

# A DIGITAL STRATEGY FOR COUNTY LEITRIM TO 2025

## *Digital Leitrim*



*“Digital Leitrim reflects a county that is **connected, progressive and responsive to a digital future,** while remaining true to its cultural heritage and protective of its natural environment”*

| Connectivity | SMART Communities | Digital Economy | Digital Transformation |

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## FOREWORD

### Introduction by the Chief Executive and Cathaoirleach of Leitrim County Council

Digital Leitrim is the first comprehensive Strategy for the development of the digital sector and digital society in Leitrim. The Strategy reflects the broad ambitions for digital development from a national and regional policy perspective but also contains Leitrim specific objectives and actions. This will promote the use of digital tools and skills in the wider development agenda in Leitrim and assist enterprises, communities and citizens to engage with digital in a more meaningful way for their own specific needs.

A crucial piece of the Digital Leitrim agenda will be the speedy rollout of the National Broadband Plan to areas and communities under the intervention area. Without fast fibre broadband, the Strategy objectives will not be achievable. We look forward to working with NBI and other commercial providers to ensure that our Broadband Connection Points, Public WiFi Networks and mass fiber infrastructure is implemented in full to allow Leitrim to fully participate in the benefits of digital. Our new Innovation Strategy will depend on this digital infrastructure to achieve its aims of fostering a culture of innovation through digital tools and technology, streamlining services, and improving adherence to GDPR and data protection policies, in order to deliver high quality services that are focused on user needs.

The Covid 19 crisis has shown us the critical importance of digital and virtual solutions in assisting us to work and communicate in a remote and isolated manner. Our recovery will be heavily reliant on these digital tools and skills to ensure that we do not lose competitiveness and investment opportunities in the future.

We would like to acknowledge the work carried out by all our staff and to our partners and stakeholders, we acknowledge for their input and knowledge in developing this Strategy. We look forward to the implementation of the Strategy in conjunction with these partners over the coming years.



**Lar Power**  
**Chief Executive**  
**Leitrim County Council**



**Cllr. Ita Reynolds Flynn**  
**Cathaoirleach**  
**Leitrim County Council**

## EXECUTIVE SUMMARY

*Digital Leitrim* is the title for the Leitrim Digital Strategy. It will coordinate all activities for the development of a collaborative digital society and economy over the coming years to the end of 2025. This is the first Digital Strategy for the county and as such, *Digital Leitrim* will build the foundations for and set the direction for digital development in the county over the coming decade. The Strategy will build on existing resources, knowledge, networks and plans to create a forward thinking, creative Leitrim that respects and protects its natural resources and environment, its culture & heritage, its people and their skills and talents.

*Digital Leitrim* will enable Leitrim County Council and local development partners to bring together a number of actions and objectives from the community and civic society, enterprise, education, cultural and environmental fields and apply a digital dimension to all aspects of development.

The Digital Strategy will help pave the way for future priorities and shape how the county allocates its resources and works collaboratively for a more innovative, creative and low carbon future. It will address issues of rural isolation and decline, economic and agricultural innovation, cultural and tourism promotion with low carbon impacts and environmental protection to the core.

Many of these challenges will be beyond the direct scope of the Digital Strategy but will be met through digital skills development, adoption of digital technologies, creating collaborative networks of smart communities and investment in digital infrastructure and connectivity.

The graphic below provides an illustration of the Strategy framework and its key components and pillars. Section 5 and Section 6 of this report detail this framework and the delivery of the Strategy.

- P1: Infrastructure & Connectivity**
- Progress Reporting on NBP Rollout
  - BCP's & Public WiFi / WiFi4EU
  - Digital Assets Register & Networks
- P4: Digital Transformation**
- Cloud based Document Management System
  - Paperless Meetings
  - E-Services rollout
  - Interactive Leitrim Portal



**Digital Leitrim**

- P2: Smart Communities**
- Digital Skills & Literacy
  - BCP Demand Stimulation
  - Town Tech (IoT) + Local Apps
  - Sustainable Energy Communities
- P3: Digital Economy & Enterprise**
- Digital Skills for Business
  - Online Trading Vouchers
  - Workplace Innovation
  - FabLab & New Tech Demo Hubs & Remote Working

The Strategy will be underpinned by an investment in digital skills and high-speed broadband. Digital Champions from within Leitrim County Council will help promote the benefits of Digital through their work with local stakeholders and the community. It will also reflect and embrace what is happening with digital at a national and international level including the roll-out of e-Government Strategy and other strategic actions.

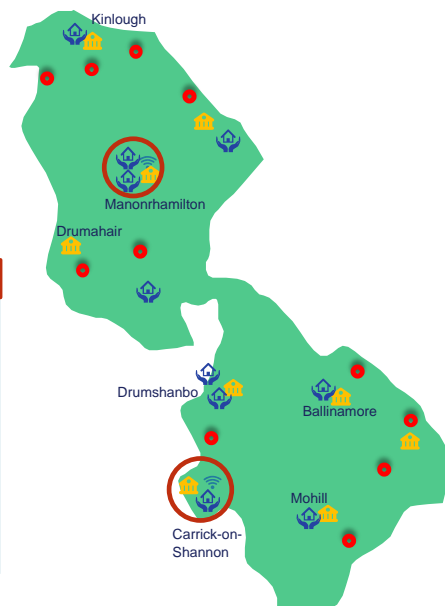
The graphic below provides an overview of the Digital Assets in Leitrim including the core digital infrastructure and service provision points in the county.

**Leitrim Digital Assets Map**

- Metropolitan Area Network (MAN)
- Broadband Connection Point (BCP)
- Public WiFi Hotspot
- Coworking / Digital Hub
- Public Library

- BCP's – Connected Communities**
- Aghanlish Community Centre
  - Askill Community Centre
  - Aughavas GAA Park
  - Aughawillan GAA Clubrooms
  - Teach Dúchas, Drumeela
  - Glencar Waterfall visitor point
  - Gortletteragh Community Centre
  - Killargue Community Centre
  - Killenummery Hall
  - Aughawillan Community Centre
  - The New Ballagh Centre, Rossinver
  - Leitrim Gaels Community Facility

- Connected Hubs**
- Drumshanbo Enterprise Centre
  - The Food Hub, Carricknabrack
  - The Hive, Carrick-on-Shannon
  - Drumkeeran Enterprise Centre
  - Mohill Enterprise Centre
  - Ballinamore Enterprise Centre
  - Manorhub, Manorhamilton
  - W8, Manorhamilton
  - Kinlough Business Hub
  - Ballinagleragh Digital Hub



# 1 INTRODUCTION

In 2020, Leitrim County Council commissioned PMG Consult to manage the development and coordination of the local Digital Strategy. The brief reflected the specific local needs and the guidance from the Department for Rural & Community Development (DRCD) under the direction of Minister for State for Natural Resources, Community Affairs & Digital Development for local authorities on what a local Digital Strategy should contain and how it should be developed.

*Digital Leitrim* is the title for the Leitrim Digital Strategy. It will coordinate all activities for the development of a collaborative digital society and economy over the three years to end of 2025. This is the first Digital Strategy for the county and as such, *Digital Leitrim* will build the foundations for and set the direction for digital development in the county over the coming decade. The Strategy will build on existing resources, knowledge, networks and plans to create a ***forward thinking, creative Leitrim that respects and protects its natural resources & environment, its culture & heritage, its people and their skills and talents.***

The scope of the Strategy will range from Smart Community Initiatives to Digital Ecosystems of tech and creative entrepreneurs and Digital Transformation in the public service through online e-services and integrated IT and data systems. It will be underpinned by an investment in digital skills and high-speed broadband. Digital Champions from within Leitrim County Council will help promote the benefits of Digital through their work with local stakeholders and the community.

While the Strategy was finalised in November 2020 a review process was undertaken in May 2022 to update the document to reflect significant national policy developments in digitalisation and remote working. This includes the new National Digital Strategy (***Harnessing Digital – The Digital Ireland Framework to 2030***) and the new Digital and ICT Strategy for Ireland’s Public Services (***Connecting Government 2030***) both launched early in 2022. Other key policy developments in this review include ***Our Rural Future***, Ireland’s National Rural Development Policy and ***Making Remote Work*** the National Remote Work Strategy. There is also an acknowledgement of the current revision process relating to the Leitrim County Development Plan and the Local Economic & Community Plan which Digital Leitrim will naturally feed into as a key local strategy for the development of the county over the coming years. The policy context for digital development is covered in Section 3 of this document.

This Strategy must be seen as an agile document that can change over time to reflect significant and important developments in digital and as new initiatives and funding opportunities arise or as new legislation or regulation compels Local Authorities and their partners to implement new arrangements to accommodate or comply with policy relating to digital. In this regard, the Innovation Strategy for Leitrim County Council will combine with Pillar 4 of this Digital Strategy to deliver a culture of innovation through digital tools and technology, streamlining services, and improving adherence to GDPR and data protection policies.

## Why Develop a Digital Strategy?



**Digital Workspaces**  
Modern, efficient, collaborative & connected workspaces & hubs to serve flexible work trends and entrepreneurs.

**High Speed Broadband**  
The NBP will roll-out high speed fibre broadband to every home and business in rural areas and BCP's & Public WiFi in the short-term.



**Utilising Digital Technologies**  
The use of digital technologies and Apps to support sector strategies and promote Leitrim.



## What is a Digital Strategy?



**Set Targets for Digital**  
The Council will set targets for digital development of services e.g. e-planning / housing and internal IT/IS practices e.g. Cloud / Sharepoint.



**Access to Digital Skills**



A Digital Strategy will primarily act as a supporting resource for core priorities and plans as set out in the local policy and strategy context, for example, the Local Economic & Community Plan (LECP), County Development Plan (CDP), Area Action Plans, Sector Strategies, Climate Action Plans, Tourism & Recreation and the Local Authority Corporate Plan. It will also reflect and embrace what is happening with digital at a national and international level including the roll-out of e-Government Strategy and other strategic actions. Ultimately the Digital Strategy must ensure that local communities and economies are making the most of digital for their competitiveness, cohesion and sustainability. The Leitrim Digital Strategy will also inform the current revisions to the County Leitrim CDP and the LECP.

## Key Themes that the Digital Strategy will address

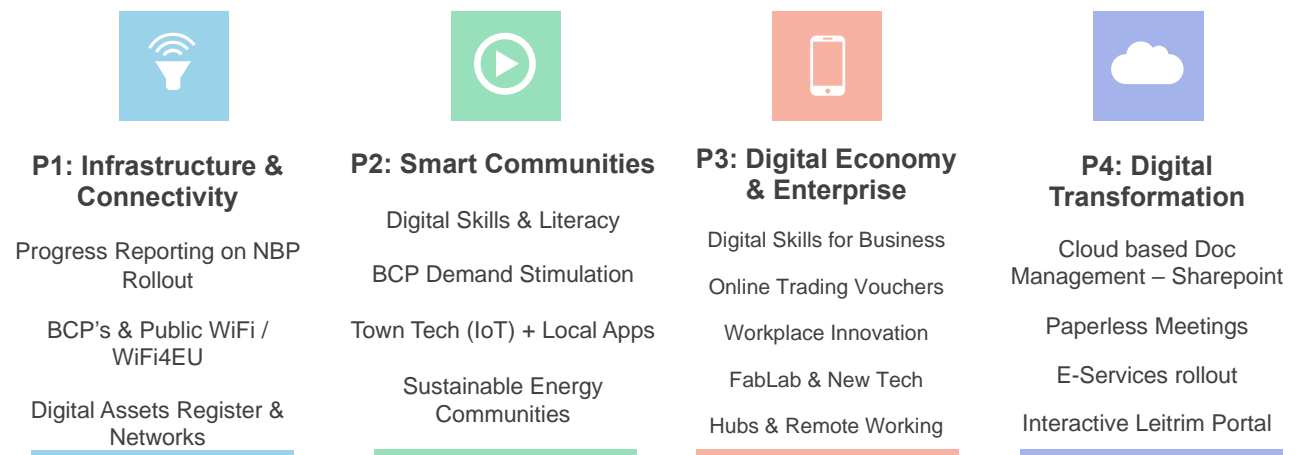


Some of the key elements that a holistic Digital Strategy will contain and provide benefits on will include the following:

- Digital Society & Citizen participation online
- Digital Skills & Education

- Health & Wellbeing
- Smart Communities
- Entrepreneurship & Investment
- Environment, Waste Management & Decarbonisation
- Transport & mobility and urban & rural planning & development
- E-Government & public services

In the case of Leitrim, the focus and priorities for the Local Digital Strategy are contained in a four Pillar Strategy Framework which is represented in the graphic below.



### About this document

The remainder of this document sets out the critical information and findings on which the *Digital Leitrim* Strategy is built. This includes the following sections:

- **Section 2** deals with the concepts and context that frames the Digital Agenda including digital terminology, the benefits of digital and measuring digital development or maturity.
- **Section 3** discusses the digital policy environment and programmes and supports that are there to promote digital adoption.
- **Section 4** presents the summary findings from a number of areas of research and analysis on the digital economy and society as well as the trends in digital and technology and Leitrim's position relating to digital development including the National Broadband Plan (NBP). This section also presents the key messages and findings from the consultations undertaken as part of the strategy development process.
- **Section 5** presents the Strategy framework for *Digital Leitrim* in detail, from vision to strategy pillars and action themes and projects.



- **Section 6** provides information on the implementation of the Strategy over the coming three years and the partners and resources that will be required to deliver the Strategy.

### **Covid 19 Implications for *Digital Leitrim* & Digital Recovery**

The Covid-19 outbreak substantially changed the way we work with companies, having to rapidly adapt to remote working under unforeseen and unprecedented circumstances. Organisations now routinely embrace remote working policies and deploy virtual technologies to facilitate staff and workplace culture. Proper digital resources will aid collaboration, accessibility, effective communication and relationship building.

Local Authorities have a key role to play in supporting their employees and client companies looking for solutions to retain their staff and keep productivity in a climate where ‘the office’ is both physical and virtual. Some policies and strategies around remote working were already in place or formulation from a wider regional development and regeneration objective but now the Covid 19 crisis has brought this into sharp and rapid focus.

Hubs and other workspaces offer a hybrid model of ‘the office’ infrastructure to accommodate certain functions that remote workers can’t do from home but also offers the corporate (large employers) a ‘dispersed office’ solution for their employees with an element of support and control and all with potentially significant savings in cost, time and carbon terms. More widely, local authorities and their community partners can play a crucial role in this agenda by supporting a ‘Digital Recovery’ through Smart Community Initiatives and their Digital Strategies.

## 2 THE DIGITAL CONTEXT

The web has transformed our world. Since its creation in 1989 by Tim Berners-Lee, a British scientist at CERN, it has transformed the way we communicate and share information and knowledge. The internet and digital devices and services now provide us with an endless set of opportunities. It provides us with free communication resources like email, video conferencing, instant messaging and social media. It allows us to stream entertainment content from any device at any time. It helps us save money on the cost of services and transactions and finding the best prices and products. Online transactions are also more convenient especially for services like insurance, motor tax and buying tickets for concerts and sports events. We can now access public services at times that suit us. The development of complex online systems and platforms such as Global Distribution Systems (GDS) relying on Geographic Information Systems (GIS) allows for instant resource allocation like airline seats, hotel rooms and car rental, anywhere at any time.

Online is now a powerful channel for learning and education. It gives us access to information, lessons and guidance on almost anything we want. Digital media can now transform how we educate ourselves, engaging audio-visual content lets us show rather than just tell so it's easier for us to understand and discover. We can connect online with friends or family wherever they are in the world through virtual meeting platforms and social media. That helps reduce social isolation and loneliness and improves wellbeing and business efficiency.

Digital skills are important for all because they enable us to access new opportunities. Digital skills are also critical for employment opportunities and career progression. However, almost one in five adults are missing out on these opportunities because they are not yet online.

### The Digital Society

Every aspect of our lives is profoundly affected by digital applications; the digitalisation and proliferation of data; how we communicate, socialise, work, learn, stay healthy and participate in politics and the economy. Digital technologies are rapidly evolving and emerging to advance each of these factors. A healthy digital society will promote opportunity and access, protect citizens, drive efficiencies and knowledge and support better and more democratic policy making. Promoting responsible digital practices and participation will limit the potential for misuse of personal data and the risk of undermining public trust.

### The Digital Economy

The digital economy has rapidly become the real economy with digital products, services and resources defining enterprise and commerce rather than just an element of the economy. All industries are undergoing digital transformation and the largest corporate organisations in the world have built their fortunes on it over the past decade. Digital ecosystems are redefining the enterprise landscape. Tech giants have become the drivers of economic growth and value creation. Digital technologies disrupt markets for products, services, labour and other resources. In manufacturing for example, intensive use of data and 3D printing could transform value and production and supply chains and bring us closer to a more circular economy.

## The Digital Citizen

Digital Citizenship is a term used to define the appropriate and responsible use of ICT in society. It is an important area of policy and regulation to ensure that democratic structures, systems and norms are upheld, and citizens' rights and opportunities are protected. Three principles underpin the digital citizen; *respect, educate and protect*. Appendix 1 presents the nine elements that encompass the effective digital citizen.

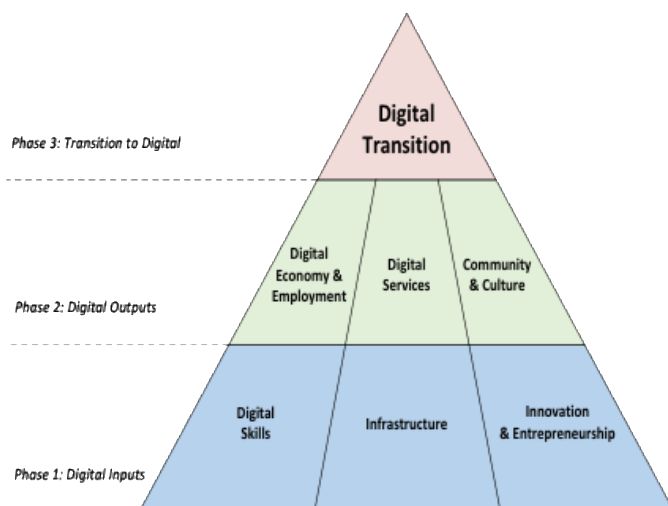
## Digital Transformation

Digital Transformation (DX) refers to the integration of digital technology into all areas of an organisation resulting in fundamental changes to processes and operations and delivering value to customers, clients, citizens and internally to the organisation and its workforce. DX is a cultural change that requires the organisation to continually challenge the status quo, experiment, and future proof its functions. The key elements in any DX strategy will typically include Customer experience | Operational agility | Culture & leadership | Workforce enablement | Technology integration

## Smart Communities

Digital technology can help to create places and communities that manage spatial development, population growth, mobility, effects of climate change and transition to greater sustainability. Smart cities / communities will optimise urban planning and transport and utility and community services such as waste collection and local services. Smart Communities will promote safety and liveability and connect communities.

## Digital Maturity



The Indecon Digital Maturity Index on which the national and local Digital Readiness Assessments were based provide a 7 Pillar Framework for Digital Development. The 7 Pillars are outlined in the graphic left and the levels of development or maturity for each pillar are listed below:

- Level 1 – Formative
- Level 2 – Emerging
- Level 3 – Developed
- Level 4 – Highly Developed
- Level 5 – Transformational

Section 4 provides a summary of Leitrim's Digital Readiness Assessment from July 2018 and Appendix 2 provides the full report.

### 3. THE DIGITAL POLICY AGENDA

The digital agenda has become an increasingly central policy priority at all levels of Government over the past decade. Since the publication of the first National Digital Strategy in 2013, there has been a continuous elevation and broadening of the digital agenda across government, economy and society. Recent years have seen the publication of a number of important Government strategies that will drive and guide the digital agenda at both national and local level over the coming decade.

The new National Digital Strategy (*Harnessing Digital: The Digital Ireland Framework*) was published in February 2022 and provides a high-level framework to drive and enable Ireland's ongoing and rapid digital transition. *Harnessing Digital* builds on the strong foundations developed under the previous National Digital Strategy and other key digital policies and represents Ireland's ambition and vision to consolidate its position as a global digital leader. The Strategy contains a series of targets that reflect this ambition and vision and demonstrate just how fundamental digital technology will become in everyday life over the coming decade.

Headline targets from *Harnessing Digital* to be achieved by 2030, include:

- all populated areas to be covered by 5G;
- 90% of SMEs operating at basic digital intensity;
- 80% of citizens using MyGovID.

The Strategy is set out under the four Dimensions or priority areas of *Digital Transformation of Business, Digital Infrastructure, Digital Skills* and *Digitalisation of Public Services* providing a holistic and far-reaching programme of strategic investment in digital transformation up to 2030.

Alongside *Harnessing Digital*, the new *Connecting Government 2030* strategy was also published in early 2022 and represents the new Digital and ICT Strategy for Ireland's Public Services, replacing the preceding Public Service ICT and eGovernment strategies. As with *Harnessing Digital*, the *Connecting Government 2030* strategy marks a step-change in the delivery of public services and reflects the continuing evolution of government and public services from Analogue Government to e-Government and now to Digital Government.

A central focus of the Strategy is the full digital transformation of government and public services which is much more far reaching than the general digitalisation of records and services. The core principles of '*digital first*' in terms of citizens preferences for accessing public services and '*once-only*' in terms of MyGovID and integrated service delivery are contained in *Government 2030* and in the *Civil Service Renewal 2030 Strategy*, reaffirming this commitment to full digital transformation of government and public services. Both strategies also recognise the importance of digital skills and commit to continuing to invest in a digitally enabled workforce across the public sector.

*Our Rural Future*, Ireland's National Rural Development Policy, was launched in April 2021. The Strategy places a strong emphasis on maximising the opportunities for rural communities afforded by increased digital connectivity. The Strategy recognises the scope for digital

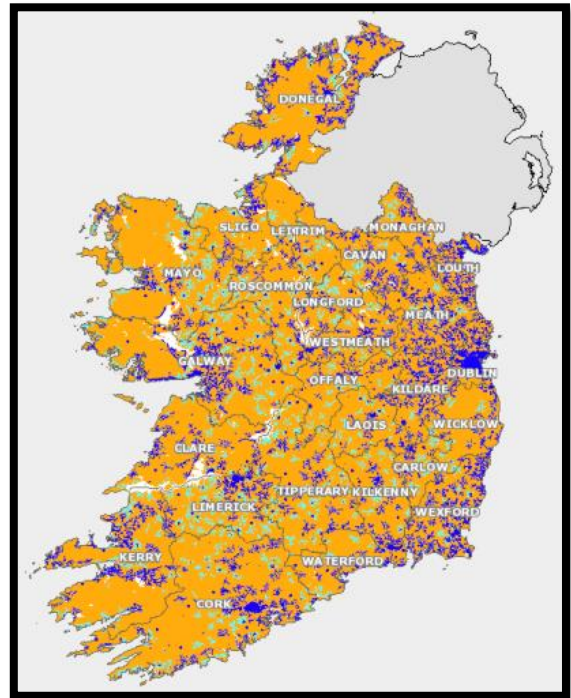
connectivity and new technologies to address urban-rural gaps, support balanced regional development and ultimately to help transform rural Ireland.

Some of the key digital objectives include accelerating the delivery of **high-speed broadband to every part of the country** through the National Broadband Plan; investing significantly in **remote working infrastructure**; investing in **digital skills for all**; and supporting the development and roll out of **Smart Towns and Villages** models. Our Rural Future also recognises the central role that local digital strategies will play in supporting these objectives and implementing many of these strategic initiatives at the local level.

**Making Remote Work**, the National Remote Work Strategy was also released in 2021 and recognises the vital role that remote working played during the COVID-19 pandemic and continues to occupy as we recover from the pandemic and plan for future work models and workplaces. Whilst the increased adoption of remote working in Ireland has been underway for some time, the pandemic dramatically fast-tracked this process making remote working a central feature of today's workplaces.

The accelerated scale and pace of remote working during this period also clearly demonstrated the important economic, social and environmental benefits of remote working and its capacity to help deliver on a range of public policy objectives. These benefits include **increased participation in the labour market, better work-life balance for citizens**, supporting **balanced regional development** and significantly **reducing transport-related carbon emissions**. The objectives and commitments set out in **Making Remote Work** align with those contained in **Harnessing Digital, Our Rural Future** and other key policies that prioritises the development of remote work infrastructure in cities, towns and villages across Ireland with a view to enabling remote working to become a permanent fixture in Irish workplaces.

The **National Broadband Plan (NBP)** was signed on 19<sup>th</sup> November 2019 with National Broadband Ireland (NBI) to build, operate and maintain the network. The rollout commenced in early 2020 with a 3-to-5-year implementation period for the bulk of connections (90% of the fibre connections will be complete within this period). This is the final piece of the enormous investment in the ICT infrastructure of Ireland and will see fibre brought to the last remaining areas, business premises, households, schools and community facilities in commercially unfeasible areas, known as the NBP Intervention Areas.



In the first stage, fast fibre infrastructure is being delivered to over 300 community centres, schools, libraries, hubs and local sports facilities in the intervention areas, known as **Broadband Connection Points (BCPs)**. The BCPs will enable communities to quickly get free public access to high-speed broadband while the NBP itself is being rolled out to individual homes, businesses and other facilities. It is worth noting that almost 1.9m homes and premises across the country are already connected, or to be connected, with fibre broadband by commercial telco and utility providers.

The NBP contract is being delivered by National Broadband Ireland (NBI), a new special purpose company dedicated to the rollout of the infrastructure in the Intervention Areas which will be capable of delivering a high-speed broadband network.

### Key Infrastructure & Technical Stats around the NBP

- Over 1.5 million poles
- Over 15,000 km underground ducts
- Up to 146,000 km new fibre cable
- Running along 100,000 km of the road network
- 150Mbps broadband product upgraded to 300Mbps by year 6 and 500Mbps by year 10
- Up to 1Gbps products for businesses, upgraded to 2 Gbps by year 11.
- Primarily FTTH delivery, with circa 2% of premises via a high standard wireless connection.

The NBP will deliver benefits across a number of fronts to the disadvantaged areas covered, including:

- Flexible and remote working opportunities
- Smart health with online GP and nursing services
- Cloud based services and connected devices
- Smart farming opportunities
- Digital / eLearning

The Government's **Regional Enterprise Plan - North West** to 2024 also positions digital as a priority area in its strategic vision and commitments. The plan recognises the critical role that digital technologies and remote working will play in job creation, enterprise development and achieving balanced growth for the regions in the coming years. Some of the key initiatives that are to be delivered by strategic partners under the plan include **driving cluster activity in the digital gaming sector** and supporting the delivery of **co-working spaces** (Enterprise Ireland); the continuation of the **Trading Online Voucher scheme** and **digital skills and capacity building programmes for SME's** (Local Enterprise Office); and supporting digital transformation in the local tourism industry through the **Digital that Delivers** programme (Fáilte Ireland).

*Digital Leitrim* will also be a key enabler for tourism providers and the promotion of Leitrim in line with strategic visitor development programmes such as the Hidden Heartlands regional tourism strategy in which Leitrim and the upper Shannon & Erne waterways is such a critical part of. Digital services, Apps and virtual experiences will all form a core piece of the tourism product development and visitor engagement strategy going forward.

Finally, the EU's **Digital Agenda for Europe** has been in existence, and evolving, for almost a decade and is one of seven flagship initiatives under the *Europe 2020 Strategy*. It focuses on technologies and online services that will allow Europe to create jobs and promote economic prosperity. It aims to improve the daily lives of EU citizens and businesses through the realisation of the *Digital Single Market*. The headline areas of digital progress under the DSM goals are:

1. Connectivity (Broadband & Telecoms Infrastructure);
2. Human Capital (Digital Skills & Literacy);
3. Use of Internet Services (Digital Participation);
4. Integration of Digital Technology (Enterprise adoption of ICT & Innovation);
5. Digital Public Services (Accessible and Efficient e-Services).

Progress towards the Digital Agenda and the Digital Single Market are also measured and monitored annually by the *National Digital Scoreboard*.

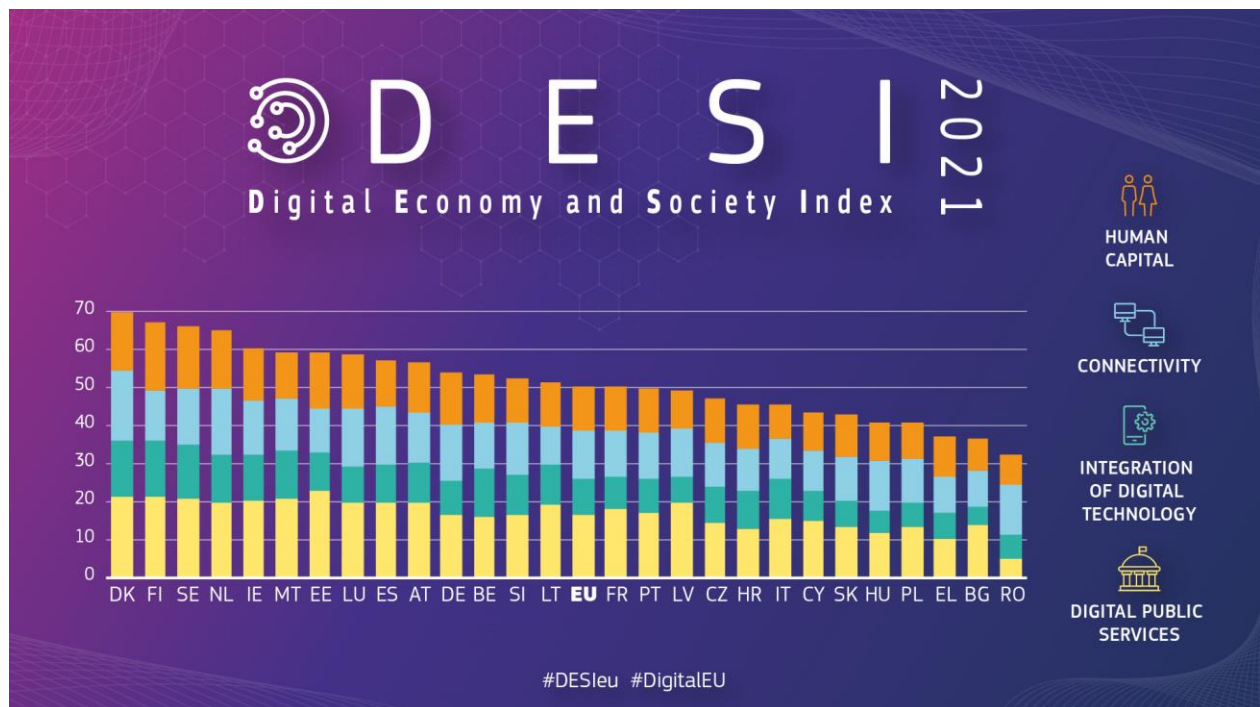
## 4 STRATEGIC ANALYSES

### Ireland's Place in the Digital Ecosystem

The Digital Economy and Society Index (DESI) is a composite index published every year since 2014 by the European Commission's Europa statistical service. It measures the progress of EU countries towards a digital economy and society based on a set of relevant indicators on Europe's current digital policy mix. The DESI is composed of four principal policy areas, which regroup 34 indicators overall:

Key Policy Area	Description / Measure
1 Human capital	Internet user skills and advanced skills
2 Connectivity	Fixed and mobile broadband, fast / ultrafast broadband and prices
3 Integration of digital technology	Business digitisation and e-Commerce
4 Digital public services	e-Government and e-health

Figure 4.1 EU's Digital Economy & Society Index (DESI) 2021



Ireland ranks 5<sup>th</sup> of the 27 EU countries on the DESI multiple indicator index for digital progress and performance, up from 7<sup>th</sup> position in 2019. This reflects the country's sustained commitment to continuing its fast-paced digital transformation. Ireland performs very well on the integration

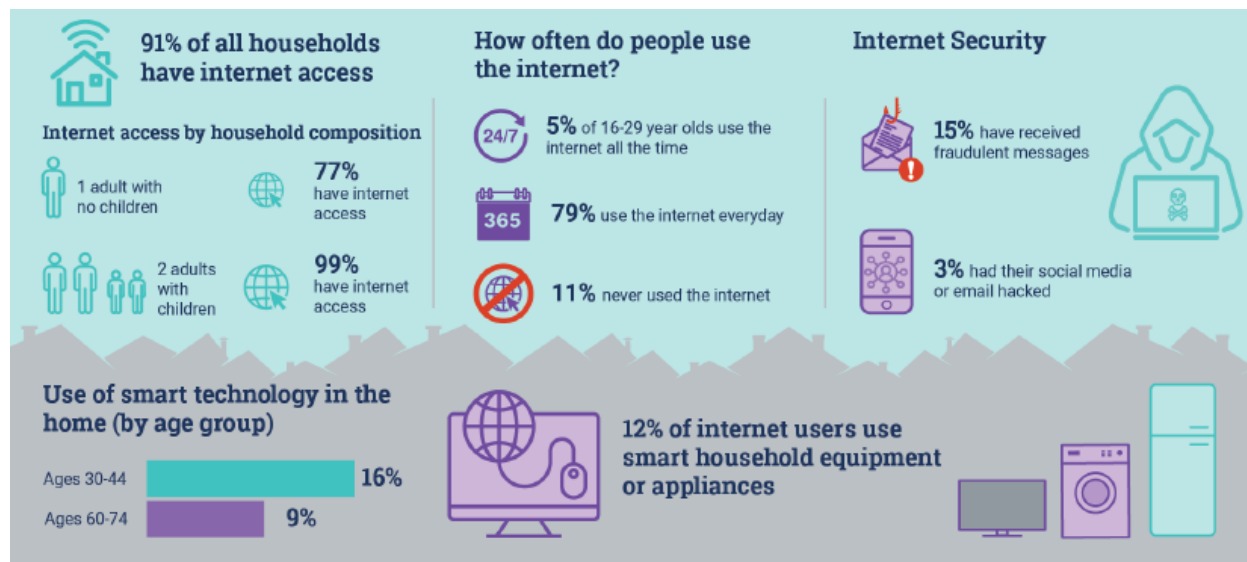


of digital technology and maintains a high score in the use of e-commerce by SMEs. Ireland also scores highly for digital public services, particularly in open data and providing digital public services for citizens and businesses. Regarding digital skills, Ireland performs above the EU average in advanced digital skills (such as ICT specialists and ICT graduates) whilst performing just below the EU average for basic digital skills of the population (53% against the EU average of 56%).

### Ireland's Digital Profile & Scale

Ireland is in the leading group of digital economies and progressively so when compared with its peers. Much of this is reflected in the structure and nature of our economy with a strong representation of science and technology enterprises and a technically educated and skilled workforce. When assessing the overall scale and value of the digital economy in Ireland, a number of headline figures and statistics are noteworthy:

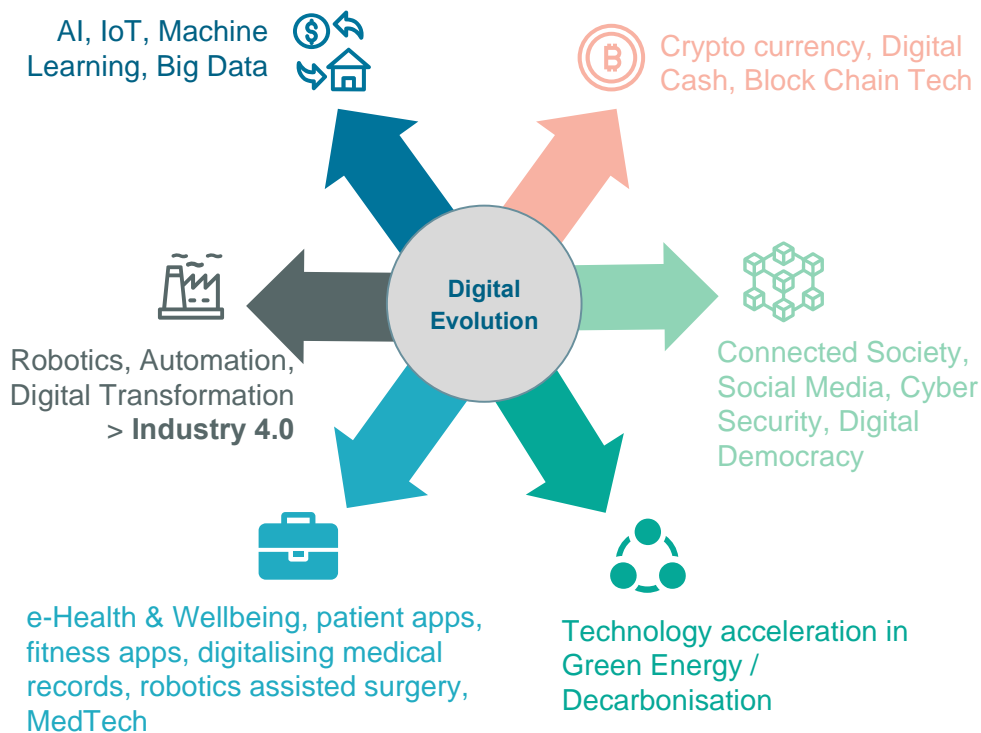
- The contribution of digital to the Irish economy is large and rapidly growing, accounting for close to 15% of GDP in 2020.
- We are experiencing rapid growth, at approximately 40% since 2012.
- Almost 116,000 direct and indirect jobs are supported, of which 68,000 are directly linked to digital.
- Irish consumers spend over €1m per hour online, 24 hours a day.
- Irish consumers expect this to grow by 25% in the coming 3 – 5 years.
- 88% of Irish consumers research products online before buying, compared to 79% across the EU.
- 13.5% of the adult population make a supplementary income on the internet.



### Some Key emerging trends in the Digital Society & Economy

Some of the most transformative emerging trends in digital society and economy include:

- Increasing use of IoT technologies and the rise of the big data society.
- Significant Innovation and investment in Artificial Intelligence (AI) and Virtual Reality (VR) technologies.
- A rise in cyber-attacks and trust issues surrounding digital services leading to enhanced security.
- Continued migration to the cloud across all enterprise sectors and institutions.
- Consolidation in the telecoms industry and more cross-industry mergers between networks, technology, television, media, transportation e.g., Tech Firms diversifying into automotive and other consumer goods.
- A shift away from owning to using, e.g., car sharing apps; entertainment streaming; cloud subscriptions.
- Virtual currency, mobile payments and crowdfunding will impact the future of banking and finance.



## Analysis of Leitrim's Digital Context

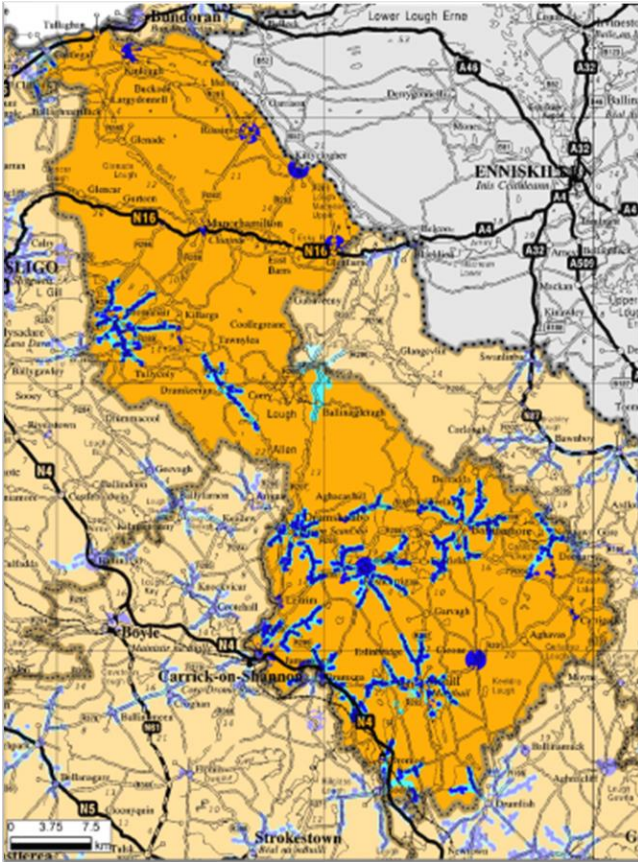
This section examines several areas of digital development in County Leitrim together with information gathered and assessed through consultation and other areas of research conducted in the development of this Strategy throughout 2020.

### High Speed Broadband – Leitrim Profile

The table below presents statistics for broadband rollout and the number of units/premises (household dwellings & business premises) that fall into each broadband delivery category at the time of commencement of the National Broadband Plan rollout.

- **AMBER** - target areas for the State intervention under the National Broadband Plan.
- **BLUE** - commercial operators have, or are, delivering high speed broadband services.
- **LIGHT BLUE** - areas where *eir* has committed to commercial rural deployment plans to roll out high speed broadband to 300,000 premises across the state.

County	Total No. of Premises	No. of Premises	No. of Premises	No. of Premises
Leitrim	22,339	11,555	10,448	336
National	2,391,559	537,595	1,838,932	15,032



Leitrim has the highest proportion of NBP Intervention as a percentage of overall premises of any county in Ireland. The total investment in the county will be circa €45m and will include FTTP and other fast broadband solutions to 11,555 homes, business premises, farms, schools and community facilities. This represents 52% of the entire connection base (22,339 connections) in the county. As the county broadband map shows, there is a significant commercial coverage in a small number of populated urban areas in the south of the county but very large swathes of the central and northern end of the county that will fall under the NBP intervention area. This is more than twice the average for the state at 22% and is significantly higher than the provincial average of 37% for Connacht. Following Leitrim, Roscommon (49%); Monaghan (46%) and Mayo (43%) respectively which are the counties with the highest NBP Intervention rate per total connections.

The county still has a fairly extensive fibre infrastructure around the urban centres and some larger rural villages. There are two e-Net fibre MAN's (metropolitan area networks) in Leitrim including Carrick-on-Shannon and Manorhamilton capable of offering broadband speeds of up to 500mbps. A number of providers including eir, Pure Telecom and Rural WiFi are delivering services of up to 150mbps to businesses and homes in the non-intervention areas.

The Map below provides an overview of the key Digital Assets and infrastructure in Leitrim.

## Leitrim Digital Assets Map

-  Metropolitan Area Network (MAN)
-  Broadband Connection Point (BCP)
-  Public WiFi Hotspot
-  Coworking / Digital Hub
-  Public Library

### BCP's – Connected Communities

- Aghanish Community Centre
- Askill Community Centre
- Aghavas GAA Park
- Aghawillan GAA Clubrooms
- Teach Dúchas, Drumeela
- Glencar Waterfall visitor point
- Gortletteragh Community Centre
- Killargue Community Centre
- Killenummery Hall
- Aghawillan Community Centre
- The New Ballagh Centre, Rossinver
- Leitrim Gaels Community Facility

### Connected Hubs

- Drumshanbo Enterprise Centre
- The Food Hub, Carricknabrack
- The Hive, Carrick-on-Shannon
- Drumkeeran Enterprise Centre
- Mohill Enterprise Centre
- Ballinamore Enterprise Centre
- Manorhub, Manorhamilton
- W8, Manorhamilton
- Kinlough Business Hub
- Ballinagleragh Digital Hub



## Leitrim Digital Readiness Index / Assessment 2018

As part of the Local Digital Strategy process at the local authority level a Digital Assessment assignment was undertaken by Indecon Consultants in 2018 supported by the DRCD. The assessment led to the full Digital Readiness Index (DRI) being produced in July 2018 of each county or city council area which measured digital development on a series of criteria and indicators. Helping counties and cities move towards Digital Maturity is the core objective of the DRI and allowing for managed and monitorable progression through the stages of development. Central to this progression, and connected to the section above on NBP, is digital connectivity and infrastructure as this will ultimately allow for access and participation online. The summary scoring on the 7 pillars of digital development or maturity for Leitrim were as follows:

**Pillar I: Transitioning to Digital, Leitrim was classed as Emerging**

**Pillar II: Digital Economy & Employment, Leitrim was classed as Emerging**

**Pillar III: Digital Skills, Leitrim was classed as Emerging**

**Pillar IV: Digital Services, Leitrim was classed as Emerging/Developed**

**Pillar V: Infrastructure, Leitrim was classed as Formative**

**Pillar VI: Innovation & Entrepreneurship, Leitrim was classed as Developed/Highly Developed**

**Pillar VII: Community & Culture, Leitrim was classed as Formative**

At the time of the assessment in July 2018, Leitrim received an average score overall relative to the regional performance and the national average. Leitrim was deemed to be developed in the

4<sup>th</sup> Pillar (Digital Services) which covers a range of public and community services that are accessible online such as applications and registrations as well as information through websites and social media platforms and wifi in public buildings.

Leitrim was also scored very well and significantly above the national average on the 6<sup>th</sup> Pillar (Innovation & Entrepreneurship) which includes partnerships with education institutions; micro business supports for innovation; levels of .i.e. domain registrations among the business community; the use of Online Trading Vouchers; and other activity such as Digital Hubs.

Leitrim scored poorly with a formative classification on the 5<sup>th</sup> Pillar (Infrastructure). This relates particularly to the level of fast fibre broadband rollout and also take-up of service and use of digital technologies in the county. Leitrim was also deemed as formative on the 7<sup>th</sup> Pillar (Community & Culture) relating to engagement with the community on digital matters; active research and data gathering around community welfare and resources; partnerships across communities with remit for culture, enterprise, education and social cohesion; and digital engagement with citizens.

Appendix 2 presents the results of the full Digital Readiness Assessment of County Leitrim from 2018.

## Consultation & Engagement for Leitrim Digital Strategy

Consultation and engagement for the Leitrim Digital Strategy contained a number of strands some of which preceding the Digital Strategy itself. The core strands of consultation are presented below in chronological order:

- **July 2018 > Digital Readiness Assessment engagement with Indecon Consultants**
- **May 2019 > Digital Workshop with LCC department heads and key external stakeholders**
- **July – Sept 2019 > Digital Strategy surveys with citizens, businesses and not for profit orgs**
- **Oct 2019 > USEFE Digital Briefing for Business with Minister Canney, Ballymahon**
- **Feb 2020 > Digital Workshop with LCC department heads (recap & pillar validation)**
- **Feb 2020 > Digital Futures Community Workshops in Manorhamilton & Carrick on Shannon.**

Appendices 3 to 4B provide full details of the consultation process and outcomes. The key findings and messages from the consultation process are as follows:

### Key Priorities & Messages

Ballets and awareness around the benefits of digital, particularly for vulnerable and hard to reach groups, using existing structures and community networks is required.

Leitrim County Council will use the Digital Strategy to stimulate enterprise and create employment opportunities. This will include promotion and support for remote working, self-employment and social enterprise development.

The BCPs and other community and public facilities will be used to promote collaborative projects and networks for better community cohesion including social, education and leisure outcomes. Using digital technologies and shared resources improve the reach of public, social and community services.

The Digital Strategy must address low levels of ICT / digital tools in some sectors of the SME community and maximise and promote the benefits of digital technology initiatives within the business and farming community. Again, engagement with target groups and a needs analysis of the skills and investment requirements of the enterprise base specific to digital readiness will be critical to transforming and adapting to a rapidly changing digital economy. Key partners will include Leitrim LEO / MSLETB / LDC / EI and other specialist providers e.g., FabLab.

The Digital Strategy can set out a vision of the future for Leitrim as an investment location for emerging sectors, networks and collaboration partnerships such as USEFE and AEC which will be important to recasting future opportunities. Selling the 'quality of life' factors such as recreation, environment, housing, a low cost of living, power and connectivity (air/road/rail/broadband) will form the core offering.

The rollout of fast fibre broadband under the NBP to the BCPs across Leitrim is an early action for the Strategy. The equipment and facilities needs of the BCPs will also need to be scoped and procured to make them fit for purpose as digitally connected community facilities. The BCPs will also present a key opportunity to engage the community in planning the activity to be delivered through the BCPs. This will range from training, public information, social activity, entertainment (e.g., Pop-up Cinema) digital events, culture and heritage activities and a host of other content. It will also present an opportunity to identify and engage local partners and stakeholders from within the community to provide knowledge and leadership.

The Smart Communities Initiatives are seen as a very relevant area for collaboration that the Digital Strategy can assist with. This will involve digital skills, local energy projects where renewable technologies are incorporated, town and village renewal, cultural and heritage initiatives and tourism related projects that are led by the community. Other partners would include Leitrim County Library Service, local enterprise and schools. It was noted that corporate partners would see their input as a positive Corporate Social Responsibility (CSR) contribution to the community while building relationships and loyalty.

Libraries are expanding to an Open Libraries Service with 24/7 access. This open access will combine with new services and facilities such as 'Business Pods' and 'Smart Flipcharts' for local business users or students. As part of this new libraries strategy, there will be a focus on tourism information and mini museums for showcasing local heritage. Leitrim has 9 libraries that are strongly connected to the communities where they are located. There is a transformational move with libraries becoming more relevant to the community in a multi-purpose / multi-service setting.

The overall objective, to use the Digital Strategy to engage citizens and businesses in understanding and adopting more digital services and tools in their lives and commerce, is the over-arching priority for the early phase of the Strategy. This will require some scoping of need but also greater engagement and partnership through appropriate structures and networks. Digital Demonstrations for Smart Communities and business groups and identifying local digital partners will all form a crucial element of this effort. The establishment of a Digital Forum across Leitrim County Council for the Strategy implementation will be a key foundation stone.



## USEFE Network & Collaboration

Leitrim leads one of the more recent and innovative collaborations in The Upper Shannon Erne Future Economy (USEFE) Project which is a joint initiative between the Local Authorities of Cavan, Leitrim, Longford and Roscommon, together with Bord Na Mona and the ESB.

**USEFE Aim** *“to strengthen economic development in the area and create jobs. We recognise that taking a collaborative approach on our projects can lead to an overall greater outcome for the region. We do this in a number of sectors including tourism, renewable energy and Diaspora engagement”*

The USEFE Local Authority Partners have collaborated extensively around the development of their Digital Strategies. This has involved process design, research, conferencing and events and network development with national support bodies and personnel. This collaborative approach has resulted in cost savings and value added knowledge but most importantly it will lead to strategic projects across county borders that will create lasting regional impact. Probably the most powerful direct outcome from these collaborations, is the instant flow of information and knowledge sharing between partners. This often provides immediate solutions for partners and almost always avoids duplication of effort, and resources and produces significant cost savings.

**Scoping the features and profiles unique and relevant to Leitrim in the Digital Domain will be important to crafting the Leitrim Digital Story or Strategy. The following points are a brief summary and context to create a starting point for *Digital Leitrim*.**

- Leitrim is a regional connector county for the NorthWest; West; Midlands & Border regions.
- Leitrim has a low population base distributed across several small and medium sized local service towns & villages. However, the county has experienced population growth and an aging profile above national average.
- Leitrim has a high proportion of school leavers going on to 3rd Level education but leaving the county to do so.
- Leitrim is the Heartland of the Upper Shannon Waterways system with a leading product in Blueway and Greenway tourism & natural resources.
- Leitrim has a rich heritage in cultural expression and natural and built environment. The county has attracted a high degree of inward migration participating in the creative and cultural sectors.
- Leitrim has an established base of hubs for digital enterprise and contains high levels of entrepreneurship and self-employment.

## SWOT Analysis of Leitrim's Digital Position

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>▶ Location &amp; Accessibility of county for investment and remote working is positive;</li> <li>▶ Regional Partnerships and collaborations in USEFE &amp; AEC benefiting from programmatic funding and resources for digital;</li> <li>▶ High levels of Entrepreneurship &amp; Self-employment are evident in Leitrim which will form a strong basis for the digital economy;</li> <li>▶ Established enterprise Hubs and workspace provision across the county;</li> <li>▶ A growing and diverse population after many years of decline. Leitrim is open to new cultures and ideas from inward migration;</li> <li>▶ High rate of 3<sup>rd</sup> Level education among school leavers and residents;</li> <li>▶ A good network of attractive and connected towns &amp; villages gives Leitrim a service &amp; resource spread;</li> <li>▶ A strong sense of heritage, history, culture and tradition provides Leitrim with opportunities to develop its identity and assets through digital.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Low population base will make service delivery difficult and inefficient;</li> <li>▶ Low in key Digital measures - innovation; skills; digital integration in business. Below average score in DRI;</li> <li>▶ Low or no clustering at present in tech sectors – but signs of emerging tech community around hubs e.g., Hive;</li> <li>▶ No IOT / Tech Uni present in county and limited post-secondary education provision;</li> <li>▶ Underdeveloped ICT infrastructure in large parts of Leitrim – highest % of NBP intervention of any county;</li> <li>▶ Secondary location for FDI and small numbers of large SMEs;</li> <li>▶ Rural decline evident in many rural towns &amp; villages in Leitrim – vacancy rates, ageing population and service decline.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>▶ Development and demonstration of new model of commercial, cultural &amp; civic collaboration;</li> <li>▶ Digital/Creative cluster development;</li> </ul>	<ul style="list-style-type: none"> <li>▶ Potential lack of resources to drive the development projects to desired level;</li> <li>▶ Potential lack of partnership from key stakeholders and community groups;</li> </ul>

- ▶ BCPs offer new meeting, social and information points in the community for local collaboration;
- ▶ Increasing capacity to harvest 'green energies'
- ▶ Digital Strategy implementation will drive a number of key strategic developments in Digitalisation of Public Services;
- ▶ Global growth in the digital economy and Leitrim's positioning for investment capture;
- ▶ Network of Local Hubs as multi-purpose facilities, connected to the community;
- ▶ Smart Initiatives across the county through partnerships and community ownership;
- ▶ Digital Forum and partners as ambassadors for digital in their organisation or community.
- ▶ Competition from other regions to capture investment in digital sectors and knowledge services;
- ▶ Macro-economic climate and threat of recession – Covid 19 & Brexit in particular;
- ▶ Talent retention and development for Leitrim's benefit will be challenging.

## 5 LEITRIM DIGITAL STRATEGY (*Digital Leitrim*)

### Strategy Rationale

Leitrim will use this Digital Strategy '*Digital Leitrim*' to bring together a number of actions and objectives from the community and civic society, enterprise, education, cultural and environmental fields and apply a digital dimension to all aspects of development.

The Digital Strategy will help pave the way for future priorities and shape how the county allocates its' resources and works collaboratively for a more innovative, creative and low carbon future. It will address issues of rural isolation and decline, economic and agricultural innovation, cultural and tourism promotion, decarbonisation and environmental protection. Many of these challenges will be beyond the scope of the Digital Strategy but will be strengthened and enhanced through digital skills development, adoption of digital technologies, creating collaborative networks of smart communities and investment in digital infrastructure and connectivity. Leitrim County Council, through the Digital Forum, will lead on the activation and implementation of the Digital Strategy.

Leitrim has a strong and established enterprise support function through the LEO and a small number of vibrant enterprise hubs. This has led to a dynamic network of entrepreneurs, many of whom are operating and leading in the digital space. These local success stories, like Cora Systems in Carrick-on-Shannon, are powerful examples of the possibilities for tech entrepreneurs to stay in Leitrim and grow their business here. *Digital Leitrim* will create awareness and support structures for local companies in the digital space to identify commercial innovation and collaboration opportunities. This virtuous circle of driving innovation and growth in the digital economy with locally based solution providers will reinforce the economic impact and create real 'homegrown' clusters.

At the community level and through the education system, digital skills and participation must be promoted in exciting and engaging ways especially to the elderly and those at risk of digital isolation to help foster a dynamic digital society. Government can play a strong role in promoting digital skills and literacy through delivering public services online and providing incentives for citizens to adopt technology to live more sustainably and contribute to the democratic process through social media and other dedicated platforms.

Leitrim must keep pace with the development and roll out of digital infrastructure through the NBP, and other key enterprise infrastructure including strategic sites for enterprise and industry if it is to have a viable offer to FDI and digital entrepreneurs. 1Gb fibre, and the network infrastructure to accommodate these technologies.

## Vision Statement

*“Digital Leitrim reflects a county that is **connected, progressive, and responsive** to a digital future, while remaining true to its cultural heritage and protective of its natural environment”*

## Values & Guiding Principle

The Strategy must reflect the principles and qualities of our position in the world and what we stand for. In this regard Leitrim is positioning itself as a forward thinking, creative place that respects and protects its natural resources, environment, culture, people and their skills and talents. We have identified four values that embody our vision and are cornerstones for guiding our Strategy over the coming three years. These values are designed to inspire and provide uniqueness of purpose for the Strategy and its partners.

01

**Vibrant & Connected Town's**

Leitrim is creating exciting plans for revitalised and renewed town centres as attractive and purposeful places for its citizens and visitors. Town Teams are leading this agenda.

02

**Reflective & Connected to Nature**

Leitrim is a place of quiet, unspoiled and hidden nature treasures. Its gentle and rugged countryside and charming towns make it a destination for balance in a fast moving digital age.

03

**Enterprising & Ambitious**

Leitrim has an established and dynamic micro enterprise base and a small network of quality Hubs to support and drive an innovative indigenous economy.

04

**Sustainable / Green & Low Carbon**

Leitrim is leading in the fields of micro renewable energy, resource efficiency and carbon reduction activities at a community, enterprise, infrastructural & institutional levels.

**Strategy Pillars**

The Strategy pillars are where the values, priorities and objectives are turned into actions and projects. The Strategy pillars are the themes that represent groups or categories of activity. The pillars help to communicate the Strategy and provide channels of projects and activity that can be managed and monitored in a more organised manner. The pillars are also a reflection of the needs of the community or target groups that are being addressed by the strategy. They allow for a headline to frame the detail that lies beneath. Our Strategy pillars are consistent with what the Strategy is attempting to achieve, in both a national policy context and specific local terms. They are also created from what the needs and opportunities are on the ground.

**The four Strategy pillars for *Digital Leitrim* are as follows:****1. Infrastructure & Connectivity >**

- a. NBP rollout / Telecoms infrastructure / Services
- b. BCPs & WiFi4EU / Public WiFi hotspots and investment in IoT
- c. Digital Hubs investment in digital facilities and connectivity

**2. Smart Communities >**

- a. Digital Skills & Literacy programmes targeting all sectors of the community.
- b. Citizen Engagement & Awareness of digital – Libraries / BCPs / Schools / other community touch points.
- c. Smart Initiatives & Data – Creating a Smart Leitrim through initiatives that are collaborative, technology led and address local need and opportunity.

### 3. Digital Economy & Enterprise >

- a. Digital Skills for Business – engagement with business by type and sectors to identify digital skills gaps and perform a training needs analysis.
- b. E-commerce & Digital Marketing – Online Trading Vouchers, social media and digital marketing support, networks of knowledge / know-how.
- c. Tech Clusters & Entrepreneurs – services & supports to embed and enhance the digital ecosystem in Leitrim – replicating the success of the leaders.
- d. Digital Hubs & Remote Working – ensuring Leitrim towns and villages are ready to respond to the need for space, service, support and connectivity.
- e. Digital Discovery in key sectors – making digital a key development function in emerging and growing sectors including Tourism, Renewable Energy, AgriFood etc.

### 4. Digital Transformation (Public Service) >

- a. Institutional leadership in digitalisation and e-service delivery
- b. Internal IT systems integration and cloud based – training for staff
- c. Development of single portal for engagement with citizens

The four Strategy Pillars outline the type of activity that will be planned and implemented under each of the key themes of the Strategy. These activities and projects will have different timelines and different lead partners as well as different funding and resource requirements. In essence, the project portfolio for *Digital Leitrim* will reflect priorities, capacity, resources and readiness.

Prior to any action or projects commencing, it will be important to ‘prepare the ground’ for the Strategy to be implemented. In this regard, the establishment of the Leitrim Digital Forum will be critical for the governance and management of the Strategy. Much of this detail is dealt with in the final section of this report (Strategy Implementation).

### Funding the Strategy

The implementation of *Digital Leitrim* will require a continued commitment to resourcing existing actions as well as the identification of future funding opportunities (and match funding) that contain specific criteria for digital transformation projects and initiatives. Digital and Smart growth are central themes in all current policy and are likely to be contained as specific outcomes in future competitive funding programmes including measures around Smart Regions and Communities, digitalisation in the enterprise base and in Local Government. Leitrim County Council and Leitrim LEO will actively pursue all future funding bids, where appropriate and relevant, to advance the objectives and actions contained in the Digital Leitrim Strategy.

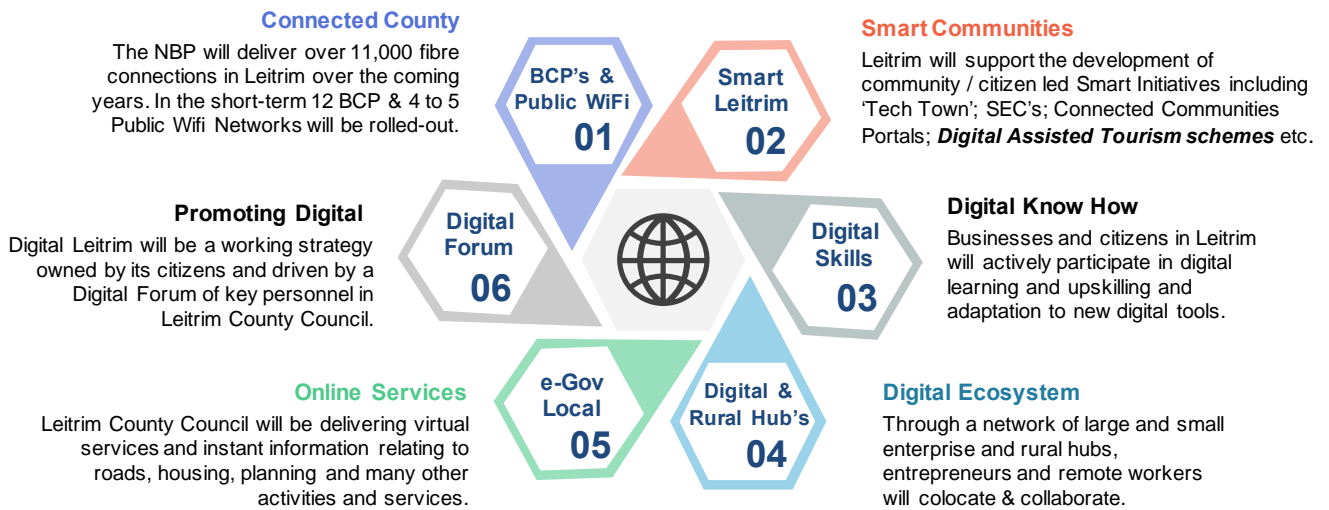
As part of Ireland’s National Recovery and Resilience Plan, the Digital Transition Fund (*Grow Digital*) announced in June 2022 will provide €85m to enterprise over a number of years and will drive transformative digitalisation particularly amongst SMEs. The programme will help companies at all stages of their digitalisation.

Other relevant funding streams that have emerged since the onset of the Covid 19 Pandemic include funding for remote working and hub facilities through the DRCD supported Connected Communities initiative and a number of regional investment packages from Enterprise Ireland towards hubs infrastructure, equipment for virtual conferencing and network events to support clients of hubs that are adapting to hybrid working or blended working practices. These funding streams are announced periodically and contain specific recovery focused themes and criteria.

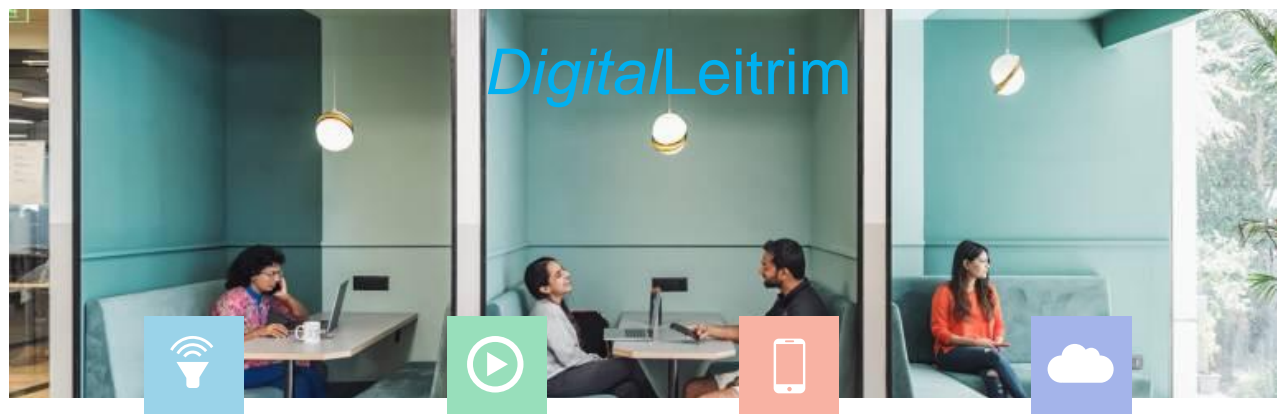
The Digital Innovation Fund also makes periodic calls for projects that provide digital solutions to key issues and barriers in society such as e-Health; community information and safety; climate action and energy conservation; local heritage; digital skills and a range of other themes at community level. The last funding round was in 2021 and overall, up to 70 locally based projects have been funded to date since the first round in 2018.

### What will *Digital Leitrim* look Like?

The actions featured in this Strategy will define *Digital Leitrim*. The actions will also form the basis of the partnerships, collaborations and networks that will now form around the Strategy. Again, the Digital Forum is a critical first step and the binding for the Strategy as it is phased out over the coming three years. The illustration below is a snapshot of the project activity and the rationale for action under *Digital Leitrim*.



The snapshot below provides an overview of the Strategy under each of the four pillars.



**P1: Infrastructure & Connectivity**  
Progress Reporting on NBP Rollout  
BCP's & Public WiFi / WiFi4EU  
Digital Assets Register & Networks

**P2: Smart Communities**  
Digital Skills & Literacy  
BCP Demand Stimulation  
Town Tech (IoT) + Local Apps  
Sustainable Energy Communities

**P3: Digital Economy & Enterprise**  
Digital Skills for Business  
Online Trading Vouchers  
Workplace Innovation  
FabLab & New Tech  
Hubs & Remote Working

**P4: Digital Transformation**  
Cloud based Doc Management – Sharepoint  
Paperless Meetings  
E-Services rollout  
Interactive Leitrim Portal



## The Strategy Pillars

The tables below provide a framework and structure for grouping the project activity and actions under each of the Strategic Pillars of the Digital Strategy. Each pillar is introduced, and its key actions are outlined in sequential format. As highlighted in the Introduction to this Strategy, a focused review exercise has been undertaken to incorporate and reflect the important national policy developments over the past 18 months. This review exercise has shown that the strategic framework for *Digital Leitrim*, namely its four Strategic Pillars remain consistent and well aligned with all new national policies as presented in Section 3 - The Digital Policy Agenda.

### Pillar 1: Digital Infrastructure & Connectivity

Digital Infrastructure & Connectivity will underpin every aspect of the Leitrim Digital Strategy. Without fast reliable broadband and quality mobile network coverage citizens, businesses and schools will not be able to realise the benefits of digital and participate fully in the digital society and economy. The rollout of the NBP in County Leitrim is the most significant infrastructure investment in recent times. The total investment in the county is in the order of €45m and will include FTTH and other fast broadband solutions to over 11,500 homes, business premises, farms, schools and community facilities.

Actions and activity under Pillar 1 are detailed below.

Ref	Objectives & Proposed Actions	Action description	Timescales
P1:1	<p><b>Facilitate the provision of high-speed broadband across County Leitrim</b></p> <p><b>Responsible Partners:</b> LCC / DCCAE / NBI</p>	<ul style="list-style-type: none"> <li>Engage with NBI to facilitate the rollout of NBP in County Leitrim to ensure any challenges to deployment of broadband technologies are dealt with as expeditiously as possible.</li> <li>Engage collaboratively with telecommunications providers to increase and improve broadband coverage across the county.</li> </ul>	Ongoing activity to 2025
P1:2	<p><b>NBP Progress Reporting for information purposes</b></p> <p><b>Responsible Partners:</b> LCC / DCCAE / NBI</p>	<ul style="list-style-type: none"> <li>Publish updates on the rollout of the NBP across the county including BCPs and other digital infrastructure projects e.g., WiFi4EU and public networks.</li> <li>Disseminate reports through a range of internal and external networks including PPN and the LCDC forum.</li> </ul>	Ongoing activity

P1:3	<b>BCP &amp; Public WiFi networks</b>  <b>Responsible Partners:</b> Leitrim County Council / NBI / PPN	<ul style="list-style-type: none"> <li>• Raise awareness through information campaigns around the BCP network and how it will benefit the communities that they serve.</li> <li>• Organise launch event of Broadband Connection Points.</li> <li>• Pursue all funding streams to enhance BCPs to encourage demand stimulus within the community.</li> <li>• Deliver small scale broadband infrastructure in the community through the WiFi4EU Networks and other Public WiFi Hotspots.</li> </ul>	Ongoing activity
P1:4	<b>Engage in Regional &amp; National Digital Assets Initiatives</b>  <b>Lead Partner:</b> Leitrim County Council	<ul style="list-style-type: none"> <li>• Leitrim County Council will work on collaborative actions and engage in regional and national initiatives including working with the AEC partners to improve broadband infrastructure in the county. The key objective of this action will be to accelerate progress on the NBP rollout and address gaps and blackspots within the telecoms network infrastructure.</li> </ul>	Ongoing 2021 to 2025

### Pillar 1 - Review Commentary August 2022

The fundamental importance of getting all households, businesses and public/community facilities connected to fast, reliable broadband remains a core national and local policy objective and its importance was further elevated by the pandemic. This is particularly true for rural areas where digital connectivity continues to demonstrate its capacity to transform rural communities and support rural regeneration. The further commitment to the roll out of the *National Broadband Plan* in the new *National Digital Framework* and *Our Rural Future* and the dramatic growth in remote working, all point to an increased urgency and focus on improving digital infrastructure & connectivity and the actions identified in Pillar 1 will help to deliver this across Leitrim.

## Pillar 2: Smart Communities

The Digital Strategy will drive and support connectivity and participation in communities and promote social cohesion. The Smart Communities pillar of the *Digital Leitrim* will use technology, digital tools and digital skills to create a healthy digital society. It will promote new opportunities and access to learning and employment, protect citizens and drive efficiencies and knowledge. In Leitrim this will mean providing opportunities for citizens to upskill in digital and to have access to reliable and fast broadband. A key focal point of this effort will centre around the 9 libraries in Leitrim and the roll out of My Open Libraries service and e-Library access. As public spaces, libraries are ideally placed to deliver equality of access to technology and demonstrate the value and benefit of digital technology in supporting citizens who are remote working, studying and in business.

It will also require collaboration, investment and innovation in rural and community facilities to be more digital friendly and resourceful. Smart Communities Initiatives will emerge from collaboration between state, private sector and local community groups to invest in relevant projects for sustaining and regenerating their town or village in areas such as Renewable Energy, Social Enterprise, Tourism & Recreation and all supported by the adoption of digital technologies.

Actions and activity under Pillar 2 are detailed below.

Ref	Objectives & Proposed Actions	Action description	Timescales
P2:1	<p><b>Digital Skills &amp; Literacy</b></p> <p><b>Lead Partner(s):</b> (LDC; Age Action; MSLETB; LCC; PPN and others depending on specific activity)</p>	<ul style="list-style-type: none"> <li>Promoting digital literacy through formal and informal learning at a community and workplace level, targeting vulnerable excluded groups.</li> <li>Engage with and support providers for all digital skills development programmes including the Digital Skills for Citizen Scheme funded by DCCAE run by Age Action in venues across Leitrim.</li> <li>Provide Training in MS Teams and other virtual communication platforms for members of the Older Persons Council (OPC) and other target groups. Use peer-to-peer training in IT / Digital skills.</li> <li>Libraries, will support public internet access and enable delivery of digital literacy and ICT training, promote e-</li> </ul>	Ongoing activity

		<p>learning and address digital divide and support digital inclusion.</p> <ul style="list-style-type: none"> <li>• Delivery of Coding and Lego robotic workshops and other digital learning at designated libraries to encourage children to develop and enhance their digital skills.</li> <li>• Support community groups to continue to utilise digital technologies to support their activities and stay connected.</li> </ul>	
P2:2	<p><b>BCP Demand Stimulation</b></p> <p><b>Lead Partner:</b> Leitrim County Council, NBI &amp; DRCD</p>	<ul style="list-style-type: none"> <li>• Develop a BCP Plan by engaging with each community around their specific needs. E.g., digital skills provision, social and cultural events, public information events, technology workshops and a host of other activities that will stimulate participation in the community and their use of digital.</li> <li>• Target investment in IT and AV equipment for the community to cluster and use the facility in a practical way through digital applications.</li> </ul>	Ongoing activity
P2:3	<p><b>Tech Town – IoT and Digital Tools for better local services &amp; planning</b></p> <p><b>Lead Partner:</b> Leitrim County Council/Library Service</p> <p>Examples of ‘Tech Town’ solutions include local heritage &amp; culture virtual trail / App; Digital Info Point / Kiosk in town centres; multi-purpose charge</p>	<ul style="list-style-type: none"> <li>• Incorporate digital tools and Apps for local services, facilities, events, heritage &amp; culture of the area for both residents, diaspora and visitors.</li> <li>• Incorporate digital into town &amp; villages development, regeneration and public realm plans promote Smart Communities in a coordinated manner.</li> <li>• Promote the suite of digital services available through the library network. Using Digital Signage and Library App will facilitate library users to use their smartphone device to borrow physical items from the library.</li> </ul>	2022 - 2025

	points e-car & bike charging / USB sockets; Outdoor Cinema digital projection in busy tourism season.	<ul style="list-style-type: none"> <li>Explore the introduction of multipurpose charge points, e-car and bike.</li> </ul>	
P2:4	<b>Sustainable Energy Communities Masterplans (SECs)</b>  <b>Lead Partner:</b> Leitrim County Council & LDC	<ul style="list-style-type: none"> <li>Digital Leitrim will seek to support future SECs through digital applications such as advanced data capture, data analytics, and key installations such as car charge points and renewable energy systems in public buildings and spaces.</li> <li>Development agencies will seek to identify and work with local community groups to formulate SEC Masterplans in communities across Leitrim.</li> </ul>	Ongoing
P2:5	<b>Smart Communities Initiative – Leitrim</b>  <b>Lead Partner:</b> Leitrim County Council	<ul style="list-style-type: none"> <li>Broadband Officer to actively engage with the Smart Communities Initiative forum under DRCD and identify fitting initiatives for Leitrim Communities.</li> <li>Host Smart Communities information sessions to explain how the SCI will operate and be resourced.</li> <li>Libraries will support the sustainability and vibrancy of local communities by helping to build a digitally inclusive society and use digital to enrich local heritage and culture.</li> </ul>	2022 & Ongoing

### Pillar 2 – Review Commentary August 2022

The Smart Communities concept and delivery model continues to be consolidated and rolled out through a diverse range of Smart City/ Smart Town/ Smart Village initiatives; all being driven by the intersection of citizens and digital technologies. The social benefits and innovation that the Smart Communities approach can bring are well recognised in both national and European policy and this is clearly reflected in programmes such as the national

*Digital Innovation Fund* and *LEADER* where Smart Communities has become a core delivery model.

### Pillar 3: Digital Economy & Enterprise

While Ireland is already in a strong position, being among the most digitalised countries in the world (5<sup>th</sup> in the EU digital index DESI), the digital economy appears to run at two different speeds, with a small number of foreign-owned multinationals with high digitalisation levels and productivity, and traditional indigenous SMEs, which are slower in leveraging digital solutions to reduce costs, drive innovation and expand market presence. Leitrim is not operating, for the most part, in the first tier or speed of the digital economy. Investment in skills, facilities and business networks must happen under *Digital Leitrim* to bridge this gap.

Actions and activity under Pillar 3 are detailed below.

Ref	Objectives & Proposed Actions	Action description	Timescales
P3:1	<p><b>Digital Skills for Business</b></p> <p><b>Lead Partner:</b> Leitrim LEO</p> <p>The main goal is to ensure that all businesses in Leitrim adopt digital tools and develop the skills to use them. This will act as a competitive advantage for the county into the future and a culture of learning and upskilling.</p>	<ul style="list-style-type: none"> <li>Establish a Digital Skills Network for Leitrim. Led by Leitrim LEO and including, MSLETB, ATU Sligo and private training providers to oversee and guide the implementation of an IT / Digital led skills programme for enterprise in Leitrim.</li> <li>Perform a skill needs analysis of the enterprise base in Leitrim with a focus on IT and Digital skills. This should also involve detailed input from the Town Teams and Digital Enterprise Network through the Hive, and Manor Hub, the W8 Centre and other support providers in the county.</li> <li>Resource and run training events with specific targeting of content to business type and personnel rather than a general IT skills roll-out approach. (See below for suggested content modules)</li> </ul>	Ongoing activity

		<p><b>Digital Skills for tech enterprises</b> Coding, data science, digital business models, 3D modelling &amp; design, VR/AR creation, Digital Transformation, Cloud Strategy.</p> <p><b>General Digital Skills for enterprise</b> Online selling and e-commerce; website maintenance; Data analytics; Social Media management; Multi-platform design for UX (user experience); Network &amp; Data Security.</p>	
P3:2	<p><b>Trading Online Vouchers + Covid 19 Digital Supports</b></p> <p><b>Lead Partner:</b> Leitrim LEO</p>	<ul style="list-style-type: none"> <li>Continue activity under this established scheme but broaden the scope to meet the needs of enterprises with different business models and those needing to restructure their online presence due to Covid 19 impacts and fallout trends.</li> </ul>	Ongoing activity
P3:3	<p><b>Workplace Innovation</b></p> <p><b>Lead Partner:</b> Leitrim LEO</p>	<ul style="list-style-type: none"> <li>Leitrim LEO will implement a Workplace Innovation Package to assist all micro &amp; SMEs to engage in innovation and organisational change. (The package will be based on the existing tools and supports under Enterprise Ireland and the LEO for Workplace Innovation plans for individual enterprises.)</li> </ul>	Ongoing activity
P3:4	<p><b>FabLab &amp; New Tech Enterprise Demo's</b></p> <p><b>Lead Partner:</b> USEFE / LEO / LCC</p>	<ul style="list-style-type: none"> <li>Leitrim LEO will work with Northwest LEO partners, NWRA and Enterprise Ireland to support the implementation of best practice in SME innovation and digitalisation through the DEVISE Interreg EU Initiative.</li> <li>The DEVISE Initiative is contained in the North West Regional Enterprise Plan and will have a two-year rollout</li> </ul>	Ongoing activity

		<p>under the next EU Cohesion Funding Operational Programme under the <i>Smarter Regions</i> policy objective.</p> <ul style="list-style-type: none"> <li>• A new online format for innovation demonstration including ‘Start your own Product’ and other knowledge resources will be rolled out under this intervention throughout the lifetime of the Strategy.</li> </ul>	
P3:5	<p><b>Hubs &amp; Remote Working – Future Plan</b></p> <p><b>Lead Partner:</b> Leitrim County Council / Leitrim LEO/USEFE</p> <p>Digital Leitrim will promote Leitrim as a Remote Working friendly county and target appropriate sectors to utilise facilities in the county to allow for a ‘blended work’ model for their staff. A collaborative working relationship with partners and providers e.g., Grow Remote; NACEC; HR Training Providers.</p>	<p>Key actions include:</p> <ul style="list-style-type: none"> <li>• Research how remote working might impact staff retention positively for Dublin or even UK based companies.</li> <li>• Incorporate Diaspora engagement into the Initiative and seek input on international experience &amp; contacts, knowledge etc.</li> <li>• Align and collaborate with other Strategies and initiatives already underway including supporting Enterprise Irelands’ key goal to support 10,000 co-working and incubation spaces in regional locations.</li> <li>• Develop a stakeholder map of actions and plans for accommodating remote working at a hub level.</li> </ul> <p>The enterprise hubs and co-working facilities in Leitrim will provide meeting facilities and in some cases a facility for hosting events and training around remote working and virtual networking.</p>	Ongoing activity
<b>Pillar 3 – Review Commentary August 2022</b>			



The digital economy will continue to grow apace over the coming years and will see sustained strategic investment from government. Digital Transformation of Business is one of the four pillars of the *National Digital Framework* with a key target of 90% of SME's operating at basic digital intensity by 2030. The ongoing large-scale investment in remote working hubs across the country and recent launch of the *Grow Digital* fund for businesses is further evidence of the supportive environment that exists within the digital economy.

#### **Pillar 4: Digital Transformation (Leitrim County Council)**

Digital Leitrim is led by Leitrim County Council. As the lead partner in the local Digital Strategy, the County Council is the coordinating body between government and citizens and must lead and support in the transition to digital. Therefore, a programme of Digital Transformation in public services and internal systems and processes will be coordinated and implemented under Pillar 4 to bring forward digital services and resources.

Ref	Objectives & Proposed Actions	Action description	Timescales
P4:1	<p><b>Cloud Based Document Management System</b></p> <p><b>Lead Partner:</b> Leitrim County Council</p>	<ul style="list-style-type: none"> <li>• Provide a customised and unified Cloud Solution providing internal resources, shared documentation, open data portal, and digital services for citizen channels across all Local Authority services.</li> <li>• Roll-out the MS OneDrive; Sharepoint &amp; Teams applications (or alternative system) across the authority and provide ongoing training, development and trouble-shooting service for users.</li> </ul>	Ongoing

P4:2	<b>Paperless Meetings</b>  <b>Lead Partner:</b> Leitrim County Council	<ul style="list-style-type: none"> <li>• Institute a paperless meeting protocol for all management and member meetings.</li> <li>• Deliver all documentation electronically through preferred cloud based platforms for members and officials accessing their reports via tablets, phones, and laptops, while agenda items and reports are displayed on large screens. This action will support P4:1 above.</li> </ul>	Ongoing
P4:3	<b>e-Services Rollout</b>  <b>Lead Partner:</b> Leitrim County Council	<ul style="list-style-type: none"> <li>• Continue the rollout of online citizen services for housing, water services, recreation &amp; sports and other areas of citizen information and transactions. Much of this will be supported and led by the governments Digital Services Gateway.</li> </ul>	Ongoing
P4:5	<b>Deployment and Maintenance of Remote Working Infrastructure</b>  <b>Lead Partner:</b> Leitrim County Council	<ul style="list-style-type: none"> <li>• Continue the development and mobilisation of remote working infrastructure, as well as the deployment of mobile devices to individual staff members.</li> </ul>	Ongoing

		<ul style="list-style-type: none"> <li>The maintenance of this infrastructure is an ongoing commitment by Leitrim County Council to the profile of digital work patterns within the county.</li> </ul>	
P4:6	<b>Implementation Plan</b>	<ul style="list-style-type: none"> <li>Develop an in-house Action Plan implemented by Digital Strategy Forum.</li> </ul>	Commencement stage

#### Pillar 4 – Review Commentary August 2022

Digital Leitrim is being implemented at a critical period that coincides with government and public services continuing its evolution from e-Government to full Digital Government. Taking Harnessing Digital, Connecting Government 2030 and Civil Service Renewal 2030 together, there now exists a holistic strategic policy framework for the digital transformation of government and public services over the coming decade. This framework places the citizen at the centre of a digital first approach to public service delivery and will see significant investment in the technology and workforce skills development required to achieve this.

## 6 IMPLEMENTATION & MANAGEMENT

The scheduling of project activity under *Digital Leitrim* is summarised on the following page in the implementation table. This section outlines the general approach to governance, management, delivery and monitoring over the coming three years.

### Key Implementation Priorities

1. Establishing the Digital Forum (Steering Group).
2. Communication and negotiation with policy & delivery partners at national, regional and local level through existing networks and fora – USEFE; AEC; PPN; Economic Forum.
3. Launch of *Digital Leitrim* and circulation of Strategy to all stakeholders in Leitrim.

### Marketing & Awareness of *Digital Leitrim*

Leitrim County Council will harness business and community support through the assistance of the Strategy. This will be done in conjunction with delivery partners and key stakeholders through briefing sessions and information dissemination through existing channels including local networks, social media, official websites and other resources where appropriate.

### Monitoring & Review process – *how will we know it is working?*

1. Project outcomes will be defined as each project or action is agreed with delivery partners.
2. Performance indicators will be agreed by Digital Strategy Steering Group as detailed project development plans are formulated. Some of the key indicators to be used will include:
  - Digital Skills Awards / Training Completed
  - Digital Enterprise Supports accessed
  - Numbers of Depts and users moving to MS Sharepoint
  - Digital / Virtual participation in public & community events
  - Selected criteria and measures from the Digital Readiness Index (see appendix 2)
3. Project completion or extension will be reviewed and assessed on a quarterly basis as the Strategy activity is being implemented. The Digital Steering Group will meet on a quarterly basis to review progress and discuss issues and blockages with projects.

Ref	Project Title	Strategic Activity	Lead Partner	Timescale
<b>Pillar 1: Digital Infrastructure &amp; Connectivity</b>				
P1:1	<b>High Speed Broadband Provision</b>	Engagement with NBI and other core delivery partners in the rollout of the NBP across Leitrim.	NBI / DCCAE / LCC	Ongoing from 2020
P1:2	<b>NBP Progress Reporting</b>	Regular updates and briefings on the rollout of the NBP across Leitrim	LCC– BBO & Head of IT	Ongoing from 2021
P1:3	<b>BCP &amp; Public WiFi networks</b>	Delivery of designated BCP connections and IT/AV equipment & fit out. Launch town based public WiFi hotspots through WIFI4EU vouchers and other schemes.	NBI / Vodafone / LCC	Ongoing from 2020
P1:4	<b>Engage in Regional and National Digital Initiatives</b>	Engagement in Regional and National initiatives including AEC partners to improve infrastructure in County,	LCC	Ongoing to 2025
<b>Pillar 2: SMART Communities</b>				
P2:1	<b>Digital Skills &amp; Literacy</b>	Formal and informal Digital & IT Skills courses and training programmes for citizens	(LDC, MSLETB, Age Action, LCC)	Ongoing
P2:2	<b>BCP Demand Stimulation</b>	BCP Activation Plans for community participation in digital society and investment in enabling equipment	LCC, NBI & DRCD	Ongoing
P2:3	<b>Tech Towns</b>	Design, procurement & installation of IoT and Digital Tools for better local services & planning across selected locations in Leitrim	LCC and local business & community partners	Ongoing
P2:4	<b>Sustainable Energy Communities</b>	Supporting local communities to develop Sustainable Energy Masterplans (follow-on from SECURE Programme)	LCC & LDC	Ongoing
P2:5	<b>Smart Communities Initiative Leitrim</b>	Broadband Officer to actively engage with the Smart Communities Initiative forum under DRCD and identify	LCC / DRCD	Ongoing

		fitting initiatives for Leitrim Communities		
<b>Pillar 3: Digital Economy &amp; Enterprise</b>				
P3:1	<b>Digital Skills for Business</b>	Establish a Digital Skills Network for Leitrim. to oversee IT / Digital skills programme for enterprise in Leitrim; Digital Skills Needs Assessment; Digital Skills Training Prospectus.	Leitrim LEO	Ongoing
P3:2	<b>Trading Online Vouchers Scheme + Covid 19 Digital Supports</b>	Implement national supports for SME digital development and Digital Recovery.	Leitrim LEO	Ongoing
P3:3	<b>Workplace Innovation</b>	Support SMEs to develop Workplace Innovation plans and strategies through WIP Assessment Tools and Mentoring / Training Programme.	Leitrim LEO	Ongoing
P3:4	<b>FabLab &amp; New Tech Enterprise Demos</b>	Establish online format for innovation demonstration including 'Start your own Product' / 'FabLab' and other knowledge resources for Micro Enterprises.	Leitrim LEO & USEFE	Ongoing
P3:5	<b>Enterprise Hubs &amp; Remote Working – Future Plan</b>	Develop Leitrim Remote Working Policy & Strategy to reflect national policy and targets of 20% remote working across the public service.	LCC / LEO / USEFE	2022
<b>Pillar 4: Digital Transformation</b>				
P4:1	<b>Cloud Document Management – MS Sharepoint</b>	Implement a secure MS Sharepoint network for all LCC documentation & resources and provide training for all staff.	LCC	Ongoing

P4:2	<b>Paperless Meetings</b>	Continue to move statutory and strategic policy committee meetings to paperless format	LCC	Ongoing
P4:3	<b>e-Services Rollout</b>	Continued rollout of services and supports online and development of open source data portals	LCC	Ongoing
P4:4	<b>Remote Working Infrastructure for staff</b>	Design, development and mobilisation of remote working infrastructure, as well as the mass deployment of mobile devices to staff of Leitrim County Council.	LCC	Ongoing
P4:5	<b>Implementation Plan</b>	Devise an in-house Action Plan to deliver the objectives of <i>Digital Leitrim</i>	LCC	Commencement Stage

## Glossary for *Digital Leitrim*

### Acronyms used in this document

AEC – Atlantic Economic Corridor  
 AI – Artificial Intelligence  
 AR – Augmented Reality  
 BBO – Broadband Officer  
 BCP – Broadband Connection Point  
 CDP – County Development Plan  
 CERN - Conseil Européen pour la Recherche Nucléaire  
 CSR – Corporate Social Responsibility  
 DAE – Digital Agenda for Europe  
 DCCAE- Department of the Environment, Climate and Communications  
 DESI – Digital Economy & Society Index  
 DMI/DRI – Digital Maturity / Readiness Index  
 DRCD – Department of Rural & Community Development  
 DSM – Digital Single Market  
 DX – Digital Transformation  
 EI – Enterprise Ireland  
 ETB – Education Training Board  
 FDI – Foreign Direct Investment  
 FTTP – Fibre to the Premises  
 Gbps – Gigabits per second  
 GDP – Gross Domestic Product  
 GDS – Global Distribution System  
 GIS – Geographic Information System  
 HSBB – High Speed Broadband  
 IDA – Industrial Development Authority  
 IT – Information Technology  
 ICT – Information & Communications Technology  
 IS – Information Systems  
 IoT – Internet of Things  
 IOT – Institute of Technology  
 LCC – Leitrim County Council  
 LDC – Leitrim Development Company  
 LECP – Local Economic & Community Plan  
 LEO – Local Enterprise Office  
 Mbps – Megabits per second  
 MNC – Multi National Corporation  
 NBP – National Broadband Plan  
 NBI – National Broadband Ireland  
 NDS – National Digital Scoreboard  
 PPN – Public Participation Network  
 SEC's – Sustainable Energy Communities



SME – Small & Medium Sized Enterprises  
USEFE – Upper Shannon & Erne Future Economy  
VR – Virtual Reality  
Wi-Fi – Wireless Fidelity  
WIP – Work in Progress

## Digital Terms & References

**Big Data** – Extremely large datasets that can be analysed automatically.

**Decarbonisation** – Reducing greenhouse gas emissions produced because of transport.

**Digital Economy** – Online business activities and digital service enterprise.

**Digital Ecosystem** – A group of interconnected information technology resources.

**Digital Media** – Media that is enabled and transferrable by digital technologies.

**Digital Society** – A society that adopts and integrates ICT into everyday life.

**Digital Transformation** – Cloud computing and integrated ICT across the organisation.

**FabLab** – A learning and demonstration platform for new technologies for enterprise.

**Machine Learning** – Computer algorithms that improve automatically through experience.

**Online Trading Vouchers** – Scheme run by Local Enterprise Offices for businesses to go online.

**Remote Working** – The activity of employees working remotely from their host employer premises. Other terms include telework, e-working, co-working, virtual office etc.

**Smart Communities / Cities** – Communities or Locations active in the integration of technology into planning and delivery of services and supports.

**WiFi4EU** – An EU funded programme to deliver public wifi networks in towns and villages.

**3D Printing** – The process of making a physical object from a three-dimensional digital model, typically by laying down many thin layers of a material in succession.

## APPENDICES

### APPENDIX 1: Elements that underpin the three Principles of the Digital Citizen

1. **Digital access:** including connectivity/broadband; computers & digital devices, digital services and resources in their communities.
2. **Digital commerce.** online trading, shopping and virtual transactions.
3. **Digital communication:** email, instant messaging, social media platforms, Apps.
4. **Digital literacy:** the ability and skills to use digital devices towards effective digital participation.
5. **Digital etiquette:** appropriate behavior and language when engaging online.
6. **Digital law & regulation:** where enforcement occurs for illegal downloads, plagiarizing, hacking, creating viruses, sending spams, identity theft, cyberbullying, and other virtual crimes.
7. **Digital rights and responsibilities:** set of rights digital citizens have such as privacy and speech.
8. **Digital health:** awareness of the physical and mental health risks relating to digital engagement.
9. **Digital security:** citizen safety through passwords, virus protection, backing up data, and so forth.