



Figure 1. FoodSHIFT 2030 project kick off event © Marcel Rodriguez, 2020.

FOODSHIFT 2030: A CITIZEN-DRIVEN TRANSITION OF THE EUROPEAN FOOD SYSTEM (EU HORIZON PROJECT)

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Food poses major challenges for European citizens; be it attaining nutrient rich diets or the disproportionate contribution the food system makes to climate change. Currently, food system innovations don't sufficiently address these challenges, nor do they take advantage of the opportunities and barriers for scaling up successful food system solutions. The FoodSHIFT 2030 project takes departure in the EU Food 2030 Research and Innovation Policy Framework, the EU's commitment under the Paris Agreement and the UN Sustainable Development Goals (SDGs) to launch an ambitious citizen-driven transition of the European food system towards a low carbon circular future, including a shift to less meat and more plant-based diets. It does so by creating a framework and efficient mechanisms for maturing, combining, upscaling and multiplying existing food system innovations through the operationalisation of nine citizen-driven FoodSHIFT Accelerator Labs and a further 27 FoodSHIFT Enabler Labs to be established in city-regions distributed across Europe.

food systems / innovation / citizen-empowerment / plant-based diets / open-source technology



Figure. 2 Citizen engagement at City Agro-Park Lab, Oostende Belgium © City of Oostende, 2019

THE TRIPLE CHALLENGE

When it comes to food security in Europe, a triple challenge is posed by the increasing effects of malnutrition, global emissions and urbanization. Currently, 60% of deaths in Europe can be ascribed to non-communicable diseases that are affected by what and how much we eat (cardiovascular, cancer and diabetes-related diseases)(WHO, 2018). In a business-as-usual scenario with increasing greenhouse gas emissions, global average temperature is projected to increase by 4°C in 2100 (European Commission, 2018) while the division among rural and urban regions will become increasingly noticeable. Territorial evidences of these trends are visible in the GDP per capita in urban regions, which is 24% higher than the EU average level, while the GDP per capita in rural regions is 30% lower (European Commission, 2013). The context presented by these combined challenges is one in which European citizens are not equally provided access to safe, healthy, nutritious and affordable food. Recent research, including a report from the EAT-Lancet Commission published last year clearly demonstrates that a healthy diet is primarily a plant-based diet and that a plant-based diet has lower GHG emissions (Willet et al. 2019). The potential posed by a transition to less meat and more plant-based diets could have significant health and climate change co-benefits including a sig-



Figure. 3 Next Food applied technology in-situ © Next Food, 2019

nificant contribution to achieving the EU targets for reducing GHG emissions to at least 50% and towards 55% by 2030 as proposed by the European Green Deal (European Commission, 2019). FoodSHIFT 2030 focuses on the take-up of more plant-based diets in European city-regions in response to the triple challenge. It focuses on the shift to less-meat as a method to increase the nutritional quality of meals eaten by Europeans, provide food sources that have a lower carbon footprint and to enable more frequent local food supply and procurement.

THE FOODSHIFT 2030 APPROACH

The FoodSHIFT 2030 project approaches the need to shift toward plant-based diets by enabling the maturing, combining and upscaling of existing food systems innovations in various localities across Europe. Under the H2020 programme of the European Union, it brings together a strong multi-actor consortium composed of local governments, SMEs, NGOs, universities, research institutes and network partners. The project aims for a fast citizen-driven food system transition, through the operationalisation of nine citizen-driven FoodSHIFT Accelerator Labs (FALs) and a further 27 FoodSHIFT Enabler Labs (FELs) to be established in existing and emerging city-region food system hubs distributed across Europe.

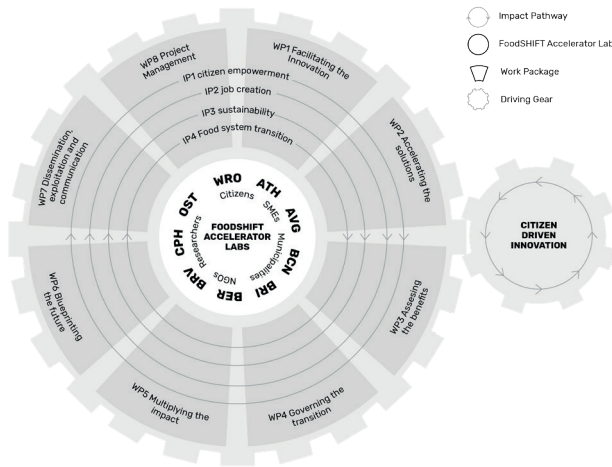


Figure. 4 FoodSHIFT 2030 work packages structure as driving gear of the Accelerator Labs © FoodSHIFT, 2019.

The FALs are established as open innovation living labs featuring multidisciplinary local collaboration between key food system stakeholders from private companies, local governments, research institutions, and civil society in nine European city-regions. The FALs are under establishment in frontrunner city-regions across Europe, including the large metropolitan such as Barcelona, Berlin, Greater Athens, Greater Copenhagen, Wroclaw and smaller city regions such as Avignon, Bari, Brasov, and Oostende. Each has a defined innovation focus and innovation actions within ten major project themes and eleven SDGs across the Labs. The FoodSHIFT 2030 framework focuses on increasing the technological and societal readiness levels of existing food system innovations. It takes a particular interest in citizen-led innovations, that respond to social and environmental challenges of the local communities, in which the FALs are established and will use sustainable design and circular economy principles to foster, scale up and widen the initiatives to become economically viable and socially valuable. FoodSHIFT 2030 places citizens at the centre of food system transition and aims embed their existing efforts into the development of support frameworks, toolkits and knowledge transfer systems, including Blueprints, to ensure lasting positive impact on food system sustainability that will continue beyond the project lifetime.

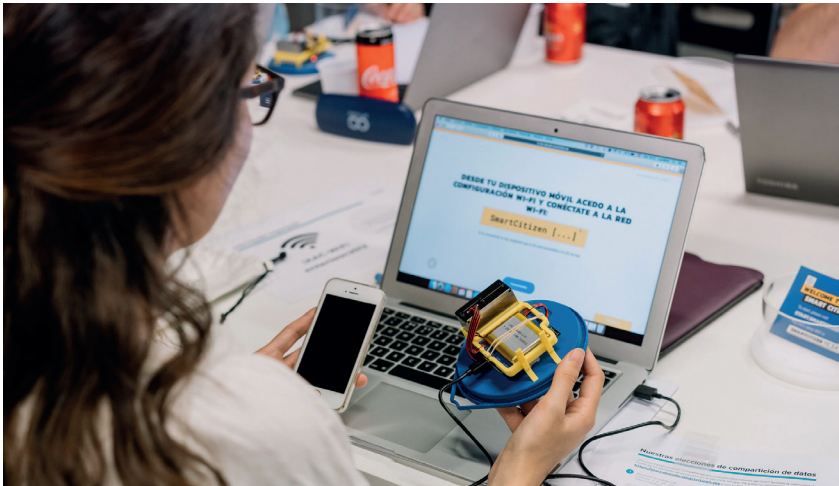


Figure. 5 The Smart Citizen Kit in use at Fab Lab Barcelona © Smart Citizen Team, 2019

To understand each local context, FALs will map and catalogue the existing local food system innovations and identify their potential for further development. Common priorities will be defined based on this process and tailor-made trajectories will be developed for each of the FALs. Innovation is applied as a wide concept by FoodSHIFT 2030, with particular reference to the sociocultural perspective; the project aims to further define it through the project activities. In particular the Barcelona Lab –Food Tech 3.0 Lab– focuses on digital innovation and citizen empowerment. It aims to develop and pilot open source food technology, that can facilitate the management, monitoring, socialisation and efficiency of food production in cities. The Lab aims to promote existing and new innovations in urban farming technologies in Barcelona, with facilitation of the municipality and offer support and training for their use. A focus on food-tech flagship innovations, for wider application in other city-regions and coastal communities, will become the focus of continued collaboration and potential upscaling of open design and ‘Fab Lab’ initiatives, under the aims of the ‘locally productive, globally connected city’ following the logic of Distributed Design and methodology of Fab City . The Barcelona FAL consortium includes Fab Lab Barcelona at the Institute of Advanced Architecture of Catalonia and Next Food, a food-tech start-up based out of Copenhagen and Barcelona.

Each FoodSHIFT Accelerator Lab will contribute and share knowledge within the consortium in an effort to achieve the aim to upscale and multiple exchanges between the FALs. Furthermore, each of the nine FoodSHIFT Accelerator Labs will initiate the establishment of three FoodSHIFT Enabler Labs to facilitate the food system transition in other city regions. To support the acceleration of food system innovations each of the FALs will be supported by a team of experts from the Project consortium. The consortium is composed of 30 partners comprised of seven municipalities, nine SMEs, seven NGOs and seven research institutes from twelve European countries. These experts will advise on the innovations across the entire food value chain, including production, distribution, consumption, and recycling/upcycling.

STRUCTURE OF THE SUPPORT APPROACH OF THE PROJECT

The project is organised using a work-package structure to provide targeted support to the FALs. The first work-package is dedicated to the establishment of the FALs, counting the foundation of the local Lab steering committee who facilitate local efforts; consisting of Lab leader, Lab host and Lab assistant from the city-region project partners who are responsible for dedicated roles in initiating and managing the local FAL including tasks such as communication, organization of events and agendas; each FAL has the same profiles and structure. Furthermore, this process includes the exploration of the existing food system innovations in the city-region and definition of common priorities in order to co-develop the tailor-made trajectory for food system innovation with experts from the consortium and the FALs which is undertaken in the packages that follow. A work-package dedicated to mechanisms for accelerating the transition by maturing, combining and upscaling the existing solutions within the food value chain, including production, distribution, utilization, recycling and upcycling. One work-package in which FALs contribute to the collection of data and provide input for assessing the benefits of existing and accelerated food system innovations to inform their further development and provide decision support for policy makers on governing the food system transition. Finally, FALs will work on co-creating food system governance strategies at a policy level to support the acceleration of food system innovations and democratize food system governance in the participating city-regions.

MULTIPLYING THE IMPACT

FoodSHIFT 2030 project aims to be embedded into the social fabric of the Euro-

pean cities in which FALs are established through both local and global actions. The project presents a comprehensive dissemination and exploitation strategy, with a strong focus on activating international city and food networks and local civic groups. Local events are designed to support stakeholders' engagement and showcase food system innovations to broader audiences at a local level, for example the Barcelona Food Tech 3.0 Lab will host an open-house and food-tech convivial events, in which the neighbourhood gather and explore synergies. A specific work-package is dedicated to facilitate Social Innovation events and meet-ups, with the aim of increasing the civic impact of the FALs and furthermore, to ensure audience visibility and accessibility to the innovations in the local context. Outcomes will be multiplied through knowledge transfer systems including asynchronous online peer-to-peer forums and dedicated webinars between the FALs and to the 27 FoodSHIFT Enabler Labs. On the other hand, at a project level, outputs, deliverables and findings will be embedded into food systems dialogue, beyond the project and through a number of city-region networks, including the Fab City Network, the Sustainable Food Cities Network and the C40 Food Systems Network who are engaged in the project to multiply results through their respective networks.

In addition, FoodSHIFT 2030's innovative framework has integrated horizontal workflows on key topics that are essential to the project, named as Impact Pathways. Four 'horizontal' Impact Pathways will ensure citizen empowerment, job creation, sustainability, and food system transition to be adequately addressed and fully integrated across the project. The Impact Pathways will ensure that the outputs of the individual WPs have tangible outcomes and real-life impact for citizens, policymakers, businesses, and the environment in both the participating city-regions and in the EU. These Impact Pathways safeguard the development of four FoodSHIFT Blueprints which aim to continue beyond the project lifetime.

The Citizen Empowerment Impact Pathway, managed by Flanders research institute for fisheries agriculture and food, will unlock civic potential, ensuring that citizen-driven innovation and citizen participation will be the cornerstone of all FoodSHIFT Accelerator Labs. The Citizen Empowerment scheme will promote citizen-driven strategies for improving food system governance, whilst also placing them in the centre of the knowledge transfer ecosystem and ensuring their involvement in the four FoodSHIFT Blueprints. The FoodSHIFT Citizen Empowerment Scheme will be co-created together with citizens active in the FALs. It is planned, that the scheme will feature interactive tutorials and downloadable files,

outlining the actions that local governments, SMEs, NGOs, and citizens themselves can take, in order to facilitate the empowerment of citizens in focus areas. One approach will utilize open-source digital fabrication and citizen science. The FoodSHIFT project will develop customized FoodSHIFT Sensor Kits – in which citizens can actively participate in the collection of data which will be relayed to the Smart Citizen Platform.

The Job Creation Impact Pathway reflects job innovation opportunities connected to FoodSHIFT 2030, specifically when defining common priorities and the tailor-made trajectories for the FALs. This includes realistic job creation plans within innovative business plans for food system accelerations. The Job Creation Platform will support business development for food sector start-ups and ensure that this knowledge is included in the knowledge transfer between FALs, from FALs to FELs, and via city and region networks. The FoodSHIFT Job Creation Platform will be designed with the FALs and made available online. Under the Sustainability Innovation Pathway, the Sustainability Scoring System, led by Draxis Environmental will make it possible for food system stakeholders around the world to assess the impacts of different food system innovations on the Sustainable Development Goals.

Finally, Food System Transition aims to produce the FoodSHIFT Transition Toolkit which will be co-created to guide SMEs, NGOs, local governments and citizens on how to design a sustainable local food system, in which citizens are empowered to take an active part. It will extract the cumulative knowledge on all aspects of food system innovation generated throughout the project and will offer multi-criteria search functions on a wide range of food system innovation issues and will incorporate the FoodSHIFT Citizen Empowerment Scheme, the FoodSHIFT Job Creation Platform, and the FoodSHIFT Sustainability Scoring System. The FoodSHIFT Transition Toolkit will be made available online and share throughout existing city networks to guide cities through the transition process which has been piloted by the FALs and FELs.

FoodSHIFT 2030 aims to employ a wide definition of innovation within the social context of European cities in order to identify, mature, combine, upscale and multiply existing food system innovations that can help cities respond to the urgent need to shift food systems to support plant-based diets. The project proposes the use of digital technologies as one aspect of this transition; a tool that can be applied to enhance the experience and increase the potential for citizens to par-

ticipate in actively changing food production and consumption. The use of open citizen-technologies developed in a Fab-Lab, The Smart Citizen Kit, is evidence of this, as is the use of open online forums, toolkits and platforms. FoodSHIFT 2030 proposes an approach to embedding digital technology into daily civic practice, to enable the connectivity, knowledge transfer and network participation between geographically diverse, likeminded nodes.

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