



# Ireland's Digital Readiness Monitor

published by .ie, the trusted  
national domain registry

in association with



Ollscoil Chathair  
Bhaile Átha Cliath  
Dublin City University



OLLSCOIL NA GAILLIMHE  
UNIVERSITY OF GALWAY



# Executive Summary

Ireland's Digital Readiness Monitor, created by .ie, the trusted national registry for over 330,000 domain names, and the Irish Institute of Digital Business, DCU together with the JE Cairnes School of Business and Economics at University of Galway, provides an analysis of Ireland's progress on digitalisation.

This report uses a website and associated technologies as a proxy for an organisation's degree of digital development.

The report introduces a new national measure of digital readiness - the Web Technology Intensity Score - comprising 11 signal categories, that presents a more holistic view of digital readiness for the entire country of Ireland in the years 2021 and 2022.

Ireland's Digital Readiness Monitor shows that 36% of websites in Ireland have a low or very low level of sophistication. This should be a major cause for concern and action. At the other end of the spectrum 27% of websites in Ireland have a high or very high level of sophistication, showing there is considerable room for improvement.

In the two-year study of datasets for 2021 and 2022, websites in the business categories of style and fashion; shopping; adult; hobbies and interests; food and drink, had high or very high levels of sophistication. Websites in the categories of technology and computing; finance; automotive and vehicles had low or very low levels of sophistication.

This report is an invaluable source of information for policymakers, businesses, membership organisations and training agencies. It provides policy makers with original empirical data on which to base their strategies, tactics and decision-making. The remainder of the report provides an overview of our findings and a comparison and discussion of each website technology category.



Ireland's Digital Readiness Monitor

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# Foreword

Digitalisation is a central component of national and EU economic policy. Ireland's digital strategy seeks to position Ireland as a digital leader not only in Europe but also worldwide.

Small to medium sized enterprises (SMEs) make up the bulk of Irish businesses. The adoption of sophisticated digital technologies, particularly by SMEs, will increase Ireland's digital competitiveness. Ireland's Digital Readiness Monitor covers 2021 and 2022 and uses the Web Technology Intensity Score as a new national measure of digital readiness.

The Enterprise Pillar of the Irish government's 'Harnessing Digital - The Digital Ireland Framework' seeks to drive increased adoption of digital technologies by all businesses in Ireland, and most specifically by SMEs. This strategy should increase Ireland's digital competitiveness. The increased adoption of digital technologies by SMEs will be achieved through the development of a digital ecosystem optimised for SMEs.

The positive commercial impact of digital technologies including websites, e-commerce, digital advertising and social media on SME marketing, sales,

customer service and operations is well-documented and widely accepted. For Irish SMEs, digital technologies present the potential of the 'death of distance', overcoming the limitations of location for Irish rural and urban businesses, big and small. Despite these benefits, research suggests a digital divide exists based on location, sector and size. Recent OECD<sup>1</sup> reports suggest that this gap increases as digital technologies become more sophisticated.

The majority of Irish SMEs have fewer than ten employees, so-called micro-SMEs. Unfortunately, official statistics and measures that inform EU policy typically exclude such micro-SMEs. Consequently, these firms are under-represented, leading to an unbalanced picture of digital readiness at a national and EU level.

**David Curtin**  
Chief Executive

<sup>1</sup> Harrysson, M., Schoder, D. and Tavakoli, A., 2016. The evolution of social technologies. McKinsey Quarterly, 53(3), pp.8-12.



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# Web Technology Intensity Score

The Web Technology Intensity Score (WTIS) seeks to use an organisation's decision to use a website and associated technologies as a proxy for its degree of digitalisation. At its core, the WTIS comprises eleven indicators that measure the digital readiness of organisations in Ireland applying widely used signals for digital sophistication. These include:

## WTIS: 11 digital readiness indicators



The value for the WTIS therefore ranges from 0 to 11. As we only look at organisations with websites, all firms score 1. The remaining categories are 2-3 (very low), 4-5 (low), 6-7 (medium), 8-9 (high) and 10-11 (very high). To obtain the specific sample for this study, we licensed a list of websites that either have an Irish country code top level domain (.ie) or include other domains such as .com or .uk which have an Irish postal address or phone number on their website. For each website, metadata was extracted with social media and address details by the web profiling tool. For each signal category, data was extracted with the name of the technology, the date the technology was first indexed and last indexed by the web profiling tool. To avoid duplication, all redirect sources were removed from the sample leaving only redirect targets.

**Table 1 Summary of Website Technology Intensity Score for Irish websites 2021 and 2022**

WTIS Level	2021		2022	
	Number	%	Number	%
Very low (1-2)	32,981	13	47,404	17
Low (3-4)	45,158	18	53,983	19
Medium (5-7)	96,560	38	107,531	38
High (8-9)	22,065	9	19,321	7
Very high (10-11)	56,887	22	55,544	20
<b>Total</b>	<b>253,651</b>	<b>100</b>	<b>283,783</b>	<b>100</b>

From 2021 to 2022, the number of websites under consideration grew by approximately

**11.8%**

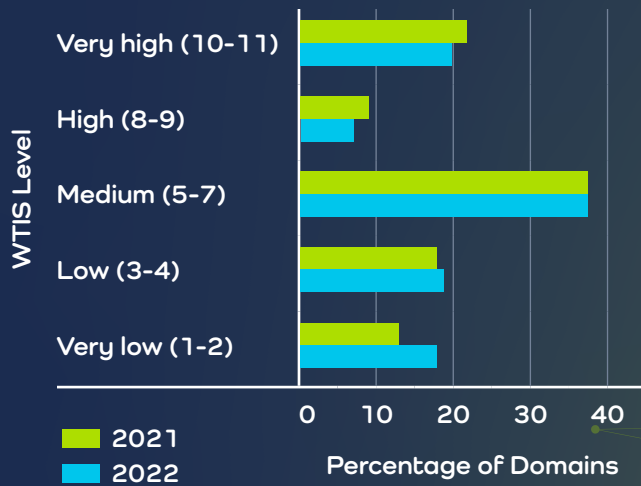
over the year from 253,651 to 283,783.



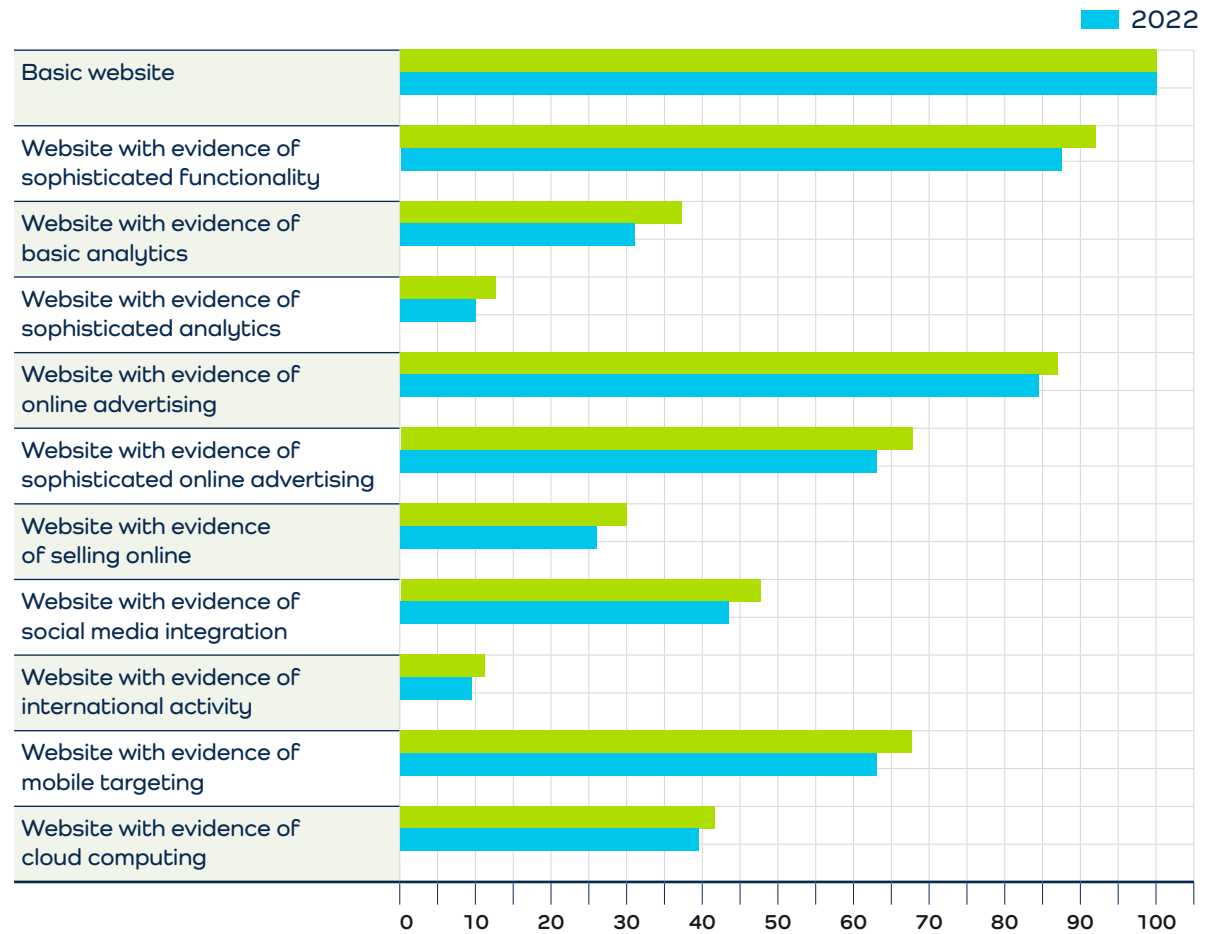
## Web Technology Intensity Score (continued)

While the WTIS Level in the mid-range has stayed constant, there has been some movement at the lower and upper ranges. Analysis of pre-existing websites suggests that while a small number of websites (less than 0.5%) improved their WTIS in 2022, a greater number (c. 10%) received a lower score. At the same time, a significant proportion of new websites had low or very low WTIS.

**Figure 1 Domain Distribution by Year and WTIS Level for Irish websites 2021 and 2022**



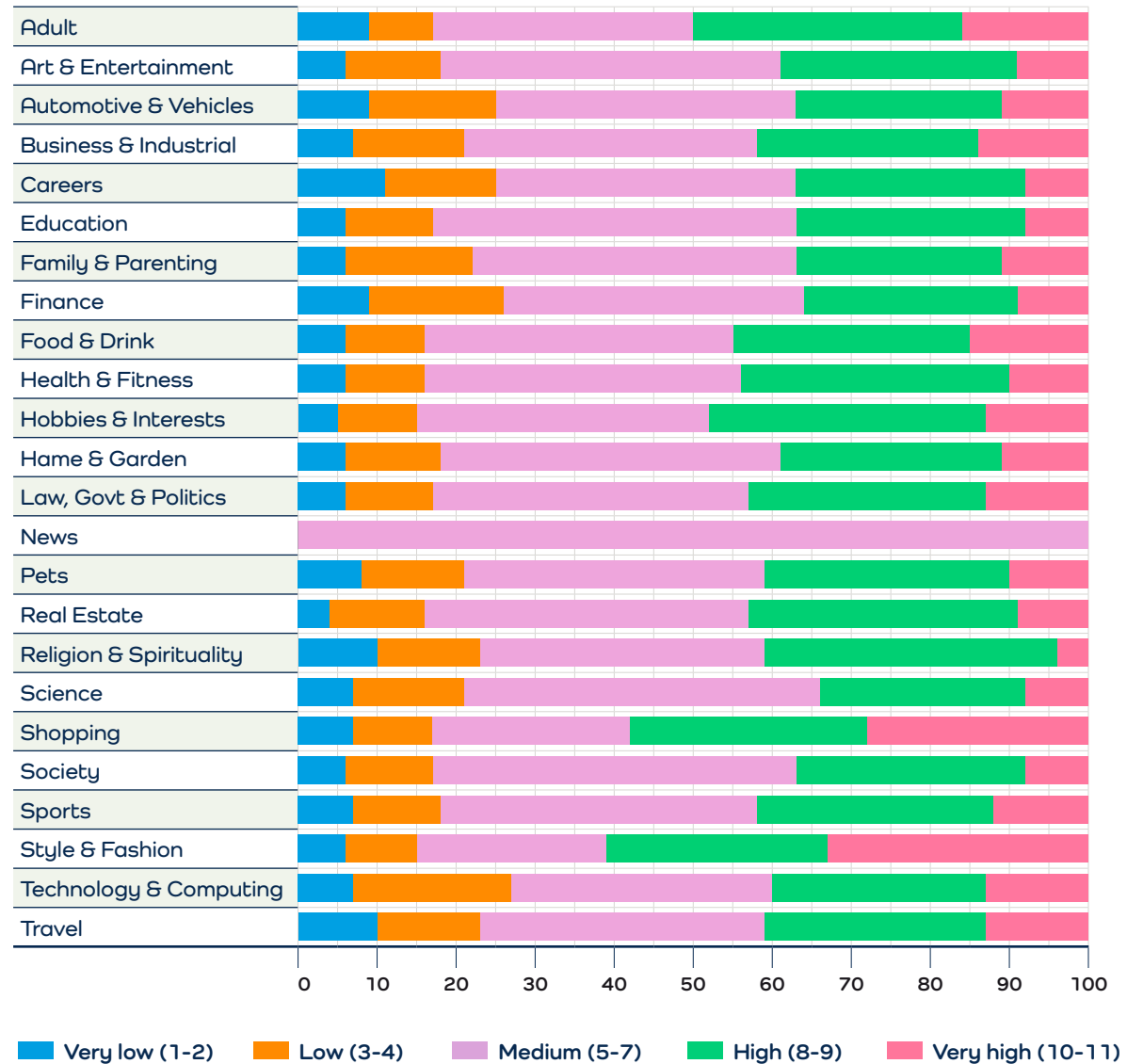
**Figure 2 Domain Frequency by WTIS Indicator for Irish websites 2021 and 2022**



## Web Technology Intensity Score (continued)

A subset of each annual dataset was classified by industry sector. Figure 3 and Figure 4 illustrate the percentage of firms by industry sector and by WTIS level for 2021 and 2022, respectively. Over the two years, the number of websites by segment stayed the same or grew in number. The segments with the highest proportion of websites with high or very high WTIS remained the same over the two periods (namely style and fashion; shopping; adult; hobbies and interests; and food and drink) although the proportion of websites declined at that level.

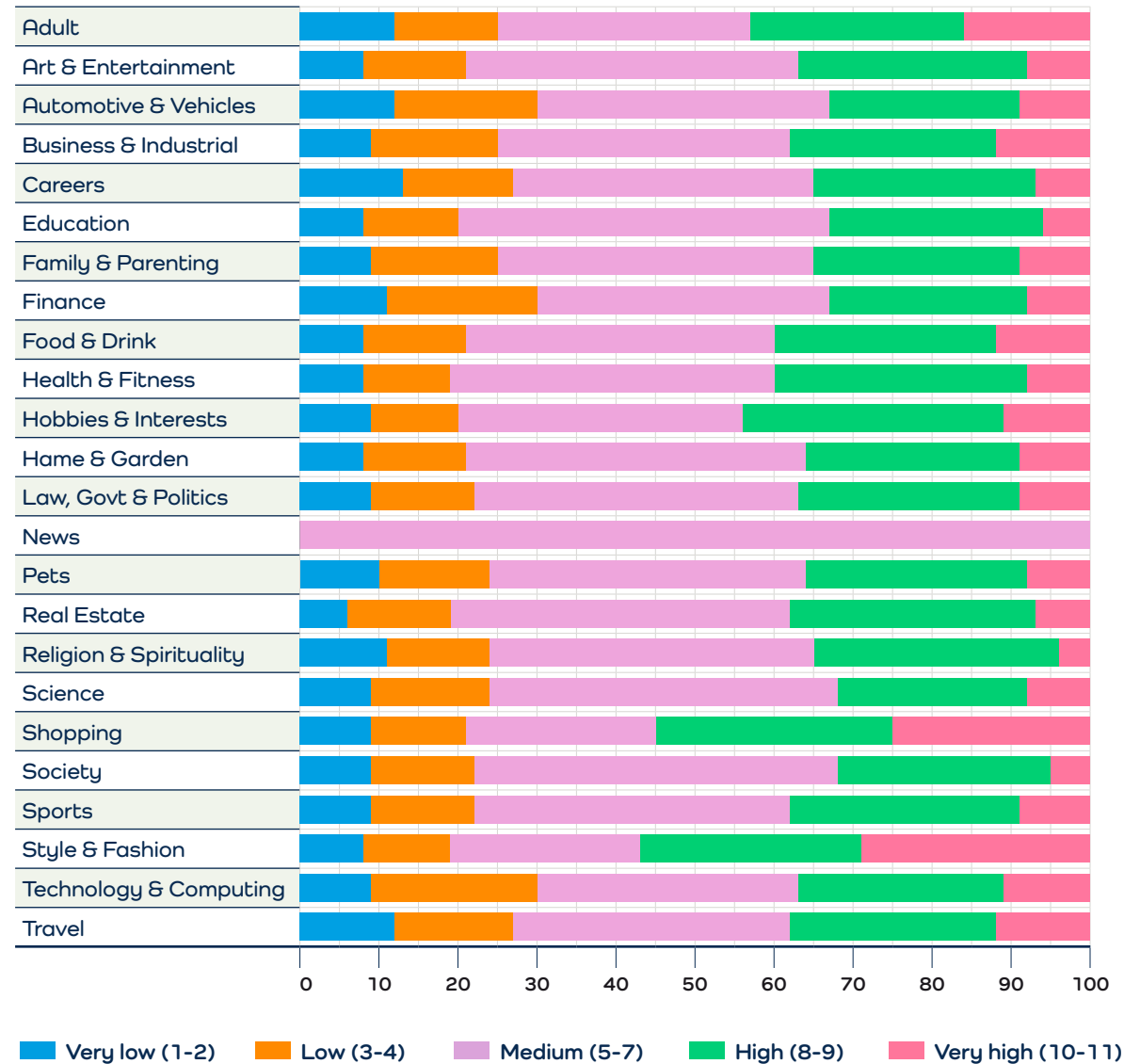
**Figure 3** WTIS Distribution by Industry for Irish Websites 2021 (n=146,359)



## Web Technology Intensity Score (continued)

Segments with the highest proportion of websites with low or very low WTIS remained the same over the two periods namely technology and computing; finance; and automotive and vehicles. This finding may seem counterintuitive, however many of these firms and websites are business-to-business, sell personalised services or large ticket items, and/or nationally focused which may explain lower scores for indicators such as e-commerce and internationalisation.

**Figure 4** WTIS Distribution by Industry for Irish Websites 2022 (n=147,805)



# Website Sophistication

The presence of a website and associated technologies are widely used as indicators of digital progress by intergovernmental and international organisations. All organisations in our sample had a website.

In the WTIS, to measure websites with sophisticated technologies we collect metadata on a variety of technologies including content management systems, multimedia support, content delivery networks (CDN), secure sockets layer (SSL), and various plugins and widgets.

Table 2 Top 5 Content Management System Vendors for Irish Website (2021 and 2022)

	2021	2022
1	WordPress	WordPress
2	Wix	Wix
3	Squarespace	Squarespace
4	Salesforce	HubSpot
5	Drupal	Salesforce

The adoption of Content Management Systems (CMS) can be a strong indicator of digital sophistication in several ways. A CMS allows for efficient management and updating of website content, reflecting an organisation's ability to quickly adapt and maintain an active online presence. It suggests a certain level of technical capability within an organisation, as it requires understanding of both the CMS platform and the broader digital ecosystem.

Choosing and effectively utilising a CMS is often part of a larger digital strategy, indicating an organisation's commitment to leveraging digital tools not only for better engagement

and communication but for future growth. CMS adoption can indicate an organisation's focus on future scalability and flexibility in how it manages its digital operations. As such, it can indicate a growth and adaptation mindset essential in a rapidly changing digital landscape. As can be seen from Table 2, WordPress is consistently the most popular content management system in Ireland with c. 64% penetration followed by Wix with a 4-5% penetration. The rest of the market comprises a wide range of open source and commercial content management systems including Salesforce, HubSpot, Squarespace, Google Sites, Drupal amongst others.

**Choosing and effectively utilising a CMS is often part of a larger digital strategy, indicating an organisation's commitment to leveraging digital tools not only for better engagement and communication but for future growth.**





## Website Sophistication (continued)

The adoption of SSL certificates is a significant indicator of digital sophistication for several reasons. It demonstrates an awareness of and commitment to online security, as SSL certificates encrypt data transferred between the user and the website, protecting sensitive information. It can indicate that an organisation has an appreciation of compliance with online security standards.

Consequently, websites with SSL are often viewed as more trustworthy by users. Indeed, many browsers will display a warning if a website does not have an SSL certificate. Furthermore, support for SSL certificates impacts modern search engine optimisation (SEO). For example, many search engines, including Google, will favour secure websites, and thus give greater visibility in search engine results pages. While the majority of websites analysed in our dataset had some form of SSL certificate, the percentage over the two years decreased.

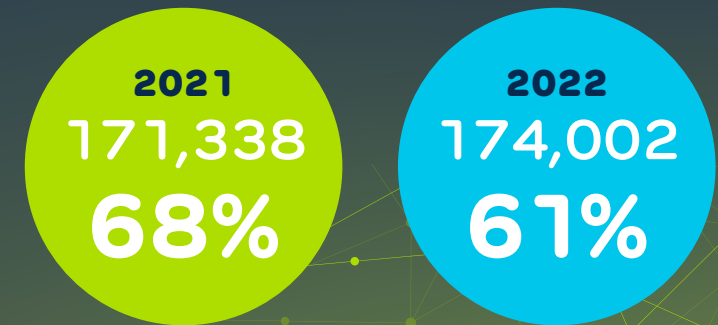
Widgets are small reusable components that can be added to a website to provide specific functions or features. While they typically do not

require extensive coding, they can indicate an organisation's sophistication by signalling that they are leveraging modern web tools to enhance user interaction and experience on a website.

Widgets like bookings, CAPTCHA, co-browsing, content modification, live chat, push notification, schedule management and tour site demos signal a more interactive design approach. Investment in enterprise-level multimedia capabilities including live streaming, online video platforms, video analytics and video players indicates a focus on high-quality content delivery and engagement, as well as the technical capacity to manage and analyse multimedia effectively.

Relatedly using a CDN implies a prioritisation of website performance and user experience on global scale, ensuring fast content delivery regardless of user location. Additionally, the use of verified CDNs indicates an awareness and understanding of security, reliability and integrity in the context of content delivery networks.

**Table 3** Number and percentage of Irish websites with SSL certificates (2021 and 2022)



**The adoption of SSL certificates demonstrates an awareness of and commitment to online security, as SSL certificates encrypt data transferred between the user and the website, protecting sensitive information.**



# Analytics

Research emphasises the advantages and benefits of web analytics for performance measurement, user engagement and informed decision making. Website analytics can enable a more sophisticated approach to digital strategy and may reflect that an organisation values data-driven decision-making, a deeper understanding of their customer base, website optimisation and user experience (UX) and continuous improvement.

Table 4 Top 5 Analytics Vendors for Irish Websites (2021 and 2022)

	2021	2022
1	Google	Google
2	Facebook	Facebook
3	Hubspot	Hubspot
4	Twitter	Twitter
5	DoubleClick	Visitor Analytics

The WTIS measures signals on two levels of sophistication. Basic analytics uses metadata on basic audience tracking software that captures metrics such as page views, unique visitors and session duration. Basic analytics indicate a foundational level of digital engagement and sophistication. It shows that an organisation is aware of the importance of an online presence and is taking initial steps to understand its audience. These tools are typically free and easy to implement and help the organisation to gauge the overall reach and relative popularity of the website.

Google Analytics dominates analytics provision with over 81% of websites using a Google Analytics service in 2021 and over 66% in 2022. Facebook analytics services are used by 12-15% of websites with other services below 1%.

Sophisticated web analytics reflects a higher level of digital readiness and maturity. These tools are typically commercial enterprise tools and include more advanced features such as user behaviour analysis, customer journey mapping, conversion analysis and optimisation, heatmaps and A/B testing. They can signal that an organisation is not just collecting data, but actively using it to inform decisions, enhance user experience, improve conversion rates, support more targeted marketing campaigns and drive business strategy.

Less than 3% of the websites analysed use sophisticated analytics services outside of the core analytics platforms listed above. These include enterprise platforms and CRM solutions from Adobe, Omniture, Salesforce and Marketo, email marketing solutions (e.g. MailerLite, Active Campaign, and Omnisend) and other website optimisation tools (e.g. Crazyegg).

**Web analytics can signal that an organisation is using data to inform decisions, enhance user experience, improve conversion rates, support more targeted marketing campaigns and drive business strategy.**



# Online Advertising

Online advertising has transformed the competitive power of SMEs. Unlike more traditional forms of advertising, it is more affordable, can be tailored for any budget, and is measurable. It allows SMEs to target and optimise their advertising for specific audiences based on a wide range of criteria including demographics, interests, behaviours, amongst others, thus dramatically increasing the possibility of reaching the specific customers likely to be interested in their products and services.

Online Advertising allows organisations to reach customers throughout the country and beyond.



The WTIS measures signals on two levels of sophistication using both technology metadata and digital advertising tags. Basic online advertising platforms and tools are typically more user-friendly and are designed for those with limited advertising experience. They offer and emphasise basic features like simple ad creation, basic targeting options, inbuilt performance tracking and standard performance metrics such as clicks and impressions.

Basic online advertising signals a business is beginning to use digital marketing but may be still in the early phases of understanding and leveraging these tools fully. Unsurprisingly, our analysis suggests that Google (42-45%) and Facebook (6-8%) are the main online advertising platforms used.

In contrast, sophisticated online advertising involves mobile targeting, complex targeting techniques, leveraging big data and algorithms to reach specific audience segments. It includes methods like multi-channel advertising, affiliate programmes, content curation, real-time bidding, programmatic ad buying and the use of machine learning and artificial intelligence for optimising ad campaigns.

A key feature of sophisticated online advertising is the ability to analyse large sets of user data to create highly personalised and effective ad experiences to maximise engagement and return on investment. Sophisticated online advertising typically indicates a significantly higher level of digital maturity and that an organisation has both the financial and human resources to leverage

sophisticated digital tools and platforms, and advanced techniques including data analytics and programmatic buying.

This signals a deeper understanding of the digital landscape, more refined marketing strategies and stronger capability to adapt to changing digital trends.



# Selling Online

Selling and accepting payment online is a well-established indicator of digital progress by scholars, intergovernmental and international organisations.



# Cloud Computing

The G20 Digital Economy Task Force (DETF) and the EU Digital Economy and Society Index both include cloud computing as indicators of digital progress.



E-commerce indicates a significant level of digital sophistication, maturity and readiness as it requires a more advanced understanding of digital systems, security measures and online customer behaviour. By integrating online sales and payment systems, SMEs position themselves for growth and competitiveness in the digital economy. It allows them to reach a wider customer base 24/7/365 worldwide with lower operational costs compared to a physical store. It enables the opportunity to collect in-depth customer data providing valuable insights into customer preferences and buying patterns and enabling better targeting and personalisation of marketing.

As can be seen from Table 5, Irish websites use a wide range of vendors for e-commerce. WooCommerce and Shopify together accounted for 72% and 56% of websites analysed in our datasets in 2021 and 2022, respectively. All other vendors featured on less than 3% of websites.

**Table 5 Top 5 E-Commerce Vendors for Irish Websites (2021 and 2022)**

	2021	2022
1	WooCommerce	WooCommerce
2	Shopify	Shopify
3	Squarespace	Squarespace
4	Wix	Wix
5	Ecwid	Ecwid

Higher cloud computing can indicate a greater level of trust and reliance on digital technologies and is often linked to innovative business practices. Cloud computing has substantial advantages to SMEs. It is cost-effective, scalable, flexible and supports mobility. Cloud computing allows an organisation to spend less time on IT infrastructure management and more on core activities. As such, it can be a relatively strong indicator of an organisation's digital sophistication, maturity and readiness, and demonstrates a commitment to utilise modern technology solutions for efficiency, scalability, flexibility and redundancy.

The top three cloud hosting providers in our dataset were Google, Amazon and Microsoft. Google had significantly more penetration in our dataset in both 2021 (27%) and 2022 (22%). This can be explained by a large number of Irish SMEs using Google Sites as an entry-level website creation tool. Amazon and Microsoft accounted for 6% and 4% of websites in 2022.

**Top 3 cloud hosting providers in our dataset (2022)**



# Social Technologies

Social media platforms have evolved beyond relatively simple communication and networking platforms to complex platforms that offer search, advertising, analytics and e-commerce for creators and businesses.

In a recent report by McKinsey<sup>2</sup>, they note that enterprise use of social media has evolved through three stages. Initially, companies experimented and used social media to enhance marketing and communications. By and large this activity took place on specific social marketing platforms. This evolved to using enterprise social platforms to foster collaboration and knowledge sharing amongst employees. The more advanced stage involves leveraging social media and associated technologies for strategic insights, competitive intelligence and marketing planning. The motivation for more sophisticated use of social technologies is multi-fold and includes increased access and reach to markets, cost reduction and process optimisation.

As the WTIS uses website technologies as the proxy for digitalisation rather than other digital properties, e.g. social media sites, IOT etc., we only include signals of social media integrated into websites in our measurement. Such integration

can indicate a higher level of digital sophistication as it shows that the organisation values and facilitates user interaction across multiple channels thereby enhancing the user experience and increasing engagement. It can also signal a more sophisticated awareness and understanding of digital marketing. Social media integration obviously indicates that the organisation is active on social media networks but also signals that the organisation considers social media as a strategic marketing tool for communications, SEO and data analytics. Integrating social media into websites can also act as a form of social proof, where users can see real-time interactions with the organisation. In this way, it functions as a trust building mechanism.

The top 5 social technologies are relatively consistent, with Facebook integrated into over 86% of websites analysed in 2021 and 74% in 2022 followed by Twitter (avg. 33%), Instagram (avg. 22%), LinkedIn (15%), and YouTube (13%).

**Table 6 Top 5 Social Technology Vendors integrated into Irish Websites (2021 and 2022)**

	2021	2022
1	Facebook	Facebook
2	Twitter	Twitter
3	Instagram	Instagram
4	LinkedIn	LinkedIn
5	YouTube	YouTube

Integrating social media into websites acts as a form of social proof, where users can see real-time interactions with the organisation.



<sup>2</sup> Kergroach, S., 2021. SMEs Going Digital: Policy Challenges and Recommendations, Going Digital Toolkit Note, No. 15. OECD.

# Mobile Friendliness



Mobile-friendly websites are important for a number of reasons.

For example, Google reports that mobile-friendly sites show up higher in search results and make up more than half of searches on Google.com. Furthermore, Google also reports that for many advertisers, a substantial volume of website traffic comes from people on their mobile phones and visitors are five times more likely to leave a website that is not mobile-friendly.

It is a strong indicator of digital sophistication and readiness for several reasons, not least demonstrating adaptability to evolving technological standards, a key aspect of digital sophistication. It shows an understanding of current audience behaviour trends and a commitment by an organisation to provide a positive user experience and ensure that a website is navigable and functional across multiple devices including smartphones and tablets. As indicated above, being mobile-friendly indicates an organisation is aware and implementing SEO best practices.

While the percentage of domains optimised for mobile has dropped from 68% to 63%, the raw number of mobile-friendly domains has increased suggesting Irish firms recognise the importance of mobile readiness.

**Table 7 Top 5 Mobile Readiness of Irish Websites (2021 and 2022)**

Mobile	2021	2022
Number of domains optimised for mobile	171,452	178,447
% of domains optimised for mobile	68	63

# Internationalisation

Irish economic policy and the Internet are both intrinsically international. The export nature of the Irish economy plays a significant role in GDP growth. International trade and export activities by SMEs are integral to Ireland's economic prosperity, offering a range of benefits from job creation to market diversification and economic stability.

The WTIS measures two signals for internationalisation – foreign language support and foreign currency support. Both signals are strong indicators of an organisation's commitment to expanding its digital capabilities and presence in the global market, as well as its attention to customer needs and compliance with international standards. They are good indicators of digital sophistication as it indicates an organisation's readiness and ambition to move beyond local or regional markets. They also suggest a more customer-centric approach. Offering content in multiple languages improves the user experience for non-native speakers suggesting that the organisation values and anticipates the needs of different customer segments, while allowing customers to view prices and make payments in their local currency also improves the international customer experience. Implementing multi-currency support and managing a multilingual website indicates a higher level of technical capability and resource investment to handle more complex web development and integration tasks.

Being accessible in multiple languages not only provides organisations with a competitive advantage in international markets by catering for a broader customer base, the use of hreflang tags is a key SEO strategy for international audiences.

It helps search engines understand which language and regional URL to show in search results thereby enhancing the visibility of the website to users in different regions. Obviously, the most common language is English, however a wide range of languages are supported by Irish websites. These languages reinforce the importance of the European market to Irish firms but also our increasing international population.

**Table 8 Top 10 foreign languages supported by Irish Websites (2021 and 2022)**

	2021	2022
RANKING	1 German	German
	2 French	French
	3 Spanish	Spanish
	4 Dutch	Dutch
	5 Italian	Portuguese
	6 Portuguese	Italian
	7 Chinese	Chinese
	8 Polish	Polish
	9 Swedish	Swedish
	10 Russian	Danish

# Recommendations

The development of a national measure of digital readiness – the Web Technology Intensity Score – is a significant step forward in our understanding and presents a more holistic view of digital development for the entire country of Ireland.

It provides insights by industry sector and identifies 36% of websites in Ireland have a low or very low level of sophistication. This should be a major cause for concern and action.

The official DESI statistics relied upon by policymakers are clearly masking some fundamental structural deficits in digital capabilities and digital readiness.

The identification of strategies and tactics to address the digital divides during this EU Digital Decade must become a priority for this government, and the next. If not now, when?

We recommend the following:

1

Ireland's Digital Readiness Monitor indicates that while a small number of websites (less than 0.5%) improved their WTIS in 2022, a greater number (c. 10%) received a lower score. It is imperative that policy makers delve deeper to understand why this is the case.

2

Under 10% of websites show evidence of international activity. In a post-Brexit world, many SMEs are poorly positioned to enter non-UK overseas markets. Those SMEs that have the ambition and potential to sell their services and products abroad should be identified, and prioritised with the resources, supports and training they need.

3

After 25 years of the internet in Ireland and many government supports, it is dispiriting to see that 36% of websites in Ireland have a low or very low Web Technology Intensity Score. A task-force is needed to understand, at a granular level, why SMEs prime online digital assets and their digital identity online are under-developed. It is of paramount importance to understand why this is the case and what can be done to improve website development and sophistication as foundations for leaps in SME productivity, sales growth and local community development.

# About .ie

As the trusted national registry for over 330,000 domain names, .ie protects Ireland's unique online identity and empowers people, communities and businesses connected with Ireland to thrive and prosper online.

A positive driving force in Ireland's digital economy, .ie serves as a profit for good organisation with a mission to elevate Ireland's digital identity by providing the Irish online community with a trusted, resilient and accessible .ie internet domain.

Working with strategic partners, .ie promotes and invests in digital adoption and advocacy initiatives - including the .ie Digital Town Blueprint and Awards for local towns, communities and SMEs.

We provide data analytics and dashboards built by the .ie Xavier team to help with data-led decision-making for the public, registrars and national cybersecurity policymakers.

The organisation is designated as an Operator of Essential Services (OES) under the EU Cyber Directive, and we fulfil a pivotal role in maintaining the security and reliability of part of Ireland's digital infrastructure.



# About the Researchers

The Irish Institute of Digital Business is a University Designated Research Centre located in Dublin City University. It is an internationally recognised centre of excellence for theoretical and applied research that investigates and accelerates the adoption of digital technologies and the transformation of business and society using these technologies.

J.E. Cairnes School of Business and Economics at University of Galway is energised by its regional edge on the west coast of Ireland. It is a globally engaged School of Business and Economics for the public good that makes a transformative impact for students, society and business.



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