

D4.3: Limerick Innovation Lab Solutions Catalogue 1

+CityxChange | Work Package 4, Task 4.5

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List of Acronyms

DP	Demonstration Project
DPEB	Distributed Positive Energy Block
KPI	Key Performance Indicator
LCCC	Limerick City & County Council
OIC / OIC1	Open Innovation Call / Open Innovation Call 1
WP	Work Package



Executive Summary

The Innovation Playground is defined in [D3.3: Framework for Innovation Playgrounds](#) (Crowe & Mee, 2020). The objective of its establishment in Limerick's Demonstration Area is to enable the local authority, energy providers, businesses, citizens and communities to test and prototype innovative ideas to allow a movement towards the establishment of DPEBs (Distributed Positive Energy Blocks) in the city.

This deliverable will offer an account of the implementation of the Innovation Playground in Limerick, starting with the introduction of the local context in [Section 2](#). Considerations in [D3.3: Framework for Innovation Playgrounds](#) outline how this framework situates itself within the city and within-and-between the local authority and other stakeholders.

Elements of the framework include the Innovation Lab – defined in [D3.6: Framework for DPEB Innovation Labs](#) (Fitzgerald et al., 2020) and the Do-It-Together training workshops and processes to encourage citizen participation defined in [D3.2: Delivery of the Citizen Participation Playbook](#) (Burón & Sánchez, 2020), which are deployed by Limerick City and County Council working with the University of Limerick and other +CityxChange partners.

In [Section 3](#) we will describe the Tools used throughout the implementation, and present the catalogue of Solutions in [Section 4](#). To determine what is to be presented, we include ongoing discussions on local definitions of the term 'Solution'.

[Section 5](#) will describe our conclusions based on the implementation to date and partial implementation of the first Open Call process.

This deliverable is the first of a series of two within Task T4.5: Implementation of an Innovation Playground, which continues until October 2021. The final deliverable D4.10: Limerick Innovation Lab Solutions Catalogue 2 will update and supplement this document and catalogue.

Deliverable D4.10 will include the updated set of solutions following the completed implementation, the other frameworks as described, that are currently being finalised, and tools such as LCCC's City Engage Portal which are currently in development.



1 Introduction

The Innovation Playground, as defined in +CityxChange deliverable [D3.3: Framework for Innovation Playgrounds](#) (Crowe & Mee, 2020) and established in Limerick's Demonstration Area, will enable municipal authorities, energy providers, businesses, citizens and communities to test and prototype innovative ideas to allow a movement towards DPEBs (District Positive Energy Blocks).

This deliverable will offer an account of the implementation of the Innovation Playground framework in Limerick City. We will describe innovations developed and tools used throughout the task.

The innovations included in this catalogue stem from engagement events, the extended programme of the Innovation Lab, and the tools etc. that were available up to the time of writing. The catalogue will include descriptions of these tools such as information and data sets, collaborative space, and connections of participants to the +CityxChange solution providers, technology leaders and demonstration projects.

With the help of other partners, Colaborativa and Smart MPower, the templates for the Do-It-Together RES workshops have been developed and the workshops are currently being designed. These workshops will be used in the next phase of the project to allow rapid innovation and scalable peer to peer learning in digital and physical products and services. [Section 3.3.1](#) details how this is being developed to date.

1.1 Specific Project Context and Aims

Specific aims include:

- Enabling municipal authorities, energy providers, businesses, citizens and communities to test and prototype innovations.
- Providing a location and programme for citizen engagement, prototyping of ideas, concepts and policy changes that move Limerick towards the creation and replication of DPEBs.
- Establishing the Innovation Lab as a resource of the project, with equipment, workshops and training.
- Iteration and testing frameworks within the +Limerick work package, outputs to enable policy and regulatory change and input into the +Limerick Bold City Vision
- Replication within the project

[Section 2](#) will describe the context in Limerick, partners involved in this implementation and the other actors that help form Limerick's Innovation Playground. +CityxChange deliverable D3.3: Framework for Innovation Playgrounds (Crowe & Mee, 2020) provides the framework for Innovation Playgrounds used in this programme, whereas [D3.1: Framework for Bold City Vision, Guidelines, and Incentive Schemes](#) (Tanum et al., 2019); [D3.2: Delivery of the Citizen Participation Playbook](#) (Burón & Sánchez, 2020) and [D3.6: Framework for DPEB Innovation](#)



[Labs](#) (Fitzgerald et al., 2020) provide additional frameworks which have been partially or fully implemented within the Playground to date.

Templates developed in Task 3.3 and [D3.4: Development of a Learning Framework Targeting the Next Generation of Smart Citizen](#) (Avram, 2020) were incorporated by Colaborativa and UL in +CityxChange Deliverable D3.6: Framework for DPEB Innovation Labs (Fitzgerald et al., 2020) and are intended to be adopted in the Innovation Lab as Do-It-Together RES workshops when available.

As originally intended, this deliverable has many dependencies in the CommunityxChange suite of engagement frameworks. Other connections that have been used to develop this deliverable include:

- [D9.1: Framework for Intra-project Collaboration](#) (Wyckmans et al., 2019, pp. 5-10) regarding the adoption by +CityxChange of the Open Innovation 2.0 model of innovation.
- [D7.1 Approach and Methodology for Monitoring and Evaluation](#) (Hynes et al., 2019) posits a definition of a 'solution', which we will discuss further in [Section 4.1](#).
- Input, to be provided by Smart MPower (from their work in WP2) to the next Open Call programme.
- SE/OV on crowd-funding and financial models.
- T4.3: Community Led open Innovation programme.
- T4.2: Municipality-led Bold City Vision and Guidelines - Limerick's Bold City Vision

This deliverable is the first of a series of two within Task T4.5: Implementation of an Innovation Playground, which continues until October 2021. The final deliverable D4.10: Limerick Innovation Lab Solutions Catalogue 2 will update and supplement this document and catalogue.



2 Local Context of the Innovation Playground

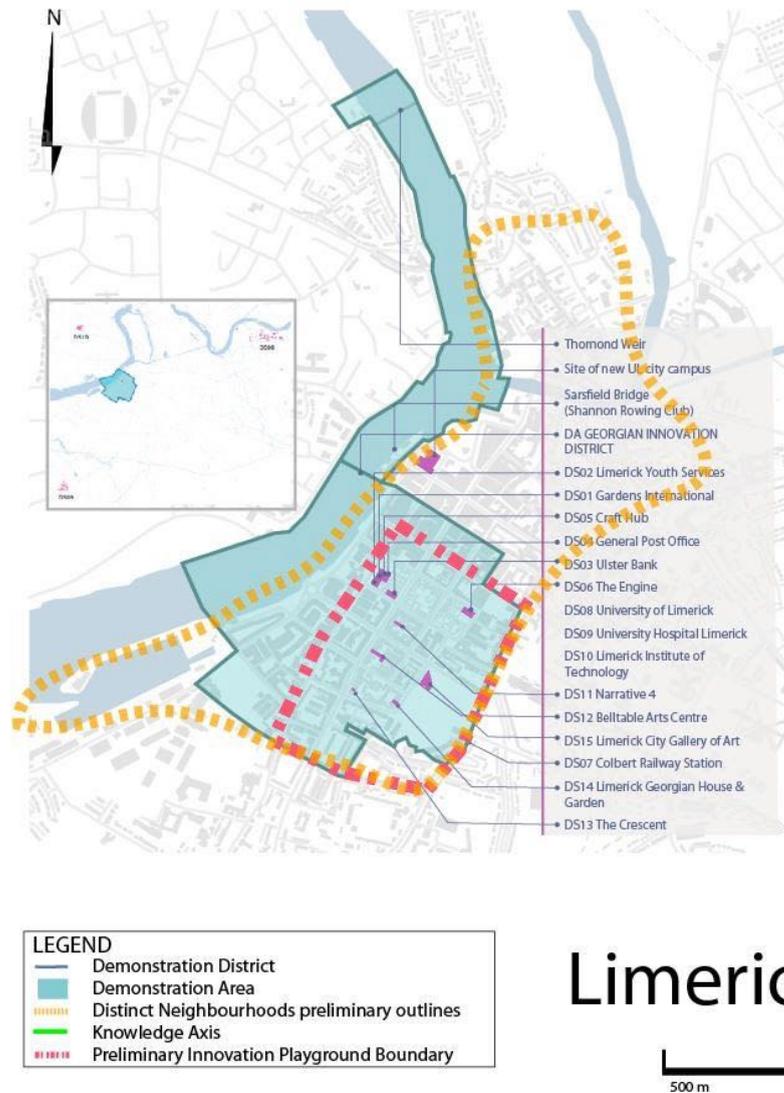


Figure: 2.1: Limerick Innovation Playground, including Demonstration Areas (From D3.3 Report, p.p. 26)

Located on the western periphery of Europe, within close proximity to Shannon International Airport and Shannon Foynes Port, Limerick is Ireland's third largest city. The city has excellent connectivity with other large urban centres of Ireland through high quality road and rail networks. Limerick's historic core, within the contemporary urban centre, has grown in a sustainable and resilient manner that has harnessed the unique location as one of international importance. The two Limerick city centre Demonstration Areas (DAs) are indicated in the map (above), as well as the Limerick Innovation Playground (outlined in red) and the city centre neighbourhood around the Limerick +CityxChange project map outlines or geography. Solutions are associated with the Innovation Playground in a city, for example in relation to Project Key Performance Indicators (KPI's), including KPI No. 30, which describes Innovation Labs and Playgrounds as 'platforms where solutions that

contribute to the creation of DPEBs can be developed and trialled' (Hynes et al., 2020, p. 150).

Following the amalgamation of Limerick City Council and Limerick County Council into one Municipal Authority in 2014, Limerick (Metropolitan Area boundary) had an urban population of almost 100,000 in 2016, in an area of 51km², and a further 450,000 people within a 60- minute travel time of the city. Implementing the Limerick Innovation Playground, as defined in T3.6 (and subsequently the D3.3 Report), within the historic city centre and in the first DPEB, involves firstly agreeing, visualising and communicating the spatial and socio-economic extent of the Limerick Innovation Playground.

In the city centre, Limerick's 'Innovation District' is an area with primarily Georgian architecture. The Georgian neighbourhood is an area of historic buildings in the Georgian architectural style - a particular historical and architectural typology, typically of 4 storeys, built in Ireland around the end of the 18th century. These Georgian buildings form residential city blocks, built 4-storeys above a basement, on the ground floors commercial uses as well as ancillary buildings, like mews buildings, used as workshops and stables.

Limerick's 'Innovation Playground', while coinciding geographically with Limerick's 'Innovation District', concentrates on innovation related to positive energy transition in the city. This innovation could be partly online, and also takes place in the Innovation Playground as originally outlined in a map in the +CityxChange deliverable D3.3: Framework for Innovation Playgrounds (Crowe & Mee, 2020, p. 66). The map below also shows the location and boundary of the Limerick Innovation Playground with boundary streets named, and the 'street view' is an indicator of how one edge of the 'Innovation Playground' area looks at street level.

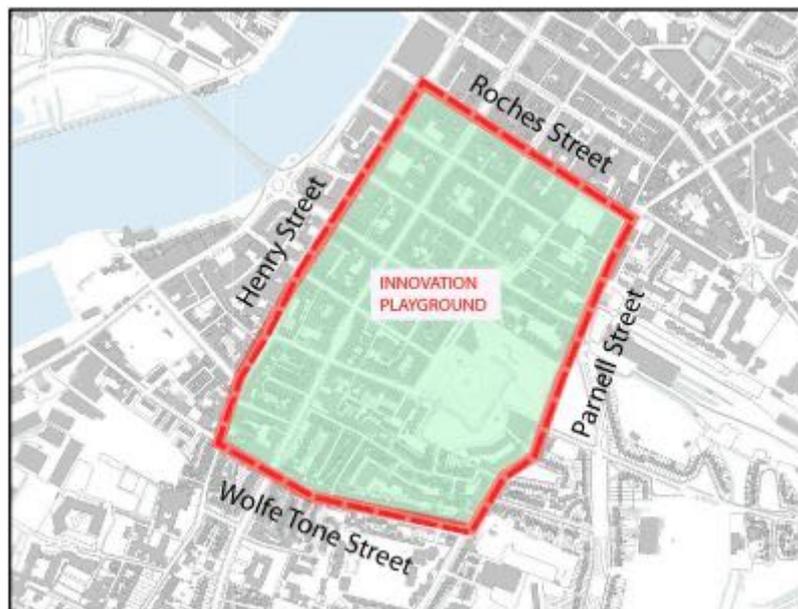


Figure 2.2: Limerick Innovation Playground boundary map



Figure 2.3: Limerick Innovation Playground boundary looking North Parnell Street

The Limerick Innovation Playground is in the process of enabling municipal authorities, energy providers, businesses, citizens and communities to test and prototype innovative ideas to allow a movement towards DPEBs in Limerick.

As an initial part of implementing the Innovation Playground in Limerick, a collaborative Workshop was carried out with Space Engagers and Limerick City in April 2020. The Workshop happened after Limerick had time to discuss and review the D3.3 Report, and during early localisation of the Framework in Limerick. In some of the +CityxChange cities, the Innovation Playground concepts were still quite novel and needed definition and explanation. In this respect, two documents were used in the Limerick Workshops to better explain the Framework: 'Frequently Asked Questions (FAQs)' of an Innovation Playground, and 'Innovation Playground Glossary'. The 'Frequently Asked Questions (FAQs)' document collects questions cities have been asking, with some simple answers for guidance. The 'Innovation Playground Glossary' explains, in non-technical terms, the key framework, energy transition and innovation concepts related to the Framework itself.

The project partners in Limerick were asked to discuss aspects of the Framework, including workable definitions, translation, the enabling mechanisms, themes and existing or required places and activities. Discussion and feedback was collated through use of Mural, an online collaborative visual tool, and was used to inform the localised Innovation Playground in Task 4.5 (Limerick), which also relates to T5.5 (Trondheim), and T6.3 (Follower Cities).

Limerick localised Innovation Playground System – According to D3.3: Framework for Innovation Playgrounds (Crowe & Mee, 2020) the Innovation Playground System is made up of four interrelated elements, of 'places', 'activities', 'data' and 'enabling mechanisms'. In the emerging Limerick localised Innovation Playground, some of the emergent features are as follows, as discussed at the MS4 Workshop in April 2020:

Limerick 'places':

- Fab Lab Limerick

- Local Energy Flexibility Market
- Engine Innovate Limerick HQ
- The Citizen Observatory
- Belltable Arts Centre
- Limerick City Gallery
- Peoples' Museum
- Limerick Regulatory Sandbox

Limerick 'activities':

- City Engage Weeks (physical)
- Open Calls and +CityxChange proptypes
- Digital online events - new media
- Urban Prototype Installations
- Co-design of business models through mentoring

Limerick 'data':

- Open data
- Data from community participation
- Local Information, Opinions, aspirations collected during community mapping sessions
- Data on vacancy and dereliction in the area
- SLU data

Limerick 'enabling mechanisms':

- Campaign for Positive Energy Champions
- Mentoring for business and investment models
- SBIR process
- Open Calls for Urban Prototypes
- Libraries and Citizen Observatories using digital tools as a mechanism

Limerick localised Innovation Playground Journey According to Section 4.2 (Innovation Playground Journey) the (localised) Innovation Playground (in a city) is structured by a coherent journey in four stages, spanning from the identification of what needs to change to the implementation of innovative solutions for energy transition. The four-stage journey was agreed for Limerick in the April MS4 Workshop, and Limerick discussed, agreed and located their own current 'position' on this journey.

Some comments on the emergent Limerick 'Journey' included:

- co-design and scaling-up of bottom-up business models should be based on new cooperation models
- the 'Journey' is a spiral - and iterative..not all at prototyping even in the one Innovation Playground
- Behaviour change around energy should 'define' the Journey
- Navigating an OI2 process should be part of the Journey
- Disturbance Neutral Community Grids, which bring money rebates can be part of the Journey



- Engagement with the local community close to the turbine installation will be important, and could be part of a Limerick Journey

Limerick localised themes and cross-cutting themes – According to D3.3: Framework for Innovation Playgrounds (Crowe & Mee, 2020), a localised Innovation Playground might choose specific themes and cross-cutting themes to provide a focus for change in a particular place at a particular time. These might evolve over time. The themes are then informed by a selection of cross-cutting themes relevant to the +CityxChange project and the particular city. Some comments on the emergent Limerick themes and cross-cutting themes (April 2020) included:

Limerick localised Innovation Playground Themes

- Local Renewables
- Heritage and Innovation
- Parks
- Laneways
- Retrofitting
- Energy storage solutions
- Future Community (Community energy)
- Back to the Future
- Energy Modelling

Limerick localised Innovation Playground cross-cutting themes

- Accessibility, Energy Efficiency
- Citizen Sensing
- Do-It-Together
- Behaviour change
- Business and investments
- Sustainability
- Resilience
- Co-Design

Two examples of implementation of Limerick localised Innovation Playground are described here: The Limerick Regulatory Sandbox and Crowdfunding. The Limerick Regulatory Sandbox is an example of 'place' implementation (in August 2020) within the Limerick localised Innovation Playground. The Crowdfunding initiative is an example of 'activity' implementation (in August 2020) within the Limerick localised Innovation Playground.

2.1 Limerick Regulatory Sandbox

According to D3.3: Framework for Innovation Playgrounds (Crowe & Mee, 2020), an example of a 'place' of an Innovation Playground is a Regulatory Sandbox in a city. A Regulatory Sandbox enables and supports the demonstration of +CityxChange solutions. The objective is to secure special dispensation from the relevant national/regional/local authorities for the project duration to implement and trial innovative +CityxChange solutions. It is a place where citizens, local authorities and local companies can connect



with each other and ideate, develop and test urban prototypes and beta projects. Examples of emerging Limerick solutions that are to be trialled in the Limerick Regulatory Sandbox in August 2020 are :

- SBIR, (Small Business Innovation Research)
- Limerick Shannon Turbine: a tidal energy generator
- Limerick Community Grid (LCG)
- Limerick Citizen Energy Community (LCEC)

The following 'Table of Sandboxing Elements in Limerick Innovation Playground', (June 2020) describes the scale and status of some Sandbox elements, and the 'Map' of Sandboxing Elements begins the description of Sandboxing in relation to the geography of the Limerick Innovation Playground. This will be described in greater detail in +CityxChange Deliverable D4.9: White Paper "Regulations Unlocking Innovation Potential".

'Places' of Limerick Innovation Playground Limerick Regulatory Sandbox, June 2020						
Sandboxing 'Element'	Scale of 'Sandbox' test				Status (as of June 2020)	Comments (relation to Limerick Innovation Playground)
	Building	Local	Regional	National		
SBIR, Small Business Innovation Research	✓	✓ Groups of buildings?	✓ Happening in other regional cities?		Creation of 'Safecility' - Automated building safety Product (Emergency Sensory Lighting, Fire Door Sensors and Cavity Sensors) 'A funding mechanism'	Relation to IP...where are the buildings located in IP, can they be publicly mapped?
2. Turbine: a tidal energy generator		✓ Neighbourhood scale		"Currently not allowed under existing Irish energy legislation" (Feb 2020)	Going for pl approval in Summer 2020, 'client entity developing'	Turbine: Outside IP but within an updated Limerick DA
3. Limerick Community Grid (LCG)	✓	✓ Neighbourhood scale				where will the LCG 'be' in relation to the IP ? inside it?
4. Limerick Citizen Energy Community (LCEC)		✓ Neighbourhood scale		EU Directive in Irish law from Jan 2020		where will the LCEC 'be' in relation to the IP ? inside it ?

Table 2.1: 'Table of Sandboxing Elements in Limerick Innovation Playground', (June 2020)





Figure 2.4: 'Map' of Sandboxing Elements in Limerick Innovation Playground, June 2020 (Source: Space Engagers)



3 Tools

In this section, we discuss the tools used to achieve different solutions. This list includes:

- Operational and organisational mechanisms
- Platforms, Tools used for communications
- Innovation Lab Tools for fabricating and testing RES Solutions

3.1 Operational & Organisational Tools

3.1.1 Use of Project API and data exchange

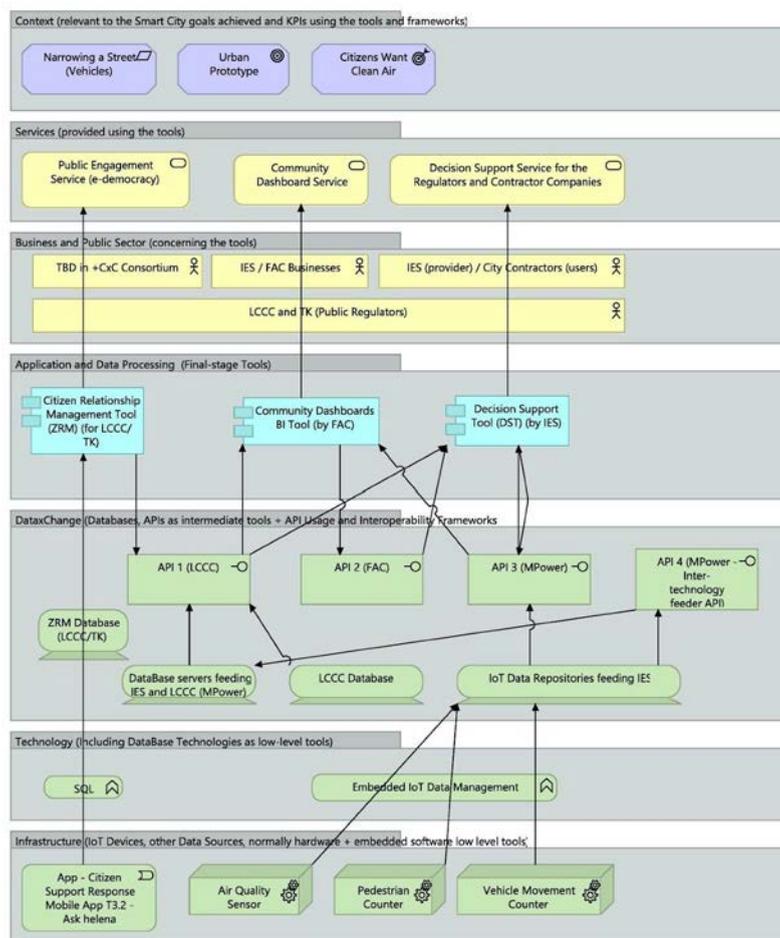


Figure 3.1: API and Framework for Data Interoperability Framework

Within the Innovation Playground, the +CityxChange ICT ecosystem – designed in WP1 Integrated Planning and Design – will allow “digitalization, open architectures, and open data to support Open Innovation 2.0 processes in an ICT-enabled city” (Fitzgerald et al., 2020; Petersen et al., 2020; Shams et al., 2020).



Examples of this will emerge from projects that utilise API and distributed service-oriented architecture. The example from DeepSeek AI discussed in [section 4.3.2](#), a system to measure footfall with low-cost equipment and cloud-based thermal image processing, will be incorporated by LCCC into the CityEngage Portal Dashboard. It will be important that this level of API incorporation is trialed and available. This is an example of something that worked very well thanks to the work of Deepseek AI and LCCC’s technicians. Documentation, perhaps examples of the WP1 framework, will be necessary to involve more participants in time.

3.1.2 +CityxChange Citizen Participation Playbook

The +CityxChange deliverable D3.2: Delivery of the Citizen Participation Playbook (Burón & Sánchez, 2020) is one of the six frameworks for citizen engagement developed in +CityxChange. This playbook supports local authorities in transforming citizen participation into local impact with the objective to increase community engagement and build citizen trust. Including both physical and online citizen participatory tools, the framework describes four citizen participatory processes where diverse stakeholders can use physical actions and digital tools in an integrated and synchronized way. Processes particularly relevant to Task 4.5 implementation include:

- Process 1: Co-design of urban interventions. It can be applied when municipalities lead urban intervention processes designed together with citizens, researchers, professionals and private stakeholders (Burón & Sánchez, 2020, p.p. 48-55).
- Process 4: Citizens Proposals. This process enables direct and bottom-up citizen participation in which any individual or organization can submit an initiative to municipalities (Burón & Sánchez, 2020, p.p. 70-76).

3.1.3 Collaborative Operating Structure

Guidance on Collaborative Operating Structures is included in +CityxChange deliverable D3.6: Framework for DPEB Innovation Labs (Fitzgerald, H. et al. 2020). As a fundamental organisational principle these structures involve multi-sector and multi-stakeholders collaboration.

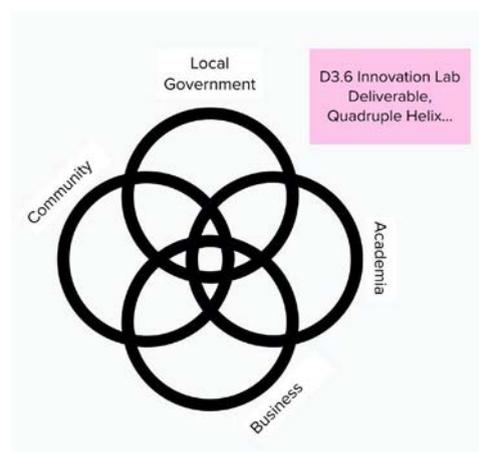


Figure 3.2: Stakeholder diagram included in T4.5 Open Call text



Innovation Playground implementation in Limerick includes a Quadruple Helix Operating Structure consisting of:

- The local authority acting as the *government* partner;
- Academic partner, University of Limerick and other third-level, research and representatives of formal educators;
- The +Limerick partners, to represent Business actors;
- Community Groups in the city, such as TidyTowns, Friends of the Hunt, #LiveableLimerick and local Mens' Sheds who have engaged to date through OIC1.

3.1.4 Crowdfunding

As part of localisation of the Framework for Innovation Playgrounds for Limerick, desktop research was undertaken in early 2020 into different crowdfunding platform options which are currently available on the market, in the context of Project partner investigations about financial and business models available related to positive energy in cities.

The research has found that there are different options depending on the scale of the project to be funded and the type of "reward" which is to be offered to those investing or committing finances to the project. There is no one size fits all crowdsourcing platform.

A matrix was prepared comparing the different crowdsourcing platforms currently available to inform discussions for a platform for +CityxChange. It is evident there are large scale projects (in Limerick?) which are more appropriate for investor funded crowdfunding and smaller scale projects where community crowdfunding would be more appropriate. The desktop information on crowdfunding options for Limerick was reviewed and then discussed with other project stakeholders to gain an understanding of what was required from a crowdfunding platform for the +CityxChange project.

Discussions with the city in mid 2020 on how crowdfunding could be utilised in Limerick suggested small scale funding of a community energy asset or a potential feasibility study for the placement of an asset might be the most feasible option. Further discussions with other project partners and stakeholders about the application of crowdfunding in the Limerick context recommended initiatives on small scale crowdfunding to get the idea off the ground and promote a culture of crowdfunding.

The need to understand what investing in a project would enable a citizen or group to do, and what input to projects that would involve, were raised. It was concluded that, at this interim stage, the +CityxChange project needs to think about who manages the crowdfunding platform (especially in Limerick) who has legal oversight of the platform, and who sets the rules of engagement. Also, discussion with partners suggested a need to look at payback from investment, and how this equates, or does not equate, to cost savings in energy bills. Other questions at this interim stage include: If +CityxChange needs to set up a Sustainable Energy Company (SEC) (in Limerick), can crowdfunding play a role in establishing the SEC?



Following decisions of the project, and based on stakeholder discussions and desktop research, a recommendation for a crowdfunding tool to be used in Limerick will be made soon. Recommendation will be made once the purpose of the crowdfunding platform has been decided by project stakeholders.

3.2 Platform Tools

Here we will describe the tools which support the processes of the Innovation Playground - generally enabled by software and the internet, but it is important to

3.2.1 Citizen Observatory and CityEngage Portal

As part of localisation of the Framework for Innovation Playgrounds for Limerick, desktop research on a suitable tool for participatory mapping in the city was undertaken, including a review of the UMap portal, in early 2020. After negotiations with service providers, communications with the city about options and specification, the setup of a participatory mapping platform (PMP) is ongoing in August 2020. The city will lead with a coordinated platform containing a community dashboard, and overlaps between the official mapping of/by the city, and the proposed 'tool' are currently being finalised. (See Schematic mapping tool image below)

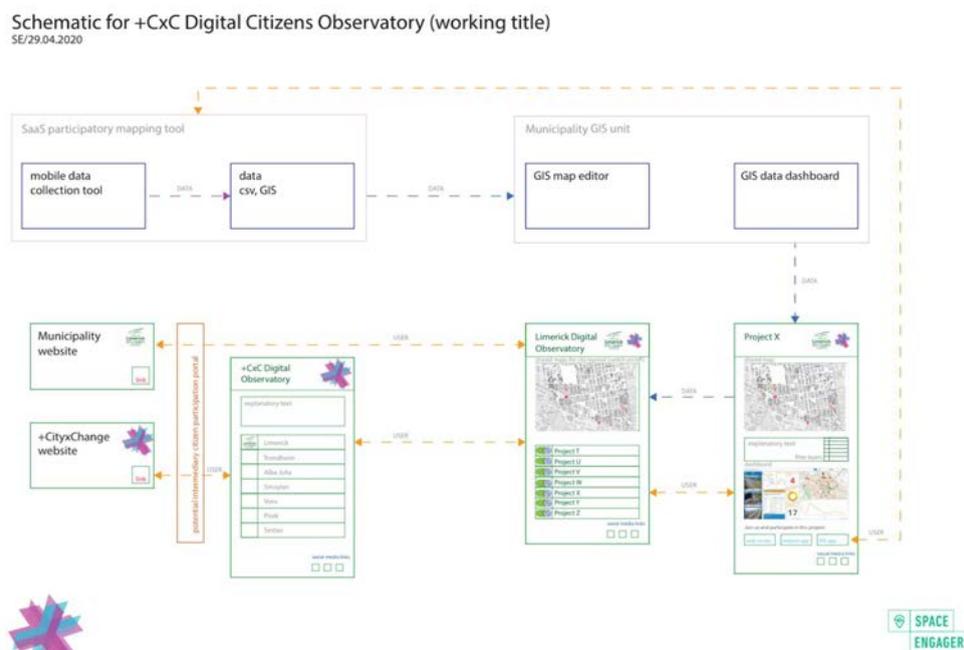


Figure 3.3: Schematic mapping tool image (Source: Space Engagers)

A 'soft-launch' is planned soon, with a 'testing' of the participatory mapping tool in and around the Innovation Playground in Limerick itself, photographing and geolocating data in a 'test run'. The city will be in a position to report on actual operation, connections to the overall Limerick.ie website, etc and how it overlaps with localisation of the Framework for Innovation Playgrounds for Limerick soon. In summary, at this mid-stage of implementation, a participatory mapping 'tool' license for Limerick has been acquired and integrated with the city's mapping ecosystem, and the tool will be tested in advance and during Limerick

CityEngage Week in mid- September 2020. The participatory mapping tool is a key component of Limerick's Citizen Observatory System.

3.2.2 Communication Tools

Slack and Discourse.org, WhatsApp, Telegram, Discord or Mastodon can be very useful tools for dialogue channels, and forming team chat platforms. For Slack, Discord and Mastodon this chat can be further organised by channel and proves very effective in group organisation. Discourse.org and Mastodon are free if self-hosted, with an option for a paid tier and some other features.

A lot of effort is required to maintain and moderate message boards. Social media will demand a lot of personnel time, especially to seem personable and approachable, so it is important to consider how many accounts need to be maintained for your project, and if this requirement can be shared across other Innovation Playground partners. A good rapport with popular channels in the city ensures that shares and retweets are at hand.

This can be further improved by *sentiment analysis* and analytical software that track trending topics, and can give important clues about your target audience and what times and what content best catches attention (LCCC uses HootSuite, BuzzSumo and Twitter for this purpose before the Launch Event, the CityEngage Week in 2019, and their Smart_Limerick communications since).

Now, of course, video conferencing tools have become immensely more important. It seems that we will be dependent on virtual meetings for large gatherings for some time to come (as of August 31st 2020). This has led to the popularity of services like Zoom, Microsoft Teams, GoToMeeting, SkypeForBusiness. The free tier on these video conferencing services is often quite restrictive — limited duration or participant numbers are important to take note of.

3.2.3 Visualisation Tools

IES's Decision Support Tool (DST) (Kerrigan et al., 2020) is a vital tool to understand and visualise the virtual layer of the DPEB, to understand energy trading, and personal energy consumption, etc.

The Innovation Lab will host a dashboard containing the Community Information Model, which is a version of the DST for public viewing, anonymised data and scenario testing will allow DPEB residents and Positive Energy Champions to visualise changes in their city.





Figure 3.4: Limerick iCD model: energy consumption distribution

It is intended to improve the communication of the project, and encourage people to get involved as Positive Energy Champions (Fitzgerald & Mee, 2020) and participate in Innovation Projects. The tool will incorporate:

- Scenario testing
- DPEB and IP progress overview

3.3 Innovation Lab

Various tools used to develop a conducive environment for the Innovation Lab, as well as practical tools for fabricating RES Solutions

3.3.1 DIT RES Workshops

Do-It-Together (DIT) RES Workshops are “a recent revision of the Do-It-Yourself method powered by the newest networking and fabrication technologies” (Hagel et al., 2010). DIT methods allow rapid innovation and scalable peer to peer learning in digital and physical products and services that can be facilitated locally via community meetups and workshops. DIT can be used as a way to build local capacity on PED and PEB technologies such as digital sensors or decentralized energy production. ‘Learning by making’ has been widely recognized as a powerful education methodology suitable for people of all ages and skill levels and has sparked a recent interest in STEAM by educational authorities.

Guidance from +CityxChange deliverable D3.4: Framework for DPEB Learning and Education (Avram, 2020) and a template developed in T3.5 was used by Colaborativa and Smart MPower to develop a series of DIT workshops, the first of which was run in the Fab Lab during the CityEngage Week in Sept 2020. The topics are that of practical home energy monitoring devices, design of solutions in hardware and usage of software precedents.

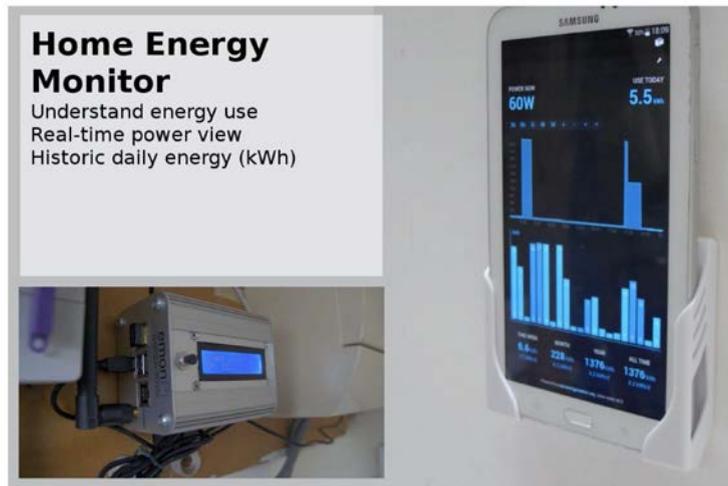


Figure 3.5: EMonPi System (link to project: <https://guide.openenergymonitor.org/technical/emonpi/>)

3.3.2 Other Programmatic Elements

In addition to the DIT RES Workshops, an Innovation Lab could hold other events, and in order to programme the lab fully, it will also be required to host Information Evenings, Demonstrations discussions and talks, and other supporting events for innovation and open call competitions.

In order to attract the participants needed for the above events, it helps to have established local engagement. In Limerick, a community of 'Makers', students, creatives and professionals already have strong relationships with the Fab Lab, cultivated over years, and this is to be demonstrated in future events and programmes.

3.3.3 Equipment and Lab Infrastructure

The small batch manufacturing lab extends the capacity of a Fab Lab. Equipment specified, includes the following:

- 3D printer (Selective Laser Sintering)
- SMD equipment and components:
 - PCB Mill,
 - Pick-And-Place Machine,
 - Reflow Oven,
 - Extraction (as required),
 - Tools and Scopes,
 - stock of SMD Components (by component type, grade/rating)

And optionally, includes particular specialist sensors and equipment, for example:

- Energy Monitors
- Air Quality Sensors
- Specialised Telemetry components (LoraWAN, radio components)

This additional capacity is essential to be able to scale up prototyping and testing in the Innovation Playground - the capability for rapid prototyping of new technologies and deploying experimental networks across the Innovation Playground - assisted by the Local Authority and other project partners to fund, develop and adopt these ideas to co-create the +Limerick Positive Energy District.

Details are described in D3.6: Framework for DPEB Innovation Labs. (Fitzgerald et al., 2020)

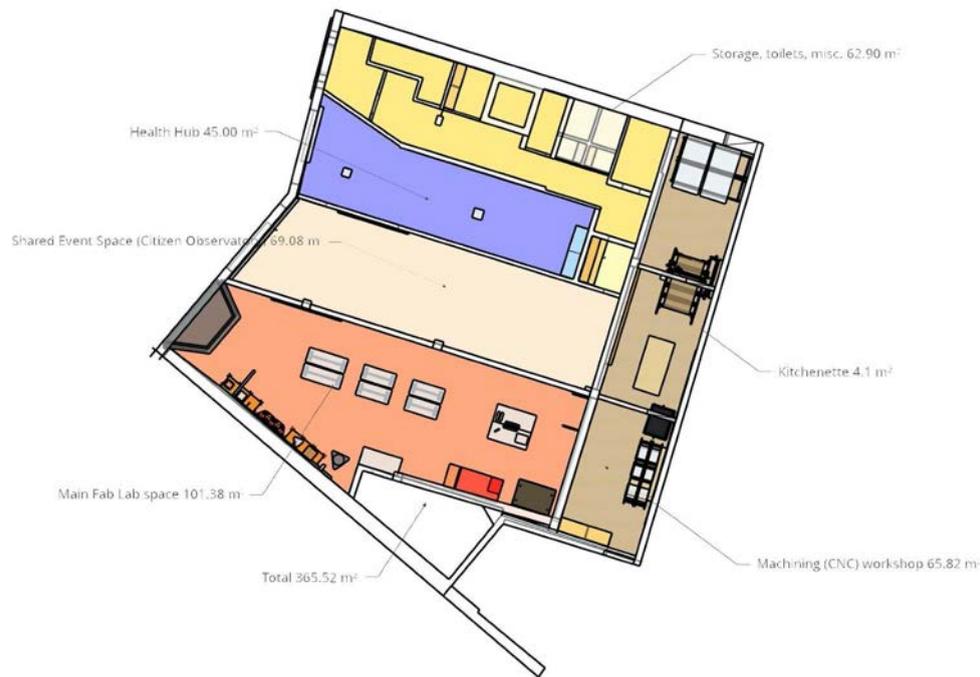


Figure 3.6: Layout of co-located Fab Lab and Citizen Observatory.



Figure 3.7: View of Fab Lab internal layout with equipment.



4 Solutions

4.1 Defining a ‘Solution’

As described in Section 2 above, in the +CityxChange project, ‘Solutions’ are associated with Innovation Labs and Playgrounds in a city, for example, when Labs and Playgrounds function as “platforms where solutions that contribute to the creation of DPEBs can be developed and trialled” (Hynes et al., 2020, p. 150). The document titled: [‘Citizen Engagement Solution Booklet’](#) (Jaubin et al. 2020) co-created by Smart Cities Information System (SCIS) together with EIP-SCC, IRIS Project, and the +CityxChange Project as part of the ‘EU Smart Cities Information System’ defines a ‘Solution’ as follows:

Solutions are measures a city implements to achieve a certain objective. The roll-out of E-buses for example could be a solution to decrease carbon emissions. (Jaubin et al., 2020, p. 45)

The Solutions Catalogue is intended to encourage replication in the context of a +CityxChange project implementation of an Open Innovation 2.0 model (See +CityxChange deliverable D3.6: Framework for DPEB Innovation Labs, (Fitzgerald et al., 2020, p 19), Section 3.1.2, Open Innovation 2.0) as well as an emergent landscape of Open Innovation 3.0, further embedding innovation into community knowledge. The context for collaboration across the +CityxChange project team, and with external stakeholders is described in the +CityxChange Deliverable D9.1 Framework for intra-project collaboration (Wyckmans et al., 2019).

Earlier/ongoing discussions on local definitions of ‘Solution’

Earlier/ongoing discussions among the Limerick +CityxChange Project team about defining the term ‘Solution’ are described below, including the consideration of ‘stories’ for example as fitting within this definition. As defined in the Framework for the Innovation Lab – +CityxChange Deliverable D3.3: Framework for Innovation Playgrounds (Crowe & Mee, 2020) – journeys and stories are helpful analogues for ‘Solutions’. They have a timeline, a local context, and outcomes. The scope of what is included, i.e. what is and is not classified as a Solution, is needed to ensure that this is of value to the reader, and it is expected this discussion will be ongoing while the second Solutions Catalogue is developed. Solutions might also be enabling mechanisms, like the fact that the council learned that it had to build a roadmap for X, and that is a Solution which, if implemented in a city, is a very valid replication, even if it doesn't follow a "project->prototype->product" progression.

A Limerick workshop, which was anonymised, drew varied responses to the question: ‘What is a Solution?’. For example results indicated a strong preference that Solutions include “enabling mechanisms” (see statement 2 response in Table 4.1 below). Therefore it can be assumed that in the Limerick case, the definition should include these, and even that the

Catalogue might be built as an enable-able playbook of actions, whether they be story-like accounts or otherwise¹.

Statement (number of participants to agree)	1	2	3	4	5
Solutions are Stories or Journeys.	4	1	1		
Solutions catalogue should include enabling mechanisms.	1			1	3
Solutions are not tools. eg use of software.	3		1	1	
Solutions are separate to KPI-attainment.			1	2	4
The aim of the catalogue is to recount Solutions development processes for replication.	1	1		1	3
Solutions are the successful ones.	1	1	1	1	
The Solutions Catalogue should also refer to unaffiliated projects.	1		1	1	2
Unique multi-stakeholder situations affect the value of respective Solns.				2	3

Table 4.1: Participants disagreed with statement 1. Workshop with Work Package 4 participants, August 4th 2020.

4.2 Processes to support Innovation

A protocol for Open Calls for Citizen-led DPEB Solutions has been developed as part of +CityxChange deliverable D3.6 Framework for DPEB Innovation Labs (Fitzgerald et al., 2020). This protocol allows cities to procure new urban products and service prototypes co-created with citizens and wider creative networks including entrepreneurs and start-ups. The protocol is fully described in Annex 3 of the framework (p.p. 85-91).

4.2.1 Processes Employed

The Open Call Protocol For Citizen-led DPEB Solutions included in D3.6: Framework for DPEB Innovation Labs (Fitzgerald, et al., 2020, p.p 85-91) is an evolution of one of the participative processes developed in +CityxChange Citizen Participation Playbook³ (Burón, Sánchez, 2020) and more precisely Process 1: Co-creation of Urban Interventions. This process describes an alternative to traditional consultation processes in which citizens can only participate at the very end, by bringing co-creation mechanisms at an early phase of the whole process. As CommunityxChange frameworks have been developed in parallel to WP4 and WP5 implementations, Open Call 1 was launched before the +CityxChange Citizen Participation Playbook and Open Call Protocol were finalized, this served as a way to

¹ Note: In this workshop, which was anonymised, the option to leave a comment to expand on this choice was not used by the participants. However, the framework and the template developed on top of the framework (see Table 4.1.) for identifying solutions, and can be seen as agnostic to this fact.



prototype the process and get useful feedback from organizers and participants. The Open Call was structured as follows:

- Open Innovation Call/Open Call/OIC1 Project Plan Docs, **Annex III.**
- Open Call 1:
 - Development of the Call Text, Criteria and Q's for upload to myPoint.limerick.ie
 - Selection of Jury, matching of criteria to Q's (before launch)
 - Launch, Information session, promotion
 - Questions received, FAQ publishing.
 - One-to-one advice. Facilitation of projects and contact sharing
 - Submissions Received
 - Shortlist, Award

After this first Open Call was awarded a series of meetings were held with organizers, participants and user groups that showed interest in the call but finally did not participate. Their feedback is summarized in the following items together with proposed solutions:

- Feedback from prospective participants showed that some aspects of the call were not of sufficient interest. Small adjustments could have made the call more appealing to them. The Open Call brief could be co-created with other stakeholders. This would significantly increase citizen participation as it allows early engagement with relevant groups as well as the possibility of a better adjustment of the brief to citizen needs. Also involving citizens at an early stage would allow the possibility of creating more interest around the geographical area of the call which many potential applicants did not know that well.
- Some prospective participants did not form part of existing citizen associations or formal organizations. Open Call would benefit from methods to allow informal groups of participants to submit calls. For example a two stage proposal with a requirement of a formal incorporation if the proposal passes to stage two would ease the participation of some creative disciplines.
- Few citizen engagement between the announcement of the Open Call and the announcement of the winners. Open Call shortlist and award could benefit from a more public selection process while keeping technical and financial viability. Involving the general public on the final selection would increase early engagement on the implementation and monitoring phase making citizens more aware and supportive of the winning proposals.

This feedback has been incorporated in the Open Call Protocol and introduced a number of modifications such as the possibility of co-creating the brief together with citizens with a series of focus working groups with representatives of community groups, past participants and wide-scope public workshops to form better briefs. Secondly, the creation of an optional two-step selection process in which projects will be shortlisted by a technical committee but the final selection will be made by citizens using online voting. Also, the



implementation stage was further developed to introduce specific actions on monitoring, and documentation of the winning proposals.

The Open Call Protocol could also benefit from further processes to scale up:

- A closer mentoring framework, including financial support –i.e. the Small Business Innovation Research (SBIR) mechanism mentioned in D3.3: Framework for Innovation Playgrounds (Crowe & Mee, 2020) and D3.6: Framework for DPEB Innovation Labs (Fitzgerald et al., 2020), operated by Enterprise Ireland – match funding & innovation support.
- Running the Open Call in tandem with other processes, such as the DIT Workshops and Innovation Lab presentations to local makers' club to attract expertise and local know-how to future calls.

4.2.2 Responses received and Feedback Being Gathered

Lead-up

Indications during the OIC1 application period were of very good engagement, and on the Information Evening we had a full lab, with representatives from community groups, businesses and third level institutions. The Matchmaking Session was rescheduled, as people didn't know enough about the themes and requirements to start making those connections on the same night. Participants did however have a lot of questions, and were able to ask questions on the night or to approach one of the speakers privately.

On the sign-in, participants were asked if they were happy to be matched with others following the event, based on interest they declared. Much of what materialised as applications can in most cases be traced from the Matchmaking session. In the case of

Applications Received, Open Call 1

There were six applications received, five of which were funded. The disqualified application was unfortunately very incomplete, and the applicant group was asked to apply to the following open call instead.

Annex IV contains the applications received.



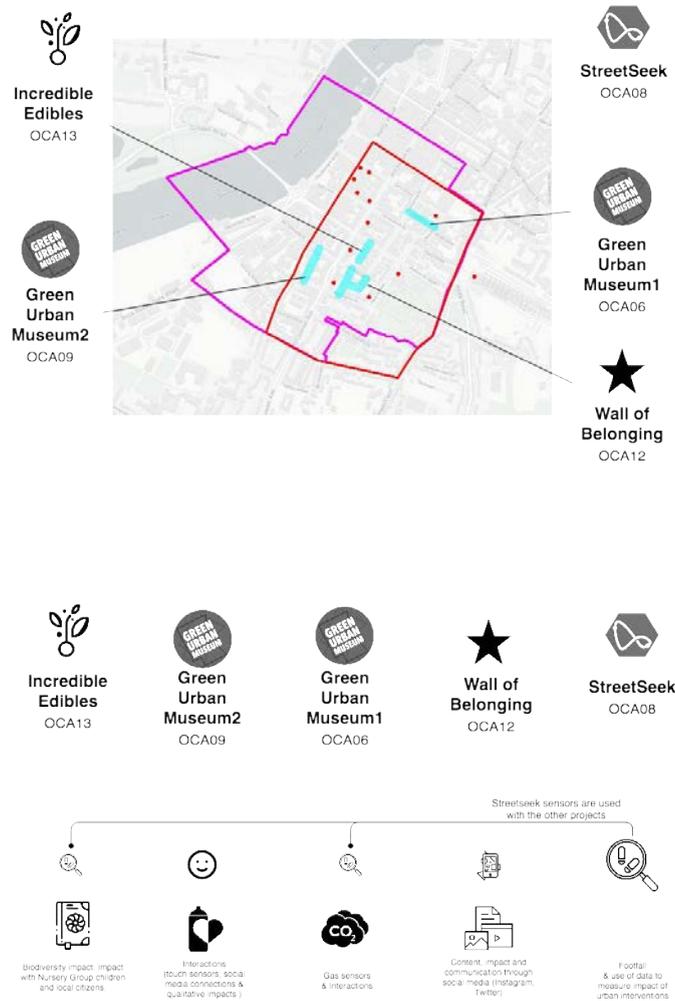


Figure 4.1: Awarded applicants, their proposed locations in the DA (above) and outputs awarded applicants (below).

Focus Groups

During the OIC1 process, partners including representatives from UL, LCCC, and SE carried out monitoring activity with Open Call participants. This activity served a number of purposes:

- to maintain engagement with participants and give an opportunity for Open Call groups to learn from each other;
- to continue developing a relationship of trust between engaged citizens and the city partners;
- to assess the functionality of the Open Call process with the intent of streamlining for future Open Calls as part of Citizen Participation actions.

A focus group interview was coordinated with Open Call participants and Limerick city partners involved in the Open Call process. City partners who had been in close contact with the Open Call groups issued an invitation to the prospective participants, in order to encourage their engagement with the process. The focus group session structure was developed in order to provide an informal atmosphere for participants, to encourage the

open sharing of views. A script was prepared which could capture crucial information about the experience of participants in the Open Call process, with the intention of re-interviewing using an adapted version of the same script at the end of the implementation phase. In line with the priorities identified in +CityxChange deliverable D3.2: Delivery of the Citizen Participation Playbook, the focus group facilitators asked participants the following:

- to discuss the current state of their projects just before implementation;
- to assess their experience with the structures of the Open Call process;
- to share their level of satisfaction with the support provided to them by the Open Call team;
- to elucidate the ways their projects respond to the +CityxChange project and the local context;
- to consider any changes they might suggest for future iterations of the Open Call.

The focus group session was a positive one, reflecting well on the strong relationship building between partners and Open Call groups. Participants were open in their responses and demonstrated significant engagement with the Open Call process and, more importantly, with future interventions to be made by the +CityxChange project and future developments within the Innovation Playground.

4.3 Solutions Catalogue

Solutions included in the Catalogue are described include:

- [OCA09: Green Urban Museum 2](#) - Open Call
- [OCA08: Street Seek \(DeepSeek AI\)](#) - Open Call
- [AO : Colaborativa's Citizen Sensing Group](#)

4.3.1 “Green Urban Museum 2” (Limerick Mental Health Association)



“Using images from the Hunt Museum Collection and the Limerick City Museum, Makers from LMHA Women's and Community Groups will hold workshops with a professional designer to create recycled metal repousse trellises to hang in Jesuit Lane. These trellises will be interwoven with CO2 soaking plants. The lane will be maintained by the community which should reduce anti social behaviour at the same time as encouraging locals and tourists alike to use the lane.”

From the application stage, GUM2 have wanted to make walking in the city safer for primary school students and other residents. When interviewed, the project lead articulated how this project is also about mobility. Though not original to this project, the idea that a secondary layer of pedestrianised laneways could form a network in the city - foot traffic and cycling could be encouraged through safer laneways.

The site chosen by the group, Jesuit Lane, is so called as it passes the back of the Jesuit church. The laneway also contains a tutorial college, a sheltered/old folks' home, numerous private gardens, garage walls, a print-shop/design house and a mental health centre. The lane is approximately 120 metres long.

- The project is led by Limerick Mental Health Association, and supported by the Hunt Museum — The Green Urban Museum name refers to Hunt Museum artifacts replicated as Copper Repousse pieces, integrated into a laneway, along with painting and planting to encourage people to value their laneways more and use them more.
- Building owners were approached, and each introduced to the project. Except for 2, an apartment building, and a recently sold house — With the designs presented in this way, word quickly travelled, and neighbours of the project have indicated their interest even though they are outside of the site identified. The building owners on the laneway have strong support for this project.



Figure 4.2: (from top left, clockwise) Jesuit lane entrance on Hartstonge Street, GBM stone wall and Entrance, Rear of Jesuit Church, reverse view from half way down.

- Limerick Mental Health Association are dependent on two artists - one to paint a mural for the project; one to produce *copper repousse* pieces. The artist that had agreed to do the mural, has pulled out due to stresses brought on during the pandemic, and the project appealed on twitter for a replacement.
- Limerick Mental Health Association are also dependent on their Men's Shed who are painting, assembling trellises, making and setting flower boxes. As a result of the

pandemic, many of these volunteers are not available. National guidelines published at the end of August limit the number that can work together at the same time - possibly no more than 3 in this case. The group expects this work to happen during the month of September.

- Some of the project team have spoken to Limerick City and County Council to install marked crossings between these lanes and the next blocks, where lanes align and are very popular lanes for young school-goers. They have also pursued interactive smart solar-power lights that make the way safe to walk at night. ESB may be able to provide, but this is to be confirmed in September, as it is beyond the budget originally submitted.
- Have identified and published a looped walk, is intending this for September 21st to coincide with the national Culture Night event. (see below)

sustainable development goals are our goal

The Sustainable Development Goals (SDGs) are a collection of 17 global goals designed to be a "blueprint to achieve a better and more sustainable future for all". We this as an important highlight of the Laneway Project Information Pack. These small spaces can illustrate how, on a micro scale, cities can make SDGs part of their framework.

GOAL 11: SUSTAINABLE CITIES AND COMMUNITIES
Make cities inclusive, safe, resilient and sustainable. The Laneway Project and walking route is a perfect road map for this.

GOAL 15: LIFE ON LAND
Promote biodiversity through vertical planting and flowering plants.

GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION
Do more with less... we have incorporated rain water collection butts and recycled materials on the Green Urban Museum I and II projects.



Figure 4.3: Publication made by one of the GUM2 participants about walking event planned for CultureNight 2020, encompassing the various projects of OpenInnovationCall1

- Were initially interested in CO₂ monitoring. Following an open evening in Fab Lab Limerick, had this included in the project application. Then, were interested in developing a 'happiness monitor' with some physical buttons, and investigated the use of conductive paints to make an interactive street mural but, ultimately, due to the Covid-19 pandemic and not wanting any physical touching required, they then settled on a (pi flick hat) to record gestures that would be recognised, used as a metric - advised by the Innovation Lab, very ably assisted by Smart MPower.
- Want to do more - now imagining a walking tour, smart lighting interactive. Wanted to know more before the start.... interested in the BCV involvement

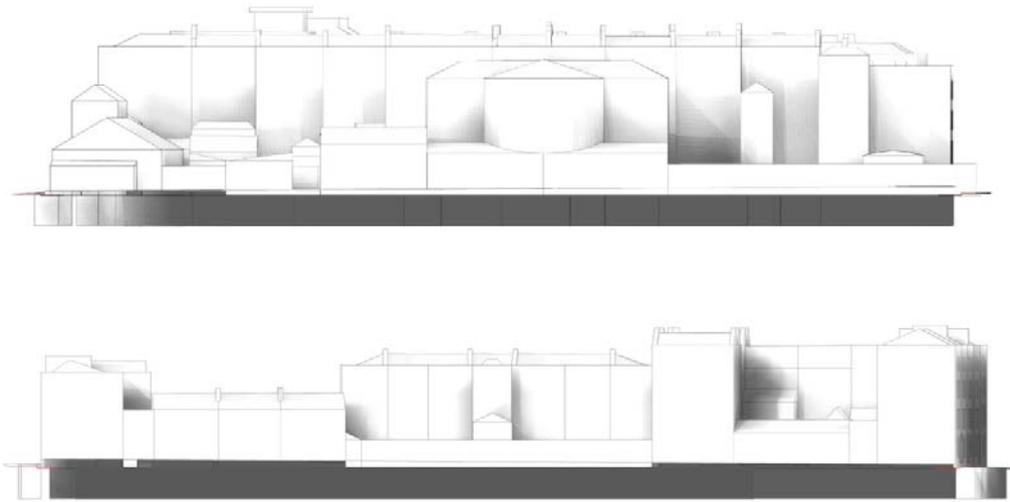


Figure 4.4: . Internal Elevations from the Limerick City Model by Fab Lab Limerick.

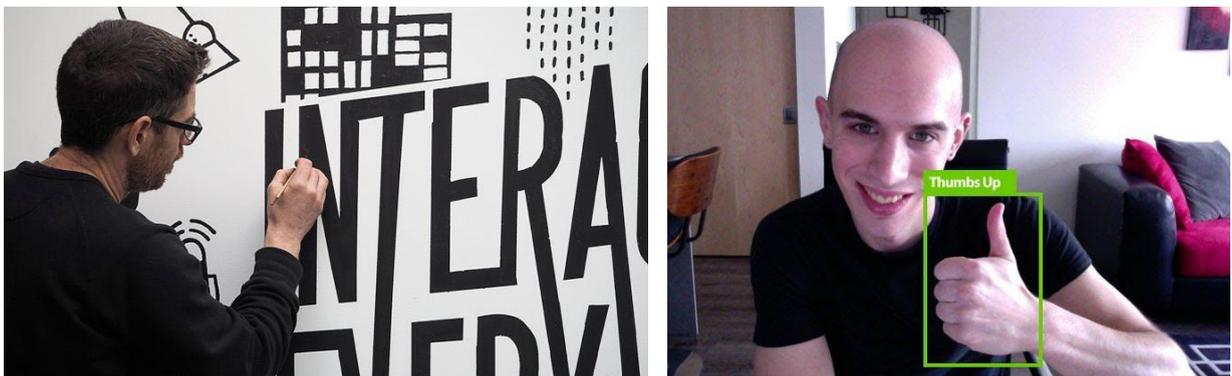


Figure 4.5: Image by BareConductive 2019 - to be replaced with project image, fig X. (R) of FlikPi gesture detection module identified by Smart MPower

4.3.2 “StreetSeek” (DeepSeek AI)



“Our proposal involves the installation of an unobtrusive camera system, backed up by cutting edge automated vision analysis technology that will allow us to sense the heartbeat of the city every second of every day.

...We need a way to measure the pulse of Limerick city. This new understanding of our city will provide key insights to a number of stakeholders including city planners, businesses and positive change for the people who use it. Crucially it will also allow businesses to react in real-time to their energy needs, removing wasted use of electricity and moving us towards an energy positive city.”

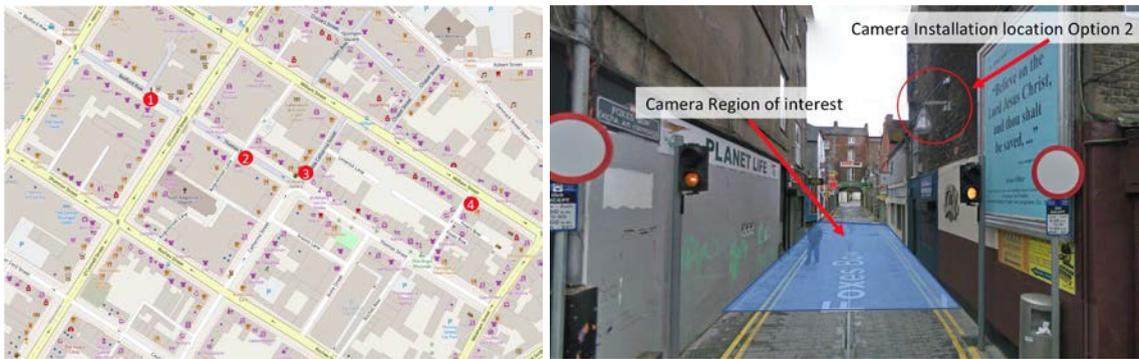


Figure 4.6: Survey by Deepseek AI, proposed locations

- This project, StreetSeek, is proposed by DeepSeek AI, a start-up and two PhD students based in Limerick, to use visual (thermal) sensors, cloud computing and low-cost electronics for behavioural analysis in public spaces.
- The sites chosen are on Thomas Street, Little Catherine Street and Griffith Row. Therefore Deepseek’s pedestrian behaviour analysis tools are also used to provide metrics for the GUM1 project on Griffith Row.
- In July, DeepSeek AI and Limerick City and County Council were both interviewed about this project and the OIC1 open call overall. They report that public feedback has been very positive. Though one comment flagged the use of cameras as a privacy concern.

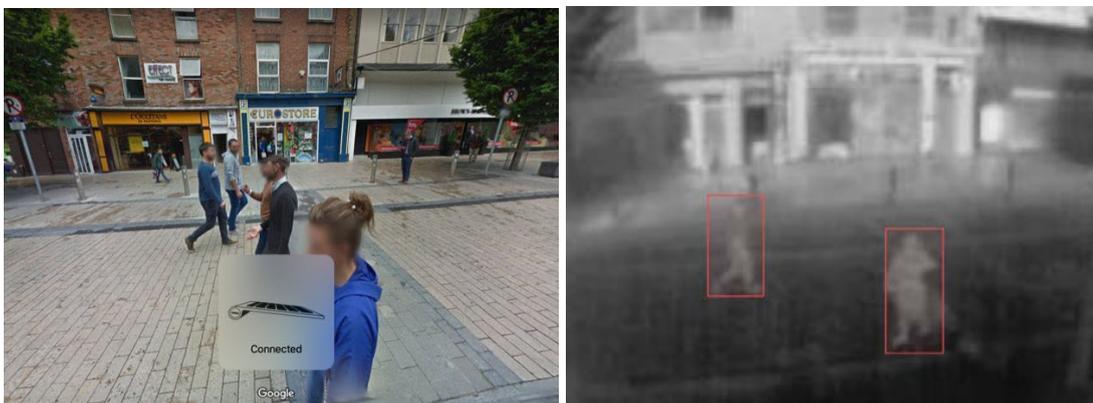


Figure 4.7: Comparison of FLIR sensor output (R) with the same scene, visual (L)

- Despite needing to train new models (as no machine learning models existed for FLIR sensors), and an insurance issue with the use of public lighting poles, Deepseek have been able to install ahead of schedule.
- They are using the extra time to embed their results within the City Council’s dashboard and have been able to experiment with new features, and are able to estimate “Social Distancing Adherence”.

4.3.3 “Citizen Sensing Lab” (Colaborativa)





Figure 4.8: image copyright colaborativa.eu.

“Let’s learn how to make and use do-it-together sensors and technology to monitor our environment

...When individuals and communities are part of designing and building their own digital sensors, previously obscure ‘smart-city’ technologies start to have a clear purpose: helping to make sense of the world and take steps to change it for the better”

- Unlike the previous solutions, the Citizen Sensing Lab was not supported by the OpenCall process.
- The [first meetup](#) introduced the concepts of open data and citizen science - showed existing groups across Europe, such as LuftDaten.de and the SmartCitizenKit developed by Fab Lab Barcelona. This was promoted as part of the 2019 CityEngage programme - attendees and discussion were lively. Talked about measuring particulate matter, aerosols, talked about health implications, the CAFE European directive, what would be available eventually as part of the Innovation Lab.

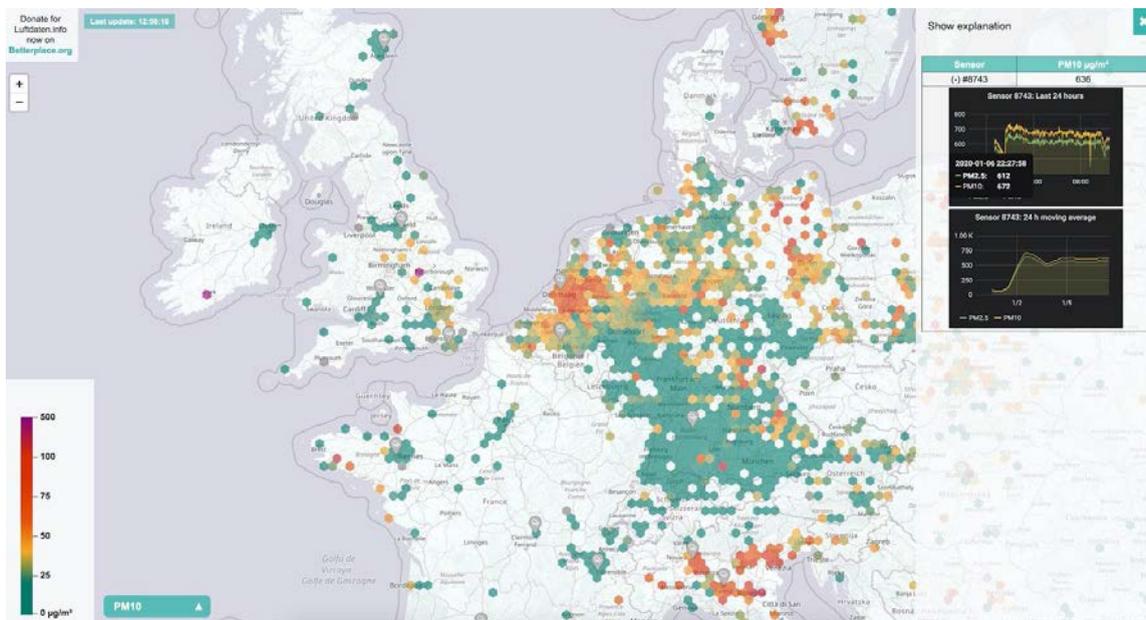


Figure 4.9: LuftDaten Website (link: <https://luftdaten.info>), accessed Jan 7th 2020

- The [second](#) and [third](#) meetups were invited speaker presentations. In October the group used SmartCitizenKits and the Dylos Air Quality Monitor. Participants were invited to present their own work, and some presented operational air quality monitoring they had implemented at their homes, with inexpensive PM1, PM2.5 and PM10 sensors, as well as ThingsBoard, which was used by a number of participants (same instance). After running these sensors for some time participants were able

to identify local sources of smokey particulates, home fires, traffic, but also worrying anomalies such as factory air affected by wind direction.

- The topic of individual sensor quality vs. the resolution of data from a mesh network, and the cost of each, was present throughout these meetups.
- One participant who presented his work in November, a lecturer from the Mary Immaculate College has continued to expand his air quality sensor network beyond this project with the support of the council. (Active on Facebook: <https://www.facebook.com/LimerickAir/>)
- Another speaker presented work that he has done with Wexford County Council to develop networks of sensors. As a hardware developer was able to give a great insight into existing sensors, and the standards used by the Environmental Protection Agency.



Figure 4.10: Images from Citizen Sensing Meetups

- The [fourth](#) was an introduction to the OIC1 open call. Following the fourth meetup, one of the participants posted the important points from the meeting to the group's Slack channel.

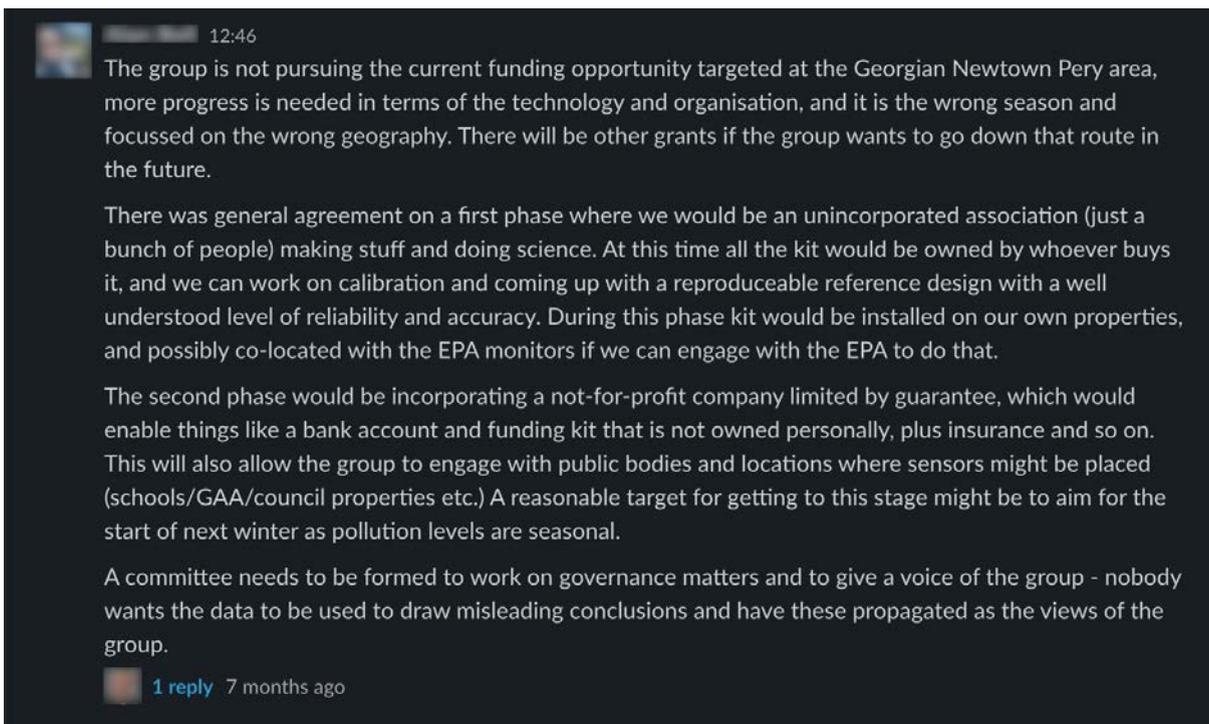


Figure 4.11: Post on Slack Channel, Feb 1st, 2020

- More official standings (Unincorporated Association or Company Limited by Guarantee) required to be able to avail of support available from LCCC and elsewhere.
- An article appeared in the local Limerick Leader newspaper, which raised a concern regarding ownership of, responsibility for the data that would be generated: "[Limerick air quality comparable to Shanghai's on winter evening](#)". This headline was added by the newspaper, and not supported by the researcher. Without reading the article, the headline would have given a different impression. Some felt that the group needed to refrain from making their own conclusions, or encouraging sensationalism.
- The other requirement of the OIC1 open call, to be located within the DA, was a dealbreaker for most.



Figure 4.12: Meetup



5 Conclusions

T4.5: Implementation of an Innovation Playground has a further 12 months implementation and at this point it is not possible to formulate definitive conclusions. Reflecting on Task 4.5 implementation to date and on the partial implementation of OIC1 projects suggests the next 12 months of activity should include the following:

- Incorporating +CityxChange deliverable D3.6: Framework for DPEB Innovation Labs – influenced by observation of early implementation of this task – in T4.5 implementation over the coming year, to help structure our activities and orchestrate innovation processes (supplementing D3.3 Framework for Innovation Playgrounds).
- Holding an Open Forum to initiate a *Steering Group* similar to LCCC's Open Call Steering Group and including representatives of communities, businesses, local government and academia.
- Co-creating and adopting a DPEB Innovation Lab *Innovation Agenda* to help target innovation activities and support alignment with Limerick's Bold City Vision priorities once in place.
- Cocreating a DPEB Innovation Lab *Programme*, strengthening linkages to Task 4.3 Community-led Open Innovation.
- Sharing the Limerick experience of early implementation with T5.5: Implementation of an Innovation Playground (+Trondheim) and T6.3: CommunityxChange (+ Followers).
- Reviewing and auditing the localised Innovation Playground as described in D3.6: Framework for DPEB Innovation Labs in particular regarding connections to the +CityxChange ICT ecosystem and the Open Data portal which was not available at the time of writing.
- Further developing the relationship between the DPEB Innovation Lab and the Citizen Observatory, in particular regarding building an evidence base to bring about change.
- Scheduling a process review after each Open Call to reflect and incorporate learning into future activities and to contribute to *Positive Cycles of Collaboration*.
- In the context of permissionless innovation and exploratory innovation, exploring the inclusion of peripheral and parallel projects within the Innovation Playground including:
 - Limerick's new Parklett projects
 - Laneway surveys (LCCC Arts Office) - another Open Call for Laneways. LGL tender (Urban Innovation)

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Annex

This Annex contains the following parts as referenced throughout the deliverable:

- Annex I** Supplementary links from Colaborativa events.
- Annex II** DIT RES Workshop Template
- Annex III** LCCC: OIC1 Open Call Project Plan
- Annex IV** LCCC: Open Call Submissions
- Annex V** LCCC: OIC1 Interim Report (as of 24/08/2020)





Citizen Sensing Lab

+CXC CITIZEN SENSING LAB

THURS, SEPT 19TH, FROM 7:30 TO 9:30PM

Let's learn how to make and use do-it-together sensors and technology to monitor our environment

FREE

Let's learn how to make and use *DIT* (do-it-together) sensors and technology to monitor our environment. In recent years there has been a surge of interest in citizen sensing: people using sensors, often low-cost and self-built, to collect data that helps them find out more about issues they care about.

When individuals and communities are part of designing and building their own digital sensors, previously obscure 'smart-city' technologies start to have a clear purpose: helping to make sense of the world and take steps to change it for the better.

This event is the first of an ongoing series of workshops to introduce, develop and co-create a community around citizen sensing in Limerick. Everybody is welcome and no previous experience on electronics or sensors is required.

[Colaborativa.eu](#) is a creative studio working at the intersection of design, social activism and technology. They are the creators of [creativesinlimerick.com](#), a crowd-sourced visualization of Limerick's creative community.

Book your place [here](#).

Citizen Sensing Lab

Thursday 17th October

7.30pm to 9.30pm
at Fab Lab Limerick

PechaKucha Night with:

Geography lecturer at MIC

Mid West Makers

Senior Executive Scientist for Wexford Co Co

Plus Show-and-tell & sensors assembly
+CXC CITIZEN SENSING LAB #2



This project has received funding from the European Union's Horizon 2020 research and innovation programme Grant Agreement No. 824260.

THURS, OCT 17TH, FROM 7:30 TO 9:30PM

PuchaKucha night & assembly workshop on do-it-together sensors and technology to monitor our environment

FREE

When individuals and communities are part of designing and building their own digital sensors, previously obscure 'smart-city' technologies start to have a clear purpose: helping to make sense of the world and take steps to change it for the better. Citizen Sensing Lab is a series of events and workshops to introduce, develop and co-create a community around citizen sensing in Limerick.

Free Event: Everybody is welcome and no previous experience on electronics or digital sensors is required.

PechaKucha Night with:

Dr. [redacted] Geography lecturer at MIC. [redacted] established The LimerickAir pollution monitoring network in March 2019, currently has 4 operational PM2.5 monitors.

[redacted] has been exploring low cost electronics and sensors for temperature, humidity and air quality monitoring in a domestic setting.

[redacted] Senior Executive Scientist for Wexford Co Co. [redacted] is working on getting environmental sensors miniaturised and using microprocessors so as to drive costs down and get them out into the wild.

After the presentations there will be a show-and-tell of the different projects as well as session on PM sensors assembly.

Fab Lab Limerick, 7 Rutland Street, Limerick



fablab@saulstudio.ie Facebook @fablablimerick

We are open from Monday to Friday, from 9:30 to 17:30. Late opening evening on Thursdays from 19:30 to 21:30



Web design by Colaborativa.eu

Citizen Sensing Lab

Thursday 28th November

7.30pm to 9.30pm
at Fab Lab Limerick

PechaKucha Night with:

Software Engineer and Maker

Lecturer, Mary Immaculate College

Head of Digital Strategy LCCC

Followed by a co-design session:
+CXC CITIZEN SENSING LAB #3
Creating a community led network of low-cost air quality sensors in Limerick



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 824260.

Presentations & co-design session for a community led network of air quality sensors in Limerick

FREE

Citizen Sensing Lab is a series of events and workshops to introduce, develop and co-create a community around open source environmental digital sensors in Limerick. This is a free event, everybody is welcome and no previous experience on electronics or digital sensors is required.

PechaKucha Night with:

is a software engineer who has been making since before the term came into popular use. Inventor of the

Geography lecturer at MIC. established The LimerickAir pollution monitoring network in March 2019, currently has 4 operational PM2.5 monitors.

Head of Digital Strategy & EU Programmes for Limerick City and County Council

After the presentations there will be a co-design session for discussing the next steps on the creation of a community led network of low-cost air quality sensors in Limerick city.

"When individuals and communities are part of designing and building their own digital sensors, previously obscure 'smart-city' technologies start to have a clear purpose: helping to make sense of the world and take steps to change it for the better"

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fablab@saulstudio.ie Facebook @fablablimerick

We are open from Monday to Friday, from 9:30 to 17:30. Late opening evening on Thursdays from 19:30 to 21:30



Web design by Colaborativa.eu

Citizen Sensing Lab

Thursday 30th January

7.30pm to 9.30pm

at Fab Lab Limerick

+CXC CITIZEN SENSING LAB

#4



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 824260.

THU, JAN 30TH, FROM 7.30PM TO 9.30PM



Co-design session for a community led network of air quality sensors in Limerick

FREE

Citizen Sensing Lab is a series of events and workshops to introduce, develop and co-create a community around open source environmental digital sensors in Limerick. This is a free event, everybody is welcome and no previous experience on electronics or digital sensors is required.

"When individuals and communities are part of designing and building their own digital sensors, previously obscure 'smart-city' technologies start to have a clear purpose: helping to make sense of the world and take steps to change it for the better"

Fab Lab Limerick, 7 Rutland Street, Limerick



fablab@saulstudio.ie Facebook @fablablimerick

We are open from Monday to Friday, from 9:30 to 17:30. Late opening evening on Thursdays from 19.30 to 21.30



Web design by Collaborativa.eu

Framework for common lesson plan

Designing activities for DIT RES workshops

1. Overall: Developing a calendar, workshop plans

- Frequency - which can be recurring?
- Audience - who should be involved - technologists, engineers, creative people etc. Open to the public?
- Facilitators and other speakers required
- Pathways between lessons - what order can the workshops be done - which are prerequisites?

2. Per workshop: Lesson Guide

General

- Capacity?
- Can it be delivered remotely? Capacity if delivered remotely. Is there further requirement from video conferencing tools?
- All tools, components required, and their preparation.
- Resources (presentation material/slideshow if required, documentation & links to related communities).
- Differentiated learning guide. So for each topic:
 - Topics by importance - if high importance, is it core to full participation
 - The time required to present and discuss (mins)
- To do lists for (adjust as required):
 - **7-8 weeks before:** ordering material/components/kits/tools
 - **3+ weeks before:** advertising, marketing material
 - **1 week before:** tools required, unpack and look, tech check, getting familiar with software in advance
 - **At the event** - unboxing, presentation, other speakers?
 - **Following the event** - feedback from participants

Advertising information

- Cover Image
- Blurb (150 words) - social media extracts (240 characters, etc.)
- Link, ticketing service

T3.3/D3.4 Learning Framework

Record of event:

- where did it happen and when?

- who was involved?
- what methods were used?
- what were the planned learning outcomes?
- was the initial purpose achieved?
- what was the level of engagement?
- what was the feedback?
- what went well and what could be improved?
- recommendations for similar events organisers

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Glossary

CxC	Positive City Exchange project
DA	Demonstration Area
DP	Demonstration Project
DPEB	District Positive Energy Block
LHC	Lighthouse City
FC	Fellow City
KPI	Key Performance Indicator
RES	Renewable Energy Source
WP	Work Package
PT	Project Team
OC	Open Call

1. Introduction

To support the development of a Positive Energy District as part of the CityxChange project Task 4.5 will implement the “Innovation Playground” in the first DPEB and the surrounding Georgian Innovation District in Limerick and deliver the Limerick Innovation Lab Solutions Catalogue (D4.5).

This playground will enable municipal authorities, energy providers, businesses, citizens and communities to test and prototype innovative ideas to allow the transition towards DPEBs

The +CityxChange project team will use *open innovation* in an effort to help build new ideas and address the transition to positive energy districts and cities through innovation. Open innovation is defined as “a distributed innovation process based on purposely managed knowledge flows across organizational boundaries”.

This project plan details how the Open Innovation Call 2020 for innovative solutions will be delivered with the aim to:

- Generate new, citizen led innovative solutions for energy transition that will contribute to the creation of the “Solutions Catalogue”, a deliverable under Task 4.5 of the +CityxChange project.
- Enhance the citizen participation in the development of the positive energy district and lead through replication to a positive energy city.
- Influence citizen behaviour in the demonstrations area (The Georgian Neighbourhood) and identify the factors and solutions for transition to a positive energy behaviour
- Identify if new regulations, licences, etc. need to be updated or created

2. Scope

The Open Innovation Call 2020 will seek applications from interested groups for innovative citizen solutions for positive energy transition with funding between €500 and €5,000 per application. The proposed solutions will be implemented in a co-ordinated approach with the Council support in the +Limerick Innovation Playground. The impact of various solutions will be evaluated against project KPIs and will be reported in the Innovation Lab Solutions Catalogue.

2.1. Project Objectives

- Seek applications from interested groups for “Innovative Citizen Solutions for Positive Energy Transition and Limerick’s Georgian Laneways” by March 2020
- Co-ordinate the implementation of the proposed solutions in the demonstration area by September 2020
- Provide the necessary support from key stakeholders including various Council departments for implementation between June and September 2020
- Report on the impact and viability of the proposed solutions against the +CixtyxChange KPIs in the Solutions catalogue by October 2020

2.2. Deliverables

1. Published Open Innovation Call 2020.
2. List of proposed solutions and implementation plans for each solution.
3. Data generated by each solution published in the Citizen Observatory data platform.
4. Provide data into the Solutions Catalogue including an evaluation of each solution against project KPIs.
5. Impact analysis report for the proposed solutions on the demonstration area.

2.3. Quality

The quality of the project implementation is given by the following indicators:

1. % of solutions funded vs submitted for the demonstration area
2. # of people involved in the delivery of proposed solutions
3. # of positive energy champions included in the network
4. # of related community participation events
5. # of people participating in related community events
6. % of people in DA/Innovation Playground participating in related community events vs DA population
7. # of related media outreach
8. # of projects tested in the Innovation Playground
9. # of project reports produced in time
10. # of datasets published in the Citizen Observatory data platform
11. # of solutions documented in the Solutions Catalogue
12. # of successful solutions recommended for scaling up and replication

13. # of new practices recommended for regulatory change

2.4. Timescale

The project will run for 9 months, between 6th of January 2020 and 30th of September 2020.

Specific milestones are:

1. Project Planning	15/01/2020
2. Open Innovation Call	16/01/2020
3. Matchmaking Sessions	12/02/2020
4. Submission deadline	02/03/2020
5. Award	31/03/2020
6. Solutions Design Approval	18/06/2020
7. Solutions Review	15/07/2020
8. Solutions Implemented	30/08/2020
9. Evaluation and Documentation	20/09/2020

2.5. Assumptions

- D3.2 Citizen Participation Playbook completed (COL). COL will provide analysis of Open Call 1 processes following this implementation and will work with the T4.5 project team to provide localization of Open Call process described in 3.5 (based in D3.2) within the Limerick context. COL will be available to support the proposed solutions through mentoring.
- D3.3 Framework for Innovation Playgrounds completed (SE). SE will provide guidance and update the Innovation Playground Framework (D3.3) and localisation in the Limerick context.
- D3.5 Positive Energy Champions Network completed (UL).
- D3.6 Framework for Innovation Labs completed (SE).
- Limerick Bold City Vision in T4.1 will be created in parallel by LCCC. LCCC will provide guidance and advice for deployment in the city.
- UL Small batch fabrication lab operational to provide RES solutions. UL will lead prototyping activities for a community-led process
- MPOWER will support trial of energy related solutions.

2.6. Constraints

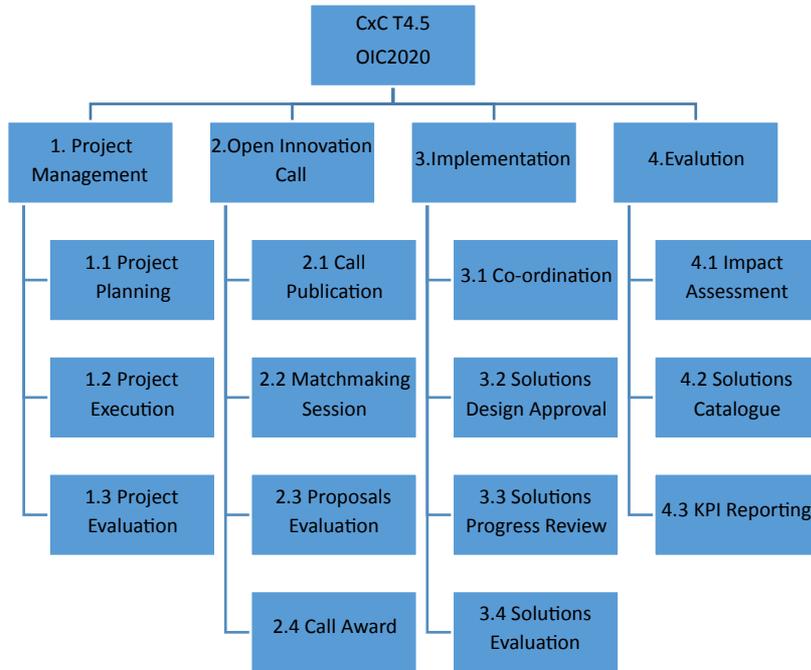
- Budget of €20,000 for the current open call
- Timeline is set. Deliverable D4.3 Limerick Innovation Lab Solutions Catalogue is due in October 2020 (M24)

2.7. Out of scope

- Innovation Lab, delivered as part of Task 4.5
- Small batch fabrication lab will be delivered as part of Task 4.5

3. Work Breakdown Structure

The work breakdown structure is proposed below:



4. Project Plan

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
ID	Name										
1	Project Management										
1.1	- Project Initiation	1									
1.2	- Project Execution										
1.3	- Project Evaluation									9	
2	Open Innovation Call										
2.1	- Call Publication	2									
2.2	- Matchmaking Session										
2.3	- Applications Evaluation										
2.4	- Call Award				5						
3	Implementation										
3.1	- Co-ordination										
3.2	- Solutions Design Approval				6						
3.3	- Solutions Progress Review							7			
3.4	- Solutions Evaluation									8	
4.	Evaluation										
4.1	- Call Impact Assessment										
4.2	- Solutions Catalogue									9	
4.3	- KPI Reporting										



8. Communications plan

8.1. Reports

Report name	Contents outlined	Distribution	Frequency
Project Status Report	Project Manager to provide project implementation report. What has happened since last report, operations status and cost analysis.	Project Team, T4.5 Task Lead	Monthly
Project Progress Report	Project Manager to provide project progress.	Project Owner, Project Sponsor, T4.5 Task Lead	Quarterly, Q1, Q2, Q3
Project Evaluation Report	Project Manager to provide project evaluation report.	Project Team, T4.5 Task Lead	After project completion

8.2. Meetings

Title	Scope	Attendance	Frequency
Kick-off meeting	Establish project team, determine and agree the scope of the project, identify issues and impacts	Project Team, Project Sponsors	Once, 11/01/2020
Project Status update	To analyse the implementation stage of the project and to discuss the issues encountered so far; to identify solutions for going forward	Project Team	Monthly 06/01/2020-30/09/2020
Project Closure meeting	To analyse and draw conclusions about the success of the project; to document lessons learned	Project Team	30/09/2020



9. Risk analysis

Risk identified	Probability	Impact	Probability vs Impact	Risk Mitigation
Staffing Risks				
COVID19	High	High	High	If COVID19 goes beyond design stage milestone implementation to be postponed accordingly. D4.3 Solutions Catalogue must be postponed.
Staff availability	Low	High	Medium	Agree schedule and staff allocation with project owner, project sponsor
Conflicting scheduling	High	High	High	Inform WP4 Project Manager and reduce priority and postpone other projects and activities. Adjust the existing project schedule.
Conflicting requirements	Low	High	Medium	Document what is and out of scope
Reputation Risks				
Convolutd process to access funding	Medium	High	High	Agree an easy process to access funding and at the same time to comply with regulations
Stakeholders Unavailability	High	Medium	High	Suggest alternative dates for steering group meetings. Secure support - management team.
Poor Relationship Management with stakeholders	Medium	High	Medium	PM to provide regular updates and double-checks with stakeholders.
Facilities Risks				
WiFi or LoRaWan not working for sensors data	Medium	High	High	Provide backup 4G Internet
Fabrication Lab not available	High	High	High	Inform WP Lead and Project Co-ordinator. Work with applicants to identify alternative sensors.

**Consultation:**

Open Call: Innovative Citizen Solutions for Positive Energy Transition and Limerick's Georgian laneways

Author:

Reference Number: #6

Author IP:

Status: Submitted

Date Created: 26.02.2020 - 4:40pm

Date Submitted: 02.03.2020 - 12:21pm

Section 1 : Individual / Group Applicant Details

If you are making an example on behalf of an organisation, what is the name of that organisation?

The Hunt Museum

Full Name (main applicant)

Contact Telephone Number

Address (main applicant)

E-mail address (main applicant)

Section 2 : Project Proposal & Connections to Themes

Project Title

Green Urban Museum I

Which of the following describes your proposal? (Select one or both of the following)

Urban Prototyping

Summary of your proposal

- Create with the community, a Green Urban Museum in a Limerick laneway with the interplay of an urban garden and objects inspired by Hunt Museum artefacts, 3D printed using recycled ink.
- Making the laneway an interesting place to visit and walk down adding to local pride and the attractiveness of Georgian Limerick as a tourist destination. .
- Use the principles of permaculture to design and deliver a resilient planting ecosystem to improve air quality, which will be measured at the start of the project and throughout, using PM2.5 and PM10 sensors as well as sensor clusters, designed by FabLab.

Details of your proposal

Vision

The Green Urban Museum proposes the creation of a wider network of public spaces in the heart of Georgian Limerick, including laneways, public squares and parks, that would be used as open public platforms allowing for community engagement, community interaction and exchange, community learning about history, art and culture, as well as re-connecting the community with nature. The Green Urban Museum, will transform a laneway using 3D printed Hunt Museum artefacts in a permaculture garden as the start of a trail that leads from the Hunt Museum to the Georgian heart of Limerick, connecting and inspiring people as they walk or cycle it.

Description

A community-driven squat team will transform a derelict Georgian laneway into a Green Urban Museum. Hunt Museum artefacts will use 3D printing of recycled materials in the creation of a place of play and curiosity; the design principles of permaculture will be deployed using planting that is sustainable in the locality and sensors will monitor the consequent change in air quality as the area becomes more of a CO2 sink than a net contributor. Technological solutions will focus on principles of permaculture, for example the use of solar power in the implementation of a sensor-activated irrigation system. Technological solutions will also focus on lighting and energy storage, using battery self-powered LED or projectors. Play will be encouraged through interaction with fun objects at child-height. Maximising Limerick's Georgian assets, by placing museum objects in the public realm, the project explores the potential of culture and cultural heritage as essential elements of urban development strategy. A programme of activities will be put in place including events, such as sowing and growing workshops for families. The Green Urban Museum will deliver a greener and more beautiful living environment for Limerick's current and future inhabitants.

The project will begin with the assessment of the following three laneways:

1. Daly's lane - It is centrally located, with low rise buildings that allow the presence of the sun at the laneway level. It is next to a Nursery school-presence of kids with potential for their involvement in educational workshops and family events.
2. Griffith Row is located between Cathrine str and Dominic str., in proximity with popular spaces such as the Canteen and Costelo's Tavern. This location would attract great footfall, thus expanding the reach of the project.
3. Theatre Lane - The main advantage is that it is already a passage (Glen Tavern and Freddy's bistro), that might help with the exposure of our prototype. However, there is still some space along the blind facades towards Mallow St. to potentially locate our main intervention. This also might help with preventing vandalism.

Our grassroots consortium will ensure the project's sustainability by maintaining the laneway into the future. This collaboration will promote the cross pollination of design, technology (3D scanning, 3D printing, use of monitoring sensors), and deep community engagement (community gardening and maintenance). Participants will share skills and learn new ones.

Precious artefacts protected behind museum glass can seem at a remove from visitors, and their fascinating stories can be obscured. By placing them in an urban laneway, these objects have the power to stop people in their tracks. Incorporating 3d printed artefacts in the very fabric of the vertical garden and encouraging tactile engagement, gives new meaning and enjoyment. To encourage long term cleanliness of the laneway, litter bins will be placed at the entrance and exit, with tops in the form of one of the museum objects.

Taking the Hunt Museum to the streets will deepen our engagement with the entire community and directly ties the most iconic Georgian building in Limerick to the CityXchange regeneration area through its collection.

The Green Urban Museum will be built by LIT students, community groups and Enable Ireland Volunteers who will be responsible for its upkeep and maintenance.

Please describe how your project fulfils the priorities and objectives of the +CityxChange programme

GUM responds to both of the prototype types requested in the call: urban design/tactical urbanism solutions which respond to common issues with the laneways turning the laneway from a no-go thoroughfare, with anti-social activities into a place of increased footfall and therefore natural surveillance and digital innovation solution at its heart with the use of 3D scanning and printing to place cultural objects back into the community, which contain the monitoring sensors, or can be used as recycling repositories.

The proposal meets the Energy-related innovation requirement as the greening up of the lane with permaculture planting will increase conversion of CO2 to oxygen and improve air quality and it will discourage motorised vehicles at the expense of increasing walking and cycling.

Additionally the materials used in the project are entirely eco-friendly by being either organic, repurposed, recycled or self powered. While not renewable energy sources in themselves, they are not using new earth resources. The project meets the requirement for sustainable energy management by not using energy other than manual labour in its creation and maintenance. Plants are a form of energy storage and solar bulbs will be placed in feasible objects to contribute to the ambient lighting of the area. Some investigation is needed into how to improve the overall lighting of the area in a sustainable way. Consideration will be given to creating communal composters to generate energy for lighting if the project becomes a longer term solution.

Air quality will be improved via the proliferation of plants in the urban garden, monitored by air quality sensors hidden in the replica objects. Volunteers from Enable Ireland and the residents with properties backing onto to the Lane will, when working on the laneway be given 5 minute updates from members of the CityXChange project to increase understanding in how their activities are directly contributing to Increased Community participation in the energy transition to positive energy status. And volunteers and eventually users of the laneway will be actively encouraged to change their own habits towards recycling and reuse. Thus the project will increase awareness of energy transition and promote societal transition to 'positive energy'. Innovative self-powered technological solutions will fuse with principles of permaculture, such as water harvesting and composting.

Pedestrian activity with a preference for closing off the lane to motorised traffic, except access for loading into businesses abutting the lane. Improved quality of the built environment will come from thriving plants and thoughtfully designed objects, enhancing the aesthetics and reinvigorating a semi-derelict space. The use of sustainable materials and the presence of plants is improving the microclimate and encourages biodiversity, that is currently lacking from the Urban Environment which lacks natural elements such as plants and trees.

We will encourage equity in shared use of public space by fostering a sense of ownership and civic pride. We will engage a broad spectrum of the community in the design and maintenance of the space. It will become a social hub for people maintaining the laneway and exchanging ideas for its upkeep and improvement. It will connect local residents and businesses to the wider needs of the city and request their contribution. No longer a place that is not walked after dark, usage will displace anti-social activity.

The proposal meets the design, maker and community elements with the services of:

██████████ - Architect-Engineer and Urban Design- Lecturer at the Built Environment of LIT, for the coordination of the overall urban design proposal, using both LIT students and community members.

██████████ of LIT-LSAD for the design and technical know-how to create 3D printed objects in FabLab, using both LIT students and the Limerick 3D Community Group of the Hunt Museum as the Makers.

Enable Ireland are contributing both their volunteer groups to transform and maintain the laneway as a Green Urban Museum and in the provision of permaculture planting.

Timeline / Milestone Dates for your project

- March 6th: Week of... Workshop to agree full plan and vision with all members of the consortium
- March - September - Bi-weekly project meetings

- March 20th: Museum objects chosen, Workflow Planned, MOU's in place.
- April 1rd: First landscape design completed
Sensor research completed
Marcomms plan in place
- April 15th: Objects for 3D printing chosen
Sensors and time lapse camera placed in laneways
3D printing of chosen objects commenced in FabLab
- April 29th: 2nd landscape design completed incorporating technology and printed objects
- May 1-7: Drawings showing the installation are hung in situ.
- May 7-June 30th: Team begins installation of garden
- July : Garden Museum Completed
- June 1st - September 11th - Schedule of community events to increase participation and buy in
- 18th September - Garden Launch on Culture Night

Challenges and Technical Limitations

Challenges and limitations:

- 1.The scale of the printed objects will be limited by budget due to material costs
- 2.Number of plants (or amount of the laneway that can be transformed) will be limited due to the cost of plants and equipment.
- 3.The timeframe of the project will not be long enough for the garden to mature and the vision of a lush space to be fully realised.
- 4.For Theatre Lane some lighting might be needed to help plant growth. Costs of this would depend on access to public lighting.

Risks and Mitigation:

- 1.Garden will be vandalised = This would be mitigated by natural surveillance from increased use and footfall and new possibly solar or compost powered lights as a deterrent to vandals and anti-social behaviour
- 2.Plants won't thrive - This would be mitigated by use of permaculture plants, meeting the specific environmental conditions of the laneway.
- 3.Theft of objects: great PR if they appear elsewhere in Limerick, housed on estates or elsewhere. The objects are renewable and can be reprinted and consideration could be given to internal trackers of any stolen objects to persuade the remover that having looked after the object, they might wish to send it back home.
- 4.Keeping the volunteer groups (gardeners, printers, makers) going. Mitigated by placing under the remit of the Outreach & Community Coordinator of the Hunt Museum.

Training/ Permissions

- Students and Volunteers will need to be trained in scanning, 3D printing, sensors, solar power and the implementation of a sensor-activated irrigation system.
- Community volunteers will need to be trained in permaculture and garden design.
- Permission will need to be granted from Limerick City and County Council for the execution of the project in the laneway

Monitoring and Evaluation

This proposal will be monitored;

- Sensor clusters to measure the impact of the plants on air quality
- Time Lapse video will monitor the movement of people through the space for one week prior to the

creation or the garden and for a week per month throughout the summer and will gauge most engaging aspects of the garden

- Footfall sensors will register any change in numbers of people passing through the laneway
- Surveys will be conducted to members of the public who participate in growing workshops throughout the summer, weekend vox pops will be carried out by volunteers to assess response of local business people, shoppers, tourists etc.
- Social media campaign through hootsuite will capture feedback from online community, through number of hits, retweets, etc across all platforms
- The feasibility of sensor activated irrigation systems will be measured by the rate of propagation of the garden and health of the plants
- Feasibility also determined by the level of commitment of the community volunteers, tasked with looking after the garden

Section 3 : Team formation and experience

Number of team members involved in this project

12

Team member names and areas of responsibility on the project.

██████████, Community Coordinator of the Hunt Museum to project manage, keep and maintain community motivation and interest.

██████████, Director of Hunt Museum to aid the Community Coordinator in project management

██████████ Marketing Coordinator of the Hunt Museum to promote the projects Positive Energy Innovation and Laneways improvement remit

•A small group of LIT students and Limerick 3D will lead the technical strand of the project under the supervision of

██████████, of Dell and founding member of MidWest Makers will provide technical support for the required sensors.

•Group will make use of the resources of Fablab and the expertise of ██████████

•Group will make use of 3D scans of Hunt Museum objects guided by ██████████ of the Hunt Museum and the Limerick 3D volunteer group.

████████████████████ will lead the coordination of the urban design proposal.

██████████ from Enable Ireland will acquire the plants and coordinate the gardening and making volunteers.

What experience does your group have of doing projects like this in the past? Please give examples

For the past year the Hunt Museum has worked with volunteers from Limerick 3D Group to create 3D scans of its objects and upload them to sharing sites on the web,, led by ██████████ Head of Education and Community. The Hunt Museum is also working with Limerick Inside Out in UL in the creation of a 3D printed chess set for the museum garden, working with 15 schools.

on the reuse of materials in 3D printing contributing to a wide range of projects. Currently Teaching Digital Design and fabrication at Limerick School of Art and Design (Limerick Institute of Technology).

Exploring all types of designing and making through his design firm is a competent designer in the fields of Architecture, Product, Furniture and Landscape design. He will create a student project to transfer the designs to 3D printed objects for GUM

has delivered multiple community projects with community groups and schools through her work in the Hunt Museum, King John's Castle and Bunratty Castle. She is currently delivering phase 4 of the Communities of Culture programme in the Hunt Museum

has considerable experience in the delivery of network and community projects at European and local levels. She will increase the project management and delivery capability of GUM.

has worked in social media engagement and marketing for a wide variety of projects in both Brazil and Limerick.

is a Business Automation Advisor in Dell. He is also an avid 'high-tech maker' and founding member of a local Tech Maker group, moderator of FB Group "Mid West Makers"

is an Architect-engineer (NTUA) and an Urban Designer (ETH), seeking challenges both in theory and in practice. She has been actively involved with the +cityxchange program during the summer of 2019, as part of the research team. Amongst other tasks, she has been responsible for the design of the 1/200 game model of the Limerick Georgian Block, 'Consumption Down, Collaboration Up!', currently hosted at Fablab Limerick. She has participated in different architectural and urban design projects, as well as in international workshops and competitions and has received several distinctions. Currently, she teaches at the Built Environment of LIT, and in parallel she is doing her PHD at the NTUA.

is the manager of Enable Ireland garden centre recently opened in Arthurs Quay. She has many years of gardening experience and in the coordination of volunteers through Enable Ireland. She will bring in the Community to do the work to transform the laneway into a GUM.

Please provide some detail of team planning and management roles

An AGILE methodology will be deployed using the RACI matrix. Responsible, Accountable, Consulted and Informed for clarity of decision making.

Community Coordinator from the Hunt Museum is responsible and will manage the project, aided by the Museum's Director, , who will be accountable for the delivery of the project.

will also be responsible for the engagement of community groups

as Marketing Coordinator for the Hunt Museum will be responsible for the analysis of data from the sensors and use of the data in promoting GUM and relaying its Positive Energy Innovation and Laneways improvement remit

will designate a subgroup of Limerick 3D to engage in the 3D printing in the project

will be responsible for the technical work package - coordinating a small group of LIT students and some Limerick 3D group members and delivering all aspects of 3D printing, sensor technology, and irrigation solutions, in consultation with

will act as an external technical advisor and assist in the facilitation of training tech students and ensure the correct application and servicing of sensors to monitor traffic and air quality changes.

will be responsible for the general urban design scheme:

incorporating the 3D printed objects into the urban gardens.

will be responsible for sourcing plants and coordinating Enable Ireland Volunteers

•CityXchange will be consulted and informed throughout the project

Section 4 : Budget

List of Expenditure

Recycled printer filament 1650

Signage 200

Garden equipment (repurposing/ gardening) 350

Garden materials (soil, pots, plants, irrigation materials, trellises etc.) 1650

Materials for workshops 150

Technology (lighting, sensors, cameras, printer nozzle) 1000

€5000

In Kind Income, Donations, Sponsorship, Other Funding

In Kind Donation from Fablab (use of printer and computers)

In Kind Support from Hunt Museum (coordination, project management and marketing support, 3D photogrammetry and scans)

Volunteers from Enable Ireland

LIT students

Design

A: Total Expenditure (€) 5000

B: Total Income (€) Contribution through in-kind support and staff/volunteer time

C: Total Requested for this Proposal (€) 5000

A: Total Expenditure (€)

5000

B: Total Income (€)

0

C: Total Requested for this Proposal (€)

5000

Please upload any supporting budget documents here

Section 5 : Media, impact and publicity

How many will be involved in your project in total?

30+

What is the estimated audience for your project? (by number, reach)

Approx 25,000 General Public, Tourist traffic to Limerick, Education Programme participants, City Engage Series, Culture Night

Please outline how you will communicate the outcomes of your project - how you will reach this audience?

A detailed marketing plan will be devised at the outset of the project by the marketing team at the Hunt Museum. The plan will incorporate a timeline for execution of a digital media campaign across all social media platforms. All participating groups will promote the project.

Section 6 : Declaration

I have read the open call description document, and application requirements.

Yes

I confirm that the details provided in this application are accurate, and should the application be eligible for funding, will produce the project as outlined in the submission above.

Yes

I understand that images and descriptions of this project may be used on social media and promotionally as part of the +CityxChange project

Yes

The Assessment Panel, at their discretion, may suggest / re-direct any applications to another appropriate Limerick City and County Council award for recommendation, should it be deemed beneficial to the applicant to so do

Yes



Comhairle Cathrach
& Contae **Luimnigh**

Limerick City
& County Council

Consultation:

Open Call: Innovative Citizen Solutions for Positive Energy Transition and Limerick's Georgian laneways

Author:

Reference Number: #8

Author IP:

Status: Submitted

Date Created: 27.02.2020 - 8:42pm

Date Submitted: 02.03.2020 - 5:10pm

Section 1 : Individual / Group Applicant Details

If you are making an example on behalf of an organisation, what is the name of that organisation?

Deepseek AI

Full Name (main applicant)

Contact Telephone Number

Address (main applicant)

E-mail address (main applicant)

Section 2 : Project Proposal & Connections to Themes

Project Title

Streetseek – An unobtrusive pedestrian behaviour analysis tool to help better understand how people use our city.

Which of the following describes your proposal? (Select one or both of the following)

- Urban Prototyping
- Citizen Sensing

Summary of your proposal

We need a way to measure the pulse of Limerick city. This new understanding of our city will provide key insights to a number of stakeholders including city planners, businesses and positive change for the people who use it. Crucially it will also allow businesses to react in real-time to their energy needs, removing wasted use of electricity and moving us towards an energy positive city.

Limerick has been newly christened the Atlantic Edge and we believe that it is crucial that we link one edge of our city to another, the Georgian Laneways are essentially the arteries that allow people to flow throughout the city.

Our proposal involves the installation of an unobtrusive camera system, backed up by cutting edge automated vision analysis technology that will allow us to sense the heartbeat of the city every second of every day.

Details of your proposal

This project is a collaborative effort between the start-up Deepseek AI and the University of Limerick Electronic Computer Engineering department.

Rationale & Vision

The grand vision of this proposal is to use state of the art technology to develop a system call Streetseek. This system will allow us to understand our city in more detail than ever before. We believe that the lifeblood of a city is its inhabitants and beneficiaries. All planning and decision making for our city be it energy or any other must be based on the current and historical interactions of people in the city. Having this knowledge crucially allows us to plan ahead and drive the change we wish to see in a targeted and positive way.

It is very important to define one way in which this type of system can help drive constructive development in Limerick city. The pilot system will focus on driving good energy habits for business along laneways. There is a relationship between consumer footfall and the energy needs of a premises. Streetseek will capture footfall on the street each day and build up a profile for each street. It will generate answers to the following types of questions (and many more).

- How many people use the street per day?
- What hours are busy on particular days?
- How much footfall do we expect on special days? e.g. Public holidays.

Providing these insights to businesses in the area allows for reactive smart energy decisions in response to predicted pedestrian footfall. This not only saves the individual businesses money but also on an aggregated level, hugely reduces the needless waste of energy within the city.

Businesses can be based on this information do the following; (either manually or through an integrated automated system)

- Open certain sections at different times of day (restaurant/café)
- Only turn on the required number of stoves, ovens, hobs.
- Turn on/off or dim/brighten lights based on demand.
- During downtime turn off the range or fryer and preheat when a pickup is predicted.
- Premises may have incandescent lights that are left on outside of business hours, these could again be turned on only when the demand is necessary.

In general, many premises waste hundreds of euros a month because they leave idle equipment running.

Aims & Objectives

The objectives of this project are multi-faceted, as the potential outcomes from gathering this data extended beyond the domain of energy alone.

In terms of energy, this type of analysis is extremely useful for balancing and optimizing energy on a local area level. Take for example the simple case of a shared energy scenario for an office and a café. If a trend is noted that pedestrian traffic picks up at 12:30 pm it could be assumed that the office is emptying out reducing their need for electricity and increasing the demand for the café. Having this type of real-time analysis would be crucial for local energy trading purposes.

Another positive outcome from Streetseek would be to identify which laneways need the most attention in order to thrive. A data-driven approach would allow the stakeholder to see if measures are leading to a positive change in the use of laneways e.g. the addition of murals, increased street lighting, etc.

Description

At a high-level Streetseek works as follows;

1. Thermal cameras are deployed on a number of laneways to capture video data for analysis.
2. This video is sent to a processing engine that uses Artificial Intelligence to extract insights.
3. These insights are converted into numerical values and stored for historical records.
4. From these historical records, reports are generated for various stakeholders.
5. When enough data has been collected, predictions can be made on pedestrian footfall.

1. Thermal Camera Deployment

Our rationale behind the use of thermal cameras is to maintain the privacy of the individuals that are captured on video.

2. AI Processing Engine

The video is sent to the cloud over a 4g network. Once it reaches the server various algorithms can be run against the video data to extract the required insights. e.g. the number of people in the image, time of capture, etc.

3. Historical Record

The insights generated by the AI engine are then stored in a database for future reference and to be used in predictions.

4. Report Generation

Various stakeholders (businesses and city planners) are issues reports periodically in order to drive decision making.

5. Footfall prediction

The data gathered is used to generate predictions for the future.

Please describe how your project fulfils the priorities and objectives of the +CityxChange programme

Energy-related Innovation:

This project touches on many of the energy themes outlined in the EU +CityxChange Programme (Positive City Exchange), namely:

- Balance and optimize energy
- Communicate and trade between peers
- Co-creating positive energy districts
- Co-creating energy-positive cities

The project focuses on 'Sustainable energy management', helping businesses and city planners to transform Limerick city into both a smart and positive energy district. Central to this is the sharing of information regarding pedestrian footfall in the interest of ensuring that the city's energy needs mirror the activity of people.

The people in Limerick city are the energy of the city. The energy needs should be scaled to meet the demand of the community. This system puts the Limerick city community at the heart of the city's transition to 'positive energy status'

The project also centers its attention on the often forgotten gems of Limerick city, the Georgian Laneways. Through the provision of insights, we hope that this technology could be used to identify inequities across the Georgian Laneways and also assess the success of measures to encourage equity should this be more lighting, laneway events, paintings, etc.

Timeline / Milestone Dates for your project

Each Streetseek module communicates with the Deepseek AI standing cloud backend infrastructure. The modular nature of the system (i.e. each module being completely independent of each other) means that it can be rolled out in stages.

March 6th 2020 - May 20th 2020:

Development of the system

May 25th 2020:

The first stage of this project will include the installation of a Streetseek module on Little Catherine's Street. The processed data will be examined and validated to ensure the module is communicating

correctly, the data is being processed correctly and that there are no issues with the system.

June 2nd 2020:

The system will then be rolled out in a further three laneways. Little William's Street, Chapel Street, and Foxes Bow.

2nd of every month thereafter:

A report will be generated and results will be disclosed to relevant stakeholders.

Challenges and Technical Limitations

The main challenge in this project will be the installation of the Streetseek camera modules.

There will be a requirement to power these modules in the field.

It is assumed that power can be drawn from existing infrastructure on the laneways such as lamp poles.

The network which will send the video back to the cloud for processing will also be a challenge.

It is envisaged that this will be achieved using a gsm 4g connection.

Another challenge will be getting permission to install the cameras for the given task of classifying the movement of people through our laneways. This drives the decision to use thermal cameras rather than visual light cameras so individuals in the video feed cannot be identified.

Once the task of installation has been satisfied all other development can be carried out remotely.

If any of the modules were to stop transmitting data they would need on-site repairs in order to restart the system.

Monitoring and Evaluation

The Streetseek platform generates measurable insights in real-time. The monitoring and evaluation process is a continuous process whereby reports can be used to evaluate progress.

The impact of the project can be measured through the engagement of stakeholders with the information generated.

Section 3 : Team formation and experience

Number of team members involved in this project

4

Team member names and areas of responsibility on the project.

Designers:

Project Manager - (Senior Lecturer University of Limerick)

Technical Lead - (Senior Lecturer University of Limerick)

Makers:

Camera Module and processing - (B.Eng. Electronic and Computer Engineering, Ph.D. Student in Data Science and Machine Learning)

Database Management and Reporting - (B.Eng. Electronic and Computer Engineering, Ph.D. Student in Computer Vision)

What experience does your group have of doing projects like this in the past? Please give examples

A Machine Learning-based Traffic Network Analysis Tool:

The aim of the project was to build a traffic network analysis tool that could be used to help in the planning and development process of small scale road networks. This system was piloted in 2 locations in the Castletroy area successfully. The project won the All Ireland Council for Undergrad Research competition and the best application of AI in a student project at the AI Awards Ireland.

Machine Learning-Based Image Classification to Aid Water Rescue Efforts:

The aim of this project was to develop an object detection algorithm capable of locating humans at the surface of the water using aerial UAV based thermal camera imagery. The project was motivated by the witnessing of a suicide attempt in Limerick city in early 2018. Engineering Ireland Finalist and IBYE Best Business Idea 2019.

An unobtrusive crowd flow analysis tool:

Used machine vision technology to generate a heatmap by modeling the activity of people between different multiple different camera nodes. Demonstrated as a proof of concept system in the AIB Undergrad Competition.

Please provide some detail of team planning and management roles

Management team: and (University of Limerick)

Development Team: and

Section 4 : Budget**List of Expenditure**

Streetseek unit cost:

Camera: €216.01

Enclosure unit: €31.51

Raspberry Pi: €40.46

4G Hat: €35.50

Unit Build Total: €323.53

Unit installation cost (estimate): €200

Total Unit Cost: €523.53

Cost for 4 modules including install: €2094.12

In Kind Income, Donations, Sponsorship, Other Funding

25% of the total cost will be sponsored by Deepseek AI (€523.53).

Development skills will be provided in the house free of charge.

A: Total Expenditure (€)

2094.12

B: Total Income (€)

523.53

C: Total Requested for this Proposal (€)

1570.59

Please upload any supporting budget documents here

Section 5 : Media, impact and publicity

How many will be involved in your project in total?

4

What is the estimated audience for your project? (by number, reach)

50-100

Please outline how you will communicate the outcomes of your project - how you will reach this audience?

Project outcomes will be presented to stakeholders.

Also, an article can be published in local/national newspapers to outline findings/usage of the city over the summer months.

Section 6 : Declaration

I have read the open call description document, and application requirements.

Yes

I confirm that the details provided in this application are accurate, and should the application be eligible for funding, will produce the project as outlined in the submission above.

Yes

I understand that images and descriptions of this project may be used on social media and promotionally as part of the +CityxChange project

Yes

The Assessment Panel, at their discretion, may suggest / re-direct any applications to another appropriate Limerick City and County Council award for recommendation, should it be deemed beneficial to the applicant to so do

Yes

**Consultation:**

Open Call: Innovative Citizen Solutions for Positive Energy Transition and Limerick's Georgian laneways

Author:

Reference Number: #9

Author IP:

Status: Submitted

Date Created: 01.03.2020 - 3:18pm

Date Submitted: 02.03.2020 - 5:05pm

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Section 1 : Individual / Group Applicant Details

If you are making an example on behalf of an organisation, what is the name of that organisation?

Limerick Mental Health Association Limited

Full Name (main applicant)

Contact Telephone Number

Address (main applicant)

E-mail address (main applicant)

Section 2 : Project Proposal & Connections to Themes

Project Title

Green Urban Museum II - complementing Green Urban Museum I

Which of the following describes your proposal? (Select one or both of the following)

- Urban Prototyping
- Citizen Sensing

Summary of your proposal

Green Urban Museum II. Using images from the Hunt Museum Collection and the Limerick City Museum, Makers from LMHA Women's and Community Groups will hold workshops with a professional designer to create recycled metal repousse trellises to hang in Jesuit Lane. These trellises will be interwoven with CO2 soaking plants. The lane will be maintained by the community which should reduce anti social behaviour at the same time as encouraging locals and tourists alike to use the lane.

Details of your proposal

Design the Green Urban Museum II.

The aim is to create a simple and beautiful living garden on the walls of a Georgian laneway in the city centre.

The laneway we have selected is Jesuit Lane off Hartstonge Street Limerick. We will install a metal repousse decorated trellis to the walls of the laneway and fill the trellis with CO2 soaking plants.

We will decorate the trellis with panels of recycled metal (coke, beer cans etc) that have had images of Hunt or Limerick City Museum artefacts stamped into them using the technique of repousse. We will bring the history of Limerick and the Hunt Collection into the city centre in an innovative way

We will aim to reduce the CO2 of the city by filling the trellises with CO2 soaking plants which bloom at different times during the duration of the project. Co2 soaking plants can soak up to 25% of CO2 emissions in an urban environment.

Another part of the project will be the collaboration between business, culture and community groups. The project lead will be Limerick Mental Health Association Le Cheile Mens Shed working with Friends of the Hunt Museum and GBM Limerick. We will work with a designer to monitor the effectiveness of the CO2 soaking plants. The Le Cheile Mens Shed will maintain the plants and trellis over the project.

The flat nature of the trellises make them very suitable for attachment to walls along the laneway. The use of plants that have high CO2 consumption will improve the environment and overall air quality of the lane, which remains a motorised lane. Plants will need to be accommodated in earth or be similar to those used for rooftop gardens.

Sensors developed in the CityXchange project will be used to monitor air quality will be incorporated into the trellises and the results monitored for environmental impact over the course 2020.

Please describe how your project fulfils the priorities and objectives of the +CityxChange programme

This collaborative project brings community, culture and design together in a people focussed project. This project will build a people focussed network of both by makers (primarily [REDACTED], Silversmith and The Hunt Museum), Designers (GBM) and maker groups/Community Groups (La Chéile Men's Shed and LMHA Women's groups). The proposed project will address ways to encourage equity in the use of public space by creating positive public association with Georgian Laneways. It will respond to the common problem with the Georgian Laneways that they are underused and the negative association of laneways with anti-social behaviour. The trellis repousse project on a basic level will stimulate positive social activity within the laneways themselves. The combination of materials used in the wooden trellis, metal repousse panels and the green planting will create living corridors that will draw people into the laneways, encouraging pedestrians to use the laneways as shortcuts through the city. Secondly, the trellis walls of plants encourage the absorption of Co2 from the cityscape, the effectiveness of which will be measured through, pre-project and during project monitoring of Co2 levels. Therefore the project will prioritise encouraging the public use by incorporating items of cultural interest and enjoyment of the laneways with the objective of also improving air quality.

Timeline / Milestone Dates for your project

Start of trellis design and manufacture April 2020.

Repousse of metal designs for trellis April 2020.

Installation of trellis on laneway May 2020, in time for Riverfest and the first CityEngage week.

Installation of CO2 plants in laneway May 2020.

Monitoring of CO2 emissions in laneway June, July, August 2020.

Culture night and City Engage Week 2 in September 2020 will see a community gathering in the Lane.

Challenges and Technical Limitations

Challenge is to find a designer/maker who can support the monitoring of the co2 emissions and to report on reduction (if any). A further challenge will be to ensure regular hydration of the plants in the trellis.

Monitoring and Evaluation

Le Cheile Mens Shed will evaluate the growth of the plants and ensure they are supported, hydrated and trimmed.

Evaluation of the co2 emissions will be monitored regularly.

Section 3 : Team formation and experience

Number of team members involved in this project

18

Team member names and areas of responsibility on the project.

, Manager LMHA, Team Lead and project worker with Le Cheile Mens Shed (7 people). Le Cheile Womens group (7 people) to make the metal repousse panels for the trellises, to be made by the Men's Shed. [REDACTED] Silversmith and Volunteer with Hunt Museum and Friends of the Hunt Museum responsibility for lead of images on metal repousse. GBM Limerick support of installation in the laneway and monitoring of the project. LMHA Mens shed will also support the longer term maintenance of the planting.

What experience does your group have of doing projects like this in the past? Please give examples

Le Cheile Mens Shed work on a garden project every week and create woodwork projects for the garden. [REDACTED] is a silversmith and volunteers regularly as part of the Friends of the Hunt Museum. For this she regularly supports community groups to learn copper repousse. GBM Limerick are supporters of Open House Limerick and are committed to supporting local groups in the promotion of the architecture and history of Limerick. We will encourage social media users to upload and tag any visits to the laneway and to give feedback on their experience.

Please provide some detail of team planning and management roles

Team will begin planning mid-March with design to start creating the trellis in April 2020. This will be lead by Le Cheile mens shed. Entire team will review trellis and identify best design. [REDACTED] of Hunt Museum will identify items for metal embossing during April 2020 and will start the process of working with teams in the creation of same. All teams will come together in early May 2020 to bring together the trellis and copper and finalise design. Before installation, CO2 emissions in and near the lane will be gathered. Planting and installation will start early May 2020. Regular monitoring will continue throughout the project to measure the impact of the plants.

Section 4 : Budget

List of Expenditure

Purchase of wood and implements for trellis. Includes equipment for installation of trellis in laneway - €1,000
 Recycled metal sheets €1500
 Purchase of plants - €600.00
 Installation of CO2 monitoring equipment- €1,000.00
 Community event for installation and during culture night.....teas/coffees/soft drinks - €500

In Kind Income, Donations, Sponsorship, Other Funding

GBM will create signs telling the story of the pieces in the laneway

A: Total Expenditure (€)

€4,600

B: Total Income (€)

€0

C: Total Requested for this Proposal (€)

€4,600

Please upload any supporting budget documents here**Section 5 : Media, impact and publicity****How many will be involved in your project in total?**

Up to 20 team members

What is the estimated audience for your project? (by number, reach)

Limerick city centre residents and visitors.

Please outline how you will communicate the outcomes of your project - how you will reach this audience?

We will communicate through all project organisations social media, newsletters and inviting local media to view and report.

Section 6 : Declaration**I have read the open call description document, and application requirements.**

Yes

I confirm that the details provided in this application are accurate, and should the application be eligible for funding, will produce the project as outlined in the submission above.

Yes

I understand that images and descriptions of this project may be used on social media and promotionally as part of the +CityxChange project

Yes

The Assessment Panel, at their discretion, may suggest / re-direct any applications to another appropriate Limerick City and County Council award for recommendation, should it be deemed beneficial to the applicant to so do

Yes



Comhairle Cathrach
& Contae Luimnigh

Limerick City
& County Council

Consultation:

Open Call: Innovative Citizen Solutions for Positive Energy Transition and Limerick's Georgian laneways

Author: [REDACTED]

Reference Number: #11

Status: Draft

Date Created: 02.03.2020 - 5:27pm

Section 1 : Individual / Group Applicant Details

If you are making an example on behalf of an organisation, what is the name of that organisation?

University of Limerick - Limerick Inside Out Programme

Full Name (main applicant)

[REDACTED]

Contact Telephone Number

[REDACTED]

Address (main applicant)

University of Limerick

E-mail address (main applicant)

[REDACTED]

Section 2 : Project Proposal & Connections to Themes

Project Title

GRIN: Healthy Safe Lane ways

Which of the following describes your proposal? (Select one or both of the following)

- Urban Prototyping
- Citizen Sensing

Summary of your proposal

An outdoor learning lab that disrupts the top down urban design paradigm.

Democratizing shared spaces by utilizing digital technologies for learning of all ages to explore creative and novel solutions for sustainable co-owned designs.

Healthy positive changes that build smart community engagement, resulting in commitment to a small scale positive energy lane way that inspires the next generation of Limerick citizens.

Details of your proposal

The intention of this proposal is to harness the power of education and community (business and social) in planting a living lane way to co-create healthy safe urban design for all ages in Daly's Lane. Working together to address local needs that are both of a practical (disabled access for pre-school children), and environmental nature (air quality), will prototype the building of a greener community that is stronger, healthier and safer through collective innovation and action.

Democratizing the use of emerging technologies in our shared spaces to inspire and enhance local learning about the production of sustainable energy in small scale design. By combining changes that are immediately visible to initiate discussions with the community partners for long-term initiatives, this proposal hopes to stimulate a shared ownership of the lane way that builds commitment and inspires others to emulate.

The initiative involves multiple members of the Limerick community, including those living or working in the direct vicinity, to come together and develop a 3 phased approach. 1. The first phase will seek to create a green innovation learning wall which both explores the potential for improving the air quality while also inspiring children in line with the Healthy Ireland Framework.

2. The second phase will seek to consolidate the community engagement in the outdoor learning lab, and complete a needs assessment that will enable identification of opportunities to build shared ownership in future developments.

3. Lastly, the intention is to leverage this positive engagement to develop small scale sustainable energy prototypes that blend science and art, to accelerate positive energy adoption in the Georgian neighborhood.

This proposal is underpinned by a commitment to UNESCO Social Development Goals and bottom up approaches, transforming communities from just consumers of information to creators of their own futures.

Please describe how your project fulfils the priorities and objectives of the +CityxChange programme

Explores the use of the digital technologies in urban spaces to promote positive energy adoption - making technology accessible and interesting for everyone!

Develops a dynamic testbed for data collection in a live environment used by a cross section of service users, that also provides training and skills development for a wide range of students and community. Empowering local community to have a voice in influencing top-down approaches to urban development.

Improving air quality by lowering of emissions through green initiatives.

Timeline / Milestone Dates for your project

30 March: high level plan and stakeholder identification completed

6 April: GRIN Lane way consortium identified and charter developed

29 April: co-design and set up for implementation of prototypes for phase 1

1 July: needs assessment completed with community partners

14 September: evaluation report 1st draft

Challenges and Technical Limitations

The following challenges have been identified:

Current time frames may not allow for appropriate evaluation

Buy-in by local community and business groups is difficult to predict

A co-creation approach, as proposed, involves compromise and this may affect the project deliverables

Monitoring and Evaluation

The project will begin with a current state assessment which records the existing air quality and general condition of the lane way.

Data points will be identified and regularly recorded throughout the duration of the project.

A local area survey will be conducted to ascertain community views of any changes made.

A final report will be compiled outlining the approach and findings from the initiative.

Section 3 : Team formation and experience

Number of team members involved in this project

10 plus

Team member names and areas of responsibility on the project.

██████████: Team Lead

██████████: Senior Coordinator

UL Limerick Inside Out students (x9)

██████████: LIO Peer Mentor

Local independent business owners (TBC)

Local nursery (TBC)

Interested local residents (TBC)
Education technology specialists (TBC)

What experience does your group have of doing projects like this in the past? Please give examples

Team lead is an experienced government transformation manager for large and small scale projects involving new technologies. UL has offered the international practicum module for students since 2015 and works with over 20 community partners on a range of their self-identified needs - further references available on request.

Please provide some detail of team planning and management roles

This initiative will be undertaken using Agile methodologies and will require confirmed identification of the team (please see above) if successful.

Section 4 : Budget

List of Expenditure

A detail budget will follow on request.

In Kind Income, Donations, Sponsorship, Other Funding

Details of donations and sponsorship are yet to be identified.

A: Total Expenditure (€)

TBC

B: Total Income (€)

TBC

C: Total Requested for this Proposal (€)

Early estimate is 2500 Euros

Please upload any supporting budget documents here

Section 5 : Media, impact and publicity

How many will be involved in your project in total?

What is the estimated audience for your project? (by number, reach)

Please outline how you will communicate the outcomes of your project - how you will reach this audience?

Section 6 : Declaration

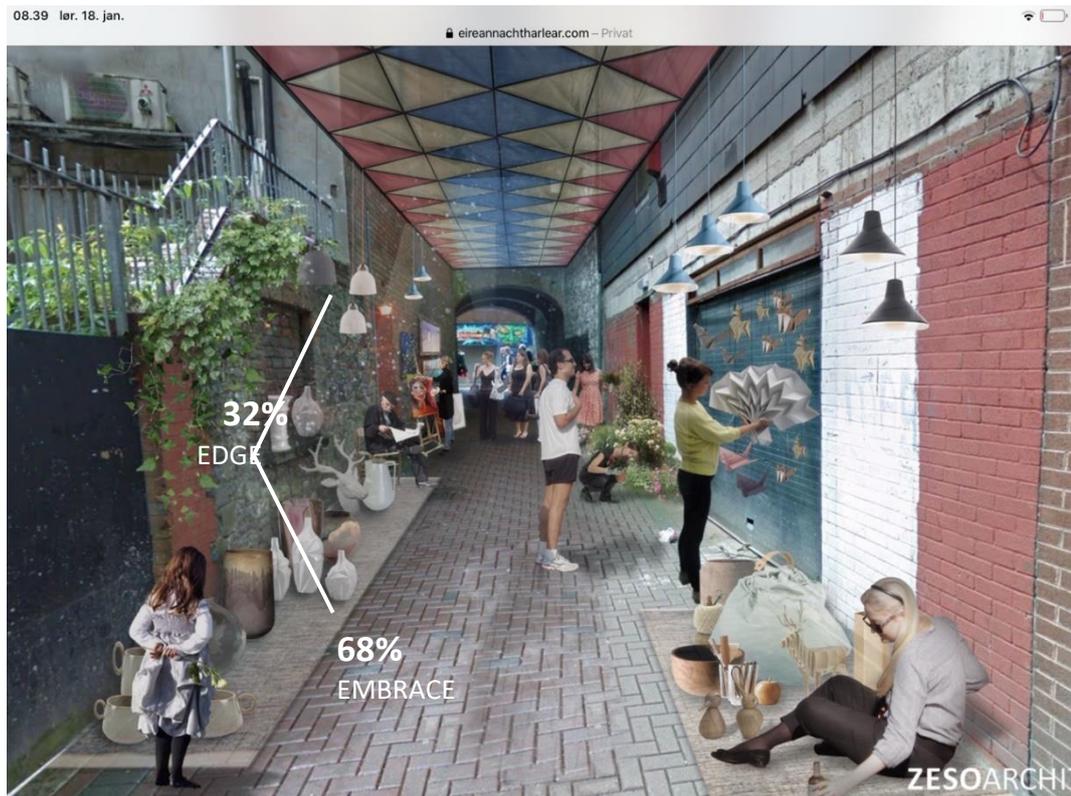
I have read the open call description document, and application requirements.

I confirm that the details provided in this application are accurate, and should the application be eligible for funding, will produce the project as outlined in the submission above.

I understand that images and descriptions of this project may be used on social media and promotionally as part of the +CityxChange project

The Assessment Panel, at their discretion, may suggest / re-direct any applications to another appropriate Limerick City and County Council award for recommendation, should it be deemed beneficial to the applicant to so do

**Application to
+CityxChange (Positive City Exchange)
for
Funding for a European (Lane)Way
with a global first for Limerick
“Wall of Belonging”**



March 2, 2020

#LiveableLimerick



and lots more supporters (see Annex A)

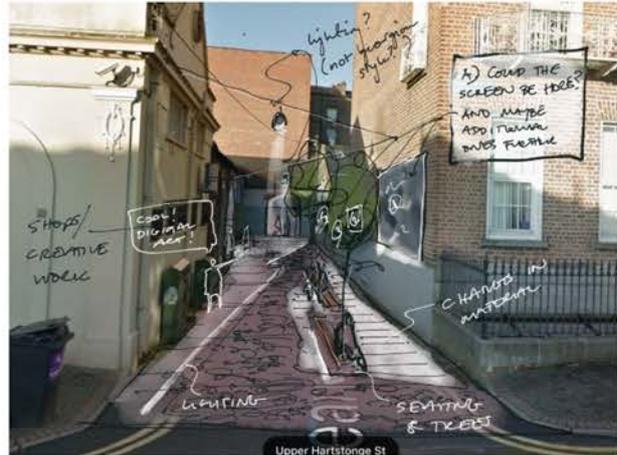
Proposal for Limerick's European (Lane)Way With the Wall of Belonging at its core

This proposal reflects the collaborative thoughts of community activists (#LiveableLimerick), the EuropeanExpo team, design architects ([REDACTED]), Limerick's Civic Trust, the Peoples Museum of Limerick, owners of properties on the laneway and others who live or operate businesses on the block and want to see this underused and unsightly public realm transformed in the way described.

To understand the part of the proposal which is the subject of the request for funding for 2020, it is important to understand where we see the ultimate destination in a couple of years.

We then think about Phase 1 to be completed in 2020 as the installation of interactive pieces of art on the walls of the laneway as an important first step to beginning the transformation of this forgotten part of Newtown Pery while also creating a lasting legacy from the EuropeanExpo 2020.

We would respectfully recommend our proposal to you for funding of 5,000 euros, an amount which would not cover the entire cost but would greatly help us catalyse involvement and funding from other stakeholders and backers and make significant step towards achieving the final larger scale project



The Future

We see the installations in 2020 as an important beginning to transform how people view and use Limerick's laneways in Newtown Pery.

Some focus has already been given to cultural installations in archways/laneways closer to the retail centre of Limerick.

This project allows a largely forgotten laneway in the more residential/commercial office to begin to become a much more interesting place and to also make the laneways a more important thoroughfare for those living there or on either side of the block.

Already you have important tourist attractions nearby in the People's Park, No 2 Pery Square, the City Gallery and the Georgian Crescent. This more inviting laneway will help to connect them all together while yet adding to the appeal of this part of town.

The project opens up the possibility for some of the buildings in the block to use the laneway for new community or retail offerings or quality residential mews dwellings once the quality and safety of the laneway is improved.

The installation of the Art Pieces in 2020 and others in the future such as ones reflecting Limerick's tradition painted in luminous paint on the other walls would add additional reason for locals and tourists to pass by and visit this interesting laneway while yet sending an important message about Limerick's welcome or embrace.



This allows us to create a special atmospheric Georgian passageway with so many of the original coach house archways still in place especially those at the back of Pery Square and the rear of historic Leamy House. The network of laneways in this block as with others could quickly become a much safer pedestrian passageway through the Georgian blocks and a place for meeting neighbours and new friends.



With low speed restrictions it could become a very safe pedestrian walkway and cyclepath – especially with the addition of a ramp at the steps leading to Hartstonge Street.

This would lead up to the continuing laneway running from Hartstonge Street to Mallow Street (and beyond).

There is however a single wall creating a barrier to the use of the next block. We would like to see in the future the

removal of that wall shown in the photos here. That could be done easily as it was a later addition and removal would not compromise buildings on either side. This would then create 3 blocks of a safe passageway through the city.



We believe that there is also a strong case for historic resurfacing of the existing passageway especially reinstating the cobblestones which have over time become covered in part by tarmacadam and reinstatement of historic lighting and greenery.

There is even the possibility that public seating could be installed along the laneway potentially giving a garden/terrace space for a new café in the museum building which could then have a welcoming new entrance in its coach house.

This should add to the liveability and permeability of the core city centre allowing and encouraging even more people to live in the centre and removing further car traffic from the city streets.

It should also open up new potential uses for the largely unused rears of the buildings. It should also allow us to rethink the location of shared services like waste disposal/bicycle parking etc. on the laneway.

The entire project could be even further pushed forward by a revisiting of the uses of the public realm streets at Pery Square and other streets around the block and nearby as has been discussed in other proposals and fora.

If the installation of the Wall of Belonging is successful in 2020, we would envisage it becoming a permanent installation on this laneway allowing for consideration of a request to the Council for a renaming of the laneway as European Way and a permanent reminder of the European Expo 2020 and a permanent reminder for us all of the need to make sure all inhabitants of our region feel like they belong here.

The discussions around this project have already started as a catalyst to get the disparate owners and residents/offices on the block to come together and consider thinking jointly about the evolution of their block and their community. This has now opened a more holistic discussion about what the potential of the laneways and fronting the laneways could be to make the entire block more attractive. A selection of the people who have been considering such things and are supportive of this first stage project are attached in the Annex hereto.

Making the laneway more special and safe could open up a welcome discussion about how the buildings on the laneways could be repurposed and become themselves retail facilities (perhaps creches, or other services for the local community). We believe that this new approach could serve as a model for community action within Newtown Pery. The Wall of Belonging should be the catalyst to a lot more in opening up all of this future.



Imagine the legacy if in a couple of years, we are looking at this:-



Phase 1 (2020 Project)

We want to do four things in 2020 to kick start the greater project and have immediate impact.



(a) Installation in conjunction with LCCC of a new rampway providing bike/child pushchair etc access to people travelling East-West from Barrington Street to Hartstonge Street to encourage greater use of the laneway as a safe passageway.

(b) Repainting by the People’s Museum of Limerick of the doorway to their Mews in the EU blue with stars reflecting the E flag on the upper part of the doorway and perhaps providing an arrow pointing in the direction of the “Wall of Belonging” installation. This should provide a strong visual curiosity to people travelling along Hartstonge Street who look down the laneway. Support from the People’s Museum for this has been obtained.



(c) Addition of a “Wings of Europe” mural permitting another Insta moment for global outreach but which will be designed to emphasise the European Nature of Limerick. Permission has been obtained from the owner of the building at the back of No 8 The Crescent for this to be installed on that building for 2020 while studies of movements identify is there are not better wall locations – perhaps those in the drawing above.

(d) Installation of a Wall of Belonging, a seat opposite and some planting. This will be the key ingredient for 2020 of the project. This will be affixed to the wall and railing in the North-South axis surrounding the office block fronting onto Barrington Street. Permission has been received from the owner of that building for the installation.



Wall of Belonging

Modelled on the Wall of Love in Paris (See Annex B), we envisage a large installation which will permit photos to be taken in front of it.



Whereas the wall in Paris has the expression “I Love You” in the different languages, we envisage a wall saying “I belong here” in all of the languages of the EU 27 countries.

Instead of the broken pieces of the heart in red of the French wall, we envisage pieces in the gold colour of the stars of the EU flag which if put together would give you a map of all of the countries in the EU.

As however, Limerick is home to people from many other countries with their own languages, we anticipate adding to the rather permanent nature of the wall in Paris, an interactive board where visitors can add the same expression in their own language. In that way, they also belong in our city.

Of course, over time, these messages will fade with weather etc. We like this feature as it only serves to highlight the fragility of a feeling of belonging which might be strongly felt today but which might easily fade if Limerick neglects to continue to foster that for all inhabitants of the county.

Against the backdrop of the new branding of Limerick, we think is a great way to emphasis the Embrace part of the Limerick EdgeEmbrace.

We however live also in a fragile world where the challenges of climate change lurk real for so many people.

We see the wall as a perfect magnet for people allowing us to promote the need for climate change action. We would like to use the rather simple addition of QR codes which can be scanned by people taking photos of themselves at the wall and will highlight the UN sustainability goals, explain how the ongoing Limerick projects are working to pursue those in the Georgian neighbourhood and also explaining the work being done at a broader level by the EU

While the wall will become a strong part of the EuropeanExpo 2020 project this year, we also see it continuing long after the project as the laneway is further improved in line with the vision above.

We would hope that shortly, our wall, like the Paris Wall of Love will have its own Wikipedia page (see Annex B) and become an important globally recognised image of Limerick.

In 2020, we hope that the Wall of Belonging will be accompanied by a wings installation (echoing the very successful campaign from Los Angeles which has gone global too). We envisage our wings being of a European Embrace theme – perhaps having the logo of Limerick on one wing and the European flag or similar on the other. Final design to be decided.

Other installations along our European Way will come in later years, perhaps florescent paint representations of European Master paintings from across the European Union!

With a suitable # hashtag, we have a low cost method of gauging the greater interaction with the installation and greater use and security of the laneway in preparation for phase 2. We would also like to secure more accurate reading devices to count use of the laneway at different times of the day and year.



Budget

Much of the budget for the 2020 part of this project for which funding is being requested will come from volunteer work.

- (a) Limerick Civic Trust have agreed to make available workers who can complete the work on the doorways of their museum so only paints and materials will need to be supplied **(Cost materials 250 euros, Sponsored Cost 3 days by two people 900-1000 euros)**
- (b) Paul Reidy Construction will carry out the installation of the Wall of Belonging onto the railings and associated works at a cost paid for by [REDACTED] **(Sponsored Cost – 1500)**
- (c) LSAD students and the architects on the project team will work to design the Wall of Belonging and European Wings with the completed work to be delivered to the location for installation as per (b) and the European Wings painted onto the building at the back of NO 8 The Crescent by the winning students. **(Cost materials and commission or competition 3,500 euros, Seating and planters 500 euros (to be maintained by local residents in conjunction with the South Limerick Association)**
- (d) Materials for temporary Summer 2020 ramp for bike access etc. **(Cost 750 euros)**

The budget will be finalised through discussions with LCCC and Limerick Civic Trust and others if we know that the project has been accepted for funding in this competition. Through the involvement of the sponsors, it might be possible to in fact attempt a more ambitious first 2020 phase.

For the purposes of this competition, the grant funding being requested is 5,000 euros.

Governance

The project for 2020 will be delivered by a governance team comprising volunteers from the Museum of Limerick, Limerick Civic Trust, Paul Reidy Construction, Liveable Limerick, EuropeanExpo 2020, UL final year civil engineering students and other individuals, [REDACTED], [REDACTED] [REDACTED] with additional external help from architect [REDACTED] and expected to come from LSAD students. We also hope to involve a member of the Limerick City Residents Association but they needed a little more time to socialise before being able to commit.

Other residents or workers in the block or nearby are also supportive of the project and have agreed to have their names listed in Annex A hereto as support for the project and in particular for the request for funding assistance. Some have also agreed to help with the implementation of the project as it progresses if funding is secured.

Justification for Proposal

We recommend phase 1 of this project for funding in this scheme for the following reasons:

Introduction of more renewable energy sources in the Georgian Neighbourhood

We see the project leading to the resurfacing of the laneway in the block with historically sensitive paving. This would allow these internal arteries of the block to be used for the laying of new underground services designed to permit better sharing of excess energy between the buildings on this block.

We would also see new street lighting installed which could be not only low voltage but also from renewable sources, perhaps even solar installations in the block itself with storage battery incorporated if required into the new street seating.

Sustainable energy management including increased use of energy storage

Currently the laneways act as a blocker to connecting up buildings across the block as they cut it up and demand the use of ugly overhead cables.

As explained above, considering them instead as internal arteries opens up totally different options.

Improvement of air quality

Reducing car usage of the laneways in question (as there will simply be too much other activity occurring and cars will gravitate to other routes, will have a significant positive impact on air quality.

Most importantly, the creation of an another attractive public realm should encourage higher residential densities in the area and better use of “wasted” buildings and carparks along these laneways.

We would expect planting of the laneway with trees too since unlike the main streets in Georgian Limerick there are no underground coal bunkers to be negotiated.

We would see some of these being an immediate delivery by the Wall of Belonging to start to show a better future for this part of town.

Increased community participation in the energy transition to ‘positive energy’ status

At its heart this is a community project, both those living and working on that block and nearby but also the broader community.

The magnet which will be the “Wall of Belonging” will have a strong interactive element and we would like to see that interactivity to encourage better learning about Limerick’s project to transition to positive energy status (**+CityxChange project**) and the broader UN Sustainability goals. We would therefore like to have scannable QR codes built into the initial wall and perhaps also others along the laneway, which will direct passers by to information which will help them understand the broader project and learn how to participate better.

Increased e-mobility (electric vehicles)

The installation of the ramp at the Hartstonge Street end will encourage safer use of not just bikes but can be used for a safe passageway for eScooters getting from O’Connell Avenue and beyond into town. It will also make walking with baby strollers more possible as with



walking journeys for older people for whom steps might be more difficult than a ramp.

Improved quality of the built environment

This laneway is today a very poor public space and surrounded by buildings in poor state of repair.

The installation of the Wall of Belonging, bringing focus to the potential of the laneway and a commitment from LCCC to fund the broader vision when funding can be secured should ensure even greater investment and imaginative reinvention of existing stock from the owners of the adjoining buildings.

A number of new investors have taken ownership of key buildings in the block and already exciting renovation projects have begun in some. This would show support for these private sector projects and encourage further ones around this laneway and indeed in further blocks through the city.

The creation of the safe bike/eScooter and walking channel behind the three or four blocks would immediately redefine the potential uses for the mewshouses of vacant lots along the laneways.

Shared public space - ways to encourage equity in shared use of public space

Creating new exciting public space which is free is a guarantee to greater equity. The presence of the Museum on the block also ensures that a public organisation can control the facilities and access in a way to serve the greater public. In particular, the existing visitors to the facilities of the St Vincent de Paul are left with very poor facilities in the laneway right beside.

Better seating, planting and bike storage should be incorporated into the future plan.

There is also a potential to incorporate municipal bin storage in the design making easier residential occupation of the Georgian buildings with poor access and storage for individual “wheelie” bins.

Space for electric transport in the city

This is a key part of the design and indeed a temporary ramp should be installed on the steps which inhibit access and flow through the block.

It has to be remembered though that the best form of transport is people walking. Use of laneways in this way encourages people to walk through the interesting and welcoming space.



Promotion of electric mobility options

Given proximity to the city, we do not see this project as incorporating features like parking for ECars. Rather we have focused on last mile E-Mobility solutions (bikes, scooters) and improves permeability for same and safe storage facilities.

The walls of the laneways (perhaps with the new bin storage or seating) also allows for the thoughtful

incorporation of storage for recharge packages for eScooters.

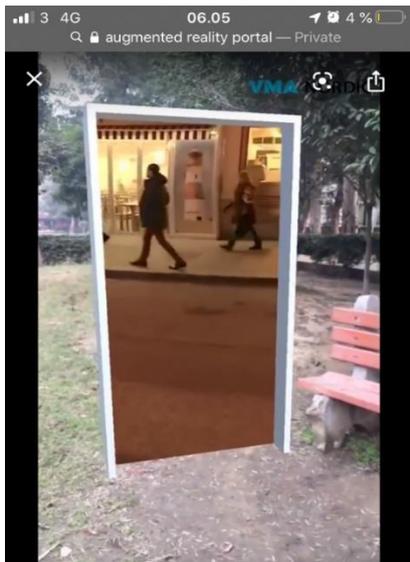
But more importantly because the laneways are not generally a car route and therefore feel much safer they should promote use of a great range of electric mobility options.

Summary

In summary, we see a future vision which meets many of the challenges of the 21st Century city transformation for Limerick and a block which can given its many positive attributes act as a catalyst and pilot for greater change.

In the short term, the installation of the Wall of Belonging, will play a key role in the changing of minds about the potential of the forgotten laneways. Importantly, too, it will emphasize the welcoming side of the new Limerick and with some of the other improvements and installations (even from the 2020 phase 1 of the project) provide a perfect “Insta” opportunity for spreading the word globally about our “Embrace”.

It will remind all of the “travellers” to or through the European Laneway that Limerick is fully welcoming and open to “Your Way” too.



VMA NORDIC
AR Portal - VMA NORDIC



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Postscript – view into the future

Were further funding available, what we would love to do is to step further into the technology of the future on European Way.

We would add into a doorway opposite from the Wall of Belonging containing an augmented reality portal which would beam live imagery from each of 27 other EU cities, switching every couple of minutes. A similar installation doing the same in each EU country.

Limerick people could override the automatic perhaps to coordinate with a friend or family in another country to have a live size “Skype” chat or just show off the latest new purchase or addition to the family!

All in the near future we hope but Rome was not built in a day. But speaking of Rome.....and indeed Paris.....



ANNEX A

Local Supporters of the Project

In the time available, these were the people we were able to connect with. We would point out that in all of the conversations, no one was negative and so we have no addition of people not supporting the idea. If we receive the funding, we are happy to continue to socialise the idea and get the rest of the neighbourhood involved.

All firms and persons listed below were included at their request to show their support for the project.

The Crescent Side

The Crescent business operating from The Crescent
 employee, The Crescent
 CEO and owner, The Crescent
 employee, The Crescent
 employee, The Crescent
 employee, The Crescent
 the Crescent
 the Crescent Chartered Accountants, The Crescent
 Services, The Crescent
 Owner, The Crescent
 Employee, The Crescent
 Partner/Owner, The Crescent
 Partner/Owner, The Crescent
 Partner/Owner, The Crescent

The Crescent
 Grid Finance, 6 The Crescent
 Pat Fitzgerald, Director of Credit & Collections, 6 The Crescent

The Crescent
 Owner, The Crescent
 Business owner, The Crescent
 Business Owner, The Crescent
 Tenant, The Crescent
 Tenant, The Crescent

The Crescent

The Crescent
 Resident / Tenant, The Crescent

The Crescent
 Owner, The Crescent
 Building vacant as under renovation at present

The Crescent
 Owner and CEO of operating from The Crescent
 Solicitor, operating from The Crescent
 solicitor operating from The Crescent

Other supporting people working at this address

- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 1
- 1
- 1

The Crescent
 Chartered Quantity Surveyors, operating from The Crescent

The Crescent
 (Director of RockTop) Asset Management Services, operating from The Crescent
 Director of Cusack & Associates). Planning and Building Services, operating from

The Crescent
 (Director of operating from The Crescent
 Architect, The Crescent
 MLC Limited, The Crescent
 Architect, The Crescent

Limerick Tutorial College
 Limerick Tutorial College

The Crescent
 Consultant Radiologist - the Crescent

The Crescent
 Insurances - The Crescent, Limerick

Section 1 : Individual / Group Applicant Details

If you are making an example on behalf of an organisation, what is the name of that organisation?

[Limerick City Tidy Town]

Full Name (main applicant)

[As above]

Contact Telephone Number

[REDACTED]

Address (main applicant)

[Hunt Cafe, Ruthland st]

E-mail address (main applicant)

[REDACTED]

Section 2 : Project Proposal & Connections to Themes

Project Title

[Incredible edibles]

Which of the following describes your proposal? (Select one or both of the following)

"Urban Prototyping",

"Citizen Sensing"

Summary of your proposal

Please summarise in no more than three short bullet points what you want to do and why. Note: should your application be successful, this summary may be included for publication related to this Open Call and the Positive CityXChange project.

[The tidy town team would love]to engage with other like minded volunteers to have an incredible edible garden on a lane

[Improve the experience of visitors and residence while in the city, encourage footfall in the lanes improve the air quality in the lane with a link back to a nursery space at the hunt museum.

Details of your proposal

Please describe your proposal in more detail (Max. 1000 words). What you write here is a key part of your proposal, and should help those involved in assessing your application to understand the full scope of what you want to do and why. Please include information on the rationale and vision of your proposal and other details you consider relevant. Please include the aims, objectives and description of your project.

[An incredible edible garden on a Limerick

A lane, where the public could pick and enjoy the produce. This would be a sustainable garden maintained by volunteers, it will include espalier pear trees, apple trees, hanging fruits such as strawberries, peppers and tomatoes. Planters containing root vegetables, chard, herbs and edible flowers. The plants would be planted in wooden planters and we would like to explore the possibility of growing willow to weave above low planters. Having planted a wild flower garden at the Hunt Museum last year we would like to contribute more to the air quality and biodiversity of our city. We would use the water from down pipes on the lane, re directing it through repurposed gutters, explore the possibility of water butts on other down pipes. This project would link with Limerick City Engage prior to and during all festivals. Monitoring of air quality will take place before and during the project. We will participate in all workshops and link to sustainable development goals and city policies .

Please describe how your project fulfils the priorities and objectives of the +CityxChange programme

What you write here is an essential part of your proposal, and should help those involved in assessing your application to understand how your project fulfils the aims and objective themes. Please see the Open Call requirement guidelines for more detail.

We join with other voluntary organisations to lead this project . these are LMHA mens shed, Bedford Row Family Project.

Timeline / Milestone Dates for your project

Please list the milestone and expected delivery date. Areas you might want to include: planning, development of team, contract exchange, marketing of project, project delivery dates etc to give a clear time-frame of how the project will be developed.

Week 4 march have project team in place. April 1st, source all supplies and prepare plumbing and water supply . week 2 April place in lane and plant up

Challenges and Technical Limitations

[Property owners permission, water supply during hot summer and sunlight availability on the lane.

What are some perceived challenges and limitations? What are the main risks of your proposal, what training or permissions might be required, and what do you see as the ways of mitigating the main risks of the project?

Monitoring and Evaluation

[Measure foot fall on lane, Measure air quality, gauge public reaction through social media.

What are the ways in which this proposal could be monitored? What indicators can be used to measure the impact or feasibility of this project?

Section 3 : Team formation and experience

Number of team members involved in this project

Team member names and areas of responsibility on the project.

This project would be lead by tidy town working with the groups mentioned above and welcoming others.

What experience does your group have of doing projects like this in the past. Please give examples

We as a tidy town group have executed a number of projects the most relevant to this would be the wild flower garden at the Hunt.

Please provide some detail of team planning and management roles

Should we be successful we would have a committee formed from all the groups mentioned with a chair from tidy towns .

Section 4 : Budget

List of Expenditure

[The expertise we require would] be in the installation of the water pipes, we have an expert in gardening available to our group.

Indicate the expenditure you expect to incur relating to your application. Example headings have been given but this can be changed to suit your application. Please give as much detail as possible. Please also provide a detailed budget below with as much detail as possible. ---

----- Example Headings: Materials, Equipment, Project Management, Project Personnel Costs, Travel, Insurance, Marketing and other

Plumbing expertise 1000
Planters soil and plants 2000
Technical expertise 1000
Nursery garden 1000

In Kind Income, Donations, Sponsorship, Other Funding

[1000 from tidy towns]

A: Total Expenditure (€)

[6000]

B: Total Income (€)

[1000]

C: Total Requested for this Proposal (€)

[5000]

Please upload any supporting budget documents

Section 5 : Media, impact and publicity

How many will be involved in your project in total?

[30 to begin with]

What is the estimated audience for your project? (by number, reach)

[Many thousands through social]media

Please outline how you will communicate the outcomes of your project - how you will reach this audience.

[Social media]

Section 6 : Declaration

I have read the open call description document, and application requirements.

[x]

I confirm that the details provided in this application are accurate, and should the application be eligible for funding, will produce the project as outlined in the submission above. [x]

I understand that images and descriptions of this project may be used on social media and promotionally as part of the +CityxChange project

[x]

The Assessment Panel, at their discretion, may suggest / re-direct any applications to another appropriate Limerick City and County Council award for recommendation, should it be deemed beneficial to the applicant to so do []

Interim Report- Limerick Open Innovation Calls 2020

+CityxChange | Work Package 4, Task 4.5



Version

v.01

Authors

Contributors

Article 29.5 Disclaimer

This deliverable contains information that reflects only the authors' views and the European Commission/INEA is not responsible for any use that may be made of the information it contains.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 824260.



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Project Title	Positive City ExChange
Status	Draft

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Date	Version	Author	Substantive changes made
21-08-2020	v.01		Interim report

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2 Introduction

Text here

Task 4.5: Implementation of an Innovation Playground

This task will implement the Innovation Playground, as defined in T3.5, in the first DPEB and the surrounding Georgian Innovation District in Limerick and deliver the Limerick Innovation Lab Solutions Catalogue (D4.5). **This will enable municipal authorities, energy providers, businesses, citizens and communities to test and prototype innovative ideas to allow a movement towards DPEBs.** The success and failure of different innovations will be used to create the scaleup and replication plans for the LHCs and Follower Cities (T8.1) and will also be used to accelerate the roadmap and integrated action plan for achieving the Limerick Bold City Vision in T4.2. The Innovation Playground will be used for urban prototyping and co-design of the different aspects of the +CityxChange project. This will include Innovation Lab, which will be a physical space located within the DPEB in Limerick, facilitated by Innovate Limerick, the dedicated innovation company of LCCC. This innovation lab will be run collaboratively by LCCC and UL and will encourage innovation through new products, technologies, business models etc. within the DPEB. The Innovation lab will enable entrepreneurs to develop their prototypes with tools such as information and data sets, collaborative space, and connections to the +CityxChange solution providers, technology leaders and demonstration projects. Through the playground, these technologies can be trialled and tested and case studies for wider market application can be created. This will foster new for profit business, job growth, partnerships etc., which will all have a positive impact for Limerick. Workshops in which community will build their own DIT (do-it-together) RES solutions (energy monitoring, environmental sensors, distributed energy production and more) will be designed, piloted and delivered as an extension of engagement events for providing informative, consultation and debate on PEB and RES. Ongoing open-source projects would be preferred as base for these workshops so local communities will be linked with existing global communities working on DIT RES solutions. These activities will be part of the participatory playbook developed in T3.1. For this a small prototyping lab for DIT (do-it-together) RES projects will be required. In order to deploy these DIT (do-it-together) RES projects in communities a small batch fabrication lab (from 10s to a 100 units) will be provided in UL's innovation lab. Fabricating open-source RES solutions as part of the Community-led Open Innovation processes will allow hands-on experimentation with RES technologies by communities creating powerful engagement and a truly community-led process.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 824260.



3 OIC Project 1 Status

3.1 Overall status of the project

Any comments you have on it, how it is proceeding, any delays, anything ahead of schedule.

OCA06 Green Museum 1 – Griffith Row - [REDACTED]

Collaborators: Hunt Museum, Enable Ireland, Urban Designer [REDACTED]

Project progressing well- work commenced over the course of the weekend 21-23 of August with the painting of walls, Deepseek camera is installed also. This was carried out by a large number of volunteers recruited by leaflet drop in the area. There is an Issues regarding 3D ceramic printing with LSAD –this will not be complete until November 2020 as it is part of the course for the new semester. envisage transforming the laneway with 3D printed examples of Hunt Museum Art pieces (using recycled ink)in a permaculture garden , with CO2 absorbing plants . Un-intrusive monitoring of CO2 and Eco friendly design to give a sense of ownership

Milestone	Status	Start date	End date
Project Plan received	Done	30/05/2020	03/06/2020
Costs agreed	Done	30/06/2020	15/07/2020
Ist Tranche payment	In Progress	15/07/2020	15/08/2020
Implementation	In Progress	20/08/2020	30/09/2020

3.2 Status of Tasks within the Project

Task	Due	Action/Achievement

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 824260.



3.3 Status of Deliverables within the OIC Project

No.	Deliverable Name	Partner	Month Due	Status

3.4 Links with other LCCC and + CxC activities

LCCC Directorate	+CxC Connection/Cowork/Status
Urban Innovation	Signage being developed by [REDACTED]
Physical Development	Awaiting some work on potholes and road surfacing
Community Development	
Digital Strategy	Data portal being developed by DS and Space Engagers QR code for project webpage
MPower	Conor providing mentorship advising on technology
University of Limerick -FabLab	Access to 3D printers has not been possible as the FabLab is currently not in existence
University of Limerick	Framework of OIC review Expert mentorship in sensor technology

4 OIC Project 2 Status

4.1 Overall status of the project

OCA08 StreetSeek – Lead; [REDACTED] of start-up DeepSeek AI
Collaborators: GUM1 and GUM 2

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 824260.



Un-intrusive thermal cameras mounted on 3 laneways focus on drone technology and machine vision, un- intrusive thermal cameras (project has allocation for 3 cameras) can derive insights. Main use case how people are using the cities post covid. Project is on schedule with two cameras collecting data.

Web dashboard and summaries report available.

Milestone	Status	Start date	End date
Project Plan received	Done	30/05/2020	03/06/2020
Costs agreed	Done	30/06/2020	15/07/2020
Ist Tranche payment	Done	15/07/2020	15/08/2020
Implementation 1	Done	01/08/2020	30/08/2020
Implementation 2	Done	01/08/2020	30/08/2020
Implementation 3	In Progress	01/08/2020	30/08/2020

4.2 Status of Tasks within the Project

Task	Due	Action/Achievement
Define locations with other community groups	13/07/2020	Collaboration with other community groups for best locations for the 3 cameras – Done
Data collection and data platform		Meet with DS to understand data requirements and pedestrian counters Insight Limerick linkages - Done
Permission	30/07/2020	Source permission from building owners for camera mounting - done
Mount Cameras	15/08/2020	2 cameras in situ -Done
Create data dashboard	30/08/2020	Done

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4.3 Status of Deliverables within the OIC Project

No.	Deliverable Name	Partner	Month Due	Status

4.4 Links with other LCCC and + CxC activities

LCCC Directorate	+CxC Connection/Cowork/Status
Urban Innovation	Signage being developed by ██████████ Coordination of Community Engagement
Physical Development	Awaiting some work on potholes and road surfacing
Community Development	
Digital Strategy	Data portal being developed by DS and Space Engagers QR code for project webpage
MPower	██████████ providing mentorship advising on technology
University of Limerick -FabLab	Access to 3D printers has not been possible as the FabLab is currently not in existence
University of Limerick	Framework of OIC review

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5 OIC Project 3 Status

5.1 Overall status of the project

OCA09 Green Museum 2 - Jesuit Lane – Lead; Lead; [REDACTED]
 Collaborators: Hunt Museum, Womens group, Mens Shed, DeepSeek AI
 Limerick Mental Health Association envisage bringing the Museum to the laneway, with CO2 absorbing plants -as a service to the environment. Copper Embossing done by the Womens Group. Un-intrusive monitoring of CO2. Also proposing to promote the hush app. The project is moving towards implementation stage. Some changes and additions have been made – monitoring traffic and air not deemed suitable given the reductions generally since Covid crisis began. Have linked with ESB to possibly provide solar lighting as a security feature The are looking at installing a satisfaction monitor – gesture rather than button push. Highlighting the need to be respectful with residents and building owners and this takes time. Issue developing around the ability of volunteers being able to come together to make trellises etc. given new Covid restrictions.

Milestone	Status	Start date	End date
Project Plan received	Done	30/05/2020	03/06/2020
Costs agreed	Done	30/06/2020	15/07/2020
Ist Tranche payment	In Progress	15/07/2020	15/08/2020
Implementation	In Progress	20/08/2020	30/09/2020

5.2 Status of Tasks within the Project

Task	Due	Action/Achievement
Work with the applicants to submit a detailed proposal and quotations	15/06/2020	Done
Create Grant in CRM	18/06/2020	Done
Laneway Opening	18/06/2020	Query on opening a passageway (Right of way) in the Wall to provide a continuous laneway – ongoing

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Project plan on Alfresco	15/06/2020	Done
Set up Supplier Account	15/07/2020	Done
Pay Initial payment	15/08/2020	Ongoing

5.3 Status of Deliverables within the OIC Project

No.	Deliverable Name	Partner	Month Due	Status

5.4 Links with other LCCC and + CxC activities

LCCC Directorate	+CxC Connection/Cowork/Status
Urban Innovation	Signage being developed by [REDACTED] Coordination of Community Engagement
Corporate	Insurance Hush App inclusion
Physical Development	Awaiting wall cleaning, road surfacing and
Digital Strategy	Data portal being developed by DS and Space Engagers QR code to direct respondents online
ESB Innovation	provide solar lighting as a security feature

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6 OIC Project 4 Status

6.1 Overall status of the project

OCA12 Wall of Belonging - Mews, Upper Hartestone Street – ██████████ of Liveable Limerick

Collaborators: Peoples Museum, Limerick Civic Trust, European Expo 2020

The Group envisage transforming the Mews laneway into an Art Gallery. with an InstaWall similar to that in Paris, and a Wings of Europe Mural. Progress has been slow – PM volunteer has had to pull out of the project as has the local artist. They are now going to work with a local school and therefore will increase the budget for landscaping. The proposed ramp to Hartstonge St is not going ahead due to issues of complying with Part M of the regulations. The big issue in respect of implementation is the Covid restrictions on people congregation and working and they are unsure as to how to comply. The issue of insurance has been raised and a number of groups have addressed this and are going to share the information with them. They may need to submit a revised project plan as implementation is dependant on local school children creating the mural. This will require a ramp installed, repainting, and temporary lighting. This part of a larger project for which they have acquired additional funding to create a Euro portal that will be in place for Culture Night 2020.

Further discussion on 25th to discuss implementation issues

Laser Cutting required fabrication in the FabLab

Permissions on installation of ramp have been rejected

Milestone	Status	Start date	End date
Project Plan received	Done	30/05/2020	03/06/2020
Costs agreed	Done	30/06/2020	15/07/2020
1st Tranche payment	In Progress	15/07/2020	15/08/2020
Implementation	Not Started	13/09/2020	30/10/2020

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6.2 Status of Tasks within the Project

Task	Due	Action/Achievement
Work with the applicants to submit a detailed proposal and quotations	15/06/2020	Done
Create Grant in CRM	18/06/2020	Done
Laneway Opening	18/06/2020	Query on opening a passageway (Right of way) in the Wall to provide a continuous laneway - ongoing
Project plan on Alfresco	15/06/2020	Done
Set up Supplier Account	15/07/2020	Done
Pay Initial payment	15/08/2020	Ongoing

6.3 Status of Deliverables within the OIC Project

No.	Deliverable Name	Partner	Month Due	Status

6.4 Links with other LCCC and + CxC activities

Text Here

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LCCC Directorate	+CxC Connection/Cowork/Status
Urban Innovation	Advance permissions in Laneway opening.
Physical Development	Preparation of laneway surfaces Specifications on ramp Specifications on street paint for laneway Permissions on Mural design
Community Development	
Digital Strategy	Data portal being developed by DS and Space Engagers QR code to direct respondents online
MPower	Technical support
University of Limerick- FabLab	3D fabrication Support

7 OIC Project 5 Status

7.1 Overall status of the project

OCA13 Incredible Edibles – Daly’s Lane - ██████████ Limerick City Tidy Towns

Collaborators: Bedford Row, Limerick Mental health

they envisage transforming a Georgian laneway into a hanging garden, where the public can pick and enjoy fruits and vegetables.

The project is progressing and progress has increased over the recent weeks. They have encountered some concerns from residents/ property owners on the lane and are working with them to get them on board which should happen in the coming week. In particular there has been a request to expand the project towards Hartstonge Street by knocking a wall which is being investigated at present, but is possible. There are 12 property owners to be consulted. The Council has helped address a lot of the concerns. They have secured a lot of support from volunteers to implement the plan and from some of the building owners in particular wi-fi to support air monitoring. When the design is agreed by the local property owners the budget and first draw down request will be made.

Milestone	Status	Start date	End date
Project Plan received	Not received	30/05/2020	03/06/2020
Costs agreed	In progress	30/06/2020	15/07/2020
1st Tranche payment	Not Started	15/07/2020	15/08/2020

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Implementation	Not Started	13/09/2020	30/10/2020
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Text here if necessary

7.2 Status of Tasks within the Project

Task	Due	Action/Achievement
Work with the applicants to submit a detailed proposal and quotations	15/06/2020	Ongoing
Community Engagement	15/06/2020	Ongoing
Create Grant in CRM	18/06/2020	Done
Laneway Opening	18/06/2020	Query on opening a passageway (Right of way) in the Wall to provide a continuous laneway - ongoing
Project plan on Alfresco	15/06/2020	Not Started
Set up Supplier Account	15/07/2020	Done
Pay Initial payment	15/08/2020	Ongoing

7.3 Status of Deliverables within the OIC Project

No.	Deliverable Name	Partner	Month Due	Status
2			14/05/2020	Done

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7.4 Links with other LCCC and + CxC activities

LCCC Directorate	+CxC Connection/Cowork/Status
Urban Innovation	Advance permissions in Laneway opening.
Physical Development	Preparation of laneway surfaces Specifications on water supply
Community Development	
Digital Strategy	Data portal being developed by DS and Space Engagers QR code to direct respondents online
MPower	Technical support on
Urban Innovation	Advance permissions in Laneway opening.
Physical Development	Preparation of laneway surfaces Permissions on water supply
FabLab	Fabrication support

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8 Overall Assessment of OIC Process

8.1 Risk Management Update

No	Rating	Likelihood	Impact	Description of risk	Mitigation measures	LCCC Risk Owner	Update
1	Red	Red	Red	COVID19	COVID19 beyond design stage milestone will require implementation to be postponed. D4.3 Solutions Catalogue must be postponed.		Requires review
	Green	Yellow	Red	Staffing Risk	Agree schedule and staff allocation with project owner, project sponsor		No change
	Red	Red	Red	Conflicting scheduling	Inform WP4 Project Manager and reduce priority and postpone other projects and activities. Adjust the existing project schedule.		No Change
	Yellow	Red	Green	Conflicting requirements	Document what is and out of scope		No Change
	Yellow	Green	Red	Reputation Risks			
	Yellow	Red	Red	Convolutd process to access funding	Agree an easy process to access funding and at the same time to comply with regulations		No Change
	Red	Yellow	Red	Stakeholders Unavailability	Suggest alternative dates for steering group meetings. Secure support from management team.		Considerations around public response to ongoing restrictions
	Yellow	Red	Yellow	Poor Relationship Management with stakeholders	PM to provide regular updates and double-checks with stakeholders.		Change due to insurance criteria
	Red	Yellow	Red	Facilities Risks			
	Yellow	Red	Red	WiFi or LoRaWan not working for sensors data	Provide backup 4G Internet		No Change
	Red	Red	Red	Fabrication Lab not available	Inform WP Lead and Project Co-ordinator. Work with applicants to identify alternatives sensors.		Extended
	Yellow	Green	Red	Covid guidelines	Facilities not accessible due to national Covid Guidelines		On going

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8.2 KPI and Impact Updates (tracking)

Outline if there are any contributions to the below KPI's, or if there are other relevant KPI's.

No	KPI Name	Target	Owners	WP4 to Date	Note
4	No. of new DPEB/DPED-enabling prototypes	30	LCCC, TK, MP, SMO, MAI, SB, VORU	5	
7	No. of changes in regulation	15	LCCC, TK, MAI, MP, SB, SMO, VORU	1	Permitting of Open Call process
26	No. of new jobs created	900	All 32 partners	6	On project team
27	No. community participation events organized across all +CityxChange cities	15	LCCC, TK, MAI, MP, SB, SMO, VORU	3	
29	No. of community participation events/actions	55	LCCC, TK	21 LCCC	
30	No. of innovation labs/playgrounds contributing to the creation of DPEB	5	LCCC, TK, MAI, MP, SB, SMO, VORU	1	One Innovation Playground created
31	No. of Positive Energy Champions trained	20	LCCC, MAI, MP, SB, SMO, VORU		
32	No. of organisations with new sustainable energy approaches	60	LCCC, TK, MAI, MP, SB, SMO, VORU	5	DPEB owners

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8.3 Internal meetings, specific stakeholders, etc.

Please list any meetings that took place in relation to the open calls.

Type of meeting	Date	Remarks
Coordination 4.3 &4.5		
Project Group Meeting		
General Meeting	02/06/2020	Meeting with the community groups
Communications planning Meeting		
Steering Group Meeting	18/06/2020	Buy in from Council departments in supporting the open call.
Project Group Meeting	31/07/2020	
Communications Meeting		Engage team, communications team, and project manager
Community Group Focus Group		

8.4 Coordination between LHCs and FCs and other EU Projects

Limerick is involved in European Green Leaf city, Green Urban Museum, EUExpo, FindYourGreatness and CityxChange Open Callworks in conjunction with Smart Limerick works in cooperation with these EU Projects.

8.5 Coordination of Local Replication and Scaling-Up

Great potential exists for the replication of

- DeepSeek AI replication of the use of thermal cameras
- Place making, using collaborative innovation to co-create the urban environment focused on sustainability
- Digital dashboards to give a visual interpretation to data , to both influence behaviour and share information
- Creation of a steering group in local governments/councils that guides and listens to citizens

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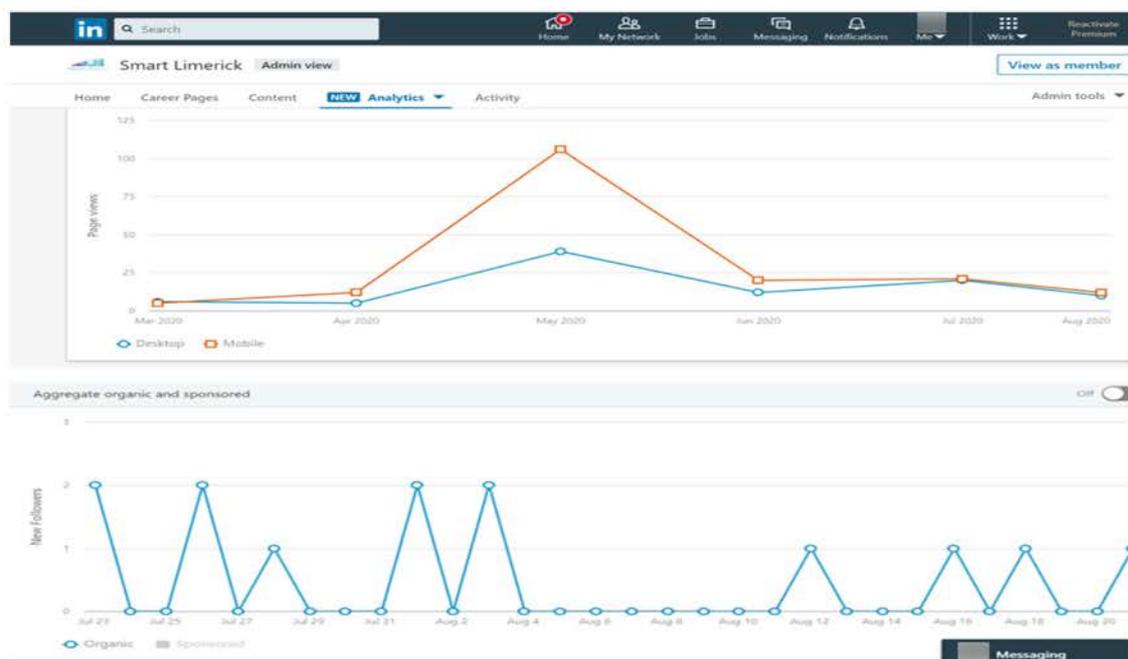
- Social media two communication models, to build trust and engage via new media
- Digital media dashboards to monitor sentiment and engagement, to build reach and content

8.6 Communications

- Webpage updated to include the 5 projects <https://www.limerick.ie/cityxchange/community-led-open-innovation> Including quotes for invitees, the mayor and project lead, and pictures of groups
- Press release gone out
- Social media campaign gaining traction. (30,000 green score engagements) <https://www.limerick.ie/cityxchange/opencall> website <https://mypoint.limerick.ie/en/content/open-call-innovative-citizen-solutions-positive-energy-transition-and-limericks-georgian-laneways> Publication

LinkedIn

Launched March 2020 : 235 organic followers/ peaked at the announcement of the Open Call



Replication

- <https://cityxchange.eu/press-corner/> website with live social media feed – Smart_Limerick
- <https://cityxchange.eu/re-imagine-limericks-georgian-laneways-green-museum-ii/>
- <https://cityxchange.eu/cityxchange-projects-unveiled-to-re-imagine-limericks-georgian-laneways/>
- <https://cityxchange.eu/urban-prototyping-in-georgian-limerick/>

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