



An Coimisiún um
Rialáil Cumarsáide

Commission for
Communications Regulation



Electronic Communications Strategy Statement 2023 to 2025

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Electronic Communications Strategy Statement 2023 to 2025

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Foreword

There can be no doubt that in today's rapidly evolving technological landscape, electronic communications play a vital role in connecting individuals, businesses, and communities across Ireland. As the regulator for the communications sector, ComReg strives to ensure the electronic communications markets operate in the interest of all end-users – especially vulnerable users – and to incentivise efficient investment where competition may be insufficient.

This document sets out our high-level strategic intents for the electronic communication sector and our programme of work over the next two years. The Strategy reaffirms the vision, mission, and values we set out in Five-Year ECS Strategy 2021-2026, with an emphasis on the importance of connectivity, network security and the need for continued high-quality investment.

Connectivity is at the core of the telecommunications industry, and the widespread adoption of digital technologies has increased the demand for reliable and high-speed internet services. As such, the industry must continue to invest in infrastructure and technologies that enable seamless connectivity for all users, regardless of their location or device. Investments in new networks, technologies and solutions, are leading to greater choice for consumers and an overall improvement in service quality.

With advancements in technology, consumers are more empowered than ever before, and it is crucial that they are well-informed and protected from any potential harm. The telecommunications industry must take a proactive approach to consumer protection, ensuring that fair and transparent practices are in place to safeguard the interests of all users.

As the sector continues to evolve, it is imperative that the regulatory framework is not seen as a barrier to innovation but rather a necessary component that fosters trust and stability in the market.

An effective strategy is not created in a vacuum, and we would like to thank our stakeholders for their active engagement in the development of this Strategy. We look forward to continuing this dialogue and progressing our vision for the sector. The Irish electronic communications sector is at an exciting juncture, and there are many opportunities ahead. We look forward to working with all stakeholders as the sector evolves in the years to come.

Robert Mourik
Chairperson

Garrett Blaney
Commissioner



Executive Summary

Executive Summary

The electronic communications sector plays a vital role in supporting consumers and businesses to live, work and communicate as our society and economy adapts to the changing world around us. In 2022 Irish consumers spent over €3.5 billion in the communications market and consumed over 8 billion gigabytes of data as they availed of a range of products and services including home broadband and mobile phone services.

Electronic Communications Services ('ECS') and Electronic Communications Networks ('ECN'), together referred to as 'the ECS sector', play an important role in shaping our economy and in enabling the digital economy. The European Electronic Communications Code ('EECC' or 'the Code'), the regulatory framework for the sector and a pillar of the EU Digital Single Market initiative, sets out a number of regulatory powers and tools for regulating the ECS sector.

The Role of ComReg

The Commission for Communications Regulation ('ComReg') is the statutory body responsible for the regulation of the ECS sector (including telecommunications, radio communications, broadcasting transmission and premium rate services) and the postal sector in Ireland. We have a wide range of responsibilities in the sectors we regulate and operate under Irish and EU legislation in these areas.

While the role of regulation has changed over the last 20 years, the basic tenet of regulation remains the same – to **facilitate competition** principally through the regulation of network access where bottlenecks exist, to **protect consumers** and to **encourage innovation** in the sector. Our role therefore involves dealing with complex issues of law, economics, and technology, and ensuring that our decisions are timely, taken fairly and are clearly explained.

Our Strategy

Under the Communications Regulation Act 2002 (as amended), ComReg is obliged to publish a Strategy Statement document every two years. In 2021 we adopted a five-year perspective when developing our strategy for the period 2021-2026 ('**Five-Year ECS Strategy 2021-2026**'). This five-year time horizon allows us to focus on medium-term developments and innovations that will shape the role of regulation in the future.

Our Five-Year ECS Strategy outlined our Vision, Role, Mission and Strategic priorities, including our Goals, for the period 2021-2026.

This document, our ECS Strategy Statement for 2023-2025, acts as a mid-term review of our Five-Year ECS Strategy, setting out the various projects and programmes of work that we will undertake to implement the final two years of our Five-Year ECS Strategy.

Our vision for the communications sector for the next five years

Our vision is of a communications sector where consumers and businesses in Ireland have affordable, high-quality, and widespread access to secure communications services and applications that support their social and economic needs.

Our role and mission

Both our role and our mission set out the contribution that ComReg makes toward achieving our vision for the communications sector. As an economic regulator, our role is to **ensure that communications markets operate in the interests of end-users and society**. Ensuring a well-regulated market is one of the most important tools in working towards our vision of the communications sector.

Our mission is therefore that **through effective and relevant regulation, we facilitate the development of a competitive communications sector in Ireland that attracts investment, encourages innovation, and empowers consumers to choose and use communications services with confidence.**

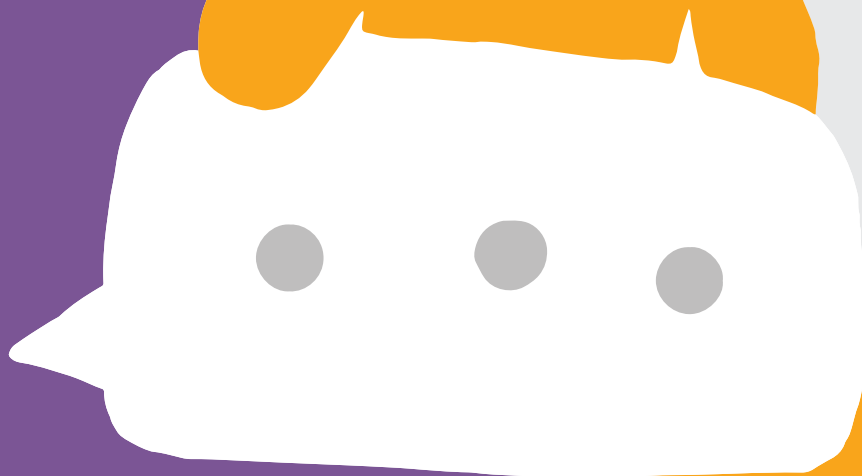
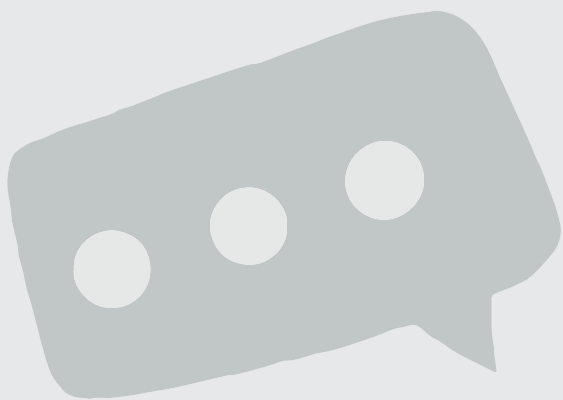
Context

As set out in our Five-Year ECS Strategy 2021-2026, there are a number of global and macroeconomic trends that are likely to continue to shape the wider economy, industry, and consumer behaviour over the coming decade. These include economic uncertainty, digitalisation and sustainability. In addition, ComReg identified that there are a number of relevant sectoral trends that will shape the sector over the coming decade.

ComReg's Strategic Intent

The tools available to us to deliver our role and mission derive from our regulatory powers. We have developed a statement of strategic intent, and goals that support the strategic intent for the each of the following areas:

- **Competition & Investment:** the electronic communications sector in Ireland is a competitive sector that delivers efficient investment, innovation, and choice.
- **Consumer Protection:** consumers can choose and use electronic communications services with confidence.
- **Connectivity & Network Resilience:** end-users have widespread access to high-quality and secure communications networks, services, and applications.
- **Compliance and Enforcement:** regulated entities comply with regulatory requirements.
- **ComReg's Organisation:** we are an effective, agile, and relevant regulator.



1

Introduction

1. Introduction

- 1.1** Electronic communications services ('ECS') – such as broadband, mobile, and the fixed (home) telephone services – impact our lives in new ways every day. They have become central to everything we do and how we do it. Innovation, new technologies and digital services have transformed our social and economic lives. From how we stay in contact with friends and family, how we consume our entertainment, work or conduct our business, to how we interact with public services (e.g. education and health), there is virtually no part of our lives that is not potentially affected by our ability to connect digitally.
- 1.2** Over the last decade operators have invested heavily in ECS and electronic communications networks ('ECN'). Today the vast majority of people in Ireland can access a Very High-Capacity Network ('VHCN') capable of delivering a broadband service greater than 500Mbps¹. Continued investment will deliver near ubiquitous fixed VHCN coverage. Additional investment in mobile and wireless network coverage will also provide greater access to 5G services across the country.
- 1.4** The economic characteristics of the various retail and wholesale ECS markets are fundamental to the dynamics in the overall sector. For example, the commercial nature of private investment may mean that high-quality ECNs are only rolled out in certain areas (e.g. urban areas) while in other areas (e.g. rural areas) the quality of basic networks may not be maintained where costs are higher.
- 1.5** These economic characteristics and market failures impede the ability of the competitive process to yield welfare optimal outcomes. The objective of economic regulation in the ECS sector is to attempt to correct or compensate for market failures through the appropriate interventions. Many of ComReg's statutory functions and legal powers map back to an underlying market failure.
- 1.6** ComReg uses its various legal powers to regulate the activities and behaviours of relevant industry players operating in Ireland. These industry players include service providers offering wholesale and/or retail services in the ECS sector.⁴

Our Operating Environment

- 1.3** Established on 1 December 2002, the Commission for Communications Regulation (ComReg) is the statutory body responsible for the regulation of the ECS sector² and the postal sector in Ireland. We have a wide range of responsibilities in the sectors we regulate and operate under Irish and European Union ('EU') legislation in these areas. This Strategy Statement relates to the regulation of ECN and ECS³.
- 1.7** There are a number of other key groups, organisations and bodies who play a role in the development of the ECS sector in Ireland, including:
- 'End-Users', including Consumer and Business users of retail ECN / ECS.
 - ECN / ECS Service Providers and Investors in the Irish market.
 - Representative Groups, including consumer and industry groups.

1 For the purposes of this document, VHCN refers to networks that offer download speeds in excess of 500Mbps.

2 Including telecommunications, radiocommunications and broadcast transmission services.

3 This Strategy Statement relates to the regulation of ECN and ECS. ComReg publishes a separate Postal Strategy Statement every two years.

4 ComReg maintains an electronic register of 'Authorised Undertakings' and 'Premium Rate Service' providers on its website.

- Government, the Department of Environment, Climate and Communications ('**DECC**'), other public bodies, and regulators of other sectors.
- The Competition and Consumer Protection Commission ('**CCPC**') and other economic regulators through the Economic Regulators Network ('**ERN**')⁵.
- Agencies and Bodies of the EU, including the European Commission and Body of European Regulators for Electronic Communications ('**BEREC**').
- Other international bodies, such as the European Conference of Postal and Telecommunications Administrations ('**CEPT**') and the International Telecommunications Union ('**ITU**').

1.8 In preparing this Strategy, ComReg has been mindful of the various behaviours, policies, plans, agendas, and proposals of these stakeholders, including:

- Consumer behaviour regarding the adoption, selection and use of ECS, ECN and related technologies and services.
- Investment plans and proposals published by Industry.
- Relevant plans, proposals, policies, and strategies put forward by Government and strategies/policies put forward by other public bodies.
- Plans, Consultations, Best Practice Guidance and Common Opinions put forward by EU bodies and agencies, other international bodies and agencies, and economic regulators in other sectors.

Our Role and Mission

1.9 As an economic regulator, our role is to ensure that communications markets operate in the interests of end-users and society.

1.10 Our mission is that through effective and relevant regulation, we facilitate the development of a competitive communications sector in Ireland that attracts investment, encourages innovation, and empowers consumers to choose and use communications services with confidence.

1.11 In order to be effective as an economic regulator, it is important that stakeholders have confidence in our ability to discharge our functions independently and based on quality evidence and analysis, that we are not biased towards any market participant and that we do not suffer from so-called "regulatory capture". Our values enable stakeholders to have this confidence.

ComReg's Values

- **Integrity**
- **Impartiality**
- **Effectiveness**
- **Transparency**

⁵ The Economic Regulators Network is composed of the Competition and Consumer Protection Commission ('CCPC'), Commission for Regulation of Utilities ('CRU'), Coimisiún na Meán ('CnaM'), Central Bank of Ireland, National Transport Authority ('NTA') and ComReg.

ComReg's Role and Mission

ComReg's role is to ensure that communications markets operate in the interests of end-users and society.

Through effective and relevant regulation, we facilitate the development of a competitive communications sector in Ireland that attracts investment, encourages innovation, and empowers consumers to choose and use communications services with confidence.

Our Vision for the communications sector

Consumers and businesses in Ireland have affordable high-quality, and widespread access to secure communications services and applications that support their social and economic needs.

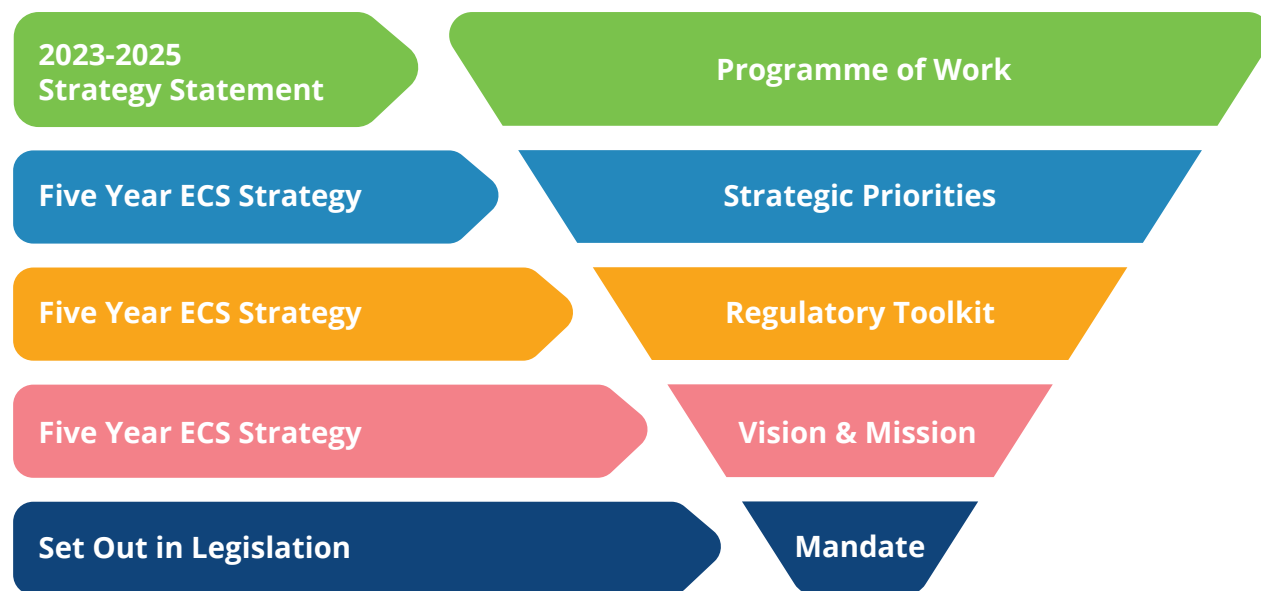
Our Vision

- 1.12** At the beginning of this decade, it would have been difficult to predict the scale of the transformation of the sector, as well as the impact that global challenges - such as the Covid-19 pandemic and the war in Ukraine - would have on the communications sector. Similarly, looking to 2030, it is impossible to foresee all of the technological and social innovations that will shape the way we live and work.
- 1.13** We have adopted a vision for the communications sector. Our vision - where consumers and businesses have affordable, high-quality, and widespread access to secure communications services and applications that support their social and economic needs - cannot be achieved in isolation; we recognize that a combination of Government policy interventions, regulatory interventions, and industry actions will be required. However, we believe that our strategy should be guided by a vision of the outcome which we aim to help to bring about.

Our Strategy

- 1.14** ComReg's Strategy has been informed by its understanding of the key trends and challenges facing the sector over the period 2021-2026, the changing regulatory context and legal framework, and our engagement with key stakeholders. ComReg decided to adopt a five-year perspective when developing this electronic communications strategy for the period 2021-2026, allowing focus on medium-term developments and innovations shaping the role of regulation in the future. Under the Communications Regulation Act 2002 (as amended), we are obliged to publish a Strategy Statement document every two years. This document acts as our Electronic Communications Strategy Statement for 2023-2025 and incorporates a mid-term review of our **Five-Year ECS Strategy** set out in 2021. This structure is graphically represented in Figure 1 below.

Figure 1: ComReg's Five Year ECS Strategy



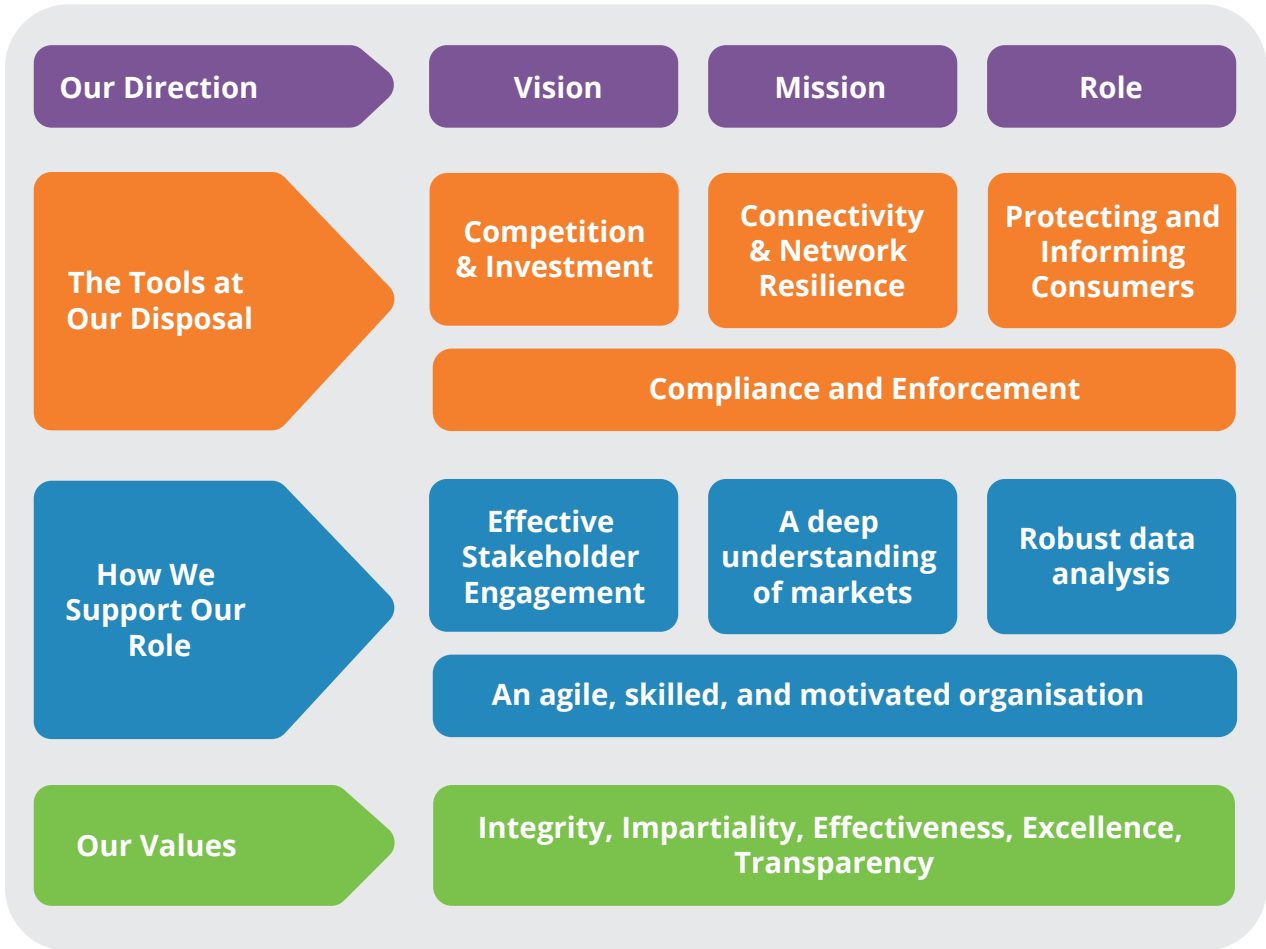
1.15 The tools available to ComReg to deliver on its mandate and vision for the sector derive from its regulatory powers. These can be summarised into four main categories: **promoting effective competition, facilitating investment, protecting consumers, ensuring widespread connectivity, and ensuring that regulated entities comply with the rules.**

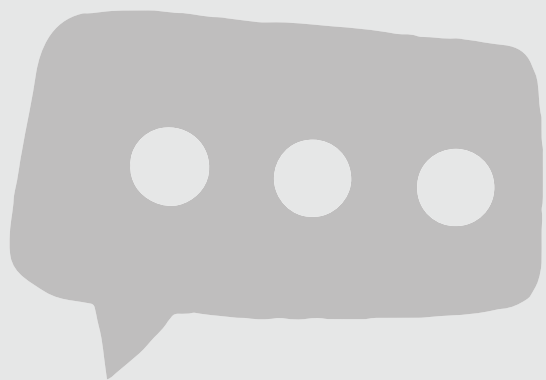
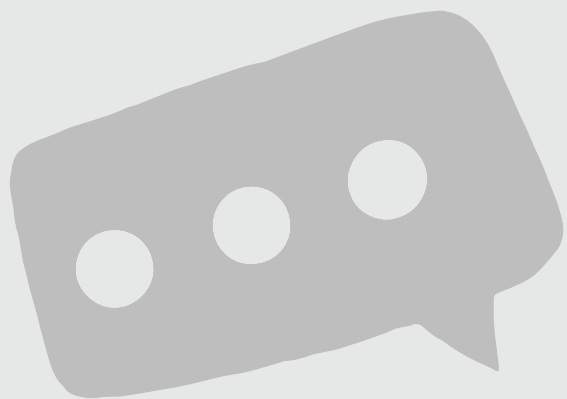
Our ability to use these tools depends on the skills and resources of our organisation. For each of these areas, we have developed a statement of strategic intent, and goals that support the strategic intent (set out in Table 1 below). The relationship between the tools at our disposal and our role and mission is captured in our strategic framework which is illustrated in Figure 2 below.

Table 1 – ComReg's Strategic Intentions

ComReg's Strategic Intentions	
SI 1: Competition & Investment	A competitive sector that delivers efficient investment, innovation, and choice
SI 2: Consumer Protection	Consumers can choose and use electronic communications services with confidence
SI 3: Connectivity & Network Resilience	End-Users have widespread access to high-quality and secure communications networks, services, and applications
SI 4: Compliance & Enforcement	Regulated entities comply with regulatory requirements
SI 5: Organisation	We are an effective, agile, and relevant regulator

Figure 2: ComReg’s Strategic Framework





2

The Context of our Strategy

2. The Context of our Strategy

- 2.1** This chapter provides an overview of the economic and legal context within which ComReg prepared its Five-Year ECS Strategy, along with an overview of the various trends and challenges that will impact the sector and the nature of regulation over the period covered by this Strategy. A complete analysis of the context and trends is set out in the Appendix document (ComReg Doc 23/34a).

Economic Context

- 2.2** The electronic communications sector is affected by developments in the wider economy. The Covid-19 pandemic rapidly accelerated digitalisation and increased the use and reliance on ECS and ECN across sectors. Since then, geopolitical events and high levels of inflation have made the medium-term outlook for the Irish economy uncertain. The small, open nature of Ireland's economy also means that other international developments and the development of the global economy can significantly impact our economy.
- 2.3** Therefore, current economic uncertainty, rising interest rates and higher inflation globally may impact the Irish ECS sector and its consumers, for example through higher prices, and also if investment plans are affected. The economic characteristics of ECS markets are fundamental to the dynamics in the sector. Analysis of these characteristics can be found in ComReg document 21/70.

Legal Context

- 2.4** ComReg's remit and powers allow it to intervene in various ECS markets (as appropriate) to help ensure that these markets operate efficiently, in the interests of society and end-users. While the fundamental rationale for regulation remains unchanged, the scope of the regulatory remit and the legal framework continues to evolve alongside these markets and technologies.
- 2.5** For further detail on the Irish and EU legislation that governs ComReg's activities, visit [comreg.ie/about/legislation](https://www.comreg.ie/about/legislation)

The European Electronic Communications Code

- 2.6** On 17 December 2018, the European Parliament adopted the European Electronic Communications Code Directive⁶ (the '**EECC**' or '**the Code**'), which provides a new legislative framework for ECS markets. The EECC has four stated objectives - promoting competition; contributing to the development of the internal market; promoting the interests of EU citizens; and promoting the widespread access to, and take-up of VHCN - both fixed and wireless.
- 2.7** The emphasis on connectivity in the EECC is reflected in ComReg's strategy and broadly aligns with ComReg's vision for the sector: that consumers and businesses in Ireland have affordable, high-quality, and widespread access to secure communications services and applications that support their social and economic needs.

⁶ Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code.

2.8 Transposition of the Code in Ireland is being completed by way of both primary legislation and secondary legislation, specifically the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 (enacted on 2 March 2023) and the European Union (European Electronic Communications Code) Regulations 2022 (S.I. No. 444 of 2022) (published 12 September 2022).¹³ Both these pieces of legislation are expected to be commenced on the same date, together with three supporting statutory instruments (which are currently in development) that are required for the proper functioning of the principal legislation.

Trends and Challenges

2.9 The development of the electronic communications sector is shaped by different social, economic, legislative, and technological forces. Some of these forces have a positive impact on markets, acting as catalysts for the advancement of technology and digital inclusion, while others present challenges. In ComReg document 21/70 (ECS Strategy Statement for 2021-2023), ComReg identified a number of principle trends that are likely to shape the sector and pose regulatory challenges over the period covered by this Strategy. These trends include:

- Connectivity, Network Rollout & New Technologies.
- Consumer Experience.
- The Evolution of Adjacent and Related Markets
- The Future of Regulation in the Sector

2.10 These trends are summarised below and discussed in more detail in the Appendix document (ComReg Doc 23/34a).

Connectivity, Network rollout and New Technologies

2.11 The deployment of high-speed ECN is playing an increasingly important role across the country over the period covered by this Strategy, enabling innovation and further digitalisation across different sectors of Irish society.

2.12 Between 2016 and 2021, commercial network operators invested over €3.9 billion in expanding the reach of their fixed and mobile networks,⁷ centred around the roll-out of fibre network technologies and expanding coverage of 5G networks. Despite these advances, commercial realities mean that rollout may not occur in sparsely populated rural areas. The Irish Government, through state-aid intervention via National Broadband Ireland ('NBI'), is investing in FTTH broadband access for premises in these sparsely populated rural areas. In addition, it is expected over the period of this strategy that the switch off of legacy networks, such as the fixed copper network and 3G mobile networks, will advance as high-speed ECN get rolled out.

2.13 In addition to ensuring coverage and reliability, a key consideration regarding future networks and connectivity will be improving security and reliance. Network security depends not only on technical security features, but also on the design, implementation, and operation of the network.

⁷ Eurostat

The Consumer Experience

2.14 The development of networks and the adoption of new technologies have enabled people to connect in new ways. Consumers' reliance on ECN and ECS to carry out various social and economic-related activities accelerated with the growth of remote working and greater use of video-calling applications.

Online activities (including remote working) are also becoming more important for enterprise, and digital services such as e-Government, e-learning, and cloud storage are becoming increasingly popular.⁸

2.15 However, the pattern of network rollout across the country, as well as varying levels of technology adoption across demographics, means that consumer experiences in the sector are not uniform. In addition to differing levels of connectivity between urban and rural areas, the use and take-up of ECN / ECS also varies across demographic groups. These factors, among many others, influence consumers' access to telecom goods and services as well as consumers' confidence to choose and use these services.

2.16 ComReg has a role to protect consumers' rights and to prevent operators from exploiting consumers in the ECS markets. ComReg closely monitors the experience of consumers, including the experience of consumers who engage with their service provider to sign-up for services, raise queries or resolve complaints. This work informs our overall view of the consumer experience, as well as providing context to this ECS Strategy Statement.

The Evolution of Adjacent and Related Markets

2.17 As markets relevant to the regulation of ECN / ECS evolve, the lines between them blur and change the industry's structure and competitive landscape. Due to these changing dynamics, effective regulation will require an understanding of the complex eco-system of related markets and the role of electronic communications as an enabler of innovation in these markets. As such, ComReg monitors developments in the wider value chain, i.e., input markets, complementary markets, and downstream markets.

The Changing Future of Regulation in the Sector

2.18 The final key trend relates to the range of developments in regulation that will arise during the period covered by this strategy statement. Several legislative changes and developments are anticipated to take place over the coming years that will likely impact ComReg's role and mandate, concerning the following areas:

- ComReg's consumer protection mandate
- Cybersecurity strategy for the digital decade
- Broadband cost reduction
- Privacy and electronic communications
- Market surveillance

2.19 The EC has set out a number of initiatives related to the ECS sector. New rules concerning the digital economy aim to better protect consumers online and to foster innovation, growth and competitiveness in the European single market. The EC has also emphasised the importance of an environmentally sustainable digital sector and will consider measures to improve the circular economy performance of the digital sector as well as its energy efficiency.⁹

⁸ Central Statistics Office, (2019), Information Society Statistics – Household

⁹ Communication from The Commission to The European Parliament, The European Council, The Council, The European Economic and Social Committee and The Committee of The Regions. The European Green Deal COM/2019/640 Final



3

**Competition &
Investment**

3. Competition and Investment

Introduction

3.1 ComReg’s first high-level strategic intent is that the electronic communications sector in Ireland is a **competitive sector that delivers efficient investment, innovation, and choice**. This chapter sets out the goals associated with this strategic intent.

3.2 ComReg’s regulatory actions play a key role in continuing to facilitate competition and in encouraging efficient investment across Ireland (see Figure 3 below). ComReg’s guiding principle here is that when markets are effectively competitive, consumers and society benefit from optimal outcomes in terms of investment, price, quality and choice.

Figure 3: Regulation enables Competition and Investment



3.3 The tools that ComReg has at its disposal to promote effective competition and facilitate investment include: setting the regulated cost of capital for electronic communications and broadcasting markets, sending appropriate build-or-buy signals to encourage deeper network competition, as well as the allocation and assignment of spectrum and numbering resources.

3.4 To date, ComReg’s decisions have created and maintained a competitive incentive for operators to invest in new networks and to upgrade existing ones. However, the ECS sector is continuing to evolve, which means that regulating this market is a dynamic process. ComReg is meeting this challenge through continuous monitoring, updating and adjustment of its approach. The scope of such regulation should reduce over the long term as sustainable competition becomes entrenched.

Strategic Intent 1:

A competitive sector that delivers efficient investment, innovation, and choice.

What does this look like?

- There is clear evidence of:
 - Sustainable competition over time
 - Innovation in electronic communications and in related markets, and
 - Consumers exercising choice
- Infrastructure coverage that enables all end-users to participate in the digital society
- Wholesale ECN / ECS that meet market demand
- Regulatory certainty allows for efficient investment
- A sector that is attractive to investors

Fixed and Mobile Markets

3.5 Ireland's retail ECS markets are national in nature with multiple Service Providers offering a range of ECS that are often bundled with services sold in adjacent related markets (e.g. TV broadcasting).

3.6 The degree of competition in the retail ECS markets depends primarily on the nature of competition in the upstream wholesale markets that underpin the retail ECS sector. The upstream wholesale market itself depends on the ability of operators to deploy and sustain competing networks. While the level of network competition is changing as new technologies are deployed, the geographic scope of network competition is likely to be limited to more densely populated areas over the next five years. Population density is the key driver of average network deployment costs; in denser areas it is more economical to deploy networks with the cost per premises/person covered being lower than in less densely populated areas.

ECN / ECS and the competitive landscape of Ireland

3.7 As noted above, the more densely populated regions of Ireland have benefited from investment in networks driven by competitive forces, resulting in these areas being well-served by ECN. In some of these well-served areas, competitive forces may be strong enough such that *ex-ante* regulatory intervention is no longer required.

3.8 Outside of these competitive areas, there will likely remain a need for *ex-ante* regulation as lower population densities and higher network deployment costs mean that competitive forces are not as strong. In these areas, regulation ensures that the incumbent operator maintains its network to an adequate standard and grants wholesale access to other service providers.

3.9 In those areas of Ireland that are either remote or that have a very low population density, some ECN / ECS services are still not available. Of particular note are the c.560,000 premises identified in the National Broadband Plan ('NBP') that did not have access to a quality broadband service (with download speeds greater than 30Mbps). The Irish Government, through state-aid intervention via NBI, is investing in providing 'FTTH' broadband access for these (primarily rural) premises that will provide broadband services with speeds in excess of 500Mbps.

3.10 Mobile and wireless network operators have also typically focussed network rollout in areas of greater population density and then later expanded network coverage along transport infrastructure routes and into more sparsely populated areas, although not as quickly nor with the same density as in more populous areas.

3.11 Developments in related markets are also important. Investment and innovation are expected to come not only from traditional ECN / ECS operators in fixed and mobile markets, but also from other operators, including Number Independent Interpersonal Communications Services ("NIICS"), more commonly known as Over The Top ("OTT") service providers¹⁰. Innovations in other markets (e.g. digital markets and mobile handset markets) can also often lead to changes in the competitive dynamics of the sector.

Competition on fixed networks

3.12 Competition involving fixed networks can be thought of as a continuum between service-based competition and infrastructure-based competition¹¹. Pure service-based competition is where entrant operators utilise or resell the network of another operator to supply their own services, without making infrastructure investments of their own. Pure infrastructure-based competition is when operators rely entirely on their own infrastructure and not on inputs supplied by other operators. In practice, the majority of operators are somewhere in between, using a mix of their own infrastructure and rental access to others' networks. In addition, some operators will decide to only offer services on a wholesale basis to other operators, and not to enter into retail markets at all.

3.13 Over the last decade or so, Eircom has been upgrading its legacy copper network with fibre technology. Initially these upgrades were largely fibre to the cabinet ('FTTC') technology but increasingly Eircom has been deploying FTTH over both its legacy copper and FTTC networks. Eircom's fibre network (FTTC and FTTH) now passes about 2 million premises, serving approximately 840,000 subscribers¹².

3.14 Eircom is facing increasing infrastructure competition from a number of other operators across parts of Ireland:

- Virgin Media's network passes 965,000 premises with 382,600 broadband subscribers in mainly urban areas (Q4 2022). Its network is mainly a Data Over Cable Service Interface Specification ('DOCSIS') network which, in 2020, was upgraded to DOCSIS 3.1, allowing it to deliver speeds on par with FTTH networks. In late 2021 Virgin Media also began upgrading its DOCSIS network with FTTH^{14F}. Virgin Media is in the process of entering the wholesale market and opening up its network to other operators¹³.

¹⁰ In this document, where ComReg refers to OTT service providers, this includes Number Independent Interpersonal Communications Services ("NIICS")

¹¹ In many cases, an operator may use a variety of wholesale products in different areas to provide national coverage. This could include rolling out their own network assets in one area (e.g. FTTH), investing in network backhaul to avail of wholesale unbundled products (e.g. Virtual Unbundled Access) in another area, and buying wholesale bitstream products in another part of the country. In addition, some operators decide to offer only wholesale services, or business-only services (e.g. connections with dedicated capacity).

¹² Eircom Group Results for the third quarter FY22 to 30 September 2022

¹³ Liberty Global Full Year 2022 Results

- SIRO is continuing to deploy its FTTH network which has now passed about 475,000 premises and counting. SIRO's network covers smaller urban areas that are mostly outside of the Virgin Media footprint¹⁴.
- NBI is committed to deploying FTTH to pass 560,000 premises in rural areas with poor ECN coverage. To date NBI has passed c.120,000 premises¹⁵.

3.15 Eircom also faces competition from BT, Vodafone, Sky, and a variety of other players (including fixed wireless operators) who have made varying levels of infrastructure investment, in large part due to the availability of wholesale access products mandated through Significant Market Power ('SMP') regulation.

3.16 By Q4 2022, 89.3% of all fixed broadband subscriptions were at least 30Mbps, by sold download speed¹⁶. On the basis of the proposed NBI rollout and the various rollout plan announcements, it is possible that the vast majority of households and businesses in Ireland will have access to high-speed broadband by the end of 2026 (30Mbps or greater download speeds).

Competition on mobile networks

3.17 There are three main sources of competition in the retail mobile market, as set out in Table 2 below.

Table 2 – Competition in the Retail Mobile Market¹⁷

	Mobile Network Operators (MNOs)	Mobile Virtual Network Operators (MVNOs)	MNO Sub-Brands
Operator/brand	Eircom Three Ireland Vodafone Ireland	Lycamobile Post Mobile Tesco Mobile Ireland Virgin Mobile	Gomo (Eircom) 48 Mobile (Three Ireland) Clear Mobile (Vodafone)
Competition type	Network-level competition: each operator obtains spectrum rights and builds a mobile network to provide services.	Service-based competition: MVNOs purchasing capacity from an MNO, instead of building their own mobile access network (base station transmitter, antenna and associated backhaul)	A sub-brand is typically part of a commercial strategy pursued by an MNO to address and serve segments that cannot be reached with the MNO's main brand.

¹⁴ <https://siro.ie/>. Accessed on 15th March 2022

¹⁵ NBI.ie Accessed on 15th March 2022

¹⁶ ComReg QKDR Q4 2022,

¹⁷ Cubic Telecom is headquartered in Ireland, but does not operate as an MVNO in Ireland, and relies instead on roaming agreements for its Irish connectivity

3.18 Network sharing arrangements between two or more network operators are also a factor when considering network-level competition. The main potential benefit for mobile operators from network sharing is the reduction of cost¹⁸ and more efficient use of spectrum. On the downside, there may be a risk of a diminution of competition if operators lose control over some network operations and strategic technology choices.

3.19 The rollout of 5G services in Ireland is well underway with the mobile operators having launched their 5G services between 2019 and 2021. Although 72% of all households in Ireland are covered by a 5G network, rural areas have yet to see significant 5G deployments with 35% of rural households covered by a 5G network¹⁹. The capacity and coverage of 5G networks will improve as spectrum in the Multi Band Spectrum Award 2 ('**MBSA2**') is released²⁰. On the 19 January 2023 ComReg completed MBSA2 and issued Liberalised Use Licences to each of the four Winning Bidders (Eircom, Imagine, Three and Vodafone). Each of these licences came into effect on 20 January 2023 and will expire on 13 February 2042. Completion of the MBSA2 award has released 470 MHz of harmonised spectrum rights in the 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz Bands. This represents a 46% increase in the harmonised spectrum assigned for the provision of wireless broadband services. The release of the 700 MHz band in particular is likely to improve both urban and rural 5G coverage.

3.20 In addition, the investments made in mobile networks, to date, have allowed mobile voice and data networks (such as 4G) to be rolled out to areas currently underserved by fixed networks. All MNOs now claim to have at least 98% 4G population coverage. While Ireland ranks above average among EU Member States in terms of 4G population coverage,²¹ there are still geographic areas unserved by 4G networks, primarily due to these areas not being economically viable to serve.

The state of competition in retail markets

3.21 Figure 4 below shows the level of market concentration in retail fixed broadband, fixed voice, and mobile markets (excluding mobile broadband and M2M). The graph uses the Herfindahl-Hirschman Index ('**HHI**')²². The higher the market's concentration (suggestive of weaker competition), the higher the HHI.

18 Communities can also be favourable to sharing arrangements as it can reduce the number of cell-sites required to provide service or they get access to connectivity sooner due to reduced network deployment costs for the operators.

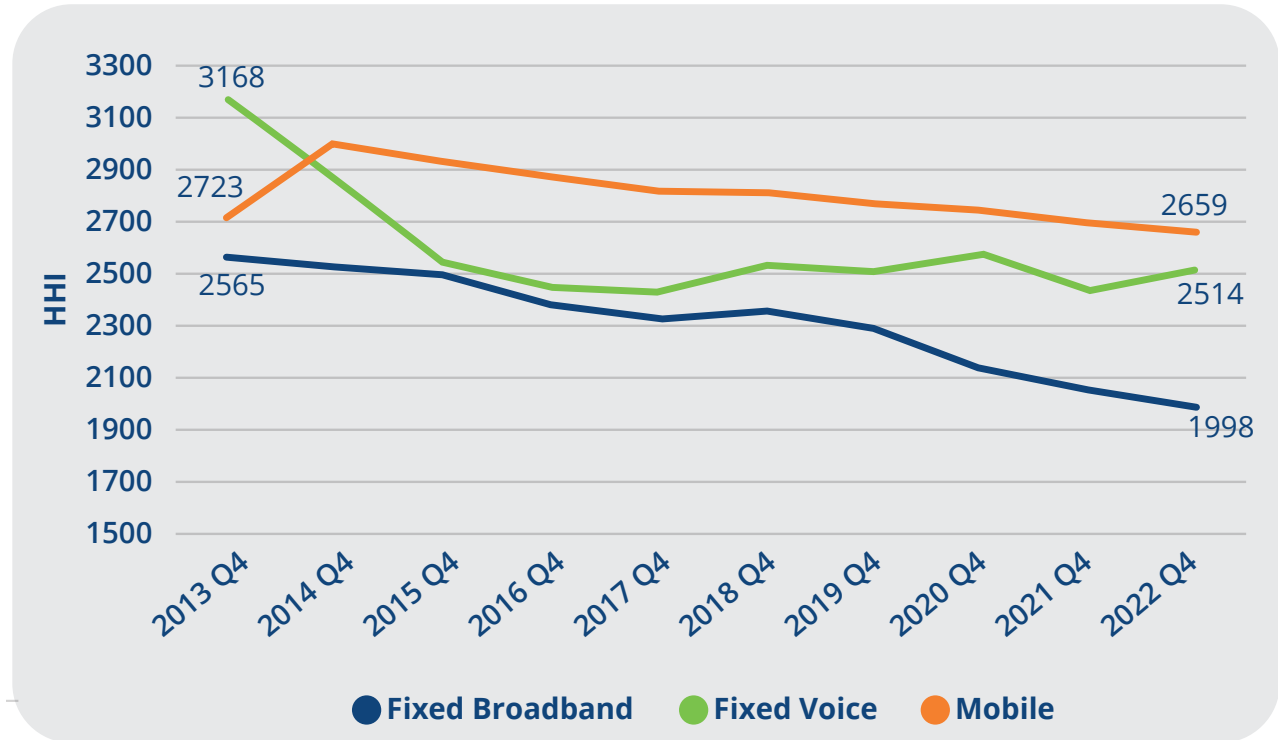
19 DESI <https://digital-agenda-data.eu>, 2022 data

20 For complete details of this award please see ComReg's website: <https://www.comreg.ie/industry/radio-spectrum/spectrum-awards/proposed-multi-band-spectrum-award/>

21 DESI - Connectivity

22 This is a common measure of market concentration used to analyse market structure. It is calculated by squaring the market share of each firm competing in a market and summing the resulting numbers. The higher the number the more concentrated the market, with a pure monopoly having a HHI of 10,000. A market split exactly five ways would have a HHI of 2,000

Figure 4: Retail Concentration (HHI), 2013 – 2022²³



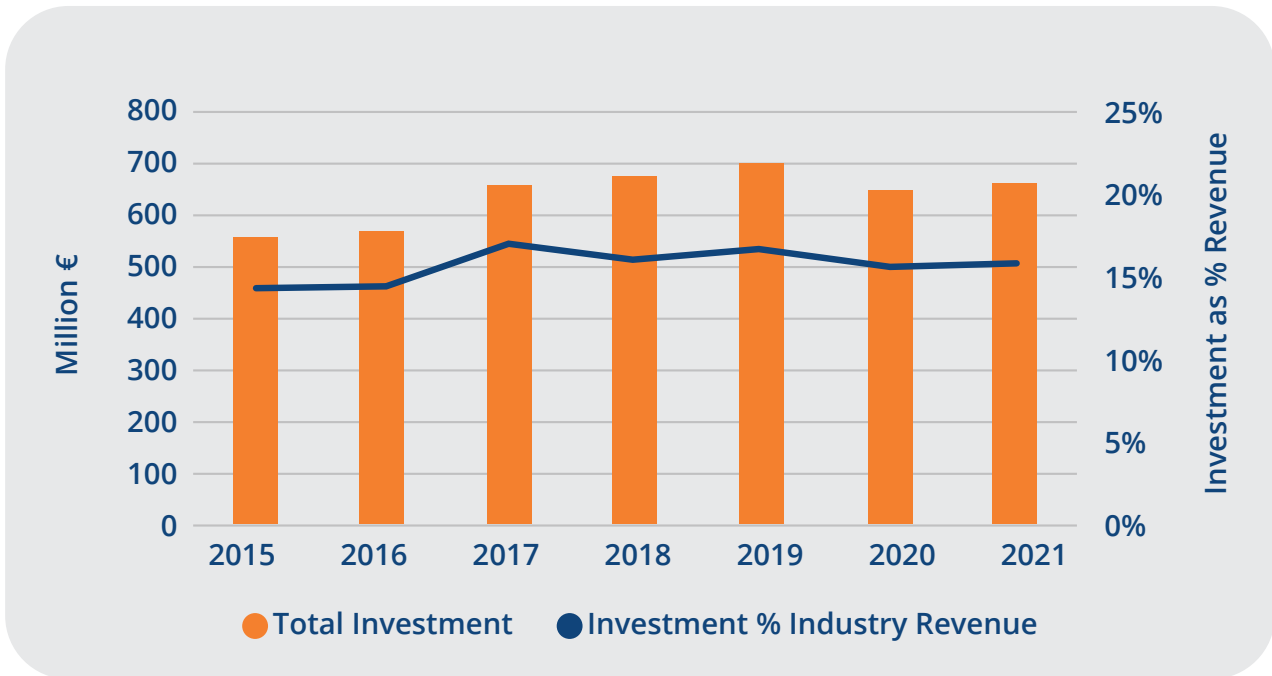
3.22 In the broadband market, the continued decline in retail market concentration is indicative of increased retail competition as increasing levels of infrastructure-based competition take hold. The fixed voice market has also seen a decline in retail market concentration since 2013, however, this trend does not appear to have continued up to 2022. The Irish mobile market has been a three MNO market since the merger of Hutchison 3G and Telefónica O2 in 2014. Although a number of MVNOs and sub-brands provide additional competitive pressure, this market remains the most heavily concentrated market within the sector.

Investment in ECN / ECS

3.23 Private investment in the sector increased over the period 2015 to 2021, totalling €4.5 billion (see Figure 5 below). The trend depicts steady or slightly increasing investment as a percentage of overall industry revenue, averaging approximately 16% over the period.

²³ ComReg QKDR Q4 2022,

Figure 5: Investment in ECN / ECS (Ireland, € million)²⁴



Competition & Investment

Retail Competition

3.24 ComReg’s goal regarding retail competition is that there should be effective and sustainable competition in retail ECS markets.

Goal 1.1

There is effective and sustainable competition in retail ECS markets.

3.25 ComReg’s approach to the regulation of retail ECS markets continues to be the imposition of upstream wholesale access obligations, where one or more downstream retail markets are unlikely to become effectively and sustainably competitive without some regulatory intervention.

3.26 Through ComReg’s use of regulatory tools which identify and address market failures, Ireland has seen a steady decline in regulation of retail ECS markets over the last decade.

3.27 ComReg considers it important to monitor the effectiveness of competition not only in the regulated markets themselves, but also in other related markets within the wider ECN / ECS eco-system. By doing so ComReg can build an understanding of why markets may not be working well for end-users. This allows ComReg to target regulatory interventions across the breadth of its functions.

3.28 ComReg has a number of projects underway/planned that will enable a better understanding of markets in the wider ECN/ ECS eco-system. These include:

- Monitoring retail ECS and relevant OTT Markets** – ComReg will continue to monitor developments in retail ECS markets and relevant OTT markets to ensure these markets operate effectively and meet consumer needs

24 Eurostat and ComReg Quarterly Key Data Report

- **Monitoring key related/adjacent Markets** – ComReg will continue to monitor key related/adjacent markets as these have the potential to have disruptive effects on ECS markets.
- **Monitor the evolution of network demand** - ComReg will continue to monitor how network demand evolves as new technologies, new networks and new use cases (for both consumers and enterprise) emerge.

Wholesale Markets and Access Regulation

3.29 Wholesale access markets can be subject to a variety of market failures. These market failures can produce persistent bottlenecks and barriers to entry which can undermine effective retail competition and dampen incentives to investments in ECS/ECN. Therefore, ComReg's goal in the context of wholesale market regulation is that **there is effective and sustainable competition as far as is possible in wholesale markets, in the light of persistent bottlenecks and barriers to entry.**

Goal 1.2

There is effective and sustainable competition as far as is possible in wholesale markets, in the light of persistent bottlenecks and barriers to entry.

3.30 One key market failure that is of particular importance is when an operator might possess Significant Market Power, i.e., the ability to operate without constraint from competitors. When left unchecked, SMP can lead to high prices, poor quality of service, delayed or loss of investment/innovation or the slower entry or expansion of competitors in ECS markets.

3.31 ComReg has a number of regulatory tools at its disposal to address market failures and other issues that may arise in wholesale markets, to ensure these markets deliver innovation and choice to consumers. These tools include:

- Access obligations via the SMP Framework,
- Ex-Post Competition Law, and
- Provisions in the EEC to encourage efficient investment

3.32 The above toolkit is complemented by ComReg's other tools used to enhance connectivity and its various consumer protection, dispute resolution, and enforcement powers.

3.33 ComReg's objectives are to impose regulation only in those markets where competition is not likely to be effective, and to address competition concerns at the most upstream level possible. This typically involves regulation aimed at addressing issues at the wholesale rather than the retail level.

Access Regulation – the SMP Framework

3.34 Where an operator is identified as having SMP, ComReg may impose a range of regulatory obligations, including those relating to access, pricing, non-discrimination, and transparency.

3.35 Where SMP regulation is implemented, ComReg focuses on imposing obligations that encourage both infrastructure and service-based competition by enabling new entrants and smaller operators to compete on a level playing field with the SMP operator. ComReg's favours greater infrastructure-based competition as this enables the development of more effective and sustainable competition and greater levels of investment in ECS/ECN.

-
- 3.36** ComReg is required to undertake a review of various regulated markets every five years. ComReg plans to continue to monitor the various markets set out in Table 3 below and to undertake market reviews where necessary. In addition, ComReg can bring forward a formal market analysis in the case of a significant change - such as merger or acquisition that could fundamentally alter the nature of competition in relevant wholesale and downstream markets. Market analysis in these cases would seek to re-assess competition and look for any potential market failures.
- 3.37** As noted in Table 3 below, ComReg has not previously conducted a review of the market for Physical Infrastructure Access ('**PIA**') in its own right, mandating instead access to Eircom's duct and poles as a remedy for Wholesale Local Access ('**WLA**'). In 2023 ComReg expects to complete its review of the market for PIA.
- 3.38** PIA is the most upstream market that could potentially be regulated and therefore this may afford the possibility of further de-regulation downstream. The use of PIA by other operators provides a high degree of control over their product features and technology choices, for example, in comparison to the use of virtual unbundling. This has the potential to increase the dynamism of competitive forces. The use of PIA by other operators provides a high degree of control over their product features and technology choices when compared to other solutions such as the use of virtual unbundling. This has the potential to increase the dynamism of competitive forces.

Table 3: Completed/Proposed Market Reviews

Market	Current Review	Indicative Review Completion Date
Retail Access to the Public Telephone Network at a Fixed Location and Wholesale Fixed Access and Call Origination (RFTS and FACO markets)	Last reviewed 2014/2015	2022
<p>In February 2022, ComReg further consulted on a proposal to fully de-regulate the retail access market and the wholesale market.²⁵ This culminated with a June 2022 decision (D05/22) to fully de-regulate these markets.</p>		
Fixed and Mobile Termination	2019 (updated in 2020)	2023
<p>The review of Fixed and Mobile Termination markets is ongoing, with ComReg publishing a consultation in Q4 2022 (ComReg doc 22/87) in which it proposed to remove regulation from these markets. In February 2023, ComReg notified its draft decision to the EC (ComReg doc 23/17) with the EC having no comments on this. A final decision was adopted and published in April 2023 (ComReg doc 23/33).</p>		
Physical Infrastructure Access (PIA)	-	2023
<p>The review of the PIA market is ongoing, with ComReg publishing a consultation in January 2023 (ComReg doc 23/04) in which it proposed to regulate this market. A final decision on this review will be adopted at least in parallel with the WLA and WCA markets in Q4 2023.</p>		
Wholesale Local Access and Wholesale Central Access (WLA and WCA)	2018	2023
<p>In line with the commitment given in its 2018 Decision, in January 2021 ComReg consulted on a proposed further de-regulation of the WCA market. A final decision was adopted in November 2021 (D10/21). A full market review of the WLA and WCA markets is underway, with ComReg publishing a consultation in January 2023 (ComReg doc 23/03) in which it proposed to fully de-regulate the WCA market and partially regulate the WLA market. A final decision will be adopted 2023 in parallel with the PIA review above.</p>		
Wholesale High Quality Access and Dedicated Capacity (WHQA/DC)	2020	2025
<p>ComReg is continuing to collect data, as part of its ongoing monitoring of this market. This should enable a timely review of this market as part of the next market review 5-year cycle. A consultation on this market review is expected in Q4 2023.</p>		
Wholesale Broadcasting transmission and distribution services	2021	2026
<p>In February 2021 ComReg updated its 2013 decision on the Broadcasting Transmission Services markets (ComReg doc 21/14), which continues to regulate RTÉ / 2RN. ComReg will continue to monitor developments in these markets, including the evolution of retail broadcasting</p>		

²⁵ This followed an earlier consultation in June 2020 and a subsequent draft decision notified to the European Commission in June 2021. The European Commission issued a withdrawal decision with respect to ComReg's June 2021 draft decision.

3.39 ComReg also intends to explore the opportunities afforded by various new regulatory provisions set out in the EECC in an Irish context, as a complement to the SMP framework. These include:

- **Symmetric Access Obligations (Article 61 of the EECC)** - Obligations to provide ‘symmetric’ access to local facilities to avoid ‘inefficient’ duplication of network assets. ComReg may impose access to wiring, cables, and associated facilities inside buildings or up to the first concentration or distribution point.
- **Wholesale-only operators (Article 80 of the EECC)** – To date no wholesale-only operator has been found to have SMP in a regulated wholesale market in Ireland. However, such operators are a key consideration in assessing SMP in various wholesale markets.

Timely withdrawal of regulation

3.40 ComReg will seek to withdraw wholesale regulation where it has either delivered effective competition in downstream retail markets or where effective competition has developed in wholesale markets. ComReg’s goal in this regard is that **sustainable and effective competition can allow for the timely withdrawal of regulation.**

Goal 1.3

Sustainable and effective competition can allow for the timely withdrawal of regulation.

3.41 While the withdrawal of regulation from retail and downstream markets is desirable, this process depends on the effectiveness of regulation in upstream markets. ComReg has recently imposed proportionate remedies in wholesale markets which we believe will

increase the likelihood of this occurring. ComReg has also deregulated some wholesale markets²⁶ where sustainable and effective competition can be found.

3.42 The EECC provides that ComReg should remove regulation in a way that minimises disruption and must ensure that regulation does not continue for longer than necessary.

3.43 ComReg intends to continue to monitor regulated markets to ensure remedies are effective in addressing market failures and where possible to remove regulations where no longer necessary.

Investment and Regulatory Certainty

3.44 ComReg recognises that unregulated ECN / ECS may not provide the right incentives for investment. ComReg will therefore continue to employ measures aimed at driving and safeguarding the competitive market process.

3.45 ComReg’s role is to facilitate innovation by creating a stable investment environment and predictable regulatory regime, ensuring industry can develop and grow new products and services.

3.46 Therefore, the first of ComReg’s two goals regarding investment and regulatory certainty is that competitive incentives facilitate efficient commercial investment in new and existing infrastructure and services to the widest extent possible.

²⁶ ComReg deregulated the Urban WCA Market in 2018 (D10/18) and 2021 (D10/21), the Zone B MI WHQA Market in 2020 (D03/20), and the RFTS and FACO markets in June 2022

Goal 1.4

Competitive incentives facilitate efficient commercial investment in existing and new infrastructure and services to the widest extent possible.

- 3.47** As newer fixed (e.g. fibre) and mobile (e.g. 5G) networks get rolled out, other older ECN and technologies will diminish in their use and importance, eventually leading to their eventual retirement and withdrawal.
- 3.48** In general, ComReg prefers infrastructure-based competition, based on inter-platform competition as well as access-based competition at the deepest level possible. At all times, ComReg's pricing decisions aim to strike a balance between the following:
- Encouraging investment in VHCN by the network operators. It is important that regulated access prices are not set so low that investment that would otherwise be commercially viable is choked off;
 - Encouraging viable investment in own infrastructure by those who purchase access from other networks, particularly those who use regulated access to Eircom's network;
 - Ensuring that regulated prices reflect efficient practice and that excessive recovery by the SMP operator does not happen;
 - Ensuring that wholesale prices do not lead to price squeezes;
 - Wholesale prices do not lead to excessive end user prices; and
 - Wholesale prices ensure a timely and efficient migration to new infrastructure over time.
- 3.49** It is also important that there is reasonable certainty about the trajectory of prices for all players, as far as possible. Insofar as existing price controls are concerned, where there are prices directed as part of the price control (including maximum prices), such prices will remain in place for the duration of the price control period, unless ComReg intervenes where there are material changes or exceptional circumstances.
- 3.50** ComReg will continue to analyse the relevant competitive conditions and monitor the costs associated with Eircom's FTTH network while noting that a review of the wholesale pricing of Eircom's FTTH network will be well flagged in advance with industry and that the imposition of cost-orientated pricing is not inevitable. Setting the most appropriate investment signals, especially the appropriate build or buy signals, will continue to be a critical part of ComReg's regulatory pricing policy.
- 3.51** ComReg will continue to encourage investment at the deepest level of the network that makes economic sense. In this regard, ComReg considers that there is an opportunity to encourage investment using regulated access to already existing passive infrastructure such as ducts and poles (PIA). This will require the provision of functional and efficient access to passive infrastructure at prices that set the appropriate incentives for all players.
- 3.52** ComReg will also monitor access by NBI to Eircom's physical infrastructure to help contribute to the successful and timely rollout of the NBP. Where additional investment is required to achieve desired market outcomes, beyond what would be delivered in an effectively competitive market, such investment should be undertaken in a manner which creates minimal market distortions and does not crowd out commercial investment.

3.53 Creating the conditions for investment is as much about regulatory certainty as it is about shaping operator financial incentives. ComReg still expects that significant amounts of investment will occur in fixed and mobile networks as operators seek to rollout new networks and services to consumers. Making such large commercial investments depends at least in part on an expected rate of return and expected price level.

3.54 In many regulated ECS markets, ComReg imposes price control obligations, including the obligation to charge cost-oriented wholesale prices. Setting such a cost-oriented wholesale price includes a reasonable rate of return on investment and an estimated Weighted Average Cost of Capital ('WACC'). ComReg ensures that the regulated WACC is set at a level that is appropriate to promote efficient and timely investments and promotes innovation in ECN / ECS and broadcasting transmission infrastructure and services in Ireland.

3.55 Therefore, ComReg's second of its two goals regarding investment and regulatory certainty is to ensure that **regulatory certainty, including certainty on wholesale pricing and the rate of return, facilitates timely investment decisions**. In particular, the choice of wholesale pricing regime and cost recovery should be appropriate to the circumstances and should consider the need to promote efficiency and effective competition and maximise consumer benefits.

3.56 In the context of these two goals regarding investment and regulatory certainty, ComReg intends to do the following:

- **Pricing Signals:** Wholesale prices imposed by ComReg in regulated markets act as pricing signals to the SMP operator and other operators seeking to invest in ECN / ECS. Effective pricing signals should encourage an operator to invest efficiently and migrate away from legacy infrastructure.

Goal 1.5

Regulatory certainty, including certainty on wholesale pricing and the rate of return, facilitates timely investment decisions.

- **Reasonable Rate of Return:** ComReg will also encourage investments by other operators in downstream markets by mandating and enforcing appropriate access to inputs controlled by the SMP operator on fair, transparent and non-discriminatory terms. In order to encourage investments by the SMP operator, including in next generation networks, ComReg shall take into account the investment made by the operator, and allow a reasonable rate of return on adequate capital employed.
- **Cost of Capital:** ComReg updated the WACC applicable to Fixed & Mobile Telecommunications and Broadcasting in June 2022²⁷. ComReg will recalculate the WACC on an annual basis using updated parameters. The recalculated WACC values will then be used when price controls are amended or updated as part of any subsequent ComReg decision. Where prices have been previously set by ComReg (including in the form of maximum prices), for a defined future period, a subsequent change in the WACC will not automatically lead to any change in those prices.

Legacy Networks

3.57 The EECC's Connectivity objective aims to foster investments in VHCN across the EU. ComReg recognises that to deliver widespread VHCN, it may be necessary for network operators to migrate away from legacy networks over time.

- 3.58 ComReg is supportive of VHCN network rollout and the transition from legacy networks. ComReg recognises that VHCN networks have several benefits over non-VHCN and legacy networks, including faster download speeds, network reliability and lower energy consumption.
- 3.59 In March 2021, Eircom published what it termed a ‘white paper’ on transitioning away from its legacy copper network to a VHCN network based on Eircom’s FTTP network. ComReg considers that such a transition has the potential to deliver high-quality and reliable connectivity to end-users across the country who are currently using Eircom’s copper and FTTC networks.
- 3.60 ComReg notes that while the migration away from legacy networks is ultimately the responsibility of the industry, it will require an eircom-led Industry programme overseen by ComReg in order to ensure an efficiently managed transition as well as protection of competition and end-users (including vulnerable end-users) at all stages of the process.
- 3.61 In May 2021, ComReg set out its view²⁸ on its role overseeing the transition of regulated services to new VHCN and the related impact on regulated services and competition generally. ComReg set out that its approach to these issues will also be guided by the relevant regulations including the provisions of the EECC (transposed in Q1 2023 and awaiting a commencement order) regarding the decommissioning or replacement process for legacy networks (Article 81 and Regulation 63). This includes that the transition must happen in a predictable and transparent manner for all stakeholders, with adequate notice periods. The EECC requires ComReg to ensure that migrations from legacy copper networks subject to SMP obligations carry transparent timetables and conditions, and that end-users can continue to access broadband and telephony products.
- 3.62 ComReg issued a public consultation document on 25 March 2022. Consideration of the responses received from Industry stakeholders and individual respondents is ongoing with a notification to the European Commission under Article 32 of the EECC, planned in Q2 2023 followed by a Decision thereafter.
- 3.63 In the meantime, existing regulatory obligations imposed on Eircom (e.g. Universal Service Obligation (**‘USO’**) and obligations not to withdraw services) remain in place. ComReg’s current understanding from Eircom is that the transition from the copper network will begin in the next five years.

Spectrum and Numbering

- 3.64 Radio spectrum is a scarce resource having a diverse range of uses and end-users. It is an essential input in the supply of wireless/ radio-based ECN / ECS as most ECN, even fixed networks, contain at least some wireless segments. Therefore, the availability of spectrum is necessary for the entry and expansion of many operators in the electronic communications markets. The growing demand for radio spectrum is driven by society’s ever-increasing use of data-intensive services while on the move and away from the office and home.
- 3.65 Likewise, access to numbers is essential to the functioning of electronic communications markets. As a finite national resource, ComReg seeks to ensure that there is always an adequate supply of numbers to support the demands of existing and new customers and service providers. In this context it is ComReg’s goal that **the management of spectrum and numbers facilitates competition, enhances connectivity, and promotes efficient investment.**

Spectrum

- 3.66** Spectrum management²⁹ is the process of regulating the use of radio frequencies to promote their efficient use in the interests of society.
- 3.67** The principal activities associated with spectrum management are; spectrum **allocation**³⁰ and **assignment**³¹ as well as the monitoring, compliance and enforcement of licence conditions and equipment standards. In relation to the assignment of spectrum rights for ECN / ECS, ComReg determines the appropriate approach on a case-by-case basis. When carrying out these activities, ComReg considers administrative, regulatory, social, economic, and technical factors amongst others.
- 3.68** The international harmonisation process for radio spectrum is a key driver of investment as it facilitates economies of scale in the manufacture of radio equipment. It is a key factor in determining the technology roadmaps adopted by global suppliers of radio equipment. Harmonisation activities focus on advancing the use of radio spectrum.

Goal 1.6

The management of spectrum and numbers facilitates competition, enhances connectivity and promotes efficient investment.

- 3.69** The international harmonisation process involves many aspects which includes the harmonisation of technology standards in organisations such as ETSI 3GPP, and the harmonisation of radio spectrum allocations and technical conditions in organisations such as the International Telecommunications Union ('ITU'), BEREC, Radio Spectrum Policy Group ('RSPG') and Conference of European Post and Telecommunications Administrations ('CEPT').
- 3.70** ComReg, together with DECC, plays an active role in international forums to ensure that, as far as possible, decisions relating to the international radio spectrum regulatory framework accommodate Ireland's specific requirements. Participation in the international harmonisation process assists ComReg in actively considering and acting upon relevant developments in the exercise of its spectrum management functions in Ireland.
- 3.71** In respect of international harmonisation, the 39th World Radiocommunication Conference (WRC) is scheduled to take place in Q4 2023. The agenda for WRC-23 sets the roadmap for important future technological developments and contains nineteen specific and eleven standing agenda items.
- 3.72** Led by DECC, Irish preparations for WRC-23 are underway and ComReg is actively engaged to meet the objectives and goals that will be established in the national preparatory process. The following are the major agenda items of interest to Ireland at WRC-23:
- Mobile Broadband and Broadcasting;
 - Mobile Broadband Communications;
 - Aeronautical Communications;
 - Satellite Communications; and
 - Scientific Use of Spectrum.

²⁹ See ComReg's Spectrum Management Strategy for 2022 to 2024 (Document 21/136)

³⁰ Spectrum **allocation** refers to the designation of given frequency bands for use by one or more types of radiocommunications services, where appropriate, under specified conditions. Radiocommunication services are defined by the international radio regulations

³¹ Spectrum **assignment** refers to those spectrum management activities which involve the issue, and authorising the use of, rights of use for radio frequencies.

3.73 There are several priority spectrum projects that ComReg is committed to, that will take place in the coming period, including fixed links and satellites services:

- **Fixed Links:** Following an extensive consultation³² to review the current Fixed Links licensing regime, ComReg issued its draft decision and draft regulations in November 2022.³³ Following finalisation of the decision and the publication of a new Statutory Instrument, ComReg will implement the changes brought on by the decision over a three-year period.
- **Satellites:** There has been a resurgence of interest in using constellations of small satellite in low earth orbits (LEOs) to provide internet access. To ensure that Ireland has an appropriate legislative framework ComReg will consult on the authorisation of satellite earth stations below 3 GHz as well as review the current licence regime for satellite earth stations in Ireland.

3.74 The following two matters are developing and are likely to be resolved or well underway during the period of this strategy:

- **Private local-area network connectivity:** The EC have initiated a study through the CEPT to assess the use of the 3.8 – 4.2 GHz frequency band for the licensing of ‘private local networks’ and to develop harmonised technical conditions for the shared use of this band. ComReg has received several enquiries related to private networks and intends to monitor and input to the development of any draft EC and ECC harmonising decisions on the use of this band.
- **The UHF broadcast band:** At WRC-23 a review of the UHF broadcast band (470-960 MHz) will consider the spectrum requirements of the broadcasting, mobile services and a number of other services that use this band³⁴. ComReg has taken a leading role in facilitating this discussion in the CEPT and in determining the CEPT position at WRC-23

3.75 ComReg operates Test & Trial Ireland³⁵ to encourage innovation and development involving new radio technologies or services. Two licence types are available, one covering technology tests and the other covering service trials involving third parties or the public. Both licences are intended to support genuinely novel research and development activities and are not intended for the commercial delivery of electronic communication services. A glance at the list of previously issued Test and Trial licences³⁶ will reveal some of the users of these licences and the innovative technologies and services tested or trialed in Ireland.

Numbering

3.76 ComReg is responsible for managing the National Numbering Scheme, including attaching conditions for rights of use of numbers. ComReg’s role is to balance the need to conserve this finite national resource while ensuring that there is always an adequate supply of numbers to support the demands of new and existing customers and service providers. Any new conditions of use that support competition and innovation need to ensure that consumers remain protected against number misuse.

3.77 Numbers are likely to remain the most common universal identifiers until at least 2026 and likely well beyond this date. Numbers are coordinated at national level by National Regulatory Authorities, (NRAs) and at international level by the ITU.

32 ComReg Document 20/109

33 ComReg document 22/93 - Review of the Fixed Radio Links Licensing Regime - Response to Consultation and Draft Decision including Draft Regulations – published 9 November 2022.

34 Allocations made in the band 470-960 MHz for Region 1 include fixed, radiolocation, land mobile ancillary to broadcasting and programme-making, radio astronomy, aeronautical radionavigation and mobile-satellite except aeronautical mobile-satellite (R)

35 See <https://www.testandtrial.ie/>

36 See <https://www.comreg.ie/industry/radio-spectrum/licensing/search-licence-type/wireless-test-trial/>

3.78 Improvements to the Non-Geographic Numbering (NGN) platform were completed in January 2022, when three number ranges (1850, 1890 and 076 numbers) ceased to operate. Only the Freephone 1800 and Standard Rate 0818 NGN products now remain. A noteworthy element of the new wholesale regime is the 92% reduction in mobile origination charges for mobile calls to 1800 Freephone. Together, these improvements ensure that Ireland now has a fit for purpose and easy to understand NGN platform, and a competitive market for the provision of NGN services.

3.79 Related to the above goal, ComReg will undertake the following activities:

- **Further updates of the Numbering Conditions of Use:** ComReg updates the Numbering Conditions of Use every 2-3 years, to take account of legislative changes, new technologies and market developments. Updates completed in July 2021³⁷ included an in-depth analysis of numbers for cloud communications platforms. This analysis was supported by market research that demonstrated that the overwhelming majority (circa 90%) of consumers favour the assignment of geographic (landline) numbers only to businesses and individuals with premises within the area code. The 2021 update also factored new and amended numbering obligations in the EECC. ComReg will consult on further updates during 2023, with the main objectives of i) supporting the Nuisance Communications Industry Taskforce ('**NCIT**') (see Section 5.7) interventions to mitigate nuisance communications (scam calls and texts) and ii) introducing new complementary preventative measures to improve Calling Line Identification ('**CLI**') data and to improve operators' 'Know Your Customer' ('**KYC**') processes for assigning numbers.

- **Implement ComReg's published strategy for promoting over-the-air (OTA) provisioning:**

The EECC requires Member States to promote over-the-air ('**OTA**') provisioning to facilitate provider switching. OTA provisioning relies on 'embedded' SIM ('**eSIM**') technology. In June 2022, ComReg published its response to consultation and final strategy³⁸, which sets out a work programme for mobile operators in Ireland. The strategy calls for fully digital customer sign-up and switching between operators by the end of 2023, with consumers potentially being able to switch between operators in 5 minutes or less.

ComReg will engage with operators throughout 2023 to ensure that the full benefits of OTA provisioning and eSIM technology are delivered. For example, OTA and eSIM include the ability for consumers to download temporary local profiles when they are roaming abroad. This is particularly important when roaming beyond the EU, where Roam Like at Home (**RLAH**) obligations do not apply, and consumers often face large bills on their return home. Such temporary local profiles could ensure that consumers can benefit from more reasonable locally applicable tariffs (as evidenced by the recent launch of GoMoWorld).

37 ComReg Document 21/75

38 ComReg Document 22/48A <https://www.comreg.ie/publication/comreg-strategy-to-promote-over-the-air-provisioning-2>



4

**Consumer
Protection**

4. Consumer Protection

Introduction

4.1 Well-functioning markets should maximise benefits for consumers.³⁹ However, markets do not always deliver optimal outcomes for consumers. Market failures such as information asymmetries can sometimes prevent consumers from making fully informed choices. Issues may also arise when service providers do not uphold consumers' rights or provide inadequate complaints and redress mechanisms to assist consumers.

4.2 ComReg's consumer role is to protect and inform consumers so that harms are overcome, and they can choose and use communications services with confidence. Our role also includes consideration of a Universal Service for the ECS sector to ensure consumers have access to certain fixed ECS at an affordable price. Finally, we have a role in consumer redress, complaint handling and Alternative Dispute Resolution ('ADR').

Strategic Intent 2:

Consumers can choose and use communications services with confidence.

What does this look like?

- Consumers have easy access to the information they need
- Consumers have a choice of service providers but there is at least one provider available for basic (universal) services
- Vulnerable and Disabled end-users are protected
- The sign-up process is transparent and simple yet secure
- Consumers can switch without service disruption, inappropriate penalties or notice periods
- Consumers get the service they sign up for
- Consumers understand their bill and are billed correctly
- Consumers have timely access to customer care and redress

³⁹ ComReg's consumer role and associated protections, in certain cases, applies to small enterprises or microenterprises, not for profit organisations as well as consumers. Where this chapter uses the term consumer(s), it may also mean other end-users.

- 4.3** This chapter sets out the range of consumer protection measures and information channels/tools we will be using over the coming period to address consumer harms and to ensure consumers can choose and use communications services with confidence. This chapter also sets out our strategic goals associated with protecting and informing consumers with the high-level objective of ensuring that **consumers can choose and use communications services with confidence.**

Consumer Harm

- 4.4** ComReg's consumer role is to protect and inform consumers so that harms are overcome, and they can choose and use communications services with confidence. In this context, our goal is that ComReg identifies and understands consumer harms. ComReg has several ways of identifying potential and actual consumer harms which need to be addressed using its regulatory toolkit, including:
- Consumer queries and complaints;
 - Market Research;
 - Advisory Panels and Engagement; and
 - Information Gathering, Compliance Monitoring and Investigations.

Consumer queries and complaints

- 4.5** Significant numbers of consumers continue to experience issues when availing of ECN / ECS and Premium Rate Services ('**PRS**'). Our analysis of contacts to our Consumer Line highlights some notable trends⁴⁰. Figure 6 shows the relative volumes of queries and complaints received over the past 5 years. Figure 7 shows the relative breakdown of ECN / ECS complaints by complaint type. Billing, contractual and service issues are the main ECN / ECS issues raised by consumers.

Goal 2.1

ComReg identifies and understands consumer harms.

⁴⁰ ComReg reports consumer line statistics on a quarterly basis. Available at: www.comreg.ie/publications/

Figure 6: Breakdown of Issues Logged (Queries/Complaints), 2017 - 2022⁴¹

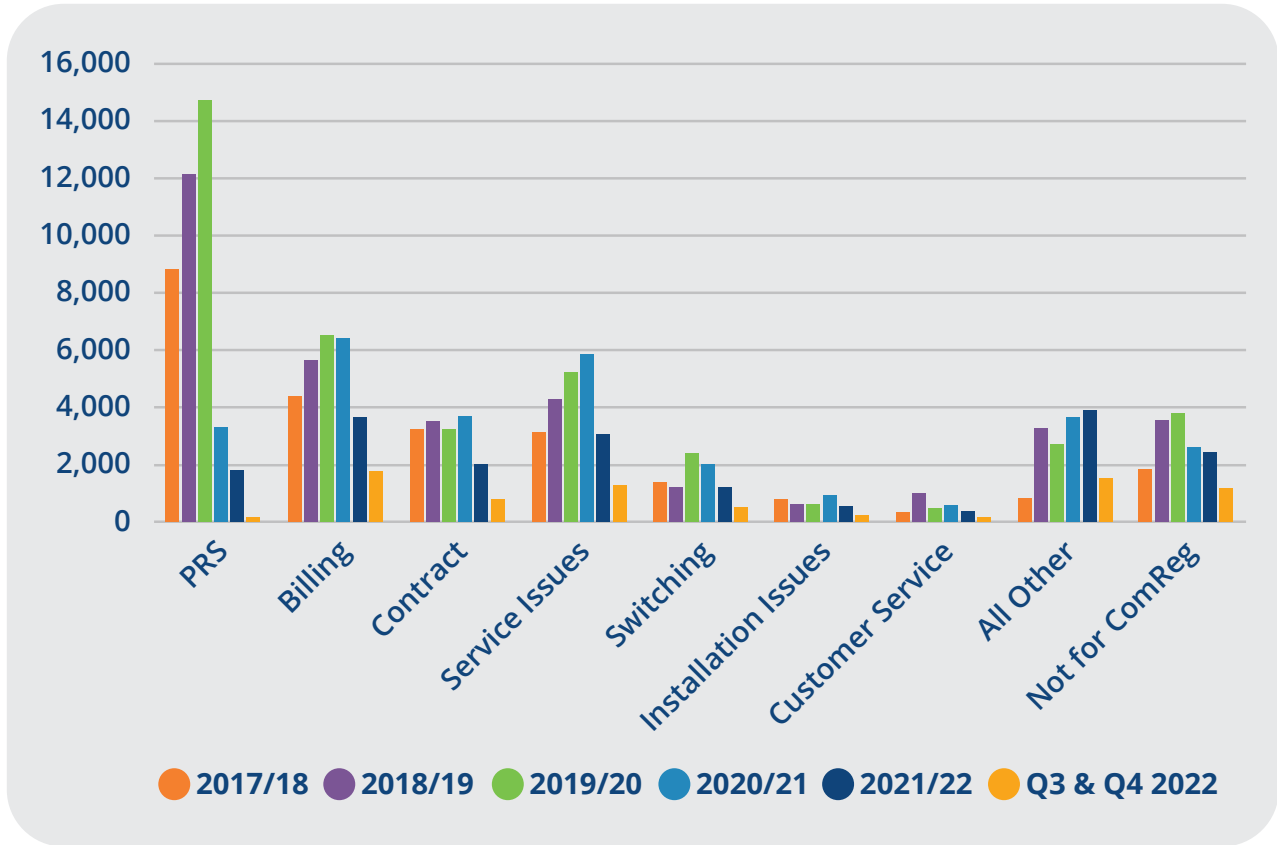
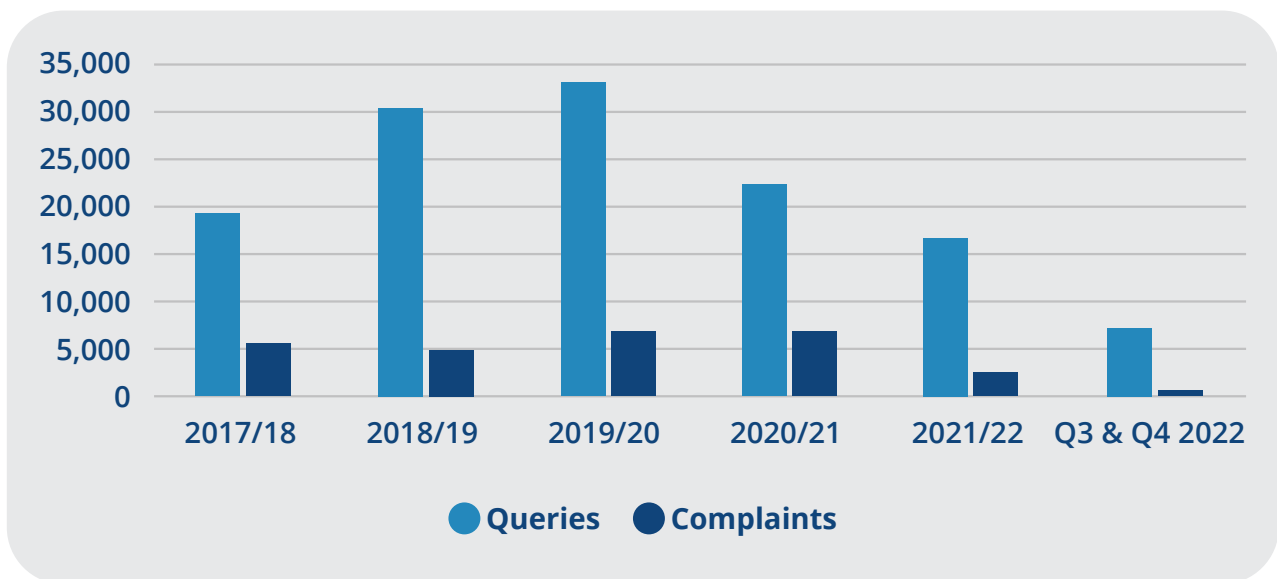


Figure 7: Queries/Complaints Total ECN / ECS and PRS combined, 2017 to 2022⁴²



41 ComReg Consumer Line Statistics

42 ComReg Consumer Line Statistics

4.6 The above trends indicate that while queries to ComReg increased substantially during Covid-19, we can see that this has now returned to pre-Covid levels. While complaints also increased slightly, they are now below pre-Covid levels. This is due to a combination of factors including the publication of statistics by ComReg, better availability of information to consumers, increased focus by service providers on complaint handling and resolution and compliance. Notwithstanding the volume variations, the nature and type of complaints remain largely the same. These are Billing, Contract Issues, Service Issues and Switching. There has been a marked decline in the number of contacts relating to PRS.

Research, Market Information and Behavioural Studies

4.7 ComReg conducts regular research to gain insights into consumers' behaviours, preferences, and experiences. Further details are set out in Section 7.2.

Advisory Panels and Engagement

4.8 ComReg's Consumer Advisory Panel ('CAP') was established in accordance with Section 12 of the Communications Act 2002⁴³. The purpose of the CAP is to advise us on developments, innovations and areas of consumer concern which are relevant to ComReg's role.

4.9 ComReg also periodically conducts Equivalence of Access and Choice⁴⁴ workshops to explore specific accessibility topics and issues, for example, end users' experience with access to and use of the Irish Text Relay Service ('ITRS')⁴⁵ and accessible information on the ITRS website.⁴⁶ ComReg also meets consumers and the public through outreach events and activities and learns about issues and concerns arising through this channel.

Information Gathering, Compliance Monitoring and Investigations

4.10 ComReg regularly monitors service providers' practices (e.g., information they provide to customers; contracts; and business processes) to obtain an understanding of the potential consumer harms that may arise. We achieve this through a number of channels, including mystery shopping, information gathered directly from consumers and service providers, and through our compliance monitoring activities and investigations.

Addressing Consumer Harm

4.11 Over the coming period we will continue to evolve and harness the insights from these sources to deepen our understanding of consumer harms and to design regulatory interventions to mitigate them. We use these insights into consumer harm to help identify groups of consumers who may be vulnerable or need support in ECS markets and to help inform how we deploy our regulatory toolkit to maximise its effectiveness.

Goal 2.2

Consumer rights and protections, including for vulnerable and disabled consumers, are adequate to mitigate consumer harm.

⁴³ The CAP consists of representatives from the Consumers' Association of Ireland, National Disability Authority, Northern & Western Regional Assembly and Chambers Ireland

⁴⁴ The Forum on Services for People with Disabilities was established by ComReg in accordance with Section 12 of the Communications Act 2002. It was named the Equivalence of Access & Choice Forum in 2016.

⁴⁵ ComReg Document 14/143 Decision D09/15

⁴⁶ www.itrs.ie

4.12 To address any instances of consumer harm, including for vulnerable and disabled end-users, ComReg can use its powers to specify an intervention or a support measure to ensure that markets work effectively for all consumers and that disabled end-users are protected. In this context, it is ComReg’s goal that **consumer rights and protections, including for vulnerable and disabled consumers, are adequate to mitigate consumer harm.**

4.13 Related to the above goal, ComReg will undertake the following activities:

- **Measures to mitigate against consumer harm:** Over the coming period, ComReg will consider whether it is appropriate to implement, enhance or evolve measures to mitigate against consumer harm.
- **Customer Charter:** One of the key new Consumer protections which will be available to ComReg to specify as appropriate, is Customer Charters. ComReg is currently consulting on the introduction of Customer Charters to create transparency around the levels of customer service that providers offer.

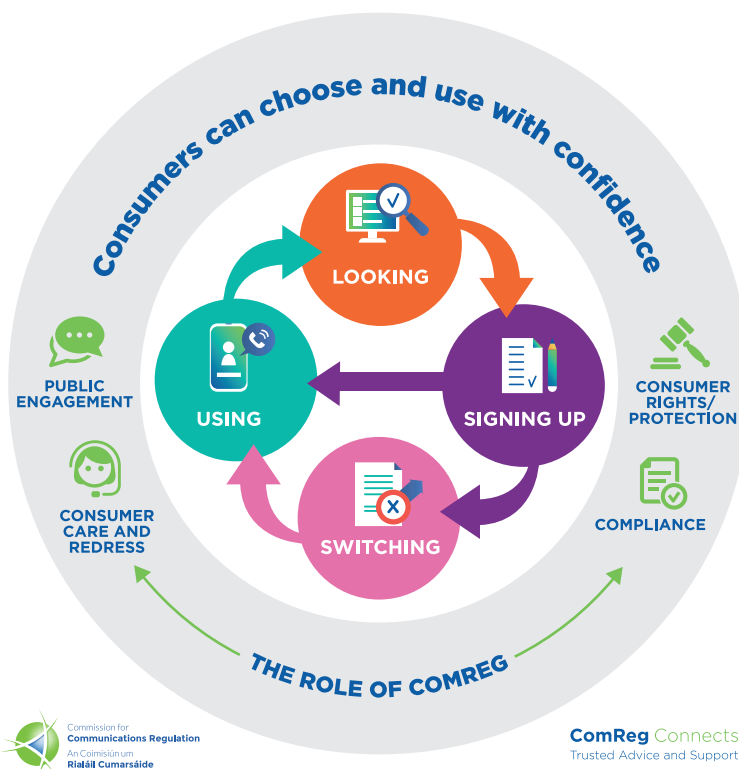
The Consumer Journey

4.14 ComReg describes the consumer navigation of the market, or the “Consumer Journey”, in four broad phases, shown in Figure 8 below:

- Looking
- Signing Up
- Using
- Switching

4.15 At each stage of the Consumer Journey, we seek to ensure consumers, including disabled consumers, are adequately informed of their consumer rights, and are equipped with the necessary information to make informed decisions. ComReg’s objective is to ensure that consumers are protected through every stage of the Consumer Journey and to achieve this ComReg uses its regulatory toolbox to intervene and assist consumers as issues arise and more generally where it identifies actual or potential consumer harm issues.

Figure 8: The Consumer Journey



Stage 1 - Looking for a service offer

4.16 Without guidance or support to make an informed choice, some consumers, including disabled consumers, may be unable to make a decision, or they may postpone making a decision, possibly indefinitely. Having guidance and information presented in a manner that is accessible, useful, comparable, and accurately represents the product or service will assist consumers to make informed decisions. In addition, ComReg has powers to set rules regarding the way certain information about products and services is presented to the consumer.

Goal 2.3

Consumers, including vulnerable and disabled end-users, are supported by clear, accurate and up to date information throughout the Consumer Journey.

4.17 ComReg is committed to providing 'trusted advice and support' to ensure consumers can make informed decisions. We do this through the use of easy-to-understand language in our engagement with consumers and the public. ComReg's goal relating to the provision of easily accessible, useful information and guidance is that all **consumers, including vulnerable and disabled end-users, are supported by clear, accurate and up to date information throughout the Consumer Journey.**

4.18 There are a number of useful information sources available to consumers when making a purchasing decision. Two of these are key sources – (1) Information provided by Service Providers and (2) Information provided by ComReg.

4.19 Information from Service Providers: The availability of transparent, accurate and timely information on the switching process should increase consumer confidence in switching and make them more willing to seek out new market offers. In addition, consumers are entitled to receive a Contract Summary, including in an accessible format for disabled end-users⁴⁷. Over the coming period ComReg will ensure appropriate, easily accessible information to inform choice while looking for a service offer, is provided to consumers, including:

- **Pre-Contractual Information:** ComReg will ensure consumers are provided with Pre-Contractual Information relating to contract duration, any switching charges, compensation and refund arrangements for delay or abuse of switching, information about how to switch, information on how to obtain a refund of prepaid credit when switching, and details of any early termination fees (including handset unlocking costs).
- **Contract Summary:** Over the coming period we will monitor the market to ensure that the required Contract Summary information is provided at the appropriate stage to consumers as required and is in an accessible format for disabled end-users.
- **Best Tariff Advice:** For those already in a contract, Best Tariff Advice⁴⁸ which is provided by service providers during the contract, will also be a useful tool to assist consumers in their choice of offers available.

⁴⁷ to ensure equivalence of access for disabled end-users that is envisaged by the Code Commission Implementing Regulation (EU) 2019/2243 of 17 December 2019

⁴⁸ Article 105(3) of the EECC

4.20 Information from ComReg: ComReg provides a range of tools and information to assist consumers in their comparison of offers and in enhancing their understanding of ECN / ECS products and their associated rights. Over the coming period, our work relating to this goal includes the following items:

- **Consumer Care:** Service providers must be able to efficiently address their own customers' queries and issues. We will work to drive service providers to improve the experience they provide to their customers by improving transparency on Quality of Service and ensuring that they are tackling systemic and root cause issues. ComReg's Consumer Care will assist consumers with their queries and complaints, and we will continue to assist consumers who need advice and support.
- **Consumer website:** Through our website we aim to provide consumers with easy-to-understand information on topical issues which might impact their choice or use of ECN / ECS. Our website hosts a number of useful consumer tools, including:

 - **ComReg Compare Tool:** Our comparison tool allows consumers to compare costs for mobile phone, home phone, broadband & TV market offers. This comparison tool is available at www.comreg.ie/compare. We also plan to develop an accreditation process, so that websites offering commercial comparison tools, who fulfil the necessary requirements, can apply to have their comparison tool accredited by ComReg.
 - **Outdoor Mobile Coverage Map:** We provide an outdoor mobile coverage map on our website (and via an app) to allow consumers to check service providers' outdoor mobile phone coverage predictions at locations throughout the country. This map is available at www.comreg.ie/coveragemap. The coverage data was updated in 2022 to include 5G coverage as well as 4G, 3G and 2G and the coverage data will continue to be updated periodically throughout each year. The app functionality was enhanced to show all coverage at a specific location.
- During the coming period, we will continue to enhance the functionality of the map and make the necessary changes for technology switch-off.

 - **Broadband Connectivity tool:** During the coming period, we will be working on providing a tool for consumers to check information on broadband connectivity and available service providers at a location.
 - **Premium Rate Service checker:** Our PRS service checker allows consumers to check the name and number of a PRS they intend to use or have been billed for. This is available at www.comreg.ie/servicechecker.
- **Consumer and Public Campaigns:** We periodically conduct digital, direct and traditional marketing campaigns to equip consumers with the necessary information to make informed choices. For example, we recently promoted our Compare tool and Outdoor Mobile Coverage Map and App through a digital and social media advertising campaign.
- **New technologies available:** As part of the Mobile Phone and Broadband Taskforce work programme, we have committed to launching a consumer information campaign aiming to improve consumer and public awareness of the basics of new technologies available. The campaign has two subject messages which are:

 - *moving to fibre or alternative technology and copper switch off;*
 - *moving to 4G and 5G and 2G/3G switch off.*
- The campaign will span an extended period of time, aligning with copper switch off and 2G/3G switch off project milestones. The objectives of the campaign are to increase consumer and public awareness of the new technologies and their benefits; encourage adoption of new technologies to enhance consumer connectivity and services; make consumers aware of important factors when choosing services so that they can make informed choices; and assist consumers in transitioning to new technologies.
- **Nuisance Communications:** We will continue to provide information to consumers to inform them about nuisance communications and how to protect themselves from this.

- **Environmental Sustainability:** ComReg will begin work on considering consumer information actions to inform consumer choice aimed at driving improvements to the environmental sustainability of the electronic communications sector.
- **Enhanced Consumer Rights:** We will provide information for consumers through our consumer care team and other channels in respect of the enhanced consumer rights as they come into force.

Stage 2 - Signing Up for a service

- 4.21** Equipped with relevant information and guidance about the offers available, consumers may decide to sign-up or enter a contract for services with their chosen service provider.
- 4.22** We consider that effective competition in the ECS sector depends on, amongst other things, the ability and willingness of consumers to switch service provider or plan/bundle in response to a better deal in the marketplace. It is therefore our goal that **there are low barriers to consumers exercising their choice when signing up for a service.**

Goal 2.4

There are low barriers to consumers exercising their choice when signing up for a service.

- 4.23** Having considered the Contract Summary made available by a service provider and considered all the relevant options and information, a consumer who wishes to switch should contact their new service provider.

The new service provider will then arrange the switch and the consumer's existing contract will be terminated. There should be no break in service and phone numbers can be transferred (ported) from one service provider to another.

- 4.24** ComReg provides a consumer guide on our website to assist consumers who wish to switch⁴⁹. Based on ComReg's knowledge and experience of consumer harm issues in the market, and additional protections afforded by the EECC, ComReg aims to minimise barriers to consumers including disabled end-users exercising choice. In this context, over the coming period, our principal focus in this area will include the following matters:

- Signup;
- Durable Contracts;
- Bundled Offers; and
- Delayed Installations.

- 4.25** Further information on these matters is set out in Table 4 below.

⁴⁹ <https://www.comreg.ie/consumer-information/mobile-phone/switching-providers/>

Table 4: Areas of focus

Signup
<ul style="list-style-type: none"> We will work to ensure that sign-up processes are easily accessible, and consumers have accurate information to fully understand the process and the contract that they are signing up to and that contracts are fair.
Durable Contracts
<ul style="list-style-type: none"> We will work to ensure that consumers receive their contracts when they sign up and upgrade, in particular over the phone or on-line and that they are afforded their cooling-off rights. We will monitor to ensure that contracts and contract summaries are consistent across service providers and in accordance with the legislation.⁵⁰
Bundled Offers
<ul style="list-style-type: none"> Article 107 of the EECC requires service providers extend certain end-user rights provisions to all elements of a bundle⁵¹. These provisions will help facilitate consumers in switching provider more easily and taking advantage of competitive offers for the entire bundle if it is in their interests to do so. ComReg will monitor compliance with these requirements under the EECC.
Delayed Installations
<ul style="list-style-type: none"> ComReg will develop its approach to remedies for missed service and install appointments as provided for under Article 106 of the EECC.

Stage 3 - Using the Service

4.26 Having signed up to a service, completed any necessary equipment installation and switched service provider, consumers should now be able to use their service. However, issues may arise when using a service. In this context, it is ComReg’s goal that **consumer rights throughout their journey are upheld by their service providers.**

Goal 2.5

Consumer rights throughout their journey are upheld by their service providers.

4.27 There is a range of rights and protections relating to a consumers’ use of their ECN / ECS service. At all times, consumers should be treated fairly in accordance with their consumer rights. Over the coming period, relating to this goal, ComReg will undertake the following activities:

- Regulatory Guidance on End-user Rights:** To assist service providers in understanding the range of end-user rights, in 2020 we published Regulatory Guidance on the End-User Rights of the EECC⁵². In 2021, ComReg also published Regulatory Guidance for providers of Internet Access Services (“IAS”) to the Irish market.⁵³ The IAS Guidance was intended to facilitate industry in designing inter-operator processes to meet their requirements pursuant to Article 106 of the Code with the result that the end-user’s right to exercise choice and change provider of IAS is facilitated.

50 ComReg has published relevant Regulatory Guidance, ComReg 20/111R

51 Including terminal equipment, digital content or digital services and ECN / ECS that are not otherwise directly covered by the scope of those end-user rights provisions.

52 ComReg document 20/111R

53 ComReg document 21/107R

ComReg established an IAS Forum at the request of industry.⁵⁴ ComReg will continue to evolve its guidance in relation to implementation of end-user rights provisions, as appropriate. Over the coming period we will further consider our approach to this guidance on new rights together with enhanced publication of enforcement actions given the resultant statutory instrument (SI 444 of 2022). 58F

- **Migration from Legacy Infrastructure:**

Subject to the Consultation on the Framework proposed for the migration from legacy infrastructure to modern infrastructure, ComReg will consider the dissemination of information to end-users and whether it may be necessary and appropriate to provide guidance to retail service providers (RSPs). Such guidance would be intended to set out ComReg's expectations of RSPs in supporting migrating customers and in meeting their obligations under the applicable legislation before, during and after the Migration from Legacy Infrastructure.

- **Provisions for Disabled End-Users:** ComReg's review of existing obligations on Service Providers, including the Irish Text Relay Service, is ongoing with a view to ensure that the measures or support services put in place for end-users with disabilities reflect market and legislative evolutions and continue to support end-users with disabilities access and use their ECS and related information. As an initial step, ComReg has issued a Call for Inputs presenting observations, on an indicative basis, on the functioning of the existing Measures or specific services and support available to end-users with disabilities when accessing and using ECS. The call for Inputs is based on engagement with industry, user groups and other regulators. ComReg seeks input from end-users on their experience of those specific services and support available to them (i.e., Measures) when choosing and using ECS and, engaging with their service provider, throughout the consumer journey. ComReg may issue a further public consultation addressing specific provisions for end-users with disabilities which may arise as a result of the Call for Input and transposition

of the Code relating to accessible information. ComReg will ensure that the objective of equivalence in access and choice for end-users with disabilities under Article 111 of the EEC (Regulation 94 of SI 444 of 2022) is met.

- **Premium Rate Services:** ComReg will continue to monitor developments in the PRS markets to ensure that consumers are not incorrectly subscribed and that PRS providers adhere to requirements set out in ComReg's PRS Code of Practice.⁵⁵
- **Net-neutrality monitoring:** ComReg will continue to actively monitor compliance in respect of elements including traffic management practices and consumer contracts as well as monitoring of zero-rated practices.
- **Emergency Call Answering Service ('ECAS'):** ComReg will continue its work in the ECAS industry forum to improve location information and to assist where appropriate with new provisions in the EEC. ComReg will enforce compliance with connectivity to the ECAS.
- **Battery Back-up ('BBU'):** The Regulations and the Code place end-user information obligations directly on providers. Providers should continue to give end-users required information, including, disclosure of risk of interruption to ECS. ComReg will also communicate with end-users and provide information to end-users as regards availability of ECS during a power outage and Battery Back-up. ComReg will monitor the changing market and changing consumer behaviour and attitudes towards information and BBU. ComReg may intervene if it is necessary, appropriate, and proportionate to help enable end-users to make informed choices and use ECS with confidence.
- **A Customer Charter:** In general, there is a lack of transparency around the quality of customer service. This can make it difficult for customers to know what level of customer service they can expect from their own provider or, to compare the customer service offer made across service providers, for example when considering switching to a different provider.

⁵⁴ ComReg Information Notice, <https://www.comreg.ie/publication/internet-access-service-switching-forum>

⁵⁵ ComReg Decision D03/18. The objective of this decision was to allow consumers prevent access to premium rate SMS or MMS and to reduce the possibility of bill shock.

The new customer protection provisions under the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 introduce Customer Charters, powers for ComReg to set minimum standards backed by sanctions and/or redress in the event of non-compliance including consumer compensation. A Customer Charter will provide customers with information on the levels of customer service they can expect from their service provider. ComReg is giving consideration to the introduction of a Customer Charter.

A Charter can address consumer harm through two key objectives: to create transparency around the levels of customer service providers offer; and driving improvements in overall customer service levels. In March 2023, ComReg issued a public consultation addressing the proposed specification of requirements on providers to prepare, publish and keep updated a customer charter⁵⁶. In addition, ComReg has the power to specify Minimum Quality of Service Standards under section 37 of the Act, section 38 of the Act separately gives ComReg the power to specify the form and the information required to be included in a Charter, including Minimum Quality of Service Standards. Should ComReg proceed with introducing a Charter, ComReg will monitor and evaluate implementation of the Charter requirements and the levels of customer service committed to and implemented by providers for their adequacy (“adequacy review”). Following an adequacy review, ComReg may seek to move to the specification of Minimum Quality of Service Standards and, may seek to require any Minimum Quality of Service Standards information is included in a Charter, subject to a consultation.

4.28 Notwithstanding the existence of various end-user rights and consumer protection measures highlighted above, there may still be a risk of harm to consumers where these protections may not be sufficient to safeguard consumer interests.

Stage 4 - Leaving the Contract/Switching

4.29 Consumers may decide to exit their contract for a variety of reasons, including:

- They have decided they no longer require the service.
- They are dissatisfied with their current service.
- They have come to the end of the contract (minimum term)⁵⁷.
- Their service provider has increased the price or altered another part of their contract and they have been given the right to exit and decided to exercise this right.
- They are moving premises.
- They have been given Best Tariff Advice or an upgrade offer, and they wish to enter into a new contract with their existing service provider.

4.30 A fundamental aspect of ensuring that this part of the journey is seamless for consumers is information, including accessible and adequate information on terminal equipment and unlocking costs and procedures, early termination fees, refunds, switching provider, cancelling a contract, ceasing the service, final bill issues and complaint handling.

4.31 It is critical that this information is provided to consumers at the relevant stages of their Consumer Journey and should be provided in an accessible format for end-users with disabilities.

4.32 In some cases, practices and issues can create barriers to switching by making the process unnecessarily difficult for consumers (e.g., complex switching processes, service or number loss, locked mobile handsets, unissued refunds or lack of an appropriate cooling-off period).

⁵⁶ ComReg Document 23/14

⁵⁷ Consumers are now entitled to receive an end of contract notice.

Goal 2.6

There are low barriers to consumers exercising their choice when leaving a contract.

- 4.33** ComReg monitors the level of switching in the ECS markets through the data we gather from industry and market research. Through our compliance and enforcement actions, we ensure consumers are not disadvantaged by unfair or illegal practices that serve to limit consumer switching rights or create disincentives to switching.
- 4.34** It is therefore our goal that there are low barriers to consumers exercising their choice when leaving a contract.
- 4.35** Over the coming period, ComReg will focus on ensuring that accurate, easily accessible information is available to consumers and that cancellation processes (as well as switching processes) are being implemented appropriately by service providers, including through enforcement. Our work will include the following:
- **Contract Change Notification:** ComReg will monitor providers' approaches to issuing Contract Changes Notifications for any changes to terms and conditions they propose, while advising consumers whether or not the right to terminate arises, given the change(s) outlined in the EECC. ComReg may further specify requirements to ensure contract change notifications are made in a clear and comprehensible manner, and on a durable medium.
 - **End of Contract Notification and Best Tariff Advice:** Before a contract is automatically prolonged, providers are required to inform a consumer in a prominent, timely manner, and on a durable medium, of the end date of the fixed term contract and how to terminate the contract (the "End of Contract notice"). At the

same time, Best Tariff Advice relating to their services should be provided. After a contract has been prolonged and during the prolonged period of the contract, such Best Tariff Advice, should be provided at least annually. ComReg will monitor providers' approach to compliance with Regulatory Notifications required to be sent to end-users on foot of Article 105 (3) of the EECC. ComReg has set out its initial policy considerations and views on best practice as regards how to provide Best Tariff Advice and will consider if further intervention is needed to ensure the objectives of the EECC are met.

- **Disincentives to Switch:** ComReg will continue to identify disincentives to switching and will take action to ensure that practices that may be obstacles to consumer switching are removed. This includes unlocking handsets promptly upon request by the consumer. We will focus on ensuring industry switching processes are working effectively for consumers.

Universal Service - Affordable access to basic services

- 4.36** Under S.I. 444 of 2022, the purpose of Universal Service is to ensure consumers have access at an affordable price to an available adequate broadband ('**ABB**') internet access service and to voice communications services, including the underlying connection, at a fixed location.

Goal 2.7

All end-users have affordable access to adequate broadband and voice services at a fixed location.

4.37 This Universal Service is only required when the market fails to deliver, and relevant public policy interventions have been exhausted. In this context it is our goal that **all end-users have affordable access to adequate broadband and voice services at a fixed location.**

4.38 Under the new national legislation, ComReg's role in respect of certain aspects of universal service is contingent on specifications or requirements which will be established by the Minister, as appropriate, including the definition of adequate broadband and the associated quality standards and any requirement for affordability measures.

4.39 Currently, Eircom Ltd is designated as the Universal Service provider, and provides a voice service at a fixed location that is a safety net ensuring access to basic ECN / ECS.

4.40 In addition to the above Universal Service, consumers are also entitled to access emergency call answering services. All providers of publicly available ECN / ECS must provide free access and connection to emergency services.

4.41 Eircom Ltd, as the designated Universal Service provider has obligations regarding the provision of certain services including:

- **Provision of a voice connection and service:** Eircom must meet every 'reasonable' request for a phone connection at a fixed location.

4.42 Over the coming period, relating to this goal, ComReg has a number of activities planned:

- **AFL USO fixed voice:** ComReg will consult on the need for a USO for fixed voice after 30 June 2023.
- **USO QoS:** ComReg will continue to publish information on Eircom's USO Quality of Service ('QoS') performance on its website⁵⁸.

- **USO Funding:** In respect of funding for the universal service, in 2019 Eircom legally challenged ComReg's USO funding application decisions for 2010-2015. Over the coming period ComReg will defend each of these USO funding application decisions.

ComReg is also progressing Eircom's 2015-2016 USO funding application.

Eircom has informed ComReg that it reserves its right to make applications for USO funding for the financial periods 2016 to 2020 and for any further funding applications that become due before its appeal of ComReg's decisions in respect of the various funding applications relating to the 2010-2015 period is determined.⁵⁹

- **Adequate Broadband:** S.I 444 of 2022 sets out that the Minister shall define adequate broadband ('ABB') and the associated quality of service. The Minister may consult with ComReg before defining adequate broadband or specifying the quality standards applicable to it.

ComReg may impose a designation to impose appropriate universal service obligations to meet all reasonable requests by those end-users for accessing such services, on different undertakings, or sets of undertakings, to ensure the availability of such services at a fixed location or to cover different parts of the State.

Consumer Complaints and Redress

- 4.43** For consumers to have confidence in choosing and using telecommunications services, they need to have a resolution process that addresses the imbalance in power between that of a service provider and the consumer. In this context it is ComReg's goal that **consumers have effective redress mechanisms, including access to timely query and complaints handling processes.**

58 Published as Universal Service Requirements – Provision of Access at a Fixed Location (AFL) by Eircom Limited – Quality of Service Performance Data. See ComReg Doc 20/120 for information from Q2 2020 and 2019/2020

59 High Court Record 2019/167 MCA. ComReg Information notice 21/44.

- 4.44 All ECN / ECS Providers are obliged to have a Code of Practice for Complaints Handling, detailing how they deal with disputes and what steps a consumer must follow. Where a complaint has not been resolved within 10 days, ComReg can intervene to achieve a resolution that we consider acceptable for the consumer.
- 4.45 In addition to our complaint handling service (via the ComReg Consumer Line), in 2018 we introduced Formal Dispute Resolution Procedures for ECN / ECS complaints⁶⁰ that have been unresolved for 40 working days after lodging a complaint with a service provider. In this case, a consumer may apply to ComReg to adjudicate on a dispute.
- 4.46 Relating to this goal, over the period our work will include the following:
- **Code of Practice for Complaint Handling:** ComReg considers that consumer complaints should be resolved quickly and effectively. In order to achieve this, over the coming period we plan to increase awareness of the Code of Practice for Complaint Handling, monitor compliance with the minimum standards and make any necessary enhancements to improve service provider resolution timeframes and consumers' dispute resolution experiences.
 - **Formal Dispute Resolution:** we plan to continue our work in the area of Formal Dispute Resolution.

Goal 2.8

Consumers have effective redress mechanisms, including access to timely query and complaints handling processes.

Communication and Engagement

- 4.47 Communication and Engagement with consumers is critical to ensure consumers know their rights at all stages of the Consumer Journey. In this context, we aim to be **an effective advocate for consumers**.
- 4.48 Our communication and engagement activities include but are not limited to the following communications channels:
- direct contact with consumers,
 - participation in outreach events,
 - engagement online,
 - via our website and social media, and
 - indirect engagement through the media.

Goal 2.9

ComReg is an effective advocate for consumers.

- 4.49 ComReg also engages through contacts with representative bodies and gathers information about end-user needs through market research. We also engage with representative bodies and relevant public bodies through our CAP and participation in the Mobile Phone and Broadband Taskforce. In addition, we also engage with DECC, other public bodies and sectoral regulators regarding matters relevant to consumers. For example, following our engagement with industry stakeholders on consumer themed issues we will continue to engage to address major issues facing the sector over the coming years, including the migration to fibre services, the withdrawal of legacy telecoms networks, cyber security, customer service and nuisance/scam calls.

4.50 ComReg takes a strategic approach to communicating with consumers and the public, and uses a range of tools and techniques, including campaigns, that are topic specific, to enhance consumer knowledge and awareness and to address information gaps. Our consumer brand, '**ComReg Connects**', helps to ensure consumers and the general public can identify ComReg as a brand at the forefront of consumer protection, capturing the essence of who we are and what we stand for. Our website **Comreg.ie/consumer** offers information and news to better inform consumers of issues and developments in the market.

ComReg Connects

Trusted Advice and Support

- 4.51 Over the coming period we also intend to undertake initiatives relating to this goal:
- **Consumer Outreach Events:** We circulate information on topical issues through consumer representative groups, for example, through Age Friendly Ireland and will continue to engage in this manner to inform targeted cohorts of consumers.
 - **Website:** We will continue to improve comreg.ie/consumer and offer a range of tools that offer independent information to users.
 - **Brand Roll out:** We will continue to evolve our communication language and the various consumer tools hosted on our consumer website to reflect our ComReg brand values.



5

**Connectivity
& Network
Resilience**

5. Connectivity & Network Resilience

Introduction

5.1 ComReg’s strategic intent regarding connectivity is to **ensure that end-users have widespread access to high-quality and secure communications networks, services, and applications**. By ‘connectivity’ ComReg means having access to the necessary ECN to allow for the use of various services and applications in a secure manner. For ComReg, the connectivity of end-users is not about pitting one network technology against another, but rather the widespread, continuous, secure and high-quality connectivity of end-users.

5.2 The EECC includes a new objective that ComReg, Government and BEREC shall pursue: promote connectivity and access to, and take-up of, very high-capacity networks, including fixed, mobile, and wireless networks, by all citizens and businesses of the Union. In pursuit of this objective, the EECC also restates the need for a balance between providing adequate incentives to invest in VHCN and the need for regulation.

5.3 Today, the connectivity of end-users has become essential to ensuring social and digital inclusion. It is ComReg’s view that end-users can only fully participate in society and the wider economy when their connectivity needs are met.

Strategic Intent 3:

End-Users have widespread access to high-quality and secure communications networks, services, and applications.

What does this look like?

- Widespread availability of ECS and ECNs allows for digital inclusion by all consumers
- Connectivity challenges are addressed, and indoor mobile voice services (via mobile connections or Wi-Fi calling) are available to all.
- Networks are secure and resilient.
- EU Objectives for ‘Connectivity’ of end-users are met.

5.4 There are often a variety of networks, technologies, and solutions available to people to help fulfil their connectivity needs. For ComReg, it is the quality and reliability of ECS/ ECN that matters, rather than the means of delivery.

5.5 However, some end-users are poorly served by ECN. Some of these poorly served end-users may not benefit from the presence of multiple different reliable networks. Other end-users may experience poorer services intermittently, due to a range of factors beyond their control.

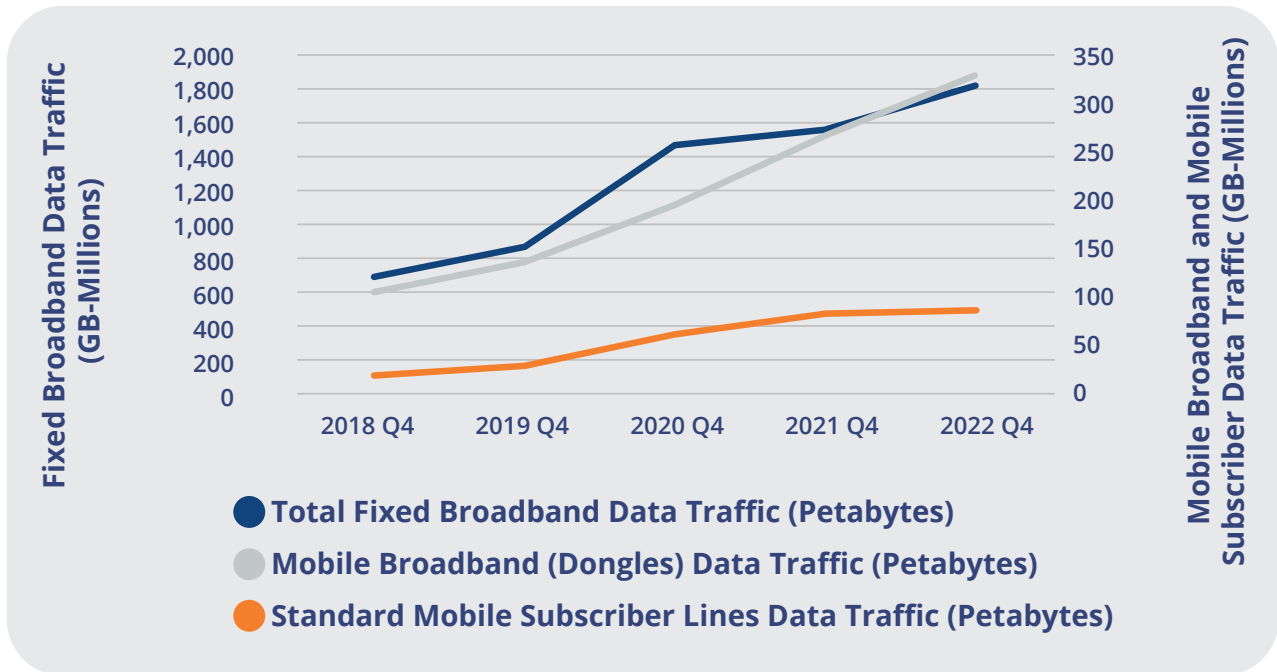
- 5.6** Ensuring everyone can access online and digital services, regardless of where they live or how they connect to these services, will be key to driving participation in the digital economy and society. Use cases that require reliable high-quality connectivity such as remote working, education and e-health have become more important for organisations and individuals in the wake of the Covid-19 pandemic.
- 5.7** There are a number of risks facing Ireland's ECN that could result in service disruption for end users. These issues include equipment malfunction, human error, malicious and cyber-attacks, severe weather events and external incidents (e.g. electricity outages). Accordingly, network resilience, reliability, and security is an area that is becoming more important. ComReg's role in this area is to have a holistic understanding of the nature of the various connectivity risks facing the country. This includes network security, which has now become a key part of the Government's national digital strategy 'Harnessing Digital - The Digital Ireland Framework'.
- 5.8** While ComReg will continue to use its regulatory powers to address network issues, in some cases, where the appropriate regulatory powers are held by other authorities, a multi-agency approach will be required. ComReg will continue to support other responsible authorities (e.g. DECC) and act as a knowledgeable regulator by making informed contributions to policy discussions and debate.
- operators to deploy high quality, reliable networks in these areas without additional incentives.
- 5.10** By the end of the decade ComReg expects that fixed VHCN will have been rolled out to almost all premises (households and businesses) in the country through a combination of commercial deployments and public investment through the NBP.
- 5.11** Meeting the growing demands of Irish consumers in the future will likely require not only improved mobile coverage and increased network density, but also for mobile devices and services to be able to seamlessly migrate between mobile and fixed (e.g., Wi-Fi) networks when in use. In this regard key enablers to meet this challenge are the rollout of fixed networks and the availability of additional spectrum.
- 5.12** The use of ECN/ECS has increased over the last three years with fixed and mobile data traffic volumes having increased since 2019. As set out in Figure 9 below, data use has remained high and continues to increase, more than doubling in the period from Q4 2019 to Q4 2022.⁶¹.

Network Coverage

- 5.9** There are still areas of Ireland that are unserved by high-quality and reliable ECS / ECN. These areas are almost all rural areas with a low population density. As population density decreases, the distance between premises generally increases, thus increasing the cost of deploying ECN. Therefore, it is not always economical for commercial ECN

61 QKDR Q4 2023

Figure 9: Data Traffic on Fixed and Mobile Networks



Supporting Digital Infrastructure

5.13 ComReg’s goal regarding digital infrastructure is that **telecommunications networks, technologies, and solutions allow end-users to fully participate in all aspects of society**. Thus, the focus of ComReg’s strategy is ensuring the widespread availability of high-quality and reliable services.

5.14 Over the coming period ComReg will continue to work towards this through the following actions:

- **Digital Divide:** ComReg will continue to monitor the emergence of digital divides in various ECS and ECS adjacent markets. These insights will help give us a holistic understanding of the connectivity challenges facing end-users and help inform various policy and regulatory decisions made by ComReg.

- **Geographic Mapping of Networks:** In accordance with Article 22 of the EEC, ComReg is continuing to work towards compiling and publishing a map of broadband networks in Ireland, including forecast coverage. Maps such as these can be useful to consumers, industry, government and ComReg. This is in addition to ComReg’s Outdoor Mobile Coverage map, as discussed in Chapter 4.
- **Monitoring network and technology developments:** ComReg will continue to monitor developments and innovations⁶² in network technologies and to facilitate their use where appropriate.

Goal 3.1

Telecommunications networks, technologies and solutions allow end-users to fully participate in all aspects of society.

62 Such developments and innovations are likely to include the rollout of 5G, Low Earth Orbiting satellite broadband, ViLTE (Video over LTE), DOCSIS 4.0 and Small Cells

5.15 The Broadband Cost Reduction Regulations⁶³ ('**BCRR**') came into effect in 2016 with the aim of facilitating and reducing the cost of deploying high-speed public ECN. However, the BCRR have not been used to any great extent by Irish operators. ComReg has three functions under the BCRR:

- Ensuring compliance with the BCRR;
- Acting as national dispute settlement body in relation to the BCRR⁶⁴; and
- The provision of a Single Information Point ('**SIP**')⁶⁵ to facilitate access to information regarding permits for civil works.

5.16 ComReg notes the EC has recently reviewed the BCRR and proposed the Gigabit Infrastructure Act⁶⁶ as part of its February 2023 Connectivity Package to speed up the deployment of 5G and fibre networks.

5.17 The proposed Gigabit Infrastructure Act aims to overcome the challenge of slow and costly deployment of the underlying physical infrastructure sustaining advanced Gigabit networks. It aims to reduce 'red tape' and the costs and administrative burden associated with the deployment of Gigabit networks. The proposed regulation will also enhance the coordination of civil works between network operators to deploy the underlying physical infrastructure, such as ducts and masts, and ensure that the relevant actors obtain access to it.

5.18 Articles 76 and 79 of the EEC set out arrangements for co-investment agreements between an SMP operator and another operator to build a VHCN or mobile base station, exempting such investments from SMP-type access remedies. The EEC sets down further conditions to be considered by ComReg (e.g. risk sharing and continued access for access seekers) before allowing such co-

investment arrangements. Article 79 sets out new powers for the NRA to make access and co-investment offers made by an SMP provider binding, in-lieu of imposing SMP obligations. ComReg will consider any such proposals from industry regarding such co-investment should they arise.

Supporting Connectivity and Network Resilience

5.19 ComReg and Government have a range of regulatory tools available to incentivise infrastructure deployment into areas currently unserved by commercial networks. In this context, it is ComReg's goal that **by utilising the regulatory toolkit, ComReg's activities will promote connectivity and/or incentivise infrastructure rollout.**

5.20 Competitive forces, if left to their own devices, will deliver ECS/ECN to a certain level and quality. However, achieving high-quality connectivity beyond this level is unlikely to be provided due to the uncommercial nature of network rollout in some geographic areas.

Goal 3.2

Utilising the regulatory toolkit, ComReg's activities promote connectivity and/or incentivise infrastructure rollout.

5.21 ComReg also recognises that while useful, its regulatory toolkit does have limitations in addressing the connectivity problems facing some end-users. Where other public bodies have policy or legislative roles relating to the

63 The European Union (Reduction of Cost of Deploying High-Speed Public Communications Networks) Regulations 2016 (S.I. No. 391/2016)

64 ComReg's Disputes Handling Process is available on its website – ComReg Doc 16/77r

65 See <https://ec.europa.eu/eurostat/databrowser/view/tps00003/default/table?lang=en>

66 Gigabit Infrastructure Act Proposal and Impact Assessment - <https://digital-strategy.ec.europa.eu/en/library/gigabit-infrastructure-act-proposal-and-impact-assessment>

ECS sector and adjacent markets, ComReg seeks to engage positively with such bodies and contribute to the wider policy setting with DECC and other Government departments.

- 5.22** Licenses awarded as part of ComReg’s recent **MBSA2** included coverage obligations to ensure that outdoor mobile voice coverage exceeds 99% of the population and outdoor mobile data coverage at speeds greater than 30 Mbps eventually exceeds 95% of the population.
- 5.23** As set out in Chapter 4, ComReg maintains outdoor mobile coverage maps that allow the public to check coverage details by operator. ComReg expects to continue enhancing these maps with new features. In 2022 ComReg added 5G outdoor mobile coverage to its mobile coverage maps.
- 5.24** Meeting the future needs of Irish consumers accessing data hungry applications from mobile devices will likely require not only the improved coverage of mobile networks, but also the ability of consumers and services to move seamlessly between mobile and fixed broadband networks when making a call or using data services. The rollout of fixed networks by commercial operators and NBI and the availability of additional spectrum through future spectrum awards are key enablers to meet this challenge.
- 5.25** ComReg had previously indicated there may be a case for more interventionist measures to provide coverage in locations where it would not be commercially viable. However, there are significant policy issues to be addressed, including whether such measures are value for money, how target locations might be chosen, and how any initiative would comply with EU State Aid rules. While it would not be appropriate for ComReg to make policy choices, it can provide expert input to inform consideration of possible mechanisms to secure coverage outcomes beyond market-driven levels.

- 5.26** Over the coming period ComReg will also continue to engage with the Mobile Phone and Broadband Taskforce to provide solutions to the broadband/phone coverage deficit, and to investigate how to provide better services for consumers.

State Aid and Universal Service

- 5.27** Where the commercial and regulatory levers are insufficient to deploy networks, public funding is bridging the gap to serve remote areas. The EU State Aid Guidelines ensure that such funding does not distort competition in the market. Over the last 15 years the Irish Government has invested in ECN through various schemes⁶⁷, including the awarding of the NBP to National Broadband Ireland.
- 5.28** While not responsible for the NBP, ComReg does provide technical advice to DECC on the NBP and has seconded staff to DECC to provide such assistance. ComReg recognises that the NBI rollout, over time, may have implications for regulation. At all times ComReg will consider the impact of the NBI rollout on the state of competition in the relevant retail and wholesale markets.
- 5.29** As discussed in Chapter 4, the purpose of Universal Service is to ensure consumers have access at an affordable price to both adequate broadband and to a voice communications service, including the underlying connection, at a fixed location.

Network Security

- 5.30** The security of networks and services relates to the ability of ECN or ECS to resist at a given level of confidence, any action that compromises the availability, authenticity, integrity or confidentiality of those networks and services, of stored or transmitted data or processed data, or of the related services offered by, or accessible via, those ECN or ECS.

67 Including through the Metropolitan area networks, National Broadband Scheme and National Broadband Plan

- 5.31 Ireland's modern digitally connected society and economy is highly dependent on reliable and secure ECN and ECS. They form the backbone of much of Ireland's critical national infrastructure providing connectivity to the essential services upon which citizens rely, such as healthcare providers, energy providers, financial institutions, emergency services and public administration. It is of paramount importance that these vital networks and services are protected from the full range of threats with an appropriate level of technical and organisational security measures.
- 5.32 As part of measures to enhance the security of electronic communications networks and services in Ireland announced by the Government in late November 2021, DECC published its consultation on the Electronic Communications Security Measures ("ECSMs"). The ECSMs are a detailed set of technical and organisational measures that providers of public ECN and publicly available ECS will be required to implement. DECC has recently issued its response to consultation.
- 5.33 The Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 gives ComReg compliance and enforcement powers in respect of the implementation of the ECSMs by these providers. These new statutory obligations and functions for ComReg will act as a minimum-security baseline for providers of ECN and ECS. This requirement will further enhance and secure the electronic communications infrastructure within the State.
- 5.34 Whilst many of the security measures outlined in the ECSMs reflect policies, process and procedures already in place for many operators of ECN and ECS, others will require significant changes to daily operations. Implementation of the ECSMs will be a programme that will in some cases require significant investments in time, financial and human resources. However, the costs of recovering from an attack can often dwarf the cost of preventive security measures both directly and indirectly having regard to the reputational risks and damage such attacks can cause to operators, customers and consumers.
- 5.35 Given the dynamic nature of electronic communications services, the ECSMs must be considered as "living documents" and will require regular revision. Additional ECSMs will also need to be developed to reflect further innovations, for example, the use of eSIM.
- 5.36 One of the threats to the security and resilience of ECS and ECN is a cyber-attack. Because of the threat of a malicious security breach resulting in cyber-attacks in Ireland, ComReg collaborates with Ireland's National Cyber Security Centre ('NCSC'), part of DECC, which is the lead agency for Ireland within the Cyber domain.
- 5.37 Operators are required to notify ComReg in the event of a breach of security threshold or loss of integrity that has a significant impact on the operation of their networks or services⁶⁸. Where such reports are received, ComReg notifies when required the NCSC, DECC, the European Network and Information Security Agency ('ENISA') and the public.
- 5.38 ComReg interacts with the operator to ensure services are restored and actions are put in place to mitigate against future similar breaches in Network Security.
- 5.39 There are many aspects to network security which do not fall within ComReg's remit, including for example, data privacy. Several other public bodies also have a role in network security and resilience, including DECC, ENISA, the Data Protection Commission ('DPC') Gardaí and the Defence Forces. The relevant agencies vary according to the issue at hand and its potential impact. Effective engagement with these stakeholders is necessary to ensure appropriate oversight and consistency and

68 See ComReg Document 14/02a and ComReg Document 19/98

to avoid the duplication of activities. In this context, it is ComReg's goal that operators have **appropriate risk-based procedures in place to manage network security and resilience.**

Goal 3.3

Operators have appropriate risk-based procedures in place to manage network security and resilience.

5.40 Over the coming period, ComReg intends to undertake the following:

- **Implementation of Electronic Communication Security Measures:** ComReg will develop the framework to enable the proportionate, transparent and non-discriminate implementation of the ECSMs by providers of ECN or ECS. Furthermore, ComReg will be responsible for the assessment, compliance, audit and enforcement of operator ECSM obligations on an on-going basis. ComReg will maintain the ECSMs relevance by updating on a regular basis as required and develop additional ECSMs which are focussed on other areas of security relevance as the networks and technology on which they are based evolves.

Network Resilience

5.41 The resilience of an ECS or ECN⁶⁹ relates to the ability of that ECN to return to its normal state following a disruptive incident. The resilience of a network can be compromised in its core and in its distribution and access sections, all of which can then impact the network operator, its customers, and other providers of ECS and/or ECN who rely on wholesale access or interconnection. Network and service outages can cause significant disruption to

end-users resulting in economic, financial, and societal losses. While ComReg recognises that 'force majeure' events can and will happen, resulting in an unavoidable temporary loss of service, it is essential that all reasonable precautions and processes are in place to ensure continuity of supply. It is therefore essential that adequate precautions and investments are made to ensure continuity and availability of networks and the services provided over these networks.

5.42 The interconnectivity and interoperability of networks has become increasingly important, particularly regarding the resilience of networks and assurances around the continuity of services. Resilience is an issue, not just for individual networks and services but also because of the increased potential for problems arising from the interdependence of networks and services. This includes, for example, the interrelationship between mobile and fixed networks.

5.43 ComReg considers whether there is a risk of market failure which could cause operators to underinvest in the security and resilience of networks and services. There is a potential market failure with respect to systemic risks – risks that could affect the whole industry. Investments in mitigating systemic risk would benefit all end-users, not just the customers of the operator making the investment. On the other hand, if all operators are exposed to the same systemic risk, then there will be no competitive disadvantage if the risk crystallises – so there is a reduced commercial incentive to mitigate it.

⁶⁹ ComReg's activities in respect of the resilience of ECS and ECN is limited to Reg 23 & 24 of the Framework Regulations and Article 40 & 41 of the EEC

5.44 Providers of publicly available ECN/ECS are required to manage the integrity and security of their networks and services⁷⁰. They are also required to take appropriate technical and organisational measures to manage risks to the security of such networks and services. Such a risk-based approach should lead operators to prevent, resist, mitigate and recover from threats to security and resilience of networks and services they provide.

5.45 To ensure that network resilience is effectively managed, operators should have a comprehensive understanding of all relevant risks to which they are exposed and analyse those risks.

5.46 In the context of ComReg's Goal 3.3 relating to network security and resilience, over the coming period, ComReg intends to undertake the following projects:

- **Collaboration:** ComReg will continue to work with relevant stakeholders where matters of network resilience have an impact. One such matter which ComReg has been and is currently engaging with the operators on, is the risk of power outages due to electricity generation shortfall. ComReg first engaged with operators in October 2021 because of the risk of possible power outages over winter 2021/2022. The purpose of this ongoing engagement is to ensure operators are factoring into their risk assessments the increased risk of power outages across the national grid.
- **Network Resilience:** ComReg continues to engage with the industry in assessing the risk management practices of ECS/ECN providers. The project focuses on risk and resilience in the different aspects of ECS/ECN network functions, for both fixed and mobile networks and services. The focus of this work will be reviewed in line with the obligations and functions set out in the new Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023.

- **Economic and Societal Cost of a Network Incident:** ComReg has commissioned a study to investigate the impact of network incidents and to develop a model which can give an indication of the economic and societal cost of such events. The outcome of this assessment could be used to inform ComReg on future regulatory intervention.
- **Climate Change and its Effect on Network Resilience in Ireland:** ComReg has published a study by Frontier Economics⁷¹ to investigate how climate change has been affecting ECN, and to understand what providers of ECN are doing to mitigate against these affects. ComReg will review the findings from this study and may further explore any of these which could be of added benefit to the resilience of ECN in Ireland.
- **Network Operations Annual Report:** ComReg publishes an annual network operations report relating to its activities.
- **ENISA Annual Incident Report:** ComReg will continue to report incidents to ENISA on an annual basis, in line with its statutory obligations.

Nuisance Communications

5.47 Nuisance communications, means unwanted, unsolicited communications generally directed at large groups of the population. Nuisance communications often have the intent to mislead the receiver, so that they unknowingly provide sensitive personal information. This in turn can enable the criminal to perpetrate fraud.

5.48 Irish society and its economy have become ever more reliant on telecommunications technology. It is deeply integrated into all areas of the economy and society, however, this constant in our lives comes with its own threats and vulnerabilities. Fraud, which is perpetrated by using ECS and ECN, and particularly nuisance communications, has become a low-risk form of crime.

⁷⁰ Under Regulation 23 of the Framework Regulations and Articles 40 & 41 of the EEC

⁷¹ <https://www.comreg.ie/publication/climate-change-and-its-effect-on-network-resilience-a-study-by-frontier-economics>

5.49 The reduced cost and increased availability of means has seen fraud in the form of nuisance communications rise substantially in Ireland. Our daily use of ECS and ECN is exploited by criminals, who use social engineering type attacks – for example vishing, smishing and CLI spoofing, with the intention of illegally acquiring personal consumer information, ultimately to abet financial fraud.

5.50 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. Criminals prey on our daily use of electronic devices and continuously seek out new ways to exploit vulnerabilities and access information. The reduced cost and increased availability of enabling-equipment means this type of fraud is on the rise.

5.51 As an English-speaking country, Irish residents are targeted disproportionately compared with their EU counterparts. This is because fraudsters can move seamlessly between other English-speaking countries, targeting their resources where scam communications are most likely to have the highest success rate. It is inevitable that fraudsters will continue to target (and commit more fraud in) those countries, and particularly English-speaking ones, that remain vulnerable to telecommunications related fraud. Ireland must therefore proceed with haste in the best interests of our society, businesses, and residents and ComReg is pleased to play its part in that response.

5.52 The latest available Central Statistics Office (“CSO”) publication on crime indicates that nuisance communications continue to grow. While the data relates to fraud more broadly, and not solely to fraud conducted via nuisance communications, the CSO notes

that the 90% year-on-year increase in 2021 was “largely driven by unauthorised transactions and attempts to obtain personal or banking information online or by phone”⁷², matching similar experiences abroad.

5.53 Aware of the damaging effects and complexity of nuisance communications, and the pressing need for a cross-industry effort to combat the problem, ComReg, in December 2021, announced the formation of the NCIT⁷³. The NCIT held its first meeting under an independent Chair in February 2022. In addition to ComReg itself, there are fifteen industry members⁷⁴ who collectively carry the bulk of calls and SMS messages that are delivered to Irish users.

5.54 The NCIT began by bringing together representatives of the telecommunications industry to, amongst other things:

- discuss potential interventions to be applied to networks to minimise/mitigate the volume and effect of nuisance communications;
- develop an implementation roadmap to ensure that the interventions are implemented by the appropriate network and/or service providers as quickly as possible in line with the expected timelines of the deliverable of the taskforce; and
- facilitate an effective means for industry to collaborate and share information over the long term should nuisance communications evolve or should a network/networks come under a sustained nuisance communications attack.

5.55 The focus for ComReg and the NCIT is to restore trust in telecommunications services by putting in place interventions to reduce the prevalence of the damaging effects of nuisance communications and their impact on Irish consumers and society.

72 CSO “Recorded Crime Q1 2022” accessible here <https://www.cso.ie/en/releasesandpublications/ep/p-rc/recordedcrimeq12022/>

73 ComReg Information Notice 21/129

74 BT Ireland, Blueface, Colt, Eircom, Imagine Communications, Intellicom, Magnet, Sky Ireland, Tesco Mobile, Three, Twilio, Verizon, Viatel, Virgin Media, Vodafone

5.56 NCIT success requires the support and expertise of the entire telecommunications industry, including international gateway providers, and the strong endorsement of its work by the CEO's⁷⁵ concerned. ComReg readily accepts that it is these companies who operate and run Ireland's telecommunications networks and therefore have the greatest concentration of know-how and resources needed to tackle this problem.

5.57 The NCIT has now scoped several interventions and agreed high-level technical specifications which, when implemented, should notably lessen the quantity of nuisance communications currently being experienced in the State. ComReg notes:

- The implementation phase of the NCIT is underway, with operators now free to proactively deploy interventions;
- A Do Not Originate ("DNO")⁷⁶ trial took place over the month of September 2022 with the assistance of relevant organisations, and was subsequently made available by ComReg to all organisations wishing to avail of the protection it offers from October 2022 onwards⁷⁷; and
- Each intervention design encompasses the gathering of metrics to help evaluate and monitor the effectiveness of the intervention.

5.58 Given the extent of the fraud and the damaging effect it continues to have on trust in Irish telecommunications services, at an NCIT meeting on 4 January 2023, members agreed that the NCIT should continue beyond its initial 12 months. A new Terms of Reference was also agreed⁷⁸, with an emphasis on members of the NCIT to be fully focused on rapid implementation and accelerated deployment of these interventions.

5.59 Going forward, further work will be required by the telecommunications industry to address other, more complex vulnerabilities and to help stymie new or evolving types of nuisance communications. Such tasks may include, but are not limited to:

- delivering on agreed member's implementation roadmaps to ensure that the interventions are implemented by the appropriate network and/or service providers as quickly as possible;
- providing metrics as per agreed technical specifications and in line with the expected timelines of the deliverable of the taskforce;
- undertaking a gap analysis to identify further measures that may be taken, including more dynamic interventions;
- proactive monitoring of trends in nuisance communications both in Ireland and abroad;
- formalising inter-operator and cross-sector cooperation and coordination;
- identifying actions for industry and ComReg to raise consumer awareness of scams;
- ultimately, developing an overarching long-term national strategy to combat nuisance communications; and
- contributing to international regulatory initiatives to promote an international approach, as appropriate.

5.60 ComReg looks forward to the continuing work of the NCIT in the months ahead, together with the full and active commitment of all its members and other interested parties.

⁷⁵ To that end, CEOs of NCIT member organisations have signed a Code of Conduct that commits members to uphold that and the NCIT Terms of Reference.

⁷⁶ Many organisations use phone numbers for inbound-only calls to provide a wide variety of services to consumers. Fraudsters sometimes originate calls to look like they are coming from these numbers to trick consumers into answering the calls. This is an activity known as spoofing. To address the problem, ComReg has now compiled a Do Not Originate" or "DNO" list, comprising phone numbers that are never used for outbound calls and so can be blocked by operators.

⁷⁷ See www.comreg.ie/dno and ComReg document 22/86a

⁷⁸ Nuisance Communications: Agreed revised Terms of Reference for Nuisance Communications Industry Taskforce, 23/12.



6

**Compliance &
Enforcement**

6. Compliance and Enforcement

Introduction

6.1 Regulation is only effective when regulated entities comply with their regulatory obligations. ComReg's strategic intent relating

to compliance and enforcement is that **regulated entities comply with regulatory requirements**. This intent supports and underpins the effectiveness of the previous three strategic intentions

Strategic Intent 4:

Regulated entities comply with regulatory requirements.

What does this look like?

- Regulated entities are at all times fully cognisant of their obligations and comply with them.
- Regulated entities are deterred from contravening their obligations.
- There is an institutionalised culture of compliance in regulated entities.

6.2 ComReg's statutory functions in respect of compliance and enforcement can be divided into two categories: to ensure regulated entities comply with their regulatory obligations and to ensure that the radio spectrum is managed in an efficient and effective manner.

6.3 ComReg's enforcement strategy includes the following elements:

- **Culture of Compliance:** The first best situation is where regulated entities comply voluntarily with their obligations and have an internal culture of compliance.
- **Active Monitoring:** Using a variety of information and data sources, the monitoring of regulatory obligations ensures markets develop properly.
- **Targeted Enforcement:** Resources are directed toward enforcement activities in a way that maximises the effectiveness of the regime.

- **Effective Deterrence:** The effectiveness of the regime depends not only on bringing non-compliant conduct to an end but also on its impact in terms of deterring future non-compliance.

6.4 In principle, the elements of ComReg's enforcement strategy form a virtuous circle where regulated entities come into compliance with respect to targeted conducts, allowing the regulator to refocus compliance and enforcement activities, and so on.

Figure 10: Optimal Enforcement



Different Enforcement Settings

6.5 In relation to the electronic communications sector, ComReg has a number of principal areas of responsibility in respect of compliance and enforcement:

- Spectrum Management,
- Market Surveillance Authority for the Radio Equipment⁸ and Electromagnetic Compatibility^{82F} Directives, collectively Product Safety,
- Wholesale (SMP) regulation,
- Competition law enforcement, and
- Consumer protection.

Compliance and enforcement in the context of spectrum management

6.6 ComReg has a statutory function to manage the radio frequency spectrum in Ireland. This includes:

- Monitoring and supervising compliance with conditions attached to spectrum rights of use (e.g. the general authorisation and licence conditions);
- Monitoring the use of the radio spectrum to detect unauthorised use and taking appropriate enforcement action; and
- Investigating instances of harmful interference reported by licensees and the general public and taking appropriate enforcement action.

6.7 Regarding the unauthorised use of spectrum, the typical issues that arise include:

- the unlicensed use of the radio spectrum,
- non-renewal of licences, and
- the use of equipment that is non-compliant with the relevant legislation for which ComReg is the designated Market Surveillance Authority^{79,80}.

6.8 ComReg also undertakes a proactive series of monitoring activities which includes drive testing mobile networks to assess compliance with coverage obligations and conducting surveys to ensure compliance with non-ionising radiation limits.

Compliance and Enforcement in the context of Product Safety

6.9 Market surveillance of radio equipment is a requirement of the EU Single Market and ensures that radio equipment placed on the market, are manufactured to a minimum standard and can be used safely and with confidence by End Users. ComReg, as the Irish Market Surveillance Authority ('MSA') for the Radio Equipment⁸¹ and Electromagnetic Compatibility Regulations⁸², undertakes market surveillance to ensure that non-compliant radio equipment is identified, tested, seized and / or removed from sale.

6.10 ComReg's Product Safety Unit, operating within ComReg's narrow remit, is responsible for conducting market surveillance of products falling within the scope of the Radio Equipment and Electromagnetic Compatibility Directives with specific focus on those products most likely to cause harmful interference to the radio spectrum.

Compliance and enforcement in the context of SMP regulation

6.11 ComReg may impose ex-ante obligations on undertakings where they are found to have SMP. These ex-ante obligations are remedies to competition problems identified in the regulated markets. ComReg is responsible for monitoring and enforcing compliance with such SMP obligations.

6.12 Competition problems stemming from SMP are only considered to be mitigated when an operator identified as having SMP, complies with the full suite of ex-ante obligations that ComReg has imposed on it. While partial compliance may be sufficient to encourage market entry, access seekers' confidence to continue to invest may continue to be undermined if, for example, they discover that they have been treated in a discriminatory fashion or that access requests have been unnecessarily delayed. For this reason, every instance of non-compliance has the potential to seriously damage competition.

6.13 In addition to the SMP obligations, there are various obligations monitored and enforced by ComReg arising under the EU regulatory framework for electronic communications and under national legislation. ComReg also has a role in relation to disputes between undertakings in the sector.⁸³

Ex-Post Competition Law

6.14 Following the introduction of the Communications Regulation (Amendment) Act 2007, ComReg was given the additional function of investigating competition law breaches in the ECS sector⁸⁴, and shares this

⁷⁹ The European Union (Radio Equipment) Regulations 2017 S.I 248 of 2017.

⁸⁰ European Communities (Electromagnetic Compatibility) Regulations 2017, S.I 69 of 2017.

⁸¹ European Union (Radio Equipment) Regulations 2017, S.I. No. 248 of 2017.

⁸² European Communities (Electromagnetic Compatibility) Regulations 2017 S.I. 69 of 2017

⁸³ Disputes may arise under Regulation 31 of the Framework Regulations, Section 57 of the 2002 Act, and Regulations 4, 5, 6, 7, 8 and 9 of the Broadband Cost Regulations and Article 5 of the EECC.

⁸⁴ Further details in relation to ComReg's role under competition law and the investigation of such complaints is set out in its Guidance Notice on Competition Complaints. Guidance on the Submission of Competition Complaints relating to the Electronic Communications Sector, Information Notice, ComReg Document 10/110, December 2010

responsibility with the CCPC. ComReg has the power to carry out an investigation pursuant to a complaint or on ComReg's own initiative. Such investigations are carried out on an ex-post basis, (i.e. after the fact) where the purported anti-competitive behaviour has either occurred or is ongoing. Investigation can occur in markets where ex-ante regulation applies in addition to unregulated markets.

- 6.15** The Competition (Amendment) Act 2022 was signed into law on 29 June 2022 and transposes the ECN+ Directive in Ireland. This Act, when commenced, will provide ComReg with significant new competition powers. This legislation provides for a system of non-criminal enforcement of certain provisions of competition law and the issuing of prohibition notices in response to certain suspected infringements of competition law.
- 6.16** It also provides for a system of enforcement and administrative (non-criminal) penalties in relation to certain breaches of competition law, including by the imposition of non-criminal structural and behavioural remedies and certain non-criminal financial sanctions.
- 6.17** The Act also increases the level of penalties that can be imposed for certain criminal offences for breach of competition law and introduces a range of new procedural offences designed to enhance the investigation and enforcement of competition law in Ireland. The Act puts in place a new regime pursuant to which such sanctions may be imposed by ComReg (or the CCPC) and also how they may be confirmed by, or appealed to, the High Court. Finally, the Act introduces a cartel leniency programme in Ireland, something Ireland has not had to date. The

stated intention of the Act is to ensure that competition authorities have independence, sufficient resources, and appropriate power of enforcement. These enforcement powers will apply to prohibitions on undertakings from engaging in anti-competitive agreements and practices and the abuse of a dominant position.

Compliance and enforcement in the context of consumer protection

- 6.18** ComReg is responsible for monitoring and enforcing compliance by ECN / ECS service providers and PRS providers with a variety of consumer protection provisions. The principal consumer protection laws include the end-user provisions of the EECC⁸⁵, the ePrivacy Regulations⁸⁶, the 2002 Act, the PRS Act⁸⁷, the Consumer Rights Act 2022⁸⁸, and obligations on undertakings pursuant to their General Authorisation. The Consumer Rights Act 2022 will give effect to the Directive on the sale of goods⁸⁹ and to the main provisions of the Directive on the better enforcement and modernisation of Union consumer protection rules⁹⁰. The Consumer Rights Act 2022 consolidates and updates existing consumer law; ComReg will continue to have responsibility for enforcement of the provisions relating to electronic communications services and to uphold rights and remedies in consumers contracts for the supply of non-digital services.

85 Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast)

86 S.I. No. 336/2011 - European Communities (Electronic Communications Networks and Services) (Privacy and Electronic Communications) Regulations 2011.

87 Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010

88 Consumer Rights Act 2022

89 Directive (EU) 2019/1771 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the sale of goods, amending Regulation (EU) 2017/2394 AND Directive 2009/22/EC, and repealing Directive 199/44/EC

90 Directive (EU) 2019/2161 Enforcement and Modernisation (the omnibus Directive)

- 6.19** ComReg will also have an enhanced enforcement function under the Consumer Protection Act, 2007 (“the 2007 Act”) in respect of unfair, misleading, aggressive and prohibited commercial practices in transactions for electronic communications networks and services and premium rate services. In keeping with the enhanced enforcement provisions in the Omnibus Directive⁹¹, ComReg will have the same powers under the Act which are available to the CCPC including power to accept undertakings and issue fixed payment notices and compliance notices.
- 6.20** There are several reasons for opening investigations relating to consumer protection. ComReg chiefly investigates complaints and emerging trends arising from contacts to the Consumer Line and website and makes an assessment to determine their validity. However, ComReg may also open own initiative investigations to monitor and assess the general conformance to regulatory obligations. As discussed in Chapter 4, the key issues investigated and monitored by ComReg relate to billing issues, contract terms, and informed consent to bill/provide ECS and PRS. In addition to the new provisions of the EECC, ComReg also monitors compliance with the Net Neutrality Regulations⁹² and Intra-EU Calls Regulations⁹³.

Culture of Compliance

- 6.21** ComReg’s view is that regulated entities should be fully cognisant of their obligations, comply with them and have an internal culture of compliance. It is therefore ComReg’s goal that **regulated entities are pro-active in ensuring their own compliance**. ComReg continues to encourage operators to have robust internal controls to prevent and detect non-compliance.

Goal 4.1

Regulated entities are pro-active in ensuring their own compliance.

- 6.22** Regulated entities, particularly those subject to obligations aimed at ensuring non-discrimination, may choose to put in place operational and governance measures with the specific purpose of promoting principles of compliance at all organisational levels. When implemented effectively, such measures can ensure compliance, and reduce the need for regulatory intervention and thereby promote effective and sustainable competition.
- 6.23** ComReg considers the following industry practices are essential for promoting a culture of compliance:
- Support and commitment from senior management for internal compliance programmes.
 - A clear and enforced policy on compliance, including appropriate disciplinary procedures, prohibiting non-compliant behaviours at all levels.
 - Oversight of compliance programmes by a separate monitoring body such as an internal audit committee, represented at a senior level with adequate resources, independence and authority.
 - Risk-based internal controls, designed to ensure compliance that are regularly reviewed and maintained.
 - Systematic, effective, and documented monitoring of internal controls and

91 DIRECTIVE (EU) 2019/2161 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council as regards the better enforcement and modernisation of Union consumer protection rules

92 S.I. No. 343/2019 - European Union (Open Internet Access) Regulations 2019

93 EUROPEAN UNION (RETAIL CHARGES FOR REGULATED INTRA-EU COMMUNICATIONS) REGULATIONS 2020

- Regular communication, guidance, and training on compliance programmes at all levels of an organisation.

- 6.24** ComReg considers that having an effective, proportionate, and dissuasive regulatory enforcement regime will help foster an awareness of the need for an appropriate culture of compliance within industry. A consequence of a poor culture of compliance may be that undertakings adopt internal interpretations of regulatory obligations that diverge from the intended meaning and purpose. Such interpretations may enhance an undertaking's commercial interest to the detriment of other stakeholders or competition and may put the undertaking at risk of non-compliance.
- 6.25** ComReg offers detailed information on applicable regulations (e.g. through public Consultation, Response to Consultation, Decision Instrument or guidance documents and in publication of enforcement decisions). An important purpose of providing guidance on the meaning and effect of regulatory obligations is to facilitate the identification of practices that are likely to be non-compliant. In this context, ComReg will monitor the practices and behaviours of undertakings and take enforcement action, where appropriate.
- 6.26** In addition, where appropriate, ComReg offers guidance on its enforcement powers and practices to ensure industry have a comprehensive understanding of their regulatory obligations and adhere accordingly. Over the coming period, ComReg will consider whether it is appropriate to publish further information and guidance on certain aspects of its compliance investigation practices and methodologies. In addition, ComReg will utilise engagement and dialogue to help foster the desired behaviours within industry, where necessary.
- 6.27** The EECC introduces new regulations and also brings new operators into the scope of ComReg's jurisdiction (e.g. providers of OTT services). On a case-by-case basis it may be

necessary to engage directly with undertakings to ensure they are fully aware of the relevant obligations. ComReg will publish any guidelines explicitly required under the EECC.

Eircom's Regulatory Governance Model

- 6.28** Eircom's Regulatory Governance is overseen by ComReg in two principal ways:
- the obligation for a Statement of Compliance ('SOC') as required under the 2018 WLA/WCA Decision and the 2020 WHQA Decision, and
 - the Settlement Agreement ('SA') entered into with Eircom in 2018 the parties agreed to a set of commitments ('RGM undertakings'). When fully implemented, the RGM undertakings will result in the establishment and operation of an enhanced Regulatory Governance Model ('RGM') in Eircom.
- 6.29** Since the SA, ComReg has observed and evaluated the functioning and effectiveness of the RGM. The Performance Agreement ('PA'), an annex to the SA, sets out a number of Milestones relating to key RGM undertakings. While most Milestones were met by Eircom, ComReg has advised Eircom in June 2021 that the requirements of the final Milestone, Milestone 4, were not met and, under the terms of the SA, ComReg has withheld the funds in escrow relating to Milestone 4.
- 6.30** In the presence of the RGM, ComReg continues to have concerns on whether competition in markets where Eircom is subject to SMP regulation is as effective as it could be. Also, of concern is whether adequate attention has been paid by Eircom to governance measures to ensure compliance with PIA related remedies. Over the coming period ComReg will review the effectiveness of existing PIA related remedies generally. ComReg has and will continue to observe and evaluate the functioning and effectiveness of the RGM in general, for example through review of the SOC's as they are notified. ComReg may also assess Eircom's governance arrangements in the context of a historical review of the

development of competition in multiple regulated markets, and may consult on whether other additional measures could produce the foundation needed to enable or expedite effective competition in future and permit the de-regulation of markets downstream from PIA.

Active Monitoring

6.31 ComReg actively monitors the markets it regulates to ensure they function in a way that is consistent with the legal and regulatory obligations imposed in those markets. ComReg does this in a number of ways:

- regular and timely collection of relevant market data and information
- direct monitoring of regulatory obligations (e.g. wholesale pricing tariffs)
- the review of price lists and product documentation
- engagement with industry, either directly or through various fora
- the monitoring of queries and complaints to ComReg's consumer care line
- the monitoring of online fora and social media
- engagement with other public and regulatory bodies (e.g. the CCPC)

6.32 ComReg continuously observes and monitors operator activities in the market. In addition, where appropriate, ComReg uses tools such as mystery shopping and social listening to inform its retail compliance activities. Where an area of potential concern is identified, ComReg will investigate.

Targeted Enforcement

6.33 ComReg's compliance and enforcement activities in the different enforcement settings are underpinned by internal processes (including evidence gathering, report writing and legal review) and firmly rooted in the legal and regulatory regime. ComReg's investigations are often complicated or multifaceted and must be conducted in a

manner that is impartial and procedurally correct. This combination of complexity and a desire to respect due process means that investigations may take time to complete. In this context, it is ComReg's goal that **ComReg's compliance and enforcement activities are conducted using fair and objective processes and are targeted and prioritised appropriately.**

6.34 In anticipation of ComReg receiving the necessary enforcement powers (e.g. powers to impose administrative financial sanctions), ComReg will continue to evolve its enforcement practices and methodologies. In addition, over the coming period, ComReg will consider whether it is appropriate to publish further information and guidance on certain aspects of its compliance investigation practices and methodologies.

6.35 The different enforcement settings in which ComReg operates mean that a prioritisation approach needs to be tailored to the relevant circumstances.

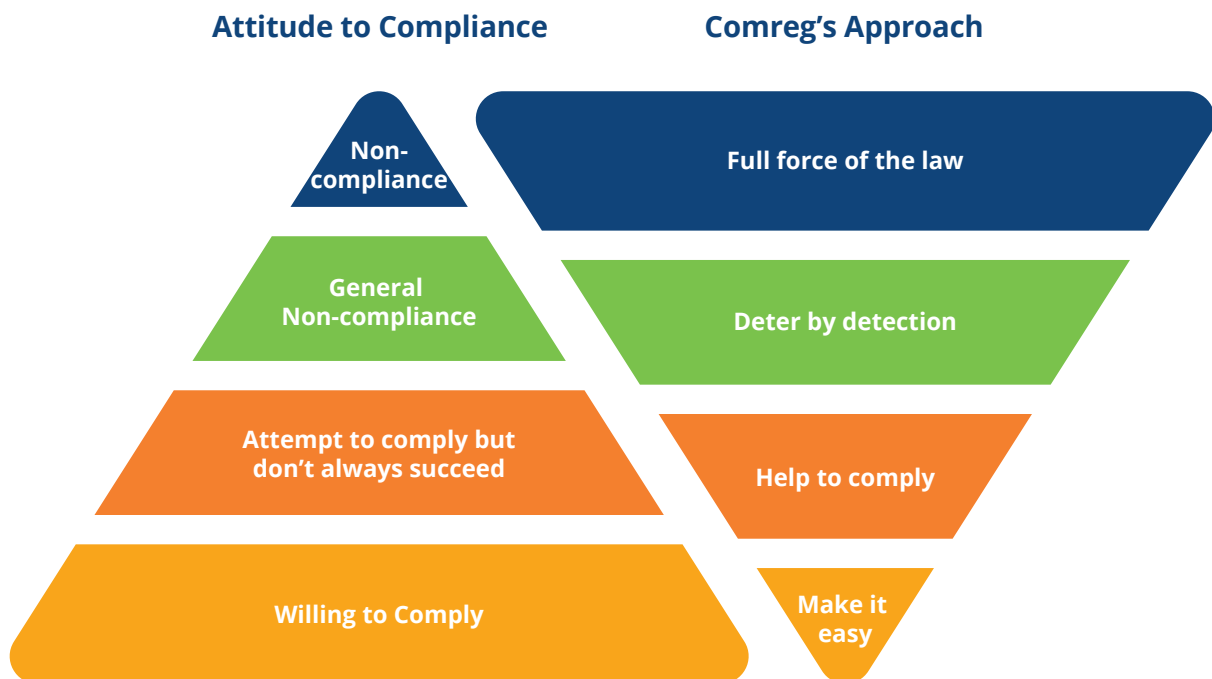
Goal 4.2

ComReg's compliance and enforcement activities are conducted using fair and objective processes and are targeted and prioritised appropriately.

6.36 In the spectrum management context, ComReg’s radio frequency interference (‘RFI’) complaints approach endeavours to direct ComReg resources to the cases of harmful interference that have the greatest impact on the complainant’s ability to provide services. ComReg aims to respond to cases which are exceptional in nature immediately and prioritise RFI related complaints accordingly,

with clearly defined complaint response times.⁹⁴ In the context of product safety, ComReg adopts a risk-based approach to the prioritisation of cases. ComReg’s approach to any Economic Operator will be broadly informed by the attitude of the Economic Operator toward its obligations. This dynamic is captured in Figure 11 below:

Figure 11: Radio Equipment Surveillance Enforcement



6.37 In wholesale regulation, enforcement is prioritised in cases where an SMP operator’s behaviour has greatest potential to harm competition – both directly and by reducing the confidence of other operators in the effectiveness and predictability of the regulatory regime. Breaches which come to light as a result of a SMP operator’s own internal control system may be of a lower priority if they are transparently reported, proactively and effectively remedied, and the failure of controls which led to the breach

is also addressed. However, ComReg will also take into account the severity of the breach when deciding whether to prioritise enforcement action.

94 Further detail on Radio Interference Investigations can be found on our website here: <https://www.comreg.ie/industry/radio-spectrum/spectrum-compliance/radio-interference/>

6.38 In the consumer protection context, cases may be prioritised using an assessment of the importance of the obligation concerned in ensuring that end-users are able to choose and use communications services with confidence. This assessment may be informed by trends in complaints received from the general public made via ComReg's consumer team and ComReg's website. There is a focus on ensuring price, choice and quality are protected with a focus on monitoring compliance with contract obligations, billing, switching, net neutrality and seeking redress. ComReg regards with particular severity any breaches of obligations intended to ensure access to ECAS because of the obvious importance of emergency calling. In the context of PRS, ensuring clear informed consent is provided is a key concern.

Effective Deterrence

6.39 ComReg uses its existing enforcement powers to bring criminal and civil actions against non-compliant ECN / ECS and PRS service providers. Regulatory breaches harm consumers, firms, industry, and competition generally. Effective enforcement powers and sanctions ensure that there is a genuine deterrent, both to the party being punished and to other regulated parties in the market. In this context it is ComReg's goal that **ComReg has an effective set of powers to incentivise compliance and effectively monitor and enforce.**

Goal 4.3

ComReg has an effective set of powers to incentivise compliance and effectively monitor and enforce.

6.40 The Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 and related Ministerial SI's and the SI transposing the Code (SI 444 of 2022) provides for a new enforcement regime including the power to impose administrative financial sanctions and updates ComReg's investigation powers. Adjudication is provided for as a mechanism for determining breaches and imposing remedies such as consumer refunds, compensation, requirement to cease and/or remedy a breach.

Investigations

6.41 Under the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023, where an Authorised Officer appointed by ComReg suspects on reasonable grounds that a person has committed or is committing a regulatory breach, they may issue a 'notice of suspected non-compliance' (a '**NSNC**') to the person in question (the 'Notified Person'). ComReg may also publish the NSNC on its website. The NSNC will set out the grounds of the Authorised Officer's suspicion and inform the Notified Person of their right to make submissions in response. The Authorised Officer will also provide the Notified Person with the materials relied upon in reaching a view on the suspected non-compliance.

6.42 Prior to commencing an investigation into the suspected breach (or during the course of this investigation provided an adjudicator has not made a final decision), the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 specifies that ComReg and the Notified Person may:

- ◉ Enter into an agreement to resolve the issue;
- ◉ Enter into binding commitments proposed by the Notified Person to address the breach, and the finalised commitments will be published on the ComReg website once agreed and executed; or

- Reach a settlement to resolve the issue, following which the Authorised Officer shall prepare a report setting out the relevant details (including any administrative sanctions to be imposed on the Notified Person) and the matter will be referred to adjudication on consent.

6.43 Authorised Officers may conduct detailed investigations into the suspected breaches and, in addition to the existing powers under the 2002 Act, including the power to enter premises/vehicles and seize documents and other records as required, the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 grants Authorised Officers additional powers to:

- Require certain individuals in a position to facilitate access to computers and other data equipment in a given premises/vehicle to assist the Authorised Officer in this regard; and
- Seize any computer or other equipment as the Authorised Officer considers appropriate.

6.44 Following an investigation into the suspected non-compliance, an Authorised Officer will either close the investigation without taking any further action or, where the Authorised Officer still suspects that a breach has occurred, prepare a Referral Report and, subject to Commissioner consent, refer the matter for adjudication.

Adjudication

6.45 The Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 provides that the Minister will appoint persons nominated by ComReg to form a panel of adjudicators, who will be independent in the performance of their functions and will have had no role in the investigation.

6.46 On confirmation that a matter has been referred to adjudication by an Authorised Officer, the Notified Person can make written submissions on the Referral Report. The Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 will equip the adjudicators with the following

powers similar to those of the High Court:

- directing ComReg or one or more of the parties to answer questions, adduce evidence, produce books and documents, or clarify an issue of fact,
- conducting an oral hearing
- summoning a witness to appear to give evidence or attend an oral hearing (including on oath or affirmation).

6.47 Non-compliance with the adjudicators' directions or a witness summons will be an offence and may have the following consequences:

- On summary conviction, to a fine not exceeding €5,000 or a term of imprisonment not exceeding 6 months (or both); or
- On conviction on indictment, to a fine not exceeding €250,000 or a term of imprisonment not exceeding 5 years (or both).

6.48 Having considered all evidence presented, the adjudicators may make a decision as to whether, on the balance of probabilities, the Notified Person has committed a regulatory breach. Where the adjudicators determine that a regulatory breach has occurred, they may impose measures deemed necessary to remedy the breach, including:

- Ordering the payment of a financial penalty, where considered necessary, not exceeding:
 - in the case of a company, €5 million or 10% of the company's annual turnover; or
 - in the case of a natural person, €500,000 or 10% of the individual's annual income.
- Ordering the payment of a refund and/or compensation to the end-user where they have been unfairly impacted by the breach in question; and
- Ordering the suspension or withdrawal of the Notified Person's general authorisation, where the adjudicator considers that there have been serious or repeated breaches by the Notified Person.

6.49 All decisions of the adjudicator must be confirmed by the High Court, who will uphold the decision unless it considers it to be disproportionate, erroneous or containing an error of law. A Notified Person may appeal the adjudicators' decision to the High Court within 28 days of the decision (this deadline may be extended in extenuating circumstances).

New Market Surveillance Regulations

6.50 The new Market Surveillance Regulation (EU) 2019/1020 ("MSR")⁹⁵ seeks to improve and modernise market surveillance, by addressing certain shortcomings of the previous market surveillance framework⁹⁶, notably, complex supply chains involving internet sales and third country (non-EU) sellers.

6.51 The MSR aims to strengthen market surveillance in Europe, with provisions for customs authorities and e-commerce operators. In addition, certain obligations now extend to fulfilment service providers⁹⁷, and a contact is required in the EU for products from third countries.

6.52 A number of pieces of product legislation are covered, including the Radio Equipment, Electromagnetic Compatibility Directive and Low Voltage Directives. Further, it proposes the creation of a Single Liaison Office ('SLO') for each Member State, and an EU-wide Product Compliance Network ('PCN'), which shall address general, horizontal issues of market surveillance, with a view to enhanced effectiveness and cooperation between Member States.

6.53 The European Parliament⁹⁸ while discussing the legislation noted that End Users "face risks when buying or working with potentially dangerous goods. Non-compliant goods may also ruin the environment. Secondly, businesses face unfair competition from non-

compliant businesses: total compliance costs have been estimated to amount to 0.48 % of a company's turnover and are not faced by non-compliant businesses". It identified 4 main objectives:

- i reinforcing market surveillance cooperation procedures among Member States;
- ii increasing operational enforcement capacity;
- iii strengthening the enforcement toolbox available to market surveillance authorities; and
- iv promoting compliance by making information on EU harmonised legislation more accessible.

6.54 The MSR came into force on 16th July 2021 and while the Regulation has direct application, for enforcement reasons it is necessary for each relevant government department in the State to produce its own implementing legislation to support the relevant product legislation.

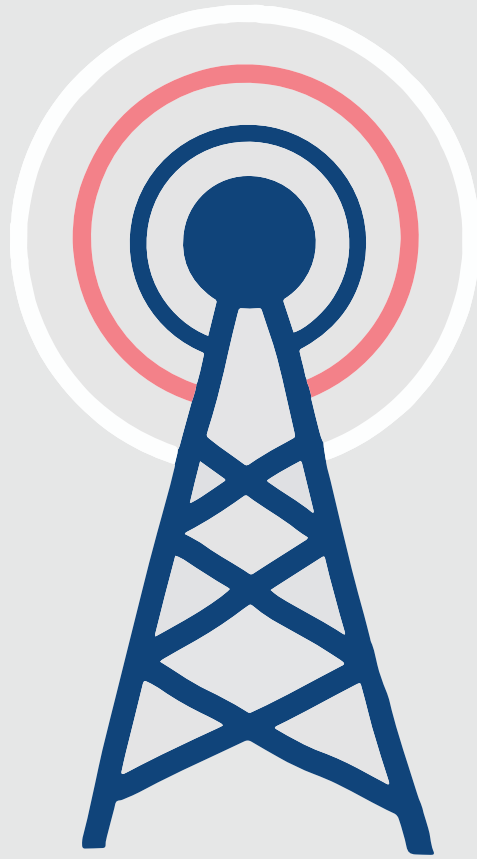
6.55 Over the coming period, ComReg will continue to engage with DECC for the legislative changes that are essential to ensure ComReg has the necessary powers and resources to ensure the market surveillance provisions of the MSR can be implemented as envisaged.

⁹⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32019R1020>

⁹⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0765&from=EN>

⁹⁷ Defined in the MSR as "...any natural or legal person offering, in the course of commercial activity, at least two of the following services: warehousing, packaging, addressing and dispatching,..."

⁹⁸ [https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/615652/EPRS_BRI\(2018\)615652_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/615652/EPRS_BRI(2018)615652_EN.pdf)



7

**ComReg's
Organisation**

7. ComReg's Organisation

Introduction

7.1 ComReg operates in a challenging and rapidly evolving environment, both in terms of the markets ComReg regulates and the policy

context. ComReg strives to be an active and agile organisation, capable of responding to the rapidly changing environment and addressing issues that affect ComReg's ability to fulfil its Mission in a timely manner.

Strategic Intent 5:

ComReg is an effective, agile, and relevant regulator

What does this look like?

- ComReg is regarded as a thought leader and ComReg's views are valued by others, both domestically and internationally.
- ComReg provides a high level of public value.

7.2 This Chapter sets out goals associated with our strategic intent to be **an effective, agile, and relevant regulator**. ComReg's ability to deliver on its Mission is determined by four key drivers of organisational success:

- An Informed Regulator with a deep understanding of the sector;
- Proactive Stakeholder Engagement;
- Our Evolving Mandate; and
- Our People and Processes.

7.3 Success under these four headings contributes to a greater likelihood of overall success for ComReg in achieving its strategic intentions set out in the previous chapters, and ultimately, its mission.

ComReg as an Informed Regulator

7.4 For ComReg to be an informed regulator, it must have access to high-quality and reliable data in a timely manner and a skilled staff who can undertake analysis to produce high-quality research and insights. ComReg uses data and information from a wide range of sources in a number of ways. For example:

- **Regulatory decision-making:** ComReg has a responsibility to ensure that regulatory decisions arise from timely, objective analysis based on high-quality and accurate data.
- **Monitoring, compliance and enforcement:** ComReg performs a variety of compliance monitoring and enforcement roles, such as compliance with spectrum licensing conditions.
- **Informing industry and end-users:** ComReg collects data and statistical information to provide information to consumers and industry. This statistical data is made publicly available on ComReg's website.

Goal 5.1

ComReg has a deep understanding of the markets ComReg regulates and related markets.

- 7.5** ComReg also needs to have a comprehensive understanding of the incentives facing industry operators. In this context, we collect information to help identify market trends and likely sources of market failure which help facilitate the achievement of ComReg's strategic intentions. In this respect, ComReg's goal is **to have a deep understanding of the markets ComReg regulates and related markets.**
- 7.6** Where timely and accurate data can be collected from ECS / ECN providers and relevant OTT providers, ComReg aims to minimise the burden on those who must source and gather such data. Where necessary, ComReg may use its legal powers under the Act and/or statutory instruments to gather data and information from industry. Insofar as is possible, ComReg tries to tailor its use of these legal powers and work with industry to collect data on a voluntary basis.

Goal 5.2

The regular and timely delivery of reliable and accurate data supports robust evidence-based decision-making, effective market monitoring and informed action.

- 7.7** ComReg's second goal related to data is therefore that the regular and timely delivery of reliable and accurate data supports robust

evidence-based decision-making, effective market monitoring and informed action.

- 7.8** In addition to data gathered directly from ECS / ECN providers and relevant OTT providers, ComReg seeks to supplement its data requirements using insights gathered from a variety of sources, including consumer research through market research, research undertaken by others (e.g. the Economic and Social Research Institute ('ESRI')) and data acquired by ComReg from specialist third parties.
- 7.9** In line with Ireland's Open Data Strategy, ComReg is engaging in a process to identify appropriate data sets for publication in Open Data format. ComReg has adopted an "*Open by Default*" approach to data, ensuring that data collected as part of its regulatory duties will be considered for publication as Open Data, subject to any necessary restrictions (e.g. due to confidentiality).
- 7.10** ComReg's Data Portal hosts data relating to its Quarterly Key Data Report ('**QKDR**'). ComReg has re-balanced its publication of data such that an increased volume of raw data and charts are now presented on the Data Portal itself, with the QKDR also revised to only present key metrics. Over the coming period, ComReg's data portal will continue to grow and will become a significant source of data relating to the ECS sector.
- 7.11** Related to these two goals, over the coming period ComReg plans a number of key initiatives:
- **Data strategy:** ComReg views data as an asset. With the increasing volume and depth of data sources that are being processed by ComReg to inform regulatory decision making, the organisation's data strategy needs to align with these ongoing developments. To this end, there is a need for robust and reliable data with best-in-class people skills, efficient processes and best practice use of technology to ensure ComReg can fulfil its ongoing requirements. ComReg will continue to develop its data strategy to meet these needs.

- **Data Skills:** ComReg will continue to develop and deliver continuous improvements in data skills for staff through both formal and informal training.
- **Open Data and Publicly Available Data:** ComReg will continue to identify further opportunities to share information on key metrics and ensure that relevant data is released under its 'Open by Default' standard.
- **Market Intelligence Data Project:** The aim of the Market Intelligence Data Project is to have a stable data request for operators and minimise additional ad-hoc data requests and to ensure the timely availability of granular information. Over the coming period the Revenue and Mobile Market dataset will be reviewed.
- **ComReg Research:** Over the period of this ECS Strategy, ComReg will undertake research relating to the markets it regulates, network rollout and the experience of consumers.
- **Third Party Independent research:** ComReg will continue to support the work of others, such as the ESRI, the Organisation for Economic Co-operation and Development (OECD) and Centre on Regulation in Europe (CERRE). Engaging with these researchers gives ComReg access to new data sources and techniques not otherwise available to the organisation.

Stakeholder Engagement & Advocacy

- 7.12** ComReg has a wide range of stakeholders ranging from individual consumers and their representative groups, through electronic and postal communication operators and their industry representative groups, to domestic government stakeholders (e.g. DECC) and international bodies such as the ITU, the RSPG, the European Regulators Group for Postal Services ('ERGP'), Ofcom UK, BEREC and the European Commission. One of ComReg's organisational values is transparency, and it sees honest engagement with all stakeholders as highly beneficial. In this context, it is **ComReg's goal that ComReg is proactive on engagement with a range of stakeholders.**

Goal 5.3

ComReg is proactive on engagement with a range of stakeholders.

- 7.13** Where appropriate, ComReg acts as a knowledgeable and informed regulator, seeking to represent, educate, advocate, and inform others about the ECS sector, developments in telecommunications technologies and evolving relationship between the sector and adjacent sectors. We do this through a number of channels, including research and documents we publish, participation at various fora (e.g. the Mobile and Broadband Taskforce) and attendance at Oireachtas Committee hearings.
- 7.14** ComReg regularly collaborates with government Departments, public bodies and other regulatory bodies in Ireland through fora such as the Economic Regulators Network ('ERN') and Digital Regulators Group ('DRG'). ComReg values participation in such groups as they allow for knowledge sharing, better regulatory responses to cross-cutting matters (such as digital markets) and act as fora to develop collective contributions to policy debates. The Online Safety and Media Regulation Act 2022 established a new Regulator, An Coimisiún na Meán⁹⁹, to oversee and enforce new and updated regulatory frameworks for broadcasting, audio-visual media services and online safety. ComReg looks forward to continuing to engage with An Coimisiún na Meán on areas of mutual interest.

⁹⁹ The Online Safety and Media Regulation Act 2022 dissolved the BAI and established Coimisiún na Meán

Engagement with Industry

7.15 ComReg recognises the need to tailor its communication to different stakeholder groups. Our engagement takes a number of forms, including:

- Formal consultation;
- Industry and stakeholder forums;
- Our Industry Websites; and
- Oireachtas Committees.

7.16 Over the coming period, ComReg plans a number of key industry initiatives:

- **Communications strategy:** ComReg will ensure that its Communications Strategy is flexible and adaptable to meet the changing demands and needs of all its stakeholders in the sector.
- **Mobile and Broadband Taskforce:** The Government renewed the mandate of the Mobile and Broadband Taskforce in 2021. Over the period covered by this Strategy, ComReg will continue to support the work of the Taskforce.
- **Public Stakeholder Events:** Over the period covered by this ECS Strategy Statement, ComReg intends to host a number of stakeholder events, including stakeholder webinars and a national conference. ComReg held a national conference in March 2023.

Engagement with Consumers and the Public

7.17 As set out in Chapter 4, Consumer Engagement is critical to ensure consumers know their rights, including new consumer rights set out in the EECC and associated national legislation. Our engagement with individual consumers includes contact by phone and email. We engage with the wider public through the provision of information on our website and on social media, and engagement through consumer news; radio and press advertising.

7.18 In 2020, we introduced our consumer brand, ‘ComReg Connects’, to help ensure consumers and the general public can identify ComReg as a

brand at the forefront of consumer protection, capturing the essence of who we are and what we stand for.

7.19 ComReg is committed to continuing to provide ‘trusted advice and support’. We will continue to do this through transparent communication that uses easy to understand language throughout our engagement with consumers and the public.

ComReg Connects Trusted Advice and Support

7.20 In addition, we offer several tools to assist consumers in choosing and using communication services with confidence. Further details on our Consumer and Public engagement can be found in Chapter 4.

International Activities

7.21 The nature of the ECS sector requires international collaboration and harmonised approaches. This international collaboration facilitates the development of an open and competitive environment in which innovation, creativity and competition can thrive. ComReg contributes to regulatory policy discussions and inputs to regulatory decision making in an international setting. ComReg manages and develops Irish regulatory input to the development of European and international policy, standards, and legislation.

7.22 ComReg continuously engages with a range of regulatory bodies at an international level, including through BEREC, EaPeReg¹⁰⁰, with Ofcom (UK), the OECD, the RSPG and the CEPT. In some instances, ComReg has taken leadership roles in these bodies, in recognition of its standing as an expert-led and knowledge-driven regulator. International cooperation and knowledge sharing with such bodies is key to effectively tackling the challenges that we face as regulators in the digital world.

100 Eastern Partnership Electronic Communications Regulators Network (EaPeReg)

Goal 5.4

ComReg contributes to and learns from international best practice.

- 7.23** ComReg seeks to contribute to and learn from the best practices of others and devotes considerable resources to understanding the regulatory analyses and decisions made by its international colleagues. As a small island nation in the EU, Ireland and ComReg can learn a lot from colleagues in other countries, but also share expertise with others when ComReg has greater knowledge or experience in the area of interest. In this context, it is **ComReg's goal that ComReg contributes to and learns from international best practice.**

Our Evolving Mandate and Role

- 7.24** As a statutory body, ComReg operates within a defined legislative framework. For ComReg to be an effective and relevant regulator, it must operate in an appropriate legal context and have proper and sufficient powers to regulate effectively.
- 7.25** In this context it is ComReg's goal to ensure that it actively engages with the evolution of the market, including adjacent and related markets, and to ensure that ComReg's legislative mandate evolves to enable it to deliver effectively.
- 7.26** ComReg will continue to advocate for any legislative changes that it considers necessary to ensure the enforcement regime in the ECS sector includes the effective deterrence mechanisms. The 2020 Programme for Government recognised that for ComReg

to be an effective and robust regulator it must have enhanced enforcement powers including the power to impose administrative financial sanctions, as other regulators and EU member states can, and this is reflected in the new enforcement regime contained in the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 and related Ministerial SI's and the SI transposing the Code (SI 444 of 2022). In addition, the Competition Amendment Act 2022, which transposed the ECN+ Directive¹⁰¹ in Ireland, included significant enhancements to ComReg's competition enforcement powers, in particular the introduction of an administrative financial sanctions regime.

Goal 5.5

ComReg actively engages with the evolution of the market, including adjacent and related markets, and ensures the legislative mandate evolves to enable ComReg to deliver effectively.

- 7.27** The Consumer Rights Act 2022 transposes a number of relevant EU Directives and updates various provisions on consumer rights and remedies in relation to contracts for the supply of non-digital services, unfair contract terms, and information and cancellation rights. This legislation brings about a number of positive changes for consumers, including stronger consumer rights, protections and remedies across a number of key areas.

¹⁰¹ Directive (EU) 2019/1 of the European Parliament and of the Council of 11 December 2018 to empower the competition authorities of the Member States to be more effective enforcers and to ensure the proper functioning of the internal market.

Regulating for the Digital Age

- 7.28** The growing focus of regulation at an EU level has been on digital services and the need for digital platform regulation. Digital platforms generally rely on the generation, collection, processing, analysis, and exploitation of data to operate and improve their service offerings. The EC has put forward proposals to address issues arising in digital markets and digital platforms.
- 7.29** ComReg has engaged with the ERN and DRG on the topic of digital regulation. ComReg has also continued to contribute to the work of BEREC, in particular, contributing to the drafting of BEREC’s Response to the EC’s Public Consultations on the Digital Services Act Package in 2020¹⁰².
- 7.30** ComReg may have a role under the EU Cybersecurity Strategy for the Digital Decade namely the repeal of Article 40 and 41 from the EEC Directive to the proposed Network and Information Security Directive 2 (“NIS2”) in respect of the entity: *providers of public electronic communications networks*.
- 7.31** ComReg’s role in respect of electronic privacy is evolving with the development of the proposed EU e-Privacy Regulation, while in the interim ComReg’s monitoring and enforcement role continues under the 2002 Privacy and Electronic Communications Directive.
- 7.32** ComReg has a number of activities planned relating to Goal 5.5:
- **eIDAS:** The EU Electronic Identification and Trust Services for Electronic Transactions in the Internal Market Regulation (the ‘eIDAS’ Regulation) sets out rules for electronic identification and establishes a legal framework for the supervision of trust service. These services are intended to make online business transactions more trusted and secure. DECC proposes to assign ComReg the role of Supervisory Body to oversee providers of trust services in Ireland. The

most secure trust services are designated “qualified” trust services and are subject to special requirements under eIDAS Regulation. ComReg is also to undertake the obligation to maintain and publish a qualified trust service provider list and services established in Ireland.

- **Free Flow of Data Regulation:** The Free Flow of Non-Personal Data Regulation is a regulation to remove unjustified barriers to the movement of non-personal data in the EU and thus to assist in unlocking the potential of Europe’s Data Economy. ComReg is engaging with DECC regarding assuming a number of roles (the “Single Contact Point” and the “Single Information Point” for Ireland) under this Regulation in Ireland.

Environmental Sustainability

- 7.33** The Climate Action and Low Carbon Development (Amendment) Act 2021 calls on relevant public bodies to perform their functions in a manner consistent with the Irish Government’s climate policies, in so far as practicable. As a ‘relevant body’, ComReg seeks to be an organisation that values environmental sustainability. Environmental sustainability in this context is concerned with mitigation (i.e., reducing/minimizing the negative environmental impact caused by human activity) and adaptation (i.e., measures taken in the face of adverse weather conditions caused by climate change).
- 7.34** ComReg coordinates with DECC on the Government’s annual Climate Action Plans under the Climate Action and Low Carbon Development (Amendment) Act 2021. ComReg has three specific actions in the most recent Climate Action Plan, CAP23:

¹⁰² https://berec.europa.eu/eng/document_register/subject_matter/berec/others/9411-berec-response-to-the-public-consultation-on-the-digital-services-act-package-and-the-new-competition-tool

Mobile Network Operators (MNOs)

<p>Climate Action Plan – Actions for 2023</p>	<p>Action AD/23/12: Where appropriate, implement the findings and key take-aways from the report on ComReg’s network resilience project: ‘Climate Change and its Effect on Network Resilience in Ireland’.</p> <p>Action AD/23/13: Collate and review the various methodologies available to calculate the environmental impact of ECN and promote the harmonisation of such measurement indicators across the EU</p> <p>Action CE/23/9: ComReg will begin work on considering consumer information actions to inform consumer choice aimed at driving improvements to the environmental sustainability of the electronic communications sector</p>
<p>Climate Action Plan – Actions for 2022</p>	<p>Action #63: ‘Understand the effects of climate change on telecoms networks’¹⁰³</p> <p>Action #64: ‘Understand the potential role that regulators of electronic communications sector can play in decarbonisation’</p>

7.35 ComReg also collaborates with DECC to response to the Climate Change Advisory Council’s (**‘CCAC’**) annual adaptation scorecard review for the Communications Sector. ComReg remains in contact with the Environmental Protection Agency (**‘EPA’**) regarding publications and workshops concerns the ICT aspect of critical infrastructure.

7.36 ComReg is a member of the BEREC Working Group on Sustainability. ComReg contributed to the 2021 BEREC report *‘Assessing BEREC’s contribution to limiting the impact of the digital sector on the environment’*¹⁰⁴ and featured as one of three NRA case studies. This report highlighted the lack of common measurement methodologies for the environmental impact of ECS/N.

7.37 In light of the key takeaways of this first report, the Sustainability Working Group’s current workstream seeks to explore the environmental indicators which, if widely adopted on a harmonised basis, would

give an accurate and reliable picture of the environmental impact of ESC/N, and allow for comparison across operators. The draft BEREC report ‘Sustainability Indicators for Electronic Communications Networks and Services’ went out for public consultation¹⁰⁵, following a series of workshops and surveys sent to industry and NRAs. This report should be read in the context of the European Commission’s ongoing work in this area, which also outlines that there exist other environmental impacts of digital ecosystem other than Greenhouse Gas (**‘GHG’**) emissions, including critical materials for device production, biodiversity, waste etc.

7.38 ComReg also continues to undertake market research regarding consumer’s views on the importance of environmental sustainability in their choice of electronic communications provider. In a survey in 2022, over 3 in 5 (63%) of respondents in Ireland stated that environmental sustainability is an important factor when choosing a mobile phone provider.

¹⁰³ ComReg has published a study by Frontier Economics to investigate how climate change has been affecting ECN. See ComReg Document 22/100 and 22/100a

¹⁰⁴ BEREC Doc BoR (22) 35

¹⁰⁵ Public consultation via the BEREC website from March 15th– April 12th 2023

7.39 ComReg issued a Call for Inputs (CFI) in 2019¹⁰⁶ to better understand the relationship between connectivity and decarbonisation. The results from this CFI were published in 2020¹⁰⁷, and the four identified use cases (transport, electricity, industry and agriculture) have highlighted the enabling effect that the application of certain technologies can have on reducing GHG emissions.

Our Organisation

7.40 Unless ComReg has the people, expertise, and processes to carry out its functions, it cannot deliver for consumers. The quality of ComReg's people is a key part of its ability to achieve its Mission over the remainder of ComReg's five-year strategy.

7.41 As the labour market approaches full employment, there is strong competition for professional talent from both the private sector and the public sector. In competing with the private sector for key specialist skills, ComReg can be disadvantaged by restraints regarding remuneration. To counteract this, ComReg invests in measures to make ComReg an employer of choice by being a great place to work. We strive to create this environment by encouraging a culture of respect, engagement, collegiality and wellbeing. People are given opportunities to use and develop their skills and competence. Using our "Respect Charter" to set standards against which we measure ourselves, ComReg places a strong focus on diversity and on sustaining a values-based culture. In this environment, we aspire to ensure that people are respected and nurtured and can therefore thrive and do their best work.

7.42 ComReg realises that the ability to offer blended working is a significant benefit in terms of attracting and retaining talent. We have embraced the blended working model and staff are dividing their time between in-office and home working. The organisation is

committed to a future where blended working will be commonplace and is collaboratively designing a working model taking into account the needs of the individual and the needs of the organisation. The focus on blended working has led to an increase in digital skills and general agility.

7.43 The organisation has invested in a holistic wellbeing programme available to all workers. ComReg realises that the stresses of everyday life can impact on productivity and enjoyment of work. We believe that by providing opportunities to take time out to partake in activity, to listen to experts in a variety of fields, to discuss topics impacting on wellbeing, we provide an environment where people are more aware of the importance of self-care.

7.44 ComReg is an equal opportunity employer. We embrace talent and commitment irrespective of gender, background, nationality or ability. The organisation is populated by a mix of Engineers, Economists, Accountants, Lawyers, Data Analysts, public policy analysts together with other professions. The ratio of male to female graduates in some of these disciplines can be skewed. This can be apparent in some of our recruitment competitions where we see a lack of gender balance in applicants for some roles. We are focusing on addressing this. In addition, we are working with women within the organisation on specific issues. In this context, it is **ComReg's goal that ComReg has sufficient resources to fulfil its organisational strategy.**

7.45 Over the coming period, ComReg will continue to focus on supporting and retaining its existing talent pool as it recruits additional staff to fulfil its Mission and evolving mandate. As new functions are added to its mandate, ComReg will continue to strike an appropriate balance between in-house resources and outsourcing.

¹⁰⁶ ComReg doc 19/126

¹⁰⁷ ComReg doc 20/43

Goal 5.6

ComReg has sufficient resources to fulfil its organisational strategy.

- 7.46** As part of ComReg's resource planning process, ComReg is analysing its evolving regulatory mandate and the skillset required to deliver on its remit up to the end of 2023. As our mandate evolves, additional resources will likely be required. ComReg is currently discussing its role regarding new functions/responsibilities with DECC, including resourcing and financing matters, and this is likely to result in a request for permission to increase staffing levels.
- 7.47** It is important in a sector as dynamic as electronic communications that ComReg continually seeks to enhance the skills, knowledge, and capacity of its staff, to ensure that the organisation remains up-to-date and relevant. This also contributes to staff satisfaction and staff retention, which can be a challenge for a public sector organisation like ComReg. In this context, it is ComReg's goal to **maintain an agile, skilled, and motivated organisation.**

Goal 5.7

ComReg maintains an agile, skilled, and motivated organisation.

- 7.48** The ability to achieve this goal is largely contingent on the competence and ability of our staff and leaders. ComReg invests in enabling our staff to develop their technical and professional skills through be-spoke development initiatives, coaching, peer to peer

learning, technical and professional training, and the option to partake in formal education.

- 7.49** ComReg's success as an organisation also depends on the structures within which its staff work as well as the systems and processes that support them. ComReg recognises the necessity of being responsive and having the flexibility as an organisation to react to unanticipated situations. ComReg must be structured so that decisions are made in a timely, transparent, replicable, and robust manner and that all processes run effectively, efficiently, and reliably. However, ComReg must be flexible enough to adapt to a continuously changing sector. In this context ComReg's goal is that **in line with best practice, ComReg has efficient and effective policies, processes, and systems.**

- 7.50** At all times, ComReg seeks to be an organisation that values environmental sustainability. ComReg has undertaken a number of green initiatives in recent years to lower the carbon footprint of its offices and activities, in line with best practice and the Public Sector Climate Action Mandate.

Goal 5.8

In line with best practice, ComReg has efficient and effective policies, processes, and systems.

- 7.51** As a named public body under the Official Languages Act 2003, ComReg is obliged to provide a range of services as *Gaeilge*. ComReg's second Irish Language Scheme commenced on 21 December 2020 and includes a number of commitments to ensure services as *Gaeilge* are provided to anyone who wishes to carry out their business with ComReg through Irish. It shall remain in force for a period of 3 years.

The Official Languages (Amendment) Act 2021 includes a number of new provisions for public bodies:

- An objective that by 2030 20% of new recruits to the public sector and the Civil Service be proficient in Irish.
- A provision to end the language scheme system and replace it with a system of language standards.
- A provision to ensure that communications with a public body on social media are answered in the same language.
- A provision requiring public bodies to ensure that at least 20% of their annual advertising is in Irish.
- A provision to ensure application forms are available in Irish.

7.52 The new provisions will be implemented by ComReg over a period of time.

7.53 ComReg has a number of obligations under the Disability Act 2005. In line with these obligations, ComReg ensures that the public areas of its building are accessible to people with disabilities and that its public services are accessible to people with disabilities.

7.54 ComReg also has obligations under the Irish Human Rights and Equality Commission Act 2014. ComReg is committed to meeting its statutory obligations under the Human Rights and Equality Commission Act 2014. The Act establishes a positive duty on public bodies to promote equality, prevent discrimination and protect the human rights of its staff and all of those with whom it engages including staff, service users and stakeholders alike.

7.55 ComReg has put in place measures to ensure that consideration is given to human rights and equality in the development of policies, procedures, engagement with stakeholders and the discharge of all of ComReg's statutory functions. The Public Sector Equality and Human Rights Duty ("the Duty") finds expression both internally in a range of HR and staff policies and externally in the manner in which ComReg deals with consumers and

other stakeholders. The Duty is also reflected in ComReg's Consumer Charter. In addition, ComReg has in place a host of policies and procedures to ensure that all ComReg's services are accessible to as wide a range of users as possible.

7.56 Over the coming period, ComReg plans a number of key initiatives:

- **Carbon Footprint:** The CAP23 commits that public sector bodies will complete their individual Climate Action Roadmaps by the end of Q1 2023. ComReg's forthcoming roadmap explains how the organisation aims to meet the requirements of the Public Sector Climate Action Mandate as set out in CAP21 - and as updated in CAP23 - and reach its 2030 carbon and energy efficiency targets. The ComReg Roadmap is based on the SEAI/EPA Public Sector guidance for the preparation of Climate Action Roadmaps. In accordance with the guidance, this first Roadmap is focused on ComReg's plans for reducing total energy related emissions and fossil fuel related emissions from its operations. The scope of the roadmap may be expanded in future iterations to include other non-energy greenhouse gases, indirect emissions, and adaptation to climate change. ComReg will continue to put in place necessary measures, where possible, in order to reduce its Carbon Footprint, in line with the government's annual Climate Action Plan and other initiatives.
- **Flexible and Remote Working:** ComReg sees many benefits in offering staff the option of working between home and the office in a blended way for part-of the week. These benefits extend beyond enhanced staff engagement and employee value proposition to a positive impact on emissions and the overall environment. Our staff also see these benefits and have given their input via surveys and virtual workshops. Rather than dictating how the blended model would work, ComReg conducted an "experimentation phase". Over six months, we trialed various types of blended arrangements to identify the most beneficial for the organisation and the people of the organisation. This was measured via surveys, discussions, and data analysis. Our new blended working policy took effect in January 2023 and is working effectively to date.

-
- **Irish Language Scheme 2020 - 2023:** ComReg will ensure the availability of staff who can speak Irish in its consumer services division to assist with all consumer queries and complaints as Gaeilge. We have commenced an initiative to provide Irish language training to staff at a beginner and intermediate level. In 2023 a new Irish Language Scheme will be finalised.
 - **Accessibility** – ComReg will ensure that relevant consumer documents and information on its website are provided in an accessible format to consumers.
 - **Internal processes:** As a general matter, ComReg will seek to further automate its processes to improve efficiencies within the organisation and assist in delivering a better service to stakeholders. Where new policies and processes are put forward by Government, ComReg aims to implement such policies in a timely and efficient manner.



8

Glossary



Glossary

ADR:	Alternative dispute resolution
BCRR:	Broadband Cost Reduction Regulations
BEREC:	Body of European Regulators for Electronic Communications
CAP:	Consumer Advisory Panel
CCPC:	Competition and Consumer Protection Commission
CEPT:	European Conference of Postal and Telecommunications Administrations
CERRE:	Centre on Regulation in Europe
ComReg:	Commission for Communications Regulation
DC:	Dedicated Capacity
DECC:	Department of the Environment, Climate and Communications
DGA:	Data Governance Act
DMA:	Digital Markets Act
DSA:	Digital Services Act
EC:	European Commission
ECAS:	Emergency Call Answering Service
ECN:	Electronic Communications Network
ECS:	Electronic Communications Service
ECSMs:	Electronic Communications Security Measures
EECC:	European Electronic Communications Code
eIDAS:	Electronic Identification, Authentication and Trust Services
ENISA:	European Network and Information Security Agency
ERGP:	European Regulators Group for Postal Services
ERN:	Economic Regulators Network
eSIM:	Embedded-SIM, a form of SIM card directly integrated in a device
ESRI:	The Economic and Social Research Institute
EU:	European Union
FACO:	Fixed Access Call Origination
FTTC:	Fibre to the Cabinet
FTTH:	Fibre to the Home
GHz:	Gigahertz, a unit of frequency
HHI:	Herfindahl-Hirschman Index
IAS:	Internet Access Service
IoT:	Internet of Things
ISDN BR/BRA:	Integrated services digital network basic rate/basic rate access
ISDN:	Integrated services digital network
ITU:	International Telecommunication Union
ITRS:	Irish Text Relay Service
LEO:	Low Earth orbit
M2M:	Machine-To-Machine, referring to wired or wireless communication between devices
MAN:	Metropolitan area network

Mbps:	Megabits per second, a measure of internet bandwidth or speed
MBSA1:	First Multi-Band Spectrum Award
MBSA2:	Second Multi-Band Spectrum Award
MHz:	Megahertz, a unit of frequency
MNO:	Mobile Network Operator
MVNO:	Mobile Virtual Network Operator
NBI:	National Broadband Ireland
NBP:	National Broadband Plan
NBS:	National Broadband Scheme
NCSC:	National Cyber Security Centre
NGN:	Non-Geographic Numbering
NIICS:	Number Independent Interpersonal Communications Services
NIS1 or NIS Directive:	Directive on Security of Network and Information Systems
NIS2 or NIS2 Directive:	Revised Directive on Security of Network and Information Systems
NRA:	National Regulatory Authority
NRRS:	Network Resilience, Reliability and Security
ODPC:	Office of the Data Protection Commissioner
OECD:	Organisation for Economic Cooperation and Development
OTA:	Over-The-Air, referring to wireless transmissions or connections through a network
OTT:	Over-The-Top, streaming services or content delivered via an internet connection
PIA:	Physical Infrastructure Access
PRS:	Premium Rate Services
PSTN:	Public Switched Telephone Network
QKDR:	ComReg's Quarterly Key Data Report
QoS:	Quality of Service
RFI:	Radio frequency interference
RFTS:	Retail Fixed Telephony Service
RGM:	Regulatory Governance Model
RSP:	Retail Service Providers
RSPG:	Radio Spectrum Policy Group
SIP:	Single Information Point
SMP:	Significant Market Power
USO:	Universal Service Obligation
USP:	Universal Service Provider
VHCN:	Very High-Capacity network
WACC:	Weighted Average Cost of Capital
WCA:	Wholesale Central Access
WHQA:	Wholesale High Quality Access
WLA:	Wholesale Local Access



An Coimisiún um
Rialáil Cumarsáide

Commission for
Communications Regulation



Appendices to Electronic Communications Strategy Statement **2023 to 2025**

Legal Disclaimer

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Annex: 1 The Economic and Legal Context

Annex 1: The Economic and Legal Context

Overview

- A1.1** This appendix considers the broad policy context, encompassing economic and legal dimensions, in which ComReg forms its strategy for regulation of the electronic communications sector.
- A1.2** Trends toward digitalisation have led society to rely more and more on ECS and ECN and, as a result, the strategic significance of the sector has increased in terms of policy considerations. This development has implications for investment incentives in the sector, as does the broader uncertainty about the future trajectory of the economy in the medium to long term.
- A1.3** The economic characteristics of the electronic communications sector remain such that market failures arise. The rationale for regulation, while evolving, is as relevant as ever.
- A1.4** This appendix considers the following sections in turn:
- i The Macroeconomic Outlook; and
 - ii The Legal Context.

The Macroeconomic Outlook

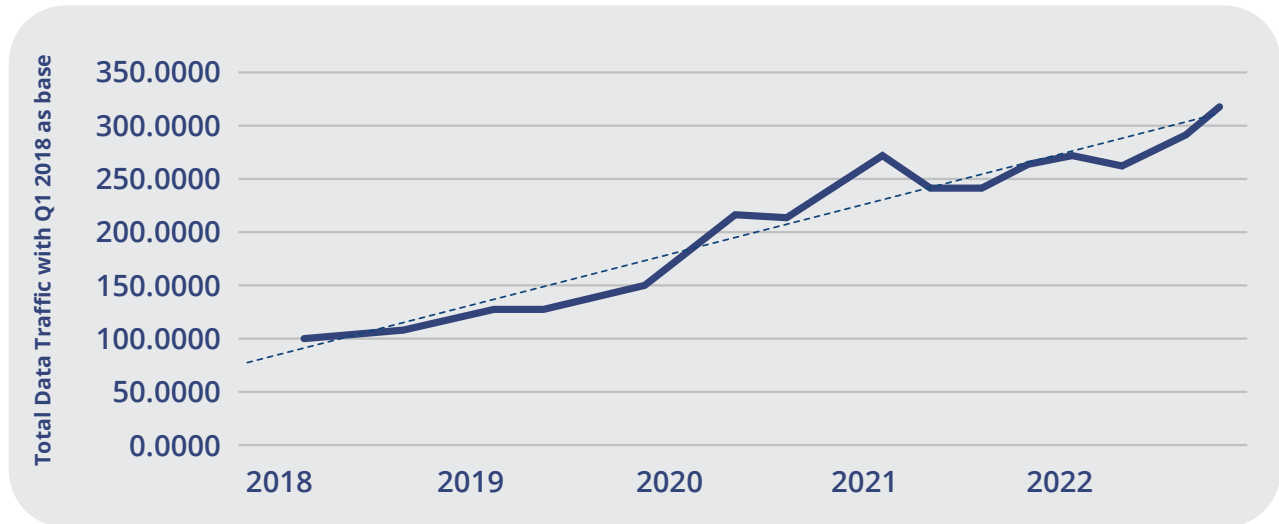
- A1.5** The electronic communications sector is affected by developments in the wider economy. The Covid-19 pandemic rapidly accelerated digitalisation across the economy and increased the use and reliance on ECS and ECN. The profound effects of Covid-19 on the global economy and society, together with higher inflation, high energy costs and geopolitical unrest have dominated economic developments recently and mean that the

short-term outlook for the Irish economy is still uncertain. The small, open nature of Ireland's economy also means that international developments can significantly impact the economy. These circumstances have the potential to impact the markets ComReg regulates and monitors and the various stakeholders who engage with these markets.

The Irish Economy

- A1.6** During the Covid-19 pandemic, businesses quickly moved to remote working, education moved online, and people relied on video calls to see family and friends. Adoption of digital services increased rapidly across the country. This step change in internet activities, especially in video calls and other video-related activities, led to substantial increases in data traffic on networks. Figure 1
- A1.7** Since the Covid-19 pandemic, data traffic has continued to increase, albeit, at a slower rate. As the population gradually returned to pre-Covid behaviour, e.g. returning to offices, the rate of increase in data traffic has reduced.

Figure 1: Rate of increase in Total Data Traffic (2018-2022) Base (100)= 2018 Q1¹



A1.8 Increases in take-up and usage of both mobile and broadband services may further incentivise investments in new technologies, such as FTTP and 5G. On the other hand, investment may be adversely affected if supply chain disruptions continue to constrain production capacity (although this has reduced in recent quarters).² Network rollout sped up in 2022 taking advantage of the partially more open supply chains, providing Ireland with the opportunity to gain economic value through low latency and high-speed networks. End users are expected to continue their use of high bandwidth services such as video streaming and video conferencing.

A1.9 Additionally new technology, such as virtual reality (VR) may become increasingly popular and can take full advantage of networks offering connections with low latency and high-bandwidth. The digitalisation of the Irish economy is also likely to continue apace, in line with DECC's digital strategy, bringing new and expanded digital services such as e-health and remote learning to more of the country as the rollout of high speed, low latency networks continues. However, the need for training

and upskilling across the Irish economy may be required to make the most of these new technologies.

A1.10 The Irish economy grew strongly in the first half of 2022 but slowed in the second half. GDP (gross domestic product) and MDD (modified domestic demand) growth were at 12.0% and 8.2% for 2022,³ respectively. A fall in wholesale energy prices and lower inflation mean that the economy is forecast to recover gradually in 2023 although the medium-term outlook is still uncertain due to high inflation, Russia's invasion of Ukraine, geopolitical tensions and rising interest rates. While these factors can have a negative impact on investment and consumption, the slight easing of inflationary pressures recently means that overall investment in Ireland is forecast to remain relatively strong due to the activity of the multinational sector of the economy. The uncertainty and lack of confidence impacting consumers as a result of the geopolitical tension remains although consumer sentiment has risen in recent months after hitting a 14-year low in September 2022⁴.

1 ComReg Data Portal (2023)
2 Central Bank of Ireland, (2023), Q1 Quarterly Bulletin
3 Central Bank of Ireland, (2023), Q1 Quarterly Bulletin
4 Credit Union, (2023), Consumer Sentiment Index Survey Results

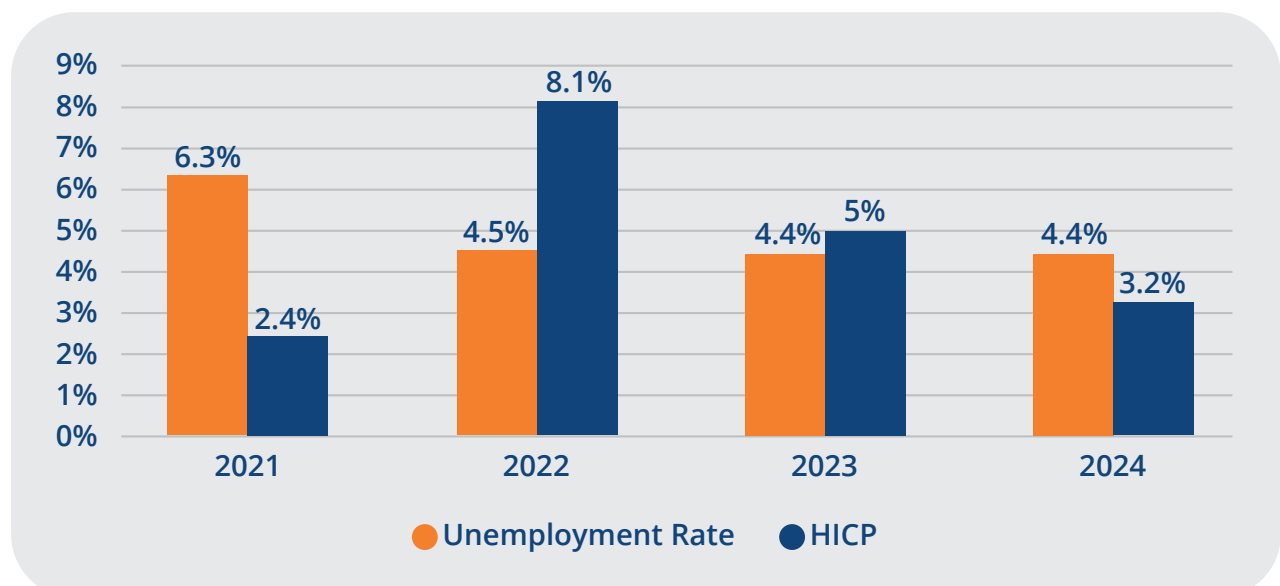
Figure 2: Changes in the Irish Central Bank forecasts of demand and inflation⁵

	QB4%			QB1%			Revision		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
MDD	6.4	2.3	3.3	8.2	3.1	2.9	+1.8	+0.8	-0.4
HICP	8.0	6.3	2.8	8.1	5.0	3.2	+0.1	-1.3	+0.4
HICP ex Energy	5.1	4.4	2.8	5.1	4.3	2.9	0	-0.1	+0.1

A1.11 Recent projections for demand have become more optimistic in recent months. Central bank predictions from Q2 2023 show MDD growth for 2023 that is 0.8 percentage points higher than the same prediction from Q4 2022. This is due to a fall in forecasted inflation due to a significant drop in the price of oil and gas on international markets. This has led to an improvement in projected real incomes and therefore stronger expected demand over the short term. Central Bank forecasts suggest that recent monetary policy from the

ECB including rising interest rates are yet to pass through to the Irish economy and it will take time before any impact can be assessed. However, it is likely that the strong recovery in overall investment seen post-covid may slow (although not entirely stop) due to the uncertainty from the war in Ukraine, increased interest rates and the loss of jobs in the ICT sector. Finally, the forecasted growth means that the unemployment rate is likely to remain low averaging 4.4% over the remainder of this strategy period.

Figure 3: Central Bank Unemployment and Inflation forecasts



5 Central Bank of Ireland Quarterly Bulletins from Q4 2022 (QB4) and Q2 2023 (QB2)

International Developments and The Global Economy

A1.12 The global economy recently has been disrupted by the Russian war in Ukraine which has been a shock to the supply side of markets. The current geopolitical tensions along with the increasingly essential role that ECS plays in a digitised society ensure that investment in network resilience is more critical than ever. While Ireland's direct exposure to both countries for overall trade is relatively low, the exposure of the Irish ECS sector will arise from lower consumer spending (and real incomes), rising interest rates, high energy costs and increased costs associated with network resilience and security measures.

A1.13 While Ireland does not source natural gas directly from Russia, wholesale global gas prices remain higher than normal levels despite a fall in recent months.^{6,7} It is important to recognise that this broader trend across the global economy can significantly impact Ireland's ECS markets. Operators may have absorbed initial rises due to inflation to avoid menu costs, but operators have since introduced increases in line with (and above) inflation. Furthermore, the risks to the supply of networks, highlighted by the war in Ukraine create a need for investment and this is coupled with an uncertain economic environment.

A1.14 Many ECS providers in Ireland operate as part of wider groups of companies, providing services in a number of countries. Investments in ECS in Ireland can depend on the domestic and international performance of these companies. Therefore, the downturn in the global economy along with geo-political tensions, the war in Ukraine and national security concerns and rising interest rates may impact the ECS sector in Ireland in the medium term.

The Legal Context

A1.15 Given the potential for market failures, ComReg's remit and powers allow it to intervene in various ECS markets (as appropriate) to help ensure these markets operate efficiently in the interests of society and end-users. While these fundamental rationales remain unchanged, as technologies and markets evolve, so too does the practical application of regulation. A key factor in this process is the evolution of the legal framework.

The European Electronic Communications Code

A1.16 On 17 December 2018, the European Parliament adopted the European Electronic Communications Code ('EECC') or simply "the Code".⁸ The Code is considered a central piece of legislation to achieve Europe's Gigabit society and ensure full participation of all EU citizens in the digital economy and society.

A1.17 The EECC, which is now in force across most of the EU, replaces the old suite of directives that comprised the EU Common Regulatory Framework for electronic communications. The EECC updates the main pillars of regulation in the sector, such as access regulation and consumer protection.

A1.18 The EECC was created to provide a new legislative framework for ECS markets in Europe that allows for closer harmonization between the different markets across the European Union, and thus facilitates the move towards the Digital Single Market. The EECC places particular emphasis on the following:

- Incentivising investment in high-speed broadband networks;
- Updating end-user rights in relation to OTTs and bundles so as to create a more level playing field;

6 Department of Finance and the Department of Public Expenditure and Reform, (2022), Budget 2023: Economic and fiscal outlook

7 Central Bank of Ireland, (2023), Q1 Quarterly Bulletin

8 Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the "European Electronic Communications Code (Recast) Text with EEA relevance".

- Establishing rules around symmetric access to infrastructure;
- Putting into place modified procedures for market analysis and peer-revision of remedies;
- Having a consistent approach to spectrum management;
- Setting common 5G goals and spectrum bands;
- Redefining the approach to universal broadband access; and
- Addressing some governance issues related to the autonomy of National Regulatory Authorities ('NRAs') and the functioning of the Body of European Regulators for Electronic Communications ('BEREC')⁹.

A1.19 The EECC has four stated objectives - promoting competition; contributing to the development of the internal market; promoting the interests of EU citizens; and promoting the widespread access to, and take-up of, very high capacity networks (both fixed and wireless), for all end-users on the basis of reasonable price and choice. The fourth objective is new, relating to the connectivity of end-users through the promotion of investment in Very High Capacity Networks ('VHCN'),¹⁰ and is embodied via measures, such

as those related to co-investment. ComReg also notes that the EC recently proposed a new EU Gigabit Infrastructure Act Regulation and Gigabit Recommendation to promote gigabit connectivity and new rules to enable faster, cheaper and more effective rollout of Gigabit networks across the EU.

A1.20 As such, for ComReg and Ireland generally, this means supporting the rollout of the highest capacity networks that are economically sustainable in a given area, while at the same time aiming for convergence in the network capacity available in different areas. This emphasis on connectivity in the EECC is reflected in our strategy, with the inclusion of a new strategic intent. Moreover, this objective broadly aligns with our vision for the electronic communications sector, that consumers and businesses in Ireland have affordable, high-quality, and widespread access to secure communications services and applications that support their social and economic needs.

A1.21 With the advent of the EECC, ComReg will have a number of new functions and objectives, additional to those contained in the previous Common Regulatory Framework, including, for example, in relation to connectivity.

Explanatory Box 1: Background and Evolution of Legislation

Given the presence of market failures, ComReg was established by the Communications Regulation Act 2002i ("the 2002 Act") as the successor to the Office of the Director of Telecommunications Regulation (ODTR), which had itself been established in 1997ii. Over the last two decades the scope of our regulatory remit has changed, reflecting changes in domestic and European policy towards communications markets as well as changes in technology. Today, ComReg's core remit encompassesiii:

- The regulation of electronic communications networks and services;
- The management of the radio frequency spectrum and national numbering resource; and
- The regulation of postal services

ComReg also has a number of additional functions, including the regulation of Premium Rate Services ('PRS')iv, Emergency Call Answering Services ('ECAS')v, the reduction of the costs of high speed broadband deploymentvi, roamingvii and net neutralityviii amongst other six.

⁹ Further information on BEREC can be found on its website: <https://berec.europa.eu/>

¹⁰ The first three objectives, promoting competition, contributing to the development of the internal market and promoting the interests of EU citizens are existing objectives under the existing EU Common Regulatory Framework.

In addition, ComReg has shared powers with the Competition and Consumer Protection Commission^x and some shared and complementary powers with the Data Protection Commission in respect of specific aspects of data privacy^{xi}. ComReg also has a variety of other powers and functions derived from national legislation.

Since 2002, electronic communications in EU member states have been regulated pursuant to a Common Regulatory Framework comprised of five principal directives^{xii}, The Framework Directive, The Authorisation Directive, The Access Directive, The Universal Service Directive, and The Privacy Directive. These directives were implemented in Ireland by way of a suite of domestic regulations made in 2003 and replaced in 2011, following the adoption by the EU in 2009 of two amending directives^{xiii} (the Better Regulation Directive and the Citizens' Rights Directive).

The 2002 Act and the Framework Regulations set out a number of statutory objectives for ComReg to follow, which include:

- ◉ Promoting the interests of end-users of communications services
- ◉ Promoting investment and innovation
- ◉ Promoting competition, and
- ◉ Ensuring efficient management and use of the radio spectrum.

The EECC, which is now in force, replaces the old suite of directives that comprised the EU Common Regulatory Framework for electronic communications.

- i The Communications Regulation Act 2002 has been amended by, inter alia, the Digital Hub Development Agency Act 2003, the Broadcasting (Amendment) Act 2007, the Communications Regulation (Amendment) Act 2007, the Broadcasting Act 2009, the Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010, the Ministers and Secretaries (Amendment) Act 2011, the Communications Regulation (Postal Services) Act 2011, the Protected Disclosures Act 2014, the Competition and Consumer Protection Act 2014, the Freedom of Information Act 2014, the Communications Regulation (Postal Services) (Amendment) Act 2015, and the Communications Regulation (Postal Services) (Amendment) Act 2017.
- ii By section 2 of the Telecommunications (Miscellaneous Provisions) Act 1996, which entered into force on 10 March 1997.
- iii Section 10 of the 2002 Act.
- iv Section 10(1)(cb) of the 2002 Act, inserted by the Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010.
- v Section 10(1)(ca) of the 2002 Act, inserted by the Communications Regulation (Amendment) Act 2007.
- vi Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks; European Union (Reduction of Cost of ix Deploying High Speed Public Communications Networks) Regulations 2016 (S.I. No. 391 of 2016).
- vii Various EU and domestic regulations from 2007 to 2017.
- viii See, e.g., Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No. 531/2012 on roaming on public mobile communications networks within the Union.
- ix For clarity, the list of powers and functions outlined here is not intended to be an exhaustive list. For more detail on ComReg's functions and powers, please see ComReg's website - <https://www.comreg.ie/about/legislation/>

- x In respect of certain ex post competition legislation and consumer protection legislation, insofar as they apply to the electronic communications and PRS sector.
- xi European Communities (Electronic Communications Networks and Services) (Privacy and Electronic Communications) Regulations 2011, S.I. No. 336 of 2011
- xii Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 (Framework Directive), Directive 2002/20/EC of the European Parliament and of the Council of 7 March 2002 (Authorisation Directive), Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 (Access Directive), Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 (Universal Service Directive). Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 (Privacy Directive).
- xiii Directive 2009/140/EC of the European Parliament and of the Council on 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services and Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009 amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws

Transposition

A1.22 In Ireland, the primary responsibility for transposition of the new Code into domestic Irish law lies with the Department of the Environment, Climate and Communications ('DECC'). The transposition process to date has included extensive and ongoing engagement with relevant key stakeholders, including ComReg, industry, the Office of the Data Protection Commissioner, other Government Departments and the European Commission.

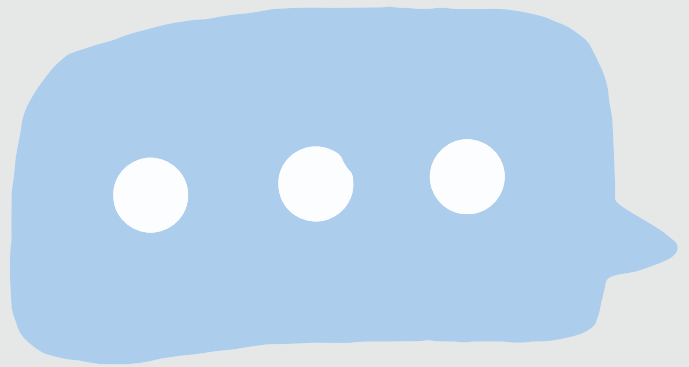
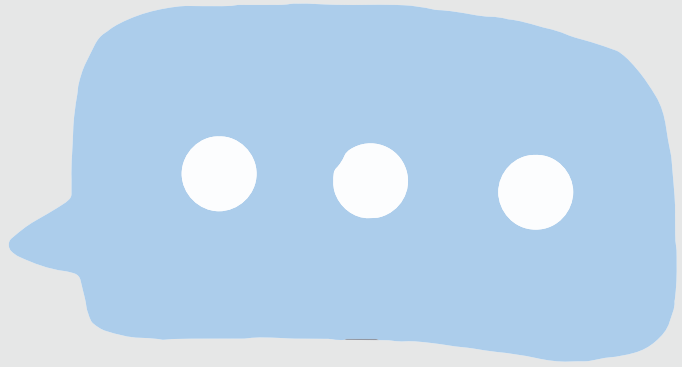
A1.23 Transposition of the Code in Ireland is being completed by way of both primary legislation and secondary legislation, specifically the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 (enacted on 2 March 2023) and the European Union (European Electronic Communications Code) Regulations 2022 (S.I. No. 444 of 2022) (published 12 September 2022).¹³ Both these pieces of legislation are expected to be commenced on the same date, together with three supporting statutory instruments

(which are currently in development) that are required for the proper functioning of the principal legislation.

A1.24 In the interim, electronic communications providers must continue to comply with their obligations, ComReg continues to regulate the electronic communications sector under its existing powers, and redress mechanisms for customers will continue unchanged until the new legislation is introduced. The Communications Regulation Act 2002 continues in force (without further change/ amendment), and the suite of 2011 Electronic Communications Regulations continue in force until further legislation is introduced, which amends or repeals them.

A1.25 Full transposition of the new Code will provide regulatory certainty for business and citizens from a solid regulatory framework as a foundation to build trust, increase investment and rollout of digital infrastructure, and enable opportunity for citizens and society.

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- A1.26** ComReg's Regulatory Guidance on the End-User Rights of the European Electronic Communications Code was first published on 10 November 2020 and the first update was published on 23 December 2020 and a second regarding Inter-operator processes, principles to facilitate end-user rights to switch internet access services in October 2021.
- A1.27** By 21 December 2025, and every five years thereafter, the Commission shall review the functioning of the EECC and report to the European Parliament and to the Council. Those reviews shall evaluate in particular the market implications of certain provisions and whether the ex-ante and other intervention powers pursuant to the EECC are sufficient to enable national regulatory authorities to address uncompetitive oligopolistic market structures and to ensure that competition in the electronic communications sector continues to thrive to the benefit of end-users.
- A1.28** In addition, by 21 December 2025, and every five years thereafter, the Commission shall review the scope of universal service, in particular with a view to proposing to the European Parliament and to the Council that the scope be changed or redefined. Furthermore, BEREC published an opinion on 9 December 2021 and will publish further opinions every three years thereafter, on the national implementation and functioning of the General Authorisation, and on their impact on the functioning of the internal market.
- A1.29** ComReg's various activities take account of the EECC, insofar as possible, and its strategy, vision, programme and activities set out in this Strategy Statement take into account the various provisions of the EECC. ComReg is mindful of the key features of the EECC and how they impact ongoing work streams.



Annex: 2 Trends and Challenges

Annex 2: Trends and Challenges

Overview

A1.30 The electronic communications sector is shaped by different social, economic, legislative, and technological forces. These forces become trends over time and drive the sector’s development. Some have a positive impact on markets and act as catalysts for the advancement of communication technology and the value it can bring to Irish society; others present challenges that require industry innovation or government regulation so that they do not inhibit the proper functioning of the market.

A1.31 ComReg analyses the various factors influencing the development of the electronic communications sector and its ecosystem. ComReg has identified four main trends which are likely to shape the sector, and which may pose regulatory challenges in the coming period. These are:

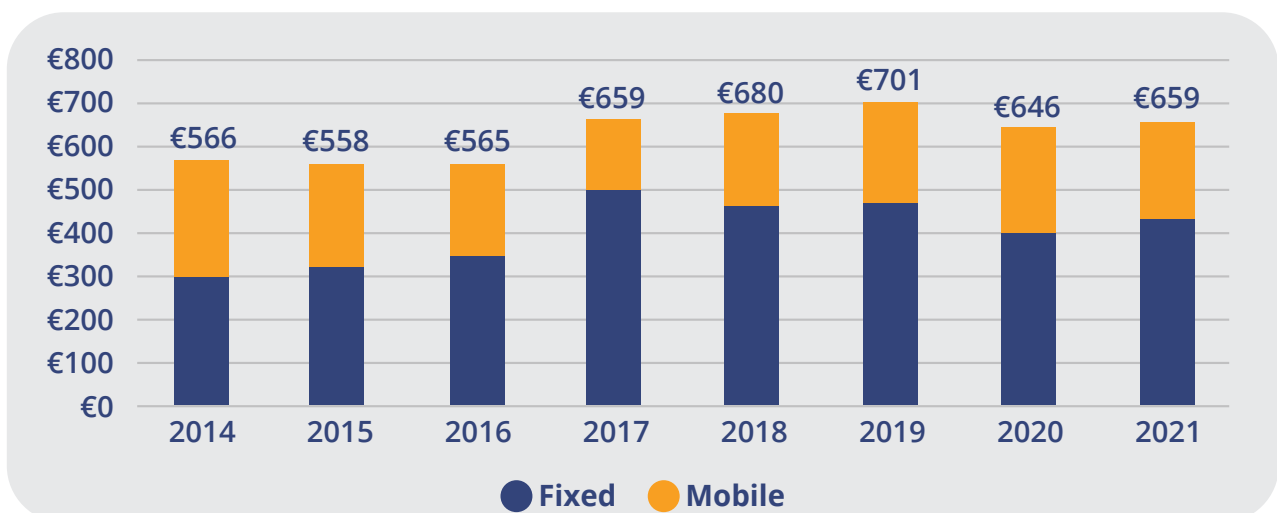
- Enhanced Connectivity and New Technologies
- The Consumer Experience
- The Evolution of Adjacent and Related Markets
- The Changing Future of Regulation in the Sector.

Enhanced Connectivity and New Technologies: Network Rollout

A1.32 The increasingly important role played by faster ECN across the country will continue to shape Ireland over the coming years.

A1.33 Between 2011 and 2021, commercial network operators have invested €6.8 billion in expanding the reach of their fixed and mobile networks (See Figure 4 below).¹¹ Commercial fixed investments by operators have centred around the rollout of fibre technologies and upgrading of existing networks (e.g. Cable networks), while copper-based networks are being phased out. The efficient migration of customers from copper-based networks will require engagement and consultation with various stakeholders and will need to be undertaken in a manner that safeguards competition and the rights of end-users.

Figure 4: Fixed and Mobile Investment in ECN/S (2014-2021 € millions)¹²



¹¹ Eurostat

¹² Eurostat

A1.34 New networks with faster download speeds, lower latency and increased bandwidth can impact consumer experience and take-up of services available over these networks (e.g. TV services) and of products and services available in adjacent markets (e.g. better mobile handsets). However, as networks improve, consumers are likely to become more reliant on their ECS and ECN. This increased reliance on ECS and ECN can also lead to increased demand and higher expectations of the services provided. ComReg expects this trend to continue, especially with the likely widespread adoption of fibre and 5G networks in the future.

A1.35 It is also worth noting that new networks (e.g. FTTH and 5G) are more energy efficient than legacy networks (e.g. copper). These new networks can also play a role in creating a more sustainable economy, realising the benefits of remote working, e-Health, e-Banking and helping to manage demands on electricity networks (e.g. through smart-grids).

A1.36 The National Broadband Plan ('NBP') is the government's initiative to ensure the availability of high-speed fibre to the home ('FTTH') broadband services to all premises in Ireland where no commercial service is available. The NBP State intervention area covers 560,000 premises, 1.1 million people, 65,000 farms, 44,000 non-farm businesses, and 679 schools. Over the lifetime of this strategy, it is expected that the majority of this network rollout will have been completed.

A1.37 Operators have commenced the rollout of 5G networks, device manufacturers have started developing and selling 5G handsets, and international bodies have clarified standards. However, widespread adoption will depend on the availability and take-up of new 5G enabled handsets and use cases.

A1.38 Besides 5G, there are several other new technologies that aim at increasing and improving connectivity. Wi-Fi 6 is the next generation Wi-Fi technology currently being deployed, capable of delivering reliant, fast, widespread, and traffic-heavy connectivity. Integrating 5G network technology with Wi-Fi 6 technology will allow operators to optimise traffic across access networks and provide efficient indoor-outdoor coverage. In the last few years, there has been a resurging interest in LEO satellites to offer ECS. These satellites typically orbit earth at a lower altitude than existing broadband satellites (from 180km to 2,000km) and have the potential to offer higher capacity (up to 23.7 Tbps¹³), broader coverage, and lower latency than existing broadband satellite networks¹⁴. It is possible that the future use cases of LEO satellites will focus on either niche applications or in helping reach universal broadband coverage in remote areas, rather than directly competing with traditional broadband services. Nonetheless, their retail potential of offering an alternative version of current services cannot be ignored.

Demand on Networks

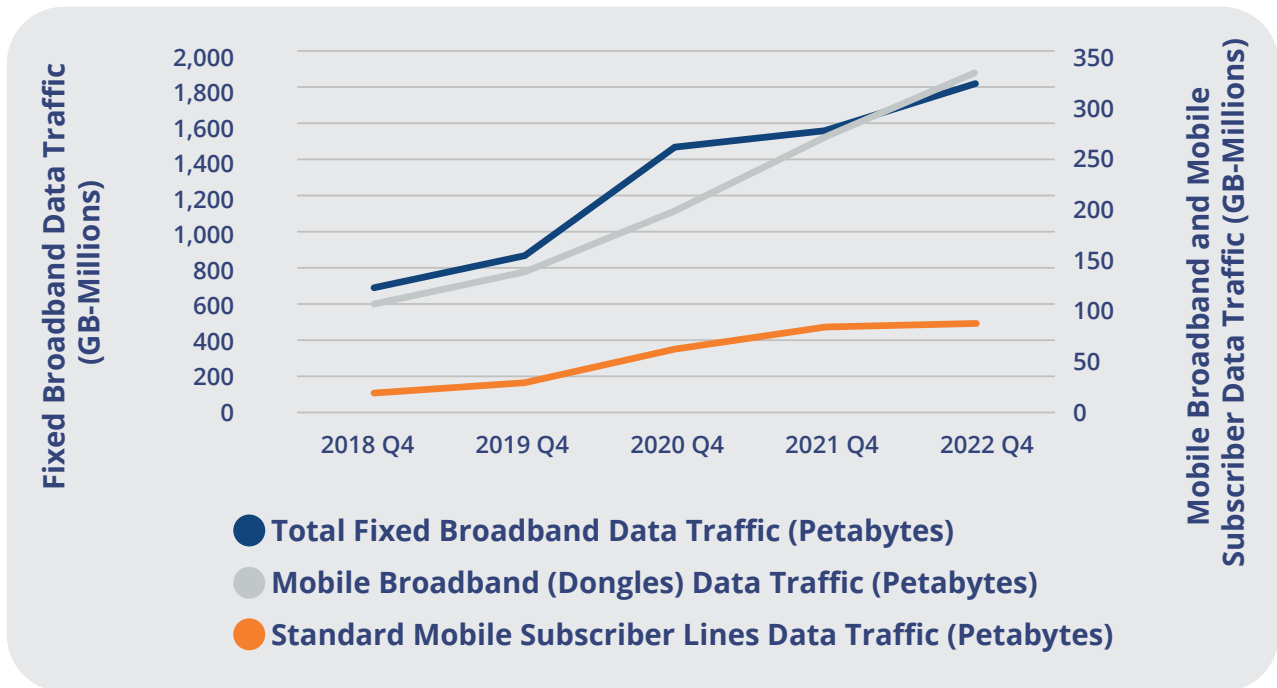
A1.39 Results from ComReg's Quarterly Key Data Report ('QKDR')¹⁵ in Figure 54 below show the increasing volumes of fixed and mobile data traffic in recent years, with particular increases arising in 2020, following the emergence of Covid-19.

13 Del Portillo, I., Cameron, B., and Crawley, E., (2018), "Technical Comparison of Three Low Earth Orbit Satellite Constellation Systems to Provide Global Broadband"

14 European Commission, (2017), "Low-Earth orbit satellites: Spectrum access"

15 ComReg QKDR Q4 2022, (2022)

Figure 5: Total Fixed and Mobile Data Traffic¹⁶



A1.40 Increasing demands for data are expected to continue. In the future, meeting the needs of Irish consumers accessing data-hungry applications (such as video streaming and social media) from mobile devices will require not only the improved coverage of mobile networks, but also the ability of consumers and services to roam seamlessly between mobile and fixed broadband networks. The National Broadband Plan and the availability of additional spectrum through the MBSA2 award are key enablers to meet this challenge.

A1.41 Patterns of use have also changed. ECN and ECS are increasingly being relied upon for crucial economic activities, such as working from home. In this context, the quality of service (e.g. reliability) may be even more important than when doing other activities online (e.g. streaming video content). In this regard, the reliability, resilience and security of networks is becoming increasingly important.

The Consumer Experience

A1.42 Related to the trend of increased and improved connectivity is the changing user experience and expectations of Irish consumers. As part of this trend, ComReg notes the growing reliance on connectivity, the increased adoption and usage of new technologies and the persisting non-uniform end-user experience.

Growing Reliance on Connectivity

A1.43 Over the last 10 years, the development of networks and the adoption of new technologies have enabled people to connect in ways they had never done before. There is virtually no part of our lives that remains untouched by innovations in digital connectivity¹⁷. In 2022, over 90% of Irish households had an internet connection at home and had been engaged in a wide range of internet activities¹⁸.

¹⁶ ComReg Data Portal Q2 2022, (2022), <https://www.comreg.ie/industry/electronic-communications/data-portal/>.

¹⁷ European Commission, Digital Agenda Scoreboard Key Indicators

¹⁸ Central Statistics Office, (2022), Information Society Statistics – Household

A1.44 Covid-19 rapidly accelerated trends towards further digitalisation, moving even more of our lives online. Digital services such as e-Government, e-learning, and cloud storage services have become increasingly popular in recent years¹⁹, online activities (including remote working) are also more important for businesses. As a result, ComReg expects that the relationship between the ECS sector and adjacent markets providing digital services will grow in importance and value.

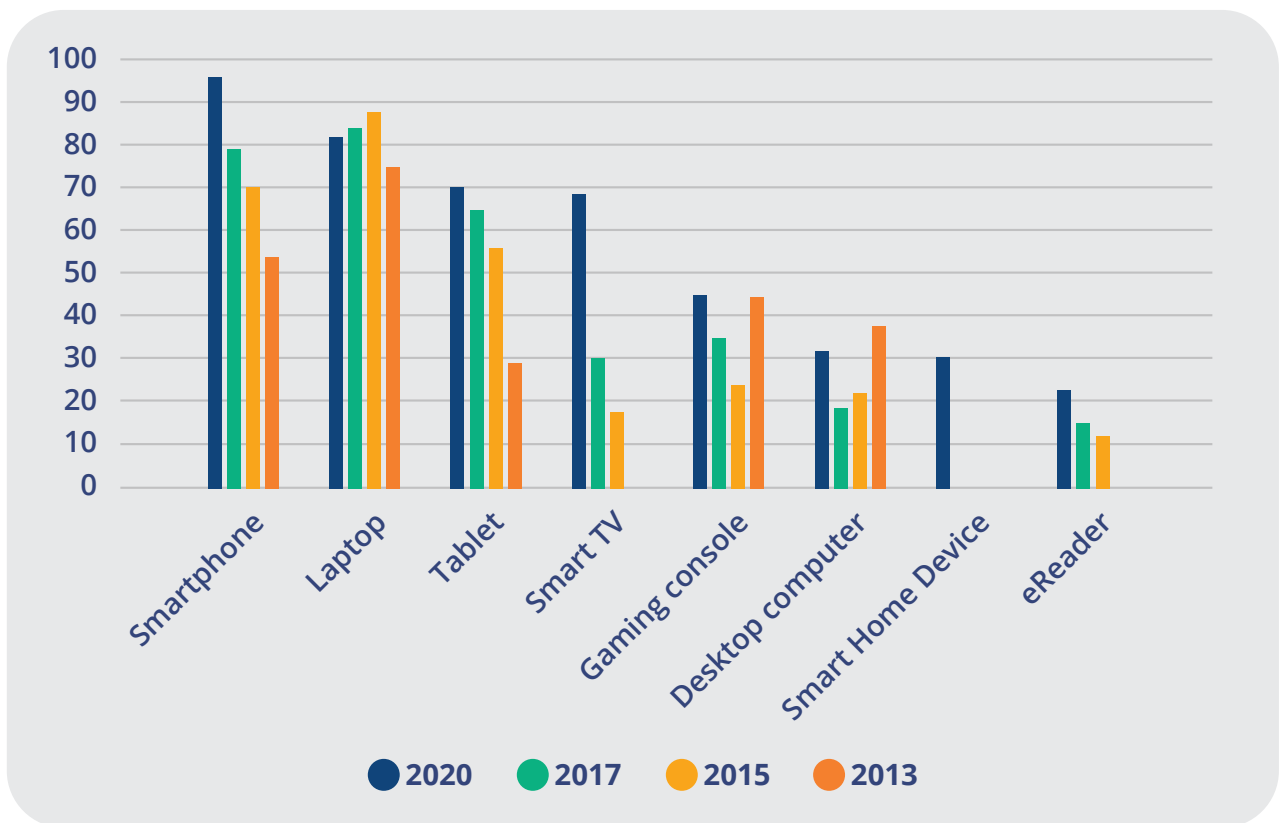
A1.45 The Digital Economy and Society Index ('DESI') 2022 report ranks Ireland as seventh in Europe in terms of integration of digital technology²⁰, with Ireland ranking highly in indicators under

e-commerce (i.e. SMEs selling online, and selling online cross-border).

Continued Adoption of New Technology

A1.46 Along with the growing reliance on connectivity, consumers continue to adopt new technologies. As shown in Figure 6 below, smartphones are now used in nearly every home, and the use of tablets continues to increase while laptops are used in more than 80% of homes. Smart TV's are now present in more than two thirds of homes while nearly one in three households use a smart home device.

Figure 6: Home (%) with devices connected to Fixed Broadband 2013-2020²¹



19 Central Statistics Office, (2022), Information Society Statistics – Household

20 European Commission, (2022), Digital Economy and Society Index (DESI) 2022: Thematic Chapters

21 ComReg Connectivity Survey, (2021), ComReg Document 21/30 and ComReg Ireland Communicates Survey, (2017), ComReg Document 18/23a

A1.47 The continued growth in the use of IoT devices anticipated over the coming years will be driven by improved functionality, the growing availability of high capacity fixed networks, and the development of 5G networks.

Non-Uniformity of Experience

A1.48 This increased adoption of technology and services has not been uniform throughout the country nor across demographics. There are differences in connectivity levels between urban and rural areas, largely due to differences in the availability of networks.

A1.49 The use and take-up of ECS also varies across age groups. ComReg’s Mobile Consumer Experience survey 2022²² shows that a considerably higher proportion of those aged

18-34 have access to a broadband service at home compared to those over 55 (93% vs 72%). Younger cohorts also use a wider variety of online services on a daily basis, such as email, video content, online banking, online shopping and have adopted new technologies, such as smart watches or smartphone payments. See Figure 7 below for a breakdown in technology ownership and usage by age.

A1.50 A noticeable discrepancy persists in smartphone ownership, with all (100%) of mobile phone users aged 18-24 having a smartphone, compared to just 66% of those aged over 65,²³ though this has increased from less than half (47%) of those aged over 65 in 2019.²⁴

Figure 7: Ownership/Usage of Technologies in the Home²⁵

	18-34	35-54	55+
	%	%	%
Access to Fixed Broadband at home	86	81	58
Access to a home phone service	25	39	49
Access to a mobile phone	97	98	91
Watch TV on a(n) Tablet/ iPad	11	9	1
Watch TV on a Smart TV	76	75	48
Watch TV on a smartphone	21	14	5
Use Netflix	62	46	18
Daily use of Email*	92	91	81
Daily use of Messaging apps*	90	86	74
Daily use of Video content*	76	64	39
Daily use of Online banking*	51	40	31
Daily use of Online shopping*	25	22	7
Smart watch/wearable fitness tracker**	46	43	32
Apple pay or Android pay**	40	26	14
*Results from ComReg’s Digital Services & Online Safety survey (Online)			
**Results from ComReg’s Technology Survey 2021 (Online)			

22 Mobile Consumer Experience Survey, (2022), ComReg Document 22/83

23 Mobile Consumer Experience Survey, (2022), ComReg Document 22/83

24 Mobile Consumer Experience Survey, (2019), ComReg Document 19/101

25 ComReg Connectivity Survey, (2021), ComReg Document 21/30, ComReg Digital Services & Online Safety Survey, (2021), ComReg Document 21/09 and ComReg’s Technology Survey, (2021), ComReg Document 21/32b

Consumer Behaviours

A1.51 Consumer confidence in choosing optimal telecom goods and services is subject to various factors. The main factor is that the electronic communications sector can create an environment that is particularly complex and difficult for consumers to make decisions in. This can lead to them not always making optimal choices when it comes to choosing ECS/ECN products and services. How operators choose to present information and choices to consumers may further distort the market.

The Consumer Experience

A1.52 The consumer experiences in the sector are not uniform due to the pattern of network rollout across the country as well as the varying levels of technology adoption across demographics. This non-uniform nature can cause new, or more sharply drawn, digital divides. Given the increasing reliance on connectivity in daily life, these varying levels of digital inclusion are potentially more acute and socially divisive than ever before, and will therefore continue to draw regulatory as well as political attention over the coming period.

A1.53 A significant number of consumers continue to experience issues when availing of ECN / ECS and PRS. Billing, contractual and service issues have been and remain the main ECN / ECS issues raised by consumers, while number portability and switching issues are also a concern. Some issues with PRS persist but there has been a marked decline in the number of queries and complaints relating to PRS.

Related Markets and Services

A1.54 A third trend identified is that of how changing dynamics in related markets can influence the electronic communications sector. As these related markets evolve, lines between markets get blurred and change the industry's structure and competitive landscape. ComReg considers input markets, complementary markets and downstream markets under this trend.

Input Markets

A1.55 Input markets²⁶ affect the sector in various ways, such as the cost of network rollout, quality of service and security. Two developments are considered in the context of input markets, eSIMs and Artificial Intelligence.

A1.56 The embedded Sim ('eSIM') is the most recent iteration of the Sim card technology which allows for over-the-air provisioning of network services without the need of a physical card. It is resistant to physical shocks, vibrations and humidity, and has a long lifespan. The eSIM is therefore suitable for large scale M2M deployments such as in the car industry, where physically changing Sims would not be economically feasible. It is also suitable for various consumer device uses such as mobile handsets and wearables. The full potential and development of eSIMs will depend on the standards adopted by industry. There is currently only one operator in Ireland offering eSIMs as a domestic product although others do use it as a roaming solution. However, many Irish consumers already own devices that include an eSIM and could avail of faster, easier sign-up and switching. In June 2022, ComReg published its strategy on eSIMs²⁷, which sets out a work programme for mobile operators in Ireland. The strategy calls for fully digital customer sign-up and switching between operators by the end of 2023, with consumers being able to switch between operators in 5 minutes or less.

²⁶ Input markets include stakeholders such as network equipment and End user (consumer and industrial) equipment vendors.

²⁷ ComReg Document 22/48A <https://www.comreg.ie/publication/comreg-strategy-to-promote-over-the-air-provisioning-2>

A1.57 ComReg will engage with MNOs and MVNOs throughout 2023 to ensure that the full benefits of Over-the-Air ('OTA') provisioning and eSIM technology are delivered.

A1.58 Another important trend is the use of Artificial Intelligence ('AI') as an input in the ECS sector. While the implementation of AI in the ECS sector is still at an early stage²⁸ some operators have introduced AI in the form of machine learning algorithms to optimise the usage of radio resources, to minimise energy consumption as well as using chatbots to engage with customers. An Ericsson report from 2020 which surveyed 132 telecoms service providers globally found that more than half of operators expected to have adopted AI by the end of 2020, with a further 19% looking to adopt by 2023. The main areas where operators are seeing the benefits of AI are through service quality management (17%) and operational cost savings (16%).

Complementary Markets

A1.59 Complementary markets (e.g., handsets or IoT devices) are important to consider as they affect the quality of experience of using ECS services, including coverage and security.

A1.60 The market for consumer handsets is a complementary market that is of particular relevance for ComReg. ComReg's 2022 MCE Survey shows that 37% of respondents owned a Samsung smartphone, while 40% had an Apple iPhone²⁹. Over the coming years, ComReg expects that these handsets will play a key role, alongside fibre and 5G networks, in advancing people's use, experience and reliance on ECS.

A1.61 The operating system of a device is usually intrinsic to the devices brand/vendor. The handset operating system market is also of relevance for ComReg as the quality of the

operating system as well as the handset may influence the consumer experience. A user might perceive download speeds to be slower than they are paying for, their network coverage worse, and their overall ease of use different simply because their device has a smaller antenna, a different look and feel, or a poor-quality screen.

A1.62 Over the coming period ComReg's understanding of the traditional mobile handset may change as device manufacturers innovate and consumers continue to adopt other complementary devices such as smart watches and Virtual Reality or Augmented Reality headsets.

Downstream markets

A1.63 Downstream markets, such as Over-the-Top ('OTT') services³⁰, are also considered relevant, as consumer demand for ECN/S is ultimately driven by consumers' desire to participate in these downstream markets (e.g. to communicate with friends, family, colleagues or to be entertained).

A1.64 While ECS play a fundamental role, OTTs offer a range of services to consumers to enable them to communicate, work, learn and be entertained. For example, the availability of video conferencing and team virtual collaboration applications facilitated the working from home "revolution" driven by Covid-19. In 2022, users send on average 32 messages over internet based applications per day.³¹ The rise of these messaging, voice and video calling OTT services has impacted network traffic and revenues of traditional telecoms operators and this is expected to continue.

28 BEREC draft AI report

29 Mobile Consumer Experience Survey, (2022) , ComReg Document 22/83

30 OTT services refer to communication services provided over the internet, including sending messages (via platforms such as WhatsApp), making calls (via applications such as Zoom), and watching TV (via streaming services such as Netflix). In this document, where ComReg refers to OTT service providers, this includes Number Independent Interpersonal Communications Services ("NIICS")

31 Mobile Consumer Experience survey (2022), ComReg Document 22/83

A1.65 Broadcasting markets have also been impacted significantly by the rise of OTT services. There are 1.5 million users of subscription-based video services in Ireland and this number is expected to grow³². A Behaviours & Attitudes survey found that 73% of respondents use Netflix while 38% use Amazon Prime.³³ In response to this rising pressure from OTT services, Irish broadcasters are enhancing their online presence, offering catch-up players (used by 43%³⁴) and live, cultural and sports content. Notably, the Covid-19 crisis also led to a temporary increase in live TV viewing.³⁵

A1.66 Although a wide array of benefits have been created by digitalisation, it is becoming increasingly clear that the digital economy poses a wide range of challenges. Governments, regulators and wider society are increasingly aware of the potential harms associated with the digital economy, including concerns relating to the market power of digital platforms, harmful content online, privacy and security, among others.

Climate Change, Energy and ECS

A1.67 Responding to climate change has become a key priority at both European and national level. There is also increasing awareness and attention being placed on the relationship between the ECS sector and climate change. On one hand, the ECS sector can be an enabler for decarbonisation, enabling Greenhouse gas emission reductions across sectors of the economy, from remote working to smart agriculture, to smart meters, among others. On the other hand, the digitalisation of the economy and ever greater use of ECS services

could potentially increase the carbon footprint of the sector itself and increase e-waste.

A1.68 The European Commission ('EC') has emphasised the importance of a sustainable digital sector. It will consider measures to improve the circular economy performance of the digital sector as well as its energy efficiency, ranging from communication networks to data centres to ICT devices.³⁶ Over the next decade a symbiotic relationship between ECS/ECN and energy markets is likely to emerge, as efficient management of the electricity grid will rely on smart meters and connectivity to ECS/ECN and smart meters.

A1.69 Communications network infrastructure is also vulnerable to the resulting severe weather impacts of climate change. ComReg has published a study by Frontier Economics³⁷ to investigate how climate change has been affecting ECN, and to understand what providers of ECN are doing to mitigate against these affects. ComReg will review the findings from this study and may further explore any of these which could be of added benefit to the resilience of ECN in Ireland.

A1.70 In addition to assessing the need for more transparency on the environmental impact of ECS and more stringent measures when deploying new networks, the importance of the circular nature of devices has been highlighted in the Circular Economy Action Plan. Internationally, a number of regulatory bodies in the ECS sector have begun taking action on this topic, including Arcep³⁸ (the French ECS regulator) and the Radio Spectrum Policy Group³⁹ ('RSPG').

32 Statista, (2022), "Video Streaming (SVoD) Ireland"

33 B&A, TechScape 2022.

34 B&A, TechScape 2022.

35 See TAM Ireland's monthly TV Overviews <https://www.tamireland.ie/category/viewing-trends/>. TAM Ireland data show an 11% increase in live TV viewing between March 2019 and March 2020. Although there was a return to pre-Covid levels by March 2021.

36 Communication From The Commission To The European Parliament, The European Council, The Council, The European Economic And Social Committee And The Committee Of The Regions. The European Green Deal COM/2019/640 Final

37 <https://www.comreg.ie/publication/climate-change-and-its-effect-on-network-resilience-a-study-by-frontier-economics>

38 For Example, Arcep, (2020), "Networks And The Environment", <https://En.Arcep.Fr/News/Press-Releases/View/N/Networks-And-The-Environment.Html>

39 RSPG, (2019), "Work Programme For 2020 And Beyond"

ComReg is also actively contributing to the work of an Expert Working Group on Sustainability at BEREC.

A1.71 Given the breadth of initiatives that will be pursued to assess and address the carbon footprint of the ECS sector in the coming years, this is a key trend which ComReg will need to monitor.

The Future of Regulation in the Sector

A1.72 The fourth and final trend identified by ComReg relates to the rate of change of regulation in the sector. The EC has made 'A European Green Deal' and 'Making Europe fit for the digital age' two of its key pillars for its current mandate. Both of these pillars have implications for the development of regulation in the ECS and related sectors.

A1.73 The European Electronic Communications Code ('EECC'), adopted in December 2018, was adopted to provide a new legislative framework for ECS markets in Europe that allows for closer harmonization between the different markets across the European Union, and thus facilitates the move towards the Digital Single Market. At the same time, the Government has now published a National Digital Strategy⁴⁰. A number of the key developments that will take place in relation to the regulation of the sector (and related markets) are discussed in detail below.

Legislative Changes and Developments

A1.74 Over the coming period there will be a number of legislative changes and developments that will impact ComReg's role and mandate. ComReg, in its preparation of this ECS Strategy, has considered the impact of these legislative developments. Throughout the document,

where appropriate, ComReg has sought to address these developments.

- ◉ **Consumer Protection mandate:** The EU has been developing its New Consumer Agenda, which contributes to the development of ComReg's mandate under Irish Law. The Consumer Rights Act was enacted on 7 November 2022 and commenced on 29 November 2022. That legislation introduces new protections for consumers, gives them stronger rights of redress, imposes greater accountability on service providers and introduces new rules for online marketplaces. In addition, domestic legislation is currently under development for ComReg in respect of the Consumer Protection Cooperation Regulation⁴¹ which builds on and enhances a previous EU Regulation that was introduced to harmonise the cooperation framework between national competent authorities in the Member States with regard to their consumer enforcement actions.
- ◉ **Cybersecurity Strategy for the Digital Decade:** ComReg has an evolving role under this EU strategy including: the Directive on Security of Network and Information Systems (NIS Directive and NIS 2 Directive, which entered into force on 16 January 2023) both in respect of the inclusion of electronic communications as an essential service and the related digital infrastructure sector; the Telecoms Security Rules resulting from the 2019 EU Recommendation 2335; and the legislative proposal for additional measures on critical infrastructure protection. ComReg seeks to ensure effective and efficient legislative development to enable compliance by telecom operators and digital businesses to protect the infrastructure for delivery of their essential services. Ireland published a National Cyber Security Strategy in December 2019⁴², which included a specific set of security requirements for the telecommunications sector. The Telecoms Security Rules will be replaced by Electronic Communications Security Measures to be introduced under the Communications Regulation and Digital

40 <https://www.gov.ie/en/publication/adf42-harnessing-digital-the-digital-ireland-framework/>

41 Regulation (EU) 2017/2394 of the European Parliament and of the Council of 12 December 2017 on cooperation between national authorities responsible for the enforcement of consumer protection laws and repealing Regulation (EC) No 2006/2004.

42 National Cyber Security Strategy 2019-2024: https://www.ncsc.gov.ie/pdfs/National_Cyber_Security_Strategy.pdf

Hub Development Agency (Amendment) Act 2023 when commenced and the Department of Communications conducted extensive consultation in this regard during 2022. The Act provides for ComReg to have a significant role in enforcing these Measures. The Act will also provide for ComReg to have a role in respect of enforcement re provisions concerning Relevant Vendors. Developments are also expected during the course of 2023 and 2024 in respect of the EU Cybersecurity Act, a voluntary cybersecurity certification framework for ICT products, services and processes including 5G network security. The Commission introduced a proposal for a Cyber Resilience Act in September 2022 on horizontal cybersecurity requirements for products with digital elements (hardware and software). Finally, the Directive on the Resilience of Critical Entities⁴³ also entered into force on 16 January 2023.

- **Privacy and Electronic Communications:** ComReg's role in respect of electronic privacy is evolving and ComReg has a continued input into the development and subsequent implementation of the proposed EU E-Privacy Regulation. These proposals are still being debated at EU level, and, in the interim, ComReg's monitoring and enforcement role continues under the old Privacy Directive (Directive 2002/58/EC).
- **Market Surveillance:** ComReg is the designated Market Surveillance Authority in respect of two EU Directives - the Electromagnetic Compatibility Directive⁴⁴ ('EMCD') and the Radio Equipment Directive⁴⁵ ('RED'). The functions and powers derived from these regulatory frameworks protect product end-users from unsafe products and protect businesses from unfair competition.

As the Market Surveillance Authority for the Radio Equipment Directive, ComReg is also responsible for the safety requirements of products that would normally fall under the scope of the Low Voltage Directive⁴⁶ ('LVD') (for which the CCPC is the Market Surveillance Authority), but which have a radio interface permanently affixed. The purpose of market surveillance is to prevent non-compliant products from entering the market, anywhere in the EU, and to seek out and remove non-compliant products which have entered the market. Work is ongoing on the development of new legislation to implement the EU Market Surveillance Regulation⁴⁷ in Ireland.

A1.75 As noted above, the EC has made 'Making Europe fit for the digital age' a key pillar of its current mandate. To achieve this, its digital strategy sets out a number of initiatives related to the ECS sector. It proposes an update of the Broadband Cost Reduction Regulation, an Updated Action Plan on 5G (and 6G), a new Radio Spectrum Policy programme and an initiative on 5G Corridors.⁴⁸

A1.76 In September 2021 the EU Commission published a proposal for a Decision establishing the **2030 Policy Programme: Path to the Digital Decade**, which aims to ensure that the EU achieves its objectives and targets towards the digital transformation of society and economy in line with the EU's values. This Policy set out the concrete digital targets which the EU as a whole is expected to achieve by the end of the decade, as first delineated in the EU's Digital Compass Communication. On 14 July, the European Parliament and the Council reached a political

43 Directive (EU) 2022/2557 of the European Parliament and of the Council on the resilience of critical entities and repealing Council Directive 2008/114/EC: . See here for more: EU resilience: Council adopts a directive to strengthen the resilience of critical entities - Consilium (europa.eu).

44 The EMCD is transposed into Irish law by way of the European Union (Electromagnetic Compatibility) Regulations 2017 (S.I. No. 69/2017)

45 The RED is transposed into Irish Law by way of the European Union (Radio Equipment) Regulations 2017 (S.I. No. 248/2017).

46 The LVD is transposed into Irish Law by way of the European Union (Low Voltage Electrical Equipment) Regulations 2016 (S.I. 345/2016)

47 Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No 765/2008 and (EU) No 305/2011.

48 Communication From The Commission To The European Parliament, The European Council, The Council, The European Economic And Social Committee And The Committee Of The Regions, Shaping Europe's Digital Future, 19.2.2020 COM(2020) 67 Final

agreement on the 2030 Policy Programme: Path to the Digital Decade. The programme now sets up a monitoring and cooperation mechanism to achieve the common objectives and targets for Europe's digital transformation set out in the **2030 Digital Compass** on skills and infrastructure, including connectivity, the digitalisation of businesses and online public services. The political agreement reached by the European Parliament and the Council is subject to formal approval by the two co-legislators. The Decision is expected to enter into force in January 2023. A new Digital Decade Board set up to facilitate the cooperation between Member States and the Commission is expected to meet in November for the first time. A first State of the Digital Decade Report is expected to be published by June 2023.

A1.77 In Ireland, on 1 February 2022, the Government launched a new national digital strategy, "**Harnessing Digital – The Digital Ireland Framework**", to drive and enable the digital transition across the Irish economy and society. This high-level framework sets out a pathway to support Ireland's ambition to be a digital leader at the heart of European and global digital developments. One of the key legislative components of this strategy is the introduction of the Online Safety and Media Regulation ("**OSMR**") Act 2022, which was enacted on 10 December 2022 and commenced on 15 March 2023, which, amongst other things, transposes the Audiovisual Media Services ("**AVMS**") Directive⁴⁹ in Ireland.

A1.78 Although a wide array of benefits have been created by digitalisation, it is becoming increasingly clear that the digital economy poses a wide range of challenges. In December 2020, the EC published the Digital Services Act ("**DSA**") and Digital Markets Act ("**DMA**") legislative proposals.

A1.79 The **DMA** was published in the OJEU on 12 October, entered into force on 1 November 2022 and will apply generally throughout the EU from 2 May 2023⁵⁰. The DMA will establish an ex-ante regulatory framework for specific digital platforms designated as "Gatekeepers". These gatekeepers will be subject to a set of obligations and prohibitions which seeks to ensure contestable and fair markets in the digital sector.

A1.80 The **DSA** was published in the OJEU on 27 October, entered into force on 16 November 2022 and will apply generally throughout the EU from 17 February 2024 (though certain provisions relating to Very Large Online Platforms will apply from the second half of 2023)⁵¹. The DSA sets out "uniform rules for a safe, predictable and trusted online environment." These rules aim to better protect consumers online and foster innovation, growth, and competitiveness in the single market. The General Scheme of the Irish Digital Services Bill 2023 was published by the Department of Enterprise, Trade and Employment on 20 March 2023.

49 Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018 amending Directive 2010/13/EU on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive) in view of changing market realities.

50 Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2018/1828 (Digital Markets Act): EUR-Lex - 32022R1925 - EN - EUR-Lex (europa.eu)

51 Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act): EUR-Lex - 32022R2065 - EN - EUR-Lex (europa.eu)

A1.81 Separately, there has been a significant amount of legislative activity at the European level in relation to a wide array of issues thrown up by the development of the data economy, including the **Data Governance Act**⁵², which was adopted in May 2022 and will apply from September 2023, a proposal for a Regulation on harmonised rules on fair access to and use of data (the **Data Act**⁵³), which is still being discussed in the European Parliament and proposals for a new **Artificial Intelligence Act**⁵⁴, which would introduce a common regulatory and legal framework for AI across the EU, and a wholesale revision of the eIDAS Regulation⁵⁵, including a new eIDAS 2.0⁵⁶ initiative.

A1.82 The European Commission presented three new Connectivity initiatives in February 2023⁵⁷, collectively known as the Connectivity Package. This package contained:

- i A proposal for a Gigabit Infrastructure Act - a proposal to update the Broadband Cost Reduction Directive of 2014⁵⁸.
- ii A Draft Gigabit Recommendation – Guidance for NRAs about the conditions for accessing the networks of those operators who have significant market power.
- iii An exploratory consultation on the future of the connectivity sector and its infrastructure – which contains questions relating to: the changing landscape in electronic communications, universal service obligations, a Europe-wide market for ECS and also questions relating to the ‘Fair share’ debate.

A1.83 ComReg is an active participant in BEREC, who are collaborating closely with the European Commission and providing expert input regarding the three initiatives outlined above.

A1.84 ComReg has been closely monitoring these developments. Given the need for strong collaboration in Ireland, ComReg is engaging with the Economic Regulators Network (**ERN**)⁵⁹ on the topics of digital regulation, in particular with colleagues from the Competition and Consumer Protection Commission (**CCPC**), Coimisiún na Meán (which subsumed the now dissolved BAI) and the Data Protection Commission (**DPC**), together with which it has formed a Digital Regulators’ Group (**DRG**). Through this group, ComReg also liaises with central government on the development of appropriate regulation for the digital economy. ComReg has also contributed to the work of BEREC on these issues, with a particular focus on the DMA.

A1.85 ComReg will continue to monitor these developments and engage with the DRG, the ERN and relevant government departments, as necessary.

52 Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act): EUR-Lex - 32022R0868 - EN - EUR-Lex (europa.eu)

53 EUR-Lex - 52022PC0068 - EN - EUR-Lex (europa.eu)

54 EUR-Lex - 52021PC0206 - EN - EUR-Lex (europa.eu)

55 EUR-Lex - 32014R0910 - EN - EUR-Lex (europa.eu)

56 EUR-Lex - 52021PC0281 - EN - EUR-Lex (europa.eu)

57 https://ec.europa.eu/commission/presscorner/detail/en/ip_23_985

58 Broadband Cost Reduction Directive (2014/61/EU)

59 Economic Regulators Network | Bringing together multiple Irish regulators (econreg.ie)

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