CARLOW
DIGITAL STRATEGY
2021 – 2024

"

*Growing the Digital Potential
of County Carlow for All*

"

COMHAIRLE CONTAE
CHEATHARLACH
CARLOW COUNTY COUNCIL

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FOREWORD

The Carlow Digital Strategy 2021 - 2024 has been developed by Carlow County Council in consultation with the public and other stakeholders to assist everyone in County Carlow to embrace the power and potential of all that digital has to offer.

The Digital Strategy links together ambitions and actions in 4 key areas, Digital Infrastructure, Digital Economy, Digital Services, Digital Community and highlights the continuing importance of having a strong digital infrastructure (broadband), digital services, access and knowledge. It highlights the opportunities that digital offers and the dependencies that exist between a vibrant economy, the community, and modern public services.

People now more than ever want choice in how they communicate, work and interact in a way that best suits their busy lives, and the actions set out in this strategy together with the timely delivery of the National Broadband Plan are key elements in providing the platform.

Carlow County Council is committed to working with all the stakeholders involved in the delivery of the National Broadband Plan including the Department of Rural and Community Development and the Department of Environment, Climate and Communications.

Finally, we wish to acknowledge the role of the Culture, Libraries and Digital Development, Tourism, Enterprise and Economic Development Strategic Policy Committee under the chairmanship of Councillor John Murphy and the staff of Carlow County Council in developing this Digital Strategy.

Chief Executive
Kathleen Holohan

Cathaoirleach
Tom O'Neill

INTRODUCTION & VISION STATEMENT

Carlow County Council developed this Digital Strategy with a vision to advance our broadband and digital infrastructure so that the citizens of Carlow can leverage the full potential that digital presents. Embracing the full range of opportunities that a digitally enabled society provides will allow us to further develop the digital services available from Carlow County Council, advance our citizens digital skills, improve our community engagement and support our Counties digital economy.

The fundamental goal of the strategy is to maximise the benefits of digital transformation for the enhancement of our society and economy.

By developing this Digital Strategy, we hope to create an overall vision for the County based upon a number of core objectives with a clear roadmap for implementation.

**The Strategy Priorities
4 Key Pillars:**

- **Digital Infrastructure**
- **Digital Economy**
- **Digital Services**
- **Digital Communities & eCitizens**

These 4 core pillars identify areas where the strategy needs to focus. The actions of this plan will be continually monitored and updated. This is an organic document that will alter over time to an ever-changing digital landscape.

Each of the 4 core pillars has a predominant high-level vision with associated goals and actions. Each of these will be elaborated upon in their relevant sections.

PILLAR ONE:
DIGITAL INFRASTRUCTURE VISION

Facilitate development of high-speed broadband and digital infrastructure.

PILLAR TWO:
DIGITAL ECONOMY VISION

To promote economic development and employment opportunities in Carlow in the digital age.

PILLAR THREE:
DIGITAL SERVICES VISION

Innovate and drive improvements in the public services we offer our citizens.

PILLAR FOUR:
DIGITAL COMMUNITIES & ECITIZENS VISION

Promote the benefits and use of digital technology and improve digital equality.

DIGITAL STRATEGY POLICY CONTEXT

The Irish Government and the EU have promoted the many benefits that can be derived from access to high speed quality broadband and digital technologies. As a result, policies have been developed at an EU, national and local level to support large scale investment in high speed broadband infrastructure.

Local digital strategies are of vital importance to help deliver better services to our growing population. It will aid our local economy and communities to harness all the opportunities that digital presents.

EUROPEAN LEVEL

The European Commission has been a driver of digital for many years. Europe's 2020 Strategy was built around seven flagship initiatives. One of these seven initiatives came under the heading of "The Digital Agenda".

> *"A digital agenda for Europe" to speed up the roll-out of high-speed internet and reap the benefits of a digital single market for households and firms."*

Europes 2020 Strategy

The aim of the Digital Agenda was to "deliver sustainable economic and social benefits from a Digital Single Market based on fast and ultra-fast internet".

The European Commission is determined to make this Europe's "Digital Decade". The Commission is shaping Europe's digital future by making sure that technology is serving the people and adding value to their daily lives. To support this digital transition a number of initiatives have been launched to encourage member states to develop their digital infrastructure. The WiFi4EU initiative was launched in May 2018 with a fund of €120 million. It aims to promote free access to WiFi connectivity for all citizens in public areas.

The European Commission has encouraged member states to put comprehensive national broadband strategies in place. Carlow's Digital Strategy supports both the national and EU digital agendas.

NATIONAL LEVEL

The Irish Government has proclaimed its determination to ensure fast and reliable broadband access throughout the country. It aims to deliver upon the EU digital agenda through the rollout of the National Broadband Plan and by the development of national and local digital strategies.

The first phase of the National Digital Strategy was launched in July 2013 by the Department of Communications, Climate Action and Environment (DCCAE). It focused on 3 key objectives: Enterprise, Citizens and Education.

The government is now developing a new national digital strategy to "...help Ireland maximise the economic and societal benefits from digitalization and its transformative effects." (Leo Varadkar) The strategy is being shaped by insights from Departments and agencies, public consultation, stakeholder engagement and expert consultations with academia and industry. A national public consultation to allow citizens to feed in and influence the development of the national strategy took place in 2018.

The national strategy will set out Ireland's vision and ambition across many areas, including digital infrastructure and security, effective use of digital by citizens, communities, enterprise and government. The submissions received from members of the public and interested stakeholders were reviewed and will help to inform the scope and delivery of the new National Digital Strategy which is now being drafted.

The purpose of this strategy is to provide a whole of government approach to digital and it will enable Ireland to maximize the economic and societal benefits that arise from on-going digital development.

LOCAL LEVEL

At a local and regional level digital already plays an important role in existing strategies. The Carlow County Council Development Plan 2015-2021, outlines Carlow County Councils commitment to develop and extend the telecommunications infrastructure as a means of improving economic competitiveness. It recognises that investment is essential for "furthering the social and economic development of County Carlow".
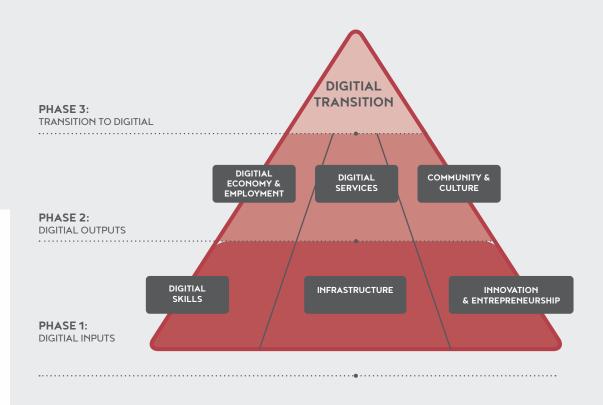
It is imperative that local digital strategies are evaluated in the national context. As part of this process, in 2018, the Department of Rural & Community Development (DRCD) engaged Indecon to carry out a comparative and independent Digital Readiness Assessment for every Local Authority, recognising that all were at different starting points and had different needs. The Digital Readiness Assessments measured digital maturity across 7 pillars and each Local Authority was compared with its peers as well as the national average.

The output from the Digital Readiness Assessment shows that Irish Local Authorities are typically classed as 'Emerging' or 'Developed'. Carlow performed well under Pillar II (Digital Economy and Employment). Under each of the other Pillars further progress in Carlow is possible especially, in Pillar 1 (Transition to Digital).

Carlow County Council is using this Digital Readiness Assessment as a starting point in developing its digital strategy. This action driven Digital Strategy, which has key deliverables, will run from 2021 – 2024 and will seek to set out a framework for Digital Development within the county for that period to fulfil the Council's vision of

"Growing Digital Potential of County Carlow for all".

At the end of this period a revised Digital Readiness Assessment will be prepared to show the progress made during the lifetime of the strategy and to help steer our course in preparing the next Digital Strategy.

DIGITIAL TRANSITION

PHASE 3:
TRANSITION TO DIGITIAL

DIGITIAL ECONOMY & EMPLOYMENT

DIGITIAL SERVICES

COMMUNITY & CULTURE

PHASE 2:
DIGITIAL OUTPUTS

DIGITIAL SKILLS

INFRASTRUCTURE

INNOVATION & ENTREPRENEURSHIP

PHASE 1:
DIGITIAL INPUTS

IDENTIFYING OUR PRIORITIES

In order to create an inclusive Digital Strategy for Carlow, a public workshop was hosted by Carlow County Council in March 2020. This workshop, which was facilitated by Indecon, sought feedback and input from community and business stakeholders. This feedback helped to inform the development of this strategy.

Strategic community and enterprise groups were represented on the night. These included representatives from Carlow PPN, Carlow Credit Union, Teagasc, IFA, Carlow Chamber of Commerce, Carlow Tourism, Older Persons Forum, PinPoint Alerts amongst others.

Indecon gave an outline of the Digital Strategy Framework and split the participants into groups. Each group explored a number of themes (Appendix 1) that they wanted the digital strategy to focus on. The main elements and findings of this collaboration were recorded. Common themes emerged across all the groups, which helped to structure the Digital Strategy. The most popular themes and those which gathered most momentum on the night were:

- **Digital Government** *e.g. Availability and ease of use of online services*

- **Digital Business** *e.g. Digital Hubs and co-working facilities*

- **Digital Infrastructure** *e.g. Availability of broadband to all areas of Carlow*

- **Digital Community** *e.g. Community engagement and digital skills*

This engagement process with the stakeholders also helped to identify the County's Strengths, Weaknesses, Opportunities and Threats (SWOT). This SWOT analysis is presented below, and it helped us to identify our weaknesses so that we can address same and minimize the risks associated with them. It also highlights the opportunities and strengths that County Carlow has to offer, so that we can capitalise on these and take the greatest possible advantage of them.

SWOT ANALYSIS
KEY PILLARS
OF CARLOW'S

STRENGTH:

- Carlow IT
- Carlow College
- Close proximity to Dublin
- Carlow MAN
- Skilled Workforce
- Committed & Skilled Local Authority Staff

WEAKNESS:

- Poor rural Broadband Infrastructure
- Lack of Digital Skills amongst certain groups
- Lack of awareness of available supports & training

OPPORTUNITIES:

- Remote working / Digital Hubs
- Enhanced digital infrastructure
- Economic Growth & Job Creation
- Greater Access to Third Level Facilities
- Proactive Community
- Funding available to support digital innovation
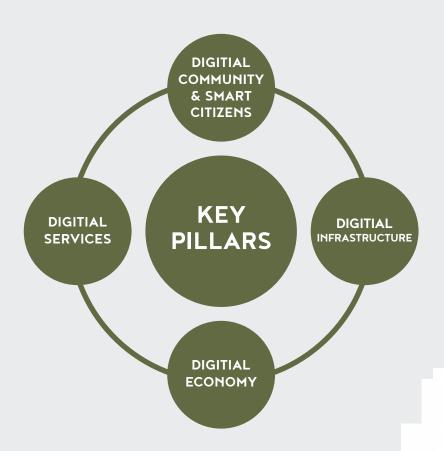
THREATS:

- Urban rural divide in County
- Cyber Security
- Economic Uncertainty
- Digital Inequality

DIGITAL STRATEGY

The key pillars of the County Carlow Digital Strategy are:

- **Digital Infrastructure**
- **Digital Economy**
- **Digital Services**
- **Digital Communities & eCitizens**

The four pillars are outlined in detail in the following sections with key performance indicators set out for each pillar. The strategy will be a regular agenda item at the "Culture, Libraries and Digital Development, Tourism, Enterprise and Economic Development Strategic Policy Committee" (SPC) meetings. The Broadband Officer will monitor the progress of each action and report on progress to the members of the SPC.

Diagram of KEY PILLARS with surrounding circles: DIGITIAL COMMUNITY & SMART CITIZENS, DIGITIAL SERVICES, DIGITIAL INFRASTRUCTURE, DIGITIAL ECONOMY

DIGITAL INFRASTRUCTURE

VISION: Facilitate development of high-speed broadband and digital infrastructure

The main objective of the Digital Infrastructure Pillar is to make high speed broadband available to all citizens in County Carlow. Carlow County Council will strive to achieve this through engagement with telecoms providers, progressing the National Broadband Plan and the further development of facilities for enhanced access to digital services and infrastructure.

Many areas of County Carlow are still deficient in terms of the infrastructure required to give them access to high speed broadband. The aim is to deliver the full benefits of going digital and in order to achieve this, we must exploit broadband networks and services to maximise the available opportunities and benefits.

Historical Context

Due to the ever-evolving nature of the internet and the fact that broadband is now a utility, the delivery of high-speed broadband to all parts of Ireland has been a priority in recent years for central government. Prior to the National Broadband Scheme regional broadband schemes were introduced to advance and enhance broadband connectivity across the country.

NATIONAL BROADBAND SCHEME 2008 – 2010

Although a large part of the population had access to a competitive broadband market, the unserved parts of Ireland illustrated the presence of a "digital divide". A number of communities in rural areas and areas that had low population density, were disadvantaged because they lacked access to affordable broadband services.

Commercial service providers were unlikely to invest in these areas as they had no economic incentive to invest in the communications networks and infrastructure. In order to address this deficit, the Irish authorities designed the National Broadband Scheme (NBS). The NBS, which ran from 2008 to 2010, provided basic broadband services in areas that were not commercially served and where broadband services were deemed to be insufficient.

BROADBAND TO SCHOOLS

The Broadband to Schools initiative aimed to provide 100Mbps broadband connectivity to all second level schools in Ireland by the end of 2014. The initial pilot

phase, which was completed in 2010, delivered 100Mbps to 78 schools throughout the country. The government then announced the expansion of the scheme to all schools in February 2012.

METROPOLITAN AREA NETWORKS (MANS)

Another important scheme was the Metropolitan Area Networks (MANS) which provide fibre based connectivity in over 90 towns across Ireland, including Carlow town. The MANs were co-financed by Central Government, Local Authorities and the EU's European Regional Development Fund.

Current Context
NATIONAL BROADBAND PLAN (NBP)

The National Broadband Plan (NBP) is the Government's current framework to deliver high speed broadband services to all businesses, farms and households in Ireland. It will ensure that people living and working in rural areas have the same digital opportunities as those in urban areas. A process was carried out to identify areas that required state intervention. The state intervention network must be able to deliver minimum speeds of 500 Mbps download and 50 Mbps upload. However, it is likely that speeds achieved will be much higher than that when the NBP is complete.

An Interactive Map is available for the country at the link below showing areas that are already covered, due to be covered or in the state intervention area.

www.dccae.gov.ie/en-ie/ communications/topics/ Broadband/national- broadband-plan/high-speed- broadband-map/Pages/ Interactive-Map.aspx

This High-Speed Broadband Map, which is the outcome of the mapping consultation, identifies locations and premises as being **AMBER**, **BLUE** or **LIGHT BLUE**.

AMBER AREAS:

Are the target areas for the State intervention of the National Broadband Plan. These areas cannot receive high speed broadband currently.

BLUE AREAS:

Where commercial operators are delivering or have indicated plans to deliver high speed broadband services. Operators are continuing to enhance their services in these areas to improve access to high speed broadband.

LIGHT BLUE AREAS:

Where commercial operators are delivering or have indicated plans to deliver high speed broadband services. Operators are continuing to enhance their services in these areas to improve access to high speed broadband.

On 19th November 2019, the Government approved the award of the NBP contract to Granahan McCourt. An Irish company called National Broadband Ireland (NBI) was incorporated by Granahan McCourt to oversee the deployment and operations of the network for at least 25 years.

Work has now commenced to bring high speed broadband services to 1.1 million people. Over the next four years, more than 90% of premises in the State will have access to these services, opening up exciting opportunities in health, agriculture, education, rural development and tourism.

The Government has committed to providing high speed broadband in areas where there are currently no plans for commercial development. Extensive consultation has taken place to determine the intervention areas that will be connected. In order to establish the extent of the intervention area and to ensure that public funds were not spent where commercial investment was forthcoming, a detailed mapping exercise of existing and planned

high speed broadband deployment was carried out. This involved public consultation, engagement with industry and an assessment of notified commercial investment plans. This information has been used to define the Intervention Area.

DIGITAL INFRASTRUCTURE IN CARLOW

At the Public Consultation on the Digital Strategy held in Carlow in March 2020 a number of issues were highlighted. The availability of access to high speed broadband and supporting digital infrastructure were some of the main obstacles highlighted by the attendees. Although Irelands rural population makes up over a third of the country, and it is in these rural areas of Carlow that connectivity can be at its weakest, the lack of high-speed broadband is not purely a rural issue. Residents in many of the housing estates in the urban areas of Carlow still struggle with poor and inadequate broadband.

Carlow County Council is committed to developing and improving broadband access and associated infrastructure across the county. Affordable fit-for-purpose broadband access should be available to all who live and work in County Carlow. While, Carlow County Council, does not have the responsibility for the delivery of the National Broadband Plan (NBP), it plays a strong role in liaising with all parties involved in the successful roll out of the NBP. Carlow County Council works closely with the Department of Rural and Community Development, DCCAE, broadband providers, National Broadband Ireland and local communities to enhance existing and deliver new Digital Infrastructures, some of which are outlined below.

CARLOW METROPOLITAN AREA NETWORKS

A Metropolitan Area Network (MAN) is a publicly owned fibre optic network that connects to "co-location centres". These co-location centres allow licenced telecoms operators to locate their telecommunications equipment and link to commercial premises and public buildings. The MAN can be used to provide a variety services including telecoms, internet access, television and (CCTV) to businesses and citizens in these areas. MANs are independently managed, maintained and operated for the State by eNet who were awarded a 15-year services contract in June 2004. Carlow's' MAN was one of 24 built in Phase I and was funded under the National Development Plan and through the European Regional Development Fund. In Carlow Town, there are 17 different retail service providers using the MANs with 67 services/ connections used to deliver services to businesses, homes and individuals. These operators do not have any proprietary network in the towns and completely base their local strategies on the MANs.

CARLOW MAN

	Retail Service Providers Using MAN	Connections On MAN
Carlow Town	17	67

MOBILE CONNECTIVITY

All rural counties in Ireland suffer from occasional mobile phone blackspots and Carlow is no exception to the rule. The main function that Carlow County Council has with regards to improving the mobile network is a Planning function. As stated in the Carlow County Development Plan 2015 –2021, which will be amended during the life of this Digital Strategy, "With regard to mobile phone network development, the physical infrastructure and structures needed to provide this service must be developed in a strategic way that minimises the impact on the environment and takes public opinion into account." To achieve this goal a number of policies are set out in the Development Plan including the following.

- Protect areas of significant landscape importance from the visual intrusion of largescale telecommunications infrastructure.

- Encourage co-location of antennae on existing support structures and to require documentary evidence as to the non-availability of this option in proposals for new structures. The shared use of existing structures will be required where the numbers of masts located in any single area is considered to have an excessive concentration.

- Have regard to Government guidelines on telecommunications infrastructure, including Telecommunications Antennae and Support Structures – Guidelines for Planning Authorities 1996 (DoEHLG) and any subsequent revisions along with Circular PL 07/12 on Telecommunications Antennae and Support Structures.

The Commission for Communications Regulation (ComReg) is the government agency responsible for licencing of radio spectrum including 2G,3G,4G and 5G. ComReg publish an up

to date coverage map for the country, including Carlow, at the following link www.coveragemap. comreg.ie/map. This map shows the coverage by each service provider across the country. ComReg also publish a map of mast locations, owners and system standards on their SiteViewer Service https://siteviewer.comreg. ie/#explore.

Carlow County Council's Broadband Officer will work closely with the service providers, planning department and ComReg to identify mobile blackspots to help improve the quality of the service in the county. The Broadband Officer will also be the Single Point of Contact (SPOC) for communication between Carlow County Council and all other interested parties including DRCD & DCCAE.

NATIONAL BROADBAND PLAN IN CARLOW

In Carlow, there are 8,088 premises in the Intervention Area (IA), which includes homes, farms, commercial businesses and schools. This equates to 29% of all premises in the county. Under the National Broadband Plan, Carlow will see an investment of €32M in the new high speed fibre network. This will enable e-learning, remote monitoring of livestock or equipment, e-health initiatives, better energy efficiency in the home, and more remote working – all of which support the National Development Plan (NDP).

The first homes in Carlow will be connected in 2021, while over 115,000 premises nationwide will be passed and available for connection within the next 18 months. Throughout the rollout, National Broadband Ireland (NBI) will continue to ramp up its design

and build activities, and 40% of all premises in the Intervention Area (IA) will have access to future-proofed high-speed FTTH (Fibre-to-the-Home) broadband by then. NBI contractors have been on the ground since January 2020 and have surveyed over 70,000 premises in 17 counties.

Surveyors are currently on the ground in Carlow, where the first phase there will see 3,544 premises surveyed in areas such as:

Old Leighlin, Clogrenan, Kellistown, Ballincarrig, Killerrig, Johnstown, Fennagh, Nurney, Agha, Carlow, Rathornan, and Rathrush.

In addition, they will be covering Templepeter, Grangeford, Ridge, Muinebeag, Burton Hall, Kineagh, Tullowbeg, Leighlinbridge and Shangarry.

This table provides an overview of the total number of premises per county that are in the commercial area **(BLUE)** and the State's Intervention Area (AMBER)

Roinn Cumarsáide, Gníomhaithe ar son na hAeráide & Comhshaoil
Department of Communications, Climate Action & Environment

National Broadband Plan

High Speed Broadband Map
County Coverage Statistics Q3 2019

County Name	Total Number of Premises	AMBER Premises Intervention Area	BLUE Premises Commercial Operators	LIGHT BLUE Premises Planned Rural Deployment*
Carlow	28,104	8,088	19,948	68
Cavan	42,184	16,200	25,807	177
Clare	68,797	22,342	45,856	599
Cork	271,205	78,695	190,231	2,279
Donegal	102,065	32,130	69,590	345
Dublin	609,460	12,145	597,112	203
Galway	135,733	38,338	95,951	1,444
Kerry	89,685	26,775	61,732	1,178
Kildare	93,426	13,329	79,837	260
Kilkenny	48,155	18,092	29,973	90
Laois	39,359	12,385	26,586	388
Leitrim	22,339	11,555	10,448	336
Limerick	97,887	21,024	76,019	844
Longford	22,368	8,602	13,645	121
Louth	61,556	8,245	53,085	226
Mayo	83,743	36,360	45,055	2,328
Meath	86,994	18,989	67,609	396
Monaghan	33,184	15,125	17,983	76
Offaly	37,051	12,108	24,802	141
Roscommon	39,209	19,059	19,744	406
Sligo	40,139	14,809	25,143	187
Tipperary	84,031	29,647	52,258	2,126
Waterford	61,990	14,876	47,028	86
Westmeath	44,556	11,631	32,758	167
Wexford	82,909	22,175	60,317	417
Wicklow	65,430	14,871	50,415	144
Total	**2,391,559**	**537,595**	**1,838,932**	**15,032**

*These figures represent planned rural deployment and will reduce once premises are passed.

For further information see www.broadband.gov.ie or www.dccae.gov.ie

Published November 2019

European Union
European Regional Development Fund

BROADBAND CONNECTION POINTS

As the National Broadband Plan will take 7 years to complete, Broadband Connection Points (BCP's) were identified as an interim measure to get broadband to rural areas.

Broadband Connection Points (or BCPs) are public locations which have been selected to receive 150Mb high quality, high-speed broadband connectivity in the first year of the National Broadband Plan. A BCP, is a location where public WIFI will be provided to give broadband access to the local community. This will enable people living in the area to go to the selected location and access broadband for daily use including remote working, general access and even keeping in touch with family and friends abroad through video calling. The main criteria for selection of the BCP was that the BCP must be located in the AMBER area of the National Broadband Plan and that the area where the BCP resides have no plans for commercial development to deliver high speed broadband. All BCP locations in Carlow have been surveyed and will be connected in

2021. Ducketts Grove was the first BCP to be connected in Carlow in March 2020 and has free WiFi in the courtyard and upper walled garden.

Seven locations were approved in County Carlow. The seven Carlow locations are made up of public buildings, such as schools, community centres and tourist attractions. BCP locations which are schools are for educational access only. All other BCP's will provide free public access for high speed broadband connectivity.

Altamont Gardens
R93 N882

Duckett's Grove House
R93 RF80

Borris Library
R95 HF25

Rathanna Community Hall
R95 HH68

Newtown Community Centre
R95 TD21

Our Lady's National School Nurney R93 D340

Kildavin National School
Y21 EC60

WIFI4EU SCHEME

The WiFi4EU initiative is a support scheme for the provision of free WiFi access in indoor or outdoor public spaces (e.g., public administrations premises, health centres, public parks and squares). This will bring communities more closely into the Digital Single Market, give users access to the Gigabit society, improve digital literacy and complement the public services provided in those spaces. Carlow County Council have been successful in securing funding under this scheme and are now planning to roll out a free public WiFi network across the county.

The funding takes the form of a voucher scheme. Carlow County Council secured the maximum FOUR vouchers permittable. The value of the individual voucher (€15,000) will be match funded by the Department of Rural and Community Development (DRCD) meaning a total of €30,000 per voucher area. The Wifi4EU voucher element must be drawn down directly from the EU outlined in the Request for Tender.

The tender has been published and awarded. The successful installation company, Voice Engineers Ireland, will recover the value of these vouchers directly from the EU via the WiFi4EU portal, and match funding from Department of Rural and Community Development (DRCD) once conditions outlined in Request for tender have been adhered to and the installation Report submitted and validated by all parties in the WiFi4EU portal. A full list of proposed WiFi4EU Towns and Villages in County Carlow by Voucher Area can be seen in Appendix 2.

AIRBAND PROJECT

On 26th June 2020 the Minister for Rural and Community Development launched a pilot initiative in partnership with Microsoft Ireland, the Local Government Management Agency (LGMA) and five Local Authorities to deliver free broadband services to selected second-level students. Carlow County Library was chosen as the first pilot location.

The initiative will use Microsoft's cutting-edge Rural Airband technology to deliver high-speed

broadband from the libraries in Carlow, Donegal, Kilkenny, Mayo and Waterford. Up to 20 households in Carlow will benefit from this broadband project. The pilot scheme will be targeted primarily at students in Delivering Equality of Opportunity (DEIS) schools. Microsoft's Airband technology uses Television White Space (TVWS) technology which are unused blocks of broadcast spectrum located between the frequencies assigned to television stations. TVWS can be used to create wireless broadband connections where no line of sight is possible.

The first of these Airband connections in Carlow will launch in the first quarter of 2021. The pilot will be reviewed on a 6-monthly basis, and this review will assist the pilot partners in determining the potential for using this new technology to connect students.

REMOTE WORKING HUBS

Covid-19 has changed the way we work forever. While the need for accessible and affordable high-speed broadband extends far beyond the current pandemic, a newfound urgency has been added to broadband expansion. Access to broadband and digital services has become essential for people to deal with school closures and facilitate remote working requirements.

Recent research has shown that 80% of the population would favour a hybrid model - a mixture of working from the office and working remotely. The recent pandemic has brought about much discussion on remote working. Many people say that while there are benefits to working from home, shorter commutes and environmental benefits to name but two, there are also drawbacks. Two of the main negatives that were highlighted at the Digital Strategy Public Consultation were social isolation and managing distractions. This has encouraged many people to look at remote working hubs as an alternative solution.

Remote working hubs help to counteract the risk of isolation and loneliness that many remote workers claim to have experienced. These hubs can provide a sense of community, a "ready-made business community".

There are a number of Remote Working Hubs in Carlow with plans for additional facilities across the county. These facilities vary in their type of offering but all provide co-working opportunities including hot desks, dedicated desks and office space.

These locations include:

- **Enterprise House Carlow Community Enterprise Centres CLG**

- **Carlow Gateway**

- **Ballon Business & Training Centre**

- **New Work Junction**

- **ERIC Centre IT Carlow**

CASE STUDY: COUNTY CARLOW AS A REGIONAL DRIVER – IT CARLOW

In 2017, Vodafone and SIRO launched the Gigabit Hub Initiative. This initiative offers free 1 Gigabit broadband connectivity to digital hubs, community centres and co-working facilities around the country. The objective was to spark a digital enabled transformation across Irish towns, and in the process, support the creation of jobs, bringing life back to rural towns across Ireland. In the context of County Carlow, the first hub was Enterprise House which is operated by Carlow Community Enterprise Centres CLG.

Enterprise House provides a professional supportive facility for entrepreneurs embarking on their journey in business; from start-up advice to pointing people in the right direction for funding, to the provision of high specification ICT infrastructure, interactive training rooms, to networking and peer to peer support from fellow entrepreneurs, this is the ideal place from which to locate and grow your business.

A study commissioned by Vodafone in 2019 clearly demonstrates the economic and financial impact that Enterprise House and similar hubs were having in the towns where they are located. The benefits have been the creation of high-quality, high-paid and high-value added jobs and activities in rural towns. The benefits for those involved are very significant and very real and create a template for what is possible. The research for this report clearly indicates that the demand for workspace in hubs is very strong and is growing. In the context of congestion in urban areas; environmental considerations; and the desire for improved quality of life, the potential for future increased economic contribution from hubs that provide high quality broadband connection is significant.

The reality is that having access to smart working opportunities means that businesses can now be based in any location, retain local skills, knowledge and talent, and compete on a level playing field with national and international organisations. This helps businesses and individuals in numerous ways, but it also helps alleviate the significant and dangerous problem of congestion in the larger cities in Ireland. We have an opportunity to be future-focused and to be a world leader in stimulating and sustaining regional socio-economic success through the blueprint of smart working, digital hubs and promoting a culture of agility and innovation in an increasingly digitised, global economy.

DIGITAL INFRASTRUCTURE

VISION: Facilitate development of high-speed broadband and digital infrastructure

Digital Infrastructure Actions	Lead	Support	Activities / Deliverables
Co-Operate with relevant Government Departments, public and private agencies to facilitate the roll-out of the National Broadband Plan (NBP) to improve high speed broadband in County Carlow.	**National Broadband Ireland (NBI)**	Carlow County Council Department of Rural & Community Development (DRCD) Department of Environment, Climate and Communications (DECC).	Increase high speed broadband services in County Carlow
Continue to engage with Internet Service Providers (ISP), Telecommunication Companies (Telcos) Community & Business Groups to identify mobile blackspots and improve voice and mobile data coverage.	**Telco's and ISPs**	Carlow County Council, DRCD & DECC NBP Mobile Phone and Broadband Taskforce (MPBT)	Extend mobile phone coverage across the county, focusing in particular on blackspots
Encourage co-location of antennae on existing support structures and any proposals for new structures.	**Carlow County Council, National Planning Guidelines**	Telco's and ISPs Telecom infrastructure owners	Carlow County Council as the Planning Authority will have regard to existing and future guidelines issued by the Department of the Environment, Climate and Communications

Digital Infrastructure Actions	Lead	Support	Activities / Deliverables
Ensure ease of connectivity to Digital Infrastructure in all future developments in County Carlow	**Carlow County Council**	Property Developers	Ensure through the Statutory Planning & Regulatory Process that ducting for broadband fibre connections is provided during the installation of services, in all new commercial and residential developments in addition to infrastructural works / upgrades on roads or rail lines
Encourage the provision of WiFi zones in public buildings	**Carlow County Council**		Increase access to wireless connectivity in public areas
Broadband Officer (BBO) will also be the Single Point of Contact (SPOC) for communication between Carlow County Council and all other interested parties	**Carlow County Council**	Telco's and ISPs, DRCD & DECC, NBI and MPBT	BBO will keep Communication Channels open between all stakeholders
Identify and seek funding at both National and EU level to support the provision of public access to high speed broadband and digital technology e.g. Town & Village Regeneration Grants, Broadband Connection Points (BCP) and WiFi4EU	Carlow County Council	DRCD European Union (EU)	Apply for specific funding to support broadband and digital services objectives

DIGITAL ECONOMY

VISION: To promote economic development and employment opportunities in Carlow in the digital age

Broadband connectivity is a major component for the development of digital economies. High speed broadband is of strategic importance because of its ability to accelerate the contribution of these digital technologies to economic growth and to facilitate innovation.

Digital is seen as a key driver in the promotion of employment, which also has a foundation in education for use of digital facilities and functionality. County Carlow has a strategic advantage as a regional digital driver due to the activities of the Institute of Technology of Carlow in the areas of smart working and human capital.

Ireland ranks 6th out of 28 European countries on this year's European Digital Economy and Society Index (DESI) with a score of 61.8 compared to an EU average score of 52.6. Over the last five years, Ireland was the fastest growing digital economy in the EU. It was envisaged that

Irelands digital economy would continue to grow and was one of the most important areas for future sustainability and regional development, especially for new enterprise and as a key driver in the promotion of employment. The DESI monitors the performance of EU Member States in 5 areas: digital connectivity, human capital, use of internet services, integration of digital technology and digital public services.

Locally in County Carlow companies such as Netwatch and Unum are digital champions, showcasing that Carlow is the ideal location for the development of an enterprise based on the digital agenda.

The advancement of the digital economy is recognised as one of the most important areas for future sustainability and regional development. Improved access to high speed broadband is essential for the creation and growth of modern business in the global digital economy.

As mentioned previously, Enterprise is one of the 3 key objectives of the National Digital Strategy, along with Citizens and Education. Access to high quality, affordable broadband unlocks access to commerce, remote working opportunities, remote and improved education and more. Providing supports and facilitating the greater adoption of these technologies by businesses is a crucial element of the Carlow Digital Strategy.

Three common answers emerged across all groups, during the public workshop, when the groups were asked "what the focus of the digital strategy should be in developing the digital economy?". These were:

- **Digital Hubs**
- **Online Retail**
- **Support and Encourage SMEs to embrace Digital Technologies**

DIGITAL HUBS AND REMOTE WORKING

As citizens are isolating during the COVID-19 pandemic there is an accelerated need for flexible co-working spaces and digital hubs. These facilities would support the local economy by enabling workers and entrepreneurs to work and live in their local communities. With essential infrastructure in place, such as reliable broadband, digitally enhanced co-working facilities and spaces, the demand for remote working and remote learning will increase.

This Digital Strategy will seek to facilitate and support the development of a network of digital hubs and co-working spaces. It aims to build on the success of existing co-working hubs in the county.

ONLINE RETAIL

One of the main aims under the Digital Economy Pillar is to promote and further develop business use of online retail and digital marketing. Although the current pandemic has forced many businesses to develop and increase their online presence, there remains a pressing need for an integrated Digital Enterprise Support Programme to build on existing supports (e.g. Online Voucher Scheme). The Online Voucher Scheme is a financial incentive to small businesses to develop or enhance their ability to trade online. With the trend of online shopping increasing, it is estimated that only 23% of small Irish businesses are engaged in any meaningful way in e-Commerce sales.

There is now a drive to ensure that businesses are encouraged and supported to respond to this digital reality. Encouraging the greater adoption of digital technologies and broadband usage by enterprises of all sizes and from all sectors is a critical component of the Carlow Digital Strategy.

An extensive range of supports to local business communities is provided by the Carlow Local Enterprise Office. It is envisaged that these support initiatives along with improved broadband in towns and villages in Carlow, will enable business owners to embrace online trading and marketing.

To build resilience in local retail, local businesses need to be trained in the specific skills required to exploit the digital economy. Covid-19 forced many businesses to adapt and be flexible to meet changing needs. Some had an online presence for the first time. Building on these newfound or existing skills will help to advance the further development and growth of online retail businesses in County Carlow.

SUPPORT AND ENCOURAGE SMES TO EMBRACE DIGITAL TECHNOLOGIES

The Local Enterprise Office in Carlow is ideally positioned to be the lead partner in providing support and encouragement to SMEs in the county. Overall awareness of the advantages of broadband and digital technologies has become ever more prevalent in recent years. However, a

continuous effort is still necessary to keep businesses up to date and also to reach out to less engaged enterprises and sectors.

Digital adoption is about much more than creating an online presence. There are many challenges to be overcome. These challenges include, but are not limited to, development of skills, cyber security, cloud adoption and financing. Businesspeople require specific skills to overcome these challenges and to exploit the digital economy in a business context. The provision of training and support to individuals and enterprises must be facilitated.

Building on the relationship between Carlow IT and the Enterprise Community in terms of smart working, innovation and technology will enhance enterprise and workforce ability. This in turn will increase the attractiveness of Carlow as a location for further investment and economic growth. This Digital Strategy aims to further promote digital opportunities and digital skills training to support local businesses.

CASE STUDY: COUNTY CARLOW AS A REGIONAL DRIVER – IT CARLOW

The Insurtech Network Centre DAC or INC launched in 2018 is an initiative of the Institute of Technology Carlow and supported by Enterprise Ireland under the Government Regional Enterprise Development Fund.

Institute of Technology Carlow identified the Insurance sector as offering significant potential with which to collaborate and bring to bear the Education and Research and Development resources of the Institute, as well as providing an Innovation platform for established Insurance firms to work with Insurtech start-up's.

Insurance is a significant employer in the South East Region with circa 1,500 people directly employed in the sector by a mixture of indigenous and multinational SME and corporate insurers.

The Strategic mission of the INC, established in IT Carlow with the support of Enterprise Ireland, is the creation of sustainable high value employment in the South East and beyond by enabling the formation of an Insurance cluster: facilitating the founding of new firms, as

well as the expansion of existing companies and attracting foreign direct investment.

INC has forged strong links with these firms and acts as a broker and facilitator of Insurance innovation both Regionally and Nationally.

During 2020, IT Carlow was awarded funding for the development of the Centre for Insurance, Risk and Data Analytics Studies (CIRDAS) will assist in developing higher value-added employment in the insurance sector CIRDAS will collaboratively develop and deliver industry focused courses in data science, business and design thinking. Insurtech Network Centre, the Faculty of Lifelong Learning at Institute of Technology Carlow and their collaborative partner Letterkenny Institute of Technology look forward to working together to meet insurance industry identified skills needs.

DIGITAL ECONOMY

VISION: Innovate and drive improvements in the public services we offer our citizens

Enterprise Actions	Lead	Support	Activities / Deliverables
As part of the development of inCarlow – Business Support & Economic Development Strategy 2021-2025 examine and develop co-ordinated actions for Smart Working & Digital Opportunity	**Carlow County Council Local Enterprise Office (LEO)**	Industry & Education Stakeholders Business Representative Bodies	A co-ordinated approach to the development of the Digital Agenda for County Carlow to enhance and sustain enterprise.
Support the development of sustainable remote working, co-working and business workspaces including opportunities at Broadband Connection Points (BCPs)	**Carlow County Council LEO Special Project Development Team**	Communities LCDC	Increase remote working facilities and services throughout the county.
Establish a Framework for the development of sustainable public sector led enterprise infrastructure in terms of remote working and scale up hubs	**Carlow County Council LEO Special Project Development Team**	Industry & Education Stakeholders Business Representative Bodies	Clear Roadmap for the development of Digital & Enterprise Hubs
Conduct research into remote working and the opportunities it presents as part of Carlow's response to Covid-19	**Carlow County Council LEO Special Project Development Team**	Industry & Education Stakeholders Business Representative Bodies	Clear business case for the development of remote working hubs.

Enterprise Actions	Lead	Support	Activities / Deliverables
Conduct research into digital training and development needs of the business community.	**Carlow County Council LEO Special Project Development Team**	Industry & Education Stakeholders Business Representative Bodies	Clear roadmap for the delivery of digital skills capacity development & training.
Continue to promote remote-working, and provide training and support to enterprises and individuals seeking to improve remote working efficiencies	**Carlow County Council LEO Special Project Development Team**	Industry & Education Stakeholders Business Representative Bodies	Promote venues and remote working.
Identify, support and promote digitally focused projects of scale throughout the county	Carlow County Council LEO Special Project Development Team	Industry & Education Stakeholders Business Representative Bodies	Establish these projects to address Carlow's needs across a range of areas.
Facilitate training of the business community in the use of advanced manufacturing, robotics and data analytics	Carlow County Council LEO Special Project Development Team	Industry & Education Stakeholders Business Representative Bodies	Develop further professional support in digital activities to support business.
Support small Irish businesses to trade more online, boost sales and reach new markets, through digital marketing and the trading online voucher scheme	Carlow County Council LEO	Business applicants	Further promote and support relevant schemes.

DIGITAL SERVICES

VISION: Innovate and drive improvements in the public services we offer our citizens

The Digital Council Pillar aims to transform the citizen engagement process, enhance customer care and increase online services.

As a local authority, it is imperative that we increase the ways in which our citizens and businesses find information and carry out their online transactions. Citizens and service users should have the ability to transact and interact effectively and confidently in ways which are convenient to them. Carlow County Council is working to embrace digital technology to innovate and drive improvements in the public services we offer our citizens. It is our aim to fully embrace and maximise the opportunities and the potential of modern technologies and approaches to achieve our goal. Carlow County Council is aware of the benefits that this enhanced engagement can bring and therefore, we are aiming to further expand the range of digital services already available to our citizens some of which are outlined below.

ELECTED MEMBERS

The elected members of Carlow County Council are the representatives of the people of County Carlow. It is imperative that they be given the necessary tools to perform their duties in an adequate fashion. Carlow County Council already provide a wide range of digital services to elected members. Each member is provided with a laptop, email and the necessary software to perform their duties. An online portal is available to them through which agendas and documents are distributed for all Council, Municipal District and LCDC meetings.

CLOUD SERVICES

Carlow County Council continues to invest in up-to-date technologies in particular in the Cloud Services space. Office 365 is used extensively throughout the organisation for email, online calendars, CRM, Microsoft teams for meetings, document collaboration through SharePoint and OneDrive for business. Amazon Web Services

and Microsoft Azure Cloud Services are also used extensively for back office functionality in the ICT Department. These technologies help Carlow County Council to function in a constantly evolving Digital Society.

ONLINE CONSULTATION

Public consultation is an integral element of many planning and economic development functions including part of the County Development Plan / Local Area Plan review processes, Part 8 developments, consultations for various projects including funding calls, URDF Projects, Town and Village Renewal, online surveys etc. There is now an emphasis on consultations taking place in a more open and transparent form with an increasing focus on providing more interactive and accessible platforms. To facilitate generation of reports, together with engagement and representation of consultation outcomes, graphic tools are recommended to illustrate, monitor and interpret data.

To address these issues, Carlow County Council added an online consultation portal which accepts online submission to its website Carlow.ie in May 2020. The portal is a cloud-based platform which facilitates open, interactive and transparent public consultations in an accessible format (desktop and mobile devices). The portal enables the publication of a range of consultation types including themes / questions, surveys or comment on consultation documents. The portal allows

more effective use of internal resources, provides a professional and accessible interface to engage with our customers and will facilitate mandatory compliance with statutory requirements and deadlines (e.g making available submissions on line within 10 days of receipt, making available documents and reports for Part 8's etc). The approach is also in line with recent advice contained in the Communications Toolkit on Engagement in Local Authority Development Plans as issued by the Office of the Planning Regulator

On 19th November 2019, the Government approved the award of the NBP contract to Granahan McCourt. An Irish company called National Broadband Ireland (NBI) was incorporated by Granahan McCourt to oversee the deployment and operations of the network for at least 25 years.

Work has now commenced to bring high speed broadband services to 1.1 million people. Over the next four years, more than 90% of premises in the State will have access to these services, opening up exciting opportunities in health, agriculture, education, rural development and tourism.

The Government has committed to providing high speed broadband in areas where there are currently no plans for commercial development. Extensive consultation has taken place to determine the intervention areas that will be connected. In order to establish the extent of the intervention area and to ensure that public funds were not spent where commercial investment was forthcoming, a detailed mapping exercise of existing and planned

EPLANNING

It is Government policy to provide an ePlanning solution in Local Authorities in a way that integrates with electronic systems which are being implemented in An Bord Pleanala. Since early 2016 an e-Planning project board has been in place consisting of Local Authority staff, LGMA, An Bord Pleanala and the Department of Housing, Local Government and Heritage (DHLGH) and is focused on delivering the necessary Scanning and Technology requirements. It will develop the changes necessary to the relevant processes, workflow and change management. It will also implement the required changes to Legislation and Data Protection laws.

The National e-Planning Portal Project when implemented will facilitate:

- *The standardising of all documentation in Local Authorities and An Bord Pleanala*

- *Provide a web portal through which all electronic planning applications and all correspondence regarding same will pass*

- *Provide for all submissions to be made on-line for both planning applications and Part 8 submissions*

- *Facilitate payment of fees online by means of card payment or EFT*

- *Part 8 applications for all Local Authorities will be submitted and stored centrally*

- *Referrals to all Prescribed Bodies and the receipt of their submissions electronically*

- *Electronic transfer of planning files to An Bord Pleanala following an appeal*

The portal will interface with the Carlow County Council planning system and document management system. All planning applications received electronically will be processed electronically, with subsequent communications sent by email. It will provide an enhanced digital service to our customers by

- *Allowing online application submissions*

- *Allowing agents to build their application before submission*

- *Reduce or eliminate copying and scanning of documentation*

• *Facilitate electronic interaction between Local Authorities, An Bord Pleanala and Prescribed Bodies*

• *Reduced paper consumption, helping fulfil our environmental commitments.*

CARLOW COUNTY COUNCIL LIBRARY SERVICE:

The operation and strategic direction of Carlow County Council Library Service is informed by the National Public Library Strategy – Our Public Libraries 2022: inspiring, connecting and empowering communities which outlines the following:

Our Public Libraries 2022

will establish the library as an important enabler of digital services and facilitator of digital skills development. Investment in ICT, equipment and software is essential if the public library is to support the growing digital and technological demands of a modern society.

By providing access to the latest technologies including 3D printing, virtual reality and digital drawing technology supported by knowledgeable staff, the public library can be a centre of creativity and innovation. Free access to these technologies will create familiarity, while also inspiring users to experiment, create and innovate.

Since the publication of the national strategy, Carlow Library Service has embedded these principles into operational business plans and strategic direction building on an existing culture of innovation, progressive approach and user lead demand. Over the next 3 to 5 years Carlow County Library Service will pursue the following objectives whilst always remaining open to embracing new developments in digital and emerging technologies.

We aim to provide access to information, facilities and opportunity to individuals and communities through:

• *Supporting lifelong learning and promoting literacy in all its forms including digital literacy through the provision of programmes, information, technological infrastructure and collaboration*

with partners through the Carlow County Council Right to Read plan.

- *A shared national Library Management System and national catalogues of books and audio-visual materials complimented by stock delivery mechanism that enables access to 17 million items nationwide regardless of location or means.*

- *Digital access to a growing national collection of eBooks, eAudiobooks and eMagazines. Carlow Library Service will compliment the national offering as appropriate and affordable.*

- *Support lifelong learning through the provision of online access to eLearning suites, online courses and eLanguage learning services.*

- *Build on existing information and communications infrastructure through the development of all Library Branches as digital learning centres equipped with current and emerging ICT facilities to support innovation, learning and work matters.*

- *Leverage technologies and online media to enable effective communication with all individuals, communities and stakeholders.*

- *Encourage and facilitate staff development through training in new technologies and enable user education for one and all.*

- *Continued use of emerging technologies to facilitate independent and open access to library services such as self-service facilities and the My Open Library model.*

- *Collect, preserve and make accessible the history and memory of County Carlow for current and future generations through the development of a County Digital Archive in cooperation and collaboration with relevant institutions.*
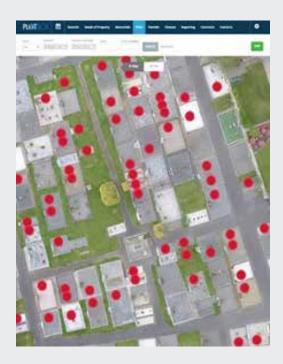
CASE STUDY: DIGITAL CEMETERIES

In 2014 Carlow County Council began an innovative project to map cemeteries in Carlow. We worked with a startup called Plotbox. In total Carlow has an estimated 67 cemeteries, 17 of which are active. The project was therefore naturally split into two clearly defined streams.

- *To build a graveyard management system to manage the current and future graveyards.*

- *To map and preserve data of genealogical, historical and heritage value for the benefit of current and future generations.*

To date, in excess of 30 graveyards have been surveyed with associated records, photos and GPS coordinates attached to each cemetery plot. The details of these mapped graveyards are also available in our County Library and Museum. These details are also available online at discovereverafter.com. This site allows members of the public to search cemetery records

and return details including plot locations, photographs of headstones and burial record details. The success of this project was as a result of collaboration between a number of departments in Carlow County Council, Local Community Groups, members of Carlow County Council and Plotbox.

DIGITAL SERVICES

VISION: Innovate and drive improvements in the public services we offer our citizens

Digital Services Actions	Lead	Support	Activities / Deliverables
Identify and invest in new digital learning development tools such as STEAM programs, Virtual/ Augmented Reality and VexRobotics.	**Carlow County Library Services**	Carlow County Council	Identify and secure funding sources. Implement and deliver new digital learning tools through the library services.
Expand the range of digital services already available to our citizens	**Carlow County Council**	Carlow Tourism	Deliver ePlanning and publish all new consultations on Consultation Hub
Take a dynamic approach to external communications focusing on website and social media	**Carlow County Council**		Google Analytics to monitor website page views Monitor number of posts/ interactions Monitor number of followers Monitor the number of engagements
Redesign and enhance Carlow County Council website and online services.	**Carlow County Council**		Tender for website redesign Launch new website - New structure should use the National Service Catalogue of local authority services

Enterprise Actions	Lead	Support	Activities / Deliverables
Evaluate all existing and future strategies and plans in Carlow County Council in the context of the Digital Agenda.	**Carlow County Council**		Ensure each strategy contains digital services perspectives
Continue to invest in technology to enhance Digital Services including Cloud technologies.	**Carlow County Council**		Continue to evaluate and identify new innovative technologies

DIGITAL COMMUNITIES AND ECITIZENS

VISION: Promote the benefits and use of digital technology and improve digital equality

Digital technology has changed the way we communicate and engage with each other, in our local communities. The Digital Communities & eCitizen theme focuses on citizen needs in this digital age. It aims to improve digital skills and support wider access to digital technology and connectivity. This is essential if we want to build a culture of inclusion, where no one is left behind or excluded from opportunities made available by digital.

The Covid-19 pandemic has highlighted the reality that many aspects of modern-day life are dependent on connectivity. However, there are social, economic and geographic factors that have limited equitable access for many across the county. The pandemic intensifies inequalities caused by the absence of reliable broadband, but the need for accessible and affordable broadband extends far beyond the current situation.

Increased access to reliable and high-speed broadband will enable people to participate fully in life and is vital for the economic and social development of our communities. Digital technologies and access to high-speed broadband can help to alleviate isolation as friends and family are better connected. Citizens can partake and engage in community activities as the information is more readily available to them. The opportunities to access training and education is increased and there is a greater opportunity to avail of remote working.

One of the most immediate changes caused by Covid-19 was a massive workplace shift to remote working for those who were able to do so. While remote working is not possible for all job functions, household connectivity is vital to maintaining a stable and engaged workforce. High speed broadband in the home with

ensure that workers can remain connected and productive from home. Broadband access also plays a critical role in education. Students are increasingly turning to online education as many schools remain closed to reduce virus transmission. Students are required to attend classes via remote learning platforms.

In 2019, 91% of households had an internet connection according to the Central Statistics Office. As access to information technology and the ability to use it is becoming a requirement of everyday life, many fear that those who do not embrace this information-based society may be left behind. This can result in people being excluded from society if they do not have equal access to services. Connectivity has become vital for everyone. We need to support and encourage citizens to participate fully in our ever-advancing digital society.

Fig 2.1 Percentage of households with internet access by household composition, 2018 and 2019

CHART TOO BLURRY TO READY TEXT

● 2018 ● 2019

"Connectivity must benefit everyone, regardless of their place of residence or level of salary. We are proposing to equip every village, town and city in Europe with free wireless internet access around the main centers of public life by 2020."

Jean-Claude Juncker
Former President of the
European Commission

When used to their full potential, digital tools can facilitate and enhance our everyday lives. The quality of services available can be improved by going digital including government, health services and education. It is universally acknowledged that digital transformation is designed to enhance the user experience, reduce costs and simplify procedures. The current global Covid crisis has highlighted the importance of digital infrastructure. More than ever before, services are moving online.

It is imperative that everyone can avail of these digital services. Digital inclusion must ensure that everyone has the capability to fully partake in a digital society. A workshop was hosted by Carlow County Council in March 2020 and facilitated by Indecon, who had previously prepared the Digital Readiness Assessment for County Carlow. During this workshop feedback and input was sought from the community, and this feedback helped to inform the

development of this strategy.

Following on from this public consultation, some of the main barriers to embracing the benefits and use of digital technologies were identified as:

- *Lack of confidence to use the technology – "fear factor"*

- *Cost and speed of availability – "poor infrastructure in some areas"*

- *Death of the high street – "Digital taking away the life of the town"*

- *Lack of knowledge – "Security measures, Cyber Crime"*

- *Lack of awareness and knowledge of what is available e.g. training, groups, supports Volunteer Catalogue/Programme*

- *Digital taking away the life of the town – "online shopping killing the high street"*

- *Fear the lack of contact/Social isolation – "go into town for human interaction"*

While the acceleration of digital technology has enabled us to

connect to anyone anywhere in the world, we must ensure that we are not in danger of disconnecting from our own community. Some of the main groups at risk from digital exclusion are:

- *Elderly*
- *Low income families*
- *Those with a disability*
- *Those with literacy problems*

Digital skills training and education will remove barriers to digital engagement and adoption. Carlow County Council aims to collaborate with other agencies and learning providers to empower our citizens. Schemes providing digital skills training to those who have never used the internet are an example of tailored initiatives on offer e.g. Age Action.

CARLOW AGE FRIENDLY COUNTY – STRATEGY AND ACTION PLAN

COMMUNICATION AND INFORMATION

What you have told us are the priority areas for the strategy

1. Support and training is needed on use of modern technology such as computers and internet.

2. Clearer information is needed and made easier for older people to access, maybe some information sessions and workshops.

3. Information available in one place would be great, like a drop in place especially for older people.

4. Development of communication strategy which uses community and parish newsletters, community notes and local radio

5. Too much focus is on website information. Not everyone is interested in computers; older person's newsletter would be great.

Carlow has a strong educational and upskilling base with further and higher education, training and upskilling courses offered at the Institute of Technology Carlow, Carlow College (St. Patrick's), Teagasc Research Centre, Kilkenny and Carlow Education and Training Board (KCETB) and Saint Catherine's Community Services Centre.

During the first weeks of the COVID-19 Pandemic, Carlow PPN looked at ways to improve connectivity in the community, to make it easier for everyone to 'Stay Connected'. They offered a step by step guide to some of the main social media platforms that helped citizens achieve this connectivity. In order for people to stay connected, people need to know how to get connected. This proved to be a very valuable guide for many members of the community.

"This County Development Plan is concerned with improving existing facilities and making adequate and appropriate provisions for the development of new facilities. The development and facilitation of an effective social infrastructure network is important in the promotion of Carlow as a county which offers a good quality of life, where social inclusion and community participation are regarded as necessary prerequisites to sustainable development."

Carlow County Development Plan 2015-2021

Broadband is an essential service to reduce the digital divide and bring connectivity for all. Carlow County Council encourages access to the internet via wireless networks that include WiFi4EU, BCPs, libraries, museums and council buildings. Giving citizens the ability to access digital services is only one step on this journey. Fostering digital inclusion and making online public services accessible to all, is the most important step.

We must continue to break down the barriers that lead to digital exclusion. We must all work together to build the infrastructure, enthusiasm and skills that local communities need to live and thrive in our connected community.

DIGITAL TOURISM

Carlow is fast becoming a more popular tourism destination for people from abroad and for Irish people looking for an easily accessible place for a "staycation". It is especially great for those who enjoy the great outdoors with stunning, unspoilt landscapes, fresh air, stimulation and wide-open spaces. It is also popular for keen gardeners with the Carlow Garden festival going from strength to strength ever year. There are many opportunities available to encourage tourism in Carlow through the provision of enhanced digital services.

It is important to explore opportunities for future delivery of festival programmes digitally. The provision of WiFi at tourism events in the county would provide valuable organiser benefits in addition to providing internet access for visitors. These include detailed analytics on attendees and the ability to provide live coverage of the event through instant promotion across social platforms. It would also allow retailers the opportunity to use secure digital payment platforms, at these events, facilitating contactless payments and greater spend on high value items by visitors.

A greater emphasis should be placed on the installation of mobile information kiosks at key sites throughout the county. These would provide more detailed tourism information in settings where physical infrastructure or human resources are not available. Ideal locations for consideration include:

- **Carlow Town center**
- **Brownshill Dolmen (cross referencing Duckett's Grove Historic House and Walled Gardens)**
- **Altamont Gardens**
- **Key towns/villages – Bagenalstown/Borris and Tullow**

Organisations in the community and voluntary sector should be encouraged to have a greater online presence and provide a more focused online advertising of visitor events and activities. This would lead to a potential increase dwell time for the benefit of all in the tourism sector. "People, Place and Policy – Growing Tourism to 2025" recognises that "perhaps the greatest tourism offering over the next 10 years is namely where the aspects of People and Place converge at the level of the local community". Tourism essentially takes place in local communities and the provision of on-line services would allow visitors to interact in a very meaningful way with authentic visitor experiences in towns and villages throughout the county.

• **Specifically, every town/ village in the county should have a website and social media presence.**

• **Encourage communities to input into a portal for all events across the county whether via Carlow Tourism, Carlow PPN or Carlow County Council**

• **Encourage communities to provide cultural resources on-line for the benefit of visitors**

• **Enhance digital skills capability of the tourism sector through training**

Consideration should be given to providing enhanced foreign language capability using Digital Services for the benefits of visitors including QR codes and mobile applications.

CASE STUDY: MY OPEN LIBRARY

In 2017, 75% grant funding was received from the Department of Rural and Community Development and work completed to enable Muinebheag Library operate as a My Open Library meaning access to the library from 8am to 10pm, seven days a week and 365 days of the year. My Open Library is an innovative development that seeks to improve the link between communities and an important local authority service – the local library. It is customer focused and offers local communities and individuals a flexible library service to match the requirements of their demanding and varied lifestyles. It offers extended opening hours to library members during unstaffed hours while continuing to provide the regular staffed times for ongoing delivery of the service, supporting customers, developing community engagement and providing events and activities. My Open Library, Muinebheag commenced operation in February 2019 and in the first eight months of the year facilitated over 800 visits to the library during unstaffed hours. COVID-19 restrictions have hampered the delivery of the service since March 2020. In late 2019, the Department of Rural and Community Development provided grant funding to progress a My Open Library in Borris. The tender is being published in Q4 2020 and work will progress in January 2021 with an operational commencement date of March 2021 subject to COVID-19 restrictions.

DIGITAL COMMUNITIES AND ECITIZENS

VISION: Promote the benefits and use of digital technology and improve digital equality

Digital Communities and eCitizens Actions	Lead	Support	Activities / Deliverables
Support improved access and use of libraries with access to digital technology equipment, in line with the National Public Library Strategy.	**Carlow Libraries**	Carlow County Council	Increase use of full suite of services, both online and onsite, offered by Carlow Libraries
Support Community Groups to engage with digital technology	**Carlow County Council PPN LCDC**	DRCD DECC LEADER Communities	Foster knowledge at community level to increase use of available technologies
Promote community use of BCPs "Connected Communities" initiative	**Carlow County Council**	DRCD Vodafone Enet PPN	Unlock the potential of communities across the county through best in class broadband connectivity
Collaborate with other agencies and learning providers to empower our citizens to take advantage of digital technologies	**Carlow County Council PPN**	Age Action Carlow Communities	Increase awareness of available digital training resources at all skill levels
Utilise digital technology to promote Tourism, Heritage Community & Cultural Services	**Carlow Tourism Carlow Libraries**	Carlow County Council PPN	Develop a range of projects to support these activities.

GLOSSARY

BBO	Broadband Officer
BCP	Broadband Connection Point
CCC	Carlow County Council
CSO	Central Statistics Office
DECC	Department of Environment, Climate and Communications
DHLGH	Department of Housing Local Government and Heritage
DRA	Digital Readiness Assessment
DRCD	Department of Rural and Community Development
DSL	Digital Subscriber Line
EU	European Union
GDPR	General Data Protection Regulation
ISP	Internet Service Provider
LA	Local Authority
LCDC	Local Community Development Committee
LEO	Local Enterprise Office
MANs	Metropolitan Area Networks
MD	Municipal District
MPBT	Mobile Phone and Broadband Taskforce
NBI	National Broadband Ireland
NBP	National Broadband Plan
PPN	Public Participation Network
SPC	Strategic Policy Committees
SPOC	Single Point of Contact
Telcos	Telecommunications Companies

APPENDIX 1

TABLE 1: COMMUNITY AND CITIZENS

How can digital be used to help all the citizens and communities of Carlow?

1. What groups of citizens in Carlow could benefit from a greater use of digital?

2. What are the main barriers to a greater uptake?

3. What infrastructure is needed to ensure the full benefits of digital can be achieved?

4. What should be the focus of a digital strategy in supporting communities and citizens?

TABLE 2: DIGITAL ECONOMY

How best can businesses in the region take advantage of Digital technologies?

1. What are the main strengths and opportunities Carlow has to develop a digital economy?

2. What are the main challenges faced by business in Carlow in respect of digital?

3. What infrastructure is needed to ensure the full benefits of digital can be achieved?

4. What should be the focus of a digital strategy in developing the digital economy?

TABLE 3: DIGITAL SERVICES

How best can public and private organisations in Carlow support the use of digital technologies?

1. Which public and private organisations can help support the development of a digital society in Carlow?

2. What should be the particular focus of the County Council in delivering it's own services?

3. What infrastructure is needed to ensure the full benefits of digital can be achieved?

4. What should be the overall vision of a digital strategy for the county?

APPENDIX 2

Proposed WiFi4EU Towns and Villages in County Carlow by Voucher

Proposed Locations for Carlow A	Location
	Carlow
	Palatine

Proposed Locations for Carlow B	Location
	Tullow
	Hacketstown
	Myshall
	Rathvilly
	Clonmore
	Clonegall
	Rathtoe
	Ardattin

Proposed Locations for Carlow C	Location
	Muinebheag
	Old Leighlin

Proposed Locations for Carlow D	Location
	Borris
	Saint Mullins
	Ballymurphy

APPENDIX 3

BALLON BUSINESS & TRAINING SERVICE LTD.

The Old School, Ballon, Co. Carlow

Web: www.ballonbts.com/
Tel: 059 915 9447

ST. CATHERINES COMMUNITY SERVICES

9 St. Joseph's Rd,
Rathnapish, Carlow

Web: www.catherines.ie/
Tel: 059 913 8700

INSTITUTE OF TECHNOLOGY CARLOW

Kilkenny Road, Carlow

Web: www.itcarlow.ie/courses.htm
Tel: 059 917 5000

CARLOW & KILKENNY ETB

Athy Road, Carlow

Web: www.kcetb.ie
Tel: 059 913 8560

PITMAN TRAINING (CARLOW & KILKENNY)

Unit 1 Deerpark Business Complex,
Dublin Rd, Carlow, R93 K409

Web: www.pitman-training.ie/
enquiry/
Tel: 1800 532 632

BARROW TRAINING

High Street, Bagenalstown,
Co. Carlow, R21 TH22

Web: www.barrowtraining.ie
Tel: 059 972 1416

CARLOW KILKENNY SKILLNET

Carlow Gateway,
Kilkenny Road, Carlow

Web: www.carlowkilkennyskillnet.ie/
Tel: 059 913 2152

CARLOW COUNTY DEVELOPMENT PARTNERSHIP

Main Street,
Bagenalstown, Co. Carlow

Web: www.carlowdevelopment.ie
Tel: 059 972 0733

CARLOW

DIGITAL
STRATEGY

2021 – 2024