No 1308/2013 of the European Parliament and the Council of 17 December 2013 establishing a common organization of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1231/2007

The Commission Delegated Regulation (EU) 2017/891 of 13 March 2017 supplementing Regulation (EU) No 1308/2013 of the European Parliament and the Council with the regard to the fruit and vegetables and processed fruit and vegetable sectors and supplementing Regulation (EU) No 1306/2013 of the European Parliament and of the Council with regard to penalties to be applied in those sectors and amending Commission Implementing Regulation (EU) No 543/2011. Commission Delegated Regulations (EU) 2018/1145 of the June 2018 amending Delegated Regulation (EU) 2017/891 as regards producer organisations in the fruit and vegetable sector.

The Commission Implementing Regulation (EU) 2017/892 of 13 March 2017 laying down rules for the application of Regulation (EU) No 1308/2013 of the European Parliament and of the Council with regard to the fruit and vegetables and processed fruit and vegetables sector. Regulation (EU) No 1308/2013 has replaced Council Regulation (EC) No 1234/2007 and lays down new rules concerning the fruit and vegetables and processed fruit and vegetables sectors. It also empowers the Commission to adopt delegated and implementing acts in that respect. Those acts should replace some of the provisions of Commission Implementing Regulations (EU) No 543/2011. Such regulation is amended by Commission Delegated Regulation (EU) 2017/891: Commission Implementing Regulation (EU) 2018/1146 of 7 June 2018 amending Implementing Regulation (EU) 2017/892 laying rules for the application of Regulation (EU) 1308/2013.

2. Functions of the S.I.R platform

Actors of the system

- POs and OPAs.
- Controlling officers, namely those who manage CAP funding: in some cases, they are regional employees, who can be coupled with other controlling bodies; in some cases, are national employees- like those from AGEA in Italy; each EU Member State has its way of managing CAP funding, so controlling officers can be either national or regional employees.
- Beneficiary bodies (or in the case of products not destined for human consumption to charities, recipient bodies: biodigester, distillery, etc.)
- Operators with a consultation profile only (Mipaaf, Agea, EU Commission, NAC Carabinieri, OLAF)

Benefits of the platform

- Complete dematerialization (i.e., transfer to a digital format) of all documents (only the weighing slip remains).
- Faster communication compared to paper documentation.
- The system boosts the charitable distribution of the products (or other secondary uses) compared to the destruction of the product, as it makes the product available in the shortest possible time to all the charities/beneficiaries potentially eligible to receive the product.
- A higher transparency in all phases of the collection operations supported by, thanks to the online, real-time upload of information about quantity and location of surplus products, and later about their destination and timing for transport, upload and unload of goods. The possibility for monitoring authorities to check and intervene if something doesn't correspond to what was declared is guaranteed thanks to this system. In case this Regulation is based only on a paper model, as it was previously or it can be in some countries where any software is in place, makes the auditing much more complicate and inefficient, as the auditor authorities need to call- and basically pre-alerting- all the actors to retrieve the information about location of upload and unload, etc., as it is possible to follow them essentially in real-time even from different locations.
- The possibility to provide access credentials with consultative profile to the monitoring authorities. E.g., the EU Court of Auditors and the EU Commission, in their audits of the Emilia-Romagna Region have expressed a favorable opinion on this management and defined the platform as "robust".

- Savings in monitoring and control costs, as a lot of working time is saved thanks to the digitalized tracking of the goods that travel from Pos to charities.
- All steps and requirements are certified and controlled.
- Reimbursement calculations are made automatically.
- Calculations of compliance with the 5% limits on withdrawable products are monitored by the system.
- All data on the platform goes into a database available to the public administration, POs, and recipients.
- All the data that POs must send to Brussels through their Paying Agency can be consulted directly in the relevant section by EU officials (online at any time of the year).
- The flexibility of the platform in managing even "extraordinary" withdrawal interventions, as in the case of the Russian Embargo (EU Reg. 932-2014, EU Reg. 913-2014, EU Reg. 1031-2014, EU Reg. 1371-2014), where the EU made additional resources available to member states to allocate to products withdrawn from the market, in addition to the ordinary regulation.

Access and replicability requirements

To donate the product: be a recognized Producer Organization (PO) or Association of Producers Organizations (APO) as provided for by EU Reg. 2013/1308. Figures 1 and 2 show the number and nationality of POs and APOs in the EU.



Figure 1-Number of organizations (PO) officially recognized for donation in the EU. Retrieved from Areflh General Assembly, 21 March 2024, DG Agri.

Number of POs (incl TPOs) in the EU(27) in 2022

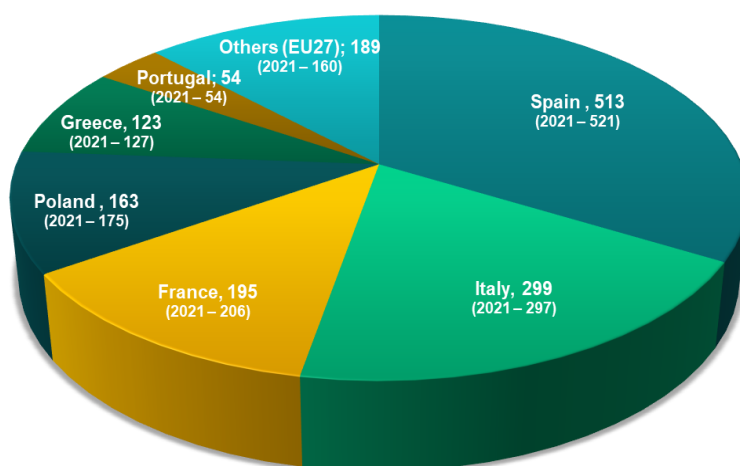
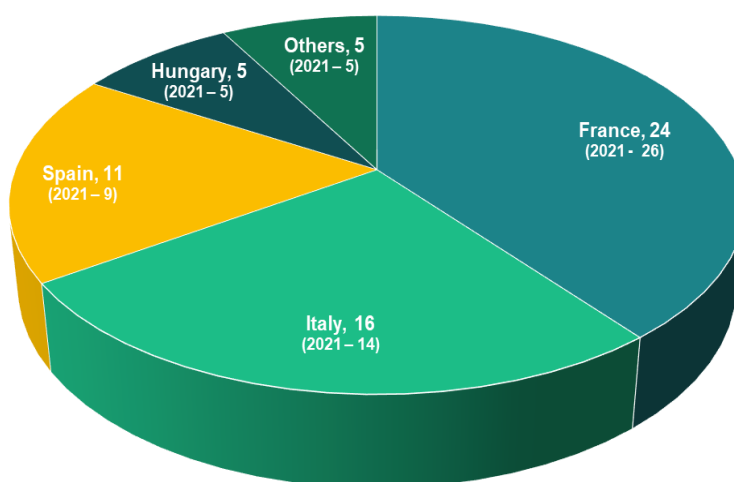


Figure 2-Number of organizations (APO) officially recognized for donation in the EU. Retrieved from Areflh General Assembly, 21 March 2024, DG Agri.

Number of APOs (incl ATPOs) in the EU(27) in 2022



To receive the product: It is necessary to be registered as a Charitable Institution or a Recipient Institution (other destinations: Biodigester, composting etc.) recognized by the Public Body (Region, State etc.).

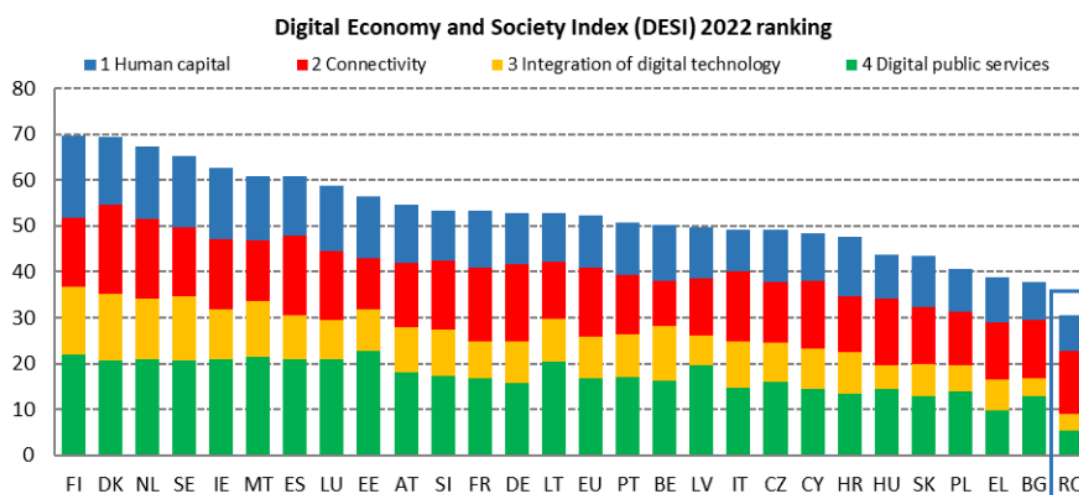
For Supervision: be recognized as an authorized Control Body of PAC CAP funding expenditure (at Regional, State or EU level).

3. Methodology

Rationale: why Romania

In contrast to countries with a high rate of organization in fruit and vegetable production (namely, a strong presence of PO and APO), countries with a low rate of organization require a solution like the SIR platform due to a lack of locally conceived management tools. Romania has been detected as one of these countries, considering that it hosts many small-size farms and cooperatives but no POs; the digitalization rate in the SMEs is particularly low, and the overall rate of digitalization of the country is the lowest in the entire EU [Fig.3] (EU Commission, 2022).

Figure 3- Digitalization Rate in the EU according to the DESI Index, 2022.



According to the latest update of the EU Commission (2023), Romania shows a predominantly rural landscape, with 87% of its territory outside urban areas. Agriculture covers 57% of the land, while forests cover 30%. Despite an unemployment rate of 7% as of 2012, the country's population nears 20 million, with 45% residing in rural regions. Notably, agriculture contributes significantly to Romania's economy, comprising 6.6% of Gross Value Added (GVA), surpassing the EU average by over threefold.

Romania hosts approximately one-third of all farms in the EU, 3.9 million holdings overall. However, the sector must challenge lack of competitiveness and needs for restructuring. The farming landscape is characterized by a stark contrast between large-scale companies (7%) managing most of the agricultural land (70%) and numerous small holdings, often subsistence-based, for the remaining 30% of land. Despite its potential, Romania's average farm size and productivity lag the EU average.

Agriculture remains a primary employer in Romania, accounting for 30% of total employment, among the highest values in the EU. However, the sector faces issues such as an ageing workforce and low educational attainment. Consequently, there's a pressing need to upgrade skills and promote economic diversification in rural areas to alleviate poverty and enhance livelihoods. To this end, the POs may be of help in promoting formal cooperation within value chains, push innovation adoption and increase knowledge about CAP funding opportunities for small farmers (Fałkowski & Ciaian, 2016).

Although regional administration in Romania (Counties) does not have responsibilities for agricultural affairs and the management of surplus production, farmers cooperatives still expressed an interest in digitizing data regarding the distribution of products to charitable organizations. Indeed, such farmer cooperatives in Romania already donate surplus food but with no return in economic terms and not under the EU Regulation. So, by applying the regulation for withdrawals and using the SIR platform, the farmers could have a reimbursement when donating their surplus, thus recovering both the costs incurred for the production that is not sold and the costs associated with donation activities, such as sorting, packaging and transports to charities. Moreover, donations –for purposes other than human consumption, such as distillation, and biodigestion- would be incentivized, also reaching out to beneficiaries who are not necessarily in direct contact with the POs. As highlighted, the entire process could be easily audited thanks to the digital, real-time update of information.

Scope of the demonstration

The software demo has been translated into English (D2.1) and it has been fed with the data collected by the stakeholders (see *users of the demonstration*). Specifically, the replication consisted of a simulation that provided info about the funding that the EC would have granted to the PO if the platform were in place (baseline), assuming that our stakeholder was a PO and not a cooperative, while an actual, monthly donation from the cooperative to charities is foreseen for the monitoring phase, which will be associated to the use of the platform.

To this end, data about food losses have been collected from the specific farming cooperative engaged, both for the years 2018-2022 (baseline dataset, annual data) and 2023-2024 (monitoring, annual and monthly data) through the questionnaires designed in WP1 (D1.1), specifically translated into Romanian for this data collection.

The data has been inputted into the platform and three scenarios have been produced about how much the farmer cooperative (OP in the scenario) would have been refunded by the EU if:



Hypothesis 1 (H1): All the surplus food was donated for human consumption



Hypothesis 2 (H2): Half of the surplus food was donated for human consumption and half for other uses



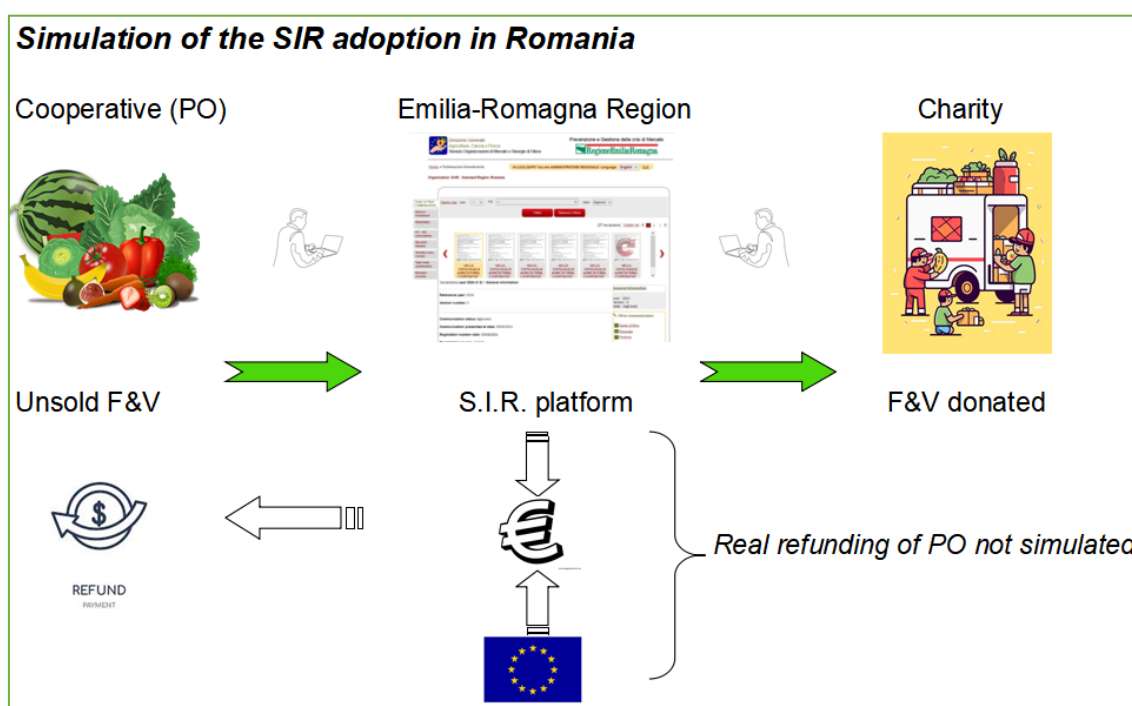
Hypothesis 3 (H3): All surpluses had been sent for other uses (not human consumption)

In all three cases, two assumptions were necessary: 1. the farming cooperative was a PO; 2. the charities were located within 750 KM distance from the PO and the transport has been fully refunded by CAP (as foreseen from the Regulation).

Moreover, another goal of our demonstration was to show how the platform and the regulation work when in place. This demonstration was organized in different steps: some virtual meetings were held in 2022-2023 and an in-person capacity-building meeting was held in Bologna in October 2023, where the actors engaged for the replication were instructed about how to use the platform and took part to an on-site demonstration of

surplus food donation from a PO to a charity in Emilia- Romagna. In the end, a complete simulation of the SIR adoption in Romania has been created, except for the (real) refunding of farmers (Fig. 4). The stakeholders (the cooperative and the charity with the support of the University as a mediator) will monitor their monthly food donation in 2023-2024 and communicate this data to the RER, to produce the three scenarios.

Figure 4- Simulation of the S.I.R. adoption in Romania



Users of the demonstration

The demonstration engaged three crucial actors: the University of Science and Technology Politehnica Bucharest, which served as a mediator and networker in the country; Valea Topologului farming cooperative, from the producers' side; "Save the Children" Arges Branch as the third sector. To make a real demonstration, a PO would have been necessary and the Ministry of Agriculture, managing the CAP funding and specifically the funding related to the "Withdrawals from the Market". However, no POs exist in Romania, but nothing prevents them from being created, therefore Valea Topologului farming cooperative started the process to be recognized as a PO.

4. Outcomes of the Demonstration Phase

The analysis of the food waste recovery that could have been treated under the Regulation will be carried out in task 1.2 (evaluation of efficacy of innovations), based on the monthly donation that the cooperative has made in 2022-2024. Results will be part of the Deliverable 1.6 “evaluation of innovations” (due in October 2024).

In this deliverable, the theoretical reimbursement related to donations declared for the years 2018-2021 is provided (Table 1).

Table 1- VALEA TOPOLOGULUI AGRICULTURAL COOPERATIVE: Surplus food products declared for the years 2018-2022, and scenarios of reimbursement from CAP mechanism if SIR were in place.

Description	Strawberries	Plums	Apples	Pears	Sum
Product (Tons)	200	200	100	100	600
Unharvested (Tons)	2	2	1	2.2	7.6
Harvested but not sold* (Tons)	0	10	20	3	33
Free distribution for human consumption (Eur/kg)	1.105	0.376	0.241	0.181	-
Other uses (Euro/Kg)	0.829	0.282	0.181	0.254	-
Sorting and packaging	201.1	159.6	201.1	187.7	-
H1 (Eur/average per year)	2613.6	1071.2	442.7	1160.0	5287.5
H2 (Eur/average per year)	1721.4	676.6	266.6	720.1	3384.7
H3 (Eur/average per year)	829.3	282	90.5	280.1	1482

* out of the scope of EU Regulation. Only Unharvested products have been considered for the estimation of the reimbursement.

In the timeframe 2018-2022, assuming that Valea Topologului Agricultural Cooperative was a PO, it would have received 5287.5 euros per year if all the unharvested food was given to donation for human consumption (H1). In H2- namely, if half of the unharvested quantity was donated for human consumption and half for other purposes, the revenue would have been 3384.7 euros per year. In the third scenario, where all the unharvested products go for other purposes (no human consumption), the reimbursement would have been 1482 euros per year.

Other outcomes

The actors engaged get to know about the EU Regulation and the fact that they could receive some compensation for the surplus food, under certain conditions. They expressed their willingness to create a PO and do lobbying action on competent authorities. Other farmers cooperatives from Romania got to know about the platform and the project and asked to be included as stakeholders. Due to time constraints, they were not considered for the data collection but will be informed about the main steps and results of the project Lowinfood.

During the partners' research, a question arose about the possibility of donating food in other EU countries, i.e., bordering countries, if there are charities ready to collect the donation. This option is more sustainable in some cases, where the donation has the chance to travel only a few kilometers away instead of many hundreds: any region in the North of Italy, for instance, could be more fitting to donate to any bordering country rather than to the South. However, a specific bilateral agreement between countries would be needed, as different public administrations should be able to communicate and act consistently for monitoring. Bilateral agreements are urged in this sense, especially given the change in the EU Regulation Ue 2022/126, paragraph 1 art 25, that foresees financial coverage for the transport of products only up to 750 km.

The activities of the S.I.R. platform, during the simulation with the partner, have raised the curiosity of new entities that will possibly expand the network of actors and collaboration opportunities (new EU projects).

Moreover, during the first meetings, an improvement of the platform was proposed and approved.

5. Improvements to the platform

The S.I.R. platform, as described, is utilized by the Emilia-Romagna Region to manage market withdrawals of surplus produce for free distribution within the Fruit and Vegetable OCM sector, in accordance with EU regulations aimed at preventing market crises. This platform is fostering new developments, shaping into an organizational model for the redistribution of surpluses to needy families in a more efficient and widespread manner, giving rise to the 'Solidarity Logistics' project.

The Solidarity Logistics project is spearheaded by the Centro AgroAlimentare (CAL) of Parma, under the coordination of the Emilia-Romagna Region, and in collaboration with Emporio Solidale Parma, the leading entity of a network comprising 30 non-profit associations in the Parma area, province, and neighboring regions (Piacenza and Reggio Emilia). Since 2021, around 2,000 tons of fruit and vegetables have been distributed free of charge to 10,000 people in need.



The Centro AgroAlimentare of Parma has established a dedicated organizational model, featuring a platform for the unloading, storage, assembly, and reloading of goods intended for beneficiaries. This completes the distribution chain, enabling the associations involved to receive the goods. Currently, distribution occurs across multiple municipalities in the area, with local associations delivering directly to families.

The Emilia-Romagna Region has acknowledged the social and environmental significance of the initiative, formalizing actions for food recovery, social solidarity, and the fight against food waste through Regional Law no. 18 of 28.12.2023, which provides funding of EUR 200,000 per year for the years 2024-2026, to support projects and initiatives aimed at contributing to food recovery for social solidarity purposes.

Key players in this project are the regional agri-food centers, which contribute with their expertise in handling large quantities of products and their facilities, thus optimizing the process. Following the example of the Parma CAL, the Rimini CAL has also initiated this solidarity logistics process, and other agri-food centers in the Region intend to follow suit as logistics platforms to organize and host surpluses (both generated within the centers and made available by the regional project) in the redistribution process to families in need.

The model offers several advantages, including a significant increase in the quantity of distributed products, streamlined loading/unloading operations, reduced travel distances, the option to store fruits and vegetables at controlled temperatures if immediate distribution is not feasible, particularly during summer, cost savings in monitoring and control expenses, as all steps and fulfillments are certified and monitored.

The S.I.R. platform serves not only as an IT tool facilitating all steps but also as the key instrument for implementing this model of solidarity-based logistics, applicable and adaptable in various contexts.

In summary, the solidarity logistics project utilizing the S.I.R. platform as a support tool operates as follows: the agri-food center offers its facilities and expertise to manage the flow of free products supplied by the POs and their subsequent distribution to the non-profit associations within the network, with the Emilia-Romagna. The EU covers transportation costs to the collection points through the CAP crisis management measure, which is managed (including controls) by the Emilia-Romagna Region to facilitate and enhance the logistics and distribution of products within the territory.

6. Challenges in the Replication phase

The replication of innovation "without budget" for replicators has certainly undermined the possibility of completing the work comprehensively. Some interviewees have expressed that they lack sufficient time and resources to engage in this activity, despite being informed that it would not be overly time-consuming, as all efforts would be coordinated by UNIBO and



RER. The impact of COVID-19 has heavily disrupted the workflow of this task, as the initial months of the project were intended to involve the search for replicators through traditional methods such as in-person meetings and networking in Brussels facilitated by Areflh. The search for replicators via email/phone has not been as effective as in-person engagement, resulting in some "lost" months due to this limitation.

A few remarks may pop up during the last phase of the demonstration, which will come to an end in June 2024. Such remarks will be added in a specific box of the deliverable about "efficacy of innovations". In this paragraph, we will list those challenges that have been already detected to be considered and addressed for future replications of the innovation.

General issues

The first issue encountered is the lack of knowledge of the European Union's community Regulations regarding withdrawals, which form the basis of the functioning of the information system. In countries where withdrawals are present and widely used (Spain and France, as well as Italy), similar software already exists. However, in places where withdrawal mechanisms are not yet in effect but could be, we often have encountered stakeholders (POs and officials) not prepared on the topic, with a low interest in getting to know more. It is also not immediate to explain how the withdrawal mechanism works and at which conditions. At first glance, many potential stakeholders tended to assume that the platform was only a digitalization for food surplus donations.

Some stakeholders did not perceive the immediate benefit of testing the platform: in the case of a PO dealing with mushrooms, for instance, the representative person showed enthusiasm, but the farmers were not interested, as the test was labeled as time and energy-demanding and the benefits were not perceived.

Last, it is important to highlight that donation for human consumption is often hindered by the absence of a well-structured food donation system. In other words, not all charities have the proper infrastructure to manage and store large quantities of fresh products that come with the withdrawals, such as refrigerated rooms, forklifts, sufficient space to let the trucks in and unload the products (see Fig. 5 & 6), nor the formed personnel available all the time, as most of the associations rely on volunteers. This issue emerged during the assessment phase of possible replicators: if Italy, despite being one of the countries that make the most use of this Regulation, shows this limitation, what about countries that are not experienced at all, such a possible replicating country? To this end, the idea of improving the donation system by relying on professionals and appropriate infrastructure emerged, and it was translated into a new version of the project (presented in paragraph "Improvements to the platform").

Figure 5 - Unloading operations of surplus fruit for donation aimed at human consumption.





Figure 6- A delivery of surplus product to the Logisitics center



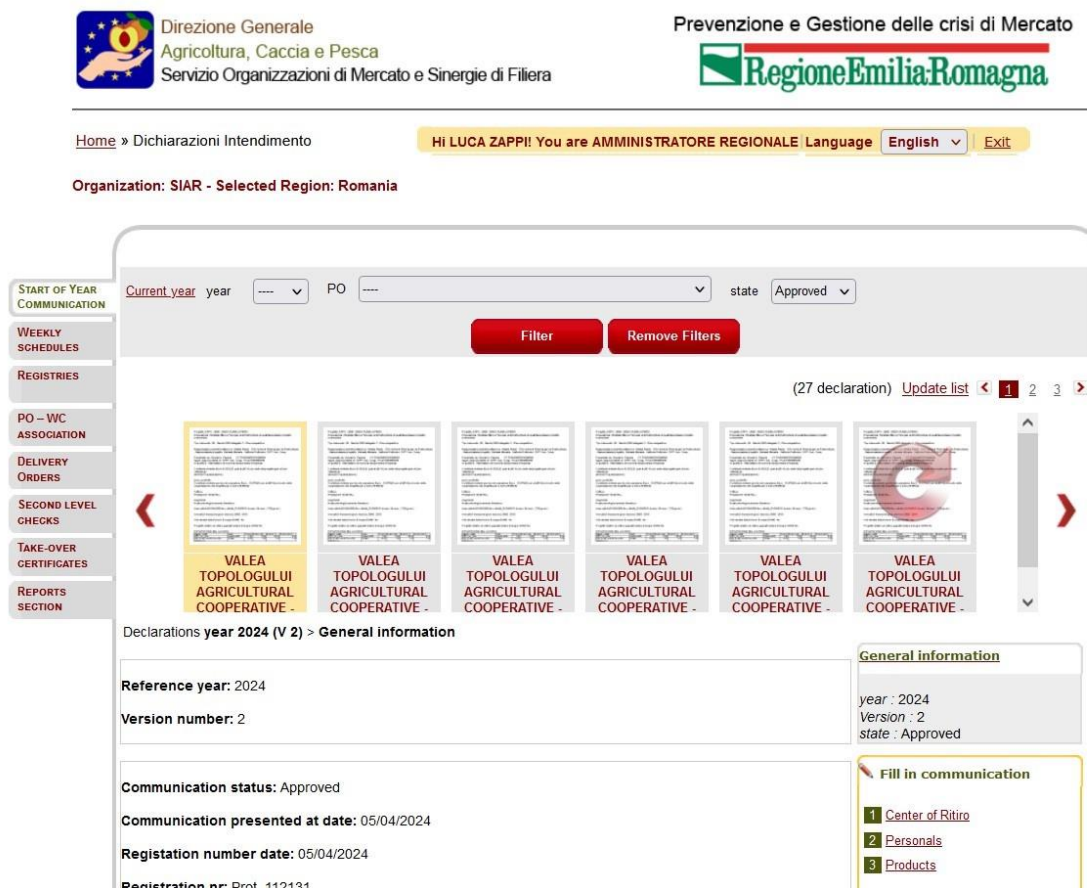
Specific issues emerged in Romania during our demonstration

In Romania, specifically, there are no POs and APOs. Nothing is preventing their creation, and this would benefit agricultural companies from accessing these funds (and others) of the CAP. One of the objectives of our demonstration is precisely to raise awareness among agricultural companies/cooperatives and charities about the benefits that would be obtained if the Regulation were applied.

The software can also function without relying on Regulation- in which case it would be a normal real-time updated distribution platform, facilitating donations as a better option than destroying the unsold product. Even for the simplest version, namely as a digital platform to monitor donations without any economic compensation for farmers, the Romanian partners showed interest. However, without an EU Regulation application, farmers do not have access to any CAP funds for the loss of income they have incurred.

Although the computer platform is "immediate" and simple, with a clear user interface (Fig. 7), it has been difficult for the farmers to find the time and motivation to use it. On the one hand, the lack of economic benefit has undermined motivation; on the other hand, indeed, the task of inputting the quantities to be donated in real-time is usually entrusted to POs, which have staff dedicated to managerial and digital duties: even in the case of RER, this function is not performed by individual farmers or cooperatives but by the POs and APOs staff persons, who are paid and skilled for it. Moreover, English was not the first language in the cooperative and it was almost impossible to input data on the laptop in real time, as employees were busy in harvesting and other farming operations. To this end, it is warmly suggested that, for a follow up test, the platform gets translated into the native language of the users and a mediator is always needed. In any case, the same problems can be encountered in Italy when the users are the beneficiaries (third-sector associations): despite SIR is already operating since more than ten years, charities often rely on volunteering work anyway, so inputting information on the portal and being available for the unloading operations is not as easy as it is for Pos, who rely on hired personnel. In the case of the present replication, the University partner mediated to collect and obtain the necessary data for the simulation (baseline and monitoring) and assisted in delivering the questionnaires to the farmers' cooperative. Overall, it is necessary for farmers to organize themselves in a PO if the full implementation of SIR is of interest. The PO should be recognized by the Ministry of Agriculture to access the CAP funding. In this case, specific personnel for bureaucratic and administrative tasks could be hired.

Figure 7- A screenshot of the SIR platform for inputting data from Valea Topologului Agricultural Cooperative.



Direzione Generale
Agricoltura, Caccia e Pesca
Servizio Organizzazioni di Mercato e Sinergie di Filiera

Prevenzione e Gestione delle crisi di Mercato
Regione Emilia Romagna

Home » Dichiarazioni Intendimento

Hi LUCA ZAPPI! You are AMMINISTRATORE REGIONALE Language English Exit

Organization: SIAR - Selected Region: Romania

START OF YEAR COMMUNICATION

Current year year PO state Approved

Filter Remove Filters

(27 declaration) Update list 1 2 3

VALEA TOPOLOGULUI AGRICULTURAL COOPERATIVE -

VALEA TOPOLOGULUI AGRICULTURAL COOPERATIVE -

VALEA TOPOLOGULUI AGRICULTURAL COOPERATIVE -

VALEA TOPOLOGULUI AGRICULTURAL COOPERATIVE -

VALEA TOPOLOGULUI AGRICULTURAL COOPERATIVE -

VALEA TOPOLOGULUI AGRICULTURAL COOPERATIVE -

Declarations year 2024 (V 2) > General information

Reference year: 2024

Version number: 2

Communication status: Approved

Communication presented at date: 05/04/2024

Registration number date: 05/04/2024

Registration nr: Prof 112131

General information

year : 2024
Version : 2
state : Approved

Fill in communication

1 Center of Ritiro
2 Personals
3 Products

Technical issues

The software is based on geo-localization, which relies on ISTAT codes. The ISTAT code is a numerical identifier assigned for statistical purposes to Italian administrative units by the National Institute of Statistics. This code should be adapted to the Country of the replication. In the demonstration phase, a fake ISTAT code was associated with Romania, so that the system could work. The software is open source and can be donated for free, so further replications in the country could be directly adapted to the local context during the replication.

The entities (POs, POAs, and third-sector charitable associations) are identified by their fiscal code, which would need to be adapted in the replication country.

7. Learning and recommendations for future applications

- In some regions/Member States the withdrawal mechanism is used sparingly because production usually does not result in a massive amount of surplus product. However, farmers still have something to gain from the application of the Regulation, and something to lose due to its absence. As seen in the simulation of scenarios with reference to the baseline dataset 2018-2022, if the Valea Topologului Agricultural Cooperative was an OP and SIR was in place, it would have received between 5287.5 euros (best case scenario, namely all unharvested products donated for human consumption) and 1482 euros (worst case scenario, no surplus product given for human consumption but only for other purposes). The mechanism should be pushed by competent authorities and stakeholders (EU Commission/DG AGRI, third sector at the national level, and EU Federation of Food Banks, farmers).
- In order to adopt the platform, it is essential to have POs and APOs recognized by the EU Commission; demand and use the CAP funding for the Regulation on withdrawal (up to the Member State, during the phase of drafting of the National CAP Strategic Plan); engage a list of charities able to receive the recovered food.
- In order to adopt the platform, it would be desirable to reduce the digital divide among farmers; find infrastructures to manage large quantities of products (like in the Solidarity Logistics project); delivery a capacity building program for farmers to illustrate the use and advantages of the platform. To this end, additional funding –either CAP or Structural Funds- could be used.
- In countries where market withdrawals are not practiced, the platform could be adapted to other needs (e.g., tracking the distribution of unsold or surplus products never marketed but distributed to charitable organizations). This is also the case in Romania, where stakeholders have shown interest in this new function of the platform.
- The simulation of SIR adoption in Romania suggested some valuable insights about context-related issues that may arise. The next step should be the on-site pilot test once PO has been created. As in the case of our pre-test, on-site piloting can provide valuable insights into the platform's performance, usability, and scalability before full-scale replication. The engagement of the Ministerial level is essential to the next step, as there is no point in piloting the platform if CAP funding is not involved unless to create a digital platform to track and promote donations from farmers but for free.
- A general issue that arises is related to the transport over 750km under the new regulation. Recognizing the environmental rationale behind the Regulation, which aims to avoid using agricultural funds for financing excessively long-distance and high CO₂-emitting transports, it is worth noting that some countries, due to their geographical morphology, often require such long-distance goods movements, as is the case with Italy and its geographical length. Therefore, it is important to allow the possibility of

transporting surplus produce beyond the 750 km limit, while ensuring financial coverage for transportation. This coverage could be obtained through co-financing from the relevant DG, such as those responsible for welfare or health. Any more sustainable alternative should be prioritized, such as transboundary agreements where possible. However, farmers who cannot donate within less than 750 km should not be penalized.

Conclusions

In conclusion, the S.I.R. platform presents a promising solution for the management of market withdrawals and the facilitation of collaboration between producer organizations and charitable institutions. Despite encountering challenges during the replication phase, such as limited budget for replicators and disruptions caused by COVID-19, valuable insights have been gained. The demonstration phase highlighted the need for greater awareness and engagement among stakeholders, particularly in Member States where market withdrawals are not common. Additionally, adapting the platform to other needs, such as tracking the distribution of unsold or surplus products, could further enhance its utility.

Looking ahead, on-site pilot testing and engagement at the ministerial level are crucial steps for successful platform implementation, alongside the establishment of producer organizations (POs). POs play a vital role in overcoming barriers to improve productivity and cooperation among farmers, offering services like capacity building, knowledge sharing on CAP funding, and support to bridge the digital divide. As demonstrated by the enhancement of the S.I.R. platform, cooperation among producer organizations can improve organizational features, such as centralized distribution points, facilitating food donations across space and time.

Last, considering the environmental rationale behind regulations regarding transport distances, it remains important to explore options for transporting surplus produce beyond the 750 km limit, while prioritizing more sustainable alternatives and ensuring financial support for farmers. Overall, the S.I.R. platform offers a valuable tool for addressing market crises and promoting more efficient and transparent management of agricultural surplus.



References

Commission Delegated Regulation (EU) 2017/891 of 13 March 2017 supplementing Regulation (EU) No 1308/2013 of the European Parliament and the Council with the regard to the fruit and vegetables and processed fruit and vegetable sectors and supplementing Regulation (EU) No 1306/2013 of the European Parliament and of the Council with regard to penalties to be applied in those sectors and amending Commission Implementing Regulation (EU) No 543/2011. Commission Delegated Regulations (EU) 2018/1145 of the June 2018 amending Delegated Regulation (EU) 2017/891 as regards producer organizations in the fruit and vegetable sector.

Commission Implementing Regulation (EU) 2017/892 of 13 March 2017 laying down rules for the application of Regulation (EU) No 1398/2013 of the European Parliament and of the Council with regard to the fruit and vegetables and processed fruit and vegetables sector. Regulation (EU) No 1308/2013 has replaced Council Regulation (EC) No 1234/2007 and lays down new rules concerning the fruit and vegetables and processed fruit and vegetables sectors.

EU Commission, Digital Economy and Society Index (DESI) 2022 Romania, [Link](#), last accessed 24.04.2024

EU Commission, Factsheet on 2014-2020 Rural Development Program for Romania, [Link](#), last accessed 25.04.2024

EU Commission, Farm, to Fork Strategy, [Link](#), last accessed 25.04.2024

Fałkowski, J. and Ciaian, P. (2016) Factors Supporting the Development of Producer Organizations and their Impacts in the Light of Ongoing Changes in Food Supply Chains; EUR 27929 EN; doi:10.2791/21346.

Regulation (EU) No 1308/2013 of the European Parliament and the Council of 17 December 2013 establishing a common organization of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1231/2007

UN General Assembly: Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015. [Link](#)

