



## **D8.10 First batch of practice abstracts**

**Work Package 8**

**UHOH**



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## Executive Summary

This document constitutes the deliverable “D8.10 First batch of practice abstracts” in the context of WP8 and has been compiled by the partner UHOH. The deliverable aimed to list the first resulting innovative knowledge and easy accessible end-user material from this SMARTCHAIN as a summary for practitioners in the EIP common format ("practice abstracts"). A total target number of 30 practice abstracts is foreseen for the project. 17 of them are included in this deliverable. In M36, a second batch with additional practice abstracts will be submitted as D8.11.

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## 1. Introduction

Communicating about projects, activities and results is much easier through the use of a common format. The EIP-AGRI common format 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.

The resulting innovative knowledge and easy accessible end-user material from SMARTCHAIN will feed into the EIP-AGRI website (<https://ec.europa.eu/eip/agriculture/en/find-connect/projects>) for broad dissemination. The innovative knowledge produced during the lifetime of the project will be disseminate for practitioners following the EIP common format ("practice abstracts"). A "practice abstract" is a short summary of around 1000-1500 characters (word count – no spaces) which describes the main information/recommendation/practice that can serve the end-users in their daily practice. Guidance and templates for these practice abstracts are available on the EIP-AGRI web site: <http://ec.europa.eu/eip/agriculture/en/content/eip-agri-common-format>.

A full package of practice abstracts will be produced by SMARTCHAIN project, containing all the outcomes/recommendations which are ready for practice. A total target number of 30 practice abstracts is foreseen for the project. This document (D8.10) contains the first batch of 17 SMARTCHAIN "practice abstracts". At the end of the project lifetime (M36), a second batch with additional SMARTCHAIN "practice abstracts" will be submitted as D8.11.

Parallel to the submission of this deliverable, the official "EIP-AGRI common format" Excel file containing the first 17 SMARTCHAIN "practice abstracts" has been sent to the corresponding official EIP-AGRI email address ([AGRI-EIP-PRACTICE-ABSTRACTS@ec.europa.eu](mailto:AGRI-EIP-PRACTICE-ABSTRACTS@ec.europa.eu)), including the SMARTCHAIN Project officer (Mr. Gaëtan Dubois) and Policy officer (Ms. Natalia Brzezina) in copy of the message.

## 2. PA 1

### **SMARTCHAIN-Plattform (German)**

Die SMARTCHAIN-Plattform (<https://www.smartchain-platform.eu/>) ging im März 2019 mit einer Startseite und einem Menü zu News & Veranstaltungen, Innovations-Hubs, Verzeichnissen, Fortbildungsmöglichkeiten, dem GAIN-Modell, sowie einem internen Anmeldebereich online. Die 9 Innovations-Hubs (Frankreich, Deutschland, Griechenland, Ungarn, Italien, Niederlande, Serbien, Spanien, Schweiz) erleichtern die regionale Zusammenarbeit innerhalb jedes Landes, da die jeweiligen Hub-Manager die Plattform mit länderspezifischen Informationen ergänzen. Jeder Hub ist mit zwei Fallstudien zur kurzen Lebensmittelversorgungskette in dem jeweiligen Land verknüpft und Nutzer können Informationen über die Arbeit regionaler Aktivitäten zu kurzen Lebensmittelketten für in Europa häufig konsumierte Lebensmittel finden. Das Innovations-Verzeichnis ist eine Online-Datenbank mit Innovationen, Lösungen und Empfehlungen für kurze Lebensmittelketten. Interaktive Tools ermöglichen a) eine schnelle Bewertung, um Innovationen/Lösungen zu finden, die am besten zu einem Nutzer passen, b) das Hochladen neuer Innovationen/Lösungen durch die Nutzer. Ein regelmäßig aktualisiertes und durchsuchbares Initiativen-Verzeichnis listet Beispiele und Links zu erfolgreichen kurzen Lebensmittelketten in ganz Europa. Die Fortbildungsmöglichkeiten umfassen Links zu a) Materialien aus Projektaktivitäten und, falls relevant, aus externen Quellen und b) den E-Learning-Kurs "Best practices in Innovation", der auf dem Input von Praktikern in kurzen Lebensmittelversorgungsketten basiert. Es wird angestrebt die SMARTCHAIN-Plattform mit zukünftigen Projekten zur Lebensmittelversorgungskette zu verknüpfen und sie so über Jahre hinweg aktiv und aktuell zu halten.

### **SMARTCHAIN Platform (English)**

The SMARTCHAIN Platform (<https://www.smartchain-platform.eu/>) went live in March 2019 including a Home Page and a menu: News & Events, Innovation Hubs, Inventories, Training, Gain Model, Register/Log In. The 9 Innovation Hubs (France, Germany, Greece, Hungary, Italy, Netherlands, Serbia, Spain, Switzerland) facilitate cooperation within each country as hub managers update the Platform with local information. Each hub links to two Short Food Supply Chain (SFSC) case studies in that country where users find information about working SFSC for commonly consumed foods in Europe, e.g. fruits & vegetables, meat, dairy and bakery products. The Innovation Inventory is an online database of innovations, solutions and recommendations for the SFSC. Searching the inventory is possible through several fields, and search results include economic & environmental benefits as well as business & policy recommendations. Interactive tools allow a) Quick assessment to find innovations/solutions which best fit a user and b) User upload of new innovations/solutions. A regularly updated and searchable Initiative Inventory provides examples of and links to successful SFSC throughout Europe. Training includes links to a) Materials from project activities e.g., videos, presentations, reports, webinars and, if relevant, from external sources and b) "Best practices in Innovation," an e-learning course based on input from SFSC practitioners. The SMARTCHAIN Platform might be linked to future food supply chain projects and thus will remain active for years. All stakeholders can benefit from a single site where they can find the information on SFSC that suits their needs.

### 3. PA 2

#### **SMARTCHAIN Initiativinventar (German)**

Das Initiativinventar befindet sich auf der SMARTCHAIN-Plattform (<https://www.smartchain-platform.eu/en/initiative-inventory>). Es ging Ende 2019 mit einer Datenbank von 49 erfolgreichen Initiativen für kurze Lebensmittelversorgungsketten (SFSC), die derzeit in 6 europäischen Ländern oder in ganz Europa tätig sind, in Betrieb. Das Inventar soll wachsen, da i) die Nutzer bald in der Lage sein werden, Initiativen hinzuzufügen und ii) die Projektpartner weiterhin Initiativen liefern werden. Das Initiativinventar kann nach Region, Stakeholder-Typ und Initiativkategorie durchsucht werden, oder man kann einfach die SFSC-Initiativen durchsuchen. Jede Initiative hat eine kurze Beschreibung, einige sind in der Landessprache verfügbar und, falls vorhanden, gibt es einen Link zur Webseite der Initiative. Es gibt jetzt 25 Kategorien von SFSC-Initiativen, die von Apps bis zu Visionen reichen und auf 7 Stakeholder-Typen wie Landwirte, Einzelhändler, Verbraucher usw. anwendbar sind. Dieses Inventar ergänzt das Innovationsinventar, eine durchsuchbare Datenbank auf der SMARTCHAIN-Plattform, die einzigartigen Innovationen gewidmet ist, die für SFSC-Praktiker anwendbar sind. Das Initiativinventar wird weiter wachsen, da die SMARTCHAIN-Plattform mit zukünftigen Projekten der Lebensmittelversorgungskette verknüpft werden könnte und somit auch in den kommenden Jahren aktiv bleiben wird. Alle Stakeholder können von einer einzigen Webseite profitieren, auf der sie motivierende SFSC-Erfolgsgeschichten, Kontakte für zukünftige Kooperationen und lokale Initiativen finden, die sie unterstützen können.

#### **SMARTCHAIN Initiative Inventory (English)**

The Initiative Inventory is located on the SMARTCHAIN Platform (<https://www.smartchain-platform.eu/en/initiative-inventory>). It went live in late 2019 with a database of 49 successful short food supply chain (SFSC) initiatives currently operating in 6 European countries or in Europe as a whole. The inventory is meant to grow as i) users will soon be able to add initiatives and ii) project partners will continue to supply initiatives. The initiative inventory is searchable by region, stakeholder type and initiative category, or one can simply browse the SFSC initiatives. Each initiative has a short description, some are available in the local language and, when present, there is a link to the initiative website. There are now 25 categories of SFSC initiatives ranging from Apps to Visions, applicable to 7 stakeholder types including Farmers, Retailers, Consumers etc. This inventory compliments the Innovation Inventory which is a searchable database on the SMARTCHAIN Platform dedicated to unique innovations applicable to SFSC practitioners. The Initiative Inventory will continue to grow as the SMARTCHAIN Platform might be linked to future food supply chain projects and thus will remain active for years to come. All stakeholders can benefit from a single site where they can find SFSC success stories that motivate, contacts for future collaborations and local initiatives that they can support.

## 4. PA 3

### **Solidarische Landwirtschaft (SoLaWi) (German)**

Das Konzept der solidarischen Landwirtschaft ist in sich selbst innovativ. Die solidarische Landwirtschaft ist eine Partnerschaften und gegenseitige Verpflichtung zwischen einem Landwirt und einer Gemeinschaft von Unterstützern, die eine direkte Verbindung zwischen Lebensmittelproduktion und –konsum herstellt. Die Unterstützer decken für gewöhnlich die jährlichen Operationskosten eines Landwirtschaftlichen Betriebs indem sie einen Anteil an der Ernte kaufen und in manchen Fällen bei der Arbeit auf den landwirtschaftlichen Betrieb mithelfen. Im Gegenzug versorgt der Landwirt, im Rahmen seiner Möglichkeiten, die Unterstützer mit saisonalen, frischen Lebensmitteln. Die Solidarische Landwirtschaft e.V. (SoLaWi) ist eine Non-Profit Organisation und ein Netzwerk im Bereich der landwirtschaftlichen Direktvermarktung. SoLaWi fördert und unterhält eine ländliche und diverse Landwirtschaft, erhält regionale Lebensmittel und ermöglicht es Menschen neue Erfahrungen und neues Wissen zu sammeln. SoLaWi-Gruppen bestehen üblicherweise aus Verschiedenen Kollaborateuren; Landwirten, Gärtnern und Prosumenten (Konsumenten, die zugleich Produzenten sind). Durch Zusammenarbeit und gegenseitige Unterstützung schafft SoLaWi faire Bedingungen für Landwirte und vollständige Transparenz für Konsumenten.

Landwirte, die sich in SoLaWi engagieren können sich dabei frei entfalten, was innovatives Denken fördert. Die Vorteile eines solchen Systems sind vielseitig:

- Größere Planungssicherheit für den Landwirt und Erhaltung des Betriebs
- Risikoverteilung zwischen Landwirt und Prosument
- Direkter Kontakt und Austausch zwischen Landwirt und Prosument
- Prosumenten erhalten Zugang zu neuen Erfahrungen und neuem Wissen rund um die Landwirtschaft (z.B. zu Anbau/Zucht, landwirtschaftlicher Bewirtschaftung und Lebensmittelproduktion)
- Transparenz entlang der Produktionskette (Anbau/Zucht, Ernte, Produktion und Verarbeitung)
- Unterstützung regionaler KMUs und Stärkung lokaler Kreisläufe

<https://www.solidarische-landwirtschaft.org/startseite/>

<https://www.ifoam.bio/en/community-supported-agriculture-csa>

### **Community Supported Agriculture (CSA) in Germany: Solidarische Landwirtschaft (SoLaWi) (English)**

The concept of Community Supported Agriculture (CSA) is innovative in itself. CSA are partnerships of mutual commitment between a farm and a community of supporters that provide a direct link between the production and consumption of food. Supporters usually cover a farm's yearly operating budget by purchasing a share of the season's harvest and in some cases they assist with the farm work. In return, the farm provides, to the best of its ability, a healthy supply of seasonal fresh produce. Solidarische Landwirtschaft e.V. (SoLaWi) is a non-profit organization and network in the field of agricultural direct marketing in Germany. SoLaWi promotes and maintains a rural and diverse agriculture, preserves regional food and allows people new spaces of experience and education. SoLaWi-groups usually consist of different collaborators: farmers, gardeners and prosumers (producers, which are consumers at the same time). Through teamwork and mutual support, SoLaWi creates fair conditions for farmers and complete transparency for consumers.

Farmers involved in SoLaWi are able to develop freely, which fosters innovative thinking. General advantages of such system are manifold:

- Increased planning security for the farmer and preservation of business
- Risk distribution between farmers and prosumers
- Direct contact and exchange between farmer and prosumers



- Prosumers gain access to spaces of experience and education (knowledge about cultivation, maintenance and production of food)
- Transparency along the value chain (cultivation, harvesting and processing)
- Support of regional SMEs and reinforcement of local eco-cycles

<https://www.solidarische-landwirtschaft.org/startseite/>

<https://www.ifoam.bio/en/community-supported-agriculture-csa>

## 5. PA 4

### **Mercado on-line Hermeneus (Spanish)**

Hermeneus es una comunidad de consumo libre y responsable, en la que vendedores y compradores se comunican directamente utilizando la aplicación (<https://www.hermeneus.es/>) para comprar y vender productos y servicios sin ningún intermediario. Esto hace posible que el comprador pague un precio justo por los productos y para el vendedor se ofrecen las siguientes ventajas a:

- Tener la oportunidad de recibir la recompensa correcta por su esfuerzo
- Abrir su propia tienda online en pocos minutos y con un coste mínimo
- Desarrollar su propia estrategia de ventas on-line y obtener el pleno rendimiento de su trabajo
- Ofrecer un mejor servicio a sus clientes actuales y contactar con nuevos clientes potenciales a través de la comunidad Hermeneus
- Conectar directamente con compradores y vendedores de toda España y ofrecerles sus productos y servicios
- Conectar con profesionales de la logística y optimizar sus procesos de distribución
- Beneficiarse de ser parte de una comunidad de usuarios involucrados con el comercio local

Además de este servicio, hay restaurantes en la web donde se pueden degustar los productos que han sido comprados por la plataforma Hermeneus.

En Hermeneus los compradores se registran pagando una cotización única por año (alrededor de 363 euros) pero no hay comisión por venta (ni para el comprador, ni para el vendedor).

El beneficio práctico tanto para los compradores como para los vendedores es que no hay intermediarios entre la transacción, por lo que el producto tiene un precio justo y el vendedor recibe correctamente su esfuerzo. La innovación propuesta permite aumentar el beneficio para los productores y pagar un precio justo a los consumidores. La plataforma facilita la forma de compra y la organización de los pedidos, así como es un buen y eficiente expositor para las empresas y para los restaurantes que forman parte de la comunidad.

### **Hermeneus marketplace platform (English)**

Hermeneus is a free and responsible consumption community, in which sellers and buyers contact directly to buy and sell products and services without any intermediation using the application (<https://www.hermeneus.es/>). This make it possible for the buyer to pay a fair price for the products and for the seller gives the following advantages to:

- Have an opportunity to receive the right reward for their effort
- Open their own online store in just a few minutes and with a minimum cost
- Develop their own online sales strategy and get the full performance of their work
- Offer a better service to their current clients and contact new potential customers through our community
- Connect directly with buyers and sellers throughout Spain and offer them their products and services
- Connect with logistics professionals and optimize their distribution processes
- Benefit from being part of a community of users involved with local commerce

Moreover, there are restaurants in the web where you can taste the products that have been bought by Hermeneus platform.

In Hermeneus buyers are registered by paying a unique quote per year (about 363€) but there is no commission per sale (neither for the buyer, nor for the seller).

The practical benefit for both buyers and sellers is that there are no intermediaries between the transaction, so the product has a fair price and the seller is correctly paid for their effort. The innovation proposed make possible to increase the profit for the producers and to pay a fair price for the consumers. The platform makes it easier the way of buying and the organization of the orders, as well as it is a good and an efficient expositor for the companies and for the restaurants that take part of the community.

## 6. PA 5

### **Liofilización de alimentos (Spanish)**

En productos perecederos y de temporada, como es el caso de las setas/hongos y frutas y verduras es esencial para mantener la calidad de los mismos hasta su consumo. La novedad propuesta es el uso de la tecnología de liofilización (<https://www.telstar.com/>) para deshidratar dichos alimentos con objeto de reducir su actividad de agua y hacer posible su conservación durante largos periodos de tiempo (más de 6 meses) y de esta forma poder llegar a mercados a los que no se podría llegar si estos productos tuvieran esa alta humedad inicial.

La liofilización es capaz de eliminar el agua de los productos frescos una vez que se han cosechado, la operación se puede hacer en una zona cercana del campo. El contenido final de agua de los productos puede ser de un máximo del 1% (base húmeda). Esto es útil para prolongar la vida de los productos frescos en condiciones de temperatura ambiente. Además, de esta forma se posibilita entrar en nuevos mercados (exportaciones) a los que dichos productos frescos no podían acceder, de la misma forma se posibilita extender la vida comercial de estos productos temporales a lo largo de todo el año. Esta técnica permite mantener la calidad de los productos (atributos sensoriales y compuestos relacionados con la salud) mejor que las técnicas convencionales de secado, manteniendo también la forma y el aspecto del producto.

El tamaño y la capacidad del liofilizador requerido depende del volumen de la producción y del contenido de humedad inicial y final del material a tratar.

La innovación propuesta sólo requiere electricidad y aire comprimido, por lo que el país, región o ubicación no es un factor limitante para poder ser implementada. El tipo de alimento más adecuado para esta innovación sería aquel que tiene un alto contenido de humedad, que sea un producto perecedero y termosensible (por ejemplo, frutas y verduras, hongos, setas...).

### **Freeze-drying solutions for food products (English)**

In temporary and perishable products such as fungus/mushrooms and some kind of fruits and vegetables is essential to maintain the quality of them until been consumed. The novelty proposed is the use of freeze-drying (<https://www.telstar.com/>) to dehydrate them to reduce their water activity to make it possible to preserve them for long periods of time (more than 6 months) and also to make it possible to reach markets that could not be reached if these products would have this high humidity.

The freeze-drying is able to remove water from fresh products once they have been harvested, the operation can be done in a close area of the field. The final water content of the products can be at maximum of 1% (wet basis). This can be so useful to extend the self-life of fresh products in room temperature conditions. Moreover, this makes possible to access to new markets (exports) that fresh products could not access due to their perishability and to extend the commercial life of these temporary products along the whole year. This technique allows to maintain the quality aspects of the products (sensory, health-related compounds) better than conventional heating drying techniques, maintaining better also the shape and aspect of the product.

The size and the capacity of the required freeze-drier depends on the volume of the production and initial and final moisture content of the material to be treated.

The innovation proposed only requires electricity and compressed air so the country, region or location is not a limiting factor to be incorporated in the company that would need it. The suitable type of food to be processed is that one that has high moisture content, perishable and thermo-sensitive products (e.g. fruits and vegetable, fungus/mushrooms).

## 7. PA 6

### **Pressoir à fruits et légumes (French)**

Dans un environnement concurrentiel, il est essentiel d'offrir aux consommateurs des produits finis dont la forme, la couleur, le goût et la taille sont réguliers. Ainsi, les fruits et légumes qui ne respectent pas ces critères peuvent représenter des déchets importants et des pertes économiques pour les producteurs. Biofruits (<https://www.biofruits.ch/fr/accueil/>) a décidé il y a quelques années d'investir dans un presseur à fruits et légumes afin de valoriser les produits qui ne peuvent être vendus par les canaux conventionnels ou directement aux consommateurs en raison d'une mauvaise qualité extérieure (forme ou couleur non conforme aux normes). Cette technologie permet d'offrir un produit final de haute qualité.

Si l'innovation générée est mise en œuvre, tous les fruits et légumes peuvent être transformés pour produire des jus. La technologie peut traiter par exemple 1 kg de fruits pour produire 7 décilitres de jus. Selon les fruits, il pourra s'agir de jus ou de nectar, ou d'une autre boisson. Les principaux avantages de cette technologie sont la préservation des nutriments et contenus dans les fruits et légumes, afin de conserver tous les composants sains et bons. De plus, le goût est également représentatif du produit (c'est-à-dire la préservation des arômes des matières premières). La durée de conservation du produit final est également intéressante, puisqu'elle permet de prolonger la consommation du produit jusqu'à 24 mois. Enfin, l'innovation proposée favorise la diversification des produits des entreprises et facilite l'accès à différents marchés et/ou consommateurs.

### **Fruit press (English)**

In a competitive environment, offering final products to the consumers that are regular in shape, color, taste and size is essential. Thus, the fruits and vegetables that do not respect these criteria can represent important waste that can be economically unprofitable for producers. Several years ago, Biofruits (<https://www.biofruits.ch/fr/accueil/>) decided to invest in a fruits and vegetables press to valorize the products that cannot be sold through the conventional channels or directly to the consumers due to bad external quality (shape or color non-compliant with the standards). The technology offers a high-quality final products.

If the generated innovation is implemented, all fruits and vegetables can be processed to produce juices. The technology can process for example 1 kg of fruits to produce 7 deciliters of juices. Then it depends of the fruits, if it is juice or nectar, or if it is another beverage. The main advantages of this technology are the preservation of the nutrients and the contents of the fruits and vegetables, in order to keep all the healthy and good components. Furthermore, the taste is also representative of the product (i.e. preservation of the aromas of the raw materials). The shelf life of the final product is also interesting, extending the product consumption to 24 months. Finally, the innovation proposed favor products' diversification of the firms and facilitate the access to different markets and/or consumers.

## 8. PA 7

### **Nouveaux produits fromagers (French)**

La diversification des produits est une stratégie pour les petites entreprises et les producteurs afin de satisfaire les besoins croissants et de plus en plus complexes des consommateurs. En outre, la diversification peut aider à concurrencer des produits différents et des entreprises qui proposent des biens similaires. En Suisse, les importations de fromages de chèvre similaires aux fromages de chèvre produits par Chèvrement bon (<https://www.fromagebesson.ch/>) sont importantes. Ces produits importés peuvent être moins chers pour les consommateurs que les produits locaux. Cela se fait au détriment de la compétitivité et de la rentabilité économique des producteurs. La petite entreprise Chèvrement bon a décidé de mettre en œuvre depuis quelques années la stratégie de proposer de nouveaux produits. Répondre aux attentes des consommateurs qui demandent plus de produits locaux et frais et toucher de nouveaux consommateurs et/ou marchés est l'objectif de l'innovation produit.

La méthode porte sur la production de différents fromages de chèvre afin de diversifier la production et d'élargir la gamme de produits destinés aux consommateurs. D'autres entreprises peuvent appliquer cette méthode générique à leur propre production, lorsque c'est possible (par exemple, disponibilité des ressources telles que les capacités financières, le savoir-faire, l'équipement). En outre, la courte distance de transport entre le producteur et le lieu de vente garantit la qualité et la sécurité des aliments. Enfin, l'élargissement de la gamme de produits offerts peut améliorer la visibilité et l'image de l'entreprise auprès des consommateurs.

### **New cheese products (English)**

Diversification of products is a strategy for small firms and producers in order to satisfy consumers' needs that are increasing and becoming complex. Besides, diversification can help in competing with different products and firms that propose similar goods. In Switzerland, imports of goat cheese that are similar to the goat cheeses produced by Chèvrement bon (<https://www.fromagebesson.ch/>) are significant. These imported products can be cheaper for the consumers than indigenous products. This is at the expense of the producers' competitiveness and economic return. The small firm Chèvrement bon has decided to implement the strategy of coming up with new products since a few years. Answering consumers' expectations that are demanding for more local and fresh food and reach new consumers and/or markets is the objective of the product innovation.

The method is relating to the production of different goat cheeses in order to diversify the production and extend the range of products for consumers. Other firms can apply this generic method to their own production, if applicable (e.g. available resources like financial capacities, know-how, equipment). Furthermore, the short transport distance from the producer to the salesroom ensures food quality and food safety. Finally, extending the range of offered products can improve the firm's visibility and image to the consumers.

## 9. PA 8

### **Μεταμορφώνοντας ένα παντοπωλείο σε ορμητήριο μεταμορφωτικών δραστηριοτήτων (Greek)**

Ο μη-κερδοσκοπικός συνεταιρισμός «Αλλότροπον» εδράζεται και με τη σειρά του στηρίζει τις έννοιες της αλληλέγγυας οικονομίας και της κοινοτικής ανάπτυξης. Τα μέλη του Αλλότροπον είναι προσηλωμένα σε πρακτικές που παγιώνουν την αίσθηση ότι «κάνουν κάτι σωστό και δίκαιο» ενώ, στο πλαίσιο της εμπιστοσύνης, ενεργοποιούν κοινωνικούς δεσμούς με άλλα μέλη του δικτύου τους ή και την τοπική κοινότητα. Βασικά, τα μέλη του Αλλότροπον χρησιμοποιούν το παντοπωλείο, το οποίο φιλοξενεί κι ένα καφενέ με το ίδιο όνομα, ως ορμητήριο μετασχηματιστικών πρωτοβουλιών που ενισχύουν την κοινωνική αξία των βραχείων αλυσίδων εφοδιασμού τροφίμων, φέρνουν τους ανθρώπους πιο κοντά και τονώνουν την κοινωνική δραστηριότητα. Έχουν ουσιαστικά μεταμορφώσει το παντοπωλείο-καφενέ σε στέκι ανταλλαγής γνώσεων και ιδεών, αλλά και σε χώρο υποδοχής διαφορετικών κοινωνικών εκδηλώσεων, όπως εκθέσεων τροφίμων, γιορτών γης (π.χ. ενημερωτικές ημερίδες αφιερωμένες στην πραγματική αξία των σπόρων), πολιτιστικών γεγονότων (π.χ. συναυλίες, κινηματογραφικές προβολές, παρουσιάσεις βιβλίων), ομιλιών, και εκστρατειών κοινωνικής ενίσχυσης (π.χ. συλλογή τροφίμων για πρόσφυγες και απόρους). Στο Αλλότροπον, λοιπόν, όλοι είναι ευπρόσδεκτοι να πάρουν μέρος και να γευτούν τους καρπούς αυτής της κοινωνικής μεταμόρφωσης.

### **Transforming your grocery store into a springboard for transformational activities (English)**

The non-profit co-operative "Allotropon" ([www.allotropon.gr](http://www.allotropon.gr), in Greek) is premised on and supports the concepts of solidarity economy and community development. Allotropon members habitually engage in practices that develop the sense of 'doing something right' and, at the same time, activate social links with other network members or the local community. In doing so, Allotropon members use the grocery store, which is also home to a café by the same name, as a springboard for transformational initiatives that reinforce the social value of its short food supply chain, get people together, and stimulate social activity. For example, Allotropon's members have transformed the store and café into a meeting point for the exchange of knowledge and ideas, and a venue for different events, such as food fairs, "earth fests" (e.g., informational events devoted to the real value of seeds), cultural happenings (e.g., concerts, film screenings, book presentations), speeches, and socially-oriented campaigns (e.g., gathering food items for refugees, catering for the most deprived). Everyone is welcome to get on board and reap the fruits of this social metamorphosis.

## 10. PA 9

### **Δρέποντας τους καρπούς των εκπαιδευτικών σπόρων (Greek)**

Η «γαία» είναι ένας καταναλωτικός συνεταιρισμός που ιδρύθηκε στα Χανιά της Κρήτης το καλοκαίρι του 1996. Τα ιδρυτικά του μέλη αποτελούνταν από μια μικρή ομάδα βιοκαλλιεργητών, γεωπόνων, καθώς και θιασωτών της οικολογίας και της υγιεινής διατροφής. Σήμερα, τα μέλη αυτά μπορούν να υπερηφανεύονται ότι δημιούργησαν τον πρώτο συνεταιρισμό στην Ελλάδα που ένωσε παραγωγούς και καταναλωτές σε ένα κοινό σχήμα, δηλαδή τον πρώτο συνεταιρισμό παραγωγών-καταναλωτών στη χώρα. Το εγχείρημά τους, ωστόσο, αντιμετώπιστηκε αρχικά με επιφύλαξη από τους συντοπίτες τους. Δεν το έβαλαν κάτω, όμως, παρά μόνο εργάστηκαν συστηματικά για να επιμορφώσουν την τοπική κοινωνία, υλοποιώντας, μεταξύ άλλων, μια ρωμαλέα εκπαιδευτική εκστρατεία στα σχολεία. Συνειδητοποίησαν από νωρίς ότι άξιζε τον κόπο να αφιερώσουν χρόνο και ενέργεια στην εκπαίδευση των νεαρών μαθητών για τα οφέλη των βιολογικών προϊόντων, της υγιεινής διατροφής, του σεβασμού στο περιβάλλον και των βραχειών αλυσίδων εφοδιασμού τροφίμων. Οι σπόροι που φύτεψαν, λοιπόν, περισσότερο από 20 χρόνια πριν, έχουν πια βλαστήσει για τα καλά. Πολλοί από τους τότε μαθητές είναι τώρα ενήλικοι πολίτες που έχουν γίνει πιστοί πελάτες της «γαίας», αλλά και ζηλωτές της φιλικής προς το περιβάλλον παραγωγής και των βραχειών αλυσίδων εφοδιασμού τροφίμων.

### **Reaping the rewards of educational seeds (English)**

“Gaia” is a retail co-operative founded in Chania, Crete, back in the summer of 1996. The founding members consisted of a small group of organic farmers, agronomists, ecology enthusiasts, and healthy nutrition proponents. “Gaia” takes pride in having been the first-ever co-operative in Greece that brought together producers and consumers, being, in essence, a producer-consumer co-operative. The endeavor was initially met with skepticism by local people, but the founding members were determined to “turn the tables”. They engaged in systematic efforts to educate the local community, launching, among others, a robust educational campaign at schools. That is, the founding members realized that they had to invest a lot of time and effort in convincing young pupils about the merits of organic products, healthy eating, respect for the environment, and short supply chains. The seeds they sowed more than 20 years ago have now flourished. A lot of these former schoolchildren are now grown-ups who have become very loyal customers of “gaia”, and ambassadors of environmental-friendly production and short food supply chains.



## 11. PA 10

### **Sistem za dezinfekciju za prehrambeni sektor (Serbian)**

Ovi sistemi (<https://www.air-solution.com/en/>) se mogu koristiti za dezinfekciju vazduha u zatvorenom prostoru, dezinfekciju površina i vode za industrijsku primenu u sektoru HRANE. Inovativno rešenje je kompatibilna antimikrobna tečnost koja se sastoji od prirodnih supstanci. Ovaj sistem podrazumeva upotrebu pažljivo izabраних supstanci, bez komponenata koje sadrže alkohol i druge hemijske supstance, čija je primena diskutabilna. Antimikrobni efekat je rezultat specifičnih svojstava ovih sastojaka i njihovog sinergističnog dejstva. Zahvaljujući sinergističkom delovanju, inovative supstance rastvora su vrlo efikasne u vrlo niskim koncentracijama.

Sa kontinuiranom primenom ovog inovativnog rešenja u sistemima za punjenje i pakovanje, finalni proizvodi su značajno manje kontaminirani kvascima i plesnima i mogu biti stabilni duži vremenski period. Na ovaj način dugoročno se obezbeđuju održivi higijenski standardi. U skladu sa tim, značajno se osigurava da će proizvod biti bezbedan u "roku upotrebe" i čak se ovaj rok može produžiti.

Ova nova tehnologija se može koristiti za mala i srednja preduzeća kao i za velike kompanije. Kapacitet i tip potrebnog sistema zavisi od specifičnosti proizvodnje. Zemlja, region ili mesto nisu ograničavajući faktori za ovo rešenje i njegovu implementaciju u kompanija. Nakon primene rešenja, prehrambeni proizvodi se mogu distribuirati na sva svetska tržišta, zahvaljujući njihovoj stabilnosti i redukciji mikroba. Rok upotrebe određenog proizvoda zavisice od tip i osobina tog proizvoda.

### **Disinfections systems for the food sector (English)**

These systems (<https://www.air-solution.com/en/>) can be used for the disinfection of indoor air, surfaces and water – for the industrial use in the food sector. Innovative solution is a compatible, antimicrobial liquid that consists of naturally raw materials. This system implies using of carefully chosen ingredients, without components containing alcohol and other chemical substances which application is questionable. The antimicrobial effect results from the specific properties of these ingredients and their synergetic interaction. Due to these synergetic interactions, the innovative solution ingredients are highly effective in very low concentrations.

With the continuous use of this innovative solution in filling and sealing systems, the final products are significantly less contaminated by yeasts and mould and will stay stable for a long-term basis. This leads to a long-term and sustainable hygiene security. Consequently, above-mentioned significantly secures the "best before date" and can even extend it.

This novel technology can be used for small- and medium-sized companies as well as for big business. The capacity and type of required systems depends on the production specifics. Country, region and location are not limiting factors for this solution and system implementation in some company. After the application of this solution, food products can be distributed all over the world market, due to their stabilization and microbial reduction. Shelf-life of food product depends of type and properties of certain product.

## 12. PA 11

### **Primena visokog pritiska (HPP) u proizvodni hrane (Serbian)**

Ovo inovativno rešenje predstavlja netermički postupak kao alternativu konvencionalnim termičkim tretmanima za dobijanje visoko kvalitetne hrane bez aditiva sa karakterističnim ukusom sveže namirnice. Kao jedna od novih tehnologija koja se najuspešnije komercijalizovala, HPP tehnologija eliminiše patogene hrane na sobnoj temperaturi i produžava rok upotrebe proizvoda. HPP je zvanično priznata kao netermička pasterizacija koja može zameniti tradicionalnu pasterizaciju u prehrambnoj industriji (prema američkoj administraciji za hranu i lekove).

Efekat pasterizacije primenom HPP tehnologije ne zavisi od oblika pakovanja i zapremine hrane, zbog čega se hrana različite zapremine može pasterizovati u istoj šarži. HPP se vrši na sobnoj temperature, smanjujući potrošnju energiju u odnosu na klasičnu pasterizaciju gde se energija troši za zagrevanje i hlađenje proizvoda. Pored toga, hrana je upakovana tako da ne dolazi direktno u kontakt sa uređajem, čime se sprečava sekundarna kontaminacija hrane nakon pasterizacije. Sa ovim prednostima (niska potrošnja energije i smanjeni rizik kontaminacije), HPP tehnologija je tehnologija koja ne zagađuje životni sredinu. Prema tome, HPP tehnologija je prepoznata kao minimalna procesna tehnologija koja obezbeđuje i kvalitet i bezbednost hrane.

<https://www.avure-hpp-foods.com/>

<https://www.hiperbaric.com/>

<https://de.multivac.com/>

### **High-pressure processing (HPP) technology for food production (English)**

The novelty proposed is the non-thermal food processing technologies as alternative to conventionally heat treatments in high quality foods with fresh-like sensory and additive-free characteristics. As the most successfully commercialized non-thermal processing technology, HPP eliminates food pathogens at room temperature and extends the shelf life. HPP is officially approved as a non-thermal pasteurization technology that can replace traditional pasteurization in the food industry (US Food&Drug Administration).

Pasteurization effects of HPP is not affected by the packaging form and volume of the food, and thus foods of different volumes can be processed in the same batch. HPP is performed at room temperature, reducing energy consumption associated with heating and subsequent cooling. In addition, the food is in packaged form and does not directly contact the processing devices, preventing the secondary contamination of food after pasteurization. Additionally, the pressure transfer medium can be recycled after processing. With the advantages of low energy consumption and low contamination risk, HPP technology is an environmentally friendly processing technology. Therefore, HPP technology is recognized as a minimal processing technology that ensures both food safety and quality.

<https://www.avure-hpp-foods.com/>

<https://www.hiperbaric.com/>

<https://de.multivac.com/>

## 13. PA 12

### **Vakum-mikrotalasna tehnologija – inovativna dehidrataciona tehnologija za nove prehrambene proizvode (Serbian)**

Vakum-mikrotalasna tehnologija je brz, nisko-temperaturni metod sušenja koji omogućava da se održi boja, ukus i nutrijenti prehrambenog proizvoda. Ova tehnologija omogućava uniformno sušene sa fleksibilnim sadržajem vlage.

Praktične prednosti ove tehnologije su: (1) velika brzina procesa jer je process sušenja brz i značajne su uštede vremena u odnosu na druge tehnologije sušenja namirnica (kao što je na primer sušenje vrelim vazduhom ili liofilizacija); (2) prilagođavanje veličine opreme jer oprema može biti od istraživačke preko šaržne proizvodnje do kontinualne komercijalne proizvodnje; (3) fleksibilan sadržaj vlage u finalnom proizvodu. Naime, uniformno zapreminsko sušenje omogućava kontrolu finalnog sadržaja vlage i teksture čime se postiže stabilan finalni proizvod; (4) kontinualno procesiranje jer ova tehnologija može da se integriše u kontinualnu proizvodnu liniju; (5) smanjena potrošnja energije usled kratkog vremena sušenja; (6) dobijanje novih proizvoda jer nova tehnologija omogućava proizvodnju prehrambenih proizvoda koji se ne mogu dobiti drugim tehnologijama.

Nakon procesa sušenja novi prehrambeni proizvodi mogu se lako distribuirati na ambientalnoj temperature na tržišta širom sveta. Razlog je smanjeni sadržaj vlage i produženi rok upotrebe.

<https://www.enwave.net/>

### **Vacuum-microwave technology - innovative dehydration technology for new food products (English)**

Vacuum-microwave technology is a rapid, low temperature drying method that maintains food product's colour, flavour and nutrients. This technology enables uniform drying with flexible moisture content.

Practical benefits of this technology are: (1) high speed processing since drying is rapid and with significant time savings over other drying technologies (e.g. air drying and freeze drying); (2) scalability since machine can scale from research and design level, batch production to continuous commercial production; (3) flexible moisture content in final product. Namely, uniform volumetric drying allows control over final moisture content and texture achieving shelf stable final products in parallel. (4) continuous processing because this technology can integrate into continuous production line (5) reduced energy saving due to rapid drying time (6) new product opportunities due to a new technology that enable production of food products unachievable with other technology.

After drying process the new food products can be easily and regularly distributed in ambient temperature all over the world food market. The reason is reduced moisture and prolonged shelf life.

<https://www.enwave.net/>

## 14. PA 13

### **Vacuum cooling solutions for food products (English)**

The pre-cooling system enables local (in place) packaging for the producer (field-packed products), without transport to a cooling house. After cooling and packaging any regular distribution channels are available.

- this is a pre-cooling postharvest technology for the removal of the field heat
- minimal process system
- existing fix and mobile system
- fast removal of the field heat in vacuum due vaporizing after harvesting
- uniform cooling, same temperature (as well on the surface as in the cold junction)
- individual parameter settings for the different products
- preserve quality and taste
- substantially longer shelf life of the fresh produce
- specific developed control system
- save on energy costs
- vacuum cooling methods are much more effective and modern than the traditional technologies
- mobile, it is possible to move by truck trailer e.g. to the field, direct to the harvest place
- in cooperation with other farmers, the utilization of the vacuum cooling system is more beneficial, the costs can be shared among the partners
- different capacities are available.

<https://webercooling.com/en/>

## 15. PA 14

### **Zalai Nyitott Porták – közösség alapú üzleti modell és társadalmi coaching (Hungarian)**

A Zalai Nyitott Porták 2018-ban alulról jövő kezdeményezésként hozta létre a Zala Termálvölgye Helyi Akciócsoport (HACS) öt éves előkészítő munka eredményeként. A Nyitott Porták egy termelők és vidéki szolgáltatók hálózata, akik vállalják, hogy kinyitják kapuikat és termékelőállító üzemeiket a vendégek számára, valamint magas minőségű terméket állítanak elő. A hálózat tulajdonosai a termelők és szolgáltatók, de magát a szervezetet a HACS működteti a fenntarthatóság biztosítása érdekében. Ez azt jelenti, hogy a HACS munkatársai biztosítják a közös marketing imázst, a weboldalt és applikációt, események szervezését, minőségbiztosítást és coachingot a vendéglátásra alkalmas környezet biztosításához (mosdók, higiéniai és esztétikai feltételek stb.), valamint a képzéseket. Az üzleti modell egyszerű: az érdeklődők érkeznek a gazdaságokba vásárolni és élményeket szerezni, nem csak megbeszélte időpontban, hanem rendszeres nyitvatartási időben és szervezett eseményeken. A látogatók megnézhetik hogyan és hol készülnek a helyi termékek és megismerhetik a hálózati tagokat.

A HACS jelenleg a program fő motorja és a helyi fejlesztési stratégia gerince. (Kizárólag hálózati tagok pályázhatnak Uniós és állami támogatásra.) Azonban hosszú távon a termelőknek kell a program költségeit állniuk, hogy a HACS szakmai és pénzügyi támogatása nélkül is fenntarthatóvá váljon a program. A helyi szereplők coachingolása a program kulcs innovációja, amely biztosítja a szereplők együttműködését.

<http://nyitottportak.hu>

### **Zala Valley Open Farms – community based business model and social coaching in small village area (English)**

The Zala Valley Open Farms as a bottom-up initiative was established in 2018 by the Zala-Termálvölgye Local Action Group (LAG) after 5 years long preparation process which is a network of producers and rural service providers who undertake to open their farms and food processing plants for customers also provide high value added food products. The network belongs to farmers and service providers however it is operated by the LAG to ensure its sustainability. It means that the facilitators of the LAG provide common marketing image, a well-designed internet platform and smartphone app, organisation of events, quality assurance system and coaching for creating adequate environment at the farm to be able to accept visitors (toilets, hygiene, aesthetics, etc.) and trainings. The business model is easy: visitors can come to visit and buy products not only by appointment, but also during the regular opening times and at special organised events. Thus, customers can actually see how and where the local products are produced and get to know all the local members.

The LAG is, at the moment, the main engine of the programme and turned it into the backbone of local development strategy. (Only network members can apply for business support from the EU/state funded local development programme). Nevertheless, on the long run, producers should take charge and the programme should be sustainable even without the professional and financial input of the LAG.

The key innovation of this programme is the way of coaching the local stakeholders to ensure their cooperation. Farmers can access personal advice according to their activities, facility or know-how deficiencies.

<http://nyitottportak.hu>

## 16. PA 15

### **Foodhub.hu – Helyi alapanyagok közvetlenül a földtől az asztalig (Hungarian)**

A Foodhub.hu (<http://foodhub.hu/>) célja, hogy összekapcsolja a kistermelőket az olyan vállalkozásokkal, amelyek helyi, jó minőségű friss alapanyagokat keresnek, legyenek azok éttermek, termelői piacok vagy élelmiszer-kiskereskedők.

A Foodhub.hu küldetése, hogy megoldja a helyi élelmiszer-elosztást azáltal, hogy eszközöket és ismereteket nyújt a rugalmas helyi élelmiszergazdaság fejlesztéséhez. Támogatja a kistermelőket keresletre alapozott tanácsadási szolgáltatásokkal, miközben a séfek és a fogyasztók igény szerint hozzáférhetnek a minőségi termékekhez.

A Foodhub és partnere, az Supp.li egy innovatív farmtól az asztalig szolgáltató HUB -ot épít fel, amely a következő digitalizált szolgáltatásokat nyújtja a mezőgazdasági termelők számára a piacuk eléréséhez:

- Központi logisztikai szolgáltatás, beleértve a raktározást, az üzembe helyezést és a vásárlóknak történő szállítást, ahol a gazdák tárolhatják termékeiket, és a Foodhub nyújt minden fennmaradó logisztikai szolgáltatást.
- Központi online piactér a mezőgazdasági termelők B2B és B2C értékesítésének támogatására, beleértve a megfelelő számlázás kezelését, a fizetéskezelést, az áfa-megfelelést, az online marketing, a központi ügyfélszolgálat, az exportértékesítés irányítását, a belföldi értékesítés irányítását.
- Oktatási és hálózatépítési HUB, ahol az élelmiszer-előállítókat képezzük a saját piaci értékeik minden aspektusáról: üzleti menedzsment, élelmiszer-szabályozás, logisztika, marketing, értékesítés.
- Előrejelző HUB, ahol a mezőgazdasági termelők Big-Data elemzésből információkat kaphatnak, hogy milyen termékekre lesz szükség a B2C és B2B ügyfelek számára az év során.

### **Foodhub.hu - Local ingredient directly from farm to fork (English)**

Foodhub.hu (<http://foodhub.hu/>) reconnects small-scale farmers directly with businesses looking for local, high-quality fresh ingredients, be they restaurants, farmer's markets or food retailers.

Foodhub.hu is on the mission to solve the local food distribution by providing the tools and knowledge to develop a resilient local food economy. Support small-scale producers with demand-driven advisory services while providing chefs and consumers with on-demand access to quality products.

Foodhub and its partner Supp.li are building an innovative farm-to-table service HUB, that provides the following digitalized services for farmers to reach their markets:

- Central logistics service, including warehousing, commissioning, transportation to buyers, where farmers can store in their products and Foodhub will provide all remaining logistic services.
- A central online marketplace to assist farmers B2B and B2C sales, including all factors of proper invoicing management, payment management, VAT compliance, online marketing, centralized customer service, export sales management, inland sales management.
- An educational and networking HUB where food producers are educated about all aspects of their go-to-market: business management, food regulations, logistics, marketing, sales.
- A forecasting HUB where farmers can be provided with big-data analyses results of what products will be needed by B2C and B2B clients throughout the year.

## 17. PA 16

### Mobile Geflügelställe (German)

Die Landwirtschaftskammer Niedersachsen fördert die (biologische und konventionelle) mobile Geflügelhaltung. In Niedersachsen wird für mobile Geflügelställe bis 450 m<sup>3</sup> keine Baugenehmigung benötigt. Die mobile Unterbringung von Geflügel bietet dabei weitere Vorteile:

- Die mobile Geflügelställe sind voll ausgestattete, bewegbare Ställe die ganzjährig genutzt werden können
- Die Bewegbarkeit der Ställe bietet Flexibilität, verhindert/reduziert Verschlammung, Überdüngung und Ansammlung von Parasiten
- Weniger Arbeitsaufwand für den Aufbau des Stalls ermöglicht mehr Zeit für das Tierwohl

Darüber hinaus ermöglicht die mobile Geflügelhaltung völlig neue Möglichkeiten für den Direktvertrieb von Eiern vor Ort. So können Verbraucher, durch eine transparente Haltung unter Berücksichtigung des Tierwohls von den Produkten überzeugt werden.

In Deutschland bieten verschiedene Unternehmen (z.B. Farmermobil GmbH oder Hühnerstall-Mobil) ein umfangreiches Angebot mobiler Geflügelställe, von traditionellen Ställen bis hin zu voll automatisierten Modellen (automatisierte Fütterung/Tränkung, Be- und Entlüftung, Kotband, Familiennester, Eier-Sammelbänder, etc.), um alle Bedarfe der Unterbringung zu adressieren. Alle Landwirte mit Geflügelhaltung können diese Innovation nutzen.

<https://farmermobil.com/de/>

<https://www.huehnerstall-mobil.de/>

<https://cube-fx.de/produkte/henhouse/>

[https://www.omlet.de/shop/h%C3%BChnerzucht/h%C3%BChnerstall\\_eglu\\_cube/](https://www.omlet.de/shop/h%C3%BChnerzucht/h%C3%BChnerstall_eglu_cube/)

### Mobile poultry coops (English)

Landwirtschaftskammer Niedersachsen (Chamber of Agriculture Lower-Saxony) supports the mobile poultry farming (organic and conventional). In Lower Saxony, mobile coop systems for poultry are free of building permit up to a size of 450 m<sup>3</sup>. The mobile housing system presents some advantages:

- Mobile poultry coops are fully equipped, movable pens, which can be used throughout the year for housing chicken
- Their movability and flexibility prevents and/or reduced silting, over-fertilization and accumulation of parasites
- Less work on the actual house allows more time for animal welfare

The advance mobile poultry housing also offers completely new possibilities for the direct marketing of eggs in the local region. These systems convince consumers with a transparent farming system that promotes animal welfare.

In Germany, several companies (e.g. Farmermobil GmbH or Hühnerstall-Mobil) produce a large range of mobile layer housing, from traditional to fully automatic operation (feed, water, air intake, air exhaust, manure belt, family nests, egg collection belt, etc.), to meet all needs for housing systems. All farmers involved in poultry farming can make use of this innovation.

<https://farmermobil.com/de/>

<https://www.huehnerstall-mobil.de/>

<https://cube-fx.de/produkte/henhouse/>

[https://www.omlet.de/shop/h%C3%BChnerzucht/h%C3%BChnerstall\\_eglu\\_cube/](https://www.omlet.de/shop/h%C3%BChnerzucht/h%C3%BChnerstall_eglu_cube/)



## 18. PA 17

### **Verkaufsautomaten für landwirtschaftliche Frischeprodukte (German)**

Die Landwirtschaftskammer Niedersachsen führt Verkaufsautomaten für landwirtschaftliche Frischeprodukte ein. Diese Verkaufsautomaten können 24 Stunden täglich genutzt werden und erfordern keine besondere Instandhaltung. Darüber hinaus besteht keine Störung der landwirtschaftlichen Aktivitäten durch Kunden auf dem Hof/der landwirtschaftlichen Einrichtung. Hersteller wie AGRiDEE bieten Verkaufsautomaten mit Schließfachsystem an. Diese Art von Verkaufsautomaten - mit oder ohne Kühlung – ermöglicht den Verkauf von landwirtschaftlichen Frischeprodukten wie Eiern, Obst, Gemüse oder Fleisch ab Hof ohne den Bedarf an zusätzlichen Arbeitskräften oder der Gefahr von Diebstählen. Die Verkaufsautomaten, mit 92 bis 192 Fächern lassen sich leicht an jedem beliebigen Ort aufstellen. Für den Aufbau wird dabei immer ein Einzelkassensystem als Basis benötigt. In diesem ist die gesamte Technik untergebracht. Sowohl Bar- als auch Kartenzahlung ist möglich.

Durch die Verkaufsautomaten eröffnet sich für die Landwirte ein neuer Vertriebsweg für ihre Frischeprodukte, ohne den Bedarf für direkten Kundenkontakt oder Zwischenhändler, was Gewinn der Landwirte erhöht. Auf dem Markt ist eine Vielzahl von Verkaufsautomaten für verschiedenste Arten von Frischeprodukten verfügbar.

<http://www.agridee.ch/>

<https://www.risto-vending.com/en#top>

<https://www.jsrservices.co.uk/>

### **Vending machines for agricultural fresh food products (English)**

Landwirtschaftskammer Niedersachsen (Chamber of Agriculture Lower-Saxony, Germany) is implementing vending machines for agricultural fresh food products. This type of vending machines can be accessed 24 hours a day and do not need special maintenance by workers. Further, agricultural activities are not interrupted by customers at the production site. AGRiDEE and other manufacturers offer locker style fresh food vending machines. This style of vending machine, refrigerated and non-refrigerated, can enable egg, fruits, vegetables and all fresh food farmers and producers to develop farm gate sales free from the fear of theft. The vending machines, with 92 to 192 compartments, are easy to install everywhere. A single cash register system is always needed as a basis for all vending machines. Consumers can pay with cash or with different credit cards.

With this type of vending machines, farmers have a new way to sell fresh food products direct to the public without having to deal with customers and, as the vending machines eliminate middlemen, the farmer nets more profit. The manufacturers (e.g. AGRiDEE, Risto) offer a large variety of vending machines for different types of fresh food products.

<http://www.agridee.ch/>

<https://www.risto-vending.com/en#top>

<https://www.jsrservices.co.uk/>