Food Systems in European Cities

D7.19 Report on the FoodE Final Event

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Authors	Inti Bertocchi (BOL), Tommaso Rovinelli (BOL), Francesco Orsini UNIBO), Michele D'Ostuni (UNIBO)
Contributors	All partners
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Project Consortium

No.	Institution Short name	Institution Full name	Country
1	UNIBO	ALMA MATER STUDIORUM – UNIVERSITÀ DI BOLOGNA	IT
2	APT	INSTITUT DES SCIENCES ET INDUSTRIES DU VIVANT ET DE L'ENVIRONNEMENT - AGRO PARIS TECH	FR
3	RMN	COMMUNE DE ROMAINVILLE	FR
4	SWUAS	FACHHOCHSCHULE SUDWESTFALEN	DE
5	ILS	INSTITUT FUR LANDES- UND STADTENTWICKLUNGSFORSCHUNG gGMBH	DE
6	FLY	FLYTECH SRL	IT
7	NOL	NOLDE ERWIN	DE
8	BOL	COMUNE DI BOLOGNA	IT
9	NAP	COMUNE DI NAPOLI	IT
10	UNINA	UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II	IT
11	HCA	HAGUE CORPORATE AFFAIRS BV	NL
12	LAN	GEMEENTE LANSINGERLAND	NL
14	WR	STICHTING WAGENINGEN RESEARCH	NL
16	POL	POLAR PERMACULTURE SOLUTIONS AS	NO
17	TAS	TASEN MICROGREENS AS	NO
18	MBI	ASOCIATIA MAI BINE	RO
19	ARC	ARCTUR RACUNALNISKI INZENIRING DOO	SI
20	BEE	DRUSTVO URBANI CEBELAR	SI
21	SBD	AJUNTAMENT DE SABADELL	ES
22	ISL	ORGANIZACION DE PRODUCTORES DE TUNIDOS Y PESCA FRESCA DE LA ISLA DE TENERIFE	ES
23	ULL	UNIVERSIDAD DE LA LAGUNA	ES
24	UAB	UNIVERSITAT AUTONOMA DE BARCELONA	ES
25	METAINST	STICHTING METABOLIC INSTITUTE	NL
26	NBL AS	NABOLAGSHAGER AS	NO

Document Control Sheet

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Abbreviations

CRFS	City-Region Food System
GA	General Assembly
IC	Impact Category
KPI	Key Performance Indicator
LCA	Life Cycle Assessment
LCC	Life Cycle Costing
WP	Work Package

1 Final Event

According to the Grant Agreement and Project Work Plan, **Task 7.2.5**, was supposed to be held in month M46, but during the General Assembly held in Paris, from the 17th to the 19th of April 2023, it was decided that the final event was to be linked to the 3rd International Workshop on Vertical Farming (VertiFarm2024) planned for January 2024 (16th to 19th) at Bologna Municipality on the premises of the Palazzo Re Enzo. This choice was taken to optimise the organisational efforts and to give the chance to partners to join both events.

The FoodE final event was held in month **M48** (January 2024) and organised by Bologna Municipality together with UNIBO. It was chaired by the Coordinator, Prof. Francesco Orsini, and the representative of the Municipality, Inti Bertocchi.
The main aim of the event was to present recommendations coming from the project results for local and European decision makers.

1.1 *The Agenda of the Final Event*

The FoodE final event took place at the Auditorium Biagi, Sala Borsa, Piazza del Nettuno, in Bologna on the **15th of January 2024**. The event was split into two parts: the first one reserved to project partners (**Project Meeting**) and the second open to the public (**FoodE public event**) for the dissemination of the project results according to the following agenda:

	Project meeting	
13.00-14.00	**Light lunch**	
14.00-15.00	Final reporting + Q&A	Rachele Del Monte (UNIBO)
15.00-15.15	Open discussion on issues encounterable before project closure (e.g., deliverables in delay)	Francesco Orsini (UNIBO)
15.15-15.45	Groups discussion on future plans for collaborations	Antonella Samoggia (UNIBO)
	FoodE public event *"Citizenship and local food systems: encourage active participation for more resilient cities"*	
16.00 - 16.20	Welcome and project introduction	Francesco Orsini (UNIBO)
16.20 - 16.30	"The sustainability scoring system to assess City-Region Food System Initiatives"	Mara Petruzzelli, Anna Niero, MatteoVittuari (UNIBO)
16.30 - 16.40	"Achieving impact from project results: the FoodE exploitation strategy as a participatory value-driven process"	ValeriaMusso, MatteoVittuari (UNIBO)
16.40 - 16.50	"Getting involved in your city's food movement: examples from different European Cities"	Isabella Righini (WUR)
16.50 - 17.00	"Foode App: supporting local and sustainable food across Europe"	Xavier Gabarrell Durany, Veronica Arcas, Pietro Tonini, Valentina Cordoba, Guido Evangelista (UAB)

17.00 - 17.30	**Coffee break**	
17.30 - 17.40	"The FoodE formula for creating awareness in pupils: play, compete, learn!"	Sonia Blasioli - Agnès Lelièvre (UNIBO - APT)
17.40 - 17.50	“Harvesting connections: initiatives to strengthen rural-urban linkages and community building”	Antonella Samoggia (UNIBO)
17.50 - 18.00	“Scenarios and Policy Recommendations for the Development of Sustainable City Region Food Systems”	Barbara Schröter (ILS)
18.00 - 18.10	“Perception, expectations, and politics of vertical farming systems for sustainable food production”	Michael Martin (IVL - Swedish Environmental Research Institute)
18.10 - 18.20	"Experience and Possibilities of Plant Factories at Kashiwa- no-ha Smart City"	Eri Hayashi (JPFA - Japan Plant Factory Association)
18.20 - 18.25	“FoodEinBO” video projection	Ilaria Braschi (UNIBO) - Fabrizio Colliva (Flash Giovani - BOL)
18.25 - 19.00	Moment of discussion between the associations of the city of Bologna involved in urban agriculture projects + Q&A session	Inti Bertocchi (BOL)
20.00	**Social Dinner**	

The Project Meeting was organised into three thematic sessions: the first one was devoted to the final reporting issues, the second one to discussing some technical aspects related to the work plan and the last one to reflect on the project’s follow-ups and possible future collaborations.

The Public event was also organised into several thematic sessions to provide an overview on main achievements of FoodE, including, but not limited to, the evaluation system and exploitation strategies, the results from the FoodE App, and the used educational tools. A summary of each presentation will be provided in the next paragraph. Given the presence of guests from outside of the project, some CRFSi case studies at the European level were chosen (as best practices) in order to offer new sources of inspiration and stimulate the debate.

The Public event was advertised through FoodE social media channels and newsletters and was published on the Project Partner websites, such as the Municipality of Bologna.

The participation in the FoodE final event allowed participants to register in person and online. More than 80 participants attended the event live at the Auditorium Biagi, with a total combined participation of approximately **100 participants**.

The talks given during the event were also recorded. The videos have been posted on Social media, on the FoodE website and in the YouTube channel of the project. [1]

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Figure 1. The final event in Bologna

1.2 The public event

Title of the public conference was "**Citizenship and local food systems: encourage active participation for more resilient cities**". The conference started with a welcome speech and the FoodE project introduction held by the coordinator, Prof. Francesco Orsini and followed with the presentation of other project partners. The speakers, through PowerPoint presentations and other interactive methods, displayed the results of the project and engaged with the public on the outcomes and future perspectives of the FoodE project.

Summary of the presentations:

1. **"Towards more sustainable, resilient and community-driven urban food systems: experiences from the European FoodE Food Systems in European Cities".**

Prof. Orsini (UNIBO) after introducing the speakers presented the concept of the City-Region Food Systems and the goals of FoodE by analysing several initiatives across Europe on sustainable food production, processing, sales and distribution, catering services, food waste management and all associated services. Therefore, under the umbrella of sustainable CRFSs, Prof. Orsini presented several initiatives related to the FoodE project and carried out in different European regions. Most of the presented projects had a small-scale dimension, presenting highly innovative solutions that enabled to improve the sustainability of the local food system. The FoodE project has mapped and studied these existing experiences and analysed their sustainability features, in order to promote the creation and management of new initiatives and to point out the more interesting entrepreneurial models to be replicated. All this work has been done involving citizens since they are the main actors of the transition towards sustainable food practices.
The first challenge of the project was to reflect on how to evaluate the sustainability of the Food Systems. Several online workshops, interviews and intensive educative actions were held to define the indicators that could give support to the sustainability evaluation process. To this end, the project developed several tools (some easier to use, others more complex and destined to research/commercial actors) that can support the decision-making processes and that are addressed to operators and practitioners of the food sector that aim to increase the overall sustainability of their initiatives. This has been linked to communication and public participation events, with intensive initiatives of 1-2 weeks in 8 European cities together with several other small

events that intended to stimulate the debate and share knowledge on how to act in the framework of sustainable CRFSs.
Engaging with the younger generations had an important role in accompanying the research, both with school activities (mainly in kindergartens and primary schools) but also with older students of secondary schools. In this regard, one of the outcomes of the FoodE project was to curate a digital book, published in the journal "Frontiers for young minds", that fostered the scientific communication towards the young generations engaging with the young readers in the reviewing process of the scientific papers.
Another outcome of the project is the creation of the FoodE App, which allows the users to evaluate the sustainability of the registered initiatives around Europe. Furthermore, the App also rewards the users with a retention scheme that provides most active users with a scoring system and related advantages.
Finally, FoodE fostered the creation and implementation of innovative pilot projects. Here, the innovation covers several aspects of sustainability, from technological innovation to social and economic innovations with the development of new business models, fostering the co-design of the food-related activities in the pilots, and promoting civil society engagement, involving more than 1,300 people during the development of the pilots. In this regard, all the pilots and their innovation strategies were collected and reported into a final Guidebook that aims to provide practitioners and interested people with an idea on how the FoodE project has envisioned sustainable CRFSs, and how they can evolve in the next decades. The book also contains a Sustainability Certificate, developed within the Project, that integrates the features of social, economic and environmental sustainability that have been identified in the different work phases.

2. ***"The sustainability scoring system to assess City-Region Food System Initiatives"***

Mara Petruzzelli (UNIBO), also on behalf of Anna Niero and Matteo Vittuari and other colleagues of the University of Bologna, presented the work that has been done to develop an assessment tool of City-Region food system initiatives in Europe.
The aim of this work was to develop a simplified tool, accessible not only for researchers and practitioners but also for the general public, to assess from a sustainability perspective the City-Region food systems within European contexts. That was accomplished via a scoring mechanism, which means basically providing a simplified score, easily understandable by anyone interested in knowing something more on that specific initiative. First of all we moved these contexts into specific units of analysis that we could set at the centre of the assessment tool. City-Region food systems are entities working actively in the food systems which are located close to cities and urban centres and connect those areas to the urban centres via multiple perspectives such as relationships, flows of materials, exchanges and so on. Those entities can be both profit and non-profit and we imagine that they have around or less than 10 employees or volunteers as well. But above all we wanted to consider initiatives which are active in the many steps of the food supply chain; so for instance primary production (agriculture and fishing), but also going through food processing, distribution, food services, food waste management and also education and other integrated services, ideally providing a set of educational assets to the society itself. Once having defined this concept, we set a methodology to develop the scoring tool, that is built on three main blocks: first of all the City-Region food concepts, then the Life cycle method and to conclude the participatory consultation. The first reflection was about fostering the development of sustainable food systems within urban centres, peri-urban and rural areas by strengthening rural-urban linkages. Life Cycle Assessment (LCA), Life Cycle Costing (LCC) and Social Life Cycle (S-LCA) methodologies have all been taken into account. Stakeholders have a key role to support and validate the development and evaluation of sustainability assessment framework. The scoring system was based on the 3 pillars: Social, Economic and Environmental. For each of them a set of Impact categories has been appointed and for each impact category some key performance indicators (KPI) have been chosen, with an overall number of 39 KPI, each of them associated with a score of 1-5 points. The scoring system was tested on more than 100 City-Region Food System initiatives across Europe through an online survey. The outcomes of the assessment are summarised in the FoodE postcards, a way to understand potential improvement, opportunities and to communicate the sustainability performance and advancements to the surrounding community.

*3. **"Achieving impact from project results: The FOODE exploitation strategy as a participatory value-driven process"**.*

Valeria Musso and Matteo Vittuari (both UNIBO) stressed the importance of the exploitation strategy, where the term "exploitation" means "derive a benefit from" or "make a use of" project results and it is a value-driven process where values can have three different meanings: the first one is to generate revenues from a new technology or product; the second one is to fulfil an existing gap in the sector; and the third one is to increase the organisation's/community's distinctive skill set, policies, standards, etc. The exploitation can be both direct (for further research activities, developing a new product or process, creating and providing services, using them in standardisation activities, etc) and indirect (by transferring results, licensing, spin-offs, etc). Communication, dissemination, and exploitation are the three key activities stressed by the European Commission to transfer knowledge and increase the outcome impact. The steps of the exploitation strategy were planned as follows:

1 - Selection of a small number of key exploitable results (KERs);
2 - Exploitation route;
3 - Characterisation of the result;
4 - Risk matrix;
5 - Exploitation Roadmap.

Duing the FoodE project, 4 KERs have been selected:

1. FOODE APP (direct use: commercialisation);
2. GREYWATER RECYCLING PLANT (direct use: licensing of the IPR)
3. FOODE LABEL (direct use: application to public funded research programmes)
4. SIMPLIFIED ASSESSMENT TOOL (direct use: licensing of the IPR)

As a result of the analysis process, the specific objectives of the exploitation strategy were identified in:

- Evaluating sustainability of CRFSi,
- Engagement of stakeholders at urban level (citizens, public actors and initiatives),
- Promotion of innovative and sustainable businesses at urban level,
- Increase food education and active citizenship,
- Urban agriculture and vertical farming implementation.

4. ***"Getting involved in your city's food movement: examples from different European Cities".***

Isabella Righini (WR) presented the task related to the involvement of the city's food movement in different European Cities. CRFS initiatives are profit or non-profit organisations involved in the local food system providing one or more functions within the food value chain. The local dimension is quite subjective, it depends on the context and can be considered at the neighbourhood, city or regional scale; it can't be standardised. Within the FoodE framework, 16 initiatives in 12 European cities have been involved in the project and implemented from the design (in some cases) to their improvement, monitoring, and final implementation. The engagement of the local communities, the pupils, and their families has been a key feature of the implementation process of the 16 pilots fostering educational activities and involving the direct beneficiaries of the project since the first design phases. In this framework, the organisations leading the pilots are very diverse; they can be local administrations, schools, research centres, non-profit organisations, small and medium enterprises, producers' organisations, or a combination of some of these actors. During the presentation, Dr. Righini has brought the example of two pilot projects: one in Amsterdam and the other one in Romania. The first one is an educational farm managed by a local association called Metabolic, located in Amsterdam North, a highly polluted area (a former shipyard) that in 2014 has been converted into a technological park to test innovative solutions. Metabolic has created a greenhouse for the vegetable production connected with an aquaculture system for the fish farming: that was the innovative solution to be tested, trying to close as much as possible the water and nutrient cycles. The spaces are used for educational visits, the adopted solutions are simple and operated on a small scale so that they could be reproduced by visitors in other contexts. The project area also includes some renovated floating houses that host creative workshops and can be rented for cultural events. They also host a small café , and it is not unusual to see concert and artistic events and exhibitions taking place.

The second Pilot in Romania is a "sustainable Bistrot" where the Bistrot is the central activity (also for food delivery and take away) and uses the vegetables grown in its own garden or bought only from local producers. The Bistrot also adopted a new method to reward customers that foster

healthy and sustainable practices: for instance, if customers come by bicycle or bring their own reusable containers, they receive a discount on their meal. Furthermore, the Bistrot also has a community garden, a shop with second hand clothes, and offers voluntary activities aimed at fighting food waste or in support of more disadvantaged families.
However, the two selected pilots are only a few examples of the 16 initiatives that were carried out within the framework of the FoodE project; indeed, there are many other different activities and services that CRFS initiatives can offer. Nonetheless, it emerged during the project that consumers are not always aware of such initiatives. Of course, through word of mouth it is possible to enlarge the plethora of clients/consumers/users, but it might not be enough. That is why, the FoodE App (which will be described more in detail in the next paragraph) plays a crucial role in the dissemination and exploitation of the 16 realised pilot projects.

5. ***"Foode App: supporting local and sustainable food across Europe"***
Xavier Gabarrell Durany (UAB) presented the FoodE App, a tool to support local and sustainable food across Europe, an interactive meeting place for local and sustainable food systems and stakeholders that helps connecting with more initiatives, getting to know their products and sustainability values and process. Furthermore, the FoodE App has been designed to allow users to evaluate their experience building on a predefined scoring mechanism. On the App, it is possible to get registered and find a map of sustainable initiatives and stakeholders across Europe. Each time that registered users visit one of the initiatives, they can assign scores to evaluate the overall sustainability of the CRFS. In addition, by voting on the visited CRFS, the users earn points that eventually can result in possible rewards and discounts. The FoodE App can always be downloaded both for iOS and ANDROID and it is now in its 6th version. Now, there are more than 200 initiatives uploaded on the map, and more than 200 registered users.

Figure 2 "Sustainabilia", the ideal city as imagined by students of Bologna secondary school

6. "***The FoodE formula for creating awareness in pupils: play, compete, learn*!"**

Sonia Blasioli and Agnès Lelièvre (UNIBO - APT) presented the educational activities carried out within the FoodE Project. The purpose of this work was to raise awareness on future generations about the necessary changes to create a more sustainable world. Pupils are more sensitive and reactive compared to adults that are less prone to change their lifestyles. During the project lifetime, the FoodE consortium has worked with 87 schools across Europe, involving approximately 16.000 students aged between 3 and 18 years old. In Bologna Municipality/District 18 schools were involved for a total of approx. 900 pupils of which 74% attended primary schools and 26% secondary schools. In the initial phase, due to Covid pandemic, all activities were re-arranged using the online tools. During this time, students took quizzes to guess the origin and seasonality of some fruits and vegetables; as a result of this work some interactive E-books have been created. On the other hand, students were invited to play in the so-called "table gardens" where they could cultivate microgreens, or bottled vegetable gardens, using hydroponic systems, and even small greenhouses for their school gardens. The FoodE formula was "Play, compete and learn", to stimulate the learning and the creativity. Initially, one of the first steps was to organise an international contest where primary school pupils were asked to draw a character, a superhero or a superheroine, a symbol of sustainable food production. During the contest, the students elaborated more than 100 drawings and the winner was "Terrix" who also became the main character of short, animated movies. Nonetheless, since most of the collected drawings were significant, they came to life in different episodes of comic books that were published and translated into different languages. Furthermore, also the pupils' families were involved during the project by collecting a series of home recipes that were later collectedinto a cooking book, Additionally, with the drawings collected from primary schools in Bologna, it was possible to envision and draw a new futuristic city called "Sustainabilia".

Since some partners are universities and research centres in the FoodE project, university students were also involved: two hackathons were organised during the project, where students from different disciplines worked together to improve the pilot initiatives participating in international challenges. Among other activities involving kids, a survey on urban agriculture was conducted, in addition to guided tours, and experiments to evaluate the impact of available resources on agriculture and livestock. Finally, as a conclusion of this part of FoodE, the consortium provided a survey to the students that wereinvolved in the projects asking if they appreciated the proposed activities, receiving very positive feedback.

7. ***"Harvesting connections: initiatives to strengthen rural-urban linkages and community building" on the Initiatives at the heart of the rural-urban linkages"***

Antonella Samoggia (UNIBO), presented one other topic addressed by FoodE: the capacity of City-Region Food System initiatives to create communities and cultivate connections. Accordingly, these initiatives are not intended just as commercial initiatives, but they have the ability to generate new community value systems. In the analysed contexts it is possible to see some common features, such as relationship strengthening, human health (an attempt to convey values such as nutrition and health), soil health, and economic values. Within this value framework the project has focused specific attention on Farmers' markets, since they are an opportunity for local producers from rural and peri-urban areas to go to the urban areas and interact with citizens. This experience is the same that is described in the European Green Deal 2020 with the sentence; «*As societies become more urbanised, they want to feel closer to their food. They want food that is fresh, less processed and sustainably sourced*».

The linkages between urban and rural areas are a common feature in all CRFS initiatives. There is a double tendency: a dichotomy between consumers who turn to retailers and those who turn to Local Farmers' markets. The consumer society is growing more and more, especially in discount supermarkets and e-commerce. These channels, mostly based on retailers' promotions and low prices, actually help families to save about 4.000 €/year, increasing by a further 10% savings per year. Nonetheless, there is a gap between quality and pricing in discount supermarkets. Accordingly, when talking about fresh products (especially fruits and vegetables) the consumers turn more and more often to Farmers' markets, preferring short food value chains. There are several reasons behind this consumers' choice: to promote the local economy systems, to provide more equity and fairness, to generate revenues that remain in the local community/area. Nonetheless, there is an

affordability issue, concerning the price of produce in Farmers' Markets, which often ponders the questions: can the price of local producers compete with that of supermarkets? Are the consumers willing to pay an extra cost recognizing a higher value behind the product bought at the market? This can be applied to all CRFS initiatives and public procurements, where there is a direct linkage between the producer and the consumer. The Farmers' markets play a key role in strengthening the connection between rural and urban areas. In this regard, the case study of Bologna Farmers' Markets has been extensively analysed during the FoodE project. Indeed, Farmers' Markets in Bologna have been the object of an interesting governance process in November 2022. What comes out of this research is that the aim of this experience is not simply commercial but is strongly based on the social innovation, attempting to resume a dialogue and a direct relationship between producers and consumers that has been lost in the large-scale distribution. Social cohesion, nutrition, health, and consumers' awareness are just some of the aspects addressed within the Farmers' Markets framework in Bologna.
On this trail, Francesca Monticone (UNIBO) presented the research she conducted in this context, showing a network map analysis connecting all actors and stakeholders involved in the Bologna Farmers' Markets. The map was carried out through interviews with stakeholders. Results showed that the two main actors in Farmers' Markets are consumers and producers, followed by public authorities. Civil society is also among the most important actors. Then, a second analysis was developed highlighting the relationships between all actors. Finally, a SWOT analysis has been carried out, pointing out strengths (such as the governance system) and weaknesses (such as the lack of funding) of the Farmers' Markets in Bologna.
In conclusion, the research carried out in FoodE pointed out that there are five main areas of action that must be taken into consideration to improve the rural-urban linkages: public procurement, fruit and vegetable markets, urban agriculture (allotments), waste, and urban planning.

8. **"Scenarios and Policy Recommendations for the Development of Sustainable City Region Food Systems".**
Barbara Schröter, on behalf of Anna Wissmann and Kathrin Specht from Dortmund (ILS), presented the "European Guidebook on Sustainable City Region Food Systems" together with selected contributors in a short discussion round. Ann-Kristin Steines (ILS) explained the process that led to the creation of the guidebook, explaining how it looks towards a 2050 scenario, assessing the possible innovations in the food system sparked by the FoodE project. The whole FoodE consortium was involved in the development of the Guidebook defining the FoodE vision 2050 during the GAs in Tenerife and Paris. . Furthermore, the guidebook briefly describes and summarises all the 16 pilots that were developed within the FoodE project, highlighting their innovation aspects and the resources needed to upscale and finance possible replicators. In this regard, Jose Pascual (Universidad de La Laguna in Tenerife) explained that the Guidebook is important for Pilot Cases to disseminate what has been done and to provide concrete tools.
Finally, Prof. Francesco Orsini explained that the first part of the Guidebook delves into the concept of City Region Food Systems and describes what are main issues and hindrances and what are the solutions found within the FoodE project. Moreover, The Guidebook guides the reader to imagine how food systems can evolve in the next few decades transforming our cities and our relationships with food.

9. **"Perception, expectations, and politics of vertical farming systems for sustainable food production"**
Michael Martin (IVL - Swedish Environmental Research Institute) outlined vertical farming perception by different stakeholders and how sustainability is perceived in media, by users and retailers, and how the sustainability assessments have developed over time. The research was based on vertical farming systems, considering some key issues such as: a) Improving and Assessing Sustainability; b) Resource and Energy Efficiency; c) Building/Urban Integration; d) Circularity and Symbiosis; and e) Business Models and Viability.
Dr. Michael Martin then delved into sustainability and expectations of the vertical farming sector, considering 4 main narratives (visions about the future):
1-Vertical farms as a technical phenomenon
2-Vertical farms as entrepreneurial ventures
3-Vertical farms for resilient and sustainable food systems

4-Vertical farms as a hyped and limited food producer.
He also analysed some critique and reluctance aspects due to scepticism from people that don't really know or grasp the concept of producing food vertically in indoor facilities. People know very little about that and are scared about the food considering it kind of artificial ("hydroponic"), they don't trust the affordability (price), they are not sure about what local means (from where it comes?), and many of them simply are not willing to try that food. In this sense, there are many hindrances that the sector is facing, and often it is hard to really demonstrate (or use) that vertical farms really foster sustainable food production. A LCA approach is then deemed necessary to assess the sustainability of this new practice, however, sometimes it is very difficult to collect data from existing practices that stakeholders are often very reluctant to share.
Nonetheless, urban vertical farming techniques (especially small scale vertical farms) are considered very interesting by investors and retailers. Investors that were initially more interested in packaging now show more interest in footprints and labels, to prove that their products are sustainable and therefore more competitive in the market. However, creating standards for labelling processes can be quite challenging and often involves big and small enterprises and the payment of fees.

10. ***Experience and Possibilities of Plant Factories at Kashiwa- no-ha Smart City"***
Eri Hayashi (JPFA - Japan Plant Factory Association) made a remote presentation on the "Experience and Possibilities of Plant Factories at Kashiwa- no-ha Smart City". Japan Plant Factory Association was established in 2010 with the mission of solving food, energy and resource issues, thus improving the quality of people's life. The vision can be summarised with the sentence: "stay healthy simply by living". JPFA aims at the creation of new industries and, at the same time, at improving healthy lifestyles and fostering environmental symbiosis. Kashiwa-no-ha Smart city is based near Tokyo and works in collaboration with the public sector, academia and the private sector. It cooperates with several research institutes and works as an "innovation hub". One of the core activities is the Urban Design Center Kashiwa-no-ha (UDCK) that collaborates closely with the city and involves schools and education centres. It is supported by more than 200 companies. The engagement of citizens is promoted also to facilitate citizen science activities. Activities of JPFA include Business projects, research and development demonstrations, public relations with committees, on-site tours and human resources development, workshops, and training. One of the training courses that is now being developed is about Japanese strawberries. The concept is to showcase the research activities. Within the plant factory sector, JPFA conducts high-level research on indoor environmental control (temperature, humidity and VPD) as well as on automatic pest control. Plant factories have very different scales, from large scale production to home-based production. During the presentation, Dr. Hayashi considered explaining to the public the advantages of the plant factories a key aspect of the dissemination activities (i.e. vegetables don't need to be washed and they are very tasty). JPFA also collaborates with local cafes to create original recipes such as lettuce juice and works closely with students from the University Campus to develop marketing plans to introduce plant factories to civil society.

11. "**FoodEinBO" video projection**
This video was introduced by Ilaria Braschi (UNIBO) and was made by Fabrizio Colliva (Flash Giovani – BOL). It showed a summary of all educational and cultural activities carried on during the MyLocalFoodE events in Bologna. The video is available on the YouTube channel of the project.

12. **Open Discussion and Q&A session**
At the end of the FoodE final event, Inti Bertocchi (BOL) moderated a moment of discussion between the associations of the City of Bologna involved in urban agriculture projects and the FoodE project partners. What emerged is that the Municipality wants to continue the fruitful collaboration with the University and local communities and is willing to keep discussing and experimenting new possible solutions to promote CRFS in the Bologna metropolitan area.
During the open discussion, some important issues have been raised such as:

- **Public procurement**: how far will it take to integrate food locally produced by CRFS into the public procurement procedures? Some steps have been already taken (for instance in the public procurement for school canteens), and in many events also the attention to sustainable and local food and recyclable materials has been increasing. What emerged is

the public procurement of locally grown, fresh food is still a slow process. The community awareness and bottom-up requests are important aspects to leverage public administrations to promote more and more sustainable policies pushing towards the public procurement contents.

- **Education and raising awareness**: the educational activities have proved to be a key issue to ensure a change in the future society. Kids are the most sensitive and proactive actors and they should be always involved in participatory initiatives. To achieve this result a suggestion is also that students may be involved in the productive process opening food companies to schools and organising workshops, not only addressed to kids but also adults and elderly people. The involvement of the District Houses (the former social centres) can be an ideal interlocutor to work on that.
- **City Planning:** This is really a keyword that has come up many times during the discussion, both internal to the Consortium and during the public session. City Planning normally doesn't include CRFS strategies within its strategic planning tools, but includes food policies only on a secondary level with spot urban regeneration interventions. There is a lack of integrated vision in the planning instruments that can be sometimes an obstacle to CRFS initiatives. In this framework there is still a lot of work to be done.
- **Solidarity:** how the local network of stakeholders, both public and private, can facilitate initiatives to provide food support to more disadvantaged families? This issue has been reported by a manager of a community garden that reported a growing poverty among households in the urban context: in this sense CRFS initiatives, urban farming or municipal allotments could give a contribution to tackle food justice.
- **Relationship with the retailers**; how to engage with this sector to create a mutual collaboration with CRFS initiatives is one of the challenges for the next few years.

1.4 FoodE Consortium Technical Visit

The event was organised as a thematic technical visit during the second day of the meeting, on the morning of the 16th of January. More than 60 attendees pertaining to the FoodE consortium had then the chance to visit all the Bologna Pilot sites:

1. **VFarm**, the experimental vertical farm of the University of Bologna; Department of Agriculture and Food Sciences (DISTAL), Viale Giuseppe Fanin, 44, Bologna;
2. Shipping containers equipped for either mushroom or vegetable plant cultivation at **Salus Space**, Via Malvezza, 2/2, 40139 Bologna
3. Visit to the "***Serre dei Giardini Margherita***", Via Castiglione, 134, 40136 Bologna

2 VertiFarm 2024

The 3rd International Workshop on Vertical Farming (VertiFarm2024) is an international event organised by the University of Bologna under the aegis of Bologna Municipality and the leading national and international scientific societies in the sector: ISHS (International Society for Horticultural Science), and SOI (Italian Society for Horticultural Science). It was the third event of a series of workshops that firstly took place in 2019 in Wageningen (NL), and in 2023 in Chengdu (CN), while the fourth edition will be held in Antwerp (BG) in 2027. The event aimed to promote the dissemination of research and the meeting between Vertical Farming experts and technical operators. Accordingly, the participants audience was very diverse with 62% of attendees coming from research institutions, 35% from companies and enterprises, 2% were policy makers, and 1% investors and more than 80 participants came from the private sector. VertiFarm2024 took place in Palazzo Re Enzo, an historic building located in the centre of the city of Bologna and saw the attendance of 235 participants from 31 different countries across 5 continents. Furthermore, 93 speakers raised up to the stage during the three-day conference providing a holistic overview of the vertical farming sector today and discussing its possible future developments. The sessions that took place during the event involved:

- Use of the artificial lighting in vertical farms

- Visionary research for the innovation of the sector
- Evaluation of new crops in vertical farms
- The analysis and discussion of successful business models of indoor farming
- Sustainability in vertical farming
- A workshop on medicinal cannabis
- Indoor climate control strategies and technologies
- Sensors
- Discussion on crop management in Controlled Environment Agriculture (CEA)
- Metabolites
- A workshop on societal challenges
- Discussion on resource use efficiency in indoor cultivations

The whole event was supported by 15 sponsors that contributed, on different levels, to the economy of the event. The main sponsors had the chance to showcase their products and innovations both during the conference, with dedicated panels, and with assigned tables in the congress hall.

Particular attention was also put in the choice of the catering company, Eta Beta, which is a social cooperative that brings social inclusion through handcrafting, art, urban farming, and food catering in Bologna since 1992. Also, all the food served was coming from local farmers or urban gardens located in the area. Furthermore, the use of plastic was banned during the catering service and all cutleries and glasses were washed on site after use.
Finally, the organisers from the University of Bologna put a great attention in maintaining a proper gender balance throughout the whole conference: an equal gender distribution was achieved in the convenors; 45% of female speakers, 40% of female session chairs, and almost equal distribution in the organising committees (48% vs 52% of male organisers).

2.1 VertiFarm2024 Technical Visit

The Workshop also offered the chance to visit the FoodE pilots in Bologna and an operative vertical farm in Milan: Agricola Moderna. These technical visits were open to all registered participants, who could choose to either stay in Bologna and visit the pilots or go to Milan to check the production site of Agricola Moderna. Approximately more than 150 participants visited Bologna's infrastructure: AlmaVFarm, the experimental vertical farm of the University of Bologna, altogether with other experimental facilities (e.g. climate-controlled growth cabinets for LED lighting studies, crop phenotyping tools), and commercial installations including cultivation cabinets for home indoor farming, as well as shipping containers equipped for either mushroom or vegetable plant cultivation at Salus Space, Bologna pilot site of FoodE Project.

3 Conclusions

The Final Event marks the conclusion of a 4-year journey that involved a highly qualified consortium of 24 organisations, that comprises universities, research institutes, SMEs, NGOs, as well as city councils spread across 8 EU countries.
The main achievements of the Project, such as the GuideBook, the FoodE App and the evaluation methodology, will represent a valuable toolbox for practitioners, policy makers and citizens, to promote collaboration and choral response to the future challenges regarding the City-Region Food Systems. That's not an option anymore, but a real necessity in the current uncertain global scenario.

FoodE was a clear testimony that more sustainable food systems can be a reality, there are already many interesting initiatives across Europe and creating a network can improve the awareness and capacity to tackle the social and economic needs and improve health in local contexts. City-Region

food systems clearly show that societies need both expertise and technological support from academia and industry, and social innovation models from the local communities, to bring all actors together and create sustainable food systems and circular economy initiatives.
The educational and cultural work that has been done within FoodE shows the enormous reach of culture in raising awareness.
The role of local and European decision-makers is to drive the change but also to recognize and support the “sparks” of this cultural change, modifying its planning instruments and simplifying the regulations, improving the contents of procurement procedures - as raised by the audience in the final debate - but also to foster collaboration between the administration and the civic actors of the society, within the new organisational model of "Shared Administration". A way to give a voice to all stakeholders and tackle the emerging issues with a more systemic and integrated approach.
The interdisciplinary work and cross-national cooperation that has been achieved by the FoodE project reflects this attitude and paves the way to fruitful future collaborations.