



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

# **Ministerial Brief**

## Communications

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Prepared by the Department of  
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## National Broadband Plan

The National Broadband Plan (NBP) will ensure that every home, school and business in Ireland – regardless of how remote or rural – has access to high speed broadband. This is being achieved through a combination of commercial investment across Ireland and a State intervention in those areas where commercial operators acting alone are unlikely to invest. These are primarily rural areas.

The contract for the NBP State led intervention was signed in November last with National Broadband Ireland (NBI), which has been incorporated with the specific purpose of delivering high speed broadband to the Intervention Area. The NBP network will offer residential users a high speed broadband service with a minimum download speed of 150Mbps from the outset, with the minimum speed rising to 300Mbps by year six and 500Mbps by year eleven. Business users can avail of 1Gbps from the outset.

NBI has commenced mobilisation work, including site surveys in a number of counties and this work is continuing. All counties will see premises passed in the first 2 years and over 90% of premises in the State will have access to high speed broadband within the next four years. The Department is exploring with NBI the feasibility of accelerating the roll out for those premises currently in years 6 and 7 of the planned roll out.

Key subcontractors (Eir, eNet, Actavo, KN Circet) have commenced planning and development on behalf of NBI with a number of smaller subcontractors and suppliers also engaged.

By the end of next year, NBI is targeting to pass approximately 115,000 premises, with 70,000 - 100,000 passed each year thereafter until rollout is completed. The first fibre to the home connection is expected to be made in quarter 4, 2020.

Pending the deployment of the rollout of fibre to households, it was decided to advance up to 300 Broadband Connections Points (BCPs) in year one of the Plan. The BCPs have been specifically selected by the Local Authorities so that they can provide public Wi-Fi and other facilities at a number of locations to support people who may wish to work remotely with the scope for a wider range of services at sites than can support a greater level of activities. These sites include schools, library hubs and local sports halls in every county in Ireland. Broadband Officers in each Local Authority were tasked with consulting with local communities and business to find the appropriate mix of locations to reap the maximum benefits. This process has been led by the Department of Rural and Community Development (DRCD).

The preliminary technical work required to make these sites operational is now well underway. It is expected that the first batch of sites will become ready for end-users by late July. From then on they will be rolled out at around 10 sites per week. 60 sites have been earmarked as being up and running by September.

Deployment activities related to the National Broadband Plan (NBP) have continued, in line with the advice provided by Government and the HSE during the COVID-19 event, and key mobilisation and design activities continue to be progressed.

COVID-19 has impacted the delivery of the NBP Programme in terms of:

- the efficiency of the design process and the development of the operational environment processes and tools;
- onboarding Retail Service Providers as they will have to limit the number of companies using their labs in Q3 and Q4;
- availability of accommodation for contractors across Ireland;
- access to islands and some buildings such as schools/GAA centres;
- speed of delivery of supplies from overseas; and
- recruitment of personnel more difficult on line.

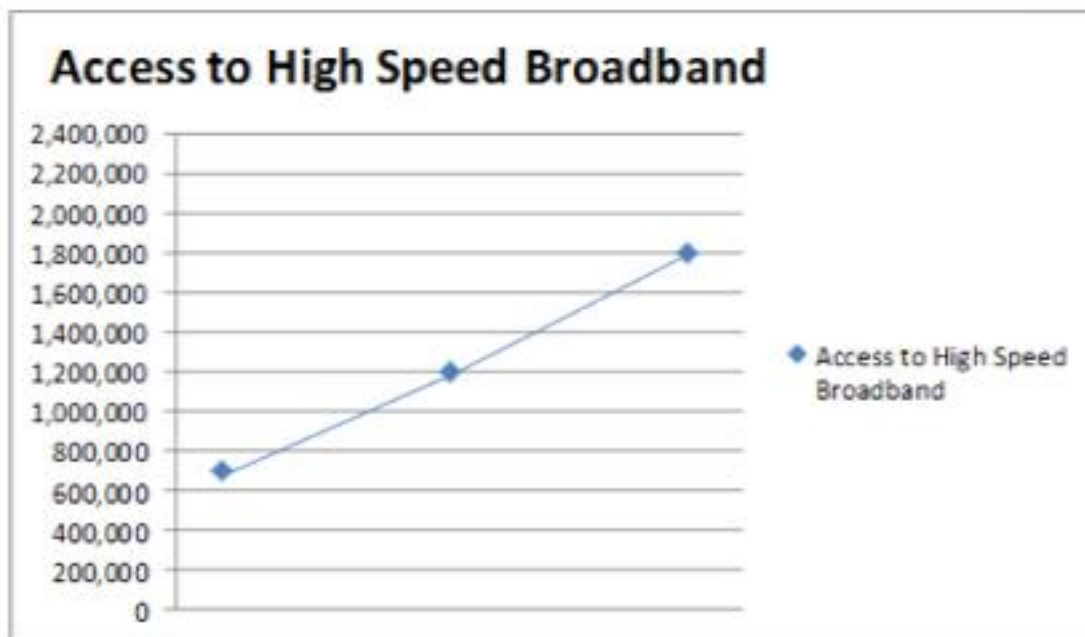
However, mitigation measures where available have been taken to minimise the impact.

## **National Statistics**

Commercial operators have invested over €2.75 billion in upgrading and modernising their networks over the past 6 years, and further investments are planned.

There are currently 2.4 million premises throughout the country.

The trajectory of access to high speed broadband is set out in the table below which demonstrates a rise from less than 700k premises in 2012 to over 1.8m premises in September 2019.



## State Intervention

Following a detailed procurement process, the NBP contract was signed on 19 November 2019 and became effective on 9 January 2020. The contract provides that a future proofed high speed broadband network will be deployed and operated by National Broadband Ireland (NBI) to people living and working in nearly 540,000 premises in the intervention area over the next 25 years.

The State Intervention area includes:

- 537,596 premises (plus new premises to be built)
- 1.1 million people (23% population)
- Over 54,000 farms (69% of national total of farms)
- 44,000 non-farm businesses
- 695 schools

## National Broadband Ireland (NBI)

National Broadband Ireland (NBI) is the company awarded the contract to design, build and operate the new high speed broadband for rural Ireland for at least 25 years.

The shareholders of NBI made the initial equity investment required under the contract on 9th January and the first subsidy payment of €10 million was made in April with further invoices falling due for payment shortly and the volume of subsidy payments ramping up in second half of the year.

The NBI organisation is in ramp up mode with a significant number of full time equivalent staff (FTE) coming on board and undertaking a detailed new hire orientation process.

Key subcontractors are also mobilising significant staff to design and build the network.

## Deployment

As part of the procurement process and contract negotiations a detailed deployment plan was prepared which set out delivery of the programme over the next 7 years. Given the complexities involved in building a network of this scale, it was recognised that the deployment plan would be subject to change as the project is rolled out. This Plan will be updated regularly as the outcome of the low level network designs for each local area are completed and as the deployment progresses in each area.

NBI's website is enabled to allow consumers to track progress by Eircode. Consumers will be alerted by NBI when they can make an order through their retailer of choice, be it eir, Vodafone, Sky or their local broadband providers. All broadband operators across the country, large, medium and small, will be in a position to sell many services to consumers over the NBI network, such as voice, television and home security.

All counties will see some deployment started in the first 2 years and over 90% of premises across the State will have access to high speed broadband within the next four years. The NBP network will offer users a high speed broadband service with a minimum download speed of 150Mbps, from the outset.

By the end of next year, NBI are targeting to pass in the region of 115,000 premises, with 70,000 - 100,000 passed each year thereafter until rollout is completed.

There are a number of stages required to roll out the new high speed broadband network including:

- survey work to inform detailed designs for each deployment area (as at mid-June some 30k premises are already surveyed);
- the repair and make ready activities conducted by eir to ensure the poles and ducts that are used in each deployment area are fit for purpose;
- the installation of the electronic equipment in each exchange building for each deployment area;
- the activation of the backhaul connectivity to each exchange building;
- the development of NBI IT systems that allow operators place orders and schedule connections etc;
- the laying of the physical fibre along the poles and ducts; and
- if an order is placed the activation of the final connection to the actual premises.

## Reporting

Under the NBP Contract, NBI is required to provide detailed reports at regular intervals across a range of areas. This information will be converted into a high level report and will culminate in a regular report to be published on the Department's website. This report will detail the progress on the deployment of the fibre network and the BCPs, including specific works undertaken, as well as other activities by NBI and DCCAIE as appropriate.

## Work Undertaken to Mid-June 2020

- Design work is complete or ongoing in target townlands in the following counties - Cork , Galway, Wexford, Westmeath, Cavan, Limerick, Kerry, Monaghan, Roscommon, Louth, Wicklow, Carlow and Tipperary.
- Some 30,000 premises have been surveyed to date which includes reviewing all poles, ducting in place, new poles required and most efficient network design for premises in the area.
- 4site, Actavo and Entegro are working on the ground on behalf of NBI.
- Significant procurement activities ongoing around purchase of materials and hiring of contractors with oversight of DCCAIE.



- NBI has held a number of Industry Forum meetings with Retail Service Providers, providing product, network and technical information. As NBI is a wholesaler only, all retail broadband providers will need to be onboarded by NBI as approved retailers. This requires significant IT development to integrate operator systems to ensure consumers are protected and that customer switching between retailers is seamless. NBI has commenced the necessary forums with industry to ensure the speedy integration of NBI with as many retailers as possible prior to launching services later this year.

## Broadband Connection Points (BCPs)

Approximately 300 Broadband Connections Points (BCPs), including schools, library hubs and local sports halls in every county in Ireland, will be connected to high speed broadband this year, to enable communities to quickly get free public access to high speed broadband.

The BCPs have been specifically selected by the Local Authorities so that they can provide public Wi-Fi and other facilities to support mini digital/enterprise hubs to the local community in advance of the main NBP deployment. Broadband Officers in each Local Authority were tasked with consulting with local communities and business to find the appropriate mix of locations to reap the maximum benefits.

As of mid June, 250+ site surveys have been completed with 53 physically connected.

It is worth noting that these sites tend to be in quite remote locations and ultimately they are bringing connectivity to these locations. Gauging the level of demand is difficult but from a public policy perspective it is considered beneficial, as a minimum, for each site to offer a small number of remote working spaces. Both NBI and Vodafone (contracted by DRCD) are tasked with marketing the sites and ensuring that they are leveraged as much as possible by the community.

## Investment by the State

The maximum possible investment by the State under the National Broadband Plan is capped at €2.977 billion over 25 years. This includes €354 million in VAT to be repaid to the Exchequer and contingency subsidy of €480 million which can only be drawn down in specific circumstances governed by the contract.

Payments will be paid to NBI in arrears subject to independent certification of deliverables completed. [REDACTED]

[REDACTED] Invoices raised by NBI will be subject to a detailed verification process to ensure all expenditure claimed is permitted under the NBP contract.

A series of clawbacks will operate to ensure value for money by “clawing back” subsidy in a number of circumstances, thereby potentially reducing the total cost to the State. Where the project costs are lower, the State will claw back the excess and where the costs are higher, the risk sits with NBI.

The series of clawbacks include:

- Deployment saving clawback [REDACTED]
- Excess profit clawback [REDACTED]
- Sale of NBI [REDACTED] up to year 10
- Terminal value clawback [REDACTED]

The contingency fund of €380 million within the overall NBP contingency subsidy (€480 million) can only be drawn down in 14 specific circumstances, both during the deployment period and after the deployment is completed. This contingency fund can only be sought by NBI where additional, unanticipated costs have been proven to have occurred for the 14 specified circumstances.

The contingency fund has caps for specific categories or groups of categories, with the risk of additional costs resting with NBI. These categories are primarily construction related, for example, relating to the state or condition of existing infrastructure in the intervention area, which will only be fully established when site surveys are conducted by NBI. The contract includes very detailed provisions governing the conditions that would apply in the case of any request to access the contingency subsidy related to any of the 14 categories.

There is also a mechanism for NBI to apply for compensation for encroachment where other commercial operators have deployed a future proofed high speed broadband service in advance of NBI's own deployment in the intervention area. The encroachment element of the overall contingency subsidy is capped at €100 million and can only be applied for in specific circumstances and is subject to robust governance mechanisms. It can only be applied for where the Department determines a commercial deployment of high speed broadband meets the requirements set out in the NBP contract, specifically a deployment of a fibre or equivalent high speed broadband technology, and that this deployment has had a negative impact on NBI's business case. The mapping consultation carried out immediately before the contract was awarded and which has confirmed the NBP Intervention Area, has reduced the risk of this element of the contingency subsidy being required. It is not envisaged that NBI will seek access to this fund as no operator has expressed any intention of building high speed broadband in the intervention area to date.

[REDACTED]

- [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]

### **Investment by NBI**

NBI's funding commitments, including the equity and working capital commitments of €223m, have been contractualised as part of the contract award.

The contract does not allow NBI to receive any public funding above the cap of €2.977 billion outlined above. The remainder of funding required is a matter for NBI and its equity investors.

### **NBP Contract Governance**

Under the NBP contract, NBI will roll out a high speed and future proofed broadband network within the State Intervention Area and will operate and manage this network over the next 25 years.

There are comprehensive set of protections and legally binding obligations outlined in the NBP contract. These controls will play a key role in ensuring that costs are minimised and deliverables are met and include:

- A suite of key Performance Indicators to ensure the service is maintained appropriately
- Significant penalties to address under performance
- Substantial oversight arrangements to monitor progress, costs and take up
- Extensive monthly, quarterly and annual reporting requirements on NBI
- Significant checkpoint reviews at various stages in the project
- Standalone Board responsible for the ring fenced operations and day to day management of NBI with the Board required to report to the Minister monthly/quarterly and annually
- Ministerial appointee to the NBI Board

- Independent audit of accounts
- Charge over the assets of NBI for the duration of the Contract
- Ability to "step-in" to manage and direct build and operations where there are material compliance issues.

The Department as the contracting authority will manage all of the elements of contract governance. Governance structures are being established within the Department to monitor contract compliance, including a NBP Senior Management Team and the following NBI Engagement Groups:

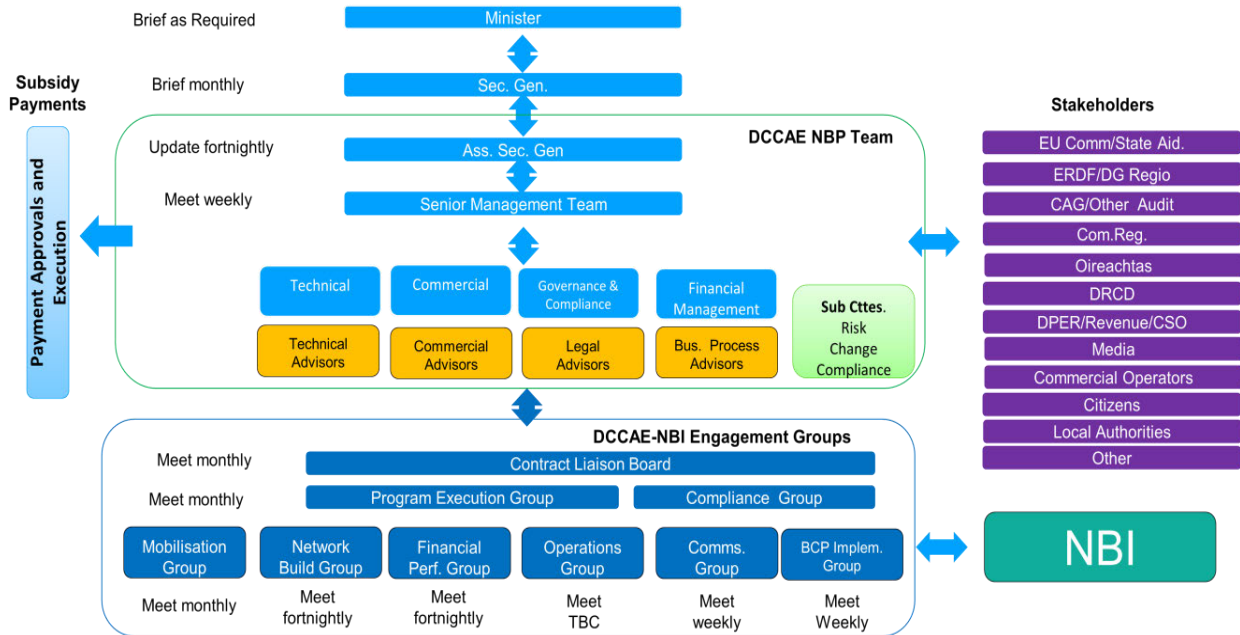
- Contract Liaison Board
- Programme Execution Group
- Compliance and Governance Working Group
- Network Build Working Group
- Financial Performance Group
- Financial Operations Group
- Operational Performance Group
- Communications Working Group
- BCP Implementation Group
- BCP Delivery Group

The Department has a core existing team of experts, which will be augmented by specialist external services to effectively manage the contract, including technical solutions and modelling, financial advisory and modelling, business consultancy, economic advisory, quality assurance, environmental and legal services. Technical advisors are on board and the recruitment process for legal and financial specialist experts is concluding with advisors expected to be in place by the end of June.

The contract provides for a Ministerial appointee to the Boards of NBPco and Buildco. A process has been undertaken and it is expected that an appointment will be made shortly in this regard. An interim appointee (Assistant Secretary in DCCA) has been in place pending this appointment.

# NBP Governance Structure

31<sup>st</sup> Jan '20



## State Aid

The European Commission approved the National Broadband Plan in the context of EU State Aid rules. The Commission issued its Decision on 15 November 2019.

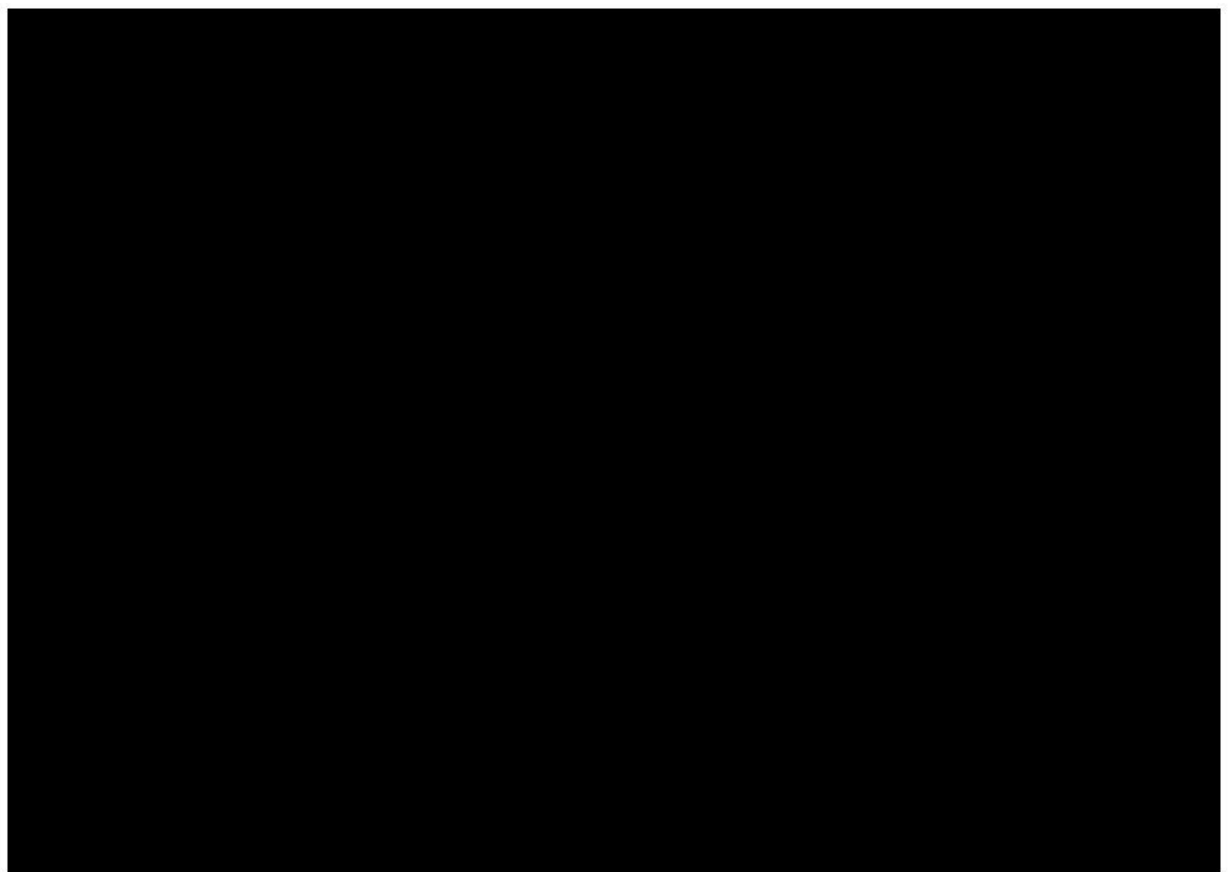
The Commission assessed the measure under EU State aid rules, in particular the Commission’s 2013 Broadband Guidelines. The Commission concluded that the scheme’s positive effects on competition in the Irish broadband market outweigh potential negative effects brought about by the public intervention. On this basis, the Commission approved the measure under EU State aid rules.

The Department has responded to the European Commission on two State Aid complaints received and is currently dealing with Judicial Review proceedings in the Irish Courts in relation to the mapping process.

## Economic and Environmental Benefits

PricewaterhouseCoopers (PwC) was engaged by the Department to carry out a Cost Benefit Analysis (CBA) in relation to the NBP in 2015 and have updated this analysis on a number of occasions in line with the Public Spending Code, [REDACTED] A very conservative approach was deliberately adopted by PwC in assessing the quantifiable benefits.

Quantified in CBA	Not Quantified in CBA
<p><b>Residential</b></p> <ul style="list-style-type: none"> <li>• Bundled communications</li> <li>• Service waiting</li> <li>• Remote working</li> <li>• Transaction savings</li> </ul> <p><b>Enterprise</b></p> <ul style="list-style-type: none"> <li>• Increases in gross value add (GVA) for farm enterprises and SMEs in IA</li> <li>• Remote working benefits to enterprises located outside of the IA</li> <li>• New Employment for enterprises in IA</li> </ul>	<ul style="list-style-type: none"> <li>• E-health</li> <li>• Education</li> <li>• Agriculture</li> <li>• Environment</li> <li>• Entrepreneurship, enterprise and jobs</li> <li>• Social inclusion and rural development</li> <li>• Tourism</li> <li>• Changes in work practices</li> <li>• Climate</li> </ul>



- [REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]  
[REDACTED]

These benefits and costs were developed prior to the COVID emergency which has led to dramatic (and in some cases permanent) changes in work practices and business to consumer engagement.

The NBP forms part of the wider strategies on climate, jobs, health and sustainable growth. The NBP State intervention will benefit:

- jobs and entrepreneurship by improving the financial performance of businesses in the Intervention Area, enabling the formation of new enterprises, allowing businesses to expand and increase employment. Remote working opportunities will expand the talent pool available to employers.
- an initial enabler to rural communities will be the roll out of approximately 300 Broadband Connections Points (BCPs) across Ireland to enable communities to quickly get free public access to high speed broadband by the end of 2020. It is expected that these hubs will facilitate greater remote working for people based in cities and towns and also small and medium size businesses in rural areas struggling to access quality broadband services in advance of the full fibre rollout to their premise.
- health by enabling remote monitoring of older and vulnerable people in their homes, improving home-based care as an alternative to hospitalisation and video medical appointment.
- education through facilitating innovative educational tools and granting access to specialist teaching resources.
- agriculture through smart farming which allows increased production quality, lower operational costs, reduced impact on the environment, better security technology and easier interaction with State bodies online.
- environment by reducing the need for carbon fuels, promoting more balanced regional development and allowing for energy efficient smart technologies in the home.

- tourism by expanding market reach, increasing productivity, reducing administrative costs and improving customer satisfaction.
- transport through remote working, innovations in traffic management, Smart travel technology, promotion of ride sharing, and facilitation of 5G along motorway networks.



## European Electronic Communications Code (EECC)

The new Directive establishing the European Electronic Communications Code (the “EECC”) entered into force in December 2018. It must be transposed by Member States by December 2020. The EECC brings together the rules on electronic communications networks and services and aligns them to recent technological developments in the field. It was one of several legislative telecoms files produced as part of the 2015 Digital Single Market (DSM) Programme and represents an extensive overhaul of the entire telecoms regulatory framework which had not previously undergone any major amendments since 2009. Overall, the Code aims to create an internal market for electronic communications within the EU while ensuring a high level of investment, innovation and consumer protection through enhanced competition.

The EECC does not aim to regulate the content of the services. Instead, it regulates:

- Electronic communications networks and services (“ECN” and “ECS”),
- Associated facilities and services,
- The authorisation of networks and services,
- Radio spectrum use and numbering resources,
- Access to and interconnection of electronic communications networks and associated facilities, and
- The protection of end-users.

The four key objectives of the Code are to:

- promote connectivity, access to and take-up of very high capacity networks by all citizens and businesses in the EU;
- promote competition in the provision of electronic communication networks and services;
- contribute to the development of the internal market in the field of electronic communications networks and services, radio spectrum, and connectivity; and
- promote the interests of European citizens including in relation to security, protection and accessibility of end-users with special needs because of their disabilities or age.

The EECC underlines citizen connectivity as a key objective of the EU. The intention is that all citizens and businesses throughout the EU can enjoy very high quality connectivity and an increasing choice

of innovative digital services, in order to guarantee freedom of expression, pluralism, democracy, culture, social cohesion, and safety.

## **Some Key Elements of the Code**

### **A Broader Definition of Electronic Communications Services**

Taking on board the fact that services which are functionally equivalent to traditional Electronic Communications Services (ECS) (i.e., telephony or SMS) were not subject to sufficient regulation, EU lawmakers broadened the scope of regulated ECS to include those services that are delivered via internet, i.e. the so-called “over-the-top” (OTT) services. The expanded category of ECS now includes: (1) internet access services, (2) interpersonal communications services (“ICS”), and (3) services consisting wholly or mainly in the conveyance of signals.

The addition of this sub-category of ICS is a significant development in EU law. ICS can be either “number-based interpersonal communications services” or “number-independent interpersonal communications service”.

Voice over Internet Protocol (VoIP) and chat services such as Whatsapp, Facebook Messenger, or Skype are now likely to fall under the definition of ICS, and therefore under the definition of ECS.

### **Significant Market Power**

Undertakings with significant market power (“SMP”) enjoy a position equivalent to dominance.

Such undertakings now become subject to obligations in respect of transparency; non-discrimination; accounting separation; access to civil engineering (e.g., buildings, cables, wiring, antennae, etc.), network elements and associated facilities; price control; deployment of a new very high capacity network; and functional separation are imposed on them.

### **Radio Spectrum and 5G**

The EECC recognises that spectrum is a scarce resource belonging to Member States, and whose management and assignment needs to consider national specificities and needs. At the same time, the EECC sets out rules to ensure a more convergent and consistent approach to regulation in this space, providing for strategic planning and coordination of overall radio spectrum policy, as well as for effective management of radio spectrum at Member State level.

Management of radio spectrum is essential for the roll-out of 5G (the next generation of mobile and wireless communications) technology, but it is also generally needed for electronic communications

networks and services. 5G in particular will require additional radio frequencies, a timely access to spectrum and targeted improvements in the spectrum management. The new rules will pave the way for 5G network deployment, to secure radio spectrum resources via more harmonised decisions and common deadlines ensuring allocation of appropriate spectrum bands, at the same time across the EU and under the same technical conditions. They also lay the foundations for a broad exchange of best practices in the area of spectrum assignment.

## **Consumer Protection**

Consumer protection is strengthened in the EECC through the safeguarding of consumers' rights to non-discrimination, information (e.g. best tariffs), transparency, provider switching and portability (including, in principle, the limitation of the contract duration to 24 months, in addition to a right to terminate a contract in case of automatic prolongation), universal service, and availability.

The EECC also now requires service providers to provide consumers with a summary of the contract, as an integral part of the contract.

## **Universal Service**

Prior to the entry in to force of the EECC, the universal service was solely focussed on traditional telecommunications services, such as public payphones. However, the concept has now been updated so as to cover adequate broadband internet access service and voice communications services. Under the EECC, every citizen must be able to access and use basic services (e-mailing, search engines, online training and education tools, online news, social media, etc.).

As a result, Member States may require providers of internet access and also voice communications services to offer tariff options and/or packages different from those provided under normal commercial conditions. In certain circumstances, these offers must be communicated by providers to the NRA, which may require such tariff options or packages to be modified or withdrawn.

## **Robust Regulation of the Telecoms Sector**

The Commission for Communications Regulation (ComReg) currently has a suite of enforcement and sanction powers available to it in regulating the sector. These are set out mainly in the Communications Regulation Act, 2002 as amended and a suite of secondary legislation transposing the EU regulatory framework.

These enforcement and sanction powers will require review to ensure alignment with the new European Electronic Communications Code and other legislation such as the ECN+ Directive which aims to ensure coherent competition law across Member States. Dialogue is ongoing between

DCCAE, ComReg and legal advisers on how best to ensure a robust and effective regulatory regime and options in relation to enhanced enforcement powers are currently being considered.

# Digital Agenda of the European Commission

## Digital Single Market

The Digital Single Market (DSM) was a central policy of the previous Commission, to frame the development of the electronic communications sector. It determined the strategy of the European Commission for ensuring the best possible access to the online world for users of such services and for businesses. It consisted of 30 legislative files, of which 28 are now complete.

Ireland has been a strong supporter of the Digital Single Market and is a member of the D9 Group, a likeminded group of digitally ambitious EU Member States. The D9 group comprises of Ireland, Sweden, Denmark, Finland, Estonia, Belgium, the Netherlands, Luxembourg, (and previously the UK). The DSM has the potential to contribute €415 billion per year to the European economy and create hundreds of thousands of new jobs. In addition, removing the barriers to the provision of digital services between Member States will make it easier for European companies to “scale up” in Europe and compete on a global stage.

The final two proposals - ePrivacy Regulation and the Cyber Security Competence Centre proposal - are both currently outstanding.

## Strategy for Europe – Sharing Europe’s Digital Future

The new Commission has signalled a similar level of digital ambition as its predecessor. A new post, Executive Vice President for Digital, has been established and assigned to Margrethe Vestager, who will oversee the overarching digital policy of the new Commission and retain her previously held position as Competition Commissioner.

The Internal Market Commissioner role has been assigned to the French Commissioner, Thierry Breton, and this position will now encompass the Digital Single Market (covering the ‘digital economy and society’ and ‘a future-ready European industry and single market’ as outlined in his formal mandate letter). This reflects the expected pivot towards mainstreaming digital policy into all aspects of the Single Market, as opposed to having a discrete Digital Single Market.

The Strategy for Europe – Shaping Europe’s Digital Future sets out the overarching strategic digital agenda of the Commission. This Strategy is a high level, cross sectoral white paper on how it is proposed to achieve the ambitious objective of maximising digitalisation benefits while persevering the EU’s most valuable assets of democracy, fairness, inclusiveness and the European social model.

The Strategy further discusses technological sovereignty, which it defines as creating the right conditions for Europe to develop its own key capacities, thereby reducing our dependency on other parts of the globe for the most crucial technologies. However, it also confirms Europe will remain open to those willing to play by European standards.

The issue of digital sovereignty has become increasingly political, with some Member States (including Ireland) warning that it risks becoming used in a protectionist manner. Proponents argue that in order to compete globally, Europe must champion its own digital sector. The Strategy will be composed of three main pillars:

#### 1. Technology that Works for People

This focusses on actions required to ensure that digitalisation works for people, not the other way around. To this end, the Commission highlights the importance of investment (including public investment and incentivised private investment), cybersecurity, increasing trust in digital services, increasing digital skills and ensuring no one is left behind by the digital revolution.

Key actions include the following:

- A White Paper on artificial intelligence setting out options for a legislative framework for trustworthy AI
- Building and deploying cutting edge joint digital capacities in AI, super and quantum computing, quantum communications and blockchain.
- Accelerating Europe's investment in Europe's Gigabit connectivity, including an Action Plan on 5G and 6G, 5G corridors for automated mobility and a revision of the Broadband Costs Reduction Directive.
- A new European Cyber security agency and a review of the NIS Directive.
- A Digital Education Action Plan to boost digital literacy at all levels of education.
- An initiative to promote and protect the interests of platform workers
- A reinforced EU governments interoperability strategy to ensure coordination and common standards for secure and borderless public sector data flows.

#### 2. A Fair and Competitive Digital Economy

This is primarily concerned with access to data, updating of competition law, tax law, intellectual property rights and workers' rights for the digital age. In addition, it will address issues of dominance of some players in the market in relation to data.

Key Actions include the following:

- A European data strategy
- An evaluation and review of the EU competition rules
- In the context of the DSA, ex ante rules to ensure fair practice amongst digital gatekeepers
- New EU Industrial Strategy
- A framework for convenient, competitive and secure Digital Finance
- A Communication on Business Taxation for the 21st Century
- New Consumer Agenda

### 3. An Open Democratic and Sustainable Society

This pillar concerns how digitalisation will impact society and the wider environment. To that end, the Commission intend to give citizens more control over their online lives and personal data. In addition, the Commission will address concerns relating to online safety and disinformation, and intend to make strides in terms of health data.

The Commission also examine the interplay between climate action and digitalisation, and how digitalisation can assist in reaching our climate targets, in addition to exploring how to make the ICT sector “greener” and more efficient.

Key Actions include the following:

- A Media Action Plan to stimulate the creation of quality content, stimulate media pluralism and journalistic freedom and improve access to content for consumers
- A Democracy Action Plan to improve the resilience of our democratic systems, support media pluralism and address the threats of external intervention in European elections.
- Revision of the eIDAS Regulation.
- Destination Earth to develop a high precision digital model of Earth to improve Europe’s environmental prediction and crisis management ability.
- A Circular electronics initiative.
- Initiatives to achieve carbon neutral data centres by 2030 and transparency for telecoms operators on their carbon footprint.

- The promotion of electronic health records based on common European exchange format and a European health data space,
- Harmonising the responsibility of digital services for their platforms (part of DSA).

## European Strategy for Data

Within the Digital Market Strategy, this initiative aims to enable the best possible use of data to benefit the economy and society. To do so, the Commission intends to unlock the re-use potential of different types of data and facilitate its free flow across borders to achieve a European digital single market.

This Strategy horizontally encompasses the entire data economy, covering issues of data governance, data availability, data sovereignty, data privacy and data protection. It recognises that without access to a volume of high quality data, the European digital sector will struggle to keep pace with competitors.

## A European approach to Artificial Intelligence

The European Commission has put forward a proposal relating to Artificial Intelligence which is based on three pillars:

1. Being ahead of technological developments and encouraging uptake by the public and private sectors:
  - The Commission is increasing its annual investments in AI by 70% under the research and innovation programme Horizon 2020. It will reach EUR 1.5 billion for the period 2018-2020.
  - This will need to be supplemented by extensive public and private investment in AI technologies. Joining forces at European level, the goal is to reach altogether, more than EUR 20 billion per year over the next decade.
2. Preparation for socio-economic changes brought about by AI
  - Focus on advanced digital skills and reskilling of workers
3. Ensuring an appropriate ethical and legal framework



## Cyber Security Strategy

The 2019 National Cyber Security Strategy follows on from Ireland's first National Cyber Security Strategy which was published in 2015. Published in December, the 2019 Strategy is a broader and more comprehensive document than the last one, and takes advantage of the operational experience gained by the National Cyber Security Centre from 2015 to 2019, and from ongoing national and international engagements in the area.

In preparation for the drafting of the 2019 National Cyber Security Strategy, a Cross Departmental Steering Group was established to discuss the way forward. This group had oversight of the public consultation process and the development of the Strategy itself. In addition, thematic engagement sessions were held with five stakeholder groups that had been identified as particularly relevant in terms of further informing the Public Consultation process. The stakeholder groups were in the areas of Public Sector ICT Security, Skills & Research, Critical Infrastructure, Enterprise Development, and National Security and Policing.

A Public Consultation process was undertaken and a number of contributions were received that served to inform the Strategy and ensure that awareness and best practice in cyber security and cyber hygiene are to the forefront of our thinking. The public consultation process was designed to elicit the views of the general public and also the views of those with an interest in the subject such as specialists in the field of Cyber Security.

The various components of the Public Consultation were designed to deliver a strategy document that not only meets the EU Network and Information Security Directive requirements in relation to a National Cyber Security Strategy but also fully comprehends the wider issues and opportunities associated with Cyber Security Strategies in general.

The vision behind the 2019 Strategy is 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. This involves:

- The protection of the State, its people, and its critical national infrastructure from threats in the cyber security realm.
- The development of the capacity of the State, of research institutions, of businesses and of the people, to both better understand and manage the nature of the challenges we face in this space.
- Engagement by the State, nationally and internationally, in a strategic manner, supporting a free, open, peaceful and secure cyber space.

The objectives of the Strategy are:

- To continue to improve the ability of the State to respond to and manage cyber security incidents, including those with a national security component
- To identify and protect critical national infrastructure by increasing its resilience to cyber-attack and by ensuring that operators of essential services have appropriate incident response plans in place to reduce and manage any disruption to services.
- To improve the resilience and security of public sector IT systems to better protect services that our people rely upon, and their data.
- To invest in educational initiatives to prepare the workforce for advanced IT and cybersecurity careers.
- To raise awareness of the responsibilities of businesses around securing their networks, devices and information and to drive research and development in cyber security in Ireland, including by facilitating investment in new technology.
- To continue to engage with international partners and international organisations to ensure that cyber space remains open, secure, unitary and free and able to facilitate economic and social development.
- To increase the general level of skills and awareness among private individuals around basic cyber hygiene practices and to support them in this by means of information and training

The objective behind the strategy process was to produce a broad based document with ownership from across Government and input from both general and specialist expertise in the subject. In addition, a focus of the new strategy was that that the competitive economic advantage that Ireland has in relation to the digital economy can be further developed and defended.

The final strategy set out 20 measures to be taken over its life, including significantly reinforcing the National Cyber Security Centre; the conduct of an in-depth risk assessment of critical national infrastructure (with the assistance of the Garda and Defence Forces) and the creation of a new set of security standards for 5G networks.

## 5G and Health

There has been an increased public focus on possible health impacts of 5G technology, including a number of County Councils passing motions opposing the rollout of 5G infrastructure. Concerns seem to relate to possible impacts from increased exposure to non-ionising radiation.

Irish policy in the area of non-ionising radiation is informed by a substantial volume of internationally recognised scientific research and evidence. International organisations such as the World Health Organisation assess that there is no established scientific evidence to support any adverse health effects to individuals below the exposure levels set by International Commission on Non-Ionising Radiation Protection (ICNIRP).

These levels are well above the maximum frequencies being considered for 5G, and ComReg the telecommunications regulator, ensures that operators holding spectrum licences comply with their licence conditions and do not exceed the emissions levels established by ICNIRP.

This is an area that is kept under review and the Environmental Protection Agency (EPA) monitor scientific, technical and other developments on these matters and advise the Department accordingly. The EPA is dedicated to providing current, factual and clear public information to alleviate unfounded fears and concern.

Industry (IBEC and the Telecommunications Industry Ireland group of IBEC) has expressed concern that ill-informed concerns and objections may pose a risk to investment and increase the digital divide.

The Department is working to develop a communications strategy, along with the EPA.

## Digital Hub Development Agency

The Digital Hub Development Agency (DHDA) was established in 2003 under the DHDA Act to develop Ireland's digital enterprise sector through the creation of a cluster of digital enterprises and to contribute to urban regeneration in the Dublin 8 area. The Digital Hub offers digital companies flexible property solutions (short-term leases etc.), facilities, and technology transfer with peer-to-peer collaboration within the wider digital sector.

The geographic area of the Digital Hub is defined in the DHDA Act. The DHDA property portfolio comprises a campus of circa 5.6 acres with a further 1.02 acres owned by the Office of Public Works (OPW). The DHDA's property portfolio consists primarily of protected structures, including vacant and derelict buildings which must be maintained pending their redevelopment. The DHDA has 10 occupied buildings of which 9 are in use for the purpose of the cluster. Over 50% of the campus has now been developed and the nine properties with circa 72,000 square feet of net lettable office space currently in use houses on average 70 companies.

In 2015, under the programme to rationalise State agencies, a proposal was approved for the transition of the DHDA into an independent company under the aegis of Dublin City Council (DCC). The legislative arrangements to provide for the dissolution of the Agency and the transfer of its functions and responsibilities to DCC were progressed in consultation with DHDA, DCC and other Government Departments and draft Heads of Bill were prepared.

Given developments since then (including developments in the digital ecosystem and in the wider economy, increases in the commercial value of the properties, and housing land availability in the Dublin area), the Department is undertaking a review of the policy underpinning the DHDA in order to inform policy as to its future, including whether there remains a gap that requires the DHDA to meet, and an assessment of the validity of the policy objectives for the Digital Hub.

The Department engaged consultants Grant Thornton in December 2019 to undertake the review. The review process is being overseen by a steering group chaired by the Department with representatives from the Department of Business Enterprise and Innovation; Enterprise Ireland; the CEO of the DHDA; Department of Public Expenditure and Reform; and the Grangegorman Development Agency.

The Steering Group has met with the consultants on a number of occasions. Work undertaken by the consultants to date includes stakeholder consultations, data and market analysis. It is expected that

a draft report will be presented to the Steering Group in June with a final report expected from the consultants at the end of June.

The outcome of the review will help inform decisions as to the future of the DHDA in terms of its functions, scale and responsibilities, in terms of the DHDA's property portfolio and the governance arrangements for the agency. It is anticipated that a memorandum to Government with the outcome of the review would be ready in Q3 2020 and, if relevant and necessary, would seek approval to change the extant 2015 Government Decision in relation to the dissolution of the DHDA.

## **Funding**

DHDA operates under the aegis of the Department and is currently funded through a mix of commercial income (rent) and Exchequer funding.

Funding for 2020 has been maintained at the same level as 2019 (€0.795m).

## **COVID-19**

The DHDA alerted the Department in April of the effect that the COVID-19 pandemic is having on its finances and in particular the effect on its capacity to generate commercial income. The Department will consider any request for additional emergency funding in the context of the recommendations arising from the review

## **Governance – Board**

Currently there are 11 board members, five of whom are women. The Minister has re-appointed Paul Holden to the board, with the consent of the Minister for Public Expenditure and Reform, and nominated him as Chairperson for two years with effect from 5 July 2020 or until such time as the DHDA ceases to exist in its current form, whichever is the earlier. Mr Holden was first appointed to the Board on 29 May 2012 and has been Chairperson since 20 January 2014.

## National Digital Research Centre (NDRC)

The NDRC operates in the pre-seed investment funding gap between entrepreneurs/researchers and the commercial investment sector and offers accelerator and pre-seed support for enterprises in the digital sector. While NDRC is similar in many respects to other accelerator programmes it has some distinctive characteristics: its support services are combined with pre-seed investment and its focus is on the digital sector. In summary:

- It offers accelerator services and invests in the development of promising science and technology ideas/projects to market-ready stage through its investment and support programmes, where angel or venture capital funds are ready to invest.
- It principally operates at the earliest stage of the investment cycle, namely in the pre-seed funding gap between entrepreneurs/researchers and the commercial investment sector.
- In a limited number of cases the NDRC also makes follow-on investment in certain ventures that emerge from these funding programmes.
- Its ultimate aim is to ensure that ventures progress on to the next stage of their organisational growth, while increasing the return to NDRC.

The domains that it targets include financial services; enterprise; health/eHealth; energy & environment; eCommerce; Internet; transport; agriculture; smart cities; media & content; education; entertainment; manufacturing & logistics.

It occupies for a nominal rent a building owned by the OPW in the Digital Hub campus.

### Funding

NDRC is not a public body but is funded and operates under a commercial orientation under a Concession Agreement with the Department.

The current Concession Agreement which provides funding of €3.5m per year to the NDRC expires on 31 August 2020 by which time the procurement process to select a new operator will be complete.

### NDRC and Regions

Although based in Dublin, NDRC also has a regional presence. In 2016, NDRC successfully applied to the Accelerator Development Scheme to deliver two Enterprise Ireland (EI) regional accelerators during 2017/2018 in Galway (PorterShed) and Waterford (ArcLabs). NDRC delivers the accelerator

programme on behalf of EI through a combination of its own people and external mentors, similar to current delivery methods. The regional accelerator at Galway is currently in the process of being wound down ahead of the expiry of the current concession agreement.

## **Strategic Review and Procurement Process**

In terms of the wider economic impact of NDRC, consultants engaged by the Department in 2017 to conduct a strategic review of NDRC concluded that the investment has been effective with an estimated net present value of the contribution of companies who participated in NDRC activities of the order of €906 million.

When account is taken of the opportunity costs of resources and additionality/deadweight, the review indicates economic benefit of €73.5 million - a net benefit to cost ratio of 1.3:1 given a total cost to the State of €55.25 million. This calculation excludes spillover benefits from any research undertaken by the supported businesses.

Other metrics of performance include (based on 2016 figures) 680 full-time jobs in Ireland, follow-on investment of €152m secured by NDRC-supported ventures, market capitalisation of NDRC supported companies of €427 million, and €1.5 million of revenues/capital gains to NDRC.

The recommendations arising from the Strategic Review were that:

1. the State continue with its support for start-ups in the digital sector;
2. NDRC has added value; and that
3. in its absence its role would not be met by the private sector

Based on the outcome of this review, it was decided in 2018 that the State would continue its support for start-ups involving the provision of accelerator supports and some limited pre-seed funding and that a procurement process to select an operator post June 2018 should be undertaken.

A Steering Group has been established to oversee the procurement process, chaired by the Department with representatives from the Department of Business, Enterprise and Innovation and Enterprise Ireland and with commercial and legal support from EY and the CSSO respectively. The procurement process is currently underway with final tenders received on 11 June. The Department expects to proceed to the dialogue stage very shortly and, subject to the outcome of the process, a new contract will be entered in July/August 2020.

## Emergency Call Answering System

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 establishes the location of the incident and confirms the emergency service being requested (Garda, fire, ambulance or Coast Guard and Air Traffic Control in emergencies involving aircraft). 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 does not make any decisions in relation to the mobilisation or deployment of Emergency Service resources.

ECAS is currently delivered from centres in Navan and Ballyshannon both of which take emergency calls from anywhere in the State.

BT Communications Ireland Limited (BTCIL) currently holds the contract to operate the service. The current contract is for a period of seven years effective from November 2018 and due to expire in November 2025.

## Call Volumes

In 2019, the ECAS handled just over 2.3 million calls. Approximately 40% of calls received were forwarded to the relevant emergency services; the remaining calls were not genuine emergency calls and were filtered. Filtering allows the emergency services to respond to genuine emergencies only.

## Call Handling Fee

Emergency calls are free of charge to callers on all telecommunications networks. The ECAS is funded through a Call Handling Fee (“CHF”) which is a fee payable by the telecommunications network operators and the telephone call service provider whenever a call is made to the ECAS. The Commission for Communications Regulation (ComReg) has the responsibility of reviewing the CHF annually and sets the amount of the CHF for the following year.

## Enhancements to the Service

A number of enhancements to the Emergency Call answering Service have been introduced in recent years.



## eCALL

eCall is a system that provides an automated message to the emergency services following a road crash, which includes the precise crash location. All new models of cars sold in the EU since April 2018 must have the facility. The in-vehicle eCall is an emergency call generated either manually by the vehicle occupants by pushing a button or automatically via activation of in-vehicle sensors after a crash. When activated, the in-vehicle eCall device will establish an emergency call carrying both voice and data directly to the nearest emergency services (the Emergency Call Answering Service in Ireland). The voice call enables vehicle occupants to communicate with the trained eCall operator. At the same time, a minimum set of data will be sent to the eCall operator receiving the voice call even in circumstances where no occupant is in a position to speak. The data transmitted contains information about the incident including time, precise location, vehicle type, and an indication whether the eCall has been manually or automatically triggered.

When an eCall carries a voice connection ECAS will transfer the call to the required emergency service. Where no voice is carried on the call, the eCall, along with the data is transferred to the National Ambulance Service.

## Advanced Mobile Location

Traditionally, when a mobile phone user called the emergency services and was unsure of, or unable to communicate, their location, the only information available to the emergency services was the approximate location of the mobile cell coverage area, or the location of the mobile mast they were using. In most cases this represents an area of several km<sup>2</sup> and in some cases this could be in excess of 100 km<sup>2</sup>. Advanced Mobile Location (AML) works by automatically finding a phone's GPS co-ordinates and sending a text message to the call centre when a 112 or 999 number is dialled. The co-ordinates are immediately passed to the emergency services in responding and dispatching emergency personnel to callers in need across Ireland. In most cases, this can be expected to be within 50 meters of the user's actual location where a GPS or Wi-Fi fix is established and in instances where a good GPS has been secured, within 10 meters and has already been of vital assistance to Emergency Services around the country, but particularly in rural areas. AML supplements the existing location information provided to the Emergency Services and does not replace it.

Advanced Mobile Location (AML), after a pilot period, was formally launched for emergency voice calls on Android phones in October 2017 and emergency SMS (texts) on Android since April 2019.

The use of AML has grown rapidly since its launch and over 50% of calls to ECAS from mobiles now have AML information. This has been welcomed by the emergency services. Work is underway, in conjunction with ComReg, ECAS and industry to facilitate the use of AML for visitors to Ireland with foreign-registered phones.

## **Future Enhancements**

Over the coming years, it is likely that new means of communications with the ECAS will be facilitated in the context of two EU Directives (European Electronic Communications Code and the European Accessibility Act). The services may include web-based text and communications from web services such as Skype or Messenger. An assessment of the technical and commercial viability of such services will be required before they are facilitated.

## Eircodes

The contract to develop, rollout and operate the National Postcode System under licence for an initial ten year period was awarded to Capita Business Services in October 2013. It is extendable at the discretion of the Minister for Communications by a further five years.

Over 35% of addresses in Ireland are non-unique (i.e. share the same address with one or more properties). This is significantly higher than any other OECD country, and poses challenges for service delivery, particularly in rural Ireland. Eircodes manage the challenges around locating addresses in Ireland as each Eircode is a unique postcode for residential and commercial properties.

Since the launch in of Eircodes in July 2015, their usage as part of an address continues to grow and is used widely among the public, businesses and public sector. This, in part, can be seen by use of the free Eircode Finder website. There have been over 62.8 million lookups on the Finder since launch in 2015, with 2.3 million lookups in April 2020 which is a 55% increase on the previous April. During 2018 there were over 18 million look-ups on the finder.

Independent research by Amárach in 2019 showed that 99% of the Irish public are aware of Eircodes, and 96% use them. Similar research by Amárach carried out in 2018 showed 96% awareness and 72% use of Eircodes. Research carried out in 2017 by Amárach showed 84% of respondents were able to supply a validated Eircode for their address. The survey was undertaken to determine, in year 4 of the Eircode program, that at least 70% of the general public knows the Eircode for their address, as part of the PMLH contract.

### Public Sector Implementation

Eircodes have been integrated and used by the large public sector bodies, including, DAFM, DEASP, DES and the HSE.

Shortly after the launch of Eircode, the National Ambulance Service (NAS) integrated Eircodes into their Computer Aided Dispatch system and actively encouraged people who are seeking an emergency ambulance to have their Eircode available to pass it onto the call taker. The NAS regularly advertise and remind the general public to use their Eircode. The NAS continue to install their ambulance vehicles with Digital Mobile Data Systems that allows responding crews to have the call details sent to their Mobile Data terminal (MDT) screens together with the Eircode and visual location data in map format to assist with ambulance arrival at the correct location. The MDT rollout of units installed in Ambulance vehicles is almost two thirds completed nationally. The inclusion of

Eircode in the text alert from NAS to the Cardiac First Responders removes any ambiguity about address location and allows the Cardiac First Responders to respond directly by the fastest route.

Other notable integration of Eircodes has been seen in online passport applications (DFA), national Census forms (CSO), student grant applications (SUSI), property marking and mobility Project (An Garda Síochána), the Journey Planner App (NTA), Waste Management (Sligo County Council), Customer Care Services (Waterford Councils), and the National Broadband Plan map (DCCAÉ).

HSE are incorporating Eircodes into a number of their key operational systems including Primary Care Reimbursement Service, Patient Administrative Systems and the Individual Health Identifier (IHI) system as part of the Government eHealth strategy. A checker is available on the HSE website to identify local health services using Eircode.

The National Data Infrastructure initiative, led by CSO, identifies Eircode as one of the three unique identifiers that make-up the core NDI (Eircode, PPSN and Unique Business Identifier) which supports delivery of the Public Service ICT Strategy key objective, Data as an Enabler and the Civil Service Renewal Plan.

Further to this, the Department of Public Expenditure and Reform in November 2017 advised public service bodies to ensure systems and processes which already include an address also include an Eircode, and existing databases with address fields are encoded with Eircodes.

## **Commercial Uptake**

There are 1302 business organisations and State Agencies who are licencing Eircodes within their business systems and operations across a wide spectrum of sectors, including logistics/deliveries, utilities, hotel, retail, telecommunications, insurance, financial, service engineers and property management. There are many more businesses using the free Eircode Finder in their day-to-day operations.

Capita have licensed 37 approved Eircode Providers who resell Eircode database and products incorporating Eircodes. Many of these Eircode Providers are SME's developing Eircode applications for use by businesses across a wide spectrum of business categories.

The five largest international Sat Nav providers have all integrated Eircodes within their products i.e. Google Maps, Microsoft (Bing/Nokia Maps), TomTom, HERE Navigation and Garmin.



## Eircode Usage in Response to COVID 19

### Public Awareness

Members of the public are using the Eircode Finder more since restrictions have been put in place, for online deliveries, completing online forms and giving directions. In April 2020 there were 2.3 million matched lookups on the free to use Eircode Finder online tool, the highest number of lookups since launch in 2015.

Social distancing has increased the demand on the delivery of goods and services. To assist with this effort Eircode increased the number of daily lookups during this time from 15 to 50 per day.

### Public Sector Implementation

The HSE initiative 'On Call for Ireland' collects Eircodes on their registration form for healthcare professionals from all disciplines who are not already working in the public health service to register to be on call for Ireland.

The Community Call coordinates community activity, directs community assistance to where it is needed, and marshals the volunteering energy of the country. Local authorities request Eircodes from people who call or email looking for assistance, in order for volunteers to be able to locate those in need of assistance, and request Eircodes from volunteers registering to help. These details will be used in a Covid-19 Volunteer Community Response dashboard used by DHPLG & Local Authorities.

An Post are using Eircodes when registering a request to call on a vulnerable person, their 'Request a Check In' service, where postmen and postwomen across the country will call to the front doors of older and vulnerable customers along their delivery route. Online registration collects addresses and Eircodes to confirm locations.

An Post has announced they would deliver newspapers free of charge to the elderly and vulnerable while they are cocooning during COVID 19. News Delivery, operated by the Irish Times, has

partnered with An Post to deliver this service and has an online registration form where a customer used their Eircode to sign up for daily, weekly, national and regional newspapers.