



**An Roinn Forbartha
Tuaithe agus Pobail**
Department of Rural and
Community Development

Digital Town Blueprint

2023 Town Report

New Ross, Co. Wexford

16 March 2023



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A study prepared for the Department of Rural and Community Development by the Irish Institute of Digital Business, DCU Business School and .IE

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1. INTRODUCTION

1.1 ABOUT THE DIGITAL TOWN BLUEPRINT

The .IE Digital Town Blueprint¹ (DTB) is an entry-level assessment for local authorities, chambers of commerce, and other local community groups interested in understanding the current digital readiness of their town. It was originally designed by the Irish Institute of Digital Business at Dublin City University (DCU) with funding from .IE. The DTB used in this report is an updated version based on Lynn et al. (2022).² This report is a draft report and subject to change following feedback from the DRCD and Town Regeneration Officers.

The DTB has been designed to help towns rapidly and cost-effectively:

- Understand their current digital town readiness and digital competitiveness;
- Compare their town against Irish and international benchmarks;
- Stimulate stakeholder engagement on digitalisation.

The National Planning Framework³ and Our Rural Future⁴ policies set out a vision to develop thriving Irish Towns which are integral to Ireland's national economic, social, cultural and environmental wellbeing and development. This vision is built on the interdependence of urban and rural areas, and recognises the diversity of individual towns, the centrality of people, the importance of vibrant and lived-in places and the potential to create quality jobs and sustain a shared environment. The Town Centre First policy⁵ seeks to support the delivery of this vision and complement a wide range of Government policies impacting on Irish towns. It provides a cross-cutting and collaborative framework for central government, Local Authorities, public and private sector stakeholders, and especially communities, to build sustainable vibrant town centres. The Town Centre First policy explicitly recognises that successful places utilise digital technology⁶ to enhance the experience of living and working in towns, enabling greater choices in terms of location and lifestyle. The Town Centre First policy⁷ (p.19) states:

“There is also the opportunity to utilise technology to enhance the experience of living and working in towns, and to integrate digital technology into daily commercial and social life. Digital technology can improve the quality and accessibility of services, and can be used to address challenges faced by our towns, providing them with new roles in the digital economy.”⁸

The Department of Rural and Community Development commissioned DCU and .IE to conduct a Digital Town Blueprint on the 26 towns selected for funding under the Town Centre First Initiative 2021.

The DTB analyses digital readiness across seven dimensions. This is accomplished through a combination of primary research, desk research, secondary data, key informant interviews and automated data collection techniques. The findings of the

assessment are synthesised into a digital town readiness score and assessment report. The seven dimensions are:

- I. Infrastructure for Connectivity – the deployment of fixed and mobile broadband infrastructure and the availability of free public Wi-Fi and digital rural hubs.
- II. The Digital Economy and Digital Business – the use of digital technology by local businesses and their level of sophistication.
- III. Digital Public Services – the use and sophistication of digital technology by both local government and health, and the availability of local open data.
- IV. Digital Education – the support for and use and sophistication of digital technology by education providers, and the provision of training and education in digital technologies across all levels.
- V. Digital Technologies and Civil Society – the use and sophistication of digital technologies by community and voluntary groups in a town.
- VI. Digital Tourism – the use and sophistication of digital technology to attract tourists and deliver a distinctive tourism experience.
- VII. Governance of Digital Town Initiatives - the degree of coordination across the town on digitalisation including (a) integration across different elements of policy making, and across policy and other stakeholders, and (b) integration across different levels within the governance or policy sphere.

The selected dimensions and variables can provide towns with useful insights on their digital readiness, and allow them to compare across time and to benchmark against other towns.

1.2 OBJECTIVES

The objectives for the DRCD Town Centre First Digital Town Blueprint Programme are:

- Assessment – to obtain an initial characterisation of the digital readiness of infrastructure and service providers in towns.
- Comparative Analysis – to undertake a comparison of DTB assessments (a) between an initial selection of towns, and (b) regional, national and EU benchmarks, where appropriate and possible.

This report is an assessment of New Ross, Co. Wexford. For the purposes of this report and to be consistent with Town Centre First, measurements are calculated within a 2km radius of the town centre for each town.

2. INFRASTRUCTURE FOR CONNECTIVITY

2.1 INTRODUCTION

Infrastructure for connectivity includes broadband and mobile connectivity, free public Wi-Fi, rural digital hubs, amongst others. Increased connectivity can contribute positively to economic growth and household income levels, and can result in increased employability, retail transactions, time-savings, and other community benefits.⁹ Free public Wi-Fi provides both access to the Internet and consumer cost savings. Research suggests that free municipal public Wi-Fi access can provide benefits including economic development, community branding, collaboration between other public service providers in a municipality, provision of internet connectivity (and associated services) to low-income and underserved citizens, and revenue generating activities.¹⁰ Free public Wi-Fi forms part of the European Tourism Manifesto for Growth and Jobs which encourages free Wi-Fi for visitors in tourist attractions, events and destinations.¹¹ Rural digital hubs have been proposed as a potential solution to improve broadband connectivity, improve digital literacy for individuals, workers and businesses, attract new residents and visitors, and stimulate economic activity.¹² Rural digital hubs are a physical space, which can be fixed or mobile, focused on digital connectivity, digital skill development and/or emergent technologies.¹³ In 2021, the Irish government launched a National Hub Network and support funding for up to 380 remote working hubs ('connected hubs').¹⁴

Table 1 Irish Broadband Coverage (DESI, 2022) ¹⁵

	Ireland			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
Overall fixed broadband take-up (% of households)	76%	78%	80%	78%
At least 100 Mbps fixed broadband take-up (% of households)	25%	31%	31%	41%
At least 1 Gbps take-up (% of households)	0.26%	3.52%	4.27%	7.58%
Fast broadband (NGA) coverage (% of households)	96%	96%	96%	90%
Fixed Very High Capacity Network (VHCN) coverage (% of households)	35%	83%	89%	70%
Fibre to the Premises (FTTP) coverage (% of households)	35%	48%	62%	50%
5G spectrum (Assigned spectrum as a % of total harmonised 5G spectrum)	29%	29%	29%	56%
5G coverage (% of households)	NA	30%	72%	66%

Mobile broadband take-up (% of households)	81%	81%	98%	87%
Broadband price index (Score (0-100))	45	63	59	73

The connectivity dimension of the DTB presented in this report consists of five indicators weighted as follows:

- Fixed broadband (35%)
- Mobile broadband (35%)
- Competition (10%)
- Free public Wi-Fi (10%)
- Rural digital hubs (10%)

No data at the town-level was available from Comreg or the CSO for broadband or mobile take-up at the time when this research was carried out.

2.2 DIGITAL CONNECTIVITY

2.2.1 Fixed Broadband Coverage

A snapshot of fixed broadband coverage in New Ross can be gleaned from the interactive mapping tool provided by the Department of Communications, Climate Action and Environment. As illustrated in Figure 1, commercial operators deliver high-speed broadband (colour-coded blue in Figure 1) in the urban centre around the New Ross area. Areas in light blue, extending outwards from the urban centre, indicate areas where a commercial provider has committed to commercial rural deployment plans to roll out high speed broadband. The remainder of Figure 1, shaded in amber, are target areas for the State intervention under the National Broadband Plan (NBP).¹⁶

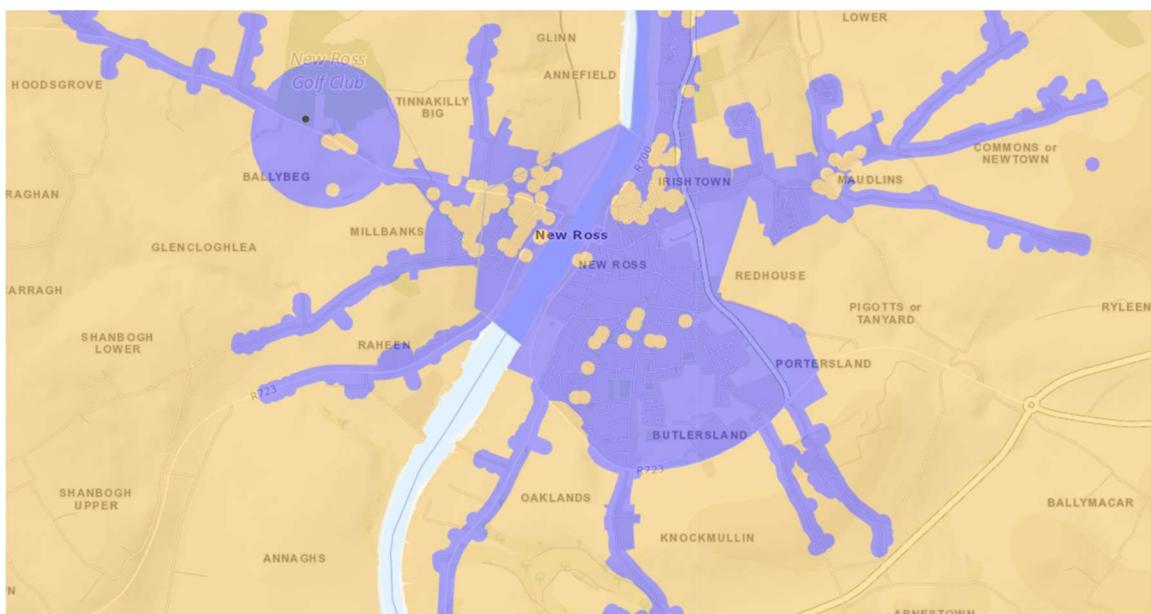


Figure 1 High-speed broadband rollout in New Ross and adjacent townlands (Department of Communications, Climate Action and Environment)¹⁷

Table 2 provides further details regarding the number of premises in each townland which are either covered by commercial broadband or are designated as forming part of the intervention area. The figures provided in Table 1 indicate a 100% level of fixed broadband coverage across the New Ross townlands in question. This figure compares favourably to the average fixed broadband coverage across EU member states (97.9%) and at a rural level (91.5%). Ireland's overall fixed broadband coverage was measured at 97.6% in June 2021.¹⁸

Table 2 Townlands– Premises within commercial broadband coverage or NBP intervention (Department of Communications, Climate Action and Environment)

Townland	Premises	NBP Intervention	Covered by Operators
New Ross	1327	16	1311
Ardross	12	5	7
Arnestown	48	20	28
Barrettspark	43	2	41
Bawnmore	29	3	26
Bennettsknock	2	0	2
Bishopland	298	0	298
Bowling Green	20	4	16
Butlersland	99	0	99
Castlemoyle	79	4	75
Chambersland	363	5	358
Craywell	53	0	53
Healysland	39	0	39
Hewitsland	139	0	139
Irishtown	326	39	287
Knockmullin	24	2	22
Marshmeadows	32	3	29
Maudlins	30	14	16
Millbanks	88	37	51
Morrissysland	138	0	138
Mountgarrett	206	15	191

Oaklands	22	3	19
Pondfields	109	1	108
Portersland	16	1	15
Raheen	76	9	67
Reddysland	12	1	11
Redhouse	8	2	6
Rosbercon	345	35	310
Rosbercon Millbanks	74	31	43
Southknock	565	12	553
Stephensland	85	0	85
Tinakilly Big	26	7	19
Verosland	4	0	4
Total	4737	271 (6%)	4466 (94%)

2.2.2 Mobile Broadband Coverage

The European Commission's DESI measures mobile broadband coverage and take-up (see Table 1) as part of its connectivity dimension. In 2022, 87% of people in the EU used a mobile device to access the internet (up from 73% in 2016). During 2022, Ireland ranked first among the EU Member States for the uptake of mobile broadband with 98% compared to an EU average of 87%. Ireland has a higher 5G coverage than the EU average, however this is primarily in the most populous areas. Ireland ranks 20th among the EU Member States on the 5G spectrum indicator, which has stagnated at 29% (the EU average is 56%) due to the lack of spectrum assignments.

New Ross also appears to have near universal mobile broadband coverage. However, this coverage displays variability across townlands when classified in terms of data speed. The Commission for Communications Regulation (Comreg) provides an interactive mapping tool that visualises mobile broadband quality across Ireland. For mobile technology types 2G (voice calls and text messages), 3G (voice calls, text messages and data), 4G (smart phone for data and voice), and 5G (data and voice) coverage provided by commercial providers is ranked as very good; good; fair; fringe; and no coverage (see Table 3 for descriptions of each category). There are ten mobile service providers in total currently operating in New Ross, though only three provide 5G broadband (see 2.2.3 below).

Table 3 Comreg classifications of mobile broadband coverage (Comreg)¹⁹

Rating	2G coverage	3G coverage	4G coverage	5G coverage
Very Good (=5)	Strong signal with very good connections	Strong signal with maximum data speeds	Strong signal with maximum data speeds	Strong signal with maximum data speeds
Good (=4)	Strong signal with good connections	Strong signal with good data speeds	Strong signal with good data speeds	Strong signal with good data speeds
Fair (=3)	Fair signal may be attained, but disconnections may occur at weaker signal levels	Fast and reliable data speeds may be attained, but marginal data with drop-outs is possible at weaker signal levels	Fast and reliable data speeds may be attained, but marginal data with drop-outs is possible at weaker signal levels	Fast and reliable data speeds may be attained, but marginal data with drop-outs is possible at weaker signal levels
Fringe (=2)	Disconnections likely to occur	Disconnections likely to occur	Disconnections likely to occur	Disconnections likely to occur
No Coverage (=1)	Likely to have no coverage in this area	Likely to have no coverage in this area	Likely to have no coverage in this area	Likely to have no coverage in this area

DESI (2022) reports that Eir’s 5G network currently covers 322 towns and cities in all 26 counties of the Republic of Ireland and Eir claims to reach over 70% of the population.²⁰ Similarly, DESI (2022) reports that Three claims to reach 79% of the population.²¹ Notwithstanding this, limited 5G coverage is reported as available in New Ross.

In order to assess mobile broadband quality across commercial providers for each of the New Ross townlands in question, we code the Comreg classifications from 1-5 (with 5 denoting “very good”). We then calculate the average coverage quality for each townland, as well as across townlands (see Table 4).

Table 4 Average classification of mobile coverage in New Ross Townlands (Comreg)²²

Townland	2G Coverage	3G Coverage	4G Coverage	5G Coverage
New Ross	5.00	5.00	5.00	1.80
Ardross	4.30	4.30	4.00	2.00
Arnestown	5.00	5.00	4.30	1.50
Barrettspark	4.60	4.60	4.00	2.00
Bawnmore	5.00	4.00	3.00	1.60
Bennettsknock	5.00	5.00	4.00	1.80
Bishopland	5.00	5.00	4.00	1.80
Bowling Green	5.00	4.30	4.00	2.00
Butlersland	5.00	5.00	4.60	1.80
Castlemoyle	5.00	4.00	4.00	2.00
Chambersland	5.00	5.00	5.00	1.80
Craywell	4.50	5.00	5.00	2.20
Healysland	5.00	4.00	3.00	1.80
Hewitsland	5.00	5.00	5.00	1.00
Irishtown	5.00	4.00	4.00	1.70
Knockmullin	5.00	4.80	4.10	1.70
Marshmeadows	5.00	4.00	4.00	1.70
Maudlins	4.00	4.00	3.00	1.60
Millbanks	4.50	5.00	5.00	2.20
Morrissysland	5.00	4.00	4.00	1.60

Mountgarrett	4.30	4.00	3.80	2.00
Oaklands	5.00	5.00	4.00	1.80
Pondfields	5.00	5.00	4.30	1.80
Portersland	5.00	5.00	4.00	1.80
Raheen	5.00	4.20	4.00	1.70
Reddysland	5.00	5.00	4.00	1.80
Redhouse	5.00	5.00	4.1	1.80
Rosbercon	5.00	5.00	5.00	2.10
Rosbercon Millbanks	5.00	5.00	4.10	2.20
Southknock	5.00	4.20	4.00	1.70
Stephensland	5.00	5.00	5.00	1.80
Tinakilly Big	4.50	5.00	4.00	2.10
Verosland	5.00	4.00	4.00	1.70
Average	4.87	4.62	4.16	1.82
Weighted average ²³	4.94	4.70	4.50	1.80
Rating	Very Good	Very Good	Very Good	Fringe

Mobile broadband coverage in New Ross may extend across townlands but broadband speeds decrease as one moves out from the town centre. In particular, focusing on 4G provision in New Ross highlights variations in digital connectivity within New Ross and surrounding townlands.

2.2.3 Competition

As can be seen from Table 1, broadband in Ireland (based on broadband price index scores) has become more competitive over time. Notwithstanding this, recent EU research carried out by Empirica and TUV Rheinland²⁴ suggests that compared to all EU27 countries:

- Prices for fixed broadband in Ireland are much higher than the EU average;
- Prices for household broadband baskets in Ireland are somewhat higher than the EU average.

In both cases no commercial offers were found to be less expensive than the EU average. Prices for mobile broadband in Ireland show a different pattern compared to

EU27 countries overall. Whereas consumers requiring 20GB mobile data with 300 calls find offers very much lower than the EU average, those seeking 0.5 GB mobile data with no calls find prices somewhat higher than the EU average.

Competition among Irish telecom providers is evident from recent consumer price movements. From January 2020 to October 2022 the communication prices component of the consumer price index (CPI) increased by 1.4 percentage points, while the overall CPI index increased by 13.9 percentage points over the same price period (see Figure 2).

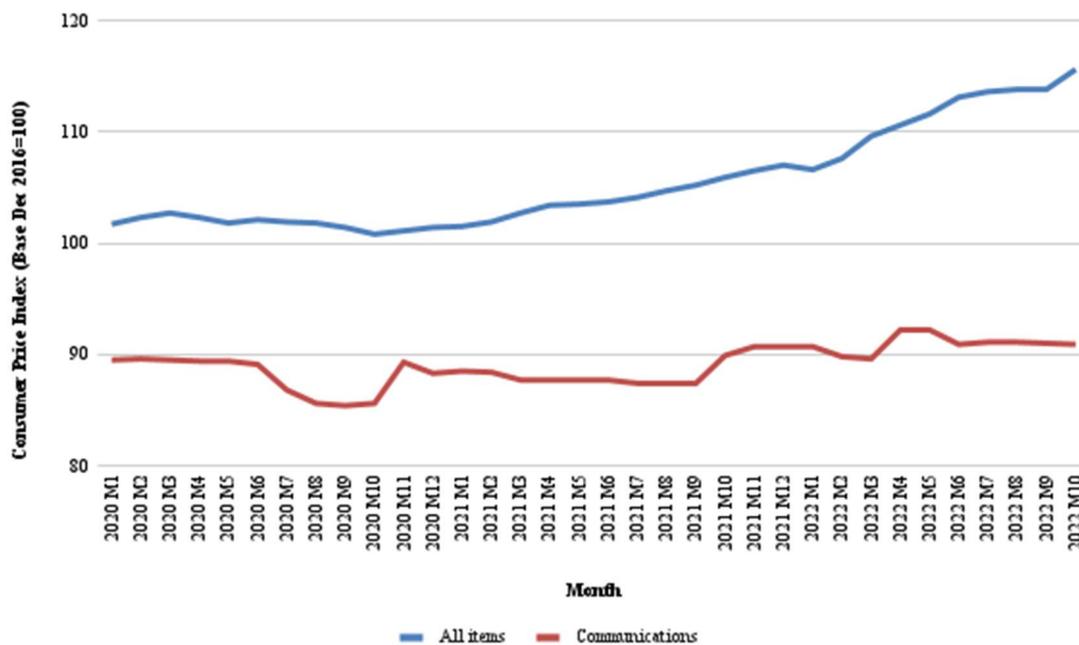


Figure 2 Consumer Price Index and Communications Sub-Component (Dec 2016 =100) (Central Statistics Office)²⁵

New Ross is relatively well-serviced for both fixed broadband and mobile connectivity with at least five fixed broadband providers, ten 2G, 3G and 4G mobile providers, but only three 5G mobile providers (Table 5).

Table 5 Fixed Broadband and Mobile Providers in New Ross (Comreg, Switcher.ie)

Provider	Fixed Broadband	2G	3G	4G	5G
48	No	Yes	Yes	Yes	No
An Post Mobile	No	Yes	Yes	Yes	No

Clear Mobile	No	Yes	Yes	Yes	No
Digiweb	Yes	No	No	No	No
Eir	Yes	Yes	Yes	Yes	Yes
GoMo	No	Yes	Yes	Yes	No
Lycamobile	No	Yes	Yes	Yes	No
Pure Telecom	Yes	No	No	No	No
Sky	No	No	No	No	No
Tesco Mobile	No	Yes	Yes	Yes	No
Three	No	Yes	Yes	Yes	Yes
Virgin Media	Yes	Yes	Yes	Yes	No
Vodafone	Yes	Yes	Yes	Yes	Yes

2.2.4 Public Wi-Fi

The Public Wi-Fi indicators (Table 6) in DTB measure the availability of municipal and free public Wi-Fi at various sites in a given town including municipal, retail, accommodation, hospitality and tourism sites. Penetration in tourism-related businesses is specifically measured i.e., for accommodation and hospitality.

Table 6 Public Wi-Fi indicators

Indicator	New Ross
Availability of Municipal public Wi-Fi	No
Availability of free public Wi-Fi in municipal buildings (incl. libraries)	Yes
Availability of free public Wi-Fi at tourism sites	Yes
Availability of free public Wi-Fi in retail outlets	Yes
Availability of free public Wi-Fi in accommodation (n=9)	Yes
Percentage of Tripadvisor accommodation listings with free public Wi-Fi (n=9)	77.78%
Availability of free public Wi-Fi in hospitality (n=19)	Yes

Percentage of Tripadvisor hospitality listings with free public Wi-Fi (n=19)	15.79%
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2.2.5 Rural Digital Hubs

Connected Hubs is an initiative under the Town and Village Renewal Scheme operated by the Department of Rural and Community Development.²⁶ The National Hub Network provides a vehicle for individual hubs to come together under a shared identity to maximise the economic opportunity of remote working. Four indicators are used to measure rural digital hubs - (i) the availability of a connected hub, (ii) the number of connected hub desks available for use, (iii) the number of connected hub meeting rooms available for use, and (iv) availability of other spaces dedicated to co-working (see Table 7).

Table 7 Rural digital hub indicators

Indicator	New Ross
Connected hub in town	No
Number of connected hub desks available for use	0
Number of connect hub meeting rooms available for use	0
Availability of other co-working spaces	No

2.3 OVERALL SCORE

Based on the above analysis, the overall DTB score for infrastructure for connectivity is **3.8**.

Table 8 Infrastructure for Connectivity Dimension Scores

Indicator	Weight	Score
Fixed broadband	35%	4.5
Mobile broadband	35%	4.0
Competition	10%	4.8
Free public Wi-Fi	10%	3.5
Rural digital hubs	10%	0.0
Overall score	100%	3.8

3. DIGITAL BUSINESS

3.1 INTRODUCTION

The adoption and use of digital technologies provides clear benefits to businesses in rural towns including cost savings, operational efficiency, information technology (IT) resilience and scalability, easier access to new markets, and marketing effectiveness, amongst others.²⁷ Digital technologies can represent the basis for a competitive advantage for small to medium sized businesses and enable them to compete with larger firms.²⁸

The digital business dimension comprises three sub-dimensions with equal weighting:

- Website Technology Intensity Score;
- Digital technology take-up;
- E-commerce take-up.

No data at the town-level was available from Comreg or the CSO for digital business at the time when this research was carried out.

Research suggests that websites represent a 'digital footprint' of organisations and website data and metadata on technologies used in websites can be used to study the digital competences and sophistication of a given organisation (Lynn et al. 2020²⁹; Mazzone et al. 2023)³⁰. We use an organisation's decision to use a website and associated technologies as a proxy for its degree of digitisation as per Thonipara et al. (2020). A Web Technology Intensity Score (WTIS) was developed to measure business-level availability of eleven different web technologies:

1. A website or homepage;
2. A website with evidence of sophisticated functions (e.g., live chat, recommender system, online booking etc.);
3. A website with evidence of basic analytics (e.g., visitor tracking, advertiser tracking etc.);
4. A website with evidence of sophisticated analytics (e.g., A/B testing, conversion optimisation, customer relationship management (CRM) system);
5. A website with evidence of basic online advertising (e.g., transactional email marketing, remarketing etc.);
6. A website with evidence of sophisticated online advertising (e.g., use of advertising networks, affiliate marketing, multichannel advertising etc.);
7. A website with evidence of selling online (e.g., payment acceptance, online shop, checkout functions etc.);
8. A website with evidence of social media integration (e.g., social management, blog, social video platform etc.);
9. A website with evidence of international activity (e.g., multiple languages, international currencies etc.);
10. A website with evidence of mobile targeting (e.g., mobile app, mobile optimisation etc.);

11. A website with evidence of cloud computing (e.g., cloud hosting, Platform-as-a-Service etc.).

The value for the score ranged from 0 to 11 where 0 (Non-existent), 1-2 (Very Low), 3-4 (Low), 5-7 (Medium), 8-9 (High) and 10-11 (Very High). Separately, presence on social media was collected. E-commerce adoption, use of cloud computing and social media presence are all measured at the EU level.

Digital technology take-up was measured by the percentage of businesses adopting the different technologies in the WTIS in addition to a social media presence.

A list of organisations within a 2km radius of New Ross town centre was sourced from GeoDirectory, resulting in 438 businesses. Following data cleaning, 60 businesses were removed from this list due to duplication, non-commercial operation (e.g., public service or civil society), or inactivity. As well as a manual check, a commercial website profiler was used to extract technology information.

3.2 DIGITAL BUSINESS

76% of the 378 businesses analysed had some sort of online presence, that is they have either a website or a social media profile. While 17% of them are only on social media, 43% of them have both a website and social media accounts. Interestingly, nearly 37% of them are making use of medium to sophisticated technologies for marketing online. Notwithstanding the levels of web intensity, there is significant room for improvement. Furthermore, mere presence does not infer successful online trading or marketing. Table 9 presents the relative frequency of businesses with a website in New Ross by WTIS level.

Table 9 Businesses Website Technology Intensity Score - Businesses (n=378)

Website Technology Intensity Score	% of Businesses
Non-existent (0)	41
Very low (1-2)	9
Low (3-4)	13
Medium (5-7)	24
High (8-9)	12
Very high (10-11)	1

Figure 3 illustrates the percentage of businesses by Website Technology Intensity Score level and by economic activity based on NACE Rev. 2 industry codes. The results are consistent with EU studies that suggest that relatively small percentages

of firms in the agriculture, construction and transport and storage industries have high or very high Website Technology Intensity Scores. The high percentage of businesses in the information and communication industry with a non-existent level of sophistication is due to the low number of businesses included in this category (1).

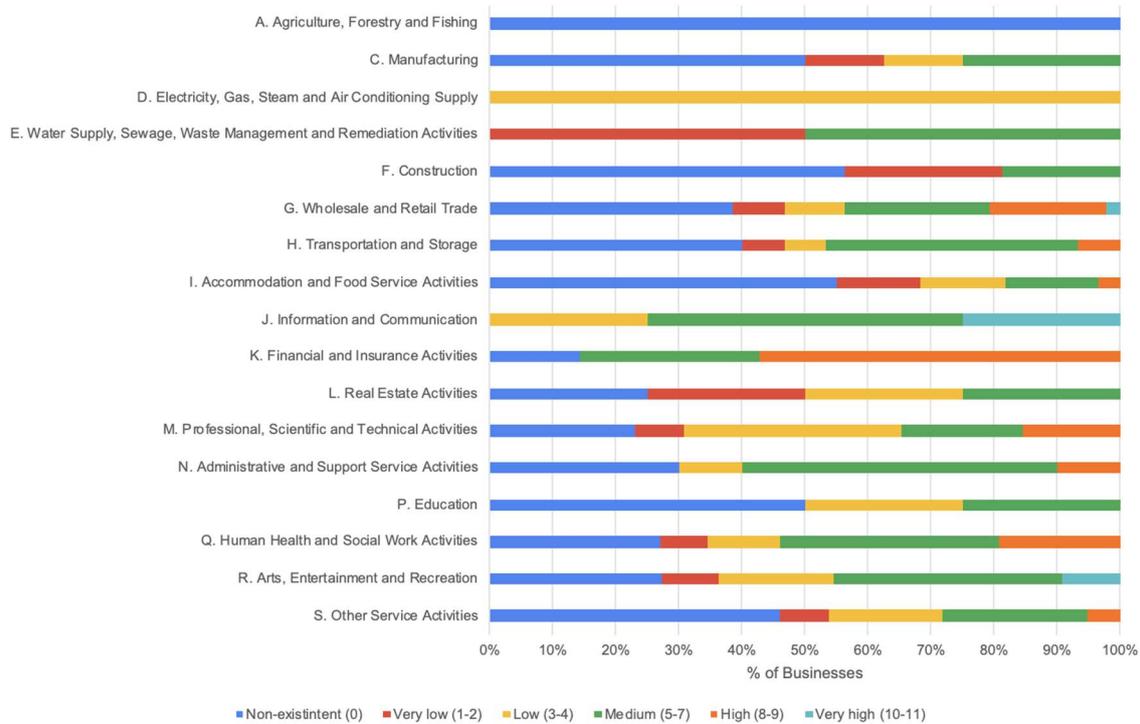


Figure 3 Businesses Website Technology Intensity Score by Economic Activity

Table 10 presents the degree of penetration of different digital technologies featured in the WTIS with comparative data, where available. In DESI 2022, Ireland was the top ranked country in the EU for the integration of digital technology dimension. It is important to note that DESI only includes firms that employ ten persons or more in their analysis. As rural businesses employ less than ten persons, they are typically under-represented in DESI analysis.

Table 10 Key Digitisation Take-up Indicators - Businesses (% of businesses) (n=378)

Indicator	New Ross	Ireland	EU
	2022	2022	2022
A website or homepage	59	NA	NA
A website with evidence of sophisticated functions	41	NA	NA
A website with evidence of basic analytics	36	NA	NA

A website with evidence of sophisticated analytics	37	NA	NA
A website with evidence of basic online advertising	15	NA	NA
A website with evidence of sophisticated online advertising	3	NA	NA
A website with evidence of selling online	22	33	18 ³¹
A website with evidence of social media integration	37	NA	NA
A website with evidence of international activity	37	NA	NA
A website with evidence of mobile targeting	0	NA	NA
A website with evidence of cloud computing	27	47	34
Social media presence	60	32	29 ³²

3.3 OVERALL SCORE

Based on the above analysis, the overall DTB score for digital business is **2.2**.

Table 11 Digital Business Dimension Scores

Indicator	Weight	Score
Website Technology Intensity Score	33.3%	2.3
Digital technology take-up	33.3%	2.3
E-commerce take-up	33.3%	2.0
Overall score	100%	2.2

4. DIGITAL PUBLIC SERVICES

4.1 INTRODUCTION

Governments play a key role in our society by providing citizens and businesses with access to a range of essential public services. Digital technologies can improve transparency, responsiveness and efficiency in the delivery of these services. E-health is a specific type of service that is a high priority for digitalisation, and this digitalisation accelerated during the COVID-19 pandemic. Local healthcare providers (e.g., general practitioners and pharmacists), play a central role in facilitating access to and delivery of care in rural areas as they represent the main point of contact between the healthcare system and citizens. Another aspect of digital public services that is often not considered explicitly is the availability of open data. This involves making data, in this case public sector information (PSI), freely available in open formats and ways that enable public access and facilitate exploitation. A host of benefits are associated with open data which includes providing the scope for faster government decision-making, better resource allocation, efficient and effective delivery of more personalised public services, increased citizen participation, and greater private sector innovation.^{33,34}

Following DESI, the digital public services dimension comprises three sub-dimensions:

- E-government readiness;
- E-health;
- Open data.

They are weighted as follows – e-government readiness (40%), e-health (40%) and open data (20%).

E-government readiness was measured using a framework adapted and extended from the United Nations Department of Economic and Social Affairs (UNDESA) and Local Online Service Indicators (LOSI).³⁵ The adapted LOSI framework comprises five criteria and over 100 indicators. The five criteria are:

1. Institutional Framework
2. Content Provision
3. Services Provision
4. Participation and Engagement
5. Technology

For e-government readiness, we focused on Wexford County Council as the authority responsible for the New Ross Municipal District.

E-health was measured using the WTIS presented in Section 3 and an additional three domain-specific items:

- Support for e-prescriptions;
- Availability of online consultations;
- Electronic exchange of medical data.

The additional items are based on similar items used by DESI. Unlike DESI, evaluation was not limited to general practitioners but also included pharmacies and other human healthcare providers. Healthcare providers were identified through GeoDirectory and manual searches on Google and local online directories.

Open data was assessed based on the extent to which an open data policy is easily accessible on the county council website, the publisher status of the county council on data.gov.ie, and the availability of local datasets specific to the town on five open data portals.

4.2 E-GOVERNMENT READINESS

4.2.1 Institutional Framework

The Institutional Framework criterion was introduced for LOSI in 2022. It focuses on municipal e-government strategy, organisational structure, legislation governing access to information and privacy, and open data policy.

Wexford County Council met four of the eight indicators adapted from LOSI 2022 for the institutional framework. Based on these scores, Wexford County Council would score as Middle (25-50% of indicators met) when benchmarked against LOSI 2022.

While local authorities in Ireland often have portals for civic engagement and enable user ids for payment and other services, there is no single sign in for service authentication. Despite the availability of MyGovID for national services, it is not implemented for local authority services. There is evidence of a lack of integration with regards to public services as there is no single point of entry citizens can access services at one place no matter what agency actually offers them. For this reason, we have rated portal authentication as unmet.

The 2019 EU Open Data Directive was transposed into Irish law by S.I. No. 376 of 2021, the European Communities (Open Data & Re-use of Public Sector Information) Regulations 2021 and came into force on 22 July 2021. As well as promoting and encouraging the sharing of open data by public sector bodies and emphasising the principle of open by design and default, Irish law requires that where data is made available for re-use in open format, this data must be linked to the national open data portal, data.gov.ie. These regulations apply to all public sector bodies including local authorities. While Wexford County Council is a registered publisher on data.gov.ie. No detailed open data policy could be identified on the Wexford County Council website. It should be noted that while some county councils may have a discrete open data portal which implies commitment to an open data policy, this indicator requires the open data policy to be easily accessible. Table 12 provides the scores for Wexford

County Council and the percentage of municipal authorities in the LOSI 2022³⁶ that met each indicator.

Table 12 LOSI participation and engagement assessment for the County Council with LOSI 2022 benchmark

Indicators	County Council	% of MAs meeting LOSI 2022
Organisational structure	Yes	84.93%
Names and contacts of heads of department	No	79.45%
Links for government agencies	No	77.40%
Portal authentication	No	64.38%
Privacy Policy	Yes	52.47%
Rights to access government information	Yes	50.00%
Municipal e-government strategy	No	46.58%
Open data policy	No	41.10%

4.2.2 Content Provision

The focus of the Content Provision criterion in LOSI is to identify the extent to which essential public information and resources are available online. Content was assessed manually in October 2022.

15 indicators were adapted from LOSI 2022 relating to content provision. Wexford County Council met 13 out of 15 indicators which would place it in the Very High category when benchmarking against LOSI 2022. Four indicators, namely information on education, justice, employment, and public transportation, reflect the structure and divisions between national and local government in Ireland and would not necessarily be expected to be addressed by Wexford County Council. It should be noted that all of the above are available through other national government agencies in Ireland. Table 13 provides the scores for Wexford County Council and the percentage of municipal authorities in the LOSI 2022 that met each indicator.

Table 13 LOSI content provision assessment for the County Council with LOSI 2022 benchmark

Indicators	County Council	% MAs meeting LOSI 2022
Health information	Yes	74.66%

Environmental information	Yes	73.29%
Social welfare information	Yes	70.55%
Education information	Yes	68.49%
Employment information	No	51.37%
Justice information	No	50.00%
Sports and culture information	Yes	83.56%
Information relevant to vulnerable groups	Yes	65.07%
Waste and recycling information	Yes	63.70%
Public transportation information	Yes	61.64%
Road safety information	Yes	51.37%
Facilitation of free internet access	Yes	50.00%
Alerts for weather and natural disaster alerts	Yes	30.82%
Procurement announcements	Yes	70.55%
Procurement results	Yes	53.42%

4.2.3 Services Provision

The “Services Provision” criterion in LOSI focuses on the delivery of a set of fundamental services made available by local governments through their websites. Service provision was collected manually in October 2022 through an assessment of the Wexford County Council website and a review of service provision based on data collected by the Local Government Management Agency.

In total, the Wexford County Council website was assessed against 17 indicators adapted from LOSI 2022, meeting 8 out of 17 indicators which would place it in the Middle category when benchmarking against LOSI 2022. Similar to content provision, nine indicators where Wexford County Council scored ‘No’ reflect the structure and divisions between national and local government in Ireland. Such indicators included water, gas and electricity payments, police online declarations and applications relating to driver licenses, residency, births, deaths, marriages, land titles, and business taxes. It should be noted that all of the above are available through other national government agencies in Ireland.

Table 14 provides the scores for Wexford County Council and the percentage of municipal authorities in the LOSI 2022 that met each indicator.

Table 14 LOSI service provision assessment for the County Council with LOSI 2022 benchmark

Indicators	County Council	% MAs meeting LOSI 2022
Online fee payment	Yes	58.22%
Online vacancies	Yes	48.63%
e-Procurement service	Yes	47.95%
Online building permit	Yes	45.89%
Online business license	Yes	43.84%
Water payment	No	41.78%
Electricity/gas payment	No	36.30%
Online police declaration	No	31.51%
Online environment-related permit	Yes	29.45%
Online marriage certificate	No	28.08%
Online birth certificate	No	28.08%
Online death certificate	No	26.03%
Address change notification	Yes	25.34%
Online residentship	No	22.60%
Online land title registration	No	21.23%
Online driver's license	No	17.12%
Online vehicle registration	Yes	13.70%

Data on service provision sourced from the Local Government Management Agency was also reviewed. Of the 1,105 services in the master list of services indicated by all local authorities in Ireland, Wexford County Council offers 1074 (97.2%) in some form compared to the average of 998 (90.3%). A sample of 93 services designated as digital in some form were identified. Wexford County Council offered 91 (97.8%) of these services in some form.

4.2.4 Participation and Engagement

The “Participation and Engagement” criterion in LOSI assesses the availability of mechanisms and initiatives for interaction and opportunities for public participation in local governance structures. Two indicators regarding email responsiveness were not collected as part of this study.

Of the 17 indicators assessed, Wexford County Council met 11 of the indicators which would place it in the High category when benchmarking against LOSI 2022. Table 15 provides the scores for www.wexfordcoco.ie and the percentage of municipal authorities in the LOSI 2022 that met each indicator.

Table 15 LOSI participation and engagement assessment for the County Council with LOSI 2022 benchmark

Indicators	County Council	% MAs meeting LOSI 2022
Social networking features	Yes	86.30%
Feedback/complaint submission	Yes	80.14%
Budget-related information	Yes	71.23%
Information on the public meetings of the municipality council	Yes	53.42%
Reporting of occurrences/events in public spaces	Yes	52.74%
Online deliberation processes	Yes	48.63%
Open data provision	Yes	45.89%
Open data metadata	Yes	41.10%
Announcement of upcoming e-participation activities	Yes	40.41%
Participatory land use plan	Yes	37.67%
Quality of email response	NA	37.67%
Municipality responsiveness emails	NA	37.67%
Participatory budgeting	No	34.93%
Feedback about e-consultation processes	Yes	31.51%
Report of any form of discrimination	No	29.45%
Real-time communication	No	22.60%

E-voting	No	19.18%
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4.2.5 Technology

The “Technology” criterion focuses on technical features of the websites with the aim of verifying how the website is made available for users. It encompasses aspects such as accessibility, functionality, reliability, ease of navigation, and alignment with technology standards. The Wexford County Council website at <https://www.wexfordcoco.ie> was assessed in November 2022. It comprised validation checks automated tools and using manual assessment against LOSI.

Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies (the Web Accessibility Directive) was enacted on 26 October 2016 and was transposed in to Irish law through the European Union (Accessibility of Websites and Mobile Applications of Public Sector Bodies) Regulations 2020 which came into force on 23 September 2020. The Web Accessibility Directive requires public sector bodies to ensure that their websites and mobile applications are more accessible in particular for people with disabilities. The Web Accessibility Directive specifically requires public sector websites to meet the so-called POUR principles of accessibility i.e. perceivability, operability, understandability, and robustness, and is testable against criteria such as those laid out in the European standard EN 301 549 V1.1.2 which is largely based on the W3C Web Content Accessibility Guidelines (WCAG) 2.0.

We utilised PowerMapper's OnDemand Suite, a commercial software tool that scans web code against 1,300 standards-based checkpoints including WCAG 2.1, WCAG 2.0, Section 508 (2017), accessible file formats, desktop and browser mobile compatibility, broken links and errors, and web standards (including W3C HTML and CSS standards). The <https://www.wexfordcoco.ie> website was crawled using OnDemand's PowerMapper tool; 530 URLs were checked using this process. The findings are summarised in Table 16. The primary issue relates to accessibility where it performed worse than average when compared against benchmark sites. While Wexford County Council seeks to follow the W3C Web Accessibility Initiative Guidelines, a total of 21 Level A WCAG 2.1 issues were identified on 344 pages and a further 3 Level AA issues were identified on 318 pages. Accessibility software, Recite Me, was implemented on the website. The website was compatible with most current generation web browsers and presented only minor issues relating to legacy Microsoft Internet Explorer browsers. The website presented 5 minor issues with respect to meeting industry search guidelines; no issues were found with robots.txt or search best practices. 319 pages feature HTML5 or CSS validation issues. No readability issues were identified.

Table 16 Summary of page-level issues identified by PowerMapper on the County Council website

	Number of pages	Benchmark
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Errors	33 pages with broken links or other errors	Better than average
Accessibility	334 pages with accessibility problems	Worse than average
Compatibility	12 pages with browser specific issues	Better than average
Search	318 pages with search engine issues	Worse than average
Standards	319 pages have W3C standards issues	Worse than average
Usability	321 pages with usability issues	Worse than average

In addition, mobile accessibility and both mobile and desktop page load speeds were assessed using Google Mobile Friendly Test and Google Lighthouse (see Table 17). The Google Mobile Friendly Test measures usability on a mobile device. Google Lighthouse measures four dimensions for both mobile and desktop devices - performance, accessibility, best practices, and SEO. Performance is measured by how well a given page is optimised for users to be able to see and interact with page content. Accessibility assesses the extent to which all users can access content and navigate a given website effectively. Best practices assess the underlying code health of a given website against best practice. SEO assesses how well a given website is optimized for search engines. Google Lighthouse score ranges are: 0 to 49 (red): Poor; 50 to 89 (orange): Needs Improvement; and 90 to 100 (green): Good.

Table 17 Summary of Google Mobile Friendly and Lighthouse Tests for the County Council website

Category	Result	Description
Mobile Friendly	Usable	The page should probably work well on a mobile device
Mobile Performance	60	Needs Improvement
Mobile Accessibility	90	Good
Mobile Best Practices	83	Needs Improvement
Mobile SEO	84	Needs Improvement
Desktop Performance	90	Good
Desktop Accessibility	84	Needs Improvement
Desktop Best Practices	92	Good
Desktop SEO	83	Needs Improvement

The Wexford County Council website was also assessed manually against 16 technology indicators adapted from LOSI 2022. Wexford County Council met 11 of the 16 indicators which would place it in the High category when benchmarking against LOSI 2022. Websites were scored negatively if the corresponding scores in Table 14 and Table 15 were worse than average or rated 'Needs Improvement' or 'Poor'. There are some exceptions. For mobile device accessibility, assessors considered the website's mobile friendliness combined with a 'Needs Improvement' mobile accessibility rating was deemed satisfactory to meet the indicator. For alignment with accessibility standards, the assessors scored a website positively if assistive technology, e.g., Recite Me, was integrated into the website even if the accessibility scores were worse than average as such software was a compensating factor. The assessors also noted that Irish local government websites are required to adhere to the Freedom of Information Act and GDPR and therefore data subjects have access to their data and can amend or rectify this data by law. While local authorities scored positively for these items, there is significant variability in the support individual websites provide for data subjects in these cases ranging from merely providing an email to online forms. Table 18 provides the scores for the Wexford County Council website and the percentage of municipal authorities in the LOSI 2022 that met each indicator.

Table 18 LOSI technology assessment for the County Council website

Indicators	County Council	% MAs meeting LOSI 2022
Browser compatibility	Yes	99.32%
Contact Details	Yes	97.95%
Ease of portal finding	Yes	95.89%
Mobile device accessibility	Yes	92.47%
Alignment with markup validation standards	No	87.67%
Internal search mechanism	Yes	84.25%
Evidence of portal content update	Yes	80.14%
Alignment with display standards	No	74.66%
Helpdesk call number	Yes	58.90%
Online user support	No	56.85%
Navigability	Yes	55.48%
Personal data accessibility	Yes	44.52%

Information on online services use	No	44.52%
Personal data updating	Yes	31.51%
Internal advanced search mechanism	No	28.77%
Alignment with accessibility standards	Yes	23.97%

4.3 E-HEALTH WEB INTENSITY SCORE

24 healthcare providers were identified in New Ross. These included general practitioners, pharmacists and other healthcare providers e.g. dental practices, opticians, and physiotherapists. Table 19 compares healthcare providers with the overall business community.

Table 19 Website Technology Intensity Score - Healthcare Providers (n=24)

Website Technology Intensity Score Level	% of Healthcare Providers	% of Business
Non-existent (0)	48	41
Very low (1-2)	8	9
Low (3-4)	20	13
Medium (5-7)	24	24
High (8-9)	0	12
Very high (10-11)	0	1

Table 20 presents the degree of penetration of different general web technologies featured in the Website Technology Intensity Score with comparative data against the general population in New Ross.

Table 20 Key Digitisation Take-up Indicators – Healthcare Providers (n=24)

Indicator	% of Healthcare Providers	% of Business
A website or homepage	52	59
A website with evidence of sophisticated functions	44	41
A website with evidence of basic analytics	20	36

A website with evidence of sophisticated analytics	20	37
A website with evidence of basic online advertising	0	15
A website with evidence of sophisticated online advertising	0	3
A website with evidence of selling online	8	22
A website with evidence of social media integration	40	37
A website with evidence of international activity	28	37
A website with evidence of mobile targeting	0	0
A website with evidence of cloud computing	12	27

24 health service providers were contacted; thirteen responded to questions. Since COVID-19, DESI has ceased reporting detailed e-health data. No EU data is available for online consultations.

Table 21 presents e-health services take-up by healthcare providers in New Ross.

Table 21 E-health Services Take-up (% of healthcare providers) (n=13)

Indicator	New Ross 2022	DESI Ireland 2019	DESI EU 2019
Use e-prescriptions	69%	8%	50%
Using an electronic network to exchange medical data with other healthcare providers	69%	63%	43%
Providing online consultations	15%	NA	NA

4.4 OPEN DATA

As discussed earlier, S.I. No. 376 of 2021, the European Communities (Open Data & Re-use of Public Sector Information) Regulations 2021 emphasises that Irish public sector bodies should adhere to the principle that public sector data should be open by design and default, and requires that where data is made available for re-use in open format, this data must be linked to the national open data portal, data.gov.ie. These regulations apply to all public sector bodies including local authorities.³⁷ There is a very limited amount of open data available on New Ross. A review of the five main

open data portals in Ireland³⁸ identified only three data sets. Wexford County Council is listed as a publisher on data.gov.ie, the Irish national open data portal.

Table 22 List of Town Open Data Available

Name	Description	Publisher	Source
New Ross W.W Rainfall Data	Daily and monthly rainfall records for New Ross W.W in Co. Wexford. This station is now closed.	Met Eireann	data.gov.ie
New Ross (Trans.Stn.) Rainfall Data	Daily and monthly rainfall records for New Ross (Trans.Stn) in Co. Wexford. This station is now closed.	Met Eireann	data.gov.ie
New Ross (Albatros Fertilizers L.) Rainfall Data	Daily and monthly rainfall records for New Ross (Albatros Fertilizers L.) in Co. Wexford. This station is now closed.	Met Eireann	data.gov.ie

4.5 OVERALL SCORE

Based on the above analysis, the overall DTB score for digital public services is **2.8**.

Table 23 Digital Public Services Dimension Scores

Indicator	Weight	Score
E-government readiness	40%	4.0
E-health	40%	2.5
Open data	20%	1.0
Overall score	100%	2.8

5. DIGITAL EDUCATION

5.1 INTRODUCTION

Digital education refers to the use and sophistication of digital technologies for teaching and learning in formal and non-formal education within a community, and the infrastructure required to support such provision.³⁹ The adoption and use of digital technologies in education is driven by a variety of rationales. They can help prepare citizens to participate, work and function more fully in a society permeated by digital technologies, increase accessibility to education, differentiate educational institutions, and increase the efficiency, cost effectiveness and quality of education delivery, amongst others.⁴⁰

The education dimension comprises four sub-dimensions with the following weightings:

- Pre-primary - 10%;
- Primary - 30%;
- Post-primary - 30%; and,
- Digital skills education availability - 30%

As pre-primary childcare providers include private commercial entities mixed with government funded community run entities, pre-primary childcare businesses were assessed against the items in the Website Technology Intensity Score as outlined in Section 3.

The Government's Digital Strategy for Schools to 2027 (p.17)⁴¹ highlights 3 pillars relevant to primary and post-primary education. They broadly relate to (i) providing digital technology infrastructure, (ii) supporting digital technologies in teaching, learning and assessment, and (iii) establishing policies for the use of digital technologies in schools. Primary and post-primary schools were surveyed on these three pillars in November 2022.

Other digital skills education availability examines the availability of digital skills education and training in New Ross outside of the primary and post-primary education system at all levels from basic to advanced. Education businesses are included in Section 3 where appropriate.

5.2 PRE-PRIMARY

There is increasing research that reinforces the belief that childcare can allow parents to participate in the labour force and pursue education or training, and in itself is a significant contributor to local and national economies. The pre-primary indicators measure the presence of childcare businesses in a given town and the digital readiness of their websites using the WTIS. There are 12 pre-primary businesses in New Ross. Table 24 presents the relative frequency of pre-primary businesses in New Ross by WTIS level.

Table 24 Website Technology Intensity Score - Pre-Primary Businesses (n=12)

Website Technology Intensity Score Level	% of Pre-Primary Businesses
Non-existent (0)	100
Very low (1-2)	0
Low (3-4)	0
Medium (5-7)	0
High (8-9)	0
Very high (10-11)	0

5.3 PRIMARY

There are five primary schools in New Ross and all schools completed the survey.⁴² An assessment was carried out across five criteria - (1) teaching, learning and assessment using ICT, (2) teacher professional learning, (3) leadership, research and policy, (4) ICT infrastructure, and (5) Web Technology Intensity Score (WTIS). These indicators were based on items adapted from the Department of Education Survey of Principals, Teachers and Post-Primary Students⁴³, the 2nd Survey of Schools: ICT in Education⁴⁴, and PISA.⁴⁵

5.3.1 Teaching, Learning and Assessment using ICT

The European Union Digital Education Action Plan (2021-2027)⁴⁶ places the development of digital skills and competences as a strategic priority. The OECD, Harnessing Digital: The Digital Ireland Framework⁴⁷, and the Digital Strategy for Schools to 2027 notes that the integration of digital technologies in the curriculum and use thereof by teachers is critical for the development of digital skills and digital literacy. The DTB measures both the use of digital technologies by teachers (Table 25) and opportunities for students to develop their digital competences (Table 26).

Table 25 Use of Digital Technologies by Primary School Teachers (n=5)

Indicator	New Ross	EC 2019 EU
Communicate with students by email	20%	22%
Communicate with students using apps	40%	16%
Communicate with online tools on computers with students	0%	27%

Creating digital resources	40%	40%
Evaluating digital resources	40%	52%
Posting homework for students online	40%	34%
Preparing presentations online	80%	71%
Being on school website/VLE	80%	69%
Preparing tasks for students e.g. in word	80%	94%
Browsing for material to be used in lessons	80%	95%
Browsing to prepare lessons	80%	97%
Assessment processes	80%	NA
E-portfolios	0%	NA

Table 26 Opportunities for Students in Primary Schools to Develop their Digital Competences (n=5)

Indicator	New Ross	EC 2019 EU⁴⁸
Learn how to behave to protect their privacy	80%	NA
Use the Internet safely to protect against bullying	80%	NA
Change privacy settings	40%	NA
Run a virus scan on their computer	20%	NA
Use information from the Internet without plagiarising	20%	NA
Use other online tools on a computer or apps on a smartphone	20%	NA
Participate in social networks	0%	NA
Learn how to manage their digital identity and reputation	40%	NA
Download/upload curriculum resources	20%	NA
Email a file to another student or teacher	0%	NA
Understanding how digital data is created and stored	20%	NA
Understanding excessive use	80%	NA
Identify online sources of reliable information	60%	NA
Save a file on a hard drive/cloud platform	20%	NA
Check if the information I find online is true	60%	NA

Participate in online training programmes	40%	NA
Learn with online educational games, apps, quizzes	80%	NA
Update operating software on a computer	20%	NA
Code/program apps and/or robots	40%	NA
Create blogs or websites and maintain them	0%	NA
Use a spreadsheet programme	0%	NA
Edit digital photographs or other graphic images or video	20%	NA
Produce text using a word processing programme	40%	NA
Create a presentation	20%	NA

5.3.2 Teacher Professional Learning

Teacher Professional Learning (TPL) is a key element of the Digital Strategy for Schools to 2027.⁴⁹ It not only enables the teaching profession to better meet the educational needs of young people but is perceived as critical for the successful implementation of the Digital Strategy for Schools to 2027. The DTB measures the types of professional training undertaken in the previous two years, whether incentives to encourage teachers to take training were put in place, and whether a professional development plan was in place. Table 27 provides the percentages of primary schools surveyed in New Ross that met the TPL indicators.

Table 27 Primary School Teacher Professional Learning Indicators (n=5)

Indicator	New Ross	EC 2019	EC2019
		Ireland	EU
Pedagogical courses on the use of ICT	0%	45%	43%
Subject-specific training on learning applications	40%	33%	44%
Equipment-specific training	0%	38%	46%
Other ICT continuous professional development courses	40%	NA	NA
Incentives in place to encourage teachers to attend ICT training	20%	NA	NA
Professional development plan for ICT for teachers	0%	NA	NA

5.3.3 Leadership and Policy

Adapted from the UNESCO ICT Competence Framework⁵⁰ and related frameworks, the Digital Learning Framework (DLF) is a resource to support Irish schools on how to use digital technologies effectively in their learning and assessment practices. It was designed as a supporting measure for the Digital Strategy for Schools (DSS) (2015-2020)⁵¹ and has been continued in the Digital Strategy for Schools to 2027. The DLF is designed to support schools in developing a Digital Learning Plan that articulates a school's vision for their use of digital learning technologies. The DTB measures whether a DLF has been implemented in a school and the DLF domains implemented. In addition to statements and policies related to the use of digital technologies and ICT generally and for pedagogical purposes covered in the DLF indicators, the DTB measures whether policies are in place for a range of other related activities including Open Educational Resources, assessing the outcomes of ICT use for teaching and/or learning, community participation, social media, and internet behaviour. The DTB also measures whether regular discussions on the use of ICT for teaching and learning take place, the availability of a dedicated ICT coordinator in a school, and whether the school has received an ICT grant. Table 28 provides the percentages of primary schools surveyed in New Ross that met the Leadership and Policy indicators.

Table 28 Primary School Leadership, Research and Policy Indicators (n=5)

Indicator	New Ross	DE	EC
		2022 Ireland	2019 EU
DLF implemented in school	20%	89%	NA
DLF - Learner outcomes	0%	50%	NA
DLF - Learner experience	0%	43%	NA
DLF - Teacher individual practice	0%	42%	NA
DLF - Teachers' collective/collaborative practice	20%	31%	NA
DLF - Leading, learning, and teaching	0%	19%	NA
DLF - Managing the organisation	0%	22%	NA
DLF - Leading school development	0%	18%	NA
DLF - Developing leadership capacity	0%	6%	NA
Policy and/or actions to use Open Educational Resources and/or MOOCs for teaching and/or learning	0%	NA	16%

Policy and/or actions to assess the outcomes of use of ICT for teaching and/or learning	20%	NA	32%
A policy and/or actions to participate in communities	0%	NA	25%
Regular discussions with teaching staff about the use of ICT for pedagogical purposes	0%	NA	50%
Policy about using social networks for teaching and learning	40%	NA	34%
Policy for responsible internet behaviour	20%	NA	64%
Dedicated ICT Coordinator	20%	NA	NA
Received an ICT grant	80%	NA	NA

5.3.4 Digital Technology Infrastructure

The European broadband targets foresee that by 2025 all schools have access to gigabit Internet connectivity.⁵² The HEAnet National Education Network delivers and manages a centralised Schools Network to all primary schools in Ireland. The National Broadband Plan⁵³ seeks to connect all schools to high-speed broadband (~150 Mbps) by early 2023. The DTB measures whether a variety of connectivity infrastructure is available in a school including broadband and wireless LANs. Furthermore, a range of computing infrastructure including virtual learning environments, interactive whiteboards and the availability of school-owned computing devices for teachers and learners both at school and at home are measured. Table 29 provides the percentages of primary schools surveyed in New Ross that met the Digital Technology Infrastructure indicators.

Table 29 Primary School Digital Technology Infrastructure Indicators (n=5)

Indicator	New Ross	DE	EC	EC
		2022 Ireland	2019 Ireland	2019 EU
Broadband	100%	NA	NA	NA
Reported access speed equal or greater than 100Mbps	0%	NA	4%	11%
Wireless LAN	100%	NA	55%	46%
Virtual Learning Environment (VLE)	0%	NA	17%	27%
Mobile-accessible VLE	0%	NA	NA	NA

VLE access outside school hours	0%	NA	55%	85%
Interactive whiteboards	100%	NA	NA	NA
Computing devices for teachers in school	80%	98%	NA	NA
Computing devices for learners in school	60%	94%	NA	NA
Computing devices for teachers at home	80%	93%	NA	NA
Computing devices for learners at home	0%	38%	NA	NA
Student e-mail	75%	NA	NA	NA
Mobile apps	0%	NA	NA	NA

5.3.5 Website Technology Intensity Score

As per Section 3, a WTIS was calculated for each primary school website. In addition, the presence of the school on social media was also measured. Table 30 summarises the findings for primary schools in New Ross.

Table 30 Website Technology Intensity Score - Primary Schools (n=5)

Website Technology Intensity Score Level	% of Schools
Non-existent (0)	0
Very low (1-2)	0
Low (3-4)	20
Medium (5-7)	80
High (8-9)	0
Very high (10-11)	0

5.4 POST-PRIMARY

There are five post-primary schools in New Ross; and all the schools completed the survey. As per 5.3, an assessment was carried out across four criteria - (1) teaching, learning and assessment using ICT, (2) teacher professional learning, (3) leadership, research and policy, and (4) digital technology infrastructure.

5.4.1 Teaching, Learning and Assessment using ICT

The DTB measures both the use of digital technologies by teachers (Table 31) and opportunities for students to develop their digital competences (Table 32).

Table 31 Use of digital technologies by teachers in post-primary schools (n=5)

Indicator	New Ross	EC 2019 EU⁵⁴
Communicate with students by email	60%	36 - 43%
Communicate with students using apps	40%	27 - 42%
Communicate with online tools on computers with students	60%	27 - 49%
Creating digital resources	80%	54 - 44%
Evaluating digital resources	80%	48 - 62%
Posting homework for students online	60%	37 - 40%
Preparing presentations online	80%	72 - 77%
Being on school website/VLE	40%	70 - 72%
Preparing tasks for students e.g. in word	80%	95 - 91%
Browsing for material to be used in lessons	80%	89 - 94%
Browsing to prepare lessons	80%	96 - 100%
Assessment processes	80%	NA
E-portfolios	60%	NA

Table 32 Opportunities for students in post-primary schools to develop their digital competences (n=1)

Indicator	New Ross	EC 2019 EU⁵⁵
Learn how to behave to protect their privacy	80%	NA
Use the Internet safely to protect against bullying	80%	NA
Change privacy settings	80%	NA
Run a virus scan on their computer	20%	NA
Use information from the Internet without plagiarising	60%	NA
Use other online tools on a computer or apps on a smartphone	80%	NA
Participate in social networks	40%	NA
Learn how to manage their digital identity and reputation	60%	NA

Download/upload curriculum resources	80%	NA
Email a file to another student or teacher	80%	NA
Understanding how digital data is created and stored	60%	NA
Understanding excessive use	60%	NA
Identify online sources of reliable information	80%	NA
Save a file on a hard drive/cloud platform	80%	NA
Check if the information I find online is true	80%	NA
Participate in online training programmes	40%	NA
Learn with online educational games, apps, quizzes	80%	NA
Update operating software on a computer	40%	NA
Code/program apps and/or robots	40%	NA
Create blogs or websites and maintain them	40%	NA
Use a spreadsheet programme	80%	NA
Edit digital photographs or other graphic images or video	40%	NA
Produce text using a word processing programme	80%	NA
Create a presentation	80%	NA

5.4.2 Teacher Professional Learning

Table 33 provides the percentages of post-primary schools surveyed in New Ross that met the TPL indicators.

Table 33 Post-primary school teacher professional learning indicators (n=5)

Indicator	New Ross	EC 2019	EC 2019
Pedagogical courses on the use of ICT	40%	Ireland	EU
Subject-specific training on learning applications	40%	45%	43%
Equipment-specific training	60%	33%	44%
Other ICT continuous professional development courses	0%	38%	46%
Incentives in place to encourage teachers to attend ICT training	20%	NA	NA
Professional development plan for ICT for teachers	20%	NA	NA

5.4.3 Leadership and Policy

Table 34 below provides the percentages of post-primary schools surveyed in New Ross that met the Leadership and Policy indicators.

Table 34 Post-primary School Leadership and Policy Indicators (n=5)

Indicator	New Ross	DE	EC
		2022 Ireland	2019 EU ⁵⁶
DLF implemented in school	80%	97%	NA
DLF - Learner outcomes	40%	18%	NA
DLF - Learner experience	40%	20%	NA
DLF - Teacher individual practice	60%	24%	NA
DLF - Teachers' collective/collaborative practice	60%	28%	NA
DLF - Leading, learning, and teaching	60%	17%	NA
DLF - Managing the organisation	40%	6%	NA
DLF - Leading school development	40%	8%	NA
DLF - Developing leadership capacity	20%	10%	NA
Policy and/or actions to use Open Educational Resources and/or MOOCs for teaching and/or learning	20%	NA	22% - 24%
Policy and/or actions to assess the outcomes of use of ICT for teaching and/or learning	40%	NA	31% - 32%
A policy and/or actions to participate in communities	0%	NA	33% - 38%
Regular discussions with teaching staff about the use of ICT for pedagogical purposes	0%	NA	54% - 56%
Policy about using social networks for teaching and learning	100%	NA	34% - 35%
Policy for responsible internet behaviour	80%	NA	66% - 73%
Dedicated ICT Coordinator	60%	NA	79% - 83%
Received an ICT grant	60%	NA	NA

5.4.4 Digital Technology Infrastructure

Table 35 below provides the percentages of post-primary schools surveyed in New Ross that met the Digital Technology Infrastructure indicators.

Table 35 Digital Technology Infrastructure Indicators - Post-Primary School (n=5)

Indicator	New Ross	DE 2022 Ireland	EC 2019 EU⁵⁷
Broadband	100%	NA	NA
Reported access speed equal or greater than 100Mbps	40%	NA	18%
Wireless LAN	100%	NA	52% - 67%
Virtual Learning Environment (VLE)	60%	NA	54% - 65%
Mobile-accessible VLE	60%	NA	NA
VLE access outside school hours	60%	NA	92% - 95%
Interactive whiteboards	40%	100%	NA
Computing devices for teachers in school	100%	78%	NA
Computing devices for learners in school	100%	100%	NA
Computing devices for teachers at home	100%	47%	NA
Computing devices for learners at home	20%	NA	NA
Student e-mail	100%	NA	NA
Mobile apps	0%	NA	NA

5.4.5 Website Technology Intensity Score

A WTIS was calculated for each post-primary school website. In addition, the presence of the school on social media was also measured. There are five post-primary schools in New Ross. Table 36 summarises the findings for post-primary schools in New Ross.

Table 36 Website Technology Intensity Score - Post-Primary Schools (n=5)

Website Technology Intensity Score Level	% of Schools
Non-existent (0)	0

Very low (1-2)	40
Low (3-4)	20
Medium (5-7)	40
High (8-9)	0
Very high (10-11)	0

5.5 DIGITAL SKILLS EDUCATION AVAILABILITY

The digital skills education availability sub-dimension measures the availability of digital skills education outside of pre-primary and formal primary and secondary education. It measures four indicators - (1) availability of digital skills courses for young people, (2) availability of vocational and further education digital skills courses, (3) availability of digital skills courses for seniors, and (4) availability of other digital skills courses (e.g., through libraries, vocational training units, or private training companies). Table 37 presents the digital skills education availability indicators for New Ross.

Table 37 Digital Skills Education Availability Indicators

Indicator	No. of Courses
Availability of digital skills courses for young people	Yes
Availability of vocational and further education digital skills courses	Yes
Availability of digital skills courses for seniors	No
Availability of other digital skills courses	No

5.6 OVERALL SCORE

Based on the above analysis, the overall DTB score for education is **2.2**.

Table 38 Digital Education Dimension Scores

Indicator	Weight	Score
Pre-primary	10%	0.0
Primary	30%	1.8
Post-primary	30%	3.5

Digital skills education availability	30%	2.0
Overall score	100%	2.2

6. DIGITAL CIVIL SOCIETY

6.1 INTRODUCTION

Salamon and Anheier (1998, p. 216)⁵⁸ define civil society as collection of entities that share five characteristics:

- organisations, i.e., institutionalised to some meaningful extent;
- private, i.e., institutionally separate from government;
- non-profit distributing, i.e., not returning profits generated to their owners or directors;
- self-governing, i.e., equipped to control their own activities; and,
- voluntary, i.e., involving some meaningful degree of voluntary participation.

Civil society includes a wide range of organisations with varying roles and purposes including those involved in culture and recreation, education and research, health, social services, environmental sustainability, development and housing, law advocacy and politics, philanthropic intermediaries and voluntarism promotion, international activities and promotion, religion, business and professional etc.⁵⁹ They play an important role in society by promoting community engagement and citizenship values, advocating distinct interests and diverse points of view, delivering services, and creating economic value. For example, in 2018, there were over 19,500 such organisations registered in Ireland with nearly 200,000 voluntary directors or trustees and paid employees; they are a significant economic force with over €10.9 billion in annual turnover.⁶⁰ Civil society is a critical part of the social fabric throughout Ireland, and one might argue especially in rural communities whose identity may be linked to a local parish, sports club, or other social activity.

The civil society dimension measures the use of digital technologies by voluntary bodies or social groups serving the needs of the New Ross community. It includes sports clubs, charities, political organisations, and other community groups. The civil society dimension comprises three sub-dimensions - WTIS, digital technology take-up, and e-commerce take-up as per Section 3.

Given the nature of these organisations, web intensity, digital technology and e-commerce take-up were weighted evenly at 33.3%.

6.2 DIGITAL CIVIL SOCIETY

A WTIS was calculated for each digital civil society organisation. Table 39 summarises the findings for digital civil society in New Ross. 14 voluntary and social groups were identified. 36% had a discrete website. A small number featured on an affiliate website e.g. a political party.

Table 39 Website Technology Intensity Score - Civil Society and Businesses (n=14)

Website Technology Intensity Score	% of Civil Society Organisations	% of Businesses
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Non-existent (0)	64	41
Very low (1-2)	36	9
Low (3-4)	0	13
Medium (5-7)	0	24
High (8-9)	0	12
Very high (10-11)	0	1

Table 40 presents the degree of penetration of different digital technologies featured in the Website Technology Intensity Score compared to businesses in New Ross.

Table 40 A comparison of WTIS Indicators – Civil Society and Businesses (n=14)

Indicator	% of Civil Society Organisations	% of Business
A website or homepage	36	59
A website with evidence of sophisticated functions	21	41
A website with evidence of basic analytics	21	36
A website with evidence of sophisticated analytics	21	37
A website with evidence of basic online advertising	7	15
A website with evidence of sophisticated online advertising	7	3
A website with evidence of selling online	0	22
A website with evidence of social media integration	29	37
A website with evidence of international activity	21	37
A website with evidence of mobile targeting	0	0
A website with evidence of cloud computing	7	27
Social media presence	64	60

6.3 OVERALL SCORE

Based on the above analysis, the overall DTB score for civil society is **1.8**.

Table 41 Digital Civil Society Dimension Scores

Indicator	Weight	Score
Website Technology Intensity Score	33.3%	2.1
Digital technology take-up	33.3%	2.3
E-commerce take-up	33.3%	1.0
Overall score	100%	1.8

7. DIGITAL TOURISM

7.1 INTRODUCTION

Tourism is a significant economic sector in Ireland. It is often the only major source of employment outside of agriculture in many rural areas. It is a key element of Irish rural development policy and features prominently in both the National Planning Framework,⁶¹ Our Rural Future,⁶² and Town Centre First.⁶³ Digital tourism is often confused with smart tourism although they share the same goals i.e. supporting innovation and driving positive transformation within destinations using technology, data analysis and digitalisation. Whereas smart tourism is concerned with connecting the digital and physical world, digital tourism is building wider digital connections between organisations, people, and places. In this sense, digital technologies not only play an important role in helping visitors discover, experience, and develop a long standing relationship with a place, in this case, a rural town.

The tourism dimension seeks to measure the use and sophistication of digital technology to attract tourists and deliver a distinctive tourism experience. The digital tourism dimension comprises three sub-dimensions:

- Digital readiness of tourism businesses;
- Smart tourism and digital tourism infrastructure;
- Tourism destination website and maturity.

The digital readiness of tourism businesses was weighted at 60% with the other two dimensions weighted equally at 20%.

Digital readiness of tourism businesses is assessed using the WTIS, digital technology take-up and e-commerce take-up measurements as per Section 3 and comprises accommodation, hospitality and retail businesses.

Smart tourism and infrastructure assess the degree to which there is evidence of smart tourism and digital tourism infrastructure in the town and at primary tourist destinations within the town. This includes public Wi-Fi, digital transport signage, digital information points/kiosks, availability of online itineraries, voluntary tourism alert systems, mobile apps, event websites, and use of augmented reality (AR), virtual reality (VR) or QR codes etc.

Tourism destination website and maturity assesses the availability and maturity of a dedicated tourism website.

7.2 DIGITAL READINESS OF TOURISM BUSINESSES

A WTIS was calculated for each tourism business website. Table 42 summarises the findings for tourism businesses in New Ross and compares to the percentages for all businesses in the town. 160 accommodation, hospitality and retail businesses were assessed.

Table 42 Website Technology Intensity Score - Tourism Businesses (n=160)

Website Technology Intensity Score	% of Tourism Businesses	% of Businesses
Non-existent (0)	44	41
Very low (1-2)	8	9
Low (3-4)	11	13
Medium (5-7)	21	24
High (8-9)	13	12
Very high (10-11)	2	1

Table 43 presents the degree of penetration of different digital technologies featured in the WTIS with comparative data, where available. In DESI 2022, Ireland was the top ranked country in the EU for the integration of digital technology dimension. In addition, the degree of penetration of general businesses in New Ross is provided to compare tourism businesses with business as a whole in the town.

Table 43 Key Digitisation Take-up Indicators – Tourism Businesses (n=160)

Indicator	% New Ross Tourism Businesses	% New Ross Businesses	% Ireland	% EU28
	2022	2022	2018	2018
A website or homepage	54	59	NA	NA
A website with evidence of sophisticated functions	38	41	NA	NA
A website with evidence of basic analytics	34	36	NA	NA
A website with evidence of sophisticated analytics	35	37	NA	NA
A website with evidence of basic online advertising	19	15	NA	NA
A website with evidence of sophisticated online advertising	6	3	NA	NA
A website with evidence of selling online	27	22	33	18 ⁶⁴

A website with evidence of social media integration	31	37	NA	NA
A website with evidence of international activity	39	37	NA	NA
A website with evidence of mobile targeting	0	0	NA	NA
A website with evidence of cloud computing	26	27	47	34
Social media presence	68	60	32	29 ⁶⁵

As this report is designed to support the Town Centre First programme, tourism attractions and destination sites listed on TripAdvisor and Google Travel (Things to Do) within 2km of the town centre were also assessed for digital readiness. We recognise that this may exclude tourist attractions that benefit towns in the study however in many cases such tourist attractions also benefit other towns in proximity to the attraction. Consequently, a decision was made to limit to a 2km distance from the town centre. The tourist attractions assessed include natural amenities or heritage sites, festivals and events, and commercial businesses, amongst others. The DTB assesses whether these destination sites have a discrete web presence and the sophistication of those websites based on the WTIS. 11 such attractions and destination sites were identified for New Ross; four of which had a discrete website (Table 44).

Table 44 Website Technology Intensity Score - Tourist Attractions

Website Technology Intensity Score	% New Ross Tourism Attractions	% New Ross All Businesses
Non-existent (0)	29	41
Very low (1-2)	71	9
Low (3-4)	0	13
Medium (5-7)	0	24
High (8-9)	0	12
Very high (10-11)	0	1

7.3 SMART TOURISM AND DIGITAL TOURISM INFRASTRUCTURE

Smart tourism and infrastructure assess the degree to which there is evidence of smart tourism and digital tourism infrastructure in the town and at primary tourist destinations within the town. Table 45 presents the list of Smart Tourism and Digital Tourism Infrastructure indicators.

Table 45 Smart Tourism and Digital Tourism Infrastructure Indicators

Indicator	New Ross
Availability of free public outdoor Wi-Fi	No
Availability of other free public Wi-Fi	Yes
Availability of digital transport or other digital signage	No
Availability of tourism information outside of normal working hours e.g. via a digital kiosk	Yes
Availability of online itineraries	No
Availability of town-specific tourism mobile apps	No
Availability of voluntary tourism alert systems	No
Availability of augmented reality tourism services	No
Availability of virtual reality tourism services	No
Availability of QR code-based information services	Yes

7.4 TOURISM DESTINATION WEBSITE AVAILABILITY AND MATURITY

Tourism destination website availability and maturity measures the extent to which common tourist information and services are available through the town website and the WTIS scores for the town website(s). Table 46 summarises the tourism destination website availability and maturity indicators for New Ross, respectively.

Table 46 Tourism Destination Website Availability and Maturity Indicators

Indicator	New Ross
Availability of town website or portal	Yes
Availability of contact form or contact details for town website	Yes
Availability of local tourist office information	Yes

Availability of town social media presence	Yes
Availability of accommodation information	Yes
Availability of hospitality information	Yes
Availability of retail information	Yes
Availability of information on tourist activities or attractions	Yes
Availability of information on transport to and from the town	No
Availability of information on public Wi-Fi	No
Ability to subscribe for town updates	No
Ability to complete transactions on the town website	No

7.5 OVERALL SCORE

Based on the above analysis, the overall DTB score for digital tourism is **1.5**.

Table 47 Digital Tourism Dimension Scores

Indicator	Weight	Score
Digital readiness of tourism businesses	60%	0.9
Smart tourism and digital tourism infrastructure	20%	1.5
Tourism destination website and maturity	20%	3.3
Overall score	100%	1.5

8. GOVERNANCE OF DIGITAL TOWN INITIATIVES

8.1 INTRODUCTION

The delivery of complex and multifaceted policy objectives such as digitalisation requires significant coordination among a wide range of stakeholders. As such, it requires appropriate governance mechanisms that enable widespread participation while also guiding the implementation of the policy objectives. The Governance of Digital Town Initiatives measures two types of governance mechanisms - horizontal and vertical integration (Table 48). Horizontal integration refers to integration across different elements of policy making, and across policy and other stakeholders. Vertical integration of policy making refers to the integration across different levels within the governance or policy sphere.

Table 48 Indicators for the governance of digital town initiatives (Lynn et al. 2022)⁶⁶

	Indicator	Description
Horizontal integration	Coordination of digitalisation	The extent to which different digitalisation initiatives within a town are coordinated
	Citizen participation plan	The extent to which there is a defined plan for involving citizens into digital town initiatives
	Representation and scope	The extent to which different stakeholder types are represented and involved in the planning phase.
	Technical expertise	The extent to which technical expertise is used to assist with the design and development of a community engagement strategy
	Commitment to public engagement	The extent to which digital town initiatives are accessible and communicated to the public
	Commitment to local capacity building	The extent to which digital town initiatives are committed to local capacity building by collaborating with other organisations and communities
	Town-level platform availability	Availability of an integrated town-level platform availability to promote digital initiatives
	Town-level platform maturity	Maturity of the integrated town-level platform availability to promote digital initiatives
Vertical integration	Cross departmental integration	The extent to which different administrative departments contribute to digital town initiatives and management
	Establishment within the local authority	The extent to which digital town initiatives are assigned to one department and resources allocated
	Monitoring and evaluation	The extent to which progress toward a digital town and compliance with requirements is being monitored and reported

	Indicator	Description
	Multilevel government	The extent to which the local authority cooperates with other authorities from different levels
	Alignment	The extent to which digital town initiatives are aligned with government policy

For the purposes of the DTB, horizontal integration is weighted 75% and vertical integration is weighted 25%.

8.2 HORIZONTAL INTEGRATION

Coordination of digitalisation measures the extent to which different digitalisation initiatives within a town are coordinated. Few digital initiatives in New Ross could be identified. New Ross has a destination website, visitnewross.ie however it is not clear who manages the website. Any digital initiatives in New Ross would seem to be largely coordinated by Wexford County Council and state agencies.

New Ross has been selected as a target town under the Department of Rural and Community Development Town Centre First Programme.⁶⁷ As such a Town Regeneration Officer will be appointed by Wexford County Council and a Town Centre First Committee comprising local stakeholders will be established. Funding for these positions and to coordinate activities has been allocated by the Department of Rural and Community Development to Wexford County Council. Town Centre First Committees may include digital initiatives. At the time of writing, these positions have not been filled and activities have not been commenced.

No citizen participation plan for digitalisation initiatives was identified for New Ross.

As discussed in Section 5, there are basic digital capacity building opportunities available in New Ross including courses from New Ross Further Education and Training Centre, Wexford Local Development, and Active Retirement. No evidence of coder dojo or similar initiatives were identified.

As discussed, New Ross has a destination website, visitnewross.ie. It is not clear who manages the website. The website includes local and tourist information in New Ross, as well as links to retail outlets. It does not seem to be linked to Wexford County Council. It does not support transactions and rather directs visitors to other websites. While there are links to social media accounts, two-way communication is limited to email and a single contact form. The website is promotional in nature and not integrated with county websites and portals.

Table 49 summarises the indicators for horizontal integration of digital town initiatives in New Ross.

Table 49 Indicators for horizontal integration of digital town initiatives

Indicator	New Ross
Coordination of digitalisation	No
Citizen participation plan	No
Representation and scope	No
Technical expertise	No
Commitment to public engagement	No
Commitment to local capacity building	Yes
Town-level platform availability	Yes
Town-level platform maturity	No

8.3 VERTICAL INTEGRATION

A wide number of local authority departments and state agencies contribute to digital initiatives that may impact New Ross including Wexford County Council, the Department of Rural and Community Development, Enterprise Ireland, An Garda Síochána, the HSE, Tourism Ireland, amongst others. No Wexford County Council Digital Strategy could be identified. Six relevant plans and reports were reviewed for evidence of coordination with regards to digitalisation (Table 50). These included:

- 1) Wexford County Development Plan 2022 - 2028
- 2) Wexford County Council Corporate Plan 2019 - 2024
- 3) County Wexford Tourism Strategy 2019 - 2023
- 4) Wexford Climate Change Adaptation Strategy 2019 - 2024 (Draft)
- 5) County Wexford Arts Plan 2018-2022
- 6) Wexford Age Friendly Strategy 2022-2026

Table 50 Summary of Digitalisation References in Selected Town-related Reports and Plans

Document	Geographic Focus	Digital Reference
Wexford County Development Plan 2022 - 2028	County	<ul style="list-style-type: none"> ● References to enhancing regional accessibility and connectivity through upgraded high-quality infrastructure and digital connectivity throughout the county including mobile infrastructure and facilitating the roll out of the National Broadband Plan. ● References to the development of Enniscorthy as a national leader in digital technology, innovation, and transformation with a view to making Enniscorthy well

		<p>connected, sustainable, resilient and technologically literate.</p> <ul style="list-style-type: none"> ● References to supporting the implementation of a digital strategy for the county and supporting the role and initiatives of the Mobile and Broadband Taskforce. ● Development of remote working hubs and smart hubs.
Wexford County Council Corporate Plan 2019 - 2024	County	<ul style="list-style-type: none"> ● References to supporting the provision of high-speed broadband across the county and working to ensure digital optimisation and adaptation of technology. ● References to utilising the Library Service to promote learning and literacy at all life stages by providing informal learning opportunities including digital literacy support. ● References to efficient customer services and the promotion of online services. ● References to enhancing online service provision the use of mobile apps and Geographical Information Systems (GIS) is integral to operational efficiency. ● References to developing the Council's website to ensure it continues to provide the best possible online service and information to meet the needs of citizens. ● References to various metrics for online services and payment.
County Wexford Tourism Strategy 2019 - 2023	County	<ul style="list-style-type: none"> ● Reference to the fact that digital touchpoints are growing significantly which provides an opportunity to access more data regarding traveller habits and preferences. ● References to improving the county's digital footprint. ● Reference to the development of digital storytelling capabilities (in partnership with Fáilte Ireland). ● Reference to developing a marketing collateral and supports database which would include digital marketing guides. ● Reference to ensuring that all key digital footprints have multilingual content. ● References to developing a social media strategy with millennials in mind. ● References to online travel agent (OTA) sites. ● References to growing Ireland's Ancient East brand online. ● Reference to the possibility of Google playing a larger role in travel distribution.

		<ul style="list-style-type: none"> ● Reference to consumer trends moving ever closer to a complete dominance by technology channels in the research, planning and purchase of holidays.
Wexford Climate Change Adaptation Strategy 2019 - 2024 (Draft)	County	<ul style="list-style-type: none"> ● Reference to promoting digital resources to reduce the use of paper by Wexford County Council. ● References to how weather events affect technology, in particular computer systems, in Wexford. ● Reference to the importance of ICT companies in Wexford. ● References to the use of the county council website to provide information about climate-related events.
County Wexford Arts Plan 2018-2022	County	<ul style="list-style-type: none"> ● Reference to an online arts questionnaire posted by Wexford Arts Office. ● Reference to the facilitation of collaboration between the technology and art sectors. ● Reference to the sharing of databases between artists. ● Reference to promoting Wexford as a premier destination for filmmaking. ● Reference to specialist workshops in digital technologies. ● Reference to managing the new Films Location Wexford website.
Wexford Age Friendly Strategy 2022-2026	County	<ul style="list-style-type: none"> ● Reference to the use of online workshops during the consultation process. ● References to vulnerable groups (older people and Travellers) having difficulties using digital and technological resources. ● References to statistics about older people's use of social media and digital technologies. Many of those surveyed would like more basic IT training courses in Wexford. ● References to websites that can help older people and also websites that could be used to disseminate information to older people. ● References to young people and volunteers teaching old people how to use technology. ● References to poor broadband in some parts of Wexford.

Table 51 summarises the indicators for vertical integration of digital town initiatives in New Ross. While the score for vertical integration is high, this reflects the fact that New Ross has been selected as a participant in the Town Centre First Programme and this DTB assessment is being completed in support of this effort.

Table 51 Indicators for vertical integration of digital town initiatives

Indicator	New Ross
Cross departmental integration	Yes
Establishment within the local authority	No
Monitoring and evaluation	Yes
Multilevel government	Yes
Alignment	Yes

8.4 OVERALL SCORE

Based on the above analysis, the overall DTB score for governance is **1.8**.

Table 52 Governance of Digital Initiatives Dimension Scores

Indicator	Weight	Score
Horizontal integration	75%	1.0
Vertical integration	25%	4.0
Overall score	1005	1.8

9. DIGITAL TOWN SCORE

Based on the analysis above, the overall Digital Town Score for New Ross is **49**. A key objective of this analysis is to provide an insight into key indicators for improvement at a town-level. The numbers individually have very little meaning without comparators however as presented do show gaps between performance today and potential in the future. Table 53 provides a guideline for interpreting the readiness score and dimension levels in Figure 4 and Table 54

Table 53 Guideline Readiness Descriptions by Readiness Score and Dimension Level

Readiness Score	Dimension Level	Readiness	Guideline Description
0-19	1	Non-Existent	Digital Readiness is Non-Existent or at a Very Low Level. The use and sophistication of digital technologies and capabilities likely do not exist. If they do exist, they are at very low levels of use and sophistication, largely informal and not documented, managed or measured at a town level. KPIs are significantly below regional, national or EU averages.
20-39	2	Ad Hoc	Digital Readiness is Ad Hoc and Mostly Not Documented. Some evidence of digital readiness in the use and sophistication of digital technologies and capabilities. Most are not documented and not managed. Performance may be measured and reviewed periodically but mostly informally. KPIs are below regional, national or EU averages.
40-59	3	Defined Competitive	Digital Readiness is Clearly Defined and Documented There is clear evidence of digital readiness. Use and sophistication of digital technologies and capabilities are documented and planned. KPIs are competitive relative to peer towns and regional, national and EU averages.
60-79	4	Significant Differentiating	Digital Readiness is Clearly Differentiating and Significant The use and sophistication of digital technologies and capabilities and levels of digitalisation are significant and clearly differentiating compared to peers. KPIs are higher relative to peer towns and regional, national and EU averages.

80-100	5	Leading	Digital Readiness is Leading The use and sophistication of digital technologies and sophistication and levels of digitalisation are best-in-class and approaching optimum states/full digitisation with clear plans for further optimisation. KPIs are at the highest levels when compared to peers and regional, national and EU averages.
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Figure 4 New Ross Digital Town Readiness Dimension Score

Table 54 Digital Town Readiness Index with Weightings

Digital Town Dimension	Sub-dimension			Dimension	Readiness Score			Readiness
	Score (out of 5)	W1 Weighting	Weighted score	Score	W2 Dimension Weighting	Weighted score	out of	Score Contribution by each dimension
Infrastructure for Connectivity								
Fixed broadband	4.5	35%	1.58	3.8	20%	0.8	1.0	15.2
Mobile broadband	4.0	35%	1.40					
Competition	4.8	10%	0.48					
Free Public WiFi	3.5	10%	0.35					
Digital rural hubs	0.0	10%	0.00					
Digital Business								
Website Technology Intensity Score	2.3	33%	0.77	2.2	20%	0.4	1.0	8.8
Digital technology take-up	2.3	33%	0.77					
eCommerce take-up	2.0	33%	0.67					
Digital Public Services								
e-Government readiness	4.0	40%	1.60	2.8	15%	0.4	0.75	8.4
e-Health	2.5	40%	1.00					
Open data	1.0	20%	0.20					
Digital Education								
Pre-school	0.0	10%	0.00	2.2	15%	0.3	0.75	6.6
Primary	1.8	30%	0.54					
Post-Primary	3.5	30%	1.05					
Digital skills education availability	2.0	30%	0.60					
Digital Civil Society								
Website Technology Intensity Score	2.1	33%	0.70	1.8	10%	0.2	0.5	3.6
Digital technology take-up	2.3	33%	0.77					
eCommerce take-up	1.0	33%	0.33					
Digital Tourism								
Digital readiness of Tourism Businesses	0.9	60%	0.54	1.5	10%	0.2	0.5	3.0
Smart Tourism & Digital Infrastructure	1.5	20%	0.30					
Tourism destination website and maturity	3.3	20%	0.66					
Governance of DT initiatives								
Horizontal integration	1.0	75%	0.75	1.8	10%	0.2	0.5	3.6
Vertical integration	4.0	25%	1.00					
					100%	2.5	5.0	49.2
						49.2		

¹ <https://www.weare.ie/ie-digital-town-blueprint/>

² Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O'Gorman, C. (2022). Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies (p. 213). Springer Nature.

³ <https://npf.ie/>

⁴ <https://assets.gov.ie/132413/433aebac-f12a-4640-8cac-9faf52e5ea1f.pdf>

⁵ <https://www.gov.ie/en/publication/473d3-town-centre-first-policy/>

⁶ In this report, digital technologies and ICT are used interchangeably.

⁷ <https://www.gov.ie/en/publication/473d3-town-centre-first-policy/>

⁸ <https://assets.gov.ie/215052/3402995b-3045-4e7a-b839-12ca21a02611.pdf>

⁹ <https://cebr.com/reports/tinder-foundation-and-go-on-uk-call-for-urgent-digital-skills-funding-to-support-government-2020-fast-broadband-for-all-pledge/>

¹⁰ Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O'Gorman, C. (2022). Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies (p. 213). Springer Nature.

¹¹ <https://tourismmanifesto.eu/>

¹² European Network for Rural Development. (2017). Revitalising rural areas through digitisation the experience of three rural digital hubs. https://enrd.ec.europa.eu/sites/default/files/tg_rural-businesses_case-study_rural-digital-hub_0.pdf

¹³ Rundel, C., Salemin, K., & Strijker, D. (2018). CORA diagnostic survey results: Results and guiding measures. <https://northsearegion.eu/media/7485/corareport-diagnostic-survey-results.pdf>

¹⁴ <https://assets.gov.ie/133735/6bbb1ebf-2a7a-4948-9ae2-fe0e1f5e2805.pdf>

¹⁵ <https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022>

¹⁶ <https://nbi.ie/>

¹⁷ Available at: <https://www.dccae.gov.ie/en-ie/communications/topics/Broadband/national-broadband-plan/high-speed-broadband-map/Pages/Interactive-Map.aspx>

¹⁸ Broadband Coverage in Europe 2021. Mapping progress towards the coverage objectives of the Digital Decade - FINAL REPORT; available at: <https://digital-strategy.ec.europa.eu/en/news-redirect/752609>

¹⁹ See COMREG <https://coveragemap.comreg.ie/faq/>. Codes added by authors.

²⁰ <https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022>

²¹ <https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022>

²² Comreg interactive broadband coverage mapping tool, <https://coveragemap.comreg.ie/map>

²³ Weights = number of premises in each townland.

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- ²⁴ Source: Mobile and Fixed Broadband Prices in Europe 2021. Available at <https://ec.europa.eu/newsroom/dae/redirection/document/88311>
- ²⁵ Source: Central Statistics Office (2022). Consumer Prices Monthly Series - CPM16 - Consumer Price Index. Available at: <https://data.cso.ie/table/CPM16>.
- ²⁶ <https://connectedhubs.ie/>
- ²⁷ Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O’Gorman, C. (2022). Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies (p. 213). Springer Nature.
- ²⁸ Mehrtens, J., Cragg, P. B., & Mills, A. M. (2001). A model of internet adoption by SMEs. *Information & Management*, 39(3), 165–176; Richmond, W., Rader, S., & Lanier, C. (2017). The ‘digital divide’ for rural small businesses. *Journal of Research in Marketing and Entrepreneurship*, 19(2), 94–104.
- ²⁹ Lynn, T., Rosati, P., Fox, G., Curran, D., O’Gorman, C. and Conway, E., 2022, January. Assessing the impact of COVID-19 on website technology penetration on businesses in rural towns. In *Proceedings of the 55th Hawaii International Conference on System Sciences*.
- ³⁰ Leonardo, M., Fabio, P. and Massimo, R., 2023. Measuring Corporate Digital Divide with web scraping: Evidence from Italy. arXiv preprint arXiv:2301.04925.
- ³¹ This figures only considers SMEs.
- ³² DESI uses the Eurostat indicator ‘Use two or more social media’ (code: E_SM1_GE2). See DESI methodological manual.
- ³³ Ubaldi, B. (2013). Open government data: Towards empirical analysis of open government data initiatives. *OECD Working Papers on Public Governance*.
- ³⁴ Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O’Gorman, C. (2022). Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies (p. 213). Springer Nature.
- ³⁵ <https://publicadministration.un.org/egovkb/en-us/About/E-Government-at-Local-Level/Local-Online-Service-Index-LOSI>
- ³⁶ <https://desapublications.un.org/sites/default/files/publications/2022-09/Chapter%203.pdf>
- ³⁸ The following sources were checked: AIRO, data.gov.ie, data.epa.ie, eHealth Ireland, OSI Open Data
- ³⁹ Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O’Gorman, C. (2022). Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies (p. 213). Springer Nature.
- ⁴⁰ Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O’Gorman, C. (2022). Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies (p. 213). Springer Nature.

⁴¹<https://www.gov.ie/en/publication/69fb88-digital-strategy-for-schools/#:~:text=See%20Also-Overview,an%20ever%20evolving%20digital%20world>.

⁴² Not all survey responses are complete, therefore total responses relevant to each table will be indicated by the “n=x” at the top of each table.

⁴³<https://www.gov.ie/pdf/?file=https://assets.gov.ie/221293/1fb381ec-6f4c-4d0f-bbed-329f490d16f1.pdf#page=null>

⁴⁴ <https://digital-strategy.ec.europa.eu/en/library/2nd-survey-schools-ict-education-0>

⁴⁵ <https://www.oecd.org/pisa/>

⁴⁶ <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>

⁴⁷ <https://www.gov.ie/en/publication/adf42-harnessing-digital-the-digital-ireland-framework/>

⁴⁸ The European Commission reports do not report these indicators individually but as part of a bundle labelled “internet safety”. Additionally, the response anchors represent teachers' confidence in teaching each skill on a 4-point scale, whereas this report measured whether these skills are taught (yes or no). As a result, individual indicators are not comparable with the EC EU equivalent.

⁴⁹<https://www.gov.ie/en/publication/69fb88-digital-strategy-for-schools/#:~:text=See%20Also-Overview,an%20ever%20evolving%20digital%20world>

⁵⁰ <https://www.unesco.org/en/digital-competencies-skills/ict-cft>

⁵¹ <https://assets.gov.ie/24382/7b035ddc424946fd87858275e1f9c50e.pdf>

⁵² <https://digital-strategy.ec.europa.eu/en/library/2nd-survey-schools-ict-education-0>

⁵³ <https://npf.ie>

⁵⁴ This range relates to the percentage of schools over levels ISCED 2 and 3 which are reported separately by the European Commission report.

⁵⁵ The European Commission reports do not report these indicators individually but as part of a bundle labelled “internet safety”. Additionally, the response anchors represent teachers' confidence in teaching each skill on a 4-point scale, whereas this report measured whether these skills are taught (yes or no). As a result, individual indicators are not comparable with the EC EU equivalent.

⁵⁶ This range relates to the percentage of schools over levels ISCED 2 and 3 which are reported separately by the European Commission report.

⁵⁷ This range relates to the percentage of schools over levels ISCED 2 and 3 which are reported separately by the European Commission report.

⁵⁸ Salamon, L. M., & Anheier, H. K. (1998). Social origins of civil society: Explaining the nonprofit sector cross-nationally. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 9(3), 213–248.

⁵⁹ Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O’Gorman, C. (2022). *Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies* (p. 213). Springer Nature.

⁶⁰ The Wheel, 2018, Enabling Citizens - Powering Civil Society. Available at https://www.wheel.ie/sites/default/files/media/file-uploads/2018-08/Powering%20Civil%20Society_0.pdf

⁶¹ <https://npf.ie/>

⁶² <https://www.gov.ie/en/publication/4c236-our-rural-future-vision-and-policy-context/>

⁶³ <https://www.gov.ie/en/publication/473d3-town-centre-first-policy/>

⁶⁴ This figures only considers SMEs

⁶⁵ DESI uses the Eurostat indicator 'Use two or more social media' (code: E_SM1_GE2). See DESI methodological manual.

⁶⁶ Lynn, T., Rosati, P., Conway, E., Curran, D., Fox, G., & O'Gorman, C. (2022). Digital Towns: Accelerating and Measuring the Digital Transformation of Rural Societies and Economies (p. 213). Springer Nature.

⁶⁷ <https://www.gov.ie/en/publication/473d3-town-centre-first-policy/>