

# 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**

## D6.4 Practice Abstracts first batch

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## 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	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 Ksenodoxeiakas Kai Agrotikes Epixeiriseis	THA	Greece



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## Summary

This deliverable contains the resume and contents of the first five practice abstracts already developed under LOWINFOOD's activity. 20 more are expected to be delivered in the second and third batches (on October 2023 and February 2025, respectively) resulting in a total set of 25 practice abstracts by the end of the project on February 2025.

A practice abstract is a short summary describing the main information/recommendations/practices that can serve the end-users in their daily practice. The resulting innovative knowledge and easily accessible end-user material from this project will feed into the European Innovation Partnership for Agricultural productivity and Sustainability (EIP-AGRI) [website](#) for broad dissemination. The end-user material to be produced contains a substantial number of summaries for practitioners in the EIP common format ("Practice Abstracts"), including the characteristics of the project (e.g. contact details of partners, etc.).

The full package of 25 practice abstracts will contain all the outcomes/recommendations which are ready for practice. The format of the LOWINFOOD Practice Abstracts will follow the guidance and templates available on the EIP-AGRI web site.



## 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 European 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 present deliverable containing the first set of practice abstracts is part of the WP6 “Communication, dissemination and market replication” of LOWINFOOD, aimed at spreading the project’s results and outcomes. On the Executive Board Meeting held in Vienna on 23 February 2022, the content for the first batch of practice abstracts was agreed. It was decided that it was convenient to present five of the innovations that are already being validated in the project. All the other innovations, together with some other useful information and lessons learned during the project, will complete the abovementioned full set of 25 practice abstracts that LOWINFOOD will provide.

Uploading them to the EIP-AGRI platform and making them available to its users is fully in line with these objectives, as it brings together innovation actors (farmers, advisors, researchers, businesses, NGOs, etc) and helps to build bridges between research and practice.

In order to make this information exchange smoother among actors, the EIP-AGRI has established a common format for submitting the practice abstracts, which facilitates knowledge flows on innovative and practice-oriented projects from the start till the end of the project. The use of this format also enables farmers, advisers, researchers and all other actors across the EU to contact each other. Furthermore, this common format includes a guidance which defines the length that the description text should have, as well as the option to add the text in the native language(s) that has(ve) been used when carrying out the activity that is described.

LOWINFOOD has designed a specific template following the common format and guidance established by the EIP-AGRI, to make the practice abstracts more eye-catching (see below), and has created a [dedicated section](#) on the website to publish them.





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



## PRACTICE ABSTRACT No 1 (English)

### Stakeholder dialogues for bakeries in Italy

Stakeholder dialogues are social innovations that deliver a shared solution to tackle a problem. This approach in the bakery sector has the aim to prevent the waste of bread. This collaborative approach may create a competitive advantage between the participants since they can find shared solution upon common problems. To obtain this, stakeholder networking activities are essential and should be improved.

12 small bakeries located in the area of Viterbo, Central Italy, have joined round table meetings with the UNITUS researchers and the local branch of the Italian Confederation of SMEs.

The conversation focused on how and why there is a waste of product in the bakery sector and what are the most wasted bakery products. Bakers also discussed the frequency and extent of surplus production, and the strategies to reduce it. During the meetings, the researchers acted as moderators, directing the conversation, and allowing the bakers to talk among themselves.

Most bakeries claim that they do not produce relevant quantities of surplus or waste, one of them even said *"I can write on each loaf of bread who will be the customer that will buy it!"*. However, none of them has ever measured the quantity of surplus and wasted bread, thus lacking a systematic monitoring of waste. Also at the national level, the extent of bread and bakery waste is largely unknown.

As a first action agreed within the stakeholder dialogue, a diary has been developed to measure every day the quantity of unsold common bread, white pizza, and a special bread. The assessment will last for several months to see in practice the extent of this waste.

The stakeholder dialogue is part of the Work Package (WP) 3 in the LOWINFOOD project, and it aims to analyse innovations against loss of bakery products. The same activities are conducted in parallel in Italy, Sweden and Finland.

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#### Country/region

Italy

#### In a nutshell

Type: social innovation  
Effect: food waste  
prevention governance  
Users: bakeries



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## PRACTICE ABSTRACT No 1

### Additional information

#### Italian bakery sector

In Italy, the bread supply chain is mostly made up of small-scale bakeries that directly sell fresh bread to consumers. According to estimates published by AIBI (Associazione Italiana Bakery Ingredients), 1.4 million tonnes of bread were sold in the Italian market in 2021, among which 84.1% is artisanal fresh bread made by craft bakeries, while 15.9% is industrial.

All Practice Abstracts prepared by LOWINFOOD can be found [here](#)!



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### ABOUT LOWINFOOD

The LOWINFOOD project, launched in 2020 and coordinated by the University of Tuscia, Italy, is working to deploy and improve a set of 14 innovative solutions to the food waste problem, by demonstrating their effectiveness and market potential. The core activities of the project are all focused on the evaluation of the efficacy of these innovations in reducing food losses and waste, in terms of the amount of food waste avoided as well as their environmental and socio-economic impact.

### CONSORTIUM



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## PRACTICE ABSTRACT No 1 (Italiano)

### Stakeholder dialogue dei panifici in Italia

I dialoghi con gli stakeholder sono innovazioni sociali che forniscono una soluzione condivisa per affrontare un problema. Questo approccio nel settore della panificazione ha l'obiettivo di prevenire lo spreco di pane. Questo approccio collaborativo può creare un vantaggio competitivo tra i partecipanti per trovare soluzioni condivise su problemi comuni. Per fare questo sono indispensabili le attività di networking degli stakeholder e dovrebbero essere implementate.

Dodici piccole panetterie ubicate nell'area di Viterbo, nel centro Italia, hanno partecipato ad una serie di incontri con i ricercatori UNITUS e la sezione locale della Confederazione Italiana delle PMI.

La conversazione si è concentrata su come e perché c'è uno spreco di prodotto e su quali sono i prodotti da forno più sprecati. I fornai hanno anche discusso la frequenza e l'entità della produzione in eccesso e le strategie per ridurla. Durante gli incontri, i ricercatori hanno agito da moderatori, dirigendo la conversazione e permettendo ai fornai di dialogare tra loro.

La maggior parte dei panificatori afferma di non produrre quantità rilevanti di eccedenza o di scarto di prodotti da forno, uno di loro ha persino affermato "Posso scrivere su ogni pagnotta chi sarà il cliente che lo comprerà!". Nessuno di loro, però, ha mai misurato la quantità di pane in eccesso e sprecato, non è stato mai effettuato monitoraggio sistematico degli sprechi. Anche a livello nazionale, quantità di spreco di pane e prodotti da forno è in gran parte sconosciuta.

Come prima azione concordata all'interno del dialogo con gli stakeholder, è stato così sviluppato un diario per misurare ogni giorno la quantità di pane comune invenduto, pizza bianca e un pane speciale. La valutazione durerà diversi mesi per vedere nella pratica l'entità di questi rifiuti.

Il dialogo con gli stakeholder fa parte del Work Package (WP) 3 del progetto LOWINFOOD e mira ad analizzare le innovazioni contro la perdita di prodotti da forno. Le stesse attività sono condotte parallelamente in Italia, Svezia e Finlandia.



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## PRACTICE ABSTRACT No 2 (English)

### FoodTracks – Better decisions for bakeries

FoodTracks (FT) is an intelligent software that enables to optimize ordering processes in bakeries. It is a demand planning software that provides insights into orders and sales. The challenge many bakeries face is that ordering decisions are made on-site at stores without taking all relevant circumstances into account. This can lead to a high rate of returns or early sell-outs. FT uses the data provided by the bakeries on past sales figures and derives order suggestions for the bakery branches from this. Customer preference, i.e. what the employees in charge of placing the orders finally want to decide, is not disregarded, but can be factored into every ordering decision, so final customers buying the products are never faced with an empty sales counter.

FT lets three sides benefit: Environment, sales, and customer satisfaction. During implementation, the focus is on a gradual changeover so that all employees in all areas of the operations are involved. Understanding and enthusiasm for the software should encourage employees to work on the changeover of their own accord.

FT is being tested in WP3 in at least three large bakeries in Germany to optimize orders for their stores. In LOWINFOOD the user-friendliness of FT could be further developed. Based on customer feedback FT added a feature to handle changing assortments. For example, the cake assortment changes every 2 weeks, and the software needs to choose data for predictions differently. FT now also shows more detailed weather warnings, for example when the first sunny day in spring is expected to adapt order amounts accordingly. In addition, FT now has a more refined rules system to warn users if returns exceed certain limits.

<https://www.foodtracks.de/>

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#### Country/region

Germany

#### In a nutshell

Type: technological innovation  
Effect: supply chain efficiency  
Users: bakeries



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**LOWINFOOD**

## PRACTICE ABSTRACT No 2

### Additional information

#### German Bakery Sector

In Germany 1.7 million tons of bread and bakery products are wasted annually. Bakeries account for 36% of this volume, making them the second largest producer of bakery waste after households.

All Practice Abstracts prepared by LOWINFOOD can be found [here](#)!



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## PRACTICE ABSTRACT No 2 (Deutsch)

### FoodTracks – Besser entscheiden

FoodTracks (FT) ist eine intelligente Software, die es ermöglicht Bestellprozesse in Bäckereien zu optimieren. Es handelt sich um eine Bedarfsplanungssoftware, die Einblicke in die Bestellungen, Verkäufe und das Personalmanagement bietet. Die Herausforderung vieler Bäckereien liegt darin, dass Bestellentscheidungen vor Ort in den Filialen getroffen werden, ohne alle relevanten Umstände zu berücksichtigen. Dies kann zu einer hohen Retourenquote oder zu frühen Ausverkäufen führen. FT nutzt die von den Bäckereien zur Verfügung gestellte Datengrundlage vergangener Verkaufszahlen und leitet daraus Bestellvorschläge für die Bäckereifilialen her. Der Kundenwunsch, d.h. das was die Verantwortlichen für die Bestellung letztlich entscheiden möchten wird dabei nicht außer Acht gelassen, sondern kann bei jeder Bestellentscheidung einbezogen werden, sodass Endkundinnen und -kunden, die in den Bäckereifilialen einkaufen, nie vor einer leeren Theke stehen.

FT lässt drei Seiten profitieren: Umwelt, Umsatz und Kundenzufriedenheit. Bei der Umsetzung wird der Fokus auf eine schrittweise Umstellung gelegt, sodass alle Mitarbeiter der Betriebe in allen Bereichen mitgenommen werden. Verständnis und Begeisterung für die Software soll die Mitarbeiter dazu bringen, aus eigenem Antrieb an der Umstellung mitzuarbeiten.

FT wird in mind. drei Großbäckereien in Deutschland eingesetzt, um die Bestellungen für deren Filialbetriebe zu optimieren. Im Rahmen von LOWINFOOD konnte die Benutzerfreundlichkeit von FT weiterentwickelt werden. So wurde auf der Grundlage von Kundenrückmeldungen in FT eine Funktion zur Handhabung wechselnder Sortimente hinzugefügt. Beispielsweise ändert sich das Kuchensortiment alle 2 Wochen und die Software muss die Daten für die Vorhersagen anders auswählen. FT zeigt jetzt auch detailliertere Wetterwarnungen an, z. B. wenn der erste sonnige Tag im Frühling erwartet wird, um die Bestellmengen entsprechend anzupassen. Außerdem verfügt FT jetzt über ein verfeinertes Regelsystem, das die Nutzer warnt, wenn die Retouren bestimmte Grenzen überschreiten.



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## PRACTICE ABSTRACT No 3 (English)

### Reduce food waste, save money by AI

KITRO is aimed at large kitchens in canteens, hotels or restaurants and enables food waste to be reduced with the help of artificial intelligence, thus saving costs. The innovation consists of a scale and a camera that are installed under and above the waste bin and automatically identify and record discarded food and determine waste quantities. The system is easy to set up and can be adapted to all kitchen waste bins. Measurements are taken automatically with KITRO, eliminating the need for additional labour to operate the device. The collected data, in the form of photos and weights, is then visible via a personalized analytics dashboard. They provide the basis for setting measurable goals and taking action. This allows decisions to be made based on artificial intelligence and processes to be optimized precisely for each property. Throughout the entire period of use of KITRO, the respective kitchens are supported in the installation, application, and data evaluation.

In LOWINFOOD, KITRO is tested in WP5 in one Swiss, two German, and two Greek food services in the field of hotel and business catering. So far, a feasibility assessment of a new market entry could be conducted with Greece opening as a new trial location. New insights into our consumer's operational behaviour and drivers feed the advancements in the reporting and analytics tool. Limited reduction performance metrics could be determined due to covid related delays.

<https://www.kitro.ch/>

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#### Country/region

Germany, Switzerland,  
Greece

#### In a nutshell

Type: technological  
innovation  
Effect: supply chain  
efficiency  
Users: canteens,  
restaurants



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## PRACTICE ABSTRACT No 3

### Additional information

#### Food waste in the European food service sector

The European food service sector's contribution to food waste equals 12 % of the total amount of food being wasted, i.e., 11 million out of 88 million tonnes are caused by this sector.

All Practice Abstracts prepared by LOWINFOOD can be found [here](#)!



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## PRACTICE ABSTRACT No 3 (Deutsch)

### Die einfache Art Lebensmittelabfälle in der Gastronomie zu retten

KITRO richtet sich insbesondere an Großküchen in Kantinen, Hotels oder Restaurants und ermöglicht es, Lebensmittelabfälle mithilfe künstlicher Intelligenz zu reduzieren und somit Kosten einzusparen. Die Innovation besteht aus einer Waage sowie einer Kamera, die unter bzw. über dem Behälter für Lebensmittelabfälle installiert werden und weggeworfene Lebensmittel automatisch identifizieren und Abfallmengen bestimmen. Das System ist einfach einzurichten und lässt sich an alle Küchenabfallbehälter anpassen. Gemessen wird mit KITRO automatisch, wodurch kein zusätzlicher Arbeitsaufwand für das Bedienen des Gerätes erforderlich ist. Die gesammelten Daten, in Form von Fotos und Gewichten, lassen sich über ein Dashboard in Echtzeit einsehen. Sie stellen die Basis dar, um messbare Ziele zu setzen und Maßnahmen zu ergreifen. Somit lassen Entscheidungen auf Basis von künstlicher Intelligenz treffen treffen und Abläufe passgenau für jede Küche optimieren. Während der gesamten Nutzungszeit von KITRO werden die jeweiligen Betriebe bei der Installation, der Anwendung und Datenauswertung unterstützt.

Im Rahmen von LOWINFOOD wird KITRO in einem Schweizer, zwei Deutschen und zwei Griechischen Gastronomiebetrieben im Bereich der Hotel- und Betriebsverpflegung getestet. Bislang konnte eine Machbarkeitsstudie für einen neuen Markteintritt durchgeführt werden, wobei Griechenland als neuer Teststandort eröffnet wurde. Neue Einblicke in das operative Verhalten unserer Kunden und deren Einflussfaktoren fließen in die Weiterentwicklung des Analysetools ein. Aufgrund von Verzögerungen im Zusammenhang mit Covid-19 konnten nur begrenzte Kennzahlen für Food Waste Reduktionen ermittelt werden.



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## PRACTICE ABSTRACT No 4 (English)

### CozZo: Reducing food waste in households using a mobile application

Good food management practices help reduce food waste at home. CozZo is a home grocery management system that provides a solution to keep track of purchases and cooked meals in order to organize more accurately the purchase of food supplies and to avoid over-purchasing, over-cooking and spoilage of food.

As consumers are spending an increasing amount of time on their mobile devices, mobile apps hold great potential in providing help with food management and food waste reduction at home. To demonstrate this potential, households recruited from Austria, Finland, and Greece will use the mobile application "CozZo" in their everyday life for six weeks.

The expected results of the demonstration will shed light on the effects of using the app on food waste and other food management practices. Effectiveness of the app will be assessed by food waste measurement and analysis (one week before the use and one week at the end of demonstration period).

By demonstrating the use in three countries, some differences connected to the cultural and geographical backgrounds are also expected. The value of the upcoming results lies in the identification of both the enabling and hindering factors in adopting a mobile application in household food management and food waste reduction, which can be used as a basis to develop the application further.

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#### Country/region

Austria, Finland,  
Greece

#### In a nutshell

Type: technological innovation  
Effect: consumer behaviour change  
Users: household consumers



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## PRACTICE ABSTRACT No 4

### Additional information

#### Food waste at household consumption

Food waste from European households is around 46.5 million tons, 70% of which was intended to be eaten. Statistics indicate that households are the most critical contributors to food waste. However, household food waste is interweaved in various food related everyday practices, routines and habits. The reasons for the generation of household food waste often relate to challenges in food management, for instance, lack of planning or unawareness of the contents of the pantry or the fridge.

All Practice Abstracts prepared by LOWINFOOD can be found [here!](#)



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## PRACTICE ABSTRACT No 4 (Deutsch)

### CozZo: Lebensmittelabfälle aus Haushalten mit Hilfe einer App reduzieren

Erhebungen zeigen, dass in Haushalten große Mengen an Lebensmittelabfällen entstehen. Die Lebensmittelverschwendung in den Haushalten ist mit verschiedenen alltäglichen Routinen und Gewohnheiten im Zusammenhang mit Lebensmitteln verwoben. Die Gründe für das Aufkommen von Lebensmittelabfällen in Haushalten sind häufig auf Probleme beim Management, wie z. B. auf schlechte Planung oder einem fehlenden Überblick über die Vorräte zurückzuführen.

Da Konsumentinnen allerdings immer mehr Zeit mit ihren Handys verbringen, sind Apps prädestiniert dazu diese beim Umgang mit Lebensmitteln zu unterstützen. Um mehr über das Potential herauszufinden, werden Haushalte aus Österreich, Finnland und Griechenland sechs Wochen lang die "CozZo" App in ihrem Alltag nutzen. "CozZo" hilft Lebensmittelvorräte zu verwalten und unterstützt bei der Planung von Einkäufen und Mahlzeiten.

Die erwarteten Ergebnisse der Studie werden Aufschluss darüber geben, inwiefern sich die Nutzung der App auf die Lebensmittelabfälle und das gesamte Lebensmittelmanagement im Haushalt auswirkt. Die Durchführung in drei Ländern soll dazu beitragen auch kulturelle bzw. geographische Unterschiede zu erfassen. Der Wert, der bald vorliegenden Ergebnisse, liegt in der Identifizierung von förderlichen als auch von hinderlichen Faktoren, welche die Nutzung der App mit sich bringt. Diese können als Grundlage für die Weiterentwicklung der App verwendet werden.



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

**LOWINFOOD**

## PRACTICE ABSTRACT No 4 (Suomi)

### CozZo: Ruokahävikin vähentäminen kotitalouksissa mobiilisovelluksen avulla

Tilastojen mukaan kotitaloudet ovat suurimpia ruokahävikin tuottajia. Kotitalouksien ruokahävikki kytkeytyy moniin ruokaan liittyviin jokapäiväisiin käytäntöihin, rutiineihin ja tapoihin. Ruokahävikin syyt liittyvät usein haasteisiin ruokahuollossa, esimerkiksi siihen, ettei suunnitella ostoksia tai aterioita tai ei tiedetä, mitä kuivakaapissa tai jääkaapissa jo on.

Kuluttajat viettävät yhä enemmän aikaa mobiililaitteiden parissa, ja mobiilisovelluksilla on potentiaalia auttaa kotitalouksia ruokahuollon haasteissa ja ruokahävikin vähentämisessä. Tämän potentiaalin tarkastelemiseksi kotitaloudet Suomesta, Itävalasta ja Kreikasta käyttävät mobiilisovellusta ("CozZo") päivittäisessä arjessaan kuuden viikon ajan. CozZo on kodin ruokahuollon hallintaan kehitetty järjestelmä, jonka avulla kotitaloudet voivat pitää kirjaa ostoksistaan ja kokkaamistaan aterioista. Tavoitteena on, että ruoka-aineiden ostoista tulee tarkempia ja pystytään välttämään liian suuret tai turhat ostokset, liian suuret ruoka-annokset ja ruoan pilaantuminen.

Odotettavissa olevat tulokset keskittyvät siihen, miten sovelluksen käyttö vaikuttaa ruokahävikkiin ja muihin ruokahuollon käytäntöihin. Koska aineistoa kerätään kolmessa maassa, myös joitakin kulttuurisia ja maantieteellisiä eroja on odotettavissa. Tulosten avulla on mahdollista tunnistaa sekä mobiilisovelluksen käyttöä tukevia että estäviä tekijöitä, joiden pohjalta sovellusta voidaan jatkokehittää.



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## PRACTICE ABSTRACT No 4 (Ελληνικά)

### CozZo: Λιγότερα απόβλητα τροφίμων στα νοικοκυριά με τη χρήση μίας εφαρμογής

Σύμφωνα με έρευνες, τα νοικοκυριά αναδεικνύονται ως ο πιο κρίσιμος παράγοντας στη σπατάλη τροφίμων. Η παραγωγή αποβλήτων τροφίμων στα νοικοκυριά είναι συνυφασμένη με καθημερινές πρακτικές και συνήθειες σχετικά με τη διαχείριση τροφίμων. Ενδεικτικά, συνδέεται με την έλλειψη προγραμματισμού των προμηθειών και των γευμάτων ή με το να μην λαμβάνεται υπόψη το τι υπάρχει ήδη μέσα στα ντουλάπια ή το ψυγείο.

Καθώς οι καταναλωτές χρησιμοποιούν όλο και περισσότερο κινητά τηλέφωνα, οι εφαρμογές για κινητά (apps) θα μπορούσαν να αναδειχθούν σε πολύτιμο βοηθό για τη διαχείριση τροφίμων στο σπίτι και συνεπώς για τη μείωση των αποβλήτων τροφίμων. Για να αναδειχθεί αυτό το δυναμικό τους, στο πλαίσιο του έργου LOWINFOOD, επιλέχθηκε να δοκιμαστεί η εφαρμογή “CozZo” σε νοικοκυριά από την Αυστρία, τη Φινλανδία και την Ελλάδα για έξι εβδομάδες. Η CozZo είναι ένα σύστημα διαχείρισης τροφίμων σε νοικοκυριά, το οποίο διευκολύνοντας την παρακολούθηση των προμηθειών και των μαγειρεμένων γευμάτων, οδηγεί σε πιο στοχευμένες αγορές, στην αποφυγή υπερβολικών προμηθειών και της σπατάλης των τροφίμων.

Τα αποτελέσματα αυτής της επίδειξης θα αναδείξουν τη συμβολή της εφαρμογής στη μείωση των αποβλήτων τροφίμων και σε πρακτικές διαχείρισης τροφίμων. Με την επίδειξη της εφαρμογής σε τρεις χώρες, αναμένεται επιπλέον, να αναδειχθούν διαφορές που συνδέονται με το πολιτιστικό και γεωγραφικό υπόβαθρο. Η αξία των αποτελεσμάτων είναι μεγάλη, καθώς αυτά αναμένεται να οδηγήσουν στον προσδιορισμό των παραγόντων που επιτρέπουν ή παρεμποδίζουν τη χρήση μιας εφαρμογής (app) για τη διαχείριση και μείωση των αποβλήτων τροφίμων στα νοικοκυριά, ενώ μπορεί να αξιοποιηθούν ως βάση για περαιτέρω ανάπτυξη της εφαρμογής.



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## PRACTICE ABSTRACT No 5 (English)

### REGUSTO and monitoring of waste on the restaurant-home route

In LOWINFOOD, REGUSTO's innovation aims at monitoring food taken home by consumers from restaurants by tracking food destination, consumption and food waste generation from food taken home through the REGUSTO Bag, whether it is complete meals to be consumed at home (take-away food) or leftover meals taken home through the (REGUSTO) doggy-bag.

Together with the implemented REGUSTO App and the REGUSTO Bag, an additional tool has been developed to monitor the food brought home to the basket. A QR code has been developed and distributed to selected restaurants involved in the activity with the continuous aim of collecting and validating data on at least 500 consumers. The QR code is applied to the REGUSTO Bags that are used to take meals out. By scanning this tag with their smartphones, users will access a questionnaire to monitor the food left in the bag at the end of the meal. The innovation has been implemented to allow consumers to record a photo to show leftovers at the time of REGUSTO's food delivery (both takeaway meals and restaurant leftovers) and at the latest 24 hours later.

The data collected will increase the information on the destination of food after take-away by answering the question "Is the food taken away from restaurants actually consumed at home?" and the question of exploring the generation of food waste from take-away and leftover consumption. The full picture of the analysis also involves restaurants for which the level of food waste is analysed and closely monitored before, during and after the introduction of the innovation to provide valuable tools for management and cost optimisation.

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#### In a nutshell

Type: technological innovation  
Effect: consumer behaviour change  
Users: restaurants, household consumers



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## PRACTICE ABSTRACT No 5

### Additional information

REGUSTO has developed an eco-friendly food bag (REGUSTO bag) and a mobile application (progressive web app) that allows consumers to find meals at reduced prices from restaurants to help reduce food waste; restaurants use REGUSTO to sell last minute meals and freshly prepared surplus meals. The REGUSTO app is available for free and adapts to any screen/phone without the need for continuous releases and updates. Before the covid-19 pandemic, the REGUSTO app was present in Rome, Perugia and Milan with around 200 restaurants and caterers and over 20,000 users. Today, after the Italian blockade, the app has been implemented and adapted to the new needs of restaurants.

All Practice Abstracts prepared by LOWINFOOD can be found [here!](#)



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### ABOUT LOWINFOOD

The LOWINFOOD project, launched in 2020 and coordinated by the University of Tuscia, Italy, is working to deploy and improve a set of 14 innovative solutions to the food waste problem, by demonstrating their effectiveness and market potential. The core activities of the project are all focused on the evaluation of the efficacy of these innovations in reducing food losses and waste, in terms of the amount of food waste avoided as well as their environmental and socio-economic impact.

### CONSORTIUM



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## PRACTICE ABSTRACT No 5 (Italiano)

### REGUSTO e il monitoraggio degli sprechi nel percorso ristorante-casa

In LOWINFOOD, l'innovazione di REGUSTO mira a monitorare il cibo portato a casa dai consumatori dai ristoranti tracciando la destinazione del cibo, il consumo e la generazione di rifiuti alimentari dal cibo portato a casa attraverso la REGUSTO Bag, sia che si tratti di pasti completi da consumare a casa (cibo da asporto) o di pasti avanzati portati a casa attraverso la (REGUSTO) doggy-bag.

Insieme alla App e alla REGUSTO bag, è stato sviluppato un ulteriore strumento per monitorare il cibo portato a casa dal ristorante. Si tratta di un QR code che è stato sviluppato e distribuito a ristoranti selezionati coinvolti nell'attività con l'obiettivo di raccogliere e validare dati su almeno 500 consumatori. Il codice QR viene applicato alle bag di REGUSTO. Scannerizzando questo tag con il proprio smartphone, gli utenti accederanno a un questionario per monitorare il consumo di cibo contenuto nella bag. L'innovazione è stata implementata per permettere ai consumatori di scattare una foto al momento della consegna della bag (sia pasti da asporto che cibo avanzato a fine pasto al ristorante) e un'altra, al più tardi, 24 ore dopo.

I dati raccolti contribuiranno ad aumentare la conoscenza sulla destinazione del cibo dopo il take-away rispondendo alla domanda "*il cibo portato via dai ristoranti viene effettivamente consumato a casa?*" e la questione di esplorare la generazione di rifiuti alimentari dal consumo take-away. Il quadro completo dell'analisi coinvolge anche i ristoranti per i quali il livello di spreco alimentare viene analizzato e monitorato attentamente prima, durante e dopo l'introduzione dell'innovazione per fornire strumenti preziosi per la gestione e l'ottimizzazione dei costi.



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