



Comhairle Cathrach  
& Contae **Luimnigh**

Limerick City  
& County Council

# BUILDING IRELAND'S FIRST DIGITAL CITY

LIMERICK DIGITAL STRATEGY  
2017-2020



**SMARTLIMERICK**  
INFORMED / ENGAGED / TRANSFORMED



[digitalstrategy.limerick.ie](https://digitalstrategy.limerick.ie)



Note: The latest release of this document is available in digital format at [digitalstrategy.limerick.ie](http://digitalstrategy.limerick.ie)



The document is also available in paper format by request at [digitalstrategy@limerick.ie](mailto:digitalstrategy@limerick.ie)

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# SMART LIMERICK


INFORMED - ENGAGED - TRANSFORMED

**80%**   
OF PUBLIC CONSULTATIONS  
USING DIGITAL CHANNELS

**50 NEW ONLINE**   
SERVICES, PAYMENTS, LICENCES,  
PERMITS AND GRANTS IN 'MY LIMERICK'

**2,000**  
ATTRACTIONS, SERVICES,  
COMMUNITY GROUPS &  
BUSINESSES  
WITH MORE THAN  
**1,000**   
EVENTS EACH YEAR IN  
A SINGLE INTEGRATED  
PLATFORM - LIMERICK.IE

  
**40**  
NEW SMART CCTV  
CAMERAS WILL ENABLE SAFER  
COMMUNITIES

**37,137**   
PREMISES WILL BE CONNECTED TO  
HIGH-SPEED BROADBAND UNDER  
THE NATIONAL BROADBAND PLAN

  
**100 SENSORS  
DEPLOYED**  
ACROSS CITY & COUNTY - NOISE,  
AIR, WATER AND SOIL QUALITY AND  
FOOTFALL COUNTING

  
**10**  
DIGITAL  
PUBLIC DISPLAYS

  
**1,000**  
SMART HOMES

**100**   
SMART  
BUILDINGS

**1** SMART ENERGY  
DEMONSTRATION  
DISTRICT





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## GLOSSARY

CRM	Customer Relationship Management
DCU	Dublin City University
DCF	Council Digital Champions Forum
DLN	Limerick Digital Leaders Network
EA	Enterprise Architecture
ERDMS	Electronic Records & Document Management System
GLN	Global Limerick Network
ISA	Irish Smart Ageing Exchange
IVI	Innovation Value Institute, Maynooth University Ireland
LDS	Limerick Digital Strategy
LCCC	Limerick City and County Council, Limerick, Ireland
LCETB	Limerick and Clare Education and Training Board, Limerick, Ireland
LCEA	Limerick Clare Energy Agency, Limerick, Ireland
LERO	The Irish Software Research Centre, University of Limerick, Ireland
LIT	Limerick Institute of Technology, Limerick, Ireland
MDM	Master Data Management
MDN	Municipal Data Network
MIC	Mary Immaculate College, Limerick, Ireland
SCC	Smart Cities Council
UHL	University Hospital Limerick, Limerick, Ireland
UL	University of Limerick



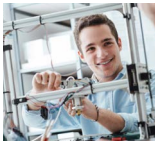
## MAGNUS

Magnus is sitting at his kitchen table with the Copenhagen sunshine streaming in the window, reading about Limerick.



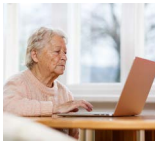
## DEIRDRE

In 2005, Deirdre started her in her town, Bean me up, Coffee! 'to boldly go where no café had gone before'.



## SAM

Sam is studying computer systems at the University of Limerick and takes his studies, and himself, very seriously indeed.



## ROSE

Rose is busier than ever researching her family tree with the Limerick Limerick Archives online and regularly Skyping her family.



## THE FITZGERALDS

Adam goes to CoderDojo in a repurposed retail unit in the Digital Quarter once a week.



## FOREWORD CHIEF EXECUTIVE

The word 'renaissance' was used to describe what would unfold when the vision for an emerging and dynamic new Limerick was outlined just four short years ago with the Limerick 2030 Economic and Spatial Plan. It's a word loaded with expectation.

But as the few years since have shown, it is more than being fulfilled. More than 12,000 jobs have been announced since 2013; 8,341 of these are full time with a further 3,692 in construction. A total of 2,615 jobs have been announced since the start of 2017 alone. There has been more than €1.6 billion of investment by new or existing companies in Limerick announced since 2013.

The redevelopment of the city centre is now well under-way thanks to the establishment of Limerick Twenty Thirty Strategic Development DAC, now just over a year old. Focussed initially on city projects like the Opera Site and its already under-way Gardens International sister-site on Henry Street, it will ultimately deliver a city and county programme of investment that amounts to the biggest commercial property plan undertaken outside Dublin. Innovate Limerick, which is helping to drive innovation across the city and county has already claimed a number of major wins. These include the development of a 35,000 sq ft Innovation Hub at Roxboro and ENGINE in the city centre, where it will co-locate FDI companies and provide shared workspace. All of this along with a Production and Digital Skills Hub to ensure that the skills required for film production are available in Limerick.

The renaissance has also been energised by our determination to take full advantage of digital technologies. The Limerick Digital Strategy will help to double the number of digital start-ups in Limerick, double the number of S Es trading online and double the use of data and to create equal opportunities for all our citizens in the digital economy. Limerick is the first city in Ireland to appoint a Chief Digital Officer to lead a digital strategy that will lay the foundation for the Smart Limerick City Region. One manifestation of this strategy is Limerick.ie, an already award winning platform that enables locals and visitors instant access to information on some 2,000 attractions and 1,000 events across the city and county each year. The digital strategy will enable vast real-time use of automation and data exchange, the use of Internet of Things, delivering sustainable economic, social and environmental development for enterprises small and large and equally for all citizens, young and old. Limerick Digital Strategy is a real evidence of keeping with the exciting sense of ambition evident in Limerick today.

I'm reminded of the words of former US President Lyndon B Johnson who once said "Yesterday is not ours to recover, but tomorrow is ours to win or lose".

*Conn Murray*  
**Chief Executive**





## FOREWORD MAYOR OF THE CITY AND COUNTY OF LIMERICK

Limerick has made great strides since the launch of Limerick 2030: An Economic and Spatial Plan. 2013 was the start of a hugely important period, as the economy began to slowly recover from the recession, and when Limerick set out its ambitious yet achievable stall. In recent times, Limerick has been clocking up a number of firsts. The city and county councils were the first to be amalgamated. Limerick Twenty Thirty DAC was the first special purpose vehicle to be established by a local authority. With the European Investment Bank (EIB) and the Council of Europe Development Bank (CEB) investment announcements in November 2017, Limerick is again ahead of the curve when it comes to investment in urban renewal and development, which is right in the heart of our ancient city.

Limerick is transforming at a rate faster than any of us could have anticipated.

The Limerick Digital Strategy will support and accelerate this transformation by the use of digital technologies, new online services, new channels of citizen engagement and participation, new collaboration and information platforms such as Limerick.ie. As broadband will become available over the next 3 to 5 years for each home and business under the National Broadband Plan it is essential that Limerick.ie is ready to provide citizens, visitors and businesses access to an increasing number of online services. This strategy is a reflection of our desire to transform Limerick into a Smart City Region and Communities of the

future, the manifestation of true Urban Digital Transformation that will enhance our sustainability and resilience for the future and create equal opportunities for all in the knowledge economy.

The people of Limerick are behind this transformation and rejuvenation. Indeed the whole Limerick city region is supporting us. Limerick is the driver for the entire region, so the gains that Limerick will achieve will be felt throughout the entire region.

With this Digital Strategy we want to show that Limerick is a vibrant place to live, study, play and invest in; that Limerick is well versed in the use of digital technologies and ready for the digital age

*Cllr. Stephen Keary*

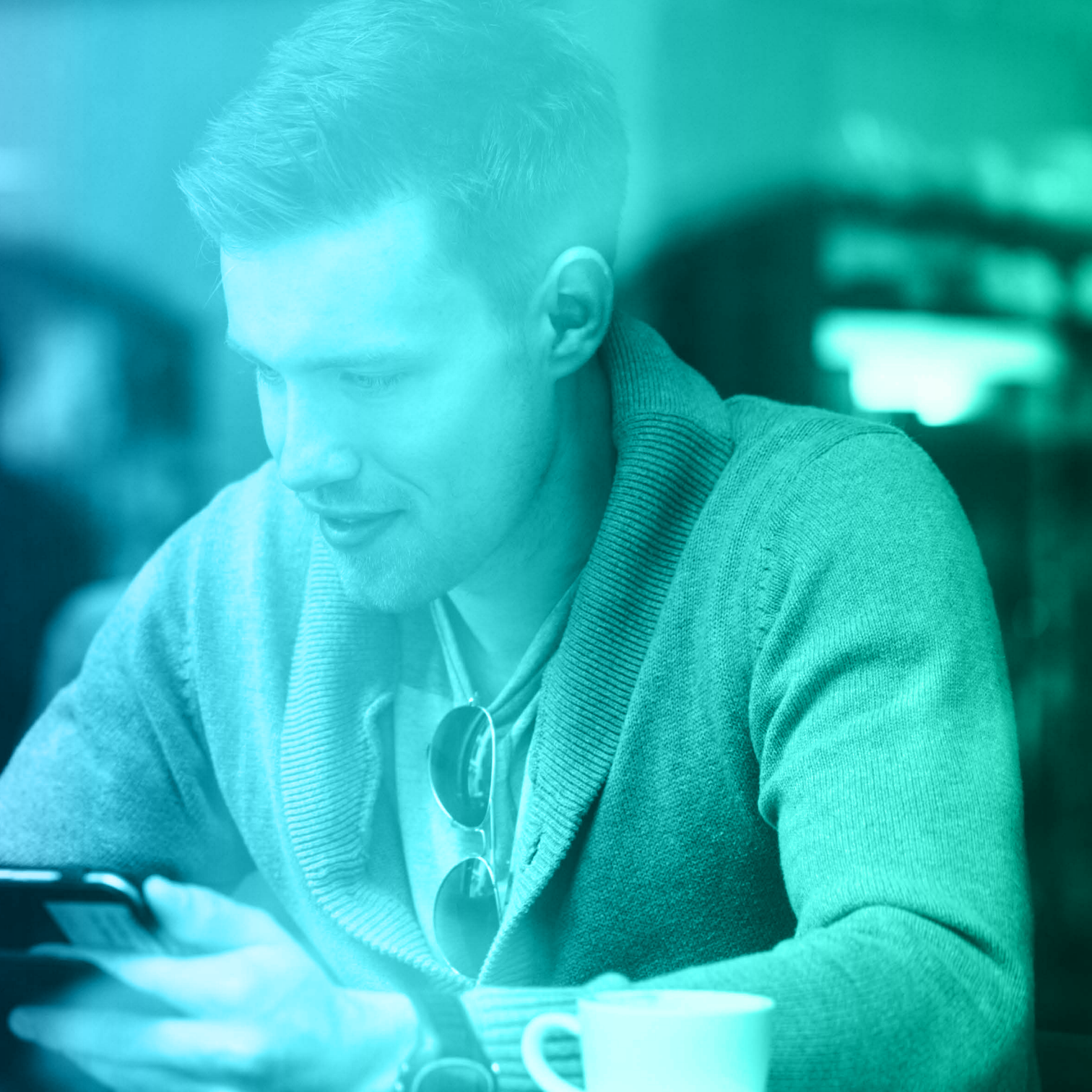
**Mayor of the City and  
County of Limerick**

“

MAGNUS IS SITTING AT HIS  
KITCHEN TABLE WITH THE  
COPENHAGEN SUNSHINE  
STREAMING IN THE WINDOW,  
READING ABOUT LIMERICK

”





# MAGNUS

Magnus is sitting at his kitchen table with the Copenhagen sunshine streaming in the window, reading about Limerick.

He decided he needs a new challenge and has always wanted to live abroad, and although he knows very little about Ireland's third city, it has attracted his interest when researching places in Europe to relocate. He even learned that the Vikings founded Limerick; perhaps one of his distant ancestors was there before.

The website Limerick.ie has proven to be a great source of information. Magnus is an engineer with a medical device manufacturer and with the region's strong Life Sciences sector, he is confident of finding employment close by.

Where he could never afford to rent or buy a property in countless other cities, he has checked the prices for central areas like the Georgian Quarter and been pleasantly surprised. In fact, there are lots of nice suburbs within walking distance of the shops, bars and restaurants in the city centre. The initiatives involving Smart Homes are particularly interesting. He loves the idea of knowing what your energy consumption could be before setting foot on the tarmac at Shannon Airport.

Dedicated environmentalist Magnus rarely uses his car (although he is impressed with the lack of traffic congestion) but there are plenty of cycle lanes in Limerick for him to bike to work. Thanks to Open Source data analytics, he can see information on everything from broadband signal strength to safety and to living costs. The local authority open consultation platform, My Point, and the City & County Engage programme, makes it easy for citizens to make suggestions and give feedback; some of the contributions reveal that the people there are witty and warm.

The online events listing convinces him that his cultural interests are well catered for here with galleries, theatres and music venues. He can picture himself frequenting local cafés sampling the fare, strolling around the Milk Market buying groceries and kayaking down the river. He buys a unique coffee blend from the Bean me up, Coffee! online store and smiles when the owner messages him to say thanks.

Clicking his laptop closed, Magnus has decided that Limerick is the next stop along the way in his career, but it might just be the final destination. Limerick is the embodiment of 'hygge'- the Danish phrase for charming, cosy and special. He can't wait to experience it in real life.

# 1 EXECUTIVE SUMMARY

## 1.1 ABOUT THIS REPORT

Cities and their environs, as the main drivers of world economic growth, are attracting an ever increasing number of people that are seeking new opportunities, prosperity and a better quality of life. While this urbanisation trend is contributing to the development of stronger regions, it can be unsustainable if not properly managed. Alongside this urbanisation, the past two decades have seen advances in digital technologies that have changed the world. The Internet, mobile communications, social networks and the “cloud” have turned us into a connected, “always on” society with new expectations on how we seek and find information, how we access services, how we work, how we engage with our peers and how we communicate (for example, the Internet enables a worldwide \$21 trillion global Digital Economy). It is no surprise therefore, that cities across the world are examining how they can increasingly use integrated digital technologies, ICT, data and analytics to operate in a smarter, more efficient way.

As Limerick’s renaissance under the Limerick 2030 plan is building momentum we want to take advantage of digital technologies, transform the way we work at local and regional level, enable better citizen engagement through digital channels, double the number of digital startups in Limerick, double the number of SMEs trading online, double the use of data, create equal opportunities for all citizens and accelerate the development of a Sustainable Smarter Limerick that can grow to become a Tier 2 City Region with strong interdependence on the surrounding regions.

This document presents the Limerick Digital Strategy which joins up the digital and smart cities agendas for Limerick. It sets out the vision for a Sustainable Smart Limerick in 2030 and will guide Limerick to a new level of digital maturity between 2017 and 2020.

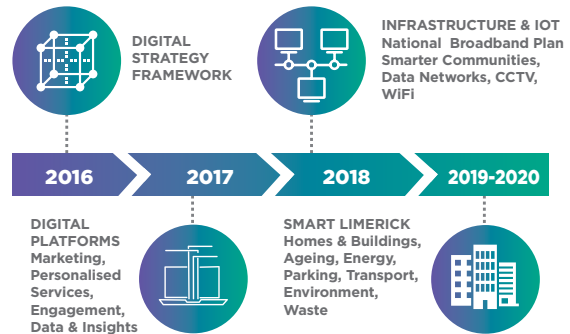


Figure 1: Limerick Digital Strategy Timeline Overview

The first version of this document is based on the Digital Strategy Framework developed in 2016. It contains projects and initiatives which have been implemented in parallel with the development of the strategy in order to reach a common language and understanding between local stakeholders of new concepts, approaches and technologies and to demonstrate their manifestation in practice, e.g. the launch in 2017 of the new Limerick.ie as an integrated digital customer experience platform for Limerick. This concurrent top-down (strategic) and bottom-up approach (implementation) enables support for a commonly shared vision and using an agile approach to quickly move from strategic thinking into action.



## 1 EXECUTIVE SUMMARY

The benefits of reaching a new level of digital maturity are:

Universal Access to Internet	
Better Citizen Engagement	Better Services & Digital Services
Better Access to Information & Education	Better Cross-agency Collaboration
Better, Digitally Enabled Local Administration	
Better use of Data	

This strategy sets the foundation for Smart Limerick, the city region where data, automation and artificial intelligence will fuel the knowledge economy, with a focus on creating by 2025

- **1,000 Smart Homes**
- **100 Smart Buildings**
- **1 Smart Energy District**

that together with the 10 programmes for digital infrastructure and services included in the Smart Limerick Roadmap will promote Limerick as a top international destination for investment, innovation, equal opportunities and a better quality of life for all.

To ensure that this strategy is always on track with the fast pace of technology advances, this document will be published in a draft format and reviewed on an annual basis.

## 1.2 STRATEGIC DIRECTION

This strategy has identified seven areas of development as part of the digital transformation journey towards a Smart Limerick. It aims to develop in a balanced approach not only the necessary digital infrastructure and services but also to support innovation, transformation of services and work practices across local agencies, as a close reflection of the Smart City concept.

- |  |  |   |
|--|--|---|
|  | <b>1. Engagement &amp; Participation</b> | <p><b>Engaged</b><br/>Empower people to participate in the development of their communities through digital channels, support community driven technology and information sharing events.</p>   |
|  | <b>2. Information &amp; Marketing</b>    | <p><b>Open</b><br/>Enable locals, businesses and visitors to discover more about Limerick. Deliver integrated information that helps to promote Limerick to an international audience.</p>  |
|  | <b>3. Service Integration</b>            | <p><b>Integrated</b><br/>Develop a unique digital experience by integrating digital services and providing feedback loops for continuous service improvement.</p>   |
|  | <b>4. Digital Infrastructure</b>         | <p><b>Connected</b><br/>Facilitate the development of new digital capabilities and smart operations by investing and supporting the development of digital and ICT infrastructure: broadband, fibre networks, sensors &amp; Internet of Things, Smart CCTV, Public WiFi.</p>                            |
|  | <b>5. Data &amp; Analytics</b>           | <p><b>Informed</b><br/>Improve the use of data for informed decision making, operational efficiencies, improved openness and transparency, supporting innovation and the development of new products and services.</p>  |
|  | <b>6. Digital Transformation</b>         | <p><b>Transformed</b><br/>Deliver organisational change, demonstrated first by the local council, supported by reviewed structures and standardised processes, improved ICT capabilities, new customer offerings and the development of staff skills in order to enable new digital-first services.</p> |
|  | <b>7. Service Innovation</b>             | <p><b>Innovative</b><br/>Support the development of new solutions and services through innovative procurement, research and innovation, connect and improve local and cross-agency services, support for local companies and start-ups to benefit from the digital economy.</p>                         |

## 1 EXECUTIVE SUMMARY

This strategy will support both national and EU digital programmes, the roll-out of the National Broadband Plan, and other local plans and strategies. It will especially underpin the Limerick 2030 Economic and Spatial Plan.

By 2020 local people, businesses and visitors will:

- Be able to participate in 80% of public consultations using digital channels
- Be able to access more information on some 2,000 attractions, services, community groups and businesses with more than 1,000 events each year in a integrated digital experience platform - Limerick.ie
- Be able to access information about 25 local communities which will have an online presence with integrated content
- Access six programmes for digital skills, digital culture & digital inclusion
- Have 10 local networks actively engaged in smart collaboration using digital technologies
- Be able to access 50 new online services, payments, licences, permits and grants in 'My Limerick'
- Be able to browse the Internet in 20 public WiFi zones in 17 town centres

In addition we will have:

- 37,137 premises connected to high-speed broadband under the National Broadband Plan (NBP extends beyond 2020) [1]
- 12 Strategic Community Access Hubs established to support the National Broadband Plan

- 40 new Smart CCTV cameras to enable safer communities
- Access to 14 Live Cameras from city & town centres for tourists, for Limerick people living abroad and to support and expand the Global Limerick Network
- Six community centres will be equipped with footfall counters
- 10 Digital Public Displays
- 100 sensors deployed across city & county - Noise, Air, Water and Soil quality and Footfall counting
- A network of four digital quarters will be established between Limerick City, Rathkeale, Newcastle West and Kilmallock
- 100 open datasets published in the Insight Limerick Service
- Four new dashboards for Economy, Tourism, Transport and Community Safety
- 20% reduction in the average response time when accessing Council services
- 5% increase in customer satisfaction when accessing council Customer Services
- 20 new smart ageing and mature entrepreneur led start-ups
- 20 local companies digitally enabled in a pilot project for digital retail
- Local representatives participation in three major international best practice networks

The progress made on achieving these targets will be published online at [digitalstrategy.limerick.ie](http://digitalstrategy.limerick.ie)



Figure 2: Strategic Approach



So by 2020 and with implementation of the Economic and Spatial Plan, Limerick aims to be:

- Acknowledged for its ability and confidence to adapt and compete in the global digital economy
- A place of digital equality where access to information creates equal opportunities in the knowledge economy for actively engaged communities and:
- That Limerick's physical environment, digitally enabled by design and connected by default, facilitates sustainable social and economic growth while improving the quality of life for all
- The potential of the public services is unlocked by the use of digital technologies, driven by the desire of putting people first, to adapt, transform and support the reality of a digital, social and mobile age

Limerick City and County Council and its partners under the Charter for Limerick will therefore:

1. Enable our diverse communities, through the use of digital technologies, to participate in the development of Limerick
2. Build Limerick's reputation locally, nationally and internationally as digital ecosystem
3. Create an environment for digital innovation and digital transformation
4. Develop world-class digital services and infrastructure for a Smart City Region and Communities
5. Digitally enable and transform key public services in Limerick

“

IN 2005, DEIRDRE STARTED HER BUSINESS, BEAN ME UP, COFFEE! 'TO BOLDLY GO WHERE NO CAFÉ HAD GONE BEFORE'

”







# DEIRDRE

In 2005, Deirdre started her business in her town, Bean me up, Coffee! 'to boldly go where no café had gone before'.

When she is not naming companies using Star Trek puns, she spends most of her time being a hands-on manager. Hospitality is a challenging sector; competition from big chains and keeping up with changing consumer tastes are the least of her problems. She has difficulty getting suitably qualified employees and her broadband is expensive but still unreliable. She can barely update her listing on Limerick.ie sometimes, not to mention the customer complaints about patchy Wi-Fi.

Deirdre is a member of Limerick Chamber and while she trusts them to lobby on behalf of all businesses in the region, she would like to be able to contact the council directly more often as a ratepayer. She has phoned about the derelict building next door but can't get through to the relevant staff. Deirdre's unit is located in a lane off the main thoroughfares so she has concerns about footfall and is considering a move to a busier street.

Always trying to be ahead of the curve, Deirdre did lots of research on her potential relocation. Insight Limerick provided good-quality information including footfall counter numbers so she picked the best option. High-speed cables has been installed at her new site so the customers can surf the net and she makes sure to fill in the online surveys in My Point as part of her

submission to the Limerick Development Plan in between serving cappuccinos and cakes. Some gadget in the CCTV has shown that Bean me up, Coffee! Is lucky to be based on a route with low traffic so there is a proposal to pedestrianise part of the street. Deirdre is so excited she has the web form ready to send to apply for a permit for picnic tables outside on the new paving.

She has noticed a gap in the local market to sell her custom coffee blend and novelty baked goods online (Kling-bun or Captain's Yule Log, anyone?) and the Digital Retail Pilot is helping her to further develop her online presence and get her existing website and social media channels enabled for e-commerce. Her somewhat 'nerdy' business name, menu and décor have brought her to the attention to the local keyboard warriors, programmers and designers. A nice young lad called Sam from UL's Computer Gaming Society organises meetings in the café along with Digital Champion workshops and the occasional 'mapathon meet-up' (whatever they are).

Deirdre has more time thanks to up-skilling her new workers using the Staff Training Portal; she is confident that the sky, or maybe the universe, is the limit for her business now.

## 2 INTRODUCTION

Cities and their environs, as the main drivers of world economic growth, are attracting an ever-increasing number of people that seek new opportunities, prosperity and a better quality of life. It is projected that by 2040, over 70% of the world population will live in urban areas. It is also estimated that 80% of economic growth will be generated in cities [2]. Some 1.3 million people are moving to cities every week. While this urbanisation trend can contribute to the development of stronger regions, it is largely unsustainable. It increases demands on already strained resources such as infrastructure (housing, transportation, physical environment) and also on education, health, policing and financial resources. In this context, cities and regions face many challenges ahead: economically, socially, culturally and environmentally.

For the past two decades advances in ICT and digital technologies have changed the world. The Internet, mobile communications, social networks and the “cloud” have changed us into a connected, “always on” society with new expectations on how we seek and find information, how we access services, how we work, how we engage with our peers and how we communicate.

The Internet enables a \$21 trillion global Digital Economy [3] where new goods and services are traded across countries and continents. It is expected that by 2020 the Internet-of-Things will grow to 26 billion units adding \$1.9 trillion to the economic value-add through sales into diverse end markets [4]. Digital platforms are increasingly matching jobseekers and employers and this is having a massive impact in the employment market and the economy. It is expected that by 2025 these digital

platforms could increase the global GDP by \$2.7 trillion while filling 72 million full-time-equivalent positions [5].

In Ireland, the value of the digital economy has been estimated to be €12.3b or 6% of GDP and it is expected to grow to €21.4bn or 8% by 2020. A recent report [6] has shown that Irish consumers spend €850,000 per hour online while there are over 100,000 people employed in digital economy. This places Ireland in the top five countries in Europe in terms of the significance of the digital economy. Phase 1 of the National Digital Strategy [7] sets the foundation step in helping Ireland to reap the full rewards of a digitally enabled society. It focuses on cross-government measures, trading online and entrepreneurship, citizen engagement and education & learning. An important element to drive the demand for digital technology and digital skills is the level of citizen interaction with the Government sector which has to provide more online services and information. Thus, the Public Sector ICT Strategy [8] aims to improve the use of technology and in so doing, improve service delivery to customers of Government services. It includes designing eGovernment around customer needs, digitisation of key transactional services and the increased use of ICT to deliver improved efficiency within Government organisations and provide new digital services to citizens, businesses and public servants on a “build to share” principle.

It is no surprise therefore, that cities across the world are thinking differently on how they approach these great opportunities and associated difficult challenges of an increasingly digitalised community. Cities and more importantly the people and





## 2 INTRODUCTION

companies within them are increasingly using integrated digital technologies, ICT, data and analytics, to operate in a smarter, more efficient way [9],[10], [11], [12], [13]. The focus of these “smart cities” is not on technology alone but on enhancing engagement with citizens and communities in order to provide more effective and integrated services as needed by people and businesses. For Limerick this means having much better collaboration with their stakeholders while the use of data and insights will build relationships that can confront the challenges of transition towards a fully digital community, allowing openness and transparency for our neighbourhoods, villages, towns and the city itself.

### 2.1 WHY A DIGITAL STRATEGY?

Limerick City and County is making giant leaps in its journey to become a community of the future, a city capital to a strong Mid-West region and a place that can double its population. However, a number of challenges lie ahead:

- Ensuring a sustainable development of Limerick by avoiding problems in terms of resources, financial or infrastructure for our future generations
- Increasing the use of the city centre and supporting the growth of our rural towns and communities through better city and county planning and management
- Attracting investment, developing a skilled workforce and job creation while preparing for an increase of the knowledge economy
- Ensuring that local businesses take full advantage of the Internet and digital economy

- Creating the conditions where citizens have equal opportunities to access information, education and knowledge so they can benefit fully from the knowledge economy

In this context our new strategy focuses on “smart” development and regeneration through the use of technology and new work practices while supporting the EU Digital Agenda [14] and the Digital Economy.

The Limerick Digital Strategy puts a new lens on Limerick’s strategic development and especially on the ambition to transform our economy and physical space under the Limerick 2030 Economic and Spatial plan [15]. The Strategy defines a framework that supports and enables the use of digital technologies and the adoption of digital transformation principles across the economic, social and physical domains of Limerick City and County.

The Limerick Digital Strategy aims to lay the foundation for the “Sustainable Smart Limerick City Region and Communities”, a Limerick that uses digital technologies and embraces new work practices to empower communities, create better services, accelerate sustainable social and economic growth and to improve the quality of life for all.

This cannot be done in isolation by an individual or a team, not even by a single organisation. It can only be achieved through collaboration across communities and agencies. It requires collaborative leadership and a readiness to challenge the status-quo with a transformational mindset.





## There are seven key areas that need immediate attention:

- **Digital Engagement:** Community participation continues to rely on traditional methods of public meetings and submissions because of the limited availability of digital channels and processes for information dissemination, engagement and participation.
- **Digital Awareness:** A digital divide, caused in part by poor, or a lack of, access to the Internet and part by limited levels of technology awareness or skills, has created unequal social and economic opportunities in Limerick. As a result, many of our citizens are at the risk of missing social, education and economic opportunities.
- **Digital Experience:** Limerick has made great progress in the recent years to present online information about its offerings to a wider global audience. However further development is required now to re-think, co-ordinate and consolidate these efforts and create an effective digital experience for promoting Limerick across multiple digital channels and platforms.
- **Digital Infrastructure:** While the city and larger county towns benefit from high-speed broadband penetration there is a significant deficit in digital infrastructure at regional level. Poor broadband penetration in rural areas with download speeds of 1 to 2Mbps or even large black-spot areas where the Internet is not available has a negative impact on local communities. Limited public WiFi affects visitors experience and inability for local companies to promote their products, services and offerings.

Old, fragmented CCTV infrastructure hinders the effort of creating safer communities.

- **Data & Shared Information:** Siloed data sources, lack of data strategies and awareness of the benefits of using shared information leads to untapped potential for improving existing or defining new services. There are limited opportunities for improving operations by using, for example, artificial intelligence, automation or insights from data or for supporting innovation and job creation.
- **Digital Services:** Underdeveloped digital strategies, limited number of online services and channels (including services provided by the Council) leads to reduced self service options for customers and citizens, missed growth opportunities for local companies in the digital economy, low satisfaction with local agencies and underdeveloped citizen and customer experience.
- **Digital Collaboration:** Limited cross-organisation and cross-agency collaboration and disconnected service provision leads to inefficiencies a limited citizen and visitor experience while economies of scale for service provision remain untapped.

Addressing seven areas will help Limerick City and County Council, in collaboration with key stakeholders in Limerick, to develop new initiatives and new cross-organisation services that will see Limerick reaching a new level of digital maturity. We can create a "Smart Limerick" that will be acknowledged for its ability and confidence to adapt and compete in a global digital economy.



## 2 INTRODUCTION

### 2.2 SMART LIMERICK AND THE DIGITAL CITY

Limerick Digital Strategy joins up the digital and smart cities agendas for Limerick [16], [17]. Smart Limerick is a place which is Informed, Engaged and Transformed. A Digital City is a place which will be at the forefront of new technologies and practices that will underpin our long term development of the city, county and region.

These two concepts in Limerick will support each other in a co-ordinated approach.

#### Smart Limerick: Informed - Engaged - Transformed

“Smart Limerick” is a shorter name for “Sustainable Smart Limerick City Region and Communities”. It covers the region around the City of Limerick, including Limerick County and neighbouring counties, where the sustainable development and the resilience of the region are enhanced by having better engaged communities and society, working across disciplines and systems, connecting other local digital strategies, using data and integrated digital and ICT technologies and infrastructure including support for the National Broadband Plan. This is enabled by collaborative leadership of public, private, academic institutions and community organisations as agreed in the Limerick Charter, in order to deliver better, transformed or new services and to improve the quality of life for all.

This strategy sets the foundation for Smart Limerick, the city region where data, automation and artificial intelligence will fuel the knowledge and digital economies, with a focus on creating by 2025:

- 1,000 Smart Homes
- 100 Smart Buildings
- 1 Smart Energy District

The Smart Homes and Smart Buildings will have high speed connections to the Internet while sensors and data will be used for a better, more sustainable use of energy and increased use of clean, renewable energy sources. The Smart Homes will facilitate people to live longer, more fulfilling and secure lives in their homes, will enable new services, new channels of communications and entertainment while mundane tasks will be automated and decisions will be made using artificial intelligence. Collective data generated by sensors and IoT devices will lead to better energy use in each of the homes and buildings. District heating or energy storage solutions connected with new forms of transport such as e-mobility solutions and electric car sharing will become de-facto in a Smart Energy District.

With this approach we will create a level playing field with increased opportunities for companies to innovate, transform and create new services working together with local agencies, academia and the citizens. It supports our vision as set in the Limerick 2030 Economic and Spatial Plan.





Smart Limerick means a better engaged society, better awareness and education, better services and digital services, better management and operations for the city and county based on insights from better use of shared information and data, equal and better opportunities in the knowledge economy for all. This approach will result in more and better jobs, sustainable social, economic and physical development of Limerick City, County and Region, better resilience to external shocks (environmental, economical and physical) leading ultimately, to a much-improved quality of life for residents and more effective services for businesses and visitors.

### Digital City - Digital Transformation

Limerick is the first city in Ireland that aims to transform our social, cultural, economic and environmental conditions by using digital technologies. Our approach is underpinned by digital transformation methodologies [18] as part of our overall transformation as set out in the Limerick 2030 Economic and Spatial plan. This is not a simple deployment of digital technologies but embracing and enabling in collaboration with our partners in the seven categories of transformation as presented in Figure 3.

Figure 3: Suggested model of Urban Digital Transformation

Business Model	Structure	People	Process	IT Capability	Offerings	Engagement
Economic Social & Pyhsical Development	Doing the Right Thing	Digitally Aware & Savvy	Process Standardisation	Single Customer View	Service Catalogue Driven	Participation & Consultation
Smart Limerick	Doing Things Right	Digital Inclusion	Project Management	EA, MDM, CRM, WEB, Mobile, ERDMS, IoT Broadband	Digital Customer Experience (online, social)	Multi-channel Customer Experience
↑	New Units	↑	↑	↑	↑	↑
Traditional Preoccupations	Traditional Siloed Structure	Public Service Embargo	Multiple Local Processes	Fragmented Systems & Data	Disconnected Offerings	Multiple Counters



## 2 INTRODUCTION

This “digital transformation” aims to enable a better informed and engaged society. We will do so by better use of data and insights to foster innovation in the knowledge economy, support start-ups and new digital services, and deliver investment in digital infrastructure. The Council’s Digital Transformation programme will make use of digital technologies for organisational change, strategic development and city and county management and operations in order to create and enhance the experience of our citizens, visitors and businesses and to create an agile council [19] ready to respond to people’s needs in the digital age. As broadband becomes increasingly available in rural areas this digital transformation will apply to all of Limerick, city and county. Our goal is to facilitate investment and support job creation in the city, county and the wider region.

A “Digital Quarter” will be developed as a demonstration area in the “Georgian Innovation District”, a selected area of the Digital City. As digital infrastructure becomes available, a network of connected digital quarters will be developed in the major towns of County Limerick. The successful pilots implemented in the demonstration areas will be replicated in the wider city and county.

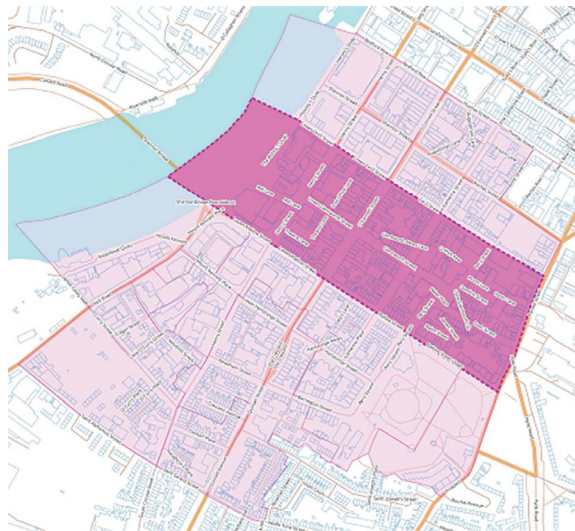


Figure 4: Georgian Innovation District and the Digital Quarter

The connections between the two concepts are evident. The Digital City is the starting point and a key enabler in the development of Smart Limerick City Region and Communities.



## 2.3 SMART LIMERICK DOMAINS

Digital technologies are present in all areas of life. New products, services and solutions enable constant progress in all domains, from cutting edge space exploration, engineering and research to health, education and arts. These technologies also increasingly enable innovation and support growth in traditional industries, agriculture and farming.

A smart city is defined as one that “continuously strives to improve social, economic and environmental sustainability outcomes. It responds to challenges like climate change, rapid population growth and political and economic instability by engaging with society, applying collaborative leadership methods, working across disciplines and city systems, and using data information and modern technologies” (working definition in [20]).

This strategy is not about technology but rather about ensuring that Smart Limerick enables a better response to economic, social and physical environment needs through the use of technology. The Digital Strategy takes a comprehensive approach to economic, social and physical environment needs and challenges spanning across six Smart Limerick domains [21] as presented in Figure 4.

These domains represent the areas in which innovative solutions, ICT enabled and digital services are expected to have a positive impact on the city's social, economic, and environmental sustainability. More specifically, these are designed to represent a city taxonomy; namely:

- Economy & Innovation: facilitating human capital towards knowledge economy, commerce vitality, entrepreneurship, employment, and flexibility.
- Community & Citizenship: improving social capital towards individual and community well-being, participation, inclusion, health and safety, and other Government services.
- Culture & Entertainment: promoting cultural heritage, involvement and accessibility.
- Movement & Transport: managing transport systems and services for accessible and sustainable travel behaviour choices.
- Urban Places & Spaces: managing vitality and viability of open spaces, residential and commercial buildings towards a coherent urban structure.
- Environmental Practices: managing environmental and biodiversity impact, energy, water, waste, and other utilities.



## 2 INTRODUCTION

Figure 5: Smart Limerick Domains [21]



## 2.4 SMART LIMERICK CHALLENGES

In each of the domains the top challenges are identified and presented in Table 2.1. These challenges have been identified in multiple documents, policies and strategies for Limerick as discussed earlier in Section 2.1.

Table 2.1: Key Issues by Smart Limerick Domains

<p><b>Economy &amp; Innovation (EI)</b></p> <ol style="list-style-type: none"> <li>1. Educate and develop workforce</li> <li>2. Attract talent</li> <li>3. Availability of finance &amp; adequate business space</li> <li>4. Promote local businesses</li> <li>5. Attract FDI</li> </ol>	<p><b>Community &amp; Citizenship (CC)</b></p> <ol style="list-style-type: none"> <li>1. Public engagement</li> <li>2. Safer Communities</li> <li>3. Organisations' Structure, Services &amp; Processes</li> <li>4. Online services</li> <li>5. Project information &amp; financing</li> </ol>	<p><b>Culture &amp; Entertainment (CE)</b></p> <ol style="list-style-type: none"> <li>1. Availability of information</li> <li>2. Quality of tourism facilities</li> </ol>
<p><b>Movement &amp; Transport (MT)</b></p> <ol style="list-style-type: none"> <li>1. Access to integrated transport</li> <li>2. Quality of side-walks and bike ways</li> </ol>	<p><b>Urban Places &amp; Spaces (UP)</b></p> <ol style="list-style-type: none"> <li>1. Regeneration</li> <li>2. Integrated planning</li> <li>3. Sustainable building development</li> <li>4. Adequacy of public realm &amp; spaces</li> </ol>	<p><b>Environmental Practices (EP)</b></p> <ol style="list-style-type: none"> <li>1. Avoid effluents in water</li> <li>2. Avoid soil contamination</li> <li>3. Prepare for climate change</li> <li>4. Clean Energy</li> </ol>

The challenges are not unique to Limerick. They have also been identified in other cities in the World Economic Forum report "Inspiring Future Cities & Urban Services Shaping the Future of Urban Development & Services Initiative" [2]. Increasing the ability of Limerick City, County and Region to deal

with these challenges will result in an increase of the competitiveness in the international race between cities and regions to attract investment, financial, social and human capital.

## 2 INTRODUCTION

### 2.5 METHODOLOGY

The definition of this strategy started with a deep understanding of challenges faced by Limerick City and County at local level. Following the review of all local plans and strategies that aim to respond to these challenges (see Section 4.9) it has become evident that a Smart City approach where digital technologies and adoption of new work practices will bring numerous advantages in terms of connecting, supporting and accelerating the delivery for these plans in a co-ordinated way.

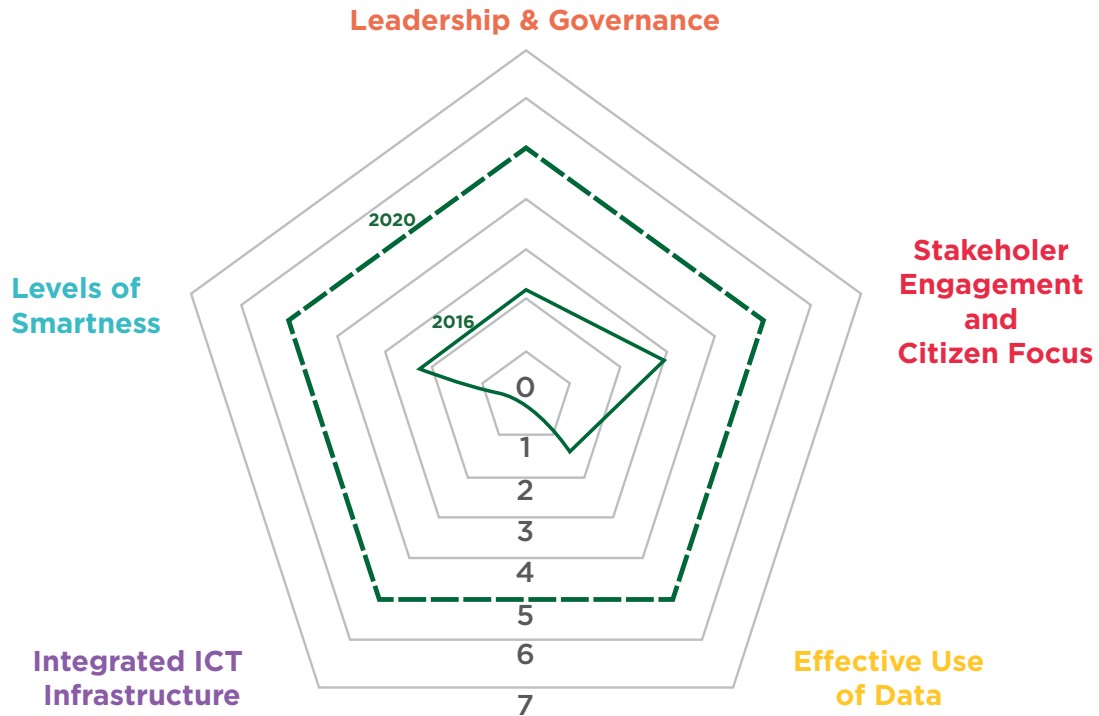
Following the definition of a common vision, aims and goals for a Smart Limerick 2030, a Digital Strategy Framework was developed. This framework enabled, with the support of Chief Executive and Management Team in the Council, the establishment of a Council Digital Champions Forum (see section 4.6.1) and a Limerick Digital Leaders Network (Section 4.6.2) who contributed to the development of the first Smart City Assessment, a strategic tool that is used to plan and guide the transformation journey towards the Smart Limerick and the Digital City. This initial capability assessment was completed in 2016 with the support of researchers from LERO - The Irish Software Research Centre at University of Limerick and IVI - The Innovation Value Institute, at Maynooth University. It enabled the definition of the current status or the "as-is" situation and a common understanding between stakeholders of how this transformation is being tackled. It also enabled the definition of a clear set of goals to be reached in the next 3-5 years and the desired "to-be" situation,

across the defining factors of Smart Limerick and the Digital City. The results of the assessment are presented in APPENDIX A - Smart Limerick Capability Maturity Assessment.

A clear set of initiatives have been identified and grouped in 10 programmes in the Smart Limerick Roadmap 2017 - 2020 presented in Chapter 5. A high level overview of the roadmap is presented in Section 5.1 while section 5.2 describes the longer term considerations as captured during six consultation sessions with local stakeholders from 28 local public agencies, small and large enterprises, academia, community and voluntary sector.

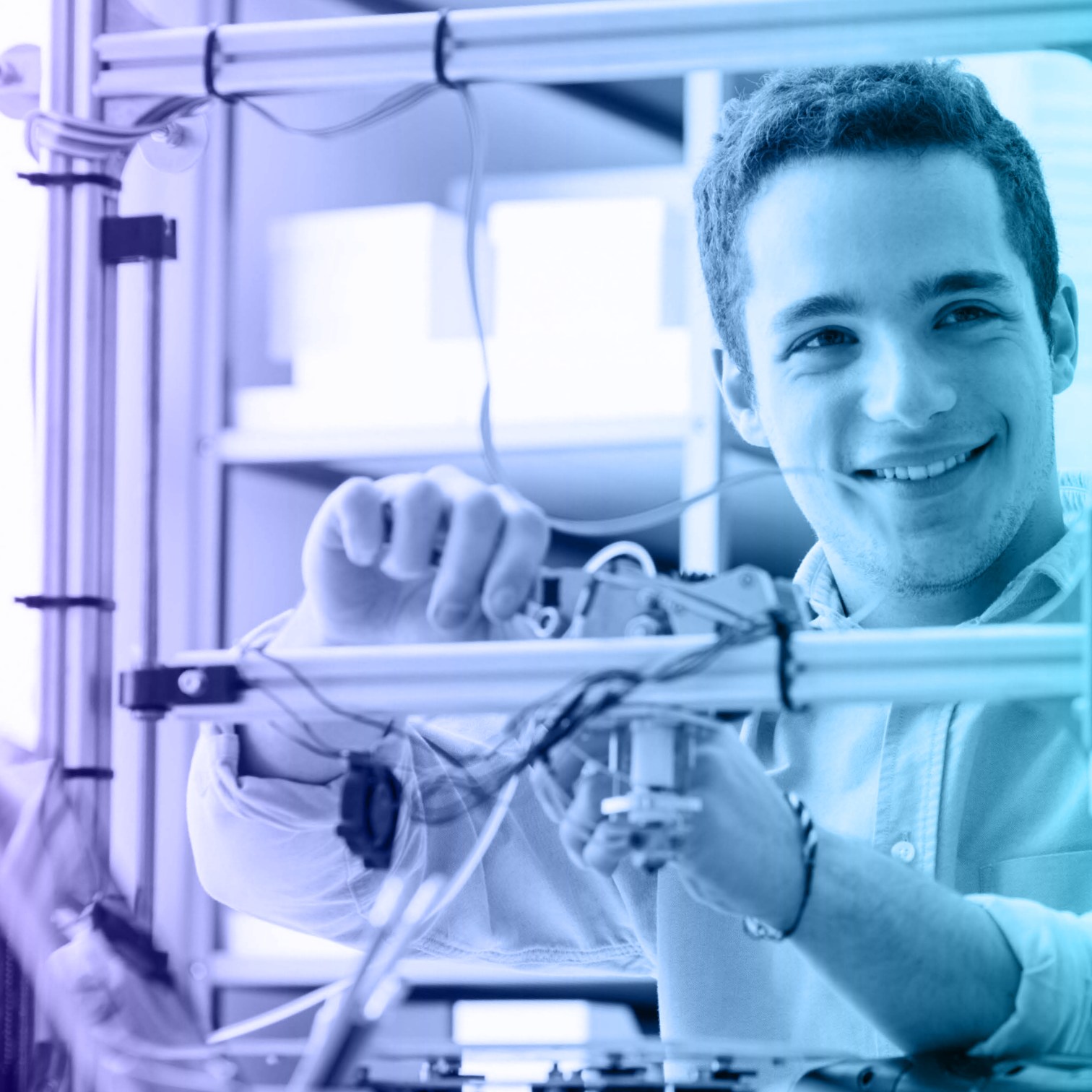
There are six appendices that provide specific information about the Smart Limerick Maturity Assessment, Indicators, Smart Limerick Roadmap and also the composition of the Digital Champions Forum and Digital Leaders Network and the feedback received during consultations. As these appendices will be subject to constant review they will become self contained documents referenced by this strategy document.

Figure 6: Smart Limerick Maturity 2016



Based on this assessment a Digital Strategy Framework has been defined as presented in Chapter 4.









“

SAM IS STUDYING COMPUTER SYSTEMS AT THE UNIVERSITY OF LIMERICK AND TAKES HIS STUDIES, AND HIMSELF, VERY SERIOUSLY INDEED

”

# SAM

Sam is studying computer systems at the University of Limerick and takes his studies, and himself, very seriously indeed.

Having just started the final year of his degree, he is concerned about job prospects in the region because he would like to stay locally to help his mother—a full-time carer for his father who suffered a stroke a number of years before. He is hopeful of getting an entry-level position at an SME in the Nexus Innovation Centre where he went for his off-campus placement but is also benefitting from Digital Edge networking events and TechTown meet-ups.

He enjoys socialising and five-a-side soccer but his hobbies tend to revolve around 'techie' pursuits like gaming and more recently, joining in with 'mapathons'. The growing number of public WiFi areas makes these coordinated mapping events easier because nobody has to use their phone network data to edit the OpenStreetMap. A recent event mapping out wheelchair-accessible pubs and clubs was commended by the Irish Wheelchair Association and featured in its magazine, *Spoke Out*.

Sam also likes to volunteer; he is involved with UL Engage and signed up to be one of the council's Digital Champions in schools and community centres. Feisty pensioner, Rose, from the King's Island Senior Citizens Group is his favourite, and best 'student'.

He helps out at FabLab with the digital fabrication of artificial hands using OpenSource designs submitted by people all over the world. He finds this outreach work extremely rewarding. His dad is doing well but has a weakness on his left side that might be aided by a lightweight 3D printed device to help him grip objects.

At FabLab, he met Agnieszka, a Masters student in Product Design and Magnus who just moved from Denmark and seems to know a lot about medical devices; they are collaborating on a robot kitchen porter to be used in smart homes, and maybe commercial kitchens, and they are fundraising through a crowdsourcing website to develop a better prototype.

Sam may end up starting his own business sooner than he thinks...but for now, he's just missed the bus to this 10am lecture and will have to arrange something on the car-sharing scheme for UL students. He wonders if they'll stop for a breakfast roll along the way?

## 3 VISION & STRATEGIC OBJECTIVES

Limerick Digital Strategy aims to address key challenges that Limerick will face in the future, as far as it can reasonably be foreseen. These include: urbanisation and urban dependent economic growth, population growth, ageing population, scarce resources, traffic, pollution, increased demand for employment, increased education costs. It starts by imagining the Limerick of 2050 with a population increase (national predictions indicate an increase of 47%, an ageing population (65+) increase by 263% and a 14% increase in labour force by 2046 [22]), then looking back at Limerick 2030. It defines a set of goals to be reached in order to be prepared and ready to respond to the more immediate challenges of Limerick 2020.

As digital technologies create connections that otherwise would be impossible to define, the Limerick Digital Strategy aims to connect people, communities, services, agencies and organisations in order to create better services and equal opportunities for all the people while enabling sustainable social and economic growth.

### 3.1 SMART LIMERICK 2030 VISION

Having regard to the local, national and international context, and the challenges faced by Limerick City and County and the wider region, as discussed in the previous sections, a new lens on the vision for Limerick 2030 is presented in this strategy. There are four areas envisaged to change under Smart Limerick 2030 Vision: better economy, improved opportunities and community engagement, sustainable development and better public services.

#### SO BY 2030 LIMERICK IS:

1. Acknowledged for its ability and confidence to adapt and compete in the global digital economy
2. A place of digital equality where access to information creates equal opportunities in the knowledge economy for actively engaged communities

and:

3. That Limerick's physical environment, digitally enabled by design and connected by default, facilitates sustainable social and economic growth while improving the quality of life for all
4. The potential of the public services is unlocked by the use of digital technologies, driven by the desire of putting people first, to adapt, transform and support the reality of a digital, social and mobile age

### 3 VISION & STRATEGIC OBJECTIVES

The physical environment “connected by default” means that the technology dimension that enables “connectivity” will be added to any physical infrastructure projects as part of the planning and design process and not at a later stage when it is often difficult or impossible.

#### 3.2 GOALS & STRATEGIC OBJECTIVES

The rapid development of digital technologies and the adoption of digital transformation principles will support the following goals:

1. Enable our diverse communities, through the use of digital technologies, to participate in the development of Limerick
2. Build Limerick's reputation locally, nationally and internationally as digital ecosystem
3. Create an environment for digital innovation and digital transformation
4. Develop world-class digital services and infrastructure for a Smart City Region and Communities
5. Digitally enable and transform key public services in Limerick



### 3.3 PRINCIPLES

The development of Smart Limerick, and associated actions, plans, governance and policy initiatives, will be underpinned by the following eight guiding principles which have been agreed by the multiple stakeholders involved in the preparation of the Strategy:

1. **Citizens' needs come first.** While support for customers is paramount any initiatives will put the citizens' interest first. Any designs must start with the citizens' needs as far as it is practical. Current practices will be changed to suit the citizen and only then can the organisation issues be addressed.
2. **Digital first but inclusive.** All digital services must be inclusive for all the people of Limerick. Alternative channels must be provided while training and assistance must be supplied when needed.
3. **Align to the common vision for Limerick.** All initiatives will support the Limerick 2030 vision and plan. Governance arrangements and policy changes will be developed and adopted in order to lead Limerick towards this common vision.
4. **Open collaborative approach.** Strategy development, plans and policies will be open to our citizens and our communities to participate and influence. Smart Limerick will be built using open architectures, open data and open standards in order to avoid at all costs having entire communities locked in proprietary solutions and standards. This is a fundamental requirement in order to enable unrestricted collaboration, sharing and transparency in a Smart Limerick.
5. **Build once, use multiple times.** In the implementation of Smart Limerick initiatives duplication will be avoided in order to avoid inefficient use of resources, siloed approaches and missed opportunities to improve on current capabilities. Common repositories and taxonomies will be developed and published in open format so that future projects will add value instead of reinventing the wheel.
6. **Spend smarter rather than more.** We will adopt reusable designs and question the value created against desired outcomes. We will use partnerships to share costs and define projects that create value for all partners involved. We will work with academic institutions in finding new solutions to citizen problems.
7. **Champion for excellence.** We challenge the "status quo" and question current systems and practices. Just because it has worked well in the past it does not mean that it cannot be made better for the future. We will challenge assumptions and encourage innovation.
8. **Take the lead.** We will use agile development practices and take informed risks. We will apply the understanding that we can fail fast but must also recover fast. We will learn from failures and continue to lead.







“

ROSE IS BUSIER THAN EVER  
EXCHANGING TIPS ON A  
RESEARCHING HER FAMILY  
TREE WITH THE LIMERICK  
ARCHIVES ONLINE AND  
REGULARLY SKYPING  
HER FAMILY

”



# ROSE

Rose, a widow who is 77 years young was 'bred and buttered' in Thomondgate, as she likes to say. She is grateful for her family, good neighbours and her health. Of her two children, one lives in Dublin and the other in Dubai. Catherine is great to visit regularly; Rose loves to see her grandsons coming with news and noise.

An early riser, she passes the day by keeping busy, whether reading, pottering around her small vegetable plot or watching the soaps. On days when she doesn't go to the Senior Citizens Club or the graveyard, Rose makes her way into the city centre after the morning Mass. She tries to walk but often takes the bus home, and only takes a taxi with her friend Margaret when they go to the Stella Bingo on Monday nights. Rose picks up her pension herself in the Post Office but is nervous when carrying it home in her bag in case of the dreaded 'anything happening'.

On a rainy Thursday evening, 'anything' happens; Rose becomes dizzy and falls. The street is quiet but CCTV picks up on the incident and alerts the emergency services. She thinks the shock is the worst part but while she has a lot of bruising, there is no major injury. Tests show that she has high blood pressure, which may have gone undetected if she hadn't fallen.

A few days later some students came to the Senior Citizens Club. Sam, a computer systems student, helped her report a loose paving stone that she saw on her last walk with Margaret in the City by submitting a service request online to the

Corporation (that's what the council used to be called in Rose's day). The reply thanked her and said the council would be putting in intelligent lighting on the street too. When Sam comes back in a fortnight, he's going to show her how to use computer programs to make video calls. Her grandson Jake said he will bring his tablet on his next visit so she can have a chat with her son, Mark, over in the desert.

Rose isn't sure what he means by tablet but on that subject, Rose is impressed with her new Smart Card. The card was a real lifesaver on that rainy Thursday evening. It carries all her medical information including a record of her medications when she brings it to the local pharmacy. She gets alerts to remind her to attend the GP and fracture clinic too. Her nurse, Marie, says her ankle is nearly good as new.

Rose is busier than ever because along with seeing her club and bingo friends, she is exchanging tips on a Facebook gardening group, researching her family tree with the Limerick Archives online and regularly Skyping her family.



# 4 ACHIEVING OUR VISION AND GOALS

We have four focus points and three supporting platforms to deliver our vision and the underpinning goals for our strategy:

1. Empowering our Communities
2. Building the Digital Economy
3. Providing Digital Infrastructure
4. Creating Smart Limerick

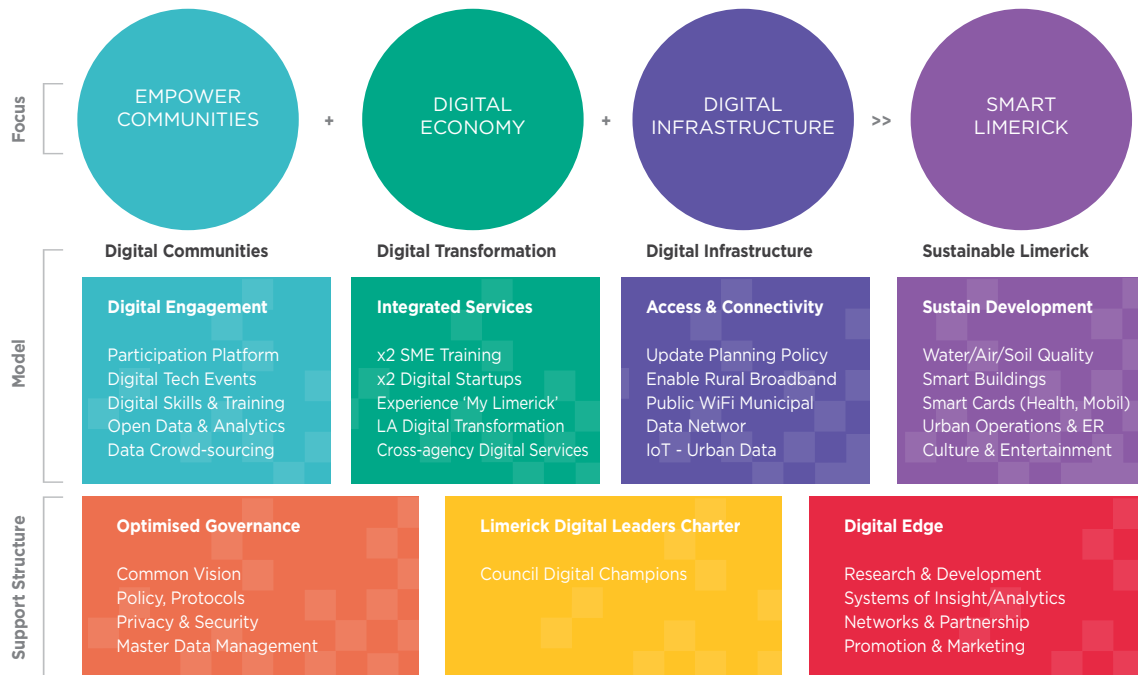
Supported by:

1. Optimised Governance - a programme of policy development (e.g. in areas of privacy and security)

2. Leadership Structures - Limerick Digital Leaders Network and Council Digital Champions, and
3. Digital Edge - a programme of research & development, networking, promotion and marketing.

Each of the four focal points and supporting platforms are described in the following sections. The supporting structures are also explained. The strategic approach and the programmes included in the Smart Limerick Roadmap 2017-2020 have been defined based on this framework.

Figure 7: Limerick Digital Strategy Framework



## 4 ACHIEVING OUR VISION AND GOALS

### 4.1 FOCUS POINT 1:

#### EMPOWER COMMUNITIES

We will use digital technologies to enable people and local communities to participate in the development of Limerick by introducing:

1. **Digital Participation Platform - My Point** - supporting the Citizen Open Innovation initiative where citizens are engaged in local developments through the City & Town Engage programmes. This platform enables people to contribute to the development of strategies and policies that affect them and their community, i.e. public submissions to Limerick Development Plan, local area plans, infrastructure developments (e.g. planning the construction of new roads, the river way, etc.) Connections between participants will also be enabled as well as the ability to respond to surveys on various issues, etc.
2. **Digital Technology Events** and conferences in order to increase the number of visitors that visit Limerick and therefore build Limerick's reputation locally, nationally and internationally. We will develop in partnership with local stakeholders an annual "Digi-Link" conference that will bring international speakers and expertise in the digital technologies and smart cities.
3. **Digital Skills Development Programme** especially around community and voluntary organisations will be lead by the Limerick Clare Education and Training Board and delivered with the assistance of Department of Communications through the National Digital Strategy. We will work with the Limerick Regeneration in areas where people are most in need of skills development and co-ordinate with other public service agencies and training organisations the development of staff skills needed for the provision of digital services. A training portal accessible to Council staff but also open to the public that wants to join the public service was launched in 2016 ([training.limerick.ie](http://training.limerick.ie)).
4. **Open Source** principles and methodologies are key to this strategy in enabling local communities to engage without restrictions with the wider European and international communities in the development of open source software and hardware, open data, open science and open government. This will have a positive impact on education, governance, local policies, decision making and strategies.
5. **Open Data** as a key enabler of innovation and public service reform by facilitating data and information exchange between public agencies in the delivery of new customer centric services. Open Data improves decision making, openness and transparency.
6. **Insight Limerick**: Limerick will use the power of data analytics for better decision making. A new service "Insight Limerick" will be developed as a data as a service concept where citizens, communities and organisations will be able to find, browse, use and share open data, maps, access analytics and reports. We will enable both internal council users and the public to aggregate, visualise, query, analyse and gain valuable insights from data.



7. **Data crowdsourcing** as a method for citizens and communities to participate in the data gathering process, data that is critical in the delivery of services or for use by other communities. For example, an Invasive Species mobile app was launched in 2016 to enable the public to report locations of Japanese Knotweed, Giant Hogweed, or other invasive species of plants that have not only a negative environmental impact but also a negative economic impact. Conducting a survey of all locations where these species have grown out of control is prohibitively expensive and impracticable while using digital technologies citizens report these locations and therefore enabling the council to build a full understanding of the problem and its possible solutions.
8. **Support for meet-ups, hackathons & mapathons, digital fabrication** and other community-led events in co-operation with academic institutions, small and large enterprises to grow a thriving digital community.

## 4.2 FOCUS POINT 2:

### BUILDING THE DIGITAL ECONOMY

The second focus point is building Limerick's reputation locally, nationally and internationally as a digital ecosystem where innovation and digital transformation are used as key enablers of growing opportunities in the knowledge economy, as envisaged in the Limerick 2030 plan.

1. We will continue to enable local **SMEs to transact online**, reach new markets, sell more and grow using Internet technologies. The Limerick Digital Strategy will support the Local Enterprise Office which plays a key role in this initiative by developing new procurement strategies for products and services that are needed in Limerick. A **Digital Retail** pilot project has been included in the roadmap to 2020.
2. **Tech start-ups** are already supported to grow in Limerick thorough initiatives such as the Digital Academy of Skills developed by Innovate Limerick. We will work closely with Nexus Innovation Centre and Hartnett Enterprise Acceleration Centre in order to develop, enhance and promote a co-ordinated **digital ecosystem**.
3. We will open competitions for the **design of new services and solutions** for the challenges that Limerick encounters. We will support the development of these solutions through co-financing platforms like Small Business Innovation Research, Public-Private-Partnerships and other methods of enterprise support.



## 4 ACHIEVING OUR VISION AND GOALS

4. Limerick joined [TechTown](#), an European funded network, part of Urbact, that explores how small and medium sized cities can [maximise the job creation potential of the digital economy](#). It aims to develop a better understanding the digital economy, growing digital jobs through start-ups, the digital transformation of traditional industry, and by joining up the smart cities and digital economy agendas. It also develops methods for finding, growing and retaining talent. It looks collaboratively across European cities at new ideas and actions to help support all businesses to access the digital skills and embed the digital innovations they need in order to start, grow and compete. This is an active network embracing the opportunities digital technology affords to collaborate and co-create. It works closely with digital communities in each city through activities such as hack days and meetups. In 2016, a

Limerick Urbact Local Group was established with members from LCCC, UL - LERO, LIT, Innovate Limerick, Mid West Regional Skills community groups such as FabLab, and also SMEs such as Microelectronics Application Centre, Pinpoint Medical.

5. [Digital education and access](#) will be enabled by our educational institutions which are members of the Limerick Digital Leaders Network including extra-curricular programmes for young people such as CoderDojo, academic programs such as UL Engage and also digital inclusion programmes led by the Limerick and Clare Education Training Board in addition to existing digital skills programmes led by community and voluntary centres.
6. As leader of Limerick's Digital Strategy the Council must enhance its ability to use digital technologies in delivering its services to citizens and local businesses. [A Digital Transformation Programme](#) started in 2015 to support and enable organisational change. This aims to develop and enhance the [digital customer experience](#) by bringing full support for online payments for all Council services, licences, permits, certificates and grants. Substantial investments are being made to redefine how staff operate on a digital-by-default principle, using electronic records, web technologies. Customer Relationship Management and mobile applications for service operations in an integrated digital platform. This is where local businesses and suppliers will be encouraged to transact online with the Council instead of the traditional paper-based systems. This programme

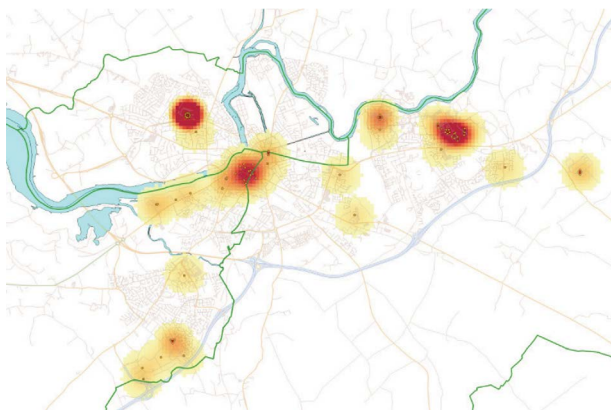


Figure 8: A heat map of the number of Digital Businesses in Limerick City (GeoDirectory 2017 / NACE)

will see a major upgrade of the ICT infrastructure: the Council WAN network, switching and storage equipment, a new telephony system that works across 37 locations and council offices, extension of the Municipal Data Network, introduction of Video Conferencing equipment and an omni-channel contact centre to support a new way of interaction with citizens.

7. [My Limerick Web](#) and the [My Limerick App](#) will be launched as part of new Limerick.ie as an integrated digital services platform where people will experience Limerick in their own way. If you are a local, visitor, business or public representative, 'My Limerick' aims to provide you with a consistent digital experience of what services Limerick has to offer, from creating a list of favourite things to do in Limerick to submitting service requests to the council, for example, street cleaning, grass cutting or getting permits, licences or grants;
8. We aim to develop [Cross Agency Digital Services](#) on the 'My Limerick' platform under a single customer profile, a true reflection of digital transformation in the Digital City and Smart Limerick. It is the platform where new services can be enabled, i.e. booking events or a parking spot. The Limerick Digital Leaders Network will play a key role in fostering the collaboration between agencies in order to define new digital services that place customer experience as the main motivation to change and transform.
9. Starting with the principle of "build once, use multiple times" and that no data should be entered twice, an integrated [Digital Citizen Experience Platform](#) will be developed; this platform brings together co-ordinated content, digital integration of services, data and analytics allowing the citizens to participate in the development of Limerick and also to provide feedback so that services and solutions can be further improved.

## 4 ACHIEVING OUR VISION AND GOALS

### 4.3 FOCUS POINT 3: PROVIDING DIGITAL INFRASTRUCTURE

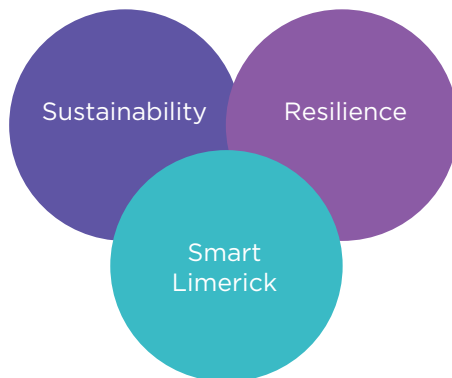
Digital Communities, Services and Economy require substantial investment in digital infrastructure. The Limerick Digital Strategy aims to:

1. Update our [planning policies](#) in order to ensure that any new commercial or housing developments will include the deployment of high-speed broadband and fibre connectivity. This will be required at the design stage.
2. Support the roll-out of the [National Broadband Plan](#) [1] by fast-tracking licences or permits processes that are needed for infrastructure development. Working more closely with the operators we will co-ordinate broadband roll-out when roads, water or waste water infrastructure is developed in order to accelerate deployment and reduce costs and the disruption to traffic and pedestrians.
3. Increase the number of [Public WiFi zones](#) in Limerick City and the major towns of the county. The Public WiFi will be used not only to deliver free access to the Internet but also to provide connectivity for smart devices, such as Smart CCTV, footfall counters, pollution sensors, etc. We will use the data generated by the Public WiFi to understand the visitors trends, needs and demands in order to find new opportunities to promote Limerick and attract even more visitors and investment.
4. We will continue the development of the [Municipal Data Network](#), a fibre network that acts as a high-capacity, high-speed backbone for data transfers. Over 10 km of fibre have already been deployed to connect and integrate CCTV systems, traffic controllers, parking guide systems and council offices. This network will be extended to include the next generation of sensors, CCTV, digital displays and the roll-out of the Internet of Things (IoT) in Limerick.
5. The [Internet of Things](#) generates data from our streets as well as watercourses, soils and air, traffic and pedestrian movement. We will install monitoring devices which will be connected to intelligent systems that make automatic optimal decisions (e.g. intelligent street lighting). Alternatively they will be connected into integrated centres of operations in order to deal with daily activities or to improve emergency response in cases of severe weather or natural disasters. For the people, communities and businesses of Limerick to maximise the benefits derived from these new sources of information, the data needs to be connected, shared, analysed and protected in a coherent and consistent way in order for new services to be developed and existing services to be improved. This will also enhance our capacity to open source information into and out of our communities.

#### 4.4 FOCUS POINT 4: CREATING SMART LIMERICK

All this investment in infrastructure, organisational change, and increase use of data aims to lay the foundation for Smart Limerick. This is not about technology solutions; is about better informed people, better business, better jobs and opportunities, better education, better services and public services, a better experience for visitors and investors. Smart Limerick ultimately is about a better quality of life for all.

Figure 9: Smart Limerick



The focus in Smart Limerick is increasing sustainability and resilience for present and future generations. We envisage a city that has twice its current population by 2050, at the centre of a prosperous rural area and a strong region. We aim to achieve this through collaborative leadership, strong co-operation and co-ordination with stakeholders across multiple domains, enabling people to engage in all developments through better use of data and integrated technologies.

Limerick City and County Council together with the Limerick Digital Leaders Network will:

1. Use [agile methodologies](#) to develop pilot initiatives that have the potential to find smart solutions to urban and rural problems.
2. Increase our capacity to monitor and improve the [Air, Water and Soil Quality](#) through the use of new sensor and communications technologies such as Wireless Wide Area Networks, SigFox and LoRa.
3. Use the opportunities created under the Limerick Regeneration Programme and Limerick 2030 for the development of [smart homes and smart buildings](#) where the energy consumption is monitored and controlled leading to a more efficient use, benefiting from cost savings and a reduced carbon footprint.
4. Develop proposals under the [EU Horizon 2020 Smart Cities and Communities](#) in order to create partnerships and alliances in the development of Smart Limerick with other European lighthouse and follower cities.
5. Support the [Age Friendly Strategy](#) in the development of Smart Ageing Limerick by creating senior friendly web and mobile technologies that combat exclusion; promote the use of wearable technology to monitor and alert care providers in case of an abrupt health change; work closely with the HSE and the University Hospital to provide remote services for seniors through tele-service units; use smart CCTV & analytics to alert the Gardaí when abnormal activities (audio or video) are detected, etc. Work closely with ISAX - The Irish Smart



## 4 ACHIEVING OUR VISION AND GOALS

Ageing Exchange in developing new concepts and programmes that enhance the health and well-being of older citizens through the use of technology.

6. We will **record and preserve digital content** from cultural and entertainment events by creating a **digital archive** of location-aware multimedia content that can be used by future generations to re-live the Limerick of today through augmented reality applications.
7. Limerick has a long-established tradition in **digital preservation** of our cultural heritage. Limerick was the first City and Municipal Museum in Ireland to publish online its full collection with over 50,000 items. Limerick was also the first city in Ireland to digitise and publish online its City Archives. It was the first city in Ireland to digitise, map and photograph each headstone in its largest cemetery, Mount Saint Lawrence, connecting people from all over the world with their roots and past generations. This work will continue with the digitisation of the Limerick City Gallery of Art collection.

### 4.5 OPTIMISATION THROUGH GOVERNANCE

The complexity of developing a Smart City Region and Community cannot be underestimated as it requires progress to be made on multiple domains such as transportation, water, energy infrastructures, waste management, air and soil quality, human capital, knowledge and education, culture and leisure facilities, public spaces and tourism, public administration and health just to name a few. Multiple stakeholders are involved in the planing and development of Limerick, local and national government and public services agencies for the benefit of citizens, enterprises and communities. These stakeholders, restricted by their role and governance rules, traditionally worked in isolation with specific focus on planning, health, transport or education.

In recent years, the stakeholders in Limerick are increasingly working in a collaborative way towards achieving common goals. In 2014 the Limerick Charter was signed by Limerick City and County Council, University of Limerick, Mary Immaculate College, Limerick Institute of Technology, Limerick Enterprise Development Partnership, Shannon Airport Authority, Shannon Foynes Port Company and Limerick Chamber. With this partnership new initiatives have started such as Innovate Limerick to help drive innovation and act as the delivery mechanism for the projects outlined in the Limerick 2030 plan and the Limerick Regeneration implementation plans. Another example is the Limerick Economic Forum, a close collaboration between stakeholders that have come together in a voluntary capacity to offer their expertise in the



economic Development of Limerick in the area of job creation and the delivery of the Limerick 2030 Economic and Spatial Plan.

Likewise, Smart Limerick needs to be developed with the same level of co-operation between stakeholders in order to be successful. Key stakeholders will work together and:

1. Develop a common Smart Limerick Vision 2030 agree on a set of principles and goals to be reached. This document puts forward a proposal for what Smart Limerick will look like and also an approach for its development and the roadmap for implementation.
2. Agree the evaluation criteria, the metrics and indicators to be used across each domain in order to evaluate the progress made by various initiatives. In the initial release of this strategy any indicators that are known have been used. However more research and data is required to pin down the relevant indicators and establish the data: i.e. the value of the local digital economy, the number of companies that currently transact online, the number of local services and potential for digitalisation, etc. This will be undertaken in future research and development.
3. Develop new policies for integrated planning, data protection, information security and privacy having regard to international and national legislation and ethical issues including the The General Data Protection Regulation (GDPR) which will come into force on the 25th May 2018.
4. Agree on the communications, data exchange and other standards that must be observed at all time in order to maximise the potential of all initiatives and to avoid vendor lock in of communities and organisations.
5. Develop new types of procurement and public private partnership.
6. Develop new strategies to ensure that Limerick takes full advantage of integrated ICT & Digital technologies. For example, a Data Strategy and a Master Data Management strategy defined and agreed across multiple stakeholders will enable evidence-based insights and unlock the full potential of public services. It will enable information sharing between research teams, hospitals and services agencies leading to better decisions and better services.



## 4 ACHIEVING OUR VISION AND GOALS

### 4.6 LEADERSHIP & SUPPORT STRUCTURES

This Digital Strategy cannot be implemented in isolation by an individual or a team, neither by a single organisation. It can only be achieved through collaboration between communities, public service agencies, academia, small and large enterprises and voluntary sector with collaborative leadership.

Therefore two structures have been proposed to lead and support the development of Smart Limerick:

1. The [Council Digital Champions Forum](#) is a cross departmental senior team within Limerick City and County Council tasked to lead the Smart Limerick development having regard to organisational vision, objectives and programmes. This forum is described in Section 4.6.1
2. The [Limerick Digital Leaders Network](#), a group of stakeholders and thought leaders from leading organisations that have committed on a voluntary basis to work together and support the development of Smart Limerick. The network is presented in Section 4.6.2

#### 4.6.1 COUNCIL DIGITAL CHAMPIONS FORUM

The Council Digital Champions Forum is a cross departmental senior team within Limerick City and County Council tasked to lead the Smart Limerick development having regard to organisational vision, objectives and programs. The members of the forum will ensure that:

- Any strategies, programs and projects take full advantage of the opportunities and capabilities provided by digital technologies and that
- All technology developments are integrated according to the Smart Limerick Enterprise Architecture.

Elected digital champions will become members of the wider Digital Leaders Charter which includes external agencies, academia, commercial, community and voluntary sectors.

Digital Champions have been appointed for each of the Smart Limerick domains. They will support and work closely with the members of the Limerick Digital Leaders charter in each of the domains and across domains in leading the development and implementation of solutions that deal with the challenges identified (See Section 2.4 for details). Detailed composition of the forum is presented in APPENDIX D - Council Digital Champions Forum.



#### 4.6.2 LIMERICK DIGITAL LEADERS NETWORK

The Limerick Digital Leaders Network is a group of stakeholders and thought-leaders from leading organisations that committed on a voluntary basis to work together and support the development of Smart Limerick. The network includes members from public and private organisations, small and large commercial enterprises, academic institutions and research centres community and voluntary organisations and local development companies.

Detailed structure of the network is presented in APPENDIX E - Limerick Digital Leaders Network.

#### 4.7 DIGITAL EDGE - RESEARCH & DEVELOPMENT

While smart applications and solutions have been successfully implemented in large and small cities across the world “smart city” concepts are still experimental. Further research is required to define the value chain offered by smart technologies, sustainable business models, procurement and especially funding models in the context of serious challenges to local government and city budgets. Urban and regional level Enterprise Architectures that ensure free data and information flow and the governance methods are still in their infancy.

In Limerick we will take advantage of international best-practice and methodologies. We will work closely with the academic sector and engage in research, experimentation, agile development of smart solutions and practices. We aim not only to use the international recognized frameworks and standards but to also recognised to the body of knowledge by documenting, recording and publishing our results. We aim to support the marketing of Limerick City, County and Region as place of community led innovation where companies grow faster by having access to new ideas and experimentation grounds supported by a proactive local government and public services structure:

1. Limerick City and County Council has started a research program with the Smart Cities group in LERO - The Irish Software Research centre, a cross university research centre based at the University of Limerick. Research will continue in other Smart Limerick domains including IoT, sensors and communications for energy efficiency, environmental practices and climate change.



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2. For example, a case study has started with the objective to develop the Limerick Enterprise Architecture for smart cities of the future. Successful development of a smart city requires a unified ICT infrastructure to allow sustainable economic growth. The research will support a major Internet of Things (IoT) collaboration between Analog Devices, Dell and Intel which is being finalised and which will be announced later in the 2017. As part of the case study, LERO will develop together with Limerick a new digital service (Insight Limerick), which offers citizens a portal for information sharing, open data and data visualisation while analytics will be used to gain insights leading to better services. The unified ICT platform must be suitable to model, measure, optimise, control and monitor complex interdependent systems of urban life.

Limerick has joined a number of international networks and developed partnerships during 2015 and 2017:

1. On the 25th of June 2015, Limerick hosted the first meeting of Irish smart cities co-ordinators where Dublin, Cork and Galway city have agreed to establish the [All Ireland Smart Cities Forum](#) in order to foster collaboration and best practice exchange between cities in the island of Ireland. The forum was joined by Waterford, Belfast City, Derry City and Strabane and a forum coordinator has been appointed in 2016.
2. Limerick joined in 2015 the [Open and Agile Smart Cities initiative](#) (OASC), a city-driven, non-profit organisation with more than 100 cities from across the globe, with the overall objective to create a

Smart City market through four de facto standards for portability and interoperability: a 36 drive-by-implementation approach which implies that communities and developers can co-create their services; an API; a set of data models, and an open data platform. Companies benefit from this initiative through access to a common set of standards that will be required consistently by cities. A common set of standards enables companies to develop products and solutions that work across multiple cities. Therefore companies and cities can take advantage of economies of scale and better, more reliable products.

3. Limerick has become a member of the [Connected Cities Advisory Board](#) (CCAB) of WBA - The Wireless Broadband Alliance. WBA is driving the adoption of wireless broadband and the development of the converged wireless broadband ecosystem through seamless, secure and interoperable unlicensed wireless broadband services. The CCAB develops, shares and promotes thought-leadership and practical framework for the social and economic development and sustainable operation of the Connected City ecosystem
4. In 2016 Limerick joined [TM Forum](#) a non-profit international industry association that carries out industry research and develops benchmarks, technology road-maps, best-practice guidebooks, software standards and interfaces. In September 2017 Limerick signed the "City as a Platform" manifesto together with all the major smart cities such as Atlanta, Belfast, Chicago, Dublin, Las Vegas, Leeds, Liverpool, Medellin, Miami, Milton Keynes, Tampere, Utrecht, etc.





5. In 2018 Limerick will become part of the [City Protocol](#), a collaborative innovation framework that fosters city-centric solutions which benefit citizens and their quality of life. It was established in November 2012 by over 200 participants, representing 33 cities, 20 major businesses, 14 universities and 20 other organisations. It seeks to define a common systems view for cities of any size or type, and then embraces or develops protocols that will help innovators create - and modern cities deploy - cross-sectorial solutions that can connect and/or break city silos. City Protocol aims to work across diverse cities by interconnecting them and ultimately creating the "Internet of Cities".

#### 4.8 DATA PROTECTION, PRIVACY AND CYBER SECURITY

With the increasing reliance on digital technologies serious concerns have been raised in recent times in relation to Cyber security (computer security), Privacy and Data Protection. The Digital Strategy framework defines as part of the supporting platform for "Optimisation through Governance" described in Section 4.5 a list of initiatives dedicated to standards and policies for security, privacy and data protection. While dedicated projects have been included in the Smart Limerick Roadmap for policy updates in relation to data protection, information security and privacy the Limerick Digital Strategy considers that security, privacy and data protections concerns must be addressed not as separate initiatives but, without failure, in all projects and services in their entire life-cycle. Starting with strategy and design and throughout development, transition, operation and withdrawal the security, privacy and data protection standards, policies and regulations must continue to be respected and enforced as necessary. [37]

The Limerick Digital Strategy requires that all practices, processes, systems and services implemented as part of the Smart Limerick Roadmap are compliant, but not limited to, with the following:

- Data Protection Acts 1988 / 2003, Government of Ireland.
- The EU General Data Protection Regulation (GDPR) 2018.
- Information Security anagement Systems Standard ISO/IEC 27001:2013.



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- The OWASP Application Security Code of Conduct for Government Bodies. The Open Web Application Security Project (OWASP) is a worldwide not-for-profit charitable organisation focused on improving the security of software.
- Any other relevant privacy, data protection and information security standard.

### 4.9 ACCELERATING LOCAL STRATEGIES

In Limerick, a set of well co-ordinated initiatives for economic, spatial, social and cultural development, are in place.

1. **Limerick 2030** - sets a framework for public sector action and private sector investment until 2030 [15]. The first element of the 2030 Plan is an Economic Strategy which identifies how Limerick needs to be positioned in order to best take advantage of economic opportunities in order to build a stronger local economy through the creation of employment and the attraction of investment. The second element is a Spatial Plan focused on revitalising and redeveloping Limerick City Centre and the final element is a Marketing Plan which aims to use Limerick's unique and positive attributes to change perceptions of how Limerick is viewed.
2. **Limerick Regeneration Framework Plan** - sets how one of the largest capital programmes in the State. It is focused on the three key pillars - Economic, Physical and Social - of the programme that will revitalise the communities over the next 10 years by raising standards of living, opportunity and health and well-being for all residents of the regeneration areas [23]. The Plan includes a €253m investment on physical development, €30m on social projects and €10m on economic programmes.
3. **Age Friendly Strategy** - the first Age Friendly strategy for Limerick [24], gives commitments to improving key areas of infrastructure, services, information and our overall social response to older people's issues in Limerick.





4. **Limerick Local Economic and Community Plan 2016-2021** - to promote a vibrant and inclusive network of rural towns and villages across County Limerick [25].

5. **Mid West Area Strategic Plan 2012-2030** - proposes that in order for the region to develop its economic strength, it needs to generate export-led growth in goods and services, promote innovation through research and development and secure long-term sustainability and growth [26]. An objective set out in this strategy is to strengthen the role of Limerick City and its Environs (Metropolitan city) as the core economic driver for the Region. The strategy has five focus points:

- The revitalisation of Limerick City and its Environs;
- Measures to deliver population growth, infrastructure and job creation in specific areas targeted in the RPGs;
- Balanced regional development to promote sustainable urban and rural development;
- Development of enterprise and employment; and
- The identification and re-mediation of infrastructural deficits.

6. **Limerick Metropolitan District Movement Framework Study** - presents a long-term vision in terms of accessibility, mobility and sustainability and also an implementation plan for comprehensive measures to upgrade the existing transportation network over a five year period [27]. In the current economic climate provision of additional major infrastructure is no longer a viable solution to urban congestion. Therefore the plan calls for a fundamental shift towards sustainable travel. This new approach must have an emphasis

on sustainability-achieving behavioural change with a focus on walking, cycling and public transport as real alternatives

for travelling within larger urban centres.

7. **Limerick Cultural Strategy 2016-2030** - aims to grow Limerick's cultural capacity by retaining and attracting creative practitioners to live and work in Limerick [28]; to place culture at the heart of the economic growth and regeneration of Limerick; to engage citizens through involvement in culture growth and regeneration of Limerick and to increase and support the role of the creative industries in Limerick.

8. **Global Limerick Network** - aims to establish a platform that will provide greater communication between the people of Limerick and the estimated 3.5 million people around the world with a connection to the city, county and region. The study report [29] indicates that digital technologies are the preferred choice to support this platform.

9. **Corporate Plan for Limerick City and County Council 2015-2019** - identifies the local authority as "ambitious" in relation to its strategy and vision for the local authority area, and Limerick's role in the region [30]. As well as promoting Limerick as a location for investment, business, education and as a place to live, the Corporate Plan places a strong emphasis on "inclusive participation of all citizens in the development of their community" and community empowerment.

The Limerick Digital Strategy supports these initiatives through an co-ordinated set of actions in its 'Roadmap for a Smart Limerick'. Table 4.1 below shows as an example a high-level of digital initiatives and their support for the existing nine local plans and strategies.



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Table 4.1: Supporting Local Strategies

Digital Strategy Initiative (Extract from Roadmap)	Limerick 2030	Regeneration	Age Friendly Strategy	LECP	Mid-West Strategic Plan	Limerick Cultural Strategy	Movement Framework Study	Global Limerick Network	Corporate Plan
<b>1. Engagement &amp; Participation</b>									
1.1 My Point (Open Consultation Plat.)	•	•	•	•	-	•	-	•	•
1.5 City & Town Engage Program	•	-	•	•	-	•	-	•	•
1.6 Citizen Innovation Lab	•	•	•	•	-	•	-	-	•
1.8 Data Crowdsourcing (Invasives App)	•	•	•	•	-	-	-	•	•
<b>2. Information &amp; Marketing</b>									
2.1 Limerick.ie	•	•	•	•	•	•	•	•	•
2.2 Limerick.ie Economic Report	•	•	•	•	•	•	•	•	•
2.5 SMART.Limerick.ie	•	•	•	•	•	•	•	•	•
2.11 Community Websites	-	•	•	•	•	•	-	•	•
<b>3. Service Integration</b>									
3.1 My Limerick.ie	•	•	•	•	-	•	-	•	•
3.4 My Limerick.ie - Cases, Payments,	•	-	•	•	-	-	-	-	•
3.7 MY Limerick.ie - Grants	•	•	•	•	-	•	-	-	•
3.11 Smart Parking	•	•	•	•	-	•	•	-	•
<b>4. Digital Infrastructure</b>									
4.1 Municipal Data Network	•	•	•	-	•	•	•	-	•
4.2 Public WiFi	•	•	•	•	•	•	•	•	•
4.3 Smart CCTV Pilot	•	•	•	•	•	-	•	-	•
4.4 National Broadband Plan roll-out	•	•	•	•	•	•	•	•	•
4.9 Footfall Counters (IoT Pilot)	•	•	-	•	•	•	•	-	•

Digital Strategy Initiative (Extract from Roadmap)	Limerick 2030	Regeneration	Age Friendly Strategy	LECP	Mid-West Strategic Plan	Limerick Cultural Strategy	Movement Framework Study	Global Limerick Network	Corporate Plan
<b>5. Data &amp; Analytics</b>									
5.1 Insight Limerick (Council)	•	•	•	•	•	•	•	•	•
5.2 Insight Limerick (Public)	•	•	•	•	•	•	•	•	•
5.5 Insight Limerick - Policing Dash.	•	•	-	•	-	-	•	-	•
5.6 ISAX Data Exchange - Limerick	-	•	•	•	-	-	•	-	•
<b>6. Digital Transformation</b>									
6.1 Council Enterprise Architecture	-	•	•	•	-	-	-	-	•
6.2 Customer Services - Digital Srv.	-	•	•	•	-	-	-	-	•
6.4 Staff Training Portal	-	•	•	•	-	-	-	-	•
6.12 Telephony & Comms. System	-	•	•	•	-	-	-	-	•
<b>7. Digital Innovation</b>									
7.1 The Networks Forge	•	•	•	•	•	•	•	•	•
7.5 Digital Skills Academy	•	•	-	•	-	-	-	-	•
7.6 Digital Retail Pilot	•	-	-	•	-	-	-	-	•
7.14 Limerick Living Lab	•	•	-	•	•	-	-	-	•

## 4 ACHIEVING OUR VISION AND GOALS

### 4.10 STRATEGY OUTCOMES

This section presents the expected outcomes from reaching the five goals set in this strategy. Table below shows five high level impact areas, the expected outcomes and the target value of the indicators used to measure the impact of the strategy.

Impact Area	Outcome	Does Baseline indicator exist?	Target
Better Informed & Engaged Communities	<ul style="list-style-type: none"> <li>• Better civic engagement &amp; participation</li> <li>• Improved public consultations through digital channels</li> <li>• More information online about Limerick City &amp; County</li> <li>• More local communities with online presence</li> <li>• Improved digital skills and digital inclusion</li> </ul>	<p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>No</p>	<ul style="list-style-type: none"> <li>• 6 annual city &amp; town engagement projects</li> <li>• 80% of consultations available online</li> <li>• 10 new websites with co-ordinated information</li> <li>• 25 local communities &amp; neighbourhoods online</li> <li>• 6 programmes for digital skills &amp; inclusion</li> </ul>
Improved Reputation as Digital Ecosystem	<ul style="list-style-type: none"> <li>• Increased participation in EU &amp; international networks</li> <li>• Increased number of online visitors the Limerick.ie</li> <li>• Better Smart Collaboration at local level</li> </ul>	<p>Yes</p> <p>Yes</p> <p>No</p>	<ul style="list-style-type: none"> <li>• Participate in 3 international networks</li> <li>• 1m online visitors to limerick.ie by 2020</li> <li>• Enable 10 active local networks</li> </ul>

Impact Area	Outcome	Does Baseline indicator exist?	Target
Improved Digital Economy, Innovation & Transformation through Better use of Data	<ul style="list-style-type: none"> <li>Establish Digital Quarters to foster digital innovation</li> <li>Improved Internet access during National Broadband Plan roll-out</li> <li>Grow opportunities in the digital economy</li> <li>New opportunities for senior citizens in the digital economy</li> <li>Better use of data, open data &amp; analytics</li> <li>Better decision making through improved access to information</li> </ul>	<p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>No</p> <p>No</p>	<ul style="list-style-type: none"> <li>4 digital quarters in City &amp; 3 county towns</li> <li>12 Strategic Community Access Hubs</li> <li>20 more local SMEs to transact online (pilot)</li> <li>20 new smart ageing and mature entrepreneur start-ups</li> <li>100 open datasets in the Insight Limerick Service</li> <li>4 new dashboards for Economy, Tourism, etc.</li> </ul>
World-class Digital Services and Infrastructure. Universal Access to Internet	<ul style="list-style-type: none"> <li>Improved access to high-speed broadband</li> <li>Enable Safer Communities through the use of Smart CCTV</li> <li>Better decision making by using sensors and IoT</li> </ul>	<p>Yes</p> <p>No</p> <p>Yes</p>	<ul style="list-style-type: none"> <li>37,137 premises under National Broadband Plan</li> <li>40 new Smart CCTV cameras in 14 towns</li> <li>100 sensors deployed across city &amp; county</li> </ul>
Better Public Services Digitally Enabled & Transformed. Better Cross-agency Collaboration	<ul style="list-style-type: none"> <li>New online services provided by the council /other organisations</li> <li>Better public services and customer services</li> <li>Improved customer satisfaction with public services</li> <li>Accelerate the delivery of local strategies &amp; plans</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<ul style="list-style-type: none"> <li>50 new online services for permits, grants, etc.</li> <li>20% reduction in the average response time</li> <li>5% increase in council's customers satisfaction</li> <li>9 strategies &amp; plans supported</li> </ul>



“ ADAM GOES TO CODERDOJO IN A REPURPOSED RETAIL UNIT IN THE DIGITAL QUARTER ONCE A WEEK ”





# THE FITZGERALDS

Seán and Marie Fitzgerald set up home just outside Newcastle West when they married and are proud parents to Seán Óg, and twins, Annie and Adam.

Seán comes from a long tradition of farming and works in the fields where his own father worked all his life. Marie is a part-time nurse between Croom Orthopaedic Hospital and University Hospital Limerick. She loves her job, particularly since patient experience has been vastly improved through Smart healthcare.

Sean and Marie know their local councillors well from community meetings, the most recent of which was about the extension of high-speed broadband into the area. They lodged their support using an online survey and petition. This is a welcome development because their kids are using tablets in school, Snapchattling non-stop on their phones at home and giving out yards about the slow Wi-Fi signal.

Adam goes to CoderDojo in a repurposed retail unit in the Digital Quarter once a week and is working on an app to monitor growth rates in cattle for his Young Scientist project. Annie's current passion is history and she can access the Limerick Museum catalogue, reading about the origins of important artefacts that make up the fascinating story of Limerick.

Seán Óg plays club and county hurling but in his spare time, enjoys helping his dad on the farm. He has given his namesake a few simple

computer lessons and now he can search for second-hand equipment online, look up the latest farming news and he's working on a micro wind-turbine after getting the plans through ISAX Data Exchange website. Seán is new to email and forums but people online have great advice. A virtual friend, Magnus82, has directed him to some really good environmental on alternative energy source statistics from Denmark. The next step is researching biofuels for powering parts of the farm; he's heard about the Citizen Innovation Lab and crowdsourcing opportunities.

A keen member of an amateur drama group, Marie likes to attend plays in the Lime Tree Theatre or the Belltable whenever she can - keeping up to date on events by using My Limerick.ie. She finds the site "awful handy" for doing things on her lunch-break like renewing her driver's licence or topping up her credits for Smart Parking although with the new integrated transport initiatives her brood, and her elderly parents, can get in and out of town more easily without relying on lifts.

Seán and Marie remember the time when a rise in farms and isolated homes being burgled led to the community website setting up a neighbourhood watch scheme with the council's help. The combination of local vigilance, sharing information online, more CCTV and mobile policing means that everyone feels safer now.

The Fitzgeralds have a busy but happy household and the only arguments are over what to watch on Netflix during family movie night every Friday.



# 5 SMART LIMERICK ROADMAP 2017-2020

## 5.1 ROADMAP OVERVIEW

The Smart Limerick Roadmap aims to lay the foundation for the Digital City and Smart Limerick, therefore it really represents the “Smart Limerick” roadmap. It consists of a comprehensive portfolio of 10 programmes developed in consultation with the Limerick Digital Leaders Network and the Council Digital Champions Forum between September 2016 and April 2017. The roadmap has been defined with the aim of increasing Limerick’s level of digital maturity by 2020 and setting the foundation for Smart Limerick City Region and Communities. Full listing of projects for each programme is presented in APPENDIX C - Smart Limerick Roadmap published as a separate document (Doc RefNo: P06-001LDSDEV-SLR) available at [digitalstrategy.limerick.ie](http://digitalstrategy.limerick.ie)”.

The Smart Limerick Roadmap towards a Smart City Region spans seven operational programmes as defined in the strategic direction.

- **Programme 1: Engagement & Participation**  
A programme that will see the development of new models and digital technologies that enables better citizen engagement and participation.
- **Programme 2: Information & Marketing**  
A programme that aims to promote through increased levels of online information about what the Limerick City Region and local communities have to offer to an international audience.
- **Programme 3: Service Integration**  
A programme that develops new and integrates existing digital services in an a single digital platform in order to create an ever improving

digital customer experience based on the citizen feedback.

- **Programme 4: Digital Infrastructure**  
A programme of investment in digital and ICT infrastructure that enables all other programmes and initiatives in this strategy.
- **Programme 5: Data & Analytics** - A programme that aims to increase through increase, through insight, the ability to make better decisions, enhance city and county operations, openness and innovation by increasing the availability of reliable data, the skills and practices of generating, aggregating and analysing data.
- **Programme 6: Digital Transformation**  
A programme of organisational change enabled by digital technologies that will see new practices adopted, process review and standardisation, new customer offerings, supporting staff development and digital skills, new ICT services and offerings in order to develop a better citizen experience of public and other services.
- **Programme 7: Digital Innovation**  
A programme that enables innovation through digital technologies that will see the creation of new services and solutions to deal with city, county and regional challenges. These new solutions will be developed by existing or new start-up companies that will be supported to scale-up in a maturing digital ecosystem.



5 SMART LIMERICK ROADMAP 2017-2020

It also includes three supporting programmes:

- Programme 8: Governance, Strategy & Policy  
A programme that monitors the progress made in the implementation of this strategy, keeps it aligned with the local strategies and plans and defines policies and strategies that supports the strategic direction as set out in this document (e.g. a CCTV strategy, a Data Strategy, Master Data Management or updating the local planning policies for digital infrastructure requirements).
- Programme 9: Leadership & Supporting Structures  
A programme that will see the development of digital and smart city leadership structures, networks and selection of digital leaders and champions that will take the lead in the development of a Sustainable Smart Limerick City & Region & Communities.

- Programme 10: Digital Edge - Research & Development  
A programme of research undertaken in collaboration with academic institutions and communities will enable the definition of new value chains offered by smart technologies, sustainable business models, procurement and especially funding models in the context of serious challenges to local government and city budgets. e.g. research in Urban Enterprise Architectures will ensure that the new systems deployed in the Smart Limerick will enable free data and information flow, avoids information silos and vendor lock-in.



Figure 10: Smart Limerick Roadmap - A Strategic Approach

**8. Governance, Strategy & Policy**

**9. Leadership & Supporting Structures**

**10. Digital Edge - Research & Development**



## 5.2 LONGER TERM CONSIDERATIONS

During the six consultations sessions held between December 2016 and April 2017 a number of longer term considerations have been suggested by the stakeholders involved as presented below. Detailed considerations are presented in APPENDIX E - Feedback from consultation sessions.

There have been a number of general comments and observations:

Table 5.1: Longer term considerations across Smart Limerick Domains

<p><b>Economy &amp; Innovation (EI)</b></p> <ol style="list-style-type: none"> <li>1. Improve communication and collaboration</li> <li>2. Support retailers to trade online</li> <li>3. Challenge of broadband and mobile signals in rural areas</li> <li>4. Innovation and teaching in rural communities to be enabled in former Garda stations, schools, churches, etc. by local communities</li> <li>5. Healthcare: digital health card and prescription</li> </ol>	<p><b>Movement &amp; Transport (MT)</b></p> <ol style="list-style-type: none"> <li>1. Live information of movement of cars, buses and people will lead to less pollution and better use of transport and public space</li> <li>2. Develop Smart Integrated Transport including rural areas</li> <li>3. Consider car sharing schemes in Limerick</li> <li>4. Better use of cars - 70% of the time cars are parked</li> <li>5. Prepare for autonomous cars</li> </ol>
<p><b>Community &amp; Citizenship (CC)</b></p> <ol style="list-style-type: none"> <li>1. Connect people, organisation and networks through digital</li> <li>2. Integration of technologies and initiatives is key</li> <li>3. Security &amp; privacy: Data Protection - GDPR</li> <li>4. Garda mobility programme in development</li> <li>5. Develop digital skills in collaboration with universities and research centres</li> <li>6. Pervasive digital inclusion</li> </ol>	<p><b>Urban Places &amp; Spaces (UP)</b></p> <ol style="list-style-type: none"> <li>1. Facilitate better citizen engagement in the urban and rural space development</li> <li>2. Urban design via co-creation &amp; collaboration</li> <li>3. Smart Walkways - use sensors on Walkways</li> </ol>
<p><b>Culture &amp; Entertainment (CE)</b></p> <ol style="list-style-type: none"> <li>1. Develop social history for Limerick City &amp; County</li> <li>2. Reach out to Limerick Diaspora</li> <li>3. Support and involve younger generations for fresh ideas and opinions</li> <li>4. Develop communications for different persona's to make the strategy relevant to people</li> <li>5. Genealogy and History are the focus of community</li> </ol>	<p><b>Environmental Practices (EP)</b></p> <ol style="list-style-type: none"> <li>1. Develop a heat map of the City for better energy usage</li> <li>2. Smart Homes - clever use of technology at home</li> <li>3. Data Centre Cooling - Shannon River</li> <li>4. Consider the use of micro turbines</li> </ol>

- Need to communicate and collaborate on the digital strategy and digital initiatives in the wider community.
- Need to secure the support of larger private companies to make Limerick more attractive.
- Build trust between organisations - collaboration not competition.
- Collaboration at local level to be mirrored at national level.





## 6 APPENDIX A SMART LIMERICK CAPABILITY MATURITY ASSESSMENT

To plan and guide the transformation journey towards the Smart Limerick and the Digital City, an initial capability assessment has been completed in 2016 with the support of researchers from LERO - The Irish Software Research Centre and IVI - The Innovation Value Institute, Maynooth.

To provide a systematic means to frame, evaluate and manage the sustainable development of cities and to help guide decisions about people, policy, infrastructure, investment, and the use of computing technologies, a combination of two capability based view (CBV) frameworks was leveraged to provide a stable view of the entity under investigation. While a city's administration, management hierarchies, processes, technologies or people might reorganise, a capability is more enduring and constant. Capabilities possess properties such as the people, processes, and technologies that are used to instantiate the capability. They can be hierarchical; containing nested relationships, as well as horizontal connections.

Overall, the objectives of this assessment were to:

- Unwrap the complex ecosystem of Limerick into domains for tackling sustainability
- Provide a common language between diverse stakeholders to set goals, evaluate improvements and benchmark over time
- Offer scenarios that are vendor independent and technology implementation neutral
- Define improvement roadmaps using milestones and reference landmarks

This assessment enables the definition of the current status or the "as-is" situation and a common understanding between stakeholders of how this transformation is being tackled. It also enabled the definition of a clear set of goals to be reached in the next 3-5 years and the desired "to-be" situation, across the defining factors of Smart Limerick and the Digital City.

There are many models that can be used to undergo maturity assessments, each model having various levels of maturity and capabilities associated with these levels. As research in this area is still ongoing and different models claim various adoption rates, a hybrid approach has been used for Limerick's digital capabilities assessment. This hybrid approach ensures that cross examination of key insights about Limerick's digital capabilities provide a clear understanding of the current position from where Limerick can start its transformation journey.

While there are many assessment models in this strategy the following models are used:

- The Sustainable Connected Cities Capability Maturity Framework developed by Intel Labs Europe, the Innovation Value Institute at Maynooth University, and the Business Informatics Group at Dublin City University, in collaboration with Dublin City Council [21].
- The Smart City Maturity Model developed by TM Forum, a non-profit international industry association that carries out industry research and develops benchmarks, technology road-maps, best-practice guidebooks, software standards and interfaces [31].





In order to investigate the level of maturity, survey statements were defined and leveraged from the two frameworks to understand for each specific enabling factor:

1. How ready is Limerick, as a city, to drive technology enabled transformation?
2. How far has Limerick already implemented smart applications and services across different Digital City Domains?

As shown in Table 6.1 below, a total of 106 statements were defined across the seven dimensions that constitute the Digital City Enabling Platform.

The findings of these assessments are presented in the following sections.

Table 6.1: Key Components of the Maturity Assessments

Enabling Dimension	Key components	# of survey statements
Digital City Governance	City Leadership Transformational mind-set Strategic management of smart initiatives Effective city management Commitment to learning from best practices	25
Stakeholders Engagement and Citizens Focus	Stakeholders engagement Support for private and community smart initiatives Social Inclusion Citizen and customer focus	25
Leveraging Urban Data	Openness and sharing of data Data interoperability Data Privacy Data Security City Data Analytics	25
Building Ubiquitous City Network and Infrastructure	ICT resources management Cloud Computing City wide IT architecture Open standards and interoperability IoT integration	25
City Impact Realisation	Triple bottom line accounting	3
Digital Skills Proficiency	Ability to design digital services in the city Ability to use digital services in the city	3



## 6 APPENDIX A - SMART LIMERICK CAPABILITY MATURITY ASSESSMENT

### 6.1 SUSTAINABLE CONNECTED CITIES CAPABILITY MATURITY (IVI)

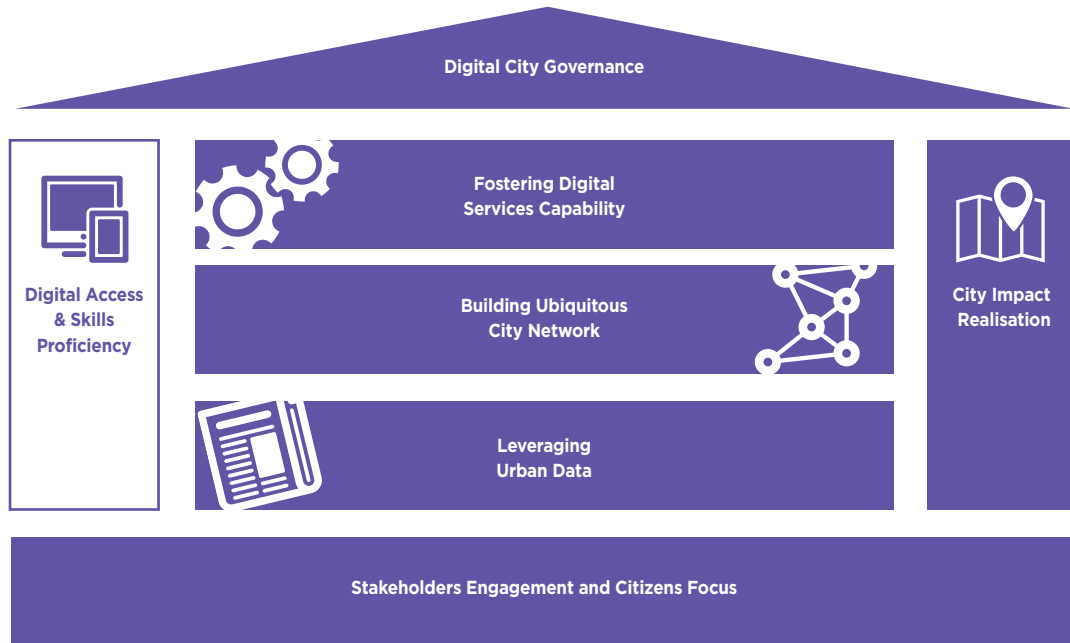
The Sustainable Connected Cities Capability Maturity Framework and the Digital City Enabling Platform [21] presented in Figure 11, provides a design pattern to manage key resources (both tangible and intangible) towards achieving sustainable connected city outcomes within and across each of the six Smart Limerick Domains (see section 2.3). This design pattern can be used within a single domain and across all domains, for an entire city, region or within a single neighbourhood or city project.

The Digital City Enabling Platform defines five levels of maturity across seven dimensions that collectively and exhaustively describe enabling capabilities for Digital Cities:

- **Digital City Governance:** Promoting unified governance to how resources are applied across city departments and municipalities can be a key enabler for management towards sustainable connected cities. It includes aspects of leadership, management, monitoring, control, and performance management.
- **Digital Access & Skills Proficiency:** To advance human and social capital to leverage the IT revolution requires promoting digital inclusion and savviness for both city dwellers and city employees.
- **Building Ubiquitous City Network:** Underlying this concept are the fundamentals of instrumentation (e.g. sensors) and interconnectedness (many networked devices integrated to a city network or network of networks) to provide the necessary integrated and interoperable city network infrastructure.
- **Leveraging Urban Data:** Promotion of open standards for data management across city departments is the catalysing platform for city-wide integration and leveraging of urban data.
- **Fostering Digital Service Capabilities:** New capabilities are needed across all levels, to envision and transform city services by applying information technologies in more innovative ways.
- **City Impact Realisation:** Moving towards triple bottom line accounting expands traditional reporting by acknowledging, in addition to the economic performance, also the ecological and social impact when measuring success.
- **Stakeholder Engagement and Citizens Focus:** This dimension underlines how effective digital cities are not just about strong top-down governance, but also ensuring: (1) that these initiatives are built upon citizens needs and aspirations; and (2) that the city fosters the formation of ecosystems including public bodies, community organisations, and other businesses in the area.



Figure 11: Digital City Enabling Platform



## 6 APPENDIX A - SMART LIMERICK CAPABILITY MATURITY ASSESSMENT

The assessment in September 2016 of Limerick's digital capabilities placed Limerick at "Level 2. Basic" as presented in Figure 12.

Figure 12: Limerick Digital Maturity Assessment 2016 (IVI)

Maturity Levels	Digital Access & Skills Proficiency	Building Ubiquitous City Network	Leveraging Urban Data	Fostering Digital Services Capability	City Impact Realisation	Digital City Governance	Stakeholders Engagement and Citizens Focus
<b>5. Optimising</b> (Transformative Digital City Platform)	Digital savvy pervasiveness & creativeness	Ubiquitous high-speed, secure & intelligent networks	Industry, Academia, Municipalities/Gov & Citizens sharing trusted data	Bottom-up entrepreneurship & open-innovation digital city services	Carbon negative city, automation of city operations, triple bottom line value	Shared governance across municipalities & citizens	Grassroots-driven open innovation ecosystem
<b>4. Advanced</b> (Proactive Digital City Platform)	Personalised & integrated digital access, digital skills proficiency > 90%	Autonomous network QoS and QoE self-healing intelligence	Mega data-pattern processing, crowd-sourcing initiatives	Pockets of citizen prosumerism driving service innovation	Carbon neutral City, predictive city operations management	Pervasive citizen participation, cross-department digital city management positions	Pervasive involvement of citizens and external stakeholders in decision making and service innovation
<b>3. Intermediate</b> (Progressive Digital City Platform)	Quadruple-helix initiatives for integrated digital education & access	Near real-time network sense & respond management	City data platform, data mash-ups from diverse sources	Integrated city-wide digital services platform, citizen feedback loops present	Managed use of city resources, informed city operations management	Centralised digital city vision, policies & resourcing	Quadruple-helix initiatives are developed within some domains
<b>2. Basic</b> (Developing Digital City Platform)	Discrete digital skills & access initiatives	Varying levels of instrumentation, connectivity & field data capture	Data policies for regulatory, privacy, security & sharing, small scale data integration	Pockets of digital city services innovation, limited citizen engagement	Carbon-rich behaviours changing, partial monitor & control city operations	Decentralised city involvement, some cross-department collaboration	Some proactive involvement of citizens and external stakeholders
<b>1. Ad Hoc</b> (Unmanaged Digital City Platform)	Limited expertise and access	Manual detection, response & recovery across network(s)	Proprietary, no data integration	Independent city service strategies	Unfettered city operations driving carbon-rich use	Little engagement, no interest in digital city	Little or no engagement in digital city strategy



The Smart Limerick Roadmap aims to increase Limerick's Digital Capability maturity to "Level 3 Intermediate" by 2018 and "Level 4 Advanced" by 2020 through a suite of co-ordinated initiatives under the leadership of local council and its partners.

For Limerick to reach an "Intermediate" level by 2018 the following capabilities need to be present

1. Multi-sector collaboration targeting digital education & access
2. Near real-time network sense & respond management
3. City data platform, data mash-ups from diverse sources
4. Integrated city-wide digital services platform, citizen feedback loops present
5. Managed use of city resources, informed city operations management
6. Collective Digital City vision, policies & resourcing
7. Quadruple helix initiatives are developed in some domains



## 6 APPENDIX A - SMART LIMERICK CAPABILITY MATURITY ASSESSMENT

### 6.1 SUSTAINABLE CONNECTED CITIES CAPABILITY MATURITY (IVI) (continued)

As a result of this assessment the Smart Limerick Roadmap 2017 - 2020 includes a number of initiatives that develop these new capabilities for Limerick. For example the new Limerick.ie digital platform delivers in one location integrated content such as tourism, business and council while providing citizens and visitors with integrated digital services and multiple feedback features in My Limerick.

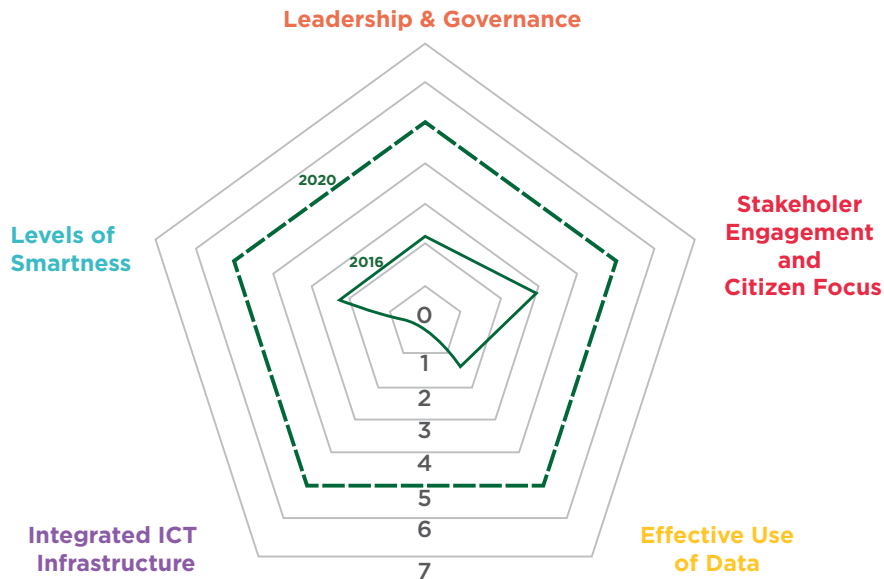
### 6.2 SMART CITY MATURITY MODEL (TM FORUM)

The Smart City Maturity Model developed by TM Forum, uses the 'smart city framework' ISO 37106 at its core, and is well aligned with industry standards such as BSI. It has seen wide adoption across multiple cities such as Atlanta and Mexico City just to name a few. The Smart Cities Council, The World e- Governments Organization of Cities and Local Governments (WeGO) have signed in 2016 a memorandum of understanding to promote the adoption of the T Forum's Smart City Maturity and Benchmark model to over 300 cities worldwide while the White House announced a challenge grant by the Smart Cities Council to help five American cities (Austin, Indianapolis, Miami, Orlando and Philadelphia) apply smart technologies to improve urban livability, workability, and sustainability. TM Forum is a non-profit international industry association that carries out research and develops benchmarks, technology roadmaps, best-practice guidebooks and software standards.



The Smart City Maturity Model evaluates the city on seven levels (0 - not started, 7 - maximum impact) and across five domains as presented in Figure 13.

Figure 13: Smart Limerick Maturity 2016



## 6 APPENDIX A - LIMERICK DIGITAL CAPABILITY MATURITY ASSESSMENT

The assessment carried out in September 2016 placed Limerick at various levels of maturity across the five dimensions with a score ranging from 0.2 in the Integrated ICT Infrastructure to 2.8 in Stakeholder Engagement and Citizen Focus. The overall score of 1.72 suggests that Limerick is approaching Point 2 - Documented. The assessment indicates a current position similar to the findings using the IVI model described above which informally brings further validation to these findings.

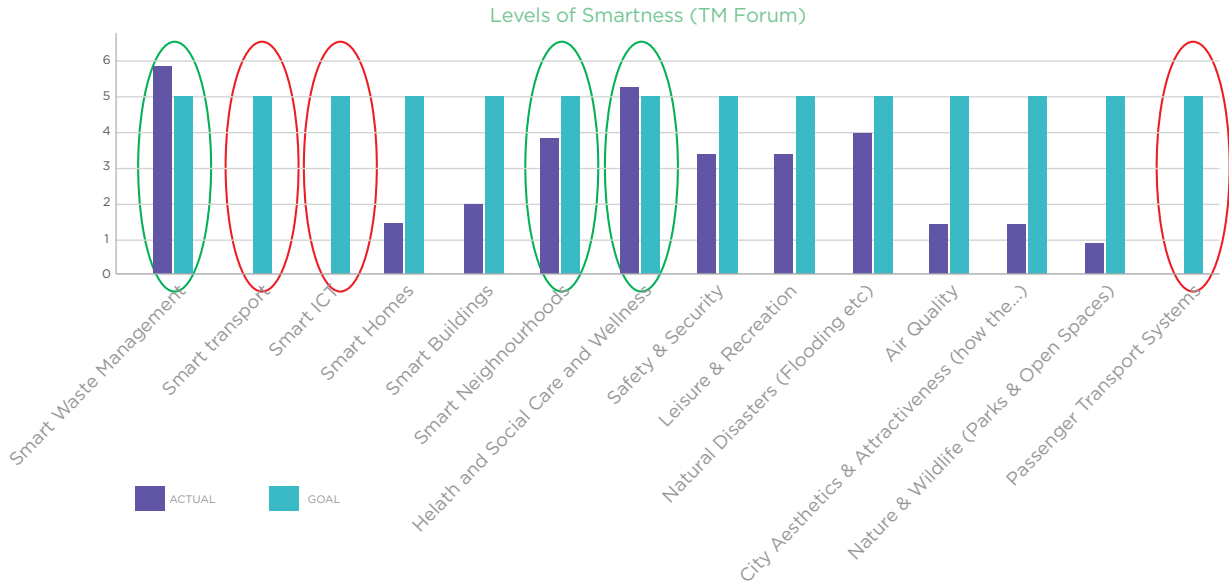
While it is desired that Limerick reaches a state where the city and county implement solutions that have Maximum impact or Point 7 across all five dimensions, the Limerick Digital Strategy sets in its 2020 road map a more achievable and realistic target of Point 5: "Some impact", a state where there is measurable impact and value generated by solutions in a balanced way across all the five dimensions. The level of investment required to reach this level in terms of time, funding and effort cannot be underestimated, however the Council and its partners believe that this target is achievable given the level of commitment to transform Limerick into a city region of the future.

Domain	Score
<b>Leadership and Governance</b>	<b>2.2</b>
<b>Stakeholder Engagement and Citizen Focus</b>	<b>2.8</b>
<b>Effective Use of Data</b>	<b>1.3</b>
<b>Integrated ICT Infrastructure</b>	<b>0.2</b>
<b>Levels of Smartness</b>	<b>2.1</b>

Table 6.1: Limerick Smart City Maturity Score

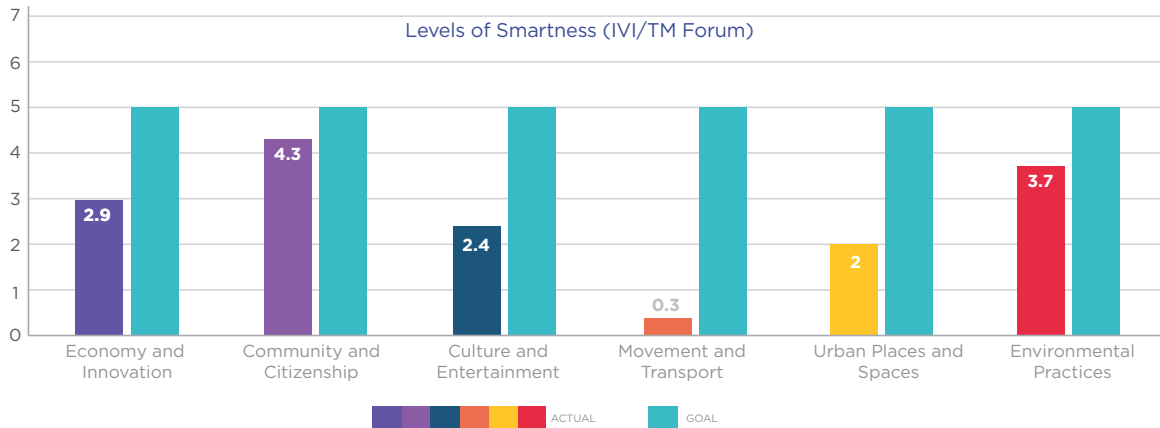
The levels of smartness by sub-domains determined following this assessment are presented in Figure 14 below. It can be observed that Smart Waste management, Health, Social Care and Wellness domains while being prepared to respond to natural disasters feature well. Smart Transport, Passenger Transport Systems and Smart ICT are domains that require further investment and support.

Figure 14: Levels of Smartness by Sub-domain 2016



When the levels of smartness are projected across the six Smart Limerick Domains the results indicate that while Limerick is well developed in relation to “Community & Citizenship” and “Economy & Innovation” the “Movement and Transport” domain is lagging behind as it can be seen in Figure 15.

Figure 15: Levels of Smartness by Domain 2016





## 6 APPENDIX A - LIMERICK DIGITAL CAPABILITY MATURITY ASSESSMENT

### 6.3 CONCLUSIONS

Following an initial assessment in September 2016 of Limerick's digital capabilities it can be observed that Limerick was placed at "Level 2 Basic" in the IVI model, well above "Level 1 Ad-hoc" in some factors, close to an Advanced level while in other factors it is only now starting to develop its capabilities. An extrapolation based on the TM Forum assessment across the six Smart Limerick domains indicates that Limerick scored well in the "Economy & Innovation", "Community & Citizenship" and especially in "Environmental Practices". However more work is required in the "Movement & Transport" and "Urban Places and Spaces" domains.

The assessment using the Smart City Maturity Model developed by TM Forum indicates Limerick has yet to develop its digital capabilities especially around the "Effective use of Data", "Integrated ICT Infrastructure". It has to accelerate its efforts in order to have a higher level of impact in "Citizen Focus & Stakeholder Engagement" and "Leadership & Governance".

The two assessments paint a clear picture as of the current state: like many other cities Limerick is at the beginning of its transformation journey to become a smart city region and like other cities, a co-ordinated strategic approach is required to develop new digital capabilities, reach the goals set in this strategy and maximise the impact of its initiatives.

This cross referencing of measurements therefore bringing additional support for the set of goals.



## 7 APPENDIX B INDICATORS

This chapter presents the list of proposed indicators that will be used to measure the performance of the various initiatives in achieving the goals as set in this strategy:

1. Enable our diverse communities, through the use of digital technologies, to participate in the development of Limerick (Section 7.1)
2. Build Limerick's reputation locally, nationally and internationally as digital ecosystem (Section 7.2)
3. Create an environment for digital innovation and digital transformation (Section 7.3)
4. Develop world-class digital services and infrastructure for a Smart City Region and Communities (Section 7.4)
5. Digitally enable and transform key public services in Limerick (Section 7.5)

Smart cities indicators are still under development at this time with various working standards being proposed by international standards organisations including ISO, Smart Cities Council, EU, etc. The indicators included in this chapter are based on the ISO 37120 Sustainable development of communities -- Indicators for city services and quality of life and the Smart Cities Council indicators.

Where indicators have not yet been identified specific research will be undertaken in co-operation with the relevant stakeholders to define and agree the indicators using international best practice methodologies and to establish the baseline. For example:

- Limerick Digital Economy assessment
- Social impact of digital technologies in regeneration areas
- Technology usage and digital skills needs in urban and rural communities
- Smart Limerick Enterprise Architecture

The new indicators will be included in the subsequent version of the strategy and published on [digitalstrategy.limerick.ie](http://digitalstrategy.limerick.ie)



## 7 APPENDIX B - INDICATORS

## 7.1 ENABLE OUR DIVERSE COMMUNITIES, THROUGH THE USE OF DIGITAL TECHNOLOGIES, TO PARTICIPATE IN THE DEVELOPMENT OF LIMERICK

This proposed set of indicators aim to measure the levels on community and stakeholders engagement in Limerick.

Table 7.1: Indicators for Citizen Engagement

Domain	Improved Capability	Indicator	Does Baseline indicator exist?	Target or Source Indicator Development
Community & Citizenship	Citizen Focus	% of public consultations available thorough digital channels	Yes	80% of consultations available online
Community & Citizenship	Citizen Focus	# of civic engagement activities offered by the council	Yes	Yes • LCCC
Community & Citizenship	Citizen Focus	# of local communities with online presence	Yes	25 local communities and neighbourhoods
Community & Citizenship	Citizen Focus	# number of digital skills, culture & inclusion programmes	No	6 programmes for digital skills, culture & inclusion



## 7.2 BUILD LIMERICK'S REPUTATION LOCALLY, NATIONALLY AND INTERNATIONALLY AS DIGITAL ECOSYSTEM

This is a proposed set of indicators that aim to measure the levels of internationalisation (engagement in international networks, events and conferences), and as a digital ecosystem.

Table 7.2: Indicators for Internationalization & Digital Ecosystem

Domain	Improved Capability	Indicator	Does Baseline indicator exist?	Target or Source Indicator Development
Economy & Innovation	Leadership & Governance	# of international congresses and fairs attendees	No	No <ul style="list-style-type: none"> <li>Shannon Region Conference &amp; Sports Bureau</li> </ul>
Economy & Innovation	Leadership & Governance	# of international knowledge networks, congresses attended	Yes	5 Networks 5 Conferences
Economy & Innovation	Citizen Focus	# of annual website visitors to Limerick.ie	Yes	Yes, 1million <ul style="list-style-type: none"> <li>LCCC Communications &amp; Marketing</li> </ul>
Economy & Innovation	Leadership & Governance	Disposable Income per capita	Yes €20,395	No <ul style="list-style-type: none"> <li>LCCC Economic Development</li> </ul>
Economy & Innovation	Leadership & Governance	% of persons in full-time employment	94% (Mid-West)	No <ul style="list-style-type: none"> <li>LCCC Economic Development</li> </ul>



## 7 APPENDIX B - INDICATORS

## 7.3 CREATE AN ENVIRONMENT FOR DIGITAL INNOVATION AND DIGITAL TRANSFORMATION

Table 7.3: Indicators for Digital Innovation &amp; Digital Transformation

Domain	Improved Capability	Indicator	Does Baseline indicator exist?	Target or Source Indicator Development
Economy & Innovation	Citizen Focus	# of officially registered ENOLL living labs	Yes	Yes
Economy & Innovation	Citizen Focus	# digital community events (hackatons,..)	Yes	No
Economy & Innovation	Effective Use of Data	# Open Data datasets	Yes	<ul style="list-style-type: none"> <li>• 100 open datasets in the Insight Limerick Service</li> </ul>
Economy & Innovation	Leadership & Governance	# of new opportunity based start-ups/year	Yes	No <ul style="list-style-type: none"> <li>• Limerick Enterprise Office</li> <li>• LCCC Economic Development</li> <li>• Limerick Chamber</li> </ul>
Economy & Innovation	Leadership & Governance	# of small enterprises transacting online	Yes	20 more SMEs (Pilot) <ul style="list-style-type: none"> <li>• Limerick Enterprise Office</li> <li>• LCCC Economic Development</li> <li>• Limerick Chamber</li> </ul>



## 7.4 DEVELOP WORLD-CLASS DIGITAL SERVICES AND INFRASTRUCTURE FOR A SMART CITY REGION AND COMMUNITIES

Table 7.4: Indicators for Levels of Smartness, Digital Services & Infrastructure

Domain	Improved Capability	Indicator	Does Baseline indicator exist?	Target or Source Indicator Development
Community & Citizenship	Citizen Focus	% of High speed internet-connected premises	Yes 62% (60,247)	100% - 97,173 premises • National Broadband Plan
Community & Citizenship	Citizen Focus	% of residents with smart phone access	No	No • CSO
Culture & Entertainment	Levels of Smartness (Leisure & Recreation)	# of annual cultural events with online presence	Yes	No • LCCC Arts Office
Culture & Entertainment	Levels of Smartness (Leisure & Recreation)	# of festivals	Yes	No • LCCC Arts Office
Urban Places & Spaces	Levels of Smartness (Smart Buildings)	# of LEED/BREAM certified buildings	No	No • LCCC Economic Development • Limerick Clare Energy Agency
Urban Places & Spaces	Levels of Smartness (Smart Buildings)	% of commercial and industrial buildings with smart meters	No	No • LCCC Economic Development • Limerick Clare Energy Agency



Table 7.4: Indicators for Levels of Smartness, Digital Services &amp; Infrastructure

Domain	Improved Capability	Indicator	Does Baseline indicator exist?	Target or Source Indicator Development
Urban Places & Spaces	Levels of Smartness (Smart Homes)	% of homes with smart meters	No	No <ul style="list-style-type: none"> <li>LCCC Economic Development</li> <li>Limerick Clare Energy Agency</li> </ul>
Movement & Transport	Levels of Smartness (Smart Transport)	% of traffic lights connected to real-time traffic management system	Yes	No <ul style="list-style-type: none"> <li>LCCC Physical Development</li> <li>Smarter Travel Limerick</li> </ul>
Movement & Transport	Levels of Smartness	# of EV charging stations within the city	Yes	No <ul style="list-style-type: none"> <li>LCCC Physical Development</li> <li>Limerick Clare Energy Agency</li> <li>ESB Networks</li> </ul>
Movement & Transport	Levels of Smartness	# of shared bicycles per capita	Yes	No <ul style="list-style-type: none"> <li>LCCC Physical Development</li> <li>Smarter Travel Limerick</li> </ul>
Movement & Transport	Levels of Smartness	# of public transit services that offer real time information to the public	Yes	No <ul style="list-style-type: none"> <li>LCCC Physical Development</li> <li>Smarter Travel Limerick</li> </ul>
Economy & Innovation	Levels of Smartness	# of WiFi hotspots per km <sup>2</sup>	Yes	No <ul style="list-style-type: none"> <li>LCCC Economic Development</li> <li>LCCC ICT Department</li> </ul>



Table 7.4: Indicators for Levels of Smartness, Digital Services &amp; Infrastructure

Domain	Improved Capability	Indicator	Does Baseline indicator exist?	Target or Source Indicator Development
Environmental Practices	Levels of Smartness	# of infrastructure components with installed sensors	No	No <ul style="list-style-type: none"> <li>• LCCC Economic Development</li> <li>• LCCC Physical Development</li> <li>• LCC Social Development</li> </ul>

## 7.5 INDICATORS FOR GOAL 5 - PUBLIC SERVICE TRANSFORMATION

This is a proposed set of indicators for Goal 5: “Digitally enable and transform key public services in Limerick” to measure the levels of collaboration between public agencies in creating and transforming better services.

Table 7.5: Indicators for Digitally Transformed Public Services

Domain	Improved Capability	Indicator	Does Baseline indicator exist?	Target or Source Indicator Development
Community & Citizenship	Citizen Focus	% of local government services available over web or mobile phone	Yes	80% (50 new online services, payments, licences, permits and grants)
Community & Citizenship	Stakeholder Engagement	# of local networks actively engaged in smart collaboration	Yes	10 local networks
Community & Citizenship	Citizen Focus	# of cross agency services integrated through digital channels	Yes	No <ul style="list-style-type: none"> <li>Limerick Digital Leaders Network</li> </ul>
Community & Citizenship	Citizen Focus	Better public services and customer services	Yes	5% increase in council's customer satisfaction
Community & Citizenship	Stakeholder Engagement	# of strategies and plans connected & supported by digital technologies	Yes	Nine strategies & plans supported

## 8 APPENDIX C SMART LIMERICK ROADMAP

The table below presents a listing of the projects for each of the 10 programmes. The Smart Limerick Roadmap is published as a separate document (Doc RefNo: P06-001LDSDEV-SLR) available at [digitalstrategy.limerick.ie](http://digitalstrategy.limerick.ie)

Pr.	ID	Action
<b>1. Engagement &amp; Participation</b>	1.1	My Point (Open Consultation Platform)
	1.2	Public Engagement Model
	1.3	Public Participation Network Integration
	1.4	Public Mapping and Data Collection
	1.5	City & Town Engage Program
	1.6	Citizen Open Innovation Lab
	1.7	Council Podcasts
	1.8	Invasive Species App
	1.9	Sustainable Energy Communities
	1.10	Students Engagement
	1.11	Citizen Digital Culture

Pr.	ID	Action
<b>2. Information &amp; Marketing</b>	2.2	Limerick.ie
	2.3	Limerick.ie App
	2.4	Limerick.ie Economic Report
	2.5	DIGITAL.Limerick.ie
	2.6	SMART.Limerick.ie
	2.7	FILM.Limerick.ie
	2.8	Past Perfect: Future Tense - LCGA Digitalisation
	2.9	HISTORY.Limerick.ie
	2.10	AgeFriendly.Limerick.ie
	2.11	Age Friendly Magazine
	2.12	Community Websites
	2.13	Limerick Film Festivals Platform
	2.14	Smart Sporting Limerick
	2.15	Shannon Fisherman Archive
	2.16	Limerick Film Archive HearSay Audio Arts Festival

Pr.	ID	Action
<b>3. Service Integration</b>	3.1	MY Limerick.ie
	3.2	MY Limerick.ie - Favourite Amenities
	3.3	MY Limerick.ie - Inspire Me
	3.4	MY Limerick.ie - Cases
	3.5	MY Limerick.ie - Payments
	3.6	MY Limerick.ie - Licences & Permits
	3.7	MY Limerick.ie - Grants
	3.8	MY Limerick.ie - Ping me (Notifications)
	3.9	MY Limerick.ie - My Post Box
	3.10	Integration of National Systems
	3.11	Smart Parking
	3.12	Smart Parking for Disabled Drivers

Pr.	ID	Action
<b>4. Digital Infrastructure</b>	4.1	Municipal Data Network
	4.2	Public WiFi
	4.3	Smart CCTV Pilot
	4.4	National Broadband Plan roll-out
	4.5	Noise Sensors (IoT - Pilot)
	4.6	Air Quality Sensors (IoT Pilot)
	4.7	Water Quality Sensors (IoT Pilot)
	4.8	Soil Quality Sensors (IoT Pilot)
	4.9	Footfall Counters (IoT Pilot)
	4.10	Public Digital Displays
	4.11	Digital Quarter Limerick - IoT Demo
	4.12	Digital Quarters Network
	4.13	Community Centres Footfall Counters
	4.14	360' Live Cameras
	4.15	Citizen DIT Digital Infrastructure

## 8 APPENDIX C - SMART LIMERICK ROADMAP

Pr.	ID	Action
<b>5. Data &amp; Analytics</b>	5.1	Insight Limerick (Council)
	5.2	Insight Limerick (Public)
	5.3	Insight Limerick - Personal Dashboard
	5.4	Insight Limerick - Investor Dashboard
	5.5	Insight Limerick - Community Safety Dashboard
	5.6	ISAX Data Exchange - Limerick
	5.7	Limerick Master Data Management
	5.8	Public Data Co-creation
	5.9	Transport Patterns for Rural Transport
	5.10	Open Data for Autonomous Vehicles

Pr.	ID	Action
<b>6. Digital Transformation</b>	6.1	Council Enterprise Architecture
	6.2	Customer Services - Digital Services
	6.3	Customer Services - Digital Displays
	6.4	Staff Training Portal
	6.5	Customer Relationship Management
	6.6	Mobile Service Operations (CRM App)
	6.7	Smart Service Operations
	6.8	Electronic Records Management
	6.9	Program & Project Management
	6.10	Customer Services - Contact Centre
	6.11	Customer Services - Video Services
	6.12	Telephony & Communications System
	6.13	ICT Infrastructure Upgrade
	6.14	Presentation & Video Equipment
	6.15	Remote Office Communications
	6.16	Disaster Recovery Programme

Pr.	ID	Action
<b>7. Digital Innovation</b>	7.1	The Networks Forge (Smart Collaboration)
	7.2	URBACT Techtown - A Digital City Future
	7.3	Horizon 2020
	7.4	Public Safety Enforcement Services
	7.5	Digital Skills Academy
	7.6	Digital Retail Pilot
	7.7	Digital Skills Week
	7.8	Coder Dojo Limerick
	7.9	Digital citizenship & Digital Inclusion
	7.10	Innovation in Community Spaces
	7.11	LG National Service Catalogue
	7.12	Ingenuity
	7.13	Smart Ageing Housing Programme
	7.14	ISAX Innovation Hub
	7.15	Limerick Living Lab
	7.16	Technology Enhanced Learning
	7.17	Virtual Clinics
	7.18	Releasing Time to Care
	7.19	Electronic Discharge
	7.20	e-Referrals

Pr.	ID	Action
<b>8. Optimised Governance</b>	8.1	Digital Limerick Framework 1.0
	8.2	Limerick Digital Strategy 1.0
	8.3	Limerick Digital Strategy 2.0
	8.4	Smart Limerick Strategy
	8.5	IBM Smarter Cities Challenge
	8.6	.IE Geographical Place Names Policy
	8.7	Digital Infrastructure Planning Policy
	8.8	Smart CCTV Policy

Pr.	ID	Action
<b>9. Smart Limerick Network</b>	9.1	Limerick Digital Leaders Network - DLN
	9.2	Council Digital Champions Forum - DCF
	9.3	All Ireland Smart Cities Forum
	9.4	Open & Agile Smart Cities - OASC
	9.5	WBA - Connected City Advisory Board
	9.6	TM Forum
	9.7	Association of Strategic Alliance Prof, Digital Inclusion Advisory Group
	9.8	

Pr.	ID	Action
<b>10. Digital Edge</b>	10.1	Limerick Enterprise Architecture
	10.2	Connected Health
	10.3	Smart Ageing Volunteers Platform
	10.4	Digital Inclusion Needs Study



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## 9 APPENDIX D - COUNCIL DIGITAL CHAMPIONS FORUM

This network of senior Council staff support the development of the Digital City and Smart Limerick initiatives. The table below lists by Smart Limerick Domains, the digital champions that contributed to the development of this document.

Table 9.1: Digital Champions Forum

Domain	Department	Champion
All	Digital Strategy	Mihai Bilauca
All	Digital Strategy	James Sweeney
All	Digital Strategy	Joe Guiney
All	Digital Strategy	Michelle Power
All	Digital Strategy	Rob O'Driscoll
All	Digital Strategy	Michael Healy
All	Digital Strategy	Fergal Grace
Community & Citizenship	Community Support Services	Patricia Liddy
Community & Citizenship	Customer Services	Triona Daly
Community & Citizenship	Human Resources	Aoife Duke
Community & Citizenship	Libraries	Damien Brady
Community & Citizenship	Marketing & Communications	Denis Tierney
Community & Citizenship	Social Development	Eileen Humphreys
Community & Citizenship	Social Development	Carmel Kirby
Culture & Entertainment	Arts & Culture	Sheila Deegan
Culture & Entertainment	Social Development	Seamus Hanrahan
Economy & Innovation	Business Improvement Unit	Elaine O'Connor
Economy & Innovation	Economic Development	Brian Kennedy
Economy & Innovation	Economic Development	Jillian Robinson
Economy & Innovation	Finance	Kieran Dore
Economy & Innovation	Finance	Pat Murnane
Economy & Innovation	ICT	Jim Dore
Economy & Innovation	Innovate Limerick	Mike Cantwell



## 8 APPENDIX D - COUNCIL DIGITAL CHAMPIONS FORUM

Table 9.1: Digital Champions Forum

Domain	Department	Champion
Economy & Innovation	Limerick 2030	Kieran Reeves
Economy & Innovation	Local Enterprise Office	Eamon Ryan
Economy & Innovation	Marketing & Communications	Laura Ryan
Environmental Practices	Physical Development	Anne Goggin
Movement & Transport	Physical Development	Carmel Lynch
Movement & Transport	Physical Development	Miriam O'Donoghue
Urban Places & Spaces	Design Delivery & Property Services	Joe Delaney
Urban Places & Spaces	Economic Development	Rosie Webb
Urban Places & Spaces	Economic Development	Maria Woods
Urban Places & Spaces	Physical Development	Vincent Murray



## 10 APPENDIX E - LIMERICK DIGITAL LEADERS NETWORK

This network, still in development, of key stakeholders from public, private, community & voluntary and private sectors contribute and lead the development of Digital City & Smart Limerick Roadmap and initiatives. The table below lists by Smart Limerick Domains, the Digital Leaders that contributed to the development of this document.

Table 10.1: Limerick Digital Leaders Network

Domain	Organisation	Contact	Title
All	Limerick City & County Council	Dr. Mihai Bilauca	Head of Digital Strategy
Community & Citizenship	An Garda Siochana	David Sheahan	Chief Superintendent
Community & Citizenship	Health Service Executive - University Hospitals Group	Brian McKeon	Director of Informatics, Planning and Performance
Community & Citizenship	ISAX	Anne Connolly	Director
Community & Citizenship	ISAX	Siobhradh Fraser	Limerick Office
Community & Citizenship	Limerick and Clare Education and Training Board	Paul Patton	Director of Further Education & Training
Community & Citizenship	Limerick and Clare Education and Training Board	Brendan Ryan	Further Education & Training
Community & Citizenship	LERO - NUI Maynooth	Prof. Brian Donnellan	Vice President Maynooth University
Community & Citizenship	Limerick Enterprise Development Partnership	George Lee	Manager Community Initiatives and PC
Community & Citizenship	PAUL Partnership	Anne Kavanagh	CEO
Community & Citizenship	PPAN	Dr. Sean O'Riordan	Manager
Community & Citizenship	UL - CSIS	Prof. Ita Richardson	Associate Professor
Community & Citizenship	UL - CSIS	Prof. Tiziana Margaria	Head of Department

## 8 APPENDIX E - LIMERICK DIGITAL LEADERS NETWORK

Table 10.1: Limerick Digital Leaders Network

Domain	Organisation	Contact	Title
Community & Citizenship	UL - KBS	Yvonne Diggins	Special Projects Officer
Community & Citizenship	West Limerick Resources	Shay Riordan	Manager
Culture & Entertainment	Limerick Royal Project	Dave Burns	Director
Culture & Entertainment	Southern Marketing Design Media	Dave O'Hora	Director
Economy & Innovation	IDA- Industrial Development Authority	Fiona Reilly	Regional Business Development Executive
Economy & Innovation	Ballyhoura Development	Padraig Casey	Economic Development Manager
Economy & Innovation	Innovate Limerick	Mike Cantwell	Head of Innovation
Economy & Innovation	LERO - NUI Maynooth	Dr. Niall Connolly	Research Fellow
Economy & Innovation	LIT	Gillian Barry	Head of Innovation & Enterprise
Economy & Innovation	Mary Immaculate College	Dr. David Moloney	Blended Learning Co-ordinator
Economy & Innovation	Mary Immaculate College	Dr. Maeve Liston	Director of Enterprise & Community Engagement
Economy & Innovation	Mid West Regional Skills	Joe Leddin	Councillor. Mid West Regional Skills Manager
Economy & Innovation	W2 Consulting	Mark O'Connell	Director
Environmental Practices	Action Point	Ivan O'Connor	Head of IoT



Table 101: Limerick Digital Leaders Network

Domain	Organisation	Contact	Title
Movement & Transport	Limerick City & County Council	Lise-Ann Sheahan	Limerick Smarter Travel Office
Urban Places & Spaces	Dell EMC	Dave Griffin	Director Limerick Site Programs
Urban Places & Spaces	General Motors	John Gleeson	Chair Mid-West Action Plan for Jobs
Urban Places & Spaces	LERO - UL	Brendan O'Malley	General Manager
Urban Places & Spaces	Limerick City & County Council	Rosie Webb	Senior Architect
Urban Places & Spaces	Limerick Clare Energy Agency	Pat Stephens	Manager
Urban Places & Spaces	LIT	Janice O'Connell	Head of IT Department
Urban Places & Spaces	Piercom	Adrian O'Sullivan	Digital innovation
Urban Places & Spaces	Supply Network Shannon	Mark O'Sullivan	Chairman
Community & Citizenship	UL Engage	Bernie Quillinan	CWELL Course Director
Community & Citizenship	UL - Department of Politics and Public Administration	Dr.Maura Adshead	Associate Professor







## 11 APPENDIX F FEEDBACK FROM CONSULTATION SESSIONS

This section presents the comments without alteration from the six sessions of consultations undertaken with key stakeholders in Limerick City and County between December 2016 and April 2017.

There have been a number of general comments and observations:

- Need to communicate and collaborate on the digital strategy into the wider digital initiatives in the community
- Need to get big name private sector companies involved to make Limerick more attractive
- Interaction with local business supports is important selling point

The remaining part of this section details the points raised across the six Smart Limerick Domains:

- Economy & Innovation in Section 11.1.1
- Community & Citizenship in Section 11.1.2
- Culture & Entertainment in Section 11.1.3
- Movement & Transport in Section 11.1.4
- Urban Places & Spaces in Section 11.1.5
- Environmental Practices in Section 11.1.6

### 11.1.1 ECONOMY AND INNOVATION

#### Current initiatives

- Limerick2030 - integrated urban and economic strategy helps grow the local economy
- Start-up centre Hartnett in LIT and Nexus centre in UL support innovation
- Innovate Limerick - Digital Skills Academy: The Engine Centre. Focusing on training and skills, this initiative is aimed at film industry; 20% of places are reserved for regeneration areas
- Digital skills week in MIC - The "All Aboard Week" is when staff, students and wider community aim to improve IT skills. Funded nationally, the event is part of Lifelong Learning week
- The Take 1 Step (#T1Step) is a regional campaign to raise digital skills across the Shannon Consortium
- Inviting primary schools to demo their tech initiatives. Similar initiative in LIT
- Limerick for Engineering showcase. Driven by industry, supported by council, academia, etc.
- Springboard 2017 - companies can up-skill employees
- MIC - CoderDojo on Wednesdays, bringing Lego labs into DEIS Schools and Teacher and Parent Training courses
- FabLab Limerick has a 3-5 years programme
- Living Cities initiative
- Learning Hub already exists in Killeely; 2,000 kids trained last year.



## 11 APPENDIX F - FEEDBACK FROM CONSULTATION SESSIONS

- LERO, UL - Education in primary/secondary Schools, research in Software Usage and Smart City

### Medium term considerations

- Improve communication and collaboration, internal and external
- Challenge of Broadband/Mobile signals in rural areas, (1) Getting it installed, (2) How to use it
- Digital Skills Courses for rural areas
- Use of former Garda stations, schools, churches by communities. Could we have innovation/teaching and learning spaces in rural communities?
- Support retailers to trade online
- Keep investing in further training to keep track of tech advances. Extension of Springboard programme

### Longer term considerations

- Opportunities for future development of Smart Limerick
- Need to provide business supports to local industry as well as foreign companies
- Smaller simpler initiatives such as Noise squad from Wales. Anon noise complaint
- Healthcare digital health card and prescription will lead to healthier communities

## 11.1.2 COMMUNITY & CITIZENSHIP

### Current initiatives

- Models for civic engagement in development
- Garda Mobility programme in development
- Smart Ageing Strategy in Limerick
- ISAX/Volunteering - Lero - Milford Hospice/NCW
- Love Parenting.ie: particular significance
- Broadening Curriculum Module - Strategies on Social Media for Social Good
- Limerick.ie - presence of rural areas and communities
- My Limerick platform launched
- Sporting Limerick - social media campaigns
- Nursery Rhymes - Traveller Initiatives
- Connected Health ULH/Brothers of Charity
- AHA and JnJ - Health
- Limerick to Life - Histories
- Castleconnell Community Shoebox initiative (old photographs - digitised)
- Limerick for Engineering
- LERO works with schools, teacher training
- Junior certificate courses in coding
- Digital skills strategy for education with the DES
- Limerick Life Long Learning festival linking with Digital Skills Week
- Global Limerick Network linking with Diaspora



### Medium term considerations

- Integration, Leadership, Technology, People, Knowledge
- Integration of technologies
- Citizen forum for digital engagement
- Linking more UL/LIT/MIC
- Linking ISAX/IBM Smarter Cities Projects/LERO at UL
- Sporting Limerick -City website - integrating systems i.e. Garda/match day info
- ISAX Smarter Ageing Community - Participate in Living Labs initiatives
- A map of technology companies
- Compatibility of Technology - Integration of Systems
- Security, privacy: Data Protection - GDPR
- Connecting people, organisation and networks
- Technology can isolate: we need to be careful - use to reach people
- Healthy Limerick: Interconnectivity - four people on a regular basis
- Integration of migrants

### Longer term considerations

- Build trust with one another - collaboration not competition
- Citizens Assembly concept - mimic the national CA with a Limerick version!
- How can collaboration at local level be mirrored to national level
- Need a means of letting An Garda know when large events are planned
- Use of former Garda stations, schools, churches by communities. Could be used for innovation/teaching and learning spaces in rural communities
- Building platforms supporting collection/management of data
- Building processes within the community. Re-engineering - re-build internal processes
- Huge potential due to multi-stakeholder approach - different perspectives complementary to each other (small scale but all the right ingredients)
- Technology does not have borders: city - rural - agelessness
- Digital Limerick:
  - Communication to the population
  - Connectivity
  - Way to engage youth (they are tech native)
  - Assistive technologies
- Develop Digital Skills (in collaboration with universities and Research centres)
- Pervasive inclusion fostered by Digital Collective



## 11 APPENDIX F - FEEDBACK FROM CONSULTATION SESSIONS

### 11.1.3 CULTURE & ENTERTAINMENT

#### Current initiatives

- “Our City, Our Stories” and “Our County Our Stories”
- History App - Limerick Landmarks e.g. Mount Saint Lawrence
- Royal Project - Digital Media Training, Cinema

#### Medium term considerations

- Our City, Our Stories - one minute videos, Capturing experiences, family stories etc.
- Elemental festival - incorporating Digital Skills
- National festivals run and celebrated in Limerick, Science Week, Maths Week, Fresh Film, Elemental Celebration of the Arts, Engineers Week by all organisations in Education Sector
- Putting them out on websites, in public areas
- Opportunity - Link to Mary Immaculate College and how people learn
- Genealogy, history are focus of community

#### Longer term considerations

- Capture social history - see Philaplace project. Explore the City of Neighbourhoods through maps, stories, photographs, and documents
- Fresh Film Festival - Link to Troy Studios. Links to similar organisations in Paris and Denmark
- Social Media, Twitter etc get our name out there
- ITLG events
- App for polling delegates at a meeting
- Need younger generations idea and opinions
- Reaching out to Diaspora
- Need for Digital Live Strategy; it's already ahead of the population technically
- Sharing is massive and a huge issue going forward
- Need for persona's development to make the strategy relevant to populace





## 11.1.4 MOVEMENT & TRANSPORT

### Current initiatives

- Integrated urban strategy Limerick2030 helps grow the economy
- H2020 proposal includes: Smart City logistics, app for online purchases, electric last mile delivery

### Longer term considerations

- Movement of cars, buses and people to give live directions, less pollution
- RAIL Network - so much unused railway in the Midwest - must be opportunity for development
- Smart Spaces - Smart Cars
- Car sharing schemes to be considered
- Use of cars - 70% of the time cars are parked

## 11.1.5 URBAN PLACES AND SPACES

### Current initiatives

- City Council workshops & engagements - urban design via co-creation/collaboration
- Urban Prototyping - e.g. Parklet concept
- Tidy Towns
- Mens' Sheds
- Art installations in streets/in lanes
- Urban gardens
- Schools cluster in Mungret - aligned with pathway upgrades in village
- Market - extension into Cruises street

### Medium term considerations

- Crowd-source methodology for vacancy profile of city
- Heat mapping technology (with Action Point/Dell) - to measure not just footfall but occupancy and density/time dwelling of people in areas
- Autonomous vehicles (General Motors work well advanced)
- Trading energy back to grid - digital homes having ability to save energy and give back surplus to the electrical grid



## 11 APPENDIX F - FEEDBACK FROM CONSULTATION SESSIONS

- Schools and youth engagement
  - Transition Year projects
  - FDI Companies sponsor a city-centric project
  - School Curriculum - pilot a new 'civics' framework that has kids working with real life contexts and projects
  - BT Young Scientist - city council to sponsor, say six school projects - again with Limerick real projects in mind
  - Drive the awareness back to the parents/adults

### Longer term considerations

- Green-way opportunity - perhaps already in plan
- Shannon River
  - The river should be considered as an asset to cool data centres
  - The weir has negatively impacted rowing in the city - a century-old tradition.
  - Can some re-engineering be considered?
  - Set aside funding for civic infrastructure
  - Persona-based envisioning - case study idea - champion projects - make visible through apps, digital boards, etc
  - Personal augmented reality city experiences- tours

## 11.1.6 ENVIRONMENTAL PRACTICES

### Current Initiatives

- Climate kick - knowledge and training in the area of climate change
- Bike Sharing schemes existing in Limerick
- Green Flag Schools
- Secondary School Messaging
- Green Business
- EPA - Calls for Persona-based
- Waste Management Office - Based in Limerick - Repac
- R&D Projects - Lean Programs - Waste Management
- Sustainability Manufacturing
- Tidy Towns

### Longer Term Considerations


- Undertake heat mapping of the City
- Smart Homes - Clever use of technology.
- Data Centre Cooling - Shannon River
- Rail Hub and Spokes - North/South/East/West
- Micro Turbines - Wind towers on streets.
- Smart Walkways - Sensors on walkways
- Green Flag Schools - bring learnings home to parents



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**“ THE SMART LIMERICK ROADMAP  
AIMS TO INCREASE LIMERICK’S  
DIGITAL CAPABILITY MATURITY  
TO “LEVEL 3 INTERMEDIATE”  
BY 2018 AND “LEVEL 4  
ADVANCED” BY 2020 ”**

