Capitalizing on collaboration to drive system change in food chain

Roll out strategy and commercialisation agreement

Roll-out strategy of the short food supply chain in the Amsterdam Metropolitan Area, Flevoland and Utrecht

A regional food system on a global scale

The short food supply chain (SFSC) is a serious development perspective for farmers and producers and a way to get a grip on the environment as citizens of Amsterdam, Utrecht and Almere. In addition to shortening the chain, it is also a way of working together on sustainable economic, ecological and social goals. In the coming years we will jointly roll out a robust SFSC that is unique within Europe.

Over the past year, Local2Local, in collaboration with Rabobank Amsterdam and Makro Netherlands, has invested in and worked on the preparation of an SFSC in the Amsterdam Metropolitan Area, Flevoland and Utrecht. All the available knowledge and tools of Local2Local formed the starting point.

In a preliminary phase, [Local2Local](#) (Mark Frederiks), [Food Hub](#) (Joris Lohman) and [Rabobank Amsterdam](#) (Barbara Baarsma) have set up a collaboration in partnership with the Taskforce Short Chain. This has built bridges between Flevoland, Utrecht and Noord-Holland. The support of Rabobank and the Province of Flevoland has been of great value in this regard. Together we have developed a robust online platform, set up logistics and forged cooperation with key parties.

The aim was to make cooperation binding, whereby various existing short food supply chains can also link up. The following SFSC-initiatives have joined this initiative: Boeren voor Buren, Groenehart Coöperatie, Vereniging Flevofood, Boeren van Amstel, ProeVkantoor, Dapper Texel, Vereniging Noordzeevis and the Local2Local producers. More than 230 primary farmers, producers and fishing companies from around Amsterdam, Utrecht and Almere are connected.

The supporting partners are the Municipality of Amsterdam, Rabobank Metropolitan Region Amsterdam (MRA), Local2Local, Makro Nederland, Municipality of Almere, Province of Flevoland, Food Hub, Task Force Short Chain, Vereniging Flevofood, Impact Hub Amsterdam and the Utrecht Food Freedom consortium. In addition, several organizations have joined in to make this possible, including Food Connects, FoodLogica, Eindhoven University of Technology, Utrecht University, University of Applied Sciences Amsterdam, University of Amsterdam, the Smartchain H2020 EU consortium, Climate-KIC and EIT Urban Mobility.

GAIN Transition Model

We used the GAIN Transition Model to set up the regional alliance, this also applies to the regional alliances in Utrecht and Almere.
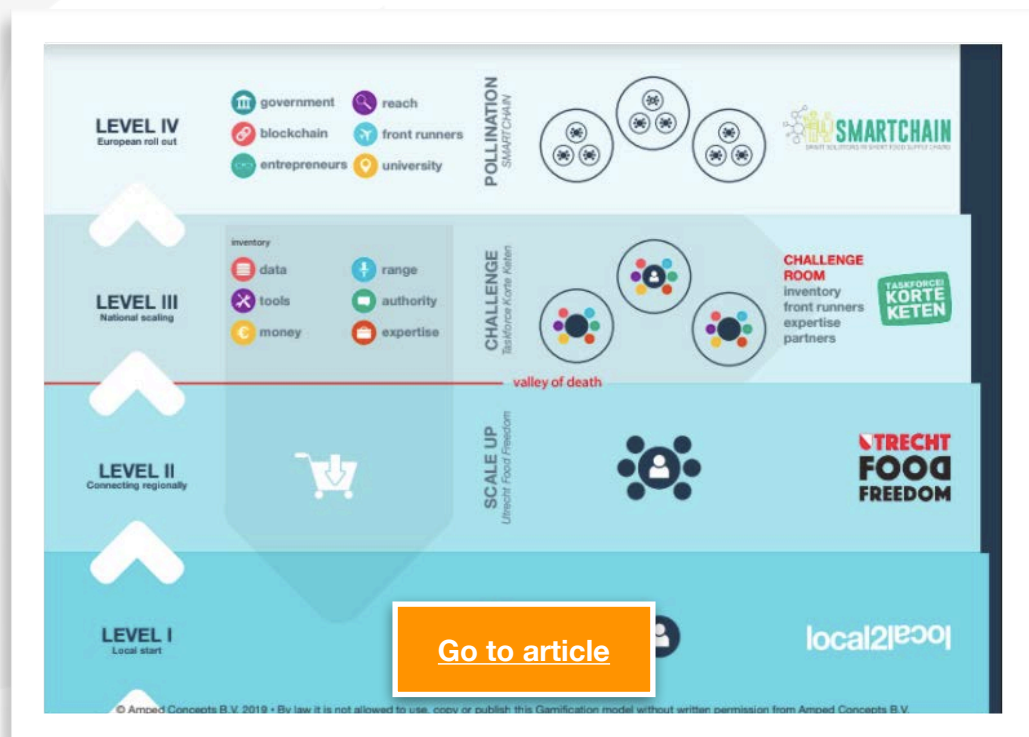
Taskforce Short Chain

On October 5th 2020, the Task Force Short Chain received the mandate from the Ministry of Agriculture, Nature and Food Quality and 11 provinces to provide guidance for the development of short food supply chains, stemming from regional cooperation.

Watch video of the founding event of the Task Force Short Chain.

Advisory Board
The current advisory board consists of:
- Barbara Baarsma, Chairman of the Board of Rabobank Amsterdam
- HRH Prince Carlos de Bourbon de Parme
- Thijs Cuijpers, Director of Policy LTO Netherlands
- Willem Lageweg, quartermaster of the Food Transition Coalition
- Marjolijn Sonnema, Director-General VW&S, formerly DG Agro, Ministry of Agriculture, Nature and Food Quality.

National implementation organization
The national export organization basically has a fairly modest core task: coordinating cooperation between the regional alliances. Most activities and projects take place within the regional alliances and are also carried out and funded regionally. At the request of the regional alliances, or actors within those regional alliances, the national export organization can participate in regional projects or carry out regional projects itself. The

regional alliance submits requests and actively monitors in the regions which activities are started and where support is needed or perhaps broadening the initiative to other regions.

In addition to the regional alliances, thematic working groups (TWG) have also been created, such as the program lines data, multichannel and logistics. The collaborations that arise here transcend regions and are preferably built up from themes / work packages. Each work package receives a representative from each regional alliance who works together on common solutions.

Establishing a regional alliance
Regional alliances are forms of cooperation between local authorities, level 2 short-chain entrepreneurs and research institutions. See below for an ideal composition. In general, regional alliances already exist, examples of which are the Zuid-Hollandse Food Families, the Gelderland Food Knowledge Network, the Flevofood Network or Utrecht Food Freedom. With knowledge and experience from the existing regional alliances, new alliances can be set up and an exchange of knowledge, tools and resources can be set up.

Regional alliance Amsterdam Metropolitan Area
The regional alliance of Amsterdam was formally set up on October 30th 2020 during the kick-off event 'from farm to fork'.

Overzicht UFF regieteam & relaties

Legenda

Categorie

- ● Duurzame voedselproductie
- ● Economie
- ● Overheid
- ● Cultureel Erfgoed
- ● Biodiversiteit & landschap
- ● Recreatie & Toerisme
- ● Bodem & Water
- ● Overige maatschappelijke instellingen

Organisatiegrootte

- ● klein
- ● middel
- ● groot

Regional alliance Utrecht

The regional alliance of Utrecht was formed in 2018 by way of the Utrecht Food Freedom network.

Watch video of the launch event of Utrecht Food Freedom.

The following partners are actively involved within Utrecht Food Freedom (UFF): Province of Utrecht, V6, Municipality of Utrecht, Utrecht University, Rabobank Utrecht, Green Office and Compazz Foundation. In addition, various iconic projects have been realized in the field of cultivation, recreation, knowledge development and area-oriented cooperation.

Regional alliance Flevoland

The regional alliance of Flevoland is organized around the Flevofood Association and will be consolidated in Q1 of 2021. Various parties have already joined this alliance, including Rabobank, Municipality of Almere, Province of Flevoland, Food Hub, Aeres Hogeschool, Floriade and several municipalities. The Flevofood Association is pulling the cart for the short food supply chain movement.

See article 'A short chain in Utrecht helps another: Local2Local & Flevofood'.

Innovation ecosystem

The collaboration represents a large ecosystem of change agents. We fulfill the role of connector and accelerator of the network parties that work together on a system without victims. By combining various initiatives in the field of emergency aid, we increase the impact and support. See our map 'Short Food Supply Chain Ecosystem of the Netherlands'.
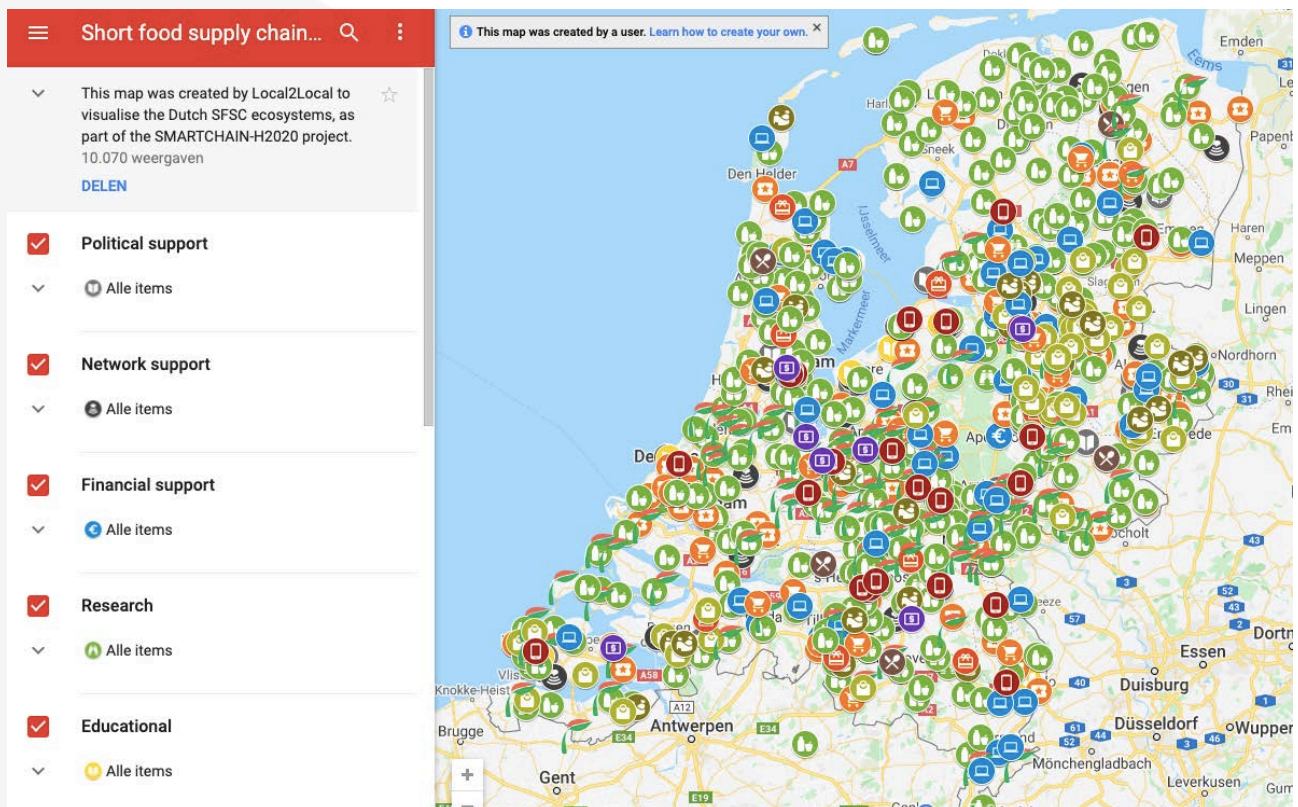
Student community

It is also Local2Local's mission to connect young, talented students and young professionals to projects and initiatives that contribute to a transition to a more sustainable food system. By putting these young people to work in the food transition, we create a workforce with growing transitional potential, because motivated young people ignite others. This way it contributes to innovative sustainable services and products through the connection of knowledge and labor. From the inception of Local2Local we opened our doors for internships, research and work on sustainability projects in the SFSC. In 2019 we harnessed this mission with the launch of Local2Local Talents. A wide variety of student networks and educational institutions are involved, such as HvA, UvA,

UU, HKU, Aeres Hogeschool, Avans, HAS, WUR and Eindhoven University of Technology.

Schud de hand die je voedt

In de loop van 2018 hadden UU-studenten en Local2Local-medewerkers Cris Arribas en Danika Moore een idee: *Working @ the Farm*. Een platform dat jong talent koppelt aan boeren en producenten, voor eerlijk en nuttig werk op het boerenerf, voor duurzame uitdagingen, voor onderzoek op basis van de Sustainable Development Goals (SDG) en voor kennisuitwisseling. "Laat studenten groeien, buiten het leslokaal."

Local2Local Talents is het *directe* resultaat van hun idee en Working @ the Farm is hierin verankerd. Vanzelfsprekend.

Cris Arribas en Danika Moore leggen het uit:

"Het geglobaliseerde voedselsysteem is onhoudbaar geworden, een

Watch the video of the interview with one of the talents, Cristina Arribas.

Practical activities to date:

- Work for Local2Local
- Working for the farmer
- Market new food products based on residual flows
- Internships and research in the short food supply chain
- Supporting sustainable events
- Deployment of volunteers
- Food transition projects

L2L Talents helps matching young professionals and knowledge with farmers, on soil use, production and the transition to sustainable food production. Local2Local Talents offers job and career opportunities for students, graduates and young professionals as volunteer, temporary worker and sustainability consultant.

L2L Talents is connected with many running and upcoming projects and collaborations through Local2Local. The strategy for success of putting talents to work in the food transition is based on the GAIN transition model:

- LEVEL I (local): students work on local food projects;
- LEVEL II (regional) : students work on regional food projects, such as Utrecht Food Freedom;
- LEVEL III (national): on the national level students can be matched with the activities of Taskforce Korte Keten. This coincides with implementing the same approach within other knowledge institutes and regions;
- LEVEL IV (international): we aim to apply this student community strategy also on a European level, through the Smartchain-project. Students will work internationally and rotation and exchange between countries.

Local2Local Talents starts primarily on LEVEL I, but the move to LEVEL II can be made relatively quickly and there's a direct connection with LEVEL IV from the start. On all levels the SDG-guidelines and -instruments are prerequisites.

Technology

Local2Local has developed a robust IT platform for short food supply chains with which various short chain initiatives are now operating. See for example shop.local2local.nl and shop.flevofood.com. We are continuously working on the expansion of the platform. In collaboration with Utrecht University we are currently working on an mobile app (PlayLocal2Local) in the form of a CSA-game with which consumers can make conscious, demand-driven and area-specific purchases.

As an innovation, we have developed our own blockchain-application: SmartShortChain, enabling a 100% transparent, secure, trusted and traceable food chain. Five short chains are now model-technically and practically set up for this: dairy, meat, fruit, vegetables and potatoes.

CO2 storage in crops
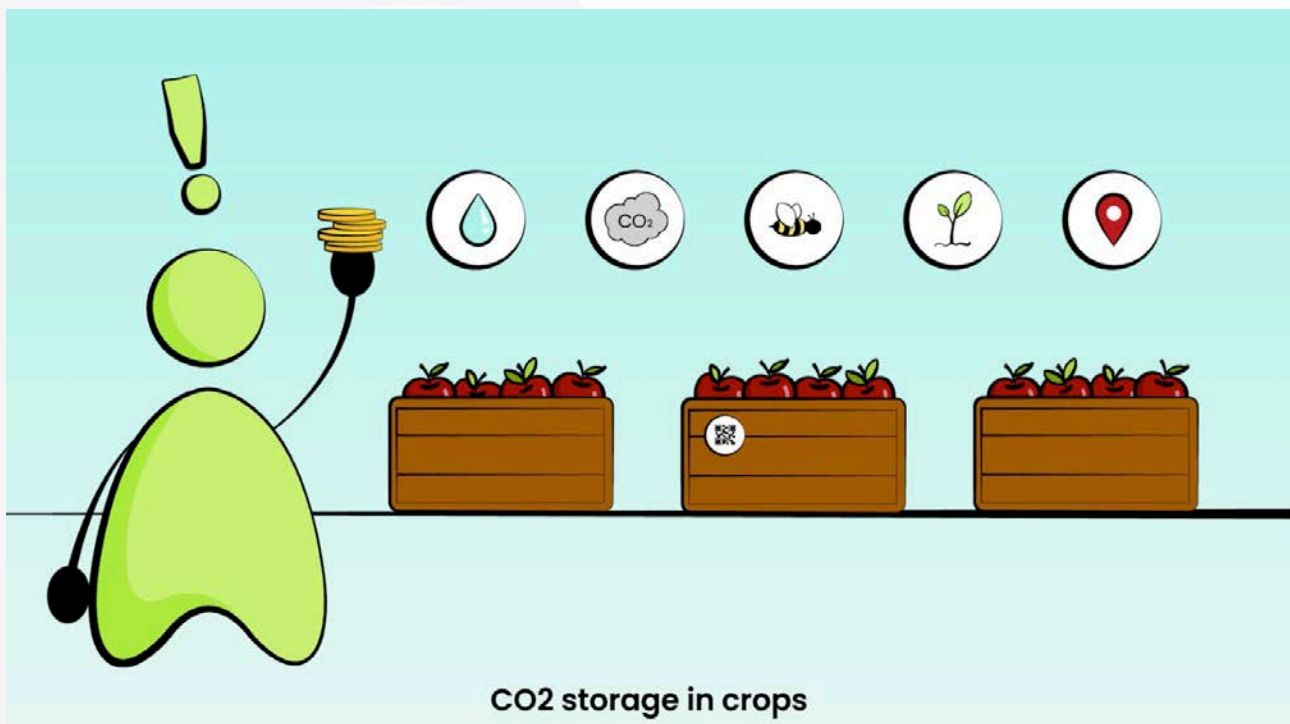
Watch video 'SmartShortChain - food chains of trust'

Local2local Joint facilitation short food supply chains

The current food system was established after World War II based on the vision and leadership of Sicco Mansholt. His prolific statement "never hungry again" characterizes this vision. However, the system has overshot itself and has taken us hostage. This also applies to the financial system, healthcare and education. This has rattled society, we're now in an era of transition.

The current dominant food chain strategy of large volumes at the lowest possible costs is no longer sustainable. Not ecologically, not economically, nor socially or culturally. A viable solution is the organization of short food supply chains where a direct connection is made between citizens and farmers through a paradigm shift in the value chain, new IT technology, community formation, social entrepreneurship and citizen participation.

There is a lot of demand for the supply of short chains from various segments of society. Healthcare institutions seek producers directly or call on their suppliers for more traceable products from the nearby area. We see the same thing happening at caterers and in the hospitality industry. Growing movements such as Dutch Cuisine and Greendish show that there is more interest in the quality of our food and the values it represents. Large events such as Lowlands focus on regional products, while major tourist attractions increasingly source their food locally. The consumer nowadays asks for a good product in multiple facets. It must not only be tasteful and accessible, but also the quality, the way of production (and therefore the impact on our world) and the origin are increasingly important. The consumer is looking for an opportunity to find this and the short chain offers a perspective for this.

The current food market can be boiled down to: 95% not sustainable, 5% is local and/or organic. The growth potential for a connected SFSC is huge. However, the market is not the issue. The current 50.000 Dutch farmer population can be boiled down to 50% of industrial farms and the other 50% will shut down the coming 5 to 10 years. It's been projected that 50% of the group that will shut down can be salvaged and put on a new track of transition. We expect that this gives L2L enough traction for the creation of new (value-based) products.

About Local2local

L2L wants to remove obstacles in the transition to a sustainable food system. In addition to developing our own concepts, we collaborate with existing initiatives and stakeholders and support these with a broad producer network, professional logistics, marketing and

an IT organization. The L2L-format is set up to scale up, other regions and initiatives can easily implement, align, connect and collaborate.

L2L's short food supply chain is instrumental in increasing the involvement of citizens / customers in the food system challenges. L2L's ultimate instrument is a demand-driven food chain that creates more opportunities for nature-inclusive agriculture, closing cycles and competitive strength. This scenario involves a big change in the qualitative and economic valuation of food (production) and its relation to the environment, health(care), market, education, and requires social innovation, whereby the sectors, social actors, knowledge and nancial institutions, chains and governments relate to each other in a new way.

Local2Local entails much more. We developed a format that can be implemented in other regions:

- **Food Distribution Software (FDS).** FDS is the online platform that powers L2L and facilitates a large variety of short food supply chain needs. L2L developed FDS for the management of the entire chain; customer management, logistics, distribution, online sales and metrics. FDS can be purchased and activated by any food chain-related company or initiative (white label).

- **Support and product market concepts for SFSC-solutions**
  L2L offers vendors and supply chains support and marketing instruments to activate online sales. We support our customer network with unique content for storytelling and promotion.

Behind this platform, a central organization works on administration, logistical coordination, IT facilitation, onboarding of producers and products, expansion of the farmer groups and the development of products, all in collaboration with the partners.

Local2Local reached the break-even point in the summer of 2019, in 2020 we tripled our business and we have established a unique role within the Smartchain H2020 Consortium and the Taskforce short food supply chains. This strategic position gives us access to an international network, knowledge and it gives us a good starting position to acquire funds for innovation.

Local2local is a privately owned company by Amped Concepts BV.

About Amped

By looking critically at existing systems, new models emerge that provide answers to the bottlenecks in economy, society and ecology challenges. We operate from complementary networks, knowledge, data, IT and connect proven revenue models based on best practices to achieve results. We develop new fresh ideas, feasible strategies and smart technology for accessible sustainable products and services that are scalable.

Watch the promotional Local2Local video.

Cross KIC Deep Demonstration

A recent example on LEVEL IV is the Cross KIC Deep Demonstration project. Here a consortium was formed within the L2L network that responded to a call from EIT, a European Union organization which funds and supports projects related to innovation and sustainability.

The specific call we responded to on behalf of L2L, asked for a proposal to implement a supply chain innovation related to SFSC logistics and transportation, with the final aim of enabling more food to travel from Flevoland to Amsterdam while ensuring a low carbon footprint and a good price for farmers. The consortium was awarded the project. Over a period of four months the L2L talents collaborated with consortium partners and other Short food supply chain initiatives to create several robust deliverables including:

- a system mapping of the Flevoland-Amsterdam food flows;
- an identification of barriers and opportunities to strengthening the regional food economy;
- an identification of four distinct supply chain innovations in consultation with consortium partners;
- a blueprint for the rollout of the mutually agreed-upon more relevant and pragmatic innovation.

This Blueprint, which outlines the benefits of a Regional Food Hub for Flevoland will serve to inform the next stage of this project in collaboration with the EU. This subsequent phase will develop over several years and hope to have the Food Hub enable Flevoland farmers to supply 20-25% of Amsterdam's food needs. The Province of Flevoland is committed to realize the logistic hub in Almere.

The next phase of our Cross-KIC project: Smart Regional Food Systems for Circular and Sustainable Cities

Commercialisation agreement

The Cross Kic Deep demonstration project can be the start of a robust roll out of a network of collaborative smart cities, building regional food systems. This unique opportunity is created by a combination of factors, creating a 'perfect storm'.

What are the key elements of this perfect storm:
1. Corona showed the relevance of short food supply chains in feeding the city;
2. Local2Local is expanding the operation in the MRA with several stakeholders;
3. The GAIN transition model is showing the first results and promises great impact from a Smart City ecosystem perspective;
4. The Horizon Europe program and the Farm to Fork policy are a perfect fit;
5. Cities all over Europe focus on short food supply chains;
6. On a national level we created a new alliance between short chain entrepreneurs, cities and regions in the Netherlands. This alliance now has a mandate from the Dutch Ministry of Agriculture.

The specific problems we are tackling are local and regional food security and access, facilitating collaboration between cities and regions towards regenerative agriculture, countering rising food costs and lack of trust in quality trademarks, lacking future perspective for farmers, 50% decline in farmer population in NL within 10 years, collapsing ecosystems, unsustainable and highly polluting food systems, regaining 80% loss in nutritional value since 1950, and tackling 30-40% food waste.

To counter this problem we need to build short food supply chains through digital innovation, enhancing collaboration between all stakeholders, creating alignment between all levels based on transparency, facilitating farmers/local producers, creating regional alliances and creating Smart City innovation eco-systems.

The role of smart city logistics in this project is fundamental. It facilitates new and value-driven business models and is at the core of innovation and collaboration. We have

completed the first step of building smart logistics between Flevoland en Amsterdam. The Province of Flevoland is willing to invest in the creation of the first regional logistic hub.

The role of technology in this project is fundamental. It facilitates new and value-driven business models, is at the core of innovation, and makes it possible to redesign democracy based on data and multilevel, cross-sectoral collaboration and gamification mechanisms.

It will support a greener, more sustainable economic recovery by creating a regenerative food supply system for regions and (smart) cities. This system will be evidence-based and designed for economical, ecological and social impact, enabling a sustainable economic recovery. We have completed the IT platform to implement a short food supply chain in any region or city. We have put this platform in practice in a short food supply chain named Local2Local in the Dutch province of Utrecht. It is up and running and is developing as a successful business case.

The team/organisation(s) leading this project are composed of a group of entrepreneurial leaders, regional and national governments, knowledge institutions, several farmer/local producer organisations and leading short food supply chain organisations.

If successful, in five years the impact of our project will be that a substantial number of smart cities and regions in the EU have incorporated this project in their policies and programs, enabling them to secure their food supply through short and sustainable food chains, reach their sustainability goals and work together in a network of smart cities. We will have an impact on a regional, national and EU-level. We have been working on this idea for more than 12 years.

We are part of a large, connected EU-network, aligned with the GAIN transition model, which was developed with the mechanics of game design. This model is part of the H2020 Smartchain consortium. The GAIN transition model presents 4 levels of engagement and collaboration for the SFSC-actors and -stakeholders.

GAIN offers great opportunities to increase the competitiveness and sustainability of short chains with practical and strategic solutions, accelerating a sustainable food transition by facilitating the collaboration among short food supply chain actors.

The main characteristic of today's food system is that there's no direct relationship between the consumer and the producer anymore. The large number of links and the large geographical distances in the consolidated chain have a negative impact on our

food culture and they limit producers in their economic opportunities. For decades, the value of short food chains has not been recognized. Climate change, scarcity of resources, pollution and waste are just a few challenges that are forcing cities, regions and countries to look critically at their food systems. So far not many approaches have been tried. The insight that differentiates our project is the use of IT and technical innovation to enable a short food supply chain, making it a game-changer in the food system. We developed the GAIN transition model to support and empower the short food chain movement and align stakeholders towards a smart city approach.

We build validated chains of trust through the facilitation of collaboration and value creation between stakeholders locally, regionally, nationally and internationally, aiming at ecological, social and economical impact.

- Local: facilitate individual farmers and entrepreneurship with a practical short food supply chain approach. Provide easy access to networks, knowledge and tools;
- Regional: create regional alliances between farmers and consumers, build a chain of trust around a regional food system with a smart city strategy approach, based on transparency and cultural values. We provide shared services for collaboration and cross-sectoral value creation aligned with the Sustainable Development Goals;
- National: create an innovation ecosystem of Smart Cities. We facilitate co-creation between regional alliances facing overarching challenges for transitioning the food system. We use data and chains of trust to create solutions, foster knowledge and build alignment on an international level;
- International: we democratize food transition by enhancing interregional collaboration and create alignment between all levels, all in accordance with the Sustainable Development Goals.

The core of all we do is based on technology and community-based innovation ecosystems of collaborative networks. While working with farmers we developed a (MVP on Python based) short food supply chain platform. We also build a hyperledger blockchain solution for fostering data towards new value-driven business models and we have developed a EU-supported gamification model for transitioning the food system.

Roadmap

With this foundation, we continue to build robust, transparent short chains that are able to achieve a 20% market share for local food in the MRA, Flevoland and Utrecht within 10 years . The main challenge here is to create an affordable, accessible and above all a tasty proposition. We do this by bundling forces for:

- structuring and organizing the regional alliances by way of the GAIN Transition Model;
- scaling up the MRA/Flevoland and Utrecht PoC by forming an alliance of companies that wish to bundle their purchase volumes, starting with governmental, semi-governmental and educational organisations;
- forming an execution program from the Defense Line of Amsterdam and Dutch Water Defence Line as a connecting element between city and countryside;
- Implementing a roll out strategy for Hotels, Restaurants and Caterers (horeca) called "het nieuwe normaal, is lokaal", fundamentally reconnecting farmers and horeca and realising a caterers collaborative hotspot with Hello Zuidas;
- expanding producer networks, product portfolios and arranging logistics through logistics hubs of farmers and producers;
- joint investments in IT and data solutions by expanding the Local2Local and blockchain platforms;
- increasing the involvement of knowledge institutions and students in a "Mansholt framed" course and transition movement;
- researching and substantiating new forms of valuations from the regional perspective of farmers, templating the Local2Local concept for implementation in other regions and creating a short food chain toolbox;
- connecting other regions and forming consortia based on the MRA-format, GAIN model and ecosystem approach using previous tools from SMARTCHAIN and other EU consortia;
- actively working together as a consortium in various calls for short food supply chain programs, regionally, nationally and internationally.

Amsterdam, Almere and Utrecht will have the best urban food system that offers solutions in accordance with the Sustainable Development Goals.

Work packages and activities
To realize the perspectives - short chains as a mainstream revenue model within a healthy and sustainable food system - ten work packages have been defined. In some cases it concerns connecting with and building on existing activities (and continuing the TKK program implemented in 2019, which focused on the bottlenecks logistics, data and multichannel approach), in certain cases new activities will have to be developed. Depending on the activity, this can be carried out on a national scale, but in many cases it requires regional implementation. We have clustered these activities in work packages.

The work packages that will be emphasized over time (prioritization) is determined by the need and urgency. We propose a growth model, in which we work on a project basis and purposefully build up the implementation activities and the required budgets. This is visible in the budget further on in this proposal.

Data, trends and analysis

Research into measurement and monitoring of the impact of the short-chain market, in order to be able to follow and record developments both regionally and nationally. Developing and experimenting with data models, facilitating mutual cooperation between the different levels. Short chain organizations have a unique dataset that consists of consumer preferences, purchasing behavior, service expectations for consumers in the short chain, etc. Due to fragmentation, the initiatives are not yet able to make good use of these datasets.

Logistics and hub support

Facilitating mutual logistics cooperation between short chain organizations, in such a way that economies of scale can be created. An inventory can be made of the value of developing regional hubs (which can go beyond a logistics function). Also developing a logistics toolkit that organizations can use instrumentally in choosing the best logistics solution.

Multichannel approach and market support

Gaining insight into the various relevant target groups per sector - retail, catering, and healthcare - and how these can best be reached and served. Visualizing best practices, as well as white spots per region and sector. By facilitating regional cooperation, working on clustering where relevant, and stimulating knowledge exchange, short-chain players can better serve multiple market segments. Following up on closed deals by the minister during the Trade Mission.

IT development

As the TKK-program was carried out in 2019, it became clear that IT can play a central role (solution) in almost all bottlenecks, provided that it is implemented efficiently. However, due to their size and technological legacy, players individually are often unable to set this up properly or to maintain / further develop it because of lacking resources or knowledge. We want to work on a joint development of IT instruments and technology based on a collective need, whether or not by connecting with relevant expertise in this field.

Stimulating regional partnerships

The many short chain activities are currently taking place on various levels: local, regional or national. It is necessary to link these activities and the knowledge gained in them. The lack of connections between urban, provincial and national administrators also appears to be a bottleneck. We develop new area-oriented cooperation models between market parties, agricultural entrepreneurs and governments. We try to make knowledge and best practices available in Europe for Dutch short chain development, and vice versa.

Knowledge and product development, training and education

We want to link education and training to the food transition structurally and thus prepare the generation of tomorrow and the day after tomorrow for a sustainable food system. We are currently seeing that new value models are hardly integrated into education. We want to train agricultural entrepreneurs and producers in developing new revenue models and products, and in doing so make connections with both conventional partners (such as relevant knowledge and educational institutions) as well as unconventional partners from other sectors (design, data/IT, marketing, finance, etc.).

Community and networking, campaigns and events

Short chains can be a powerful way of connecting parties, not in the least farmers and citizens, along the lines of sustainable entrepreneurship and healthy food. This requires mapping out existing communities and networks and bringing them to maturity regionally. Developing a joint network approach to set up efficient collaborations at all levels, without losing one's own (regional) identity. When existing short chains have been strengthened and are able to serve the market in a good way, it is important to stimulate the consumer through a broad public campaign, whether or not tailored to a region. The proposed national trade mission from the ministry can be a suitable prelude in the coming years in preparing the market and short chain organizations to such a campaign to activate the consumer and directly connect it with the agricultural producer.

European cooperation

The Netherlands as a leader in the development of the transition of our agricultural system. The best of both worlds. The GAIN Transition Model is part of the Smartchain consortium. The Task Force Short Chain has embraced this model and it is now being rolled out successfully. The model has also received a lot of attention within Europe. Via the Task Force, the Netherlands can further expand its leading position in various European programs and once again give guidance to the future of agriculture and strengthen its leading position.

Culture, heritage and creativity

Cultural, heritage and creative transitions are complex. There are clashing paradigms in the search for how we relate to each other and what we consider important together. Creativity and the cultural sector are indispensable in this process, in which building bridges and testing new values from a connecting narrative are necessary. The cultural heritage offers the necessary DNA to provide guidance for this, based on historical awareness.

Laws and regulation, lobby and strategy

In collaboration with the Food Transition Coalition and LTO Nederland (both represented in the Advisory Board of the Task Force Short Chain), we act as advocates for the short chain movement. By working closely with regional and national governments, important (political) moments can be used with great potential for short chain development. We are also collaborating with the regional and national government to remove obstructive legislation and regulations, which are often based on traditional long chains.

Relevant publications

Transition towards more sustainable and city region-oriented food economies is needed (Wiskerke, 2015). The realization of local food systems and short food supply chains (SFSCs) has been proposed as a promising agricultural approach to deal with these challenges (Gaast, et al. 2020; Kneasfey et al., 2013; Wertheim-Heck et al. 2018).

The European Green Deal encapsulated the Farm to Fork strategy which states the needs of shorter food supply chains. People pay increasing attention to environmental, health, social, ethical issues.

Kalfagianni, A., et al., 2018: Localizing global food: short food supply chains as responses to agri-food system challenges. Routledge.

Malak-Rawlikowska, et al., 2019: Measuring the economic, environmental, and social sustainability of short food supply chains. Sustainability, 11(15), 4004.

Kneasfey, M., et al., 2013: Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics.

Chiffoleau, Yuna; Dourian, Tara. 2020. "Sustainable Food Supply Chains: Is Shortening the Answer? A Literature Review for a Research and Innovation Agenda." Sustainability 12, no. 23: 9831.https://doi.org/10.3390/su12239831

Which metrics are we planning to use as the primary indicator to measure the success? How will you measure them?

Local level
Number of participating farmers, total products, sales, exposure and real impact based on LCA's social, economical and ecological level.

Regional level
We will use all data form the local level and combine it at the level of the regional alliances by performing network analyses and innovation eco system analyses.

National
We combine the data from the already combined regional levels and we will monitor the collaboration between the regions toward new innovations

The growth of our project and its impact is based on the growing data the project generates. The project is fully designed to be applicable for any smart city or -region in the EU and even beyond. Each city that joins adds to the database. By using game mechanisms, focus on new value propositions - based on chains of trust - and data we will have abundance in our core.

We will connect, and are connected, to international levels and apply for EU grants and actively participate in Green Deal, Farm 2 Fork and new projects and consortia in the context of the regulatory framework of Europe of the Regions. We already created an innovation ecosystem in several regions and we will use existing inventory and funding opportunities on a regional, national and international level.

Impact
Our project will directly impact people as well as the environment, without any foreseeable risk. Consumers will have more and better choices in healthy products, sustainable entrepreneurs will have a more profitable business model, the environment will benefit from a smarter use of nature and land and a reduction in CO_2 emission because of the shorter food chain. Transitioning the food system based on measurable impact is at the core of our mission.

Local/short food supply chains are generally developed to i) improve sustainability; ii) contribute to circular agriculture; iii) increase the availability of healthy food products and; iv) improve the resilience of the food system. However, the decrease of distance or number of links in the supply chain does not necessarily indicate that these goals are

amped

being achieved. Bearing this in mind, and in light of the aim of this project, it will be important to ensure that an impact assessment - with a focus on the carbon dioxide emissions and cost savings associated with alternative logistics and transportations innovations - be conducted

On the surface level, the goal of any LCA is to provide the environmental impact of a product or process from its (in this case literal) roots to its disposal. In the context of this project, the knowledge obtained during the process will be applied to serve as a comparison model. First, the LCA's of different parties can be compared with each other; identifying opportunities for improvement by either collaborating or learning from best practices. Furthermore, the LCA of the proposed supply chain can be compared to the current conventional supply chain.

We will use regional food systems as vehicles for measurable impact and will activate collaborations based on impact. We will use and include technology and new scientific models and evidence for collaboration.

See the tutorial of our blockchain solution and how we will use the data collected within the regional context.
https://www.youtube.com/watch?v=u4ZHXRyX1Qo

We will work actively and fact-based on expanding our network and innovation ecosystem. Furthermore, we will build a concept for systemic change based on impact.

Activities per Sustainable Development Goal

The definition of 'short food chain' in the European Agricultural Fund for Rural Development is "a supply chain involving a limited number of operators, committed to cooperation, local economic development and close geographic and social relationships between producers, processors and consumers".

SDG 17 - partnerships for the goals

The collaboration represents a large ecosystem of change agents. We fulfill the role of connector and accelerator of the network parties that work together on a system without victims. By combining various initiatives in the field of emergency aid, we increase the impact and support. See our map 'Short Food Supply Chain Ecosystem of the Netherlands'.
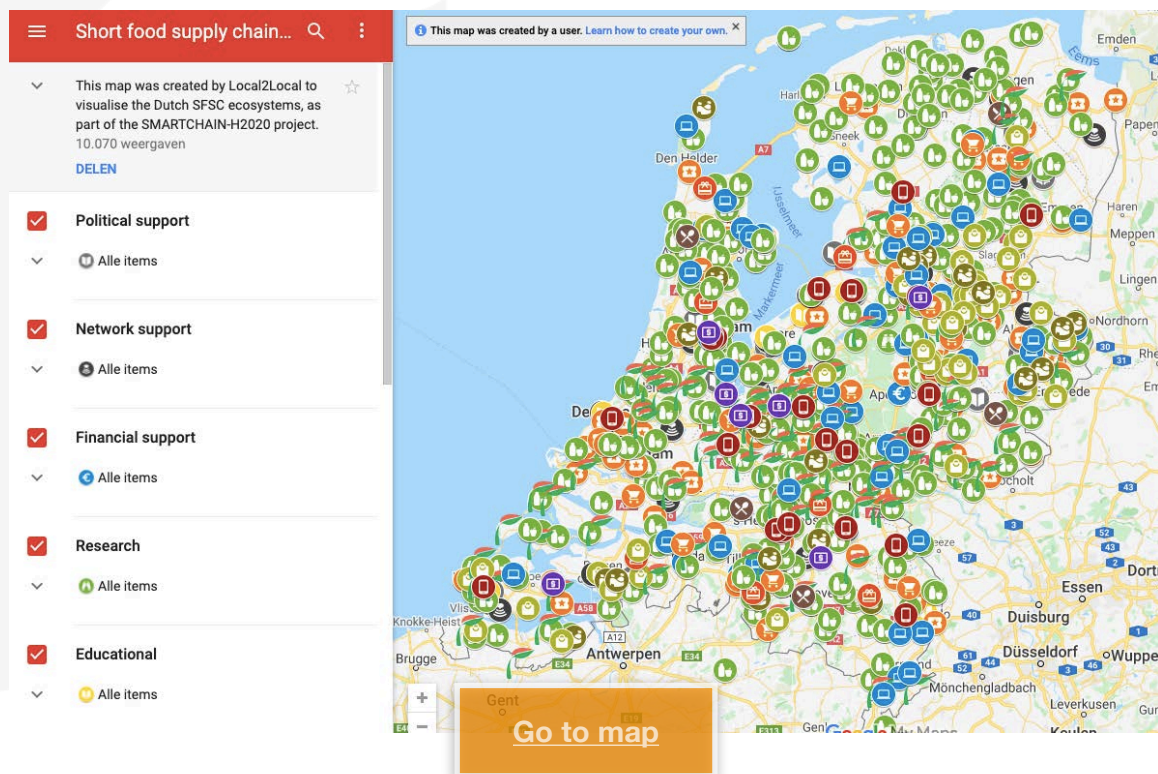
We will work together with consortia and knowledge institutions expanding our impact based on measurable local sales, growing learning communities, growing data and continuously expanding our impact on new scientific insights by integrating impact assessment into the core of our architecture. Within the Dutch ecosystem we have an active collaboration with Utrecht University, Technical University Eindhoven, Amsterdam School of applied sciences, AERES School of applied sciences, Utrecht University of the Arts.

SDG 15 - restore ecosystems and preserve biodiversity
By connecting the local market (city) to the local farmer, short chains contribute to new partnerships for the revitalization of soil, realization and financing of ecological issues with landscape organizations, and we support farmers who want to change sustainably.

SDG 12 - responsible consumption and production
Short chain companies work together to restore the connection between citizen and farmer. This connection harbors the solutions for structural improvement and sustainable valuation of our food. We create transparency. The story of our food, the role of the farmer and the consequences of our consumption form the foundation of solutions for people, society and the environment. Our ultimate goal is to directly connect citizens to producers and to determine together what role food should play from an economic, ecological and social perspective.

SDG 11 - sustainable cities and communities
Short food supply chains aim for a healthy urban environment that is in contact with the surrounding countryside. Within this, hundreds of entrepreneurs are active from the bottom up in building their own living environment, based on solidarity. Partly due to Corona, this is now more relevant than ever. We can increase impact and effectiveness through bundling of forces.

SDG 10 - reduce inequality
The food system is completely disconnected. By restoring the connection between citizens and farmers, we gain insight into the unequal value distribution within the food system. This also causes an unequal risk distribution, the contribution that is made in relation to the impact. The short food supply chain is fundamentally about providing insight into the impact and redistribution of these values.

SDG 9 - innovation and sustainable infrastructure
The connection between citizens and producers offers a great breeding ground for sustainable innovation. Good examples are Herenboeren.nl, our short food supply chain

[platform](#) and our blockchain-solution '[SmartShortChain](#)'. In addition, we want to actively collaborate on transition issues.

SDG 8 - decent work and economic growth
The key to the transition of society is a food system consisting of (cross)links that add value. By linking the inclusion of vulnerable people in the food system as harvester, transporter, packer, pickup point manager, food preparer, etc., work is created, but above all real added values between citizens and farmers.

SDG 4 - good education
Within our collaboration we actively work on knowledge development with various universities and knowledge institutes. We believe that food should become a permanent part of every curriculum, from primary education to academic levels. [Our Local2Local Talent movement](#) forms a solid foundation.

SDG 3 - good health and well-being
Well-being is not just about food. It is about social connections, ecological values and healthy food. Fresh food in particular forms the basis for a healthy society. The short food supply chain plays an important connecting role in this domain. Our regional alliances safeguard the network and knowledge connection.

SDG 2 - no hunger
The short chains are practically linked to all bottom-up initiatives aimed at tackling poverty and hunger: the Food Bank, Farmers for Neighbors, the Red Cross, Salvation Army, etc. We look beyond just a contribution from residual flows. We strive for a system change that realizes the social connection between citizen and farmer and can thus be a structural solution for fighting hunger. Waste and hunger are a consequence of our current food system.

SDG 1 - no poverty
Our food system causes many problems in the world. The system of world trade, consolidation and the lack of a link between consumption and its consequences create inequality and poverty worldwide. A regionally oriented food system can provide a fundamental and therefore structural solution for poverty reduction.

Team, Partners & Funding
What makes our core team best suited to tackle this project?

Team
Scale up our PoC in MRA and Utrecht towards the entire Randstad and build the regional logistical hubs in Almere, Amsterdam, Utrecht and Rotterdam. We need to build up our project organisation to a core team of four scrum teams. Over the past decade, we have gained experience in IT, data and short food systems. We are a recognized leader in the field of short chains on local, regional, national and international level. We have a powerful innovation ecosystem around our core. Most of all we are convinced that with our solutions we can change the food system.

Team 1: Coordination & Governance
Coordination and alignment of all individual and collective system building efforts, bundle forces, acquire and use resources efficiently. For this alignment we provide and work together on governance of the transition towards a sustainable food system.

- System orchestration
- Create a shared vision
- Define common goals
- Standardization of processes
- Provide platform for open innovation
- Think in system-building roles
- Create transparency of all activities

Team 2: Socio-cultural Changes
Local2Local embeds its innovations in society; changing values and norms in favor of our innovations.

- Creating new facilitating organizations
- Establishing collaboration-prone organizational cultures
- Change user behaviour
- Changing education
- Realize a student pool of skilled labor

Team 3: Research & Innovation (IT)

Developing, testing and optimizing innovations and complementary products and services.

- Testing new innovations, applications and markets
- SFSC knowledge development
- Reciprocal knowledge exchange
- Development of commercially viable products
- Co-creation of products and services
- Feedback loops with user groups

Team 4: Market creation

Creating markets for our innovations; raising user awareness and demand.

- Generate new business models
- Creation of temporarily protected niche markets
- Cooperation with government to guide legislation
- Collaborative marketing to raise user awareness and support behavioral change
- Collaborative competition with other innovation clusters and with the current regime

Partners & Funders
Our major partners and/or funders from the last 3 years.

- Ministry of Agriculture invested by giving us funding for creating a national level collaboration
- Ministry of Agriculture invested in the development of MVP blockchain technology
- Rabobank invested in our Local2Local platform and in building the Metropolitan Region Amsterdam alliance. Rabobank also commited to investing in the partnership between Diverzio and Local2Local and activates her b2b network through account management https://magazines.rabobank.nl/groenehartnoord/korteketen/?ItemId=53266
- Impact Hub and their 44 city hubs around the world can help introduce regional food systems in other regions. Impact Hub and Local2Local are committed to collaborating in a EU roll out of the Local2Local model
- Metro group invested in a robust logistic collaboration
- Foodlogica is our primary partner for delivery of electrical powered transportation

- LTO invested in the start up of Local2Local
- Hundreds of individual farmers invested time and money in onboarding in the short chain of Local2Local
- The Province of Flevoland invested in building the short food supply chain from Flevoland to Amsterdam. Flevoland is also committed in realizing the food hub from the Cross-KIC project in Almere, connected to and part of the Floriade Expo 2022.
- The Province of Utrecht invested 150k in Utrecht Food Freedom, network activities and several experiments.
- Climate-KIC, together with EIT Urban Mobility, started a Cross-KIC Deep Demonstration in our Metropolitan Region Amsterdam collaboration
- The Smartchain EU commission invested in the development of the GAIN transition model.
- The Food Chains 4 Europe consortium invested in collaboration between Utrecht and Flevoland
- Municipality of Amsterdam granted the partners in the consortium several projects that are aligned with the roadmap
- Utrecht University, Amsterdam school of applied science, Aeres school of applied science, Eindhoven technical university, Utrecht University of the arts
- Diverzio specialized organisation with focus on food and health care. Diverzio serviced over 200 Dutch healthcare institutions with their program "sustainable, healthy catering", making food more sustainable by reducing waste, optimizing nutritional values of food and connecting farmers with the institutions.

All above partners, funders are in it for the long term and are committed to the collaboration. They all benefit from solving this systemic problem by creating a systemic solution.

The primary partners are Compazz foundation, the Smartchain consortium partners, the municipalities of Amsterdam, Almere and Utrecht, Taskforce Short Chain, Utrecht University, Diverzio, Makro, Rabobank and our farmer networks.

References
- Erik Koldenhof Senior policy maker Food Strategy city of Amsterdam
- Mara van der Klei Senior policy maker Circulair economy city of Amsterdam
- Martine Sourbag Senior policy maker Economic Affairs city of Amsterdam
- Laurens Ivens City Councilor city of Amsterdam
- Barbara Baarsma Chain Rabobank MRA

- Zkh Prins Carlos de Bourbon de Parme Chair of Taskforce Short Food Supply Chains
- Hillebrand Koning Senior policy maker Province of Flevoland
- Paulo Peereboom CEO Makro Nederland
- Anne Marie Gout Senior policy maker Healthy Urban Living city of Utrecht

Farmer Networks

The following existing short supply chains are involved in our collaboration. To onboard these organizations, agreements must be made and the logistical links and back offices need to be considered.

- Local2Local: 50 farmers / producers in Utrecht and 22 in West Betuwe. The L2L farmers are eager. Within this group, further work is needed to professionalize the product portfolio and inventory management.
- Vereniging FlevoFood: 30 farmers, including Lelystadse Boer. Vereniging FlevoFood has decided to fully merge with the backend, the logistics and IT-organization of L2L. To do this, we are setting up an IT-platform with the FlevoFood identity. Onboarding of farmers and products requires a lot of time and effort. This process has been started. New participants register with the association.
- ProeVkantoor: 65 farmers from North Holland managed by Matthijs Post delivering b2b fruits and vegetables food boxes. L2L already carries parts of the product range of the Cooperative. Within this group, further work is needed to professionalize the product portfolio and inventory management.
- Groene Hart Coöperatie: 25 farmers. L2L already carries parts of the product range of the Groene Hart Cooperative. Groene Hart has had the longest development time of all cooperatives. L2l is connecting AMA logistics and IT-infra to Groene Hart. Within this group, further work is needed to professionalize the product portfolio and inventory management.
- Texels farmers SFSC-initiative. L2L has partnered with a group of 30 farmers and entrepreneurs from the Isle of Texel. This was done in collaboration with Rabobank Texel. The Texel lamb project Dapper is a kickoff of activating the local market, including tourism and developing regenerative farming. The Texel farmers run their operation with their own L2L-platform. The driving force behind the Texel group is Dirk van de Beek, chairman of De Krim and director of Boeren van Amstel.
- Boeren van Amstel: a new initiative south of Amsterdam with its own dairy factory, they would like to participate in the realization of their own Amsterdam dairy line. Dirk van de Beek is currently very busy with setting up the factory and the start-up

and may not be able to contribute much in the startup of the collaboration.

References
- Bauke van der Veen Flevofood
- Dirk van de Beek Boeren van Amstel
- Huub van der Maat Utrecht Farmer collective
- Jan Willem Bakker Texel farmer collective
- Matthijs Post Proevkantoor

Scientific partners

Within the Dutch ecosystem we have an active collaboration with Utrecht University, Technical University Eindhoven, Amsterdam School of applied sciences, AERES School of applied sciences, Utrecht University of the arts.

References
- Rene Kwant Contact officer Utrecht University
- Kees Willem Rademakers Amsterdam School of applied science
- Ron Methorst Aeres School of applied science
- David Croumble HKU Utrecht University of the arts
- Marius Moonen Technical University Eindhoven

Connection with other Regions

For the future expansion and roll out of our PoC and implementation of our plugin services for regional food systems we made connections with the following regions:

Smartchain consortium
SMARTCHAIN will stimulate demand-driven innovation in short food supply chains to improve competitiveness and foster rural development using a multi-actor approach. The project is using an interactive innovation model where all actors involved in the project (entrepreneurs and practitioners directly involved in running short food supply chains, representatives of organisations concerned with supporting short food supply chains and a number of researchers with different expertise who specialise in short food supply chains) are working together to make best use of scientific and practical knowledge for the co-creation and diffusion of novel solutions ready to solve practical problems.

The FoodChains 4 Europe consortium
The aim of the FoodChains 4 Europe project is to improve the implementation of regional policies that stimulate the delivery of innovation to create sustainable food chains in five

participating regions: Flevoland (NL), Plovdiv/Sofia (BG), Emilia-Romagna (IT), Maramures (RO) and Greater Manchester (UK)

Floriade Expo

We have a strategic collaboration with Floriade Expo and we are collaborating on building new consortia around the transition of the food system.

Miami-Dade county

In december 2020 the Dutch Embassy of the Netherlands and farmer organisations together with Impact Hub started a session for working together on regional food systems. In January we will start the exploration for collaboration from the GAIN perspective.

Edinburgh & Scottish regions

In July of 2019 SAOS representatives Tim Bailey (CEO), Alan Stevenson (Supply Chain Development Director) and Rory Christie (SAOS, Dourie Farming Company) visited Amped for two days of strategy sessions. https://www.linkedin.com/pulse/scotland-goes-local2local-mark-frederiks/

Vienna & Bratislava region

We discussed the collaboration with the City of Vienna for creating a short food supply chain between the region Vienna and Bratislava. The region is very interested in the GAIN and Local2local model.

Barcelona

We visited the region of Barcelona and discussed the start of a short food supply chain. We had meetings with farmers organisations, with the city councilor of El Pratt de Llobregatt and the University of Barcelona.

Leuven

We have discussed collaborating in a new consortia with Leuven en Flevoland. We made arrangements to start building a consortium around the Horizon Europe programm.

Istanbul

Together with the Dutch Embassy in Istanbul and the Turkish embassy in the Netherlands we explored collaboration in regional food systems together with Impact Hub. The next step is aligning activities. Perhaps a connection with the running EIT food program is possible.

Dublin

We discussed collaboration with the University of Dublin around short food supply chains. We made it clear to each other that there is much common ground to work together. Perhaps a combination with EIT manufacturing is possible.

Budapest

We discussed collaboration with one of the Key short chain players also part of Smartchain. We made it clear to each other that there is much common ground to work together. Perhaps a combination with EIT is possible.

Impact Hub

We explored collaboration with Impact Hub founder Tatiana Glad. We came to the conclusion that the GAIN model is the perfect instrument for collaboration and the hub structure and concept can be an effective plugin service for smart cities and regional food systems.

Short food chain EU community

The Short Food Chain EU Community has set the goal of removing the main obstacles for short food supply chains in the coming years. With this connection of initiatives, organizations, knowledge institutions and entrepreneurs, the SFCC generates knowledge, inspiration and data that can be used in a circular fashion. This enables entrepreneurs and initiatives to scale up, realize profitable revenue models, create new collaborations and jointly achieve more impact. All members are eligible to contribute and share.

Rabobank

Rabobank is a partner for the long term. Rabobank is aligned with the GAIN model on several levels. Our Peer contact is Prof. Barbara Baarsma, CEO of Rabobank MRA and also board member of the Taskforce Short Chain.

Metro AG group

Makro and Local2local formed a partnership in the MRA en Dutch roll out of the Local2local short food supply chain. Metro AG is the perfect partner for a roll out in EU perspective.

Copa Cogeca

We presented our GAIN model at Copa Cogeca and received positive feedback.
See article regarding the GAIN-presentation for Copa Cogeca.

References
- Dimitrios Agripoulos Assistant Professor in Biosystems and Food Engineering at University College Dublin
- Francisco Javier Casado Hebrard Project Coordinator en SMARTCHAIN H2020 Project
- Rory Christy Chair Scottish MILK SUPPLIERS ASSOCIATION LIMITED
- Tatiana Glad Founder impacthub

Funding

We realise that by building forward on the Cross-Kic Deep Demonstration we can carefully work on the roll out and align funding from all different levels. All the money will be used for developing the robust solution needed for facilitating the transition towards the next phase.

Developing the GAIN-model towards a smart city approach, aligning the mode with other market transformation programs such as donut economy, further develop and implement the governance model for regional food systems, develop a GAIN e-learning program for partners together with the Utrecht University.

1. Invest in integrated IT solutions, develop a data sharing hub for measuring impact, templating our concept for all levels, creating a toolbox for smart cities
2. Build the organisation from an ecosystem approach to implement our concept in other regions
3. Promote and onboard our solution in other regions, build a consortium using Floriade
4. Extend our innovation eco-system and build the needed organisation and partnerships
5. Find and align additional funding opportunities

Funding will be combined with other funding opportunities that will be provided on the way. We expect a large variety of funding opportunities. All profit will be used for the creation of new value driven products, activating new regions and developing new services and inventory for the ecosystem. To tap into the different funding programs Local2Local together with the Province of Flevoland is creating a writing office of activating subsidies.

KIC Engagement

If we are granted a new phase in the Cross-Kic Deep Demonstration we must participate closely with all the KIC organisations. We are aware that for achieving the highest level of impact all KIC's should be involved in the project.

Practically we would start new regional alliances around KIC offices and projects all over the world.

Tactically we would like to explore what kind of existing solutions and relevant collaborations we can combine.

Strategically we would like to collaborate with experts on key performing levels toward a systemic system intervention. The GAIN transition model and the ecosystem approach of Climate-KIC are fundamental for achieving this. We will be organized as an ecosystem. New partners can be easily accessed.

Climate KIC Community connection

The Local2Local innovation ecosystem approach is a perfect fit of Outcome online community Climate KIC Benelux event 15 december 2020 ([aftermovie](#))

KEY SOLUTION
Gamification models for more democratic process