Rialtas na hÉireann
Government of Ireland

The Digital Connectivity Strategy for Ireland

2022

Table of Contents

1 Background and Context

Ireland is committed to a fast-paced digital transformation. The availability of high speed, reliable digital connectivity will support the delivery of Ireland's economic and social ambitions in the digital era. It will help realize the State's ambition to be at the forefront of European and global digital developments.

This Digital Connectivity Strategy will arm different sectors with the connectivity needed to fully exploit the digital opportunities in their respective areas. This will lead to more balanced regional development, as well as supporting the green transition, including by the implementation of the Government's Remote Working Strategy[1], Our Rural Future: Rural Development Policy 2021-2025[2], Project Ireland 2040[3] and facilitating greater access to regional talent and skills.

Digital connectivity is also a pre-requisite to ensuring the delivery of social dividends, including ensuring that disadvantaged groups are not left behind in this transition, and can fully embrace digital opportunities.

For its economic prosperity and social inclusion, Ireland needs digital connectivity that is available to all and which is characterized by excellent performance, security and sustainability for both domestic and international use.

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[1] [1] The State's Remote Working Strategy can be found at gov.ie - Making Remote Work: National Remote Work Strategy (www.gov.ie)

[2] The State's Rural Development Policy can be found at https://www.gov.ie/en/publication/4c236-our-rural-future-vision-and-policy-context/

[3] The National Planning Framework (NPF) and the National Development Plan 2021-2030 (NDP) combine to form Project Ireland 2040. The NPF sets the vision and strategy for the development of our country to 2040 and the NDP provides the enabling investment to implement that strategy. Details can be found at https://www.gov.ie/en/campaigns/09022006-project-ireland-2040/

2 Purpose of this Strategy

The purpose of this Digital Connectivity Strategy is to set out the targets that will be achieved by the telecommunications sector in providing digital connectivity across the State and to identify the key enablers that will be implemented to ensure these targets are met.

This Digital Connectivity Strategy will be achieved, guided by the following principles:

- We will encourage commercial investment in energy efficient solutions, network integrity and security, and supporting and facilitating the modernization of existing networks and transition to Gigabit and 5G networks;

- We will ensure that our regulatory framework encourages investment, promotes infrastructure competition, and supports innovation in emerging technologies;

- Where appropriate we will intervene where the market fails to deliver or where the timing of the anticipated commercial delivery does not meet the needs of the State; and

- We will promote the adoption of digital technologies through the support of pilot initiatives and through programmes to develop research and innovation in the area.

This Digital Connectivity Strategy is focused on enablement of the telecommunication infrastructure and services that delivers digital connectivity. It directly supports the achievement of the State's overall digital targets as set out in 'Harnessing Digital - The Digital Ireland Framework'[4], particularly 'Dimension 2: Digital Infrastructure' that is described within the Framework.

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[4] gov.ie - Harnessing Digital - The Digital Ireland Framework (www.gov.ie)

This Strategy is further complimented by the National Cyber Security Strategy[5] which aims to allow Ireland to continue to safely enjoy the benefits of the digital revolution and to play a full part in shaping the future of the Internet.

It is intended that this Digital Connectivity Strategy will be dynamic, evolve and be updated as appropriate. New strategic enablers will emerge as the demand for new services increase, the market evolves, technology advances are made, and as wider socio-economic influences are felt. Therefore, this Strategy will be reviewed and updated on a regular basis.

3 Overall Targets and Summary

Overall Targets for Digital Connectivity

- ➢ All Irish households and businesses will be covered by a Gigabit network no later than 2028

- ➢ All populated areas[6] covered by 5G by no later than 2030[7]

- ➢ Complete the delivery of digital connectivity to all Broadband Connection Points and all Schools by 2023

Digital connectivity will be delivered across the State primarily through the commercial investment of the telecommunications industry. Government will take measures to drive increased Gigabit and 5G connectivity, including complementing commercial investment in infrastructure with Government-led initiatives and through facilitating other strategic enablers.

The Government-led initiatives include:

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[5] The National Cyber Security Strategy is available at gov.ie - National Cyber Security Strategy (www.gov.ie) and was published in 2019.

[6] 5G is to be made available in the cities, towns, and villages where people typically live and work, along transient and commuting routes and in areas that are of strategic importance to the local community.

[7] The performance of 5G network coverage is expected to vary dependant on the density of population in the area covered and the performance required by users of the service. For example, in a city or suburban area the deployment of small cells will support requirements from smart city type users/applications with high throughput and low latency performance; whereas in less densely populated areas where macro cells are deployed, the throughput and other performance requirements might be lower.

- **the deployment of Gigabit network services through the National Broadband Plan's State-led Intervention** to primarily rural areas covering circa 23% of the premises across the State;

- the development **a number of direct international connectivity links to the rest of Europe** and ensuring Maritime Area Planning provides the appropriate framework to make this happen. Ensuring the international connectivity infrastructure links to and from the State are secure and resilient, suitably diverse, and robust so that they can meet our requirements;

- **ensuring 5G Spectrum continues to be made available,** with appropriate coverage and deployment obligations, and monitoring of the use of this spectrum, to ensure it is used efficiently and effectively; and

- promoting **research and innovation in new and emerging technologies** that will be required in the longer term as well as leveraging the many pilot and test networks available across the State.

Digital Technologies and Sustainability

Digital technologies have a vital role to play in reducing energy and resource use across all sectors. However, the environmental impacts of the deployment of digital technologies themselves can be negative and substantial. This includes energy demands, resource use and generation of pollution and waste. Policy needs to ensure those digital technologies are developed and deployed in a sustainable manner. This includes **addressing the energy and circular economy challenges from digital technologies through suitable approaches and principles.** As part of this workstream, Government will:

- Conduct analysis into the positive and negative impacts of **digital technological changes on sustainability**, in particular energy efficiency and the circular economy in consultation with experts.

4 Key Strategic Enablers

The Key Strategic Enablers are programmes of work required to ensure the timely and coherent implementation of this Digital Connectivity Strategy.

4.1 Delivering Gigabit Connectivity

4.1.1 Commercial Investment in Gigabit Connectivity

The telecommunication sector employs approximately 25,000 people and has invested circa €3.3 billion over the past 5 years in new and upgraded networks.

Recent announcements from Virgin Media[8], SIRO[9] and eir[10] indicate that the vast majority of premises in urban and suburban areas will be covered with a fibre to the home services with Gigabit network services being made available to these locations by 2028.

This commercial investment will result in Gigabit network services being made available to the vast majority of premises, in primarily urban and suburban areas covering circa 77% of the premises across the State and 5G services being made available to all populated areas across the State once the appropriate spectrum is made available.

Government will enact legislation to enable **the introduction of a Universal Service Obligation[11] for the provision of adequate broadband services.** This is to ensure and safeguard that at least those services are made available to all.

Under Ireland's National Recovery and Resilience Plan, **the State will invest €19 million in the deployment of a high-speed low latency network by 2024,** delivering 100 Gigabit broadband services to all cities and major towns. As part of this initiative, **10 Gigabit broadband services will be made available to Government buildings in these locations.** In addition, the State will procure **Gigabit broadband services for all smaller satellite government locations** where these services are available from the market.

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[8] [Virgin Media to invest €200m in making network fibre (rte.ie)](rte.ie)

[9] [Siro announces €620m investment to upgrade broadband network (irishtimes.com)](irishtimes.com)

[10] [Eir to add 200,000 homes to its 'real' fibre broadband roll-out - Independent.ie](Independent.ie)

[11] A Universal Service Obligation or "USO" is a legal obligation which may be assigned to an operator in a specific geographical area. The USO requires the operator to provide adequate broadband services to premises in this area if no other operator is providing adequate broadband services.

4.1.2 National Broadband Plan (NBP)

The National Broadband Plan (NBP)[12] continues to deliver on the Government's commitment to ensure every citizen, wherever they are in the country, has access to the internet via high-speed broadband.

Through the 2.7€ billion State funded NBP contract, awarded in 2019, Gigabit services will be deployed to the most rural locations covering circa 23% of the premises across the State. A range of services will be provided to both residential and business premises that are within the intervention area.
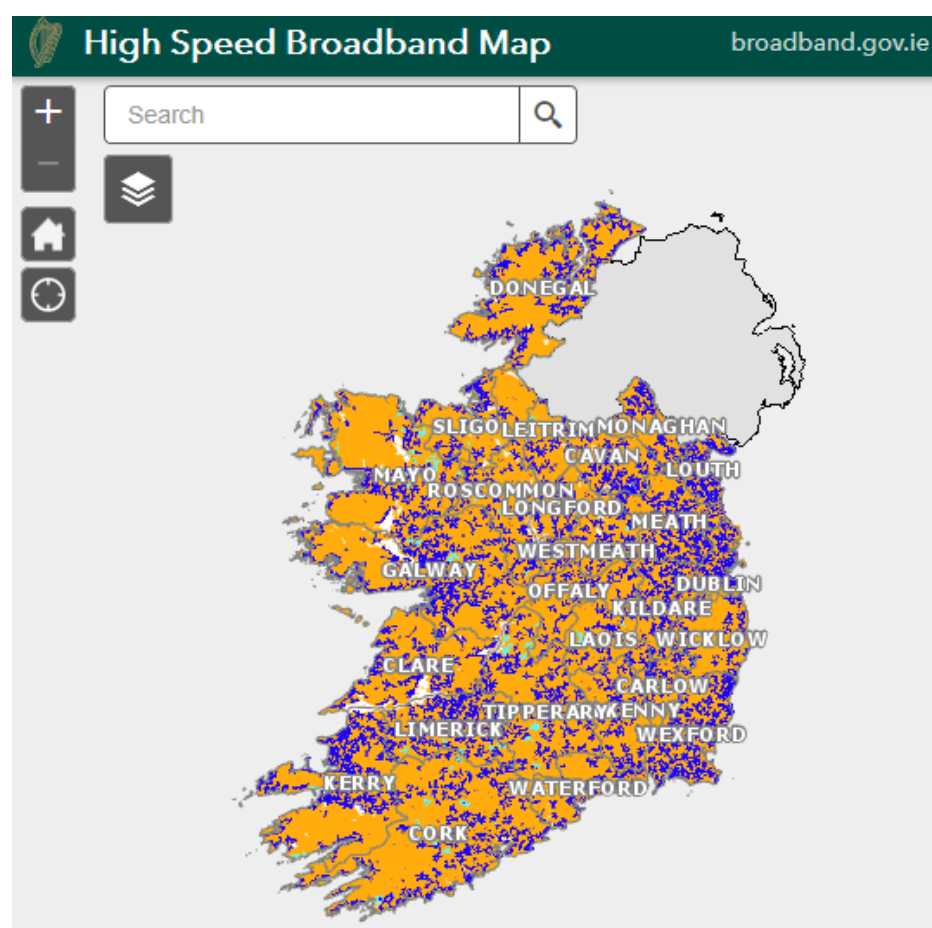

Figure 4.1 – The NBP Map outlines the areas (coloured amber) where Gigabit services will be deployed under the NBP Contract.

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[12] For more information see https://www.gov.ie/en/publication/c1b0c9-national-broadband-plan/

Government aims **to ensure that the deployment of the Gigabit network under the NBP is completed as quickly as possible** and to ensure that any obstacles impeding the delivery of the network are addressed at the earliest opportunity.

4.1.3 Connecting the Broadband Connection Points and Schools

The NBP also provides for the deployment of high-speed connectivity towards strategic locations such as Public Broadband Connection Points (BCPs), digital hubs, schools, marts, Garda stations and other Government facilities that reside within the NBP intervention area.

Under the Public BCP programme, high-speed broadband connectivity will be provided to over 280 publicly accessible community buildings. Public BCPs allow for onsite community use in rural and isolated areas including a number of our offshore islands.

Public BCPs are ideally placed to act as rural testbeds for innovative and emerging digital technologies. They also offer opportunities for the provision of digitally enabled services and amenities to rural communities.

Government will work with relevant third parties **to pilot schemes and programmes at Public BCPs and to develop these sites as digitally enabled community resources.**

Under the NBP Schools programme, high-speed broadband connectivity will be provided to almost 670 schools. These are typically rural schools, which are located within the NBP intervention area.

Government aims **to ensure the delivery of digital connectivity to these Broadband Connection Points and all Schools within the NBP intervention area by no later than 2023**.

In addition, the €16 million Schools Broadband Programme, which is funded under Ireland's National Recovery and Resilience Plan, **will provide high-speed broadband connectivity to up to 1,600 schools throughout the State by 2023**; and ICT grant funding will enable schools to support learners through the provision of connectivity, devices, and software; as well as a programme providing laptops for 20,000 disadvantaged students in Further and Higher Education.

4.1.4 The Metropolitan Area Networks and other State-Owned Infrastructure

Government will ensure that existing Government owned telecommunications infrastructure, including the **Metropolitan Area Networks (MANs)**, continues to be managed and enhanced to effectively provide open access, carrier neutral, telecommunications for businesses, schools, and homes throughout the State.

The MANs are deployed in 94 towns and cities throughout Ireland. They can be used to provide a variety services. These include, for example, telecommunication services, internet access services, television, and closed-circuit television services (CCTV) to businesses and citizens in these locations.

The MANs also play an important role supporting the deployment of the NBP network through the provision of telecommunication infrastructure such as telecommunication duct routes and exchange buildings. A number of MAN locations were chosen as 'Points of Handover' by the NBP network, this is where commercial operators can interface their own networks with the NBP network.

4.2 Delivering Mobile Connectivity

4.2.1 Commercial Investment in Mobile Connectivity

Vodafone, eir and Three Ireland are currently deploying 5G services across the State with all cities and almost 80% of the population now covered[13]. As additional 5G spectrum is released, the scale and geographic coverage of these services will continue to expand.

This commercial investment will result in 5G services being made available to all populated areas across the State once the appropriate spectrum is made available.

Government will take the lead in adopting 5G mobile services by transitioning the vast majority of **all civil service mobile contracts to a 5G based subscription by no later than the end of 2024**.

4.2.2 5G Spectrum

ComReg, the National Regulatory Authority for the communications sector, is responsible for ensuring effective management and efficient use of radio spectrum on behalf of the State. Radio spectrum is used to provide a wide range of communications networks, services, and

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[13] October 2022

applications for the benefit of society including those used to support the provision of public services, utilities, and commercial operators.

With respect to 5G spectrum the EU have identified three "Pioneer bands" for 5G networks use, these are 700 MHz, 3.6 GHz, and 2.6 GHz.

ComReg granted new 3.6 GHz licences to five operators in June 2017 following a spectrum auction thus resulting in Ireland becoming the first EU State to assign radio spectrum targeted for 5G use. This award has enabled the substantial commercial deployment of 5G throughout Ireland that we see today.

ComReg's next spectrum auction is the **Multiband Spectrum Award (MBSA2)** process which is designed to assign the rights of use in four spectrum bands (these are the 700 MHz, 2.1 GHz, 2.3 GHz, and 2.6 GHz bands). This award, which is pending the conclusion of certain legal proceedings, will enable the market to provide significantly improved services to meet increasing consumer demand for mobile data and new services. ComReg is seeking to conclude the MBSA2 process as soon as possible.

4.2.3 Enhancing Mobile connectivity for specific locations

The continued investment of operators in their networks allied with the release of further radio spectrum through the MBSA2 process will deliver substantial mobile connectivity across the State.

However, it is likely that enhanced mobile connectivity will be required in certain locations or settings, for example, along main transport routes such as the motorways to/from National ports/airports where low latency solutions will be required for fleet management, safety purposes or in certain rural settings with high tourist footfall at peak times of the year.

Therefore, **the State will work with industry to ensure the appropriate mobile connectivity solutions are made available at these locations**. This might include the development of local action groups to identify potential solutions, the coordination of efforts across a range of both public and private stakeholders and the development of pilot / proof of concept initiatives to test proposed solutions.

4.2.4 Public Information relating to 5G

The potential effects of electromagnetic fields (EMF) on people have been subject of significant research. This includes the radio frequencies used and envisaged for 5G in mobile communications and other applications.

The State has tasked the Environmental Protection Agency (EPA) with monitoring EMF levels in the everyday environment to ensure emissions from 5G and other technologies are safe[14].

4.2.5 Taskforce to address Nuisance calls

Our daily use of electronic communications networks and services is exploited by criminals, who use social engineering type attacks – for example vishing, smishing and caller ID spoofing, with the intention of illegally acquiring personal consumer information, ultimately to abet financial fraud. At its heart, this fraud is the abuse of telecommunications products (mainly telephones and mobile phones) or services with the intention of illegally acquiring money from a communication service provider or its customers. Consumers are being inconvenienced, confused, and threatened by the volume of nuisance communications. Given the increasing frequency of nuisance communications and the damaging effects on public confidence in the integrity and trustworthiness of electronic communications, **ComReg has established a taskforce – the Nuisance Communications Industry Taskforce ("NCIT")**, to bring together representatives of the electronic communications industry. The NCIT[15] is tasked with finding solutions to address the growing frequency of nuisance calls to mobile users in Ireland. ComReg recently published an update on the progress of the Nuisance Communications Industry Taskforce[16]

4.3 Delivering International Connectivity

High quality, secure and reliable connectivity to global telecommunications networks is of significant strategic importance to the Irish State. By strengthening international connectivity and developing an agile and resilient digital infrastructure, it will allow Ireland to embrace digital transformation enabling sustainable economic growth and positive social dividends.

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[14] For more information on the EPA activities please see https://www.epa.ie/environment-and-you/radiation/emf/what-is-emf/radiofrequency-fields-/5g---new-rf-technologies/

[15] More information and regular updates from the NCIT can be found at

https://www.comreg.ie/publication/nuisance-communications-formation-of-the-nuisance-communications-industry-taskforce

[16] See https://www.comreg.ie/publication/nuisance-communications-update-on-the-nuisance-communications-industry-taskforce

There is a strategic opportunity to position Ireland as a central connectivity hub in Europe and act as a gateway to Europe for all transatlantic cables from North America. This can be achieved by ensuring Ireland develops high capacity and diverse connectivity routes directly to mainland Europe, whilst continuing to encourage investment in cable projects from North America to Ireland[17].

A robust and coherent marine planning system is regarded an as key enabler to encourage and support future investment in high-speed submarine telecommunications infrastructure.

Additional measures to leverage the private investment may be required to further develop international connectivity to mainland Europe and to ensure that Ireland becomes a central connectivity hub.

As part of this enabler the **State will ensure the international connectivity infrastructure to and from the State are resilient, suitably diverse, and robust** so that they can serve the demands of the national requirements.

The State will encourage and support submissions of projects to the EU's Connecting Europe Facility (CEF2)[18] that align to this strategy.

In addition, **the State will examine options to undertake a State-led intervention in the market** to ensure sufficient international connectivity is developed between Ireland and other EU Member States.

4.4 Regulation

The State is committed to ensuring that Ireland's telecoms regulatory framework is robust and clear and promotes regulatory certainty, competition and a pro-investment climate and fosters the highest standards of sustainability in line with EU policy and international best practice.

ComReg[19] is responsible for regulating the sector and play a key role in shaping and enabling Ireland's digital connectivity.

The EU's updated regulatory framework, the European Electronic Communications Code (EECC)[20], is of prime focus in this area. This update represents a revision of the entire EU regulatory framework for the telecommunications sector. The EECC will strengthen the

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[17] The Key Findings from the International Connectivity for Telecommunications Consultation 2021 can be found at https://assets.gov.ie/214943/fcd8e76a-a082-4969-88fe-6c175f4c637d.pdf

[18] Details of the CEF call can be found at https://digital-strategy.ec.europa.eu/en/activities/cef-digital

[19] Strategy | Commission for Communications Regulation (comreg.ie)

[20] For further details see https://digital-strategy.ec.europa.eu/en/policies/electronic-communications-laws

regulatory tools of competition and compliance in light of new technological and market developments. The EECC replaces the Framework Directive, the Authorisation Directive, the Access Directive, and the Universal Services Directive, and enables Member States to introduce a Universal Service Obligation for broadband where appropriate. **The Irish Regulatory Framework is being updated to transpose the EECC into Irish Law.**

It also essential that consumers benefit from price competition, quality, and the range of services required to go about their daily lives and run their businesses. The forthcoming **Communications Regulation Amendment Bill includes a number of new customer service protections** to address the number of consumer service complaints that have arisen in recent years. These provisions will include an enhanced alternative dispute resolution process for consumers, a new power for ComReg to set minimum quality of service standards that operators must guarantee to their consumers, a new compensation scheme that will entitle consumers to compensation for specific customer service failings on the part of their operator and a new "Customer Charter" that will clearly set out the standards consumers can expect their service providers to provide.

As a small EU Member State Ireland must build alliances to effectively influence the EU Commission legislative proposals at an earlier stage. In order to achieve this the **State will build greater capacity to effectively represent our national interests in the key EU fora**.

4.5 Mobile Phone and Broadband Taskforce

The **Mobile Phone and Broadband Taskforce (MPBT)[21]** was launched in July 2016 to be a driving force for improving access to telecommunications services throughout Ireland. As a high-level cross-government forum that engages directly with industry, it is uniquely placed to ensure a coherent approach to telecommunications development in the State.

Between 2016 – 2019, the first iteration of the Taskforce delivered on more than 70 targeted actions addressing issues from consumer information and advertising practices to large scale infrastructure deployments and reviews of planning and permit granting procedures.

In December 2021, the Taskforce reconvened with the remit of building on the progress of its earlier work and identifying and addressing remaining barriers to improved

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[21] For more details see https://www.gov.ie/en/publication/db7f83-mobile-phone-and-broadband-taskforce/

telecommunications services. The new work programme, which will be reviewed annually, focusses on:

- Improving outdoor mobile phone coverage in both rural and urban areas;

- Ensuring the efficient use of infrastructure and assets to support the rollout of telecoms networks;

- Appropriate streamlining of permit granting, planning and licencing procedures; and

- Improving both the quality and availability of information to consumers regarding telecoms products and services on the market.

Government will continue to engage with public sector, representative and industry stakeholders through the Mobile Phone and Broadband Taskforce to ensure expedited telecommunications infrastructure deployment and improved services to citizens.

4.6 Research, Innovation and Future Planning

This Digital Connectivity strategy recognizes the need to facilitate and promoting research and innovation in areas such as leveraging high-capacity low latency connectivity and other new emerging technologies such as Quantum Communication Infrastructure[22].

Partnerships across industry and the State are needed and the State will take an active role both in the direct development of initiatives and through facilitating stakeholders in forming these partnerships.

The State has committed 5€ million to support the development of **a pilot Quantum Communications Infrastructure that will aid the development of a quantum technology ecosystem** and ensure Ireland is well placed in developing skills and competence is this technology.

The State will continue to sponsor targeted research into key areas of focus for the communications sector including the study of the positive and negative impacts of **digital technological changes on sustainability.**

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[22] Details of the European Quantum Communication Infrastructure (EuroQCI) Initiative can be found at https://digital-strategy.ec.europa.eu/en/policies/european-quantum-communication-infrastructure-euroqci

Comreg will encourage innovation and development of wireless communications using Ireland's radio spectrum through the **test and trial wireless licensing service**[23].

4.7 Supporting the adoption of Digital Services across different sectors

Ireland's new national digital strategy, Harnessing Digital – The Digital Ireland Framework aims to drive and enable increased uptake of digital technologies across all sectors of the economy and society. The Framework focuses on (i) the Digital Transformation of Business; (ii) Skills; and (iii) Digitalisation of Public Services; these three dimensions are supported by the Digital Connectivity Strategy which arms the different sectors with the connectivity needed to fully realise the many benefits of digital. For example, farmers today buy and sell livestock through the online streaming of marts connected by high-speed broadband; for many Irish businesses, online shopping and using social media to reach new customers kept them viable during lockdowns; food manufacturing in Ireland is now exploring and introducing more and more digital solutions to their production facilities to improve efficiency and quality.

The Digital Connectivity Strategy ensures that many different sectors including Agriculture, Transport, Tourism, Health etc can avail of the connectivity that is needed to support their digital solutions.

4.7.1 Strengthening the role of Broadband Officers and our Local Authorities

Local authorities have played a key role in the Mobile Phone & Broadband Taskforce since its inception in 2016. The appointment of Broadband Officer's across all 31 local authorities during this time has delivered significant benefits.

Our Broadband Officers are tasked with:

(i)   facilitating the successful roll-out of the National Broadband Plan in their respective Counties by acting as a single point of contact for NBI and other telecommunications companies generally; and

(ii)   developing and implementing a Digital Strategy to encourage take up of high-speed connectivity amongst all sectors of the population, including the creation of awareness of and the stimulation of demand for broadband services.

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[23] More details can be found at https://www.testandtrial.ie/

Nevertheless, challenges still persist in terms of ensuring a level of consistency and efficiency in the application of permit granting / planning permissions / road opening licences etc. In addition, there is a growing need to facilitate wireless infrastructure and potentially leverage existing State-owned assets or locations rather than seeking to build new sites.

Notwithstanding the considerable volume of work still required to support infrastructure deployment, the role of the Broadband Officer is evolving rapidly to include digital development work.

Broadband Officers are keenly aware that the NBP and MBSA2 spectrum auction will have profound implications for their counties and are preparing to leverage these developments for the benefit of local residents and businesses. Local digital strategies are currently being reviewed and updated with a focus on emerging digital technologies to support eGovernment, eHealth, remote working, IoT environmental and public realm initiatives, and addressing digital literacy deficits.

Government will refine the Broadband Officer role in the context of the EU Connectivity Toolbox and the European Smart agenda. In addition, support will be provided to local authorities to align the Broadband Officer role with local digital strategies.

Furthermore, **Government will continue to co-fund the Broadband Officer role into 2025 and will explore opportunities to increase the capacity of the role to meet changing needs including the establishment of specialist digital/infrastructure development units on a local or regional basis.**

4.7.2 Smart Solutions for Cities, Towns and Rural Communities

The implementation of Smart solutions across our cities, towns and rural communities is well underway. The development of local digital strategies by our local authorities has set out clear areas of focus and ambitious targets to be met in the coming years. Considerable progress has been made in several districts across Cork, Dublin[24], Limerick, Galway, and Waterford. This has been achieved through strong partnerships and the creation of ecosystems involving a diverse range of stakeholders. Several key challenges have arisen and have been addressed through these initial projects but there is much yet to be done.

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[24] For example, see Home - Smart Docklands

4.7.3 Pilot projects to promote digital transition

The transition to digital is taking hold across all sectors placing different and diverse demands on our digital connectivity. For example, applications demanding low latency and high resilience are emerging along our main Transport Corridors to improve road safety and vehicle management; large scale machine to machine solutions are being deployed by our utilities to collect data to help them deliver services more efficiently and reliably and a significant transformation is underway in the way we produce products thanks to the digitization of manufacturing.

The EU through its Connecting Europe Facility (CEF2) will support and catalyse both public and private investments in digital connectivity infrastructures between 2021 and 2027. The calls for submissions towards the CEF2 are expected twice yearly.

The State will facilitate and support industry in putting forward proposals towards the CEF2 calls so that pilots are developed to promote what can be achieved across different sectors.

4.7.4 Data Centres and Digital Connectivity

Digital connectivity providers utilise both traditional and cloud-based Information Technology (IT) infrastructure to deliver their services. Data centres are important components of the worlds IT infrastructure in an open modern economy, and they serve many diverse users of IT including digital connectivity providers, data and content providers, companies who require their data to be securely stored, backed up and managed, application providers (e.g., email, messaging, social media etc), e-commerce providers, online gaming providers etc.

However, policy needs to ensure the positive benefits for sustainability are maximised and that digital technologies are used in a sustainable manner to ensure the energy and circular economy challenges from digitalisation are aligned with our climate objectives. The Government Statement on Data Centres and Enterprise Strategy[25] sets out how data centres will contribute to this transition.

4.8 Cyber Security and Emergency services

Creating the safeguards to monitor and respond to cyber security threats and encourage network security is of uppermost important for the sector.

The National Cyber Security Strategy[26] aims to allow Ireland to continue to safely enjoy the benefits of the digital revolution and to play a full part in shaping the future of the Internet. The Strategy was informed by the experiences of the National Cyber Security Centre (NCSC)[27] which is responsible for advising and informing Government and Critical National Infrastructure providers of current threats and vulnerabilities associated with network information security. The National Cyber Security Strategy included two measures in respect of the electronic communications networks and services:

- Measure 4: The NCSC, with the assistance of the Defence Forces and An Garda Síochána, will perform an updated detailed risk assessment of the current vulnerability of all Critical National Infrastructure and services to cyber-attack; and

- Measure 7: Government will introduce a further set of security measures to support the cyber security of telecommunications infrastructure in the State.

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[25] Please see more details at gov.ie - Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy (www.gov.ie)

[26] The National Cyber Security Strategy is available at gov.ie - National Cyber Security Strategy (www.gov.ie) and was published in 2019.

[27] For more information, please see NCSC: National Cyber Security Centre.

Measure 4 is well underway by the NCSC. Measure 7 led to the publication of the Electronic Communications Security Measures[28], which are currently under consultation with relevant stakeholders and expected to be finalised shortly.

A review of the Strategy is currently underway and will be concluded in 2023, taking account of the global cyber threat landscape, developments in the European Union including the review of the Network and Information Security Directive, and lessons learned from the HSE ransomware attack and other significant cyber security incidents.

4.8.1 The Emergency Call Answering Service

The Emergency Call Answering Service (ECAS) is responsible for answering all 112 and 999 calls and texts, providing a vital link between the caller and the Emergency Services. The ECAS seeks to establish the Emergency Service being requested (An Garda Síochána (AGS), Fire, Ambulance, Coast Guard or Air Traffic Control (in emergencies involving aircraft) and the location of the caller for the purpose of routing the call to the most appropriate centre of that Emergency Service. The call or text is then transferred to the appropriate Emergency Service which then takes responsibility for the call and responds to the emergency. The ECAS operators continue to monitor the call until it has been accepted by the Emergency Service. ECAS handled over 2.3 million calls in 2021, answering 98% of calls in less than 1.3 seconds; of those calls 51% were filtered, with 49% of calls connected to the appropriate Emergency Service; and 90% of calls routed to the Emergency Service within 18 seconds.

The State continues to ensure this service performs to a consistently high standard and meets the requirements of citizens in times of emergency[29].

4.8.2 A Public Warning System

During an emergency it is vital that emergency response bodies can contact members of the public in the most effective and timely manner possible in order to give them important, potentially lifesaving information. The growing reliance on mobile phones and the fact that the vast majority of people now own a mobile phone makes them a highly effective way to communicate with people who may not, for example, have their television or radio switched on. In addition, under Article 110 of the European Electronic Communications Code each EU

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[28] https://www.gov.ie/en/consultation/6fc4c-technical-stakeholder-consultation-on-proposed-electronic-communications-security-measures-ecsms/

[29] The annual review of the ECAS service can be found at https://www.gov.ie/en/publication/63c92-emergency-call-answering-service-ecas-annual-reviews/

Member State is required to have a mobile phone-based emergency text alert system (Public Warning System, 'PWS') implemented at a national level.

The State will work with mobile operators to implement a new PWS during 2023 so that text messages can be conveyed to mobile phone users on behalf of the Government, providing real time information on developments in respect of large-scale emergency events such as severe weather events or terrorist incidents requiring a fast response.

5 Managing the Digital Connectivity Strategy

As mentioned earlier, this Strategy directly supports the achievement of the State's overall digital targets as set out in 'Harnessing Digital - The Digital Ireland Framework'[30], particularly Dimension 2: Digital Infrastructure described of this Framework.

The State will publish updates on its progress against its overall digital targets and its progress towards achieving the EU's Digital Decade[31] ambition. The Digital Economy and Society Index (DESI)[32], which is published annually, summarises indicators on Europe's digital performance and tracks the progress of all EU Member States, including Ireland.

It is intended that this Digital Connectivity Strategy will be dynamic, evolve and be updated as appropriate. The enablers which are identified in the Strategy will evolve and the need for new initiatives will emerge as the market evolves. For each key strategic enabler, a more detailed action plan will be developed and implemented.

This Strategy will be led and driven by the Department of Environment, Climate and Communications with appropriate governance and oversight functions put in place for each area. **The Strategy itself will also be reviewed, updated, and republished on a regular basis but by no later than 2025.**

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[30] gov.ie - Harnessing Digital - The Digital Ireland Framework (www.gov.ie)

[31] The EU's Digital Decade https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en

[32] Details of the EU's Digital Economy and Society Index can be found at https://digital-strategy.ec.europa.eu/en/policies/desi