



GUELPH-WELLINGTON – Canada's
first food smart community

A Smart Cities Challenge initiative

Envisioning a Circular Food Economy **Circular Food Economy Innovation Hub (CFE iHub)**



February 17, 2019

foodfuture.ca



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CIRCULAR FOOD ECONOMY INNOVATION HUB

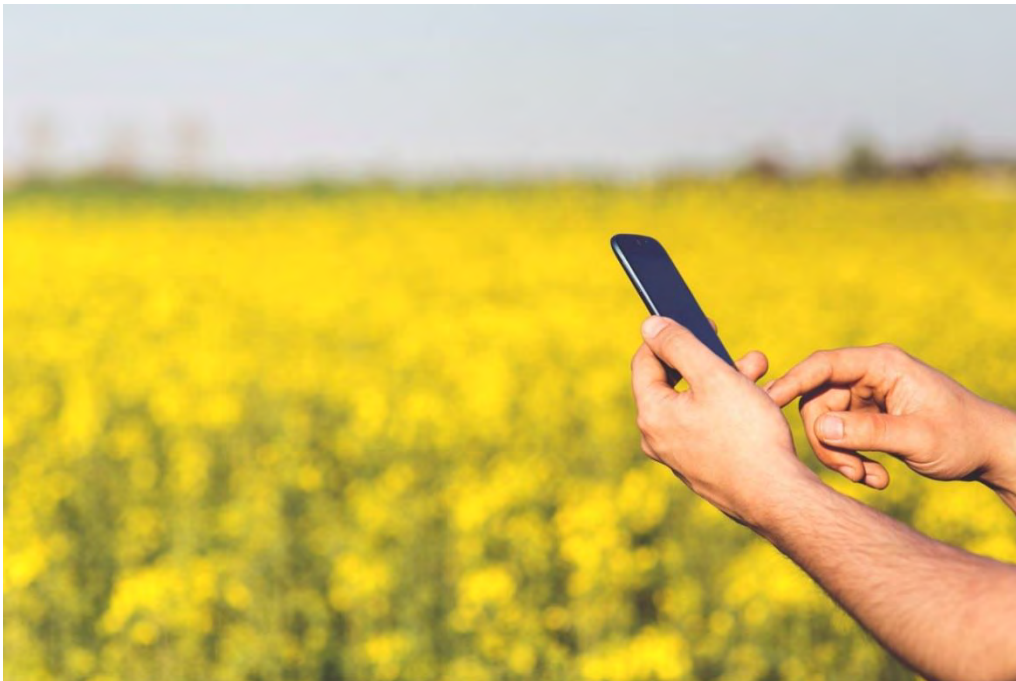
OUR FOOD FUTURE VISION

In Guelph and Wellington County, one in six families is food insecure. The cost of healthy food has increased 27% in eight years. However, in Canada we throw away more than one-third of our food. We want to be part of the solution to this mismatch and the economic and environmental impacts it produces.

We see a connected food system where:

1. Everyone can access nutritious food,
2. Nothing is wasted, and
3. The impact on our environment is minimal.

We imagine a system where food experts and entrepreneurs come together to tackle our most complex food challenges. Guelph-Wellington will become Canada's first technology-driven Circular Food Economy and will provide a replicable process that other communities across Canada can follow.



Further to this vision, the Circular Food Economy iHub will:

- create at least 50 new companies, collaborations and technologies that contribute to a Circular Food Economy (CFE) between now and 2025
- contribute to the development of a sustainable regional food ecosystem by serving as a hub for collaboration; discovery, assessment and analysis of problems; ideation, prototyping and validation of solutions; and ongoing mentoring and monitoring of the new CFE entities we generate
- collaborate with residents, industry, the innovation ecosystem and the global community to surface intractable problems that can only be solved with disruptive solutions made possible by access to robust data and emergent technologies such as blockchain, AI, IoT, etc.
- be a global “think-do” tank for the circular economy for food

Serving as an innovation engine for the region, the CFE iHub will further optimize and leverage the value of the Guelph-Wellington agri-innovation cluster and contribute to the cumulative impact of Ontario's Innovation Corridor by producing solutions that generate measurable value for stakeholders, value for communities of people, value for local economies and value for our environment. The CFE iHub will position Guelph-Wellington as the place to come to ‘solve food problems’, or the ‘Silicon Valley for food’, enhancing and supporting the value of the agri-food sector in Ontario and Canada.

CHALLENGE – ORIENTING THE ECOSYSTEM FOR CHANGE

This project is about creating disruptive, systemic change through inclusive innovation. Guelph-Wellington, powered by the iHub, will be a rural-urban living lab where social innovators, researchers, industry, technology developers and the community converge to solve complex, intractable problems. As the innovation engine of this new system, the iHub will drive the use of data and build the necessary technological capacity to support a sustainable regional food economy that will serve as an example for Canada and the world.

Inspire a sustainable regional food ecosystem

The iHub will fuel this change by:

- serving as a change catalyst through the promotion of Circular Economy principles;
- building awareness through active engagement and education of residents and the business community through public learning labs
- collaborating with local, national, global partners to build new knowledge and share best practices for circular economy, smart cities, agri-food tech, etc.;
- supporting the development of a national and global Circular Economy for Food roadmap;
- developing broadly applicable system change impact measurements.

Inclusive innovation by design

More importantly, the iHub will engage the entire ecosystem via:

- design labs to catalyze new purposeful businesses and collaborations that embrace people, planet, and prosperity;
- direct outreach to the social/health sector that serves our most vulnerable populations, to ensure that those who are most often left out of the innovation conversation are engaged and have the opportunity to build capacity for utilizing data and technology;
- collaboration around the development of social enterprises that employ disadvantaged populations (disadvantaged youth; women; people living in poverty, etc.) so that innovation benefits all;
- public idea generation, challenge/solution surfacing discussions, competitive challenges and awards that bring the broader community into the development of solutions.

Demonstrate the power of data

Throughout the process, the iHub will demonstrate and use the power of data to solve complex challenges by:

- leveraging data across sectors;
- offering a secure data utility and application development platform;
- engaging data scientists and analysts to ensure that data is readily usable;
- sharing insights gained and solutions created to support evidence-based policy and resource allocation decisions

Catalyze a living lab

A key feature of the iHub will be its living lab approach that:

- together with community partners, turns Guelph-Wellington into an open source test-bed that enables a wide range of collaborators to solve food problems and develop a circular food economy;
- offers opportunities for innovators to embed with partners to collaborate on research and development and in-field testing of use cases, proof of concept and prototype development, technology adoption, commercialization
- develops and testing new approaches for innovation procurement in the public sector, building on Guelph's Civic Accelerator and Municipal Innovation Exchange programs
- optimizes and leverages existing system resources, partnerships, and programs.

Funding & financing the ecosystem - Harve\$t Impact Fund

Ultimately, the iHub will support the creation of a pipeline of investment-ready projects and will coordinate activities with the

Harve\$t Impact Project funding and finance ecosystem to:

- jump start organizations on a one-on-one basis, across sectors and within vertical markets to work effectively on challenges and opportunities;
- strengthen ideas and move them closer to launch;
- strengthen and accelerate projects by supporting the exchange of ideas, developing new procurement processes, sharing research, and engaging community in the challenges, opportunities, processes and outcomes.

With a developed ecosystem map and a collaborative organizational structure, the iHub and the partner embedded concierge connectors will support projects to build concepts, connections and collaborations within the system. As projects become investment-ready, the Harve\$t Impact Project will engage and mobilize several financial supports. Integration between these two distinct but interdependent functions will benefit the growth of the ecosystem.

System-wide concierge for sustained impact

The distributed, collaborative nature of the iHub is its greatest strength. To tap into this strength, effective communication across multiple organizations and throughout the execution of multiple interconnected projects is crucial. That's why the iHub will rely on the combination of human and technological concierge roles to ensure cohesion across the Circular Food Economy ecosystem and to deliver sustained impact. This approach will include:

- two dedicated individuals, one embedded in the Wellington County rural community and one embedded in City of Guelph, who will keep lines of communication open, maintain intimate knowledge of the CFE ecosystem and bring the right resources and people to the table at the right time.
- a Concierge technology platform that will support synchronous and asynchronous communication between distributed ecosystem partners and facilitate collaboration across multiple interconnected projects

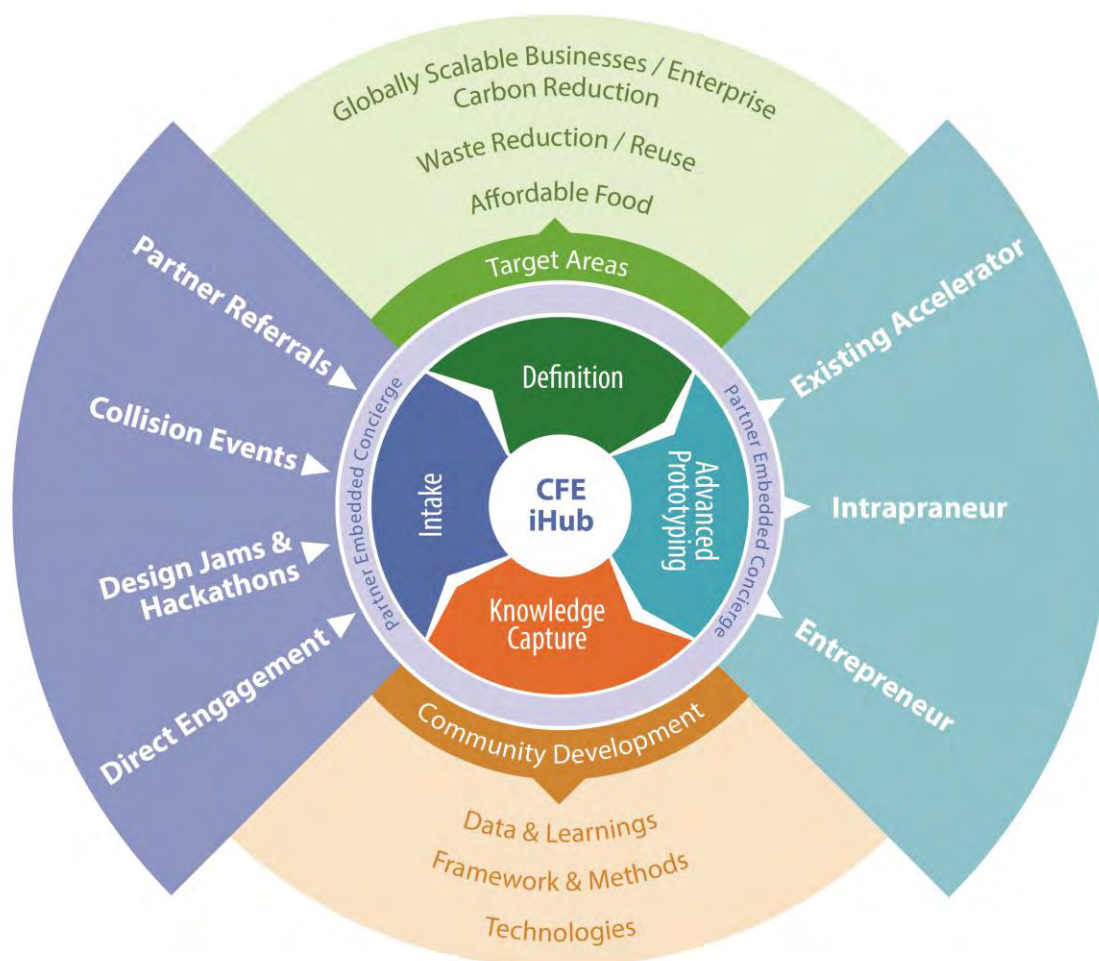
Focus on sustainability

With a focus on creating value through collaborative action, the CFE iHub will pursue sustainability as a process not simply an outcome. Throughout the project period and beyond, the CFE iHub will investigate, develop and test strategies to enhance its long-term sustainability. Through active and ongoing experimentation, options can be tested, and successful elements incorporated as they are validated. Ideas to be explored include:

- taking equity positions in (or arranging royalty agreements with) companies supported by the iHub;
- creating paid educational offerings, including e-learning modules;
- licensing or franchising the circular food economy iHub model once it is finalized and fully validated;
- creating mutually beneficial partnerships with industry; and
- seeking philanthropic partners whose interests align with the iHub's objectives.

THE CFE iHUB

Between now and 2025, The CFE iHub will employ a defined process of discovery to surface problems and opportunities; assess and curate them based on potential impact and viability; validate them through a supported solution ideation process; and then transition them to the market or to additional supports/collaborators within the innovation ecosystem; including the Impact Funding Hub. Through this process, we will create a total of 50 new businesses, collaborations and technologies that generate value for stakeholders, value for communities of people, value for local economies and value for our environment.



Building local partnerships and global knowledge

Our vision is inclusive of the community we operate in and leverages the Guelph-Wellington startup and business ecosystem and the community locally, regionally and internationally. Our core collaborations include the Innovation Guelph Regional Innovation Centre, 10C Social Entrepreneurship Hub, Business Centre Guelph-Wellington, Community Futures (Wellington-Waterloo/Saugeen), and LaunchIt Minto. These collaborators will share resources and will participate in delivering the programs of the CFE iHub.

The iHub will also collaborate with other ecosystems partners to surface and curate challenges and will provide streamlined access to iHub programming for businesses and collaborations emerging from the University of Guelph's Agri-Food Business Accelerator, the John F. Wood Student Business Accelerator and the Craig Richardson Institute of Food Processing Technology at Conestoga College.

In addition, the iHub will coordinate with and refer companies and collaborations that have already worked with the iHub to programs and entities that can support their ongoing sustainability, including the MIX Civic Accelerator, BioEnterprise, Ontario Agri-Food Technologies and a recent entrant, Alectra's GRE&T Centre.

In order to contribute to the greatest possible impact for our region, our Country and our planet. The CFE iHub will share its learnings and developments as open source tools and public domain information and will participate in a global community of like-minded groups. Here are just a few of the partners who have already contributed a broader perspective to Guelph-Wellington's vision for launching a circular food economy.

Through these and other partnerships, the CFE iHub will participate in creating and amplifying the national and global conversation on circular food economy and sharing ideas, programs and tools with the CFE community. In this way we will contribute to the accelerated adoption of circular food economy development practices nationally and globally.

Engaging the community

The CFE iHub will be recognized as the food project innovation engine and concierge that prepares and guides great CFE companies, collaborations and problem-solvers to success. We take this role enthusiastically knowing that our "village" is home to world class leaders, innovators and business accelerator organizations that will contribute to the development of globally successful companies and collaborations. To perform this role effectively the iHub will maintain strong relationships with partners in the Smart City ecosystem as well as the broader Toronto-Waterloo innovation ecosystem. Paramount to our success is the community engagement model.



The CFE iHub aspires to be perceived as a magnet for problem-solvers and innovators who care about food security, our planet and our economy. The iHub will attract them by taking an "educate and ignite" posture in our messaging and outreach activities. The iHub will fulfill a specific role in the overall Smart City CFE awareness and education messaging.

Together with Smart City partners, the CFE iHub will support and participate in business community and public learning labs to raise awareness of the social and economic impact of addressing CFE opportunities and problems. A key element of this outreach for the iHub will relate to potential business opportunities for incumbent Agri-food businesses and startup teams, including social entrepreneurs seeking to create meaningful and sustainably fundable enterprises that address impactful needs.

The "village" we operate in goes beyond the CFE ecosystem partners and extends to many world-class innovation and acceleration resources. The CFE iHub will be an important participant in the Toronto-Waterloo Innovation Corridor through raising awareness of Guelph's Smart City CFE cluster capabilities, determining how they relate and helping their members access appropriate CFE Cluster resources. This may also lead to attracting promising startup teams to Guelph. In addition, we will be a feeder of high-quality opportunities and teams to Corridor programs when it is most appropriate.

Participating in the success of the Smart City CFE Cluster

Part of being a great partner in the CFE Eco-system is actively contributing to good governance and strategy development in concert with the Guelph Smart City Operating Board and related committees. Acting as a Centre of Excellence, The iHub's role will be to help keep the cluster members abreast of the emerging CFE, Agri-Food and Clean technologies, best practices and business models. Additionally, the iHub can play a role in strategy development leveraging the knowledge and data we will collect directly through our development, shepherding and tracking of companies and collaborations. The iHub will also acquire knowledge, frameworks and methods through maintaining strategic relationships with circular economy and agri-food thought leaders such as the Institute for the Food Future, IDEO, Circular Economy Leadership Coalition, the Arrell Food Institute, The Canadian Agri-Food Policy Institute, Smart Prosperity Institute, Ellen McArthur Foundation, etc.

In addition, the CFE iHub will employ and foster excellence in problem definition and designing appropriate solutions. This capability may be exploited by the operating committee and partner members to help address the resolution of some of the more intractable problems they may face.

Pathways to success- collective impact for an inclusive green economy

By forging and following proven pathways to success; building local partnerships and global knowledge; and leveraging data, the CFE iHub will generate sustainable collective impact in Guelph and Wellington County —creating a circular food economy that can be replicated in communities across Canada and beyond.

In pursuit of this outcome, the CFE iHub will operate on a system of values and measurements that are focused on people, planet and prosperity. Increasing access to nutritional and affordable food for all and reducing or re-using food waste by-products while reducing carbon emissions are guiding objectives in the system of companies and collaborations we create. We are further focused on selection and development new companies and collaborations that represent the best growth opportunities locally, nationally and globally.

Pathways to rapid success will be identified and managed for the emergent entities we generate. By leveraging the business, startup and social entrepreneurship hubs and centres in our region they will have access to Canada’s premiere innovation ecosystem. Partnering with pre-existing entities assures success for our companies and avoids duplication of efforts in the ecosystem.

Measuring the impact of the businesses and collaborations created is paramount. Impact measurements will include revenue generated, employment created, waste avoided/reduced, carbon avoided/reduced, increased access to affordable food, value created from waste byproducts and rate of growth of circular food economy businesses.



Main doors, but no wrong door – Living Lab & Concierge Service

Solutions happen faster through collaboration and are made successful and sustainable by passionate entrepreneurs and intrapreneurs who can connect without impediment. Facilitating connections through two dedicated connectors providing a system-wide concierge service, the CFE iHub will be the epi-centre for creating, validating and monitoring circular food economy businesses, social enterprises and collaborations. It will realize its vision by providing thorough problem analysis, solution validation, advanced prototyping and identifying pathways for innovators to accelerate their time to value. An equal focus is placed on the people who ideate the solutions and ensuring that they possess attributes that are indicative of success and have access to ecosystem supports to help them accelerate their time to value.

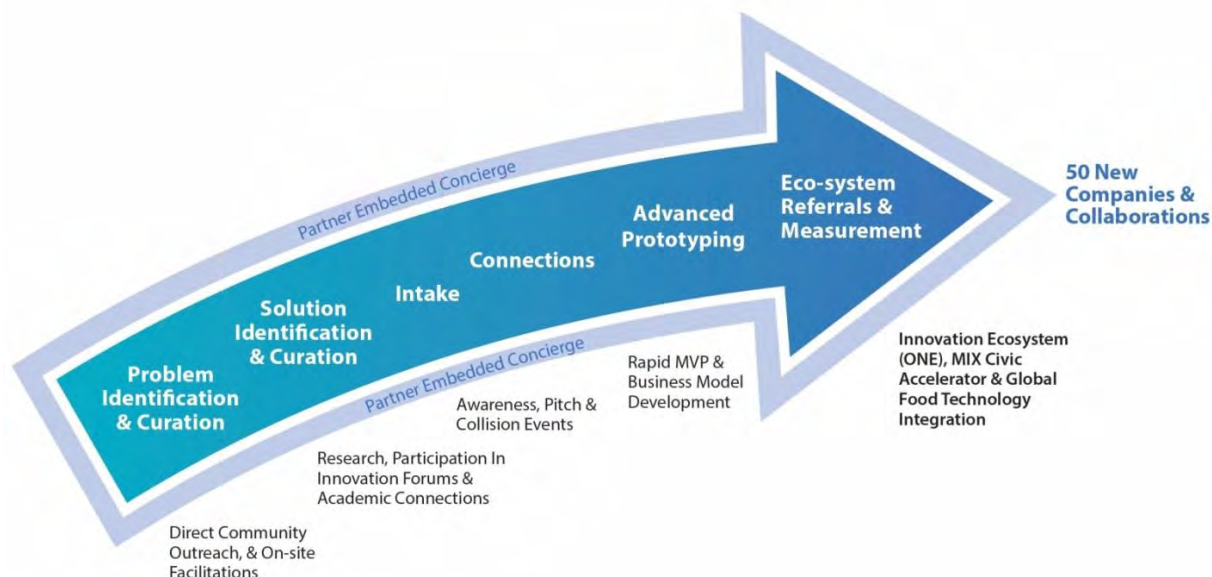
A critical component of the iHub's success will be the web of partners working together to surface challenges and attract potential solution providers. Primary, community-based business support organizations will serve as 'main doors' through which outreach and engagement are coordinated and programming is provided. The iHubs main doors in both the rural and urban centres will include 10C Social Entrepreneurship Hub, Innovation Guelph Regional Innovation Centre, Business Centre Guelph-Wellington, Community Futures and LaunchIt Minto. To ensure cohesion across the ecosystem, the iHub model will include two individual connectors, one embedded in Wellington County and one embedded in the City of Guelph, who will serve as connectors. Their role will be to maintain communication between the various nodes, to facilitate connections when problems are identified and to function as a concierge with intimate knowledge of the innovation landscape, who brings the right resources and people to table to best serve the innovation process. In practice, this will involve pulling an innovation team together to support the business or collaboration development, including technology and data experts, research support, technical experts, business experts, facilitators and project analysts.

Supplementing these main door organizations, an extensive network of CFE partners will also participate in surfacing challenges and directing problem owners and potential solution providers to the main door organizations. In this way, the entire Guelph-Wellington community becomes part of a living lab focused on surfacing, curating and solving problems. Together, iHub staff, embedded connectors, stakeholder organizations (main doors, but no wrong door), industry and the broader community will share ideas, create connections and initiate collaborative projects that would not be possible in isolation.

Accelerating a data and technology enabled circular food economy

Our mission is to engage the community and agri-food supply chain stakeholders to promote the concepts of the circular food economy and surface challenges, analyze impacts, assess marketability, form teams and work on solution concept iteration.

The iHUB will design and create a series of processes that will enable businesses and social enterprises to leverage the capabilities of data and technology to accelerate progress to a circular food economy. An added benefit of our living lab approach is the opportunity it presents to design and thoroughly test a new incubation/acceleration program for the Circular Economy that, along with proven enabling technologies, can be franchised to other cities across Canada and the globe.



As a focal point for problem analysis and solution ideation, the CFE iHub will necessarily maintain strong ties with Circular Food Economy research organizations, emerging agri-food technologies, clean-tech and civic tech to the benefit of clients, program partners and stakeholders. Our aim is to be the “go to” resource that assures stakeholders employ appropriate technologies in solution ideation, create awareness of CFE technologies in agri-food businesses and identify gaps to inform new challenges. Further, the iHub will produce and share meaningful data, intellectual property, methods and learnings to the CFE community regionally, nationally and globally through direct participation in Smart Cities open data initiatives.

A catalyst for the development of CFE agri-food businesses, collaborations and technologies, we will be an important and active member of the CFE network and the regional business development ecosystem. The iHub together with ecosystem partners will run events promoting CFE concepts and surfacing challenges related to creating a circular food economy. High quality candidate teams who are chosen to participate in the iHub will be referred back to appropriate partner organizations for continuing support once they have moved through the iHub process.

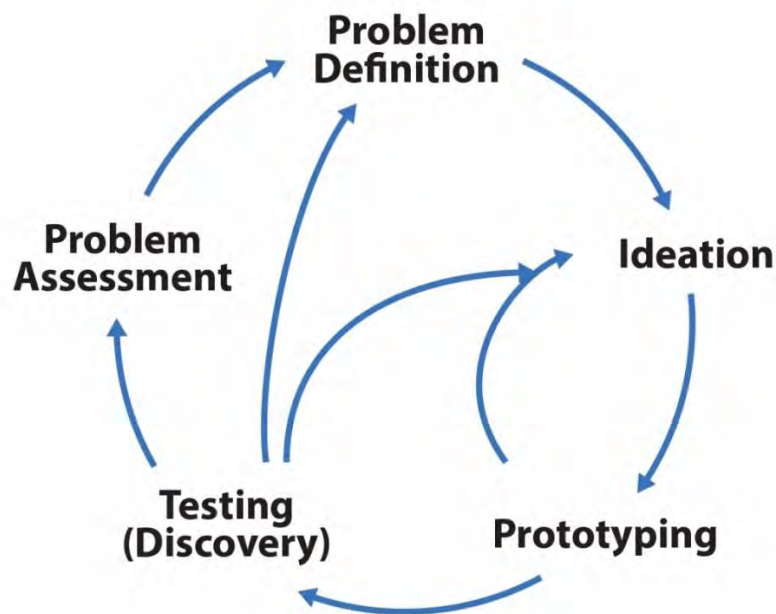
Contributing to the Smart Cities CFE program’s role as a “change agent” and innovation engine, the iHub will perform and participate in outreach to agri-food stakeholders, municipalities, interest groups, businesses and individuals in the community, advancing CFE concepts and surfacing challenges. This role extends to partnering with other stakeholders to the CFE to aid in affecting behavior and cultural changes necessary to maximize impact and success of the companies and collaborations created.

Taking a stewardship role and drawing on the concierge support of two embedded connectors, the iHub will guide participating teams through the innovation processing, ensuring the most efficient use of ecosystem resources, and will monitor/measure their progress toward sustainable success. The CFE iHub will be accountable for Key Performance Indicators that measure contribution to the goals of the Smart Cities Circular Food Economy initiative.

CFE iHub design labs

Identification of problems, solutions and pathways is realized through an ongoing program of outreach, intake, collision events and partner referrals. Of significant importance to this initiative is the concept of inclusive innovation. The CFE iHub will not function in isolation from the people it is meant to benefit. Our goal is to solve real-world, intractable problems related to food security and sustainability for the residents of Guelph and Wellington County. This requires a more inclusive approach to innovation. As such, outreach efforts will extend beyond the typical conversations with industry and large institutional players to embrace the social sector, individual residents, marginalized communities and social entrepreneurs. Through this process, we will surface challenges that speak directly to the needs of the community. The design lab principles described in this section will be applied to all solution development, but some solutions will be gauged on social impact rather than commercial potential.

Advanced prototyping of solutions will leverage a “design thinking” approach and employ best practices such as the work of IDEO, Institute for the Food Future, The Framework for Sustainable Development from Natural Step Canada and The Circular Design Guide from the Ellen MacArthur Foundation to assure that innovators take the most meaningful, impactful and potentially successful solutions to market.



Creating companies and collaborations is accomplished through purposeful events, ongoing intake and continually identifying opportunities and defining challenges in our current agri-food system that are antithetical to circular food economy practices and goals. The iHub's focus will be on surfacing and thoroughly analyzing problems and the ideas that are generated as solutions. The problem analysis and solution ideation are best performed together in an iterative process that employs design thinking principles. This is the core of the advanced prototyping process. Our companies and collaborations will benefit by being assured that their solutions are appropriate and meaningful in a circular food economy context.

Through regular outreach, awareness activities and events we will attract a steady flow of candidates to participate in advanced prototyping in the iHub. The CFE iHub will encourage agri-food businesses in the private sector to run similar challenge programs.

iHub design labs will also surface challenges by targeting potentially high impact scenarios in agri-food business. Guided by data from the multiple projects and data sources in this initiative (e.g. Asset Mapping project and the Circular Action Plan), the CFE iHub will target segments of the agri-economy in the region and specific enterprises to encourage action to adopt circular approaches, share solutions knowledge and identify opportunities. As an example, in institutional kitchens and catering operations it is estimated that by the time food makes to the plate, 70% is wasted. The CFE iHub will contribute to campaigns and projects that target these high potential segments.

The iHub will participate in encouraging and teasing-out circular food economy challenges and the associated enthusiastic owners of solutions through programs similar to this that can be deployed in agri-food enterprises, social enterprises and neighboring municipal governments.

As part of the Our Food Future team, the iHub will support the "Re-imagine Food" awareness campaign designed to promote circular food economy principles and to encourage entrepreneurs, innovators, startups, companies and individuals to join. The iHub's role in these awareness campaigns will be to encourage passionate individuals and teams with ideas to seek the services and supports it can provide.

Prototype: Collision Event

We've learned that problem identification and definition in the context of circular food economy is the core driver of new innovations, companies and collaborations. In the last six months we have been testing our ability to surface challenges and connect innovators to the correct pathways for successful development of their enterprise.

During our pilot we ran workshops with two community businesses, one a social enterprise focused on equitable food access and the other in dairy food production and distribution, worked with our team to identify challenges impeding their ability to implement a more circular food business model. We've determined this to be one effective method of engaging community business leaders, encouraging adoption of circular food economy strategies and identifying opportunities in their businesses.

The workshop produced a number of challenges and opportunities. We've prioritized two challenges that represent the greatest impact. The workshop further defined the problems before connecting the teams with appropriate resources and researchers to pursue solution ideas. This process is loosely based on a model pioneered by Innovation Guelph and referred to as a Reverse Collision™ event.

Prototype: Challenge Event

PLACEHOLDER FOR GLOBAL CAPITAL CHALLENGE SUMMARY

Leveraging Data

Sharing intellectual property and data through established channels and utilizing open source tools to enhance data sharing and smart application development, is integral to our mandate. The Smart Cities Challenge identifies the need for communities to cultivate and draw on their capacity to use data and technology to benefit residents, especially those with the fewest resources.

The CFE iHub will help build that capacity by utilizing an open data and application development infrastructure that facilitates the democratization of data in support of innovation. Such an enabling technology platform will support a multitude of Smart City applications, from asset mapping, to predictive analytics and the development of applications that address specific problems. More specifically it will provide a curated framework of components to accelerate the development of smart solutions by:

- breaking data silos,
- making IoT simpler,
- transforming Big Data into knowledge,
- unleashing the potential of right-time Open Data,
- ensuring data sovereignty, and
- enabling the data economy

in addition to this platform that offers an environment where innovators can access essential data and develop solutions that utilize that data, the iHub will also employ technology to ensure the effectiveness of the concierge approach. This technology will be the primary user interface for the Circular Food Economy initiative. Effective communication and collaboration (synchronous and asynchronous) are crucial when employing a distributed team approach to the development and execution of multiple interconnected projects.

Some of the key capabilities of this platform will include:

- Asynchronous Collaboration Platform
 - User to user
 - Group to group
 - Ad-hoc and structured
 - Threaded discussions
 - Seamless access for internal and external collaborators
- Tie-ins to primary social networks
 - Facebook, Twitter, Instagram, etc.
 - Access to analytics
- Resource Management
 - Coordination of distributed teams
 - Skillset mapping, tracking and matching

This in both its own operations and in the tools and data used to support evidence-based solution development, the CFE iHub will leverage data and technology to create an equitable and sustainable food economy. Technology will also be critical for collaboration and knowledge sharing across Canada and globally.

Connection to Funding and Financing Ecosystem – Harvest Impact Fund

To build the circular food economy, new and existing circular ventures will require a variety of funding and financing mechanisms. The financial ecosystem is envisioned as a network of services that can be accessed by each project with coordination by team members with specific functions in Harve\$t, with those providing advisory, Analytic, development and evaluation services to the ecosystem. This funding ecosystem is comprised of a variety of sources, including (but likely not limited to):

1. **Smart Cities Start-up Fund.** A portion of the Smart Cities award will be utilized to create a seed funding base of non-repayable capital contributions for projects of varying scales. We are suggesting that a minimum of \$500,000 be used to populate this Fund.
2. **Start-up Capital through Inputs from Enterprises.** This represents capital that the enterprises will have contributed themselves in their early stages. Self-contributed capital can also be used to fulfill any requirements for matching funds. Capital and time contributed should be recorded during the project intake phase to provide accurate data year over year, showing the true costs and financial gains of these projects.

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3. **Crowd-Sourcing.** To gain proof of concept, some ventures will use Kickstarter, Indiegogo or other crowd-sourcing platforms to gain exposure, test markets and generate preliminary sales of products. The Harve\$T Project can add support by helping ventures with their pitches and promoting the offerings as part of Guelph-Wellington's Circular Food Economy.
 4. **Direct Community Investment and Social Finance, including Community Bonds.** Impact investing is here to stay and presents a big opportunity for the Guelph and Wellington County community members themselves to invest in the circular food economy. The Government of Canada will also be supporting the acceleration of social finance projects with investments over the next 10 years. We see the opportunity to develop Guelph-Wellington as one of Canada's leading social finance markets.
 5. **Social Venture Exchange (SVX).** The SVX is an initiative of [MaRS Discovery District](#) and is a team and platform created to match social impact projects with investors seeking both financial and social/environmental returns. The SVX is an Exempt Market Dealer (EMD) and is registered with the Ontario Securities Commissions (OSC). In a July 2018 report of high-net worth Canadians, SVX published that almost 90% are interested in it, 30% are impact investing, and 50% plan to make new impact investment this year.
 6. **Social Impact Bond (SIB).** The Government of Ontario defines social impact bonds as "an innovative social policy tool that brings together different groups — governments, corporations, private investors, foundations, service providers and social enterprises — to deliver effective and prevention-focused solutions to the toughest issues facing communities." The Harve\$T Team will watch current Social Impact Bond progress, host local conversations and keep current with Social Impact Bond research and developments. Depending on the social outcome projects surfaced in the iHub, there may be an opportunity to pilot a Social Impact Bond grown in Guelph-Wellington in the future.
 7. **Institutional Debt Financing.** Traditional forms of financing, through Credit Unions, Banks, the [Business Development Bank of Canada](#) as well as [Community Economic Development](#) lending will be part of the resourcing coordinated through the project. [Alterna Savings](#), [Libro Credit Union](#), [Kindred Credit Union](#) and [RBC](#) all indicate support of the social enterprise sector. As the impact investment landscape changes, traditional banks may steer lending practices towards impact. [Vancity Community Investment Bank](#) is actively seeking social enterprises across Ontario that are moving to scale. Vancity is also noted as a funder/partner alongside the Greenbelt Fund, Local Food and Farm Co-ops, the Rural Agri-Innovation Network and Ecological Farmers Association of Ontario in the recently launched [Fair Finance Fund](#). In Guelph-Wellington, as the circular food economy grows, the Harve\$T Project can work with financial institutions to support a variety of projects, including for-profit, social enterprise, not-for-profit and co-operative ventures.
 8. **Venture Capital.** There will be signature projects within the Circular Food Economy ecosystem that are able to move to significant scale. These may require venture capital and equity investment which the ecosystem will seek to engage. Impact investing is going mainstream. A quick scan finds that Canadian venture capital firms including [District Ventures Capital](#), [Aviro Capital](#) and [InvestEco](#) all indicate a focus on food products, sustainability and agriculture. Recent discussion at Social Finance Forum 2018 showed that global investment firms [Blackrock](#) and [UBS Asset Management](#), among many others, are framing social impact as the fastest growing asset class.
 9. **Contributions from Projects.** To support sustainability and the growth of future generations of circular food businesses, we would like to propose that all ventures engaging in the circular food economy commit to investing in the Smart Cities Start-up Fund, either through a percentage of sales or profits or an annual contribution, membership or donation. Depending on the success of projects, this revenue stream could eventually build in long-term sustainability and replace the short-term SmartCities Start-up capital. Contributions from projects themselves would further build circularity into the funding ecosystem and would be used to support the germination of new early-stage projects.
 10. **Philanthropic Donations.** Donations to support Our Food Future Guelph-Wellington will be encouraged by promoting the impacts of the projects to foundations and families with a desire to support the societal transformation made possible in the circular economy. Donated funds will serve to activate key outcomes, being awarded to early stage projects, key not-for-profit or charitable projects, or be used as Our Food Future community awards to recognize achievement of established projects.
 11. **Grants and Awards.** All project partners will work to leverage the Smart Cities startup fund to attract private and foundation grants and awards relevant to the environmental, social and economic outcomes generated by the projects. If possible, dedicated resources should be allocated to seeking out and sharing appropriate opportunities, minimizing work across the sector through the hire of a Grant Development role. Where possible, awarded grant funds to the project would be pooled

and utilized to support key projects within the ecosystem.

This ecosystem as described provides a variety of resource sources and promises to build a network of compatible funding and financing services that can support a variety of projects. Depending on funding requirements to maintain this level of connectivity, access to Advisors and support through application processes may require a fee for service model or small application fee, depending on the requirements of the project, as well as other funding sources as a way to build in sustainability. The Smart Cities circular food economy project will look at longer term resourcing during year one and annually moving forward.

Measuring Success

The CFE iHub will serve as the “hub” for challenge identification and solution ideation. This is a key and critical role in creating an efficient and high impact circular food economy. The iHub is the primary source of identifying and vetting challenges while assuring solution ideas are high impact, have the greatest potential for economic impact and represent realistic opportunities to “move the needle” within the program timeline of 2025.

Performance of the iHub will be assessed across three planes. The first is contribution to the overall CFE program goals. Second is the CFE iHub’s goals that assure it is a world-class producer of effective enterprises addressing meaningful problems. The third plane is financial and operational efficiency. Key metrics will be tracked and distilled into a publicly available dashboard to demonstrate the cumulative impact of the iHub across the project’s primary goals.

CF Economy Goals and measurements

First and foremost is contribution to the overall goals of the CFE program. Namely, by 2025, increase access to affordable and nutritious food by 50%, create 50 new companies, collaborations and technologies contributing to a Circular Food Economy, and increasing economic revenue realized by extracting value from waste by 50%.

Measuring the performance of company and collaboration creation in the circular food economy is of primary importance to the CFE iHub. Creating 50 new companies, collaborations or technologies that contribute to the CF Economy is no small task. We will be successful when we can point to 50 entities that, as a result of the CFE iHub, are actively contributing new CFE revenue, reducing waste, reducing carbon emissions and addressing food security and access for all. The iHub will remain focused on specifically measuring performance towards the achievement of this objective by 2025. A more detailed breakdown of specific project goals is appended.

CONCLUSION

Creating a circular food economy that generates positive change for people, planet and our economy will be directly affected by the actors in the system. The iHub will play a key and critical role in the transformative results of the Our Food Future initiative. We’ll do this by creating new entities that contribute to the goals of a circular food economy as well influencing change within the business, social enterprise and entrepreneurship community. In its role as an innovation engine, the iHub will also forge a role as a thought leader and propagator of circular models and methods as well as the technologies that enable them.

Our pragmatic approach to company and collaboration creation within the circular food economy context, coupled with our relationships with world class accelerators and enthusiastic funders in the Guelph-Wellington region, will have a significant impact on the success of the Smart City Circular Food Economy program.

We see the CFE iHub as a central resource for problem understanding and solution ideation for the business, social enterprise and entrepreneurship community. Our Food Future partners will rely on the CFE iHub for quality referrals, advanced proto-typing services, knowledge sharing and CFE innovation catalyzation. Together, the partners will create efficient and effective pathways for the development and creation of high impact projects, programs, companies, collaborations and technologies, with the CFE iHub playing a central role connecting problems with solutions.

Appendix 1: Operating the CFE iHub

HOW WE DELIVER RESULTS

Community engagement, awareness and conversion

The Circular Food Economy Innovation Hub will manage engagement with agri-food stakeholders to create partnerships, collaborations and startup teams to re-invent local food systems and solve local food problems that are globally relevant. This aspect of the iHub's mandate requires management of awareness campaigns, direct engagement with enterprises, event management and collaboration with Smart City CFE partners.

The awareness and outreach function will be performed by a Digital Marketing Specialist and Event Coordinator and managed by the CFE iHub Head. Priorities are driving awareness of the CFE iHub while contributing to the Smart Cities CFE marketing goals. Specifically, we will promote a "No Wrong Door" concept and run campaigns to drive potential solution developers to one of the "Main Doors" in the partner ecosystem where they can connect through the CFE iHub embedded connector to the Client Engagement Lead for problem assessment and intake. This will also be the goal of CFE iHub events.

Creating purposeful collisions with problem solvers

Anchoring the project will be the establishment and operation of collision activities creating hubs of collaboration in the agri-tech, clean-tech, social innovation and other sectors that may contribute to our goals.

These collision activities will be a combination of Hackathons/Design Jams, Client Engagement Lead "pop-up events" in partner organizations, engagement with the CFE iHub connector in one of the "Main Door" partners or specific Reverse Collision™ events through Innovation Guelph.

Working within the Smart Cities CFE ecosystem, as well as the greater innovation ecosystem in the Toronto-Waterloo Corridor, we are targeting to engage with 150 or more potential candidates for the CFE iHub in the first year.

Problem assessment and intake

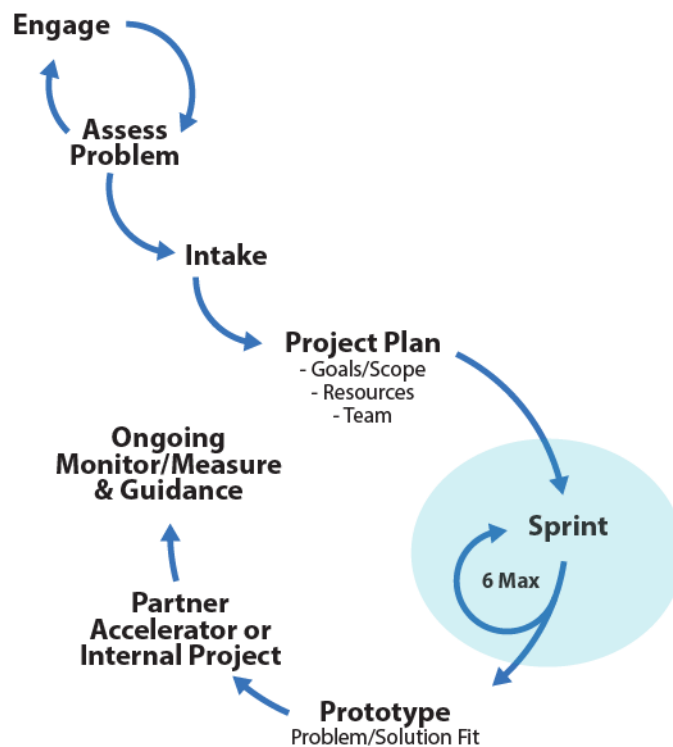
Problem owners, identifiers and solvers that engage with the iHub will work directly with the Client Engagement Lead (CEL). This process involves analyzing and assessing the problem being identified across three primary planes:

Mission-critical

- 1 Does it fit CFE, contribute to goals and how large is the social/environmental impact?**
- 2 Is the problem being experienced by a large segment and is the segment accessible?**
- 3 How important is the problem to the targeted audience? Is it a large enough pain for the target audience to invest in a solution? Important problems are usually:**
 - i. Repeatedly and urgently discussed
 - ii. Systemic, affecting many different outcomes
 - iii. Long-standing

The aim of the CFE iHub is to identify and further define problems and solutions that represent the greatest impact and the best potential for success in market. While engagement is constant, the iHub will accept companies and collaborators on their merits. Offering a combination of cohort based and rolling intake the CFE iHub will do intake for one cohort per quarter consisting of five or more teams. Additionally, the iHub will accept teams "out of band" on an exception basis. The CEL is accountable for intake, while the Design Lead is consulted and the CFE iHub Head is responsible.

The problem assessment and intake process will be rigorous to enable between 10 and 15 teams to be accepted out of those engaged in the first year and 20 to 25 to be engaged in the full design process in subsequent years.



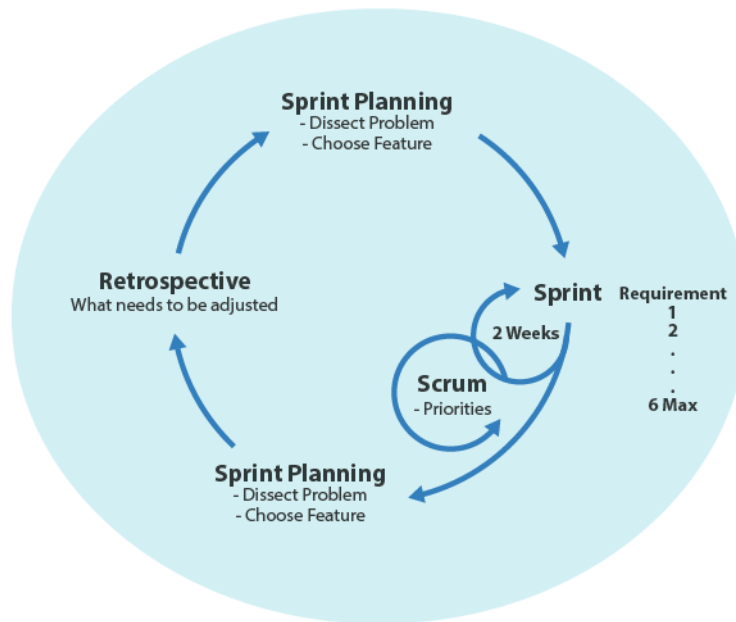
Problem/solution design sprints

Teams that are accepted into the program will work with the CEL and the Design Lead to plan their time-bound project. Projects will be 12 weeks or less. The goal of each project is to ensure that the problem is thoroughly understood and validated in the context of the solution being envisioned. The project with CFE iHub will produce a thorough understanding of the problem being solved, a proto-type to demonstrate how the team plans to solve the problem in market and an assessment of the impact and business potential of the solution. We will use an agile process to accomplish this where Product Owner, Subject Matter Expert(s), Designer, and Scrum Master work together iteratively toward a demonstrable prototype. The iHub will further provide project management and oversight to the process.

When planning our projects in the iHub, the company or collaboration team will always bring the product owner. In many cases, the team will also bring the subject matter expertise. In others, the CFE iHub will assist in sourcing subject matter expertise through collisions and connections in the partner ecosystem or beyond.

The proto-types may be virtual, physical or coded in software. The CFE iHub will possess tools to assist in creating virtual models as a prototype, access research and test kitchens in the CFE ecosystem, leverage “maker Spaces” already available in the innovation ecosystem and enable access to freelance coders to create software prototypes where applicable. In some cases, the solution design may include new technologies in agritech, clean-tech, bio-tech or other disciplines. In these cases, the CFE iHub will make connections with research labs at University of Guelph through the Research and Innovation Office and/or Conestoga College.

Problem/Solution Design projects will be managed by the Design Lead as a Scrum Master. The CFE iHub will employ Agile project management concepts and tools and run projects using 2-week sprints



The CEL will not only be a client facing “problem specialist” who assists in describing problems the CEL will continue to own the “problem side” of the advanced prototyping process after a client is accepted in the CFE iHub. In the project phase, the CEL will be accountable to ensure teams access the required research, perform effective discovery with entities who may experience the problem and guide teams in developing effective problem definitions, impact statements and can articulate the business/impact potential locally, nationally and globally.

The goal of the projects is to produce “pitch ready” teams who will be high quality candidates for a regional business or social enterprise accelerator and where appropriate, the Impact Funding Hub. In some cases, the problem owner may be an intrapreneur from a government body or enterprise. In these instances, the goal will be to ensure the team is “pitch ready” to gain internal approval for budget and resources to move the solution idea forward inside the organization.

The Design Lead is accountable for the design projects and the outcomes, CEL is consulted and CFE iHub Head is responsible.

The iHub is targeting to refer a minimum of 10 teams in year one, and 20 teams per subsequent year to the appropriate ecosystem partner for further market, business and corporate development acceleration. Or in the case of an intrapreneur, prepare teams to pitch for budget and resources to proceed with the development project within their respective organizations. The CFE iHub will serve as the “food project concierge” for the region. The iHub will be responsible for shepherding problem-solvers through solution ideation, connecting collaborators, encouraging partnerships and referring them to appropriate resources for further business, corporate and collaboration development.

Referrals, shepherding and measuring/reporting will be managed by the CFE iHub.

Guelph’s Smart City Circular Food Economy development will be at the leading edge of acquiring knowledge, creating methods, developing intellectual property and identifying frameworks that will benefit the region, the nation and the planet. Sharing openly through the Smart Cities Office open data platform and maintaining direct partnerships with expert organizations globally will be an important role in accelerating the adoption and maximizing the national and global impact of CFE benefits.

Assisting agri-food companies’ internal projects for highest impact is an area where the CFE iHub can participate in influencing behavioral and cultural change. Leveraging the Ellen McArthur Foundation’s Circular Indicators Toolkit and Methodologies the iHub will assess, influence and help companies track their progress. The indicators may be used by product designers, as well as for internal reporting, procurement decisions, and the evaluation or rating of companies.

CFE iHub Goals and Measurements

The primary goal of the CFE iHub is to contribute to the creation of companies, collaborations and technologies that represent the greatest social and economic value in the context of the circular food economy. As such, we will not only measure the number of companies and collaborations created we will also measure economic value of the companies themselves and the social value that the companies and collaborations represent. While the ultimate goal is to create high value and high impact companies and collaborations, a leading indicator will be the number of referrals and successful outcomes of companies and collaborations receiving financing to seed the endeavor or fuel its growth. We will track referrals to, and the outcomes from the Impact Fund, verge Capital, Angel groups and institutions, whether debt or equity. Our goal will be to help ensure that every company and collaboration is properly capitalized to realize its potential for impact and/or economic value. Social value of the enterprises will be measured in two ways. The first is through a direct measurement of social value of each enterprise using an impact measurement model that is consistent with the Harvest Impact Fund. The results of the CFE iHub and the business acceleration ecosystem we work within will be measured using the following KPIs:

Metric	Current benchmark
Share of Businesses that generate revenue	51%
Average revenue generated (and/or EV) and average social value	\$710K
Share of Businesses that report positive net income	27%
Average positive net income	\$112K
Share of businesses receiving debt/grant funding	25%/42%
Average equity/debt/grants raised	\$959K/\$331k/\$331k
Share of businesses that received patents	33%

Note: Current benchmarks indicated are the averages taken from a survey of 366 startups that graduated from eight different incubators in a study performed by JP Morgan and ICIC.

These KPIs may be compared to benchmarks established by the global incubator community. Our goal will be to meet or exceed the global benchmarks by the fifth year.

Effectiveness of the CFE iHub

Another goal of the iHub is to participate in the development of new skills and behaviors through sharing of learnings and data through our Smart City open data platform, facilitating access to business tools and services, contributing to the design of New Food Economy skills training and Our Food Future awareness campaigns and especially, directly filling needs identified in the Circular Action Plan and gaps identified in the Value Mapping project. The goal is to earn a role as a persistent and valuable contributor to these branches of the Smart Cities Circular Food Economy initiative, measured in the following ways:

Number of companies and collaborations referred from/to U of G accelerators & Conestoga College

Number of referral from/to Innovation Guelph

Number of referrals from/to the MIX Civic Accelerator

Number of referrals from/to Guelph-Wellington Business Centre

Number of referrals from/to Alectra's GRE&T Centre

Number of referrals from/to regional accelerators (Bio Enterprise, Communitech etc.)

Number of referrals from/to other business supports and services

Contributions of data and learnings to Smart City CFE data platform and dashboard

Number of businesses/organizations utilizing data through the data platform to support solution development

Number and quality of interactions with and contributions to CFE branch projects

Contributions to new skills training and awareness campaigns

Operations Measurements

In order to achieve 50 companies and collaborations that are contributing to the circular food economy by 2025, we must first acknowledge that not all companies and collaborations will be successful. The current global benchmark for companies achieving revenue is just over 50% with the outliers hitting 85% on the high end and 26% on the low end. Additionally, incubated collaborations that successfully raise grant money is at 42% with the outliers only as high as 52% and as low as 5%. Therefore, it will be necessary to monitor our success rate and adjust our intake targets to assure we achieve our overall five-year goal. We will assume a 50% attrition in our first year and set a goal for creating 10 companies and collaborations in the first year and 20 per subsequent year. Goals will be adjusted annually if necessary and stretch goals will be identified based on experience.

In our pilot workshop there were two companies participating and 10 challenges were surfaced. Two of the 10 challenges were assessed as being valuable or impactful enough to proceed to the next stage. Using this a starting point, the CFE iHub will target to analyze and assess a minimum of 50 challenges in the first year. This will enable us to ideate 11 to 17 solutions with 11 to 17 teams that address 11 to 17 of the most meaningful and impactful challenges.

In subsequent years, we plan to double these targets, subject to adjustment based on actual experience. We further expect to develop efficiencies in this process that result in rapid assessment and ideation and enabling us to expand our priorities in year two.

In order to reach our goal of surfacing over 50 challenges and creating 10 or more companies and collaborations in year 1, we will directly engage with targeted industry, government and NGO stakeholders, run Design Jams and Hackathons, host collision events and encourage partner referrals. Each of these activities will drive intake to the CFE iHub for further problem analysis and solution ideation.

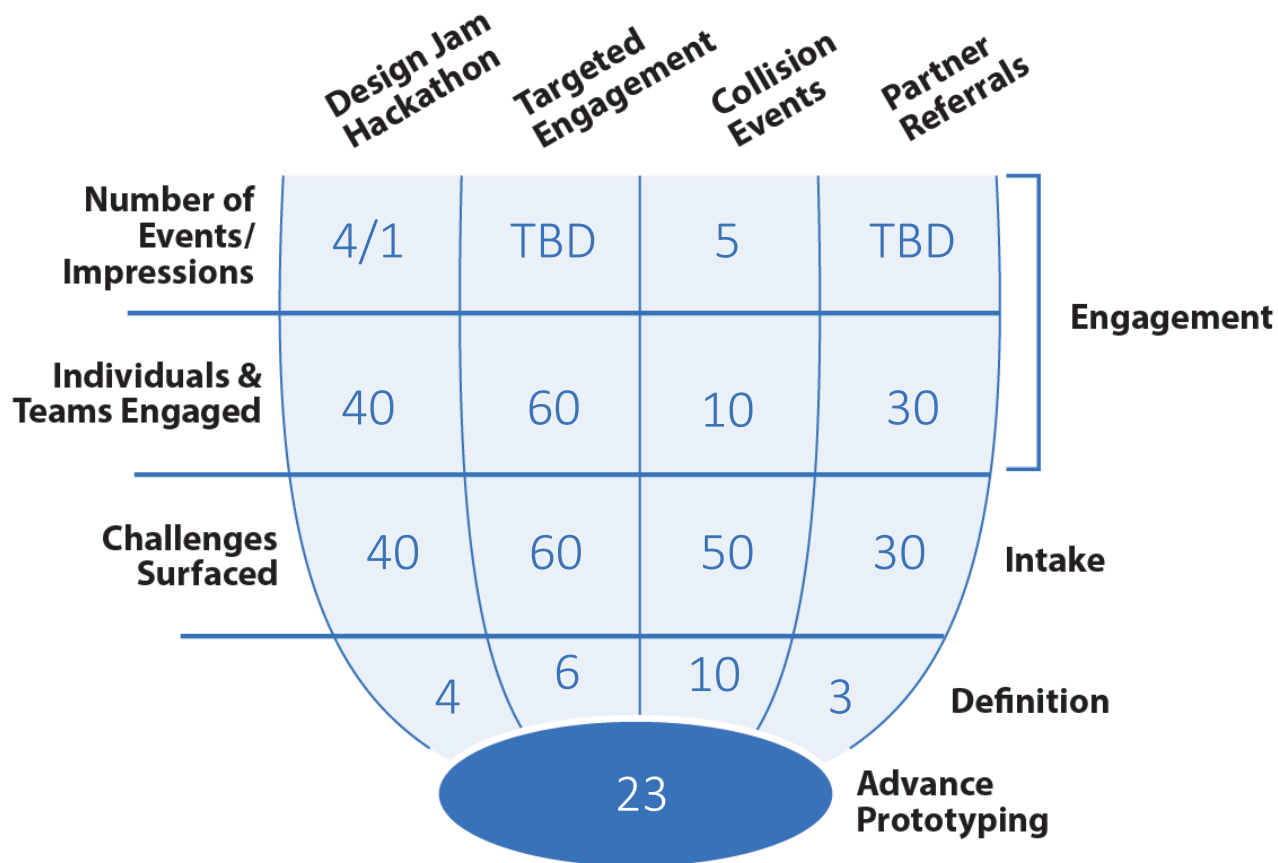
We expect Design Jams and Hackathons to produce at least one good candidate challenge and team per event and may go as high two. We estimate that 10 direct engagements with stakeholders will produce one good challenge and team. Collision events will produce 2 good challenges and teams. Referrals can be made more efficient over time by working with CFE stakeholders to identify high quality candidates. We expect this ratio to settle out around 3 to 1 but may start as high as 10 to 1.

Year one operating goals:

Activity	Goal: Year One
Hackathons and Design Jams	2 events with 10 or more participants
Targeted Engagements with Stakeholders	30
Collision events	3 events with minimum 2 companies/collaborators
Partner referrals	10
Challenges surfaced	50
Challenges analyzed and accepted for solution ideation	10
Companies, collaborations, technologies generated	10

Years two through five operating goals:

In year two and beyond, the iHub will continue to use this measurement model, doubling targets across the board. We'll remain focused on creating a minimum of 20 companies and collaborations each year until our experience indicates that the startup success rate from incubators/accelerators has changed from 51%. In other words, the CFE iHub will adjust operating goals from time to time based on historical performance while assuring we will meet the Smart City CFE goal of creating at least 50 new companies and collaborations.



Appendix 2: Partnerships & Collaborations

Knowledge Transfer & Research Collaborators

Organization	Description	Category
Ellen MacArthur Foundation	This global think tank has zeroed in on the topic of Cities and Circular Economy for Food because they believe the food system is ripe for disruption. For every dollar spent on food, society pays two dollars in health, environmental, and economic costs. With 80% of all food expected to be consumed in cities by 2050, businesses, public bodies, organizations, institutions, and the people located within them hold the power to revolutionize our food system.	Global knowledge partner
CAPI – The Canadian Agri-Food Policy Institute	CAPI leads, catalyzes and coordinates independent strategic and policy analysis on emerging agri-food issues, engages stakeholders in dialogue, and advances public policy.	National knowledge partner
Arrell Food Institute & U of G	Arrell Food Institutes vision is to transform global food systems and elevate Canada’s place within the global food economy. They build on Guelph’s world-class strengths in all aspects of food with the aim of becoming the world leader in food and agricultural innovation.	National/Global Knowledge, Research & collaboration partner
Smart Prosperity Institute	Smart Prosperity Institute (formerly Sustainable Prosperity) is a national research network and policy think tank based at the University of Ottawa. They deliver world-class research and work with public and private partners to advance practical policies and market solutions for a stronger, cleaner economy.	National knowledge partner
Institute for the Food Future	This organization helps stakeholders—multinational food companies, farmers, chefs, entrepreneurs, etc.—make sense of emerging technologies, social behaviors, and scientific breakthroughs and then take action toward a more resilient, equitable, and delicious future of food. Their research explores the motivations, drivers, and impacts of food innovation. They leverage foresight frameworks and processes to enable groups to imagine—and create—the futures they want for their organizations, their communities, and the world.	Global knowledge partner
Conestoga College	Conestoga College’s Craig Richardson Institute of Food Processing Technology is unlike any other facility in Canada. It provides education, training, research and technical expertise to Canada’s food and beverage manufacturing industry.	Knowledge & collaboration partner
Ontario Centres of Excellence	Connects entrepreneurs, startups, industry, academia & investors to research, commercialize innovation and compete globally.	Knowledge & Program Delivery partner

Innovation, Design, Solution Labs Collaborators

Organization	Description	Category
IDEO	Global Human Centred Design & Innovation Company	Global innovation partner
MaRs Solutions Lab	A public and social innovation lab that brings together governments, foundations, corporations, non-governmental organizations, academia and the greater community to help unravel complex problems from the citizen's perspective.	National innovation partner
GEHL	Gehl is a global leader in people centered urban design. With studios in Copenhagen, New York and San Francisco.	Global innovation partner
Digital Public	Digital Public pioneers legal frameworks that help protect and govern data, code, or other digital assets.	Technology & Data partner
DGen	Inspired by the web, DGen creates Constellations (federated partnership programmes) that turn positive social, environmental and economic impacts into business as usual. Based on evidence, they help deploy capital, humans and machines to address today's challenges at scale.	Technology & Data partner
MIX/Civic Accelerator	The Municipal Innovation Exchange (MIX) is an emerging virtual centre of excellence led by the City of Guelph, in partnership with the cities of London and Barrie. The MIX will run multi-city innovation procurement challenges, conduct policy research, and codify learnings into a best practice Municipal Innovation Procurement Framework.	Municipal procurement innovation partner
Alectra's GRE&T Centre	The GRE&T Centre identifies, evaluates, develops and deploys emerging, green and customer friendly energy solutions across Alectra's service territory. The GRE&T Centre aims to bridge the gap between commercialization and market expansion.	Data & Technology (energy related)
Guelph Lab	The Guelph Lab is a collaboration of The College of Social and Applied Human Sciences, University of Guelph and the City of Guelph. The purpose of the Lab is to address challenges that have direct impact and relevance to the community. The Lab is focused on "public innovation" - developing solutions to the challenges faced by the community that cannot be solved without some form of government intervention.	Innovation partner

iHub Partners

Organization	Description	Category
Innovation Guelph	Innovation Guelph builds prosperity for community wellbeing by providing mentorship, business support programs and services and funding to help innovative, scalable companies start, grow and thrive.	Main door – iHub partner
10C	10C is a living lab for social change. It provides the conditions for community members, practitioners and researchers, working in collaboration, to explore ideas, create and sustain new initiatives and make discoveries.	Main door – iHub partner

Business Centre Guelph-Wellington	The BCGW supports local and regional business startups with education, business planning and advisory services.	Main door – iHub partner
LaunchIt Minto	A Creative Industry Business Incubator strives to assist new businesses to start, grow and succeed in a creative environment. LaunchIt Minto provides training, mentorship, internet access and physical space to new and established businesses.	Main door – iHub partner
Community Futures (Wellington-Waterloo and Saugeen)	Community Futures is a not-for-profit organization that offers support, financing and training for rural businesses in Wellington County and the Region of Waterloo. Services Include: Business financing (for startups, small business expansion, and community projects) and an award-winning business training program	Main door – iHub partner, HarveSt Impact Fund partner
John F. Wood Centre for Business and Student Enterprise	The John F. Wood Centre for Business and Student Enterprise is the entrepreneurship and innovation hub at the University of Guelph, supporting innovative and sustainable solutions to economic, social and environmental problems.	Main door – iHub partner
Accelerator Guelph	University of Guelph agri-food accelerator supporting researchers and faculty looking to commercialize IP	Main door – iHub partner
OAFT	Ontario Agri-Food Technologies supports commercialization, research and development of agri-tech innovation in Ontario.	Provincial innovation ecosystem partner and collaborator
Bioenterprise	Bioenterprise is a national, non-profit commercialization accelerator, supporting Canada's agri-tech industries.	National innovation ecosystem partner