

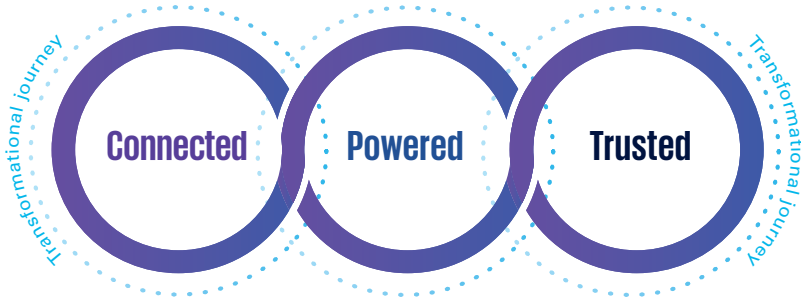
The background of the cover features abstract, flowing lines in shades of green and blue, creating a sense of movement and technology. A large, dark purple circle with a white border is centered on the page, containing the title text.

Technology and innovation report

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Modern public service: Connected, powered, and trusted



We are in an emerging era of modern government that is citizen centric, trusted, agile, digitally enabled, and inspired for future change, writes Cormac Deady, Head of Government, KPMG.



“Putting the user at the heart of design enables organisations to adapt and continue to deliver better quality experiences while also realising value in the investment when it matters most.”

Saoirse Stronge, Director, Management Consulting

The future of public service has arrived – it is rapid and responsive. In line with direction set in *Connecting Government 2030*, it is “trusted, human-driven, intuitive and inclusive world leading digital government service”.¹ Modern public service is intelligent and agile, technologies, and platforms, enabling the citizen agenda with solutions that are secure, scalable, cost-effective, and trusted. To modernise, we expect public sector organisations to need a laser focus on being:

- **connected** for better experiences and to enable faster mission delivery. They are connected to their citizens, their employees, and to each other, with an ability to deliver rapidly, safely, and at scale;
- **powered** by modern technology and embracing innovations to accelerate digital transformation so the entire organisation – front, middle, and back – is aligned to shift points of interaction to reflect citizen’s needs and preferences; and
- **trusted** organisations value their citizens and their employees – implementing safeguards to protect their valuable data with the goal of creating transparency, ultimately

helping to generate and maintain trust with citizens.

Connected

The future is a connected public sector organisation delivered at market speed.

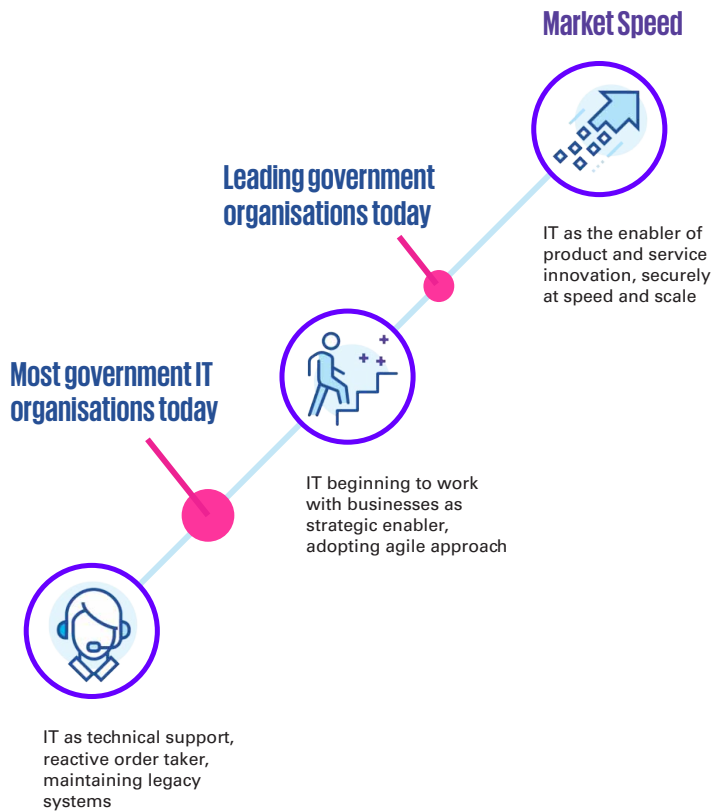
Aligned and engineered around the citizen and the users of its services. It is a borderless organisation where people, data, and technology interact for new levels of productivity and value creation. This in turn allows the organisation to increase the speed to mission delivery, which is fast becoming a top priority for public sector organisations around the world. To increase speed to mission delivery, national, and local governments are combining separate business and technology strategies into a single delivery strategy, underpinned by modern technology which drives this strategy.

We saw some successful examples of this at the recent Public Sector Digital Transformation Awards, where many public sector organisations demonstrated really innovative solutions to a range of business and citizen-focused issues, delivering solutions rapidly through the combined power of broad team collaboration and modern technology.

So how do public sector organisations focus on the right things to modernise faster?

- **Fulfil people’s needs (human-centred design):** Organisations that only focus on processes and technology in their digital journeys rarely achieve the outcomes they need. Leaders need to clearly understand people’s needs with each experience. Human-centered design can help build equity into the experience from start to finish. It guides the experience creation process by helping contextualise to understand the high-level problem to be solved and empathise by talking directly to individuals the program most affects. Digital applications that provide a positive

Information technology operation model evolution



Powered

The Government’s ambition for the digitisation of public services is clear, with multiple publications in 2022 outlining just that through targeted strategy and vision papers. The societal and economic benefits of this are also significant, with Ibec’s assessment that just a 10 per cent surge in cloud adoption within Ireland’s public sector could generate an annual economic benefit of €473 million².

Many public sector organisations are already realising the value of cloud-based infrastructure and solutions today, but with ongoing efforts to make it easier for public sector bodies in Ireland to procure cloud services, such as the OGP’s infrastructure as a service (IaaS) framework, the rate of adoption and value realisation is likely to skyrocket over the coming years.

In line with this adoption trend, it is also becoming more prevalent that a multi-cloud deployment approach can leverage the benefits of multiple service providers to provide the flexibility needed to run workloads on any cloud depending on an organisation’s specific needs. This ensures that organisations can consistently migrate, modernise, and secure applications to leverage the best features of their underlying platform, wherever they are deployed. However, while a multi-cloud approach unlocks new benefits, it also creates new challenges. Understanding and managing the risks associated with your infrastructure and the data being distributed across multiple cloud providers is critical to success.

Without a robust overarching plan to architect and manage a multi-cloud environment, one of the most-exciting advances in cloud computing can become just a resource-draining IT

user experience have the potential to benefit everyone.

- Start small, move fast:** With limited budgets and growing digital services demand, public sector organisations should deliver digital solutions fast so employees can be productive, and citizens can access services. An agile development approach can speed up outcomes and help ensure they meet users’ expectations since the approach focuses on continuous improvement and how technology affects people.
- Collaboration across the public sector network:** On their journey to offer citizen-centric services, governments should embrace digital leadership, creating platforms that make it easier for departments and agencies to share and access data, and that enable the concrete actions that deliver more successful outcomes for citizens.
- Keep pace with innovation:** To increase speed to mission delivery, organisations are combining what was previously siloed business and technology strategies into a cohesive and holistic delivery strategy driven by technology. To run at market speed, public sector organisations should reimagine the role of technology and how they apply it.



“Over the next few years, modern technologies underpinned by cloud will increasingly be woven into the fabric of government and public services.”

Richard Franck, Director, Cloud & Digital Transformation Lead

2. Ibec: *The Sky is the Limit, Benefit of Cloud in Public Sector*



initiative that fails to deliver on its promise. Here are some important early considerations that can help underpin your success in a multi cloud model.

- **Comprehensive understanding of multi-cloud architecture:** It is essential to align IT service management with your multi-cloud operating model and incorporate the right set of tools and technologies to support workload placement across diverse platforms and services.
- **Establishing resilience:** In today's fast-changing and threat-laden environment, a new approach to resilience is indispensable – one that helps ensure your ability to 'bounce back' quickly from disruptions and maintain application availability. New functional capabilities and skills to embed resilience throughout solution design is the way forward and it will likely require businesses to give resilience greater priority.
- **Leverage modern security practices:** Security threats continue to soar in frequency, impact, and cost to the organisation. A modern multi-cloud security model features a common access-control model across platforms, applications and data governance. This enables the automation of key capabilities such as identity and access management, compliance for continuous monitoring, reporting, and testing of capabilities.
- **Optimise total cost estimates:** Amid different pricing models and various mechanisms to control costs among diverse cloud service providers, balancing the value of workloads with associated cloud

costs is essential. An understanding of the total cost of hosting an application is a key performance indicator to monitor in order to maintain financial control as the pace of change accelerates.

Trusted

Trust is now a defining factor in any organisation's success or failure. Research suggests that a trustworthy organisation is one that demonstrates three key characteristics: ability, humanity, and integrity.

To take advantage of the new and emerging technologies effectively, organisations must incorporate trust into systems, processes, and products or services. Trust is built on consistent predictable action in the moments that matter, like keeping data safe, delivering the right product within the time frame you promised, using ethical business practices, complying with regulations, and partnering with credible third parties.

Trusted data and analytics

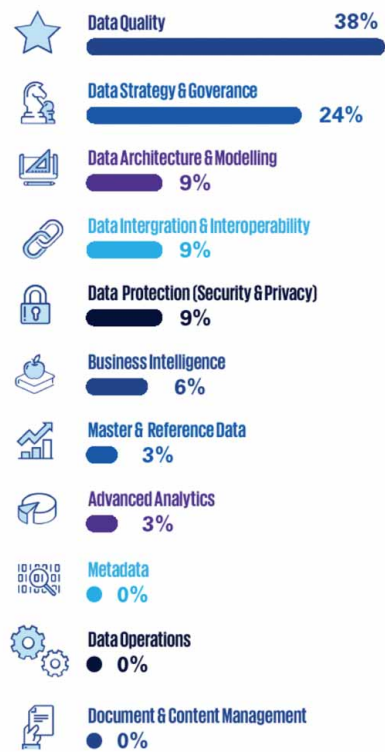
A trusted organisation has traditionally been anchored by the behaviours and decisions of trusted people. As people increasingly integrate technology and data into their daily tasks and outputs, a trusted organisation also requires trusted data and analytics. Despite trust being critical to the success of organisations, a recent KPMG study identified that leaders question the trustworthiness of their data – 92 per cent are worried about the impact on reputation³.



"The governance of technology must become a core part of governance for the whole organisation. Leaders will need to

manage technology as rigorously as they manage their people." **Sean Redmond, Director, Risk Consulting**

Consulting



In a recent poll run by KPMG Ireland at our Advancing Data Across Public Service event in October 2023, data quality emerged as the priority trusted data building block.

So how can public sector organisations focus on the right things to ensure trust in their data? Consider the following as a starting point:

- **Quality of components**
Are the inputs and building blocks good enough?
- **Effectiveness**
Do the analytics work as intended?
- **Integrity**
Is the data and analytics being used in an acceptable way?
- **Resilience**
Are long-term operations optimised?

Ethical use of emerging technologies

Another critical component of trust is using emerging technologies in ways that ethically and efficiently meet users' needs and support the mission as well as comply with regulations. Delivering the promise of emerging technologies

such as AI and generative AI is not possible without including humans in the loop. For example, AI has no perspective, point of view, or purpose and requires humans to train, test, and tune. Organisations should train the workforce to cultivate AI until it becomes a trusted core capability.

Secure and resilient operations

It is important to weave security and compliance into all systems and transformation activities. When citizens, and employees interact with their public sector organisations, they expect their entire digital experience to be secure. It is each public sector organisation's responsibility to deliver on that expectation. People and data are no longer within the walls of specific places – in environments with no perimeters, cybersecurity has to be more flexible and agile to protect data, networks, workloads, and user identities as users interact in cloud, mobile, on premises, and remote environments.

Securing the digital experience is not new. What is new and critically needed is to build security in from the first vision of the citizen digital experience. Security is traditionally a separate topic, one that many believe gets in the way of innovation. Some project teams prefer to address security later in the development process to avoid delays and additional cost, but as we have seen both locally and globally, across both the private and public sector – it is vital to build security into the digital experience from the beginning.

Public sector organisations also need to consider the following to enable secure digital experiences:

- **Cloud security strategy** to secure cloud environments. Everything moves faster in the cloud, so some public sector organisations struggle to involve security early. It also takes specialised skills to deploy services and data into the cloud, to ensure alignment with organisational security objectives.
- **Cloud security shared responsibility model:** Public sector organisations and their service providers share the responsibility for securing their cloud footprint. They should work closely together to define and understand who is responsible for which security functions.
- **Modern third-party risk management strategy:** Public sector organisations need effective third-party risk management to evaluate and monitor risks before, during, and after contracts are in place.
- **Delivery of an easy-to-use digital storefront to citizens,** secured with multi-factor authentication to manage citizen digital identities.
- **Identification of the capabilities employees will need, upskill or hire employees with digital capabilities** – and provide an employee value proposition that includes upskilling and career development. Leaders should make sure each employee understands and follows organisation information security policies to avoid intentional and unintentional insider threats.

There are a multitude of opportunities available for public sector organisations

to embrace emerging technologies to innovate how they interact with and serve their citizens. While the opportunities are significant, value will only be realised through the right level of readiness and preparation to properly leverage these solutions, and deliver innovate, safe, trusted solutions quickly and at scale.

Now is the time for governments to redefine their own functions, processes and limitations in ways that look ahead to a digital-first world.

The leaders will be the ones that:

- explore new delivery models, foster new technology ecosystems, and promote integration;
- put open data at the heart of their strategy and development;
- foster a culture of innovation where staff can fail fast, learn, and evolve, all while bringing greater value to their roles and to the organisation;
- examine and understand the organisational barriers that could be preventing them from taking advantage of this digital future; and
- take a risk-based approach to protecting data: look to prioritise key assets, prevent malicious activity where possible and be ready to detect and respond to threats quickly.



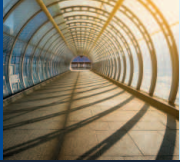
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“Governments must continue to improve the usability and reliability of critical digital services. It will take time and many conversations for organisations to bring security into the digital experience at the right time. It is a needed change to develop many digital capabilities organisations must have to deliver their missions.”

Diarmuid Curtin, Director, Cyber Consulting Services





Government departments' AI approaches

Statements have shown that AI is a challenge to which there is no single unified approach being taken by government departments.

eolas Magazine asked all 18 government departments the following three questions:

- 1) Has your Department discussed the use of ChatGPT and/or other AI applications by officials?
- 2) To what extent is your Department using ChatGPT or other artificial intelligence (AI) applications to conduct business?
- 3) What is your Department's rationale for the use of ChatGPT and/or other AI applications by officials?



An Roinn Gnóthaí Eachtracha
Department of Foreign Affairs

Department of Foreign Affairs

"The Department's use of AI is grounded in its Generative Artificial Intelligence (GenAI) Interim Policy. It is exploring the opportunities presented by artificial intelligence, as well as associated risks, and the various policy considerations that arise."



An Roinn Cosanta
Department of Defence

Department of Defence

"In line with the National AI strategy and the NCSC's *Cyber Security Guidance on Generative AI for Public Sector Bodies*, the Department of Defence continues to keep the use of artificial intelligence for business purposes under review.

"The Department of Defence is not using ChatGPT to conduct business. More broadly the Department's core IT infrastructure is provided by the Office of the Government Chief Information Officer (OGCIO) under the Build to Share Managed Desktop shared service."



An Roinn Dlí agus Cirt
Department of Justice

Department of Justice

"Department staff do not currently use ChatGPT or other GenAI tools for official business. However, the Department of Justice plans to assess the opportunities presented by AI tools to improve the delivery of services to our customers. This will be done in line with the National Intelligence Strategy for Ireland, *AI – Here for good*. As with all new technologies, its adoption will be subject to approval by the Department's governance processes.

"The NCSC issued useful guidance to all government departments in June of this year 2023 in relation to the use of Generative AI. At this time, [the] Department solely uses a pilot rules-based chatbot which provides FAQ type responses on the immigration services website."

Department of Education



An Roinn Oideachais
Department of Education

“The Department does not use any form of artificial intelligence (AI) to generate official text. No AI software is installed on officials’ devices.

“In accordance with *AI – Here for Good*, the National Artificial Intelligence Strategy for Ireland, the Department of Education is investigating the potential for AI to assist in improving the delivery of customer services.

“A pilot project on the potential for using AI technologies to analyse large volumes of publicly available information and support better customer service will commence shortly.

“A pilot project to examine if AI technologies can support departmental staff in responding to customer queries is scheduled to begin in the coming months. The pilot project will focus on the potential for using AI technologies to analyse large volumes of publicly available information.”

Department of Finance



An Roinn Airgeadais
Department of Finance

The Department of Finance referred *eolas* to two statements made in the Dáil by Finance Minister Michael McGrath TD:

- 1) “Cybersecurity Guidance from the NCSC in relation to Generative AI issued to Government departments, including my department, during the year. A National AI Strategy, *AI – Here for Good*, prepared by the Department of Enterprise, Trade and Employment was also published in 2021. The NCSC guidance referred to recommends that new technology should only be adopted based on a clearly defined business need following an appropriate risk assessment. I understand that the Department of Public Expenditure, NDP Delivery and Reform and the Department of Enterprise Trade and Employment have established a working group on AI in public services. This group are currently drafting principles concerning the use of AI in public services, which the two departments expect to publish shortly. Guidelines on the use of generative AI will also be produced in the near future. Officials from my Department do not currently have access to the application in question to conduct official business.”
- 2) “I can confirm to the Deputy [Ciarán Cannon TD] that cybersecurity guidance from the NCSC in relation to Generative AI was issued to government departments, including my department, during the year. A National AI Strategy, *AI – Here for Good*, prepared by the Department of Enterprise, Trade and Employment was also published in 2021. The NCSC guidance referred to recommends that new technology should only be adopted based on a clearly defined business need following an appropriate risk assessment. For operational and security reasons, my department has previously been advised by the NCSC not to disclose details of systems and processes which could in any way compromise departmental security. In particular, it is not considered appropriate to disclose information which might assist criminals to identify potential vulnerabilities in departmental cybersecurity arrangements, this includes any particular arrangements in place in relation to total spend on cybersecurity measures, cyber security tools and services. My department does not comment on operational security matters.”



An Roinn Fiontar,
Trádála agus Fostaíochta
Department of Enterprise,
Trade and Employment

Department of Enterprise, Trade and Employment

eolas Magazine received no response from the Department of Enterprise, Trade and Employment.



An Roinn Leanai, Comhionannais,
Michumais, Lánpháirtíochta agus Oige
Department of Children, Equality,
Disability, Integration and Youth

The Department of Children, Equality, Disability, Integration and Youth

“The Department of Children, Equality, Disability, Integration and Youth (DCEDIY) is currently in the process of upgrading its suite of standard office productivity tools to the latest version of these applications, which are based on the Microsoft 365 platform. This platform also includes additional business intelligence, app development, and app connectivity software applications that we will avail of to develop line of business solutions for the Department.

“The underlying technology for this platform includes services that are labelled as artificial intelligence. DCEDIY does not generate any content using artificial intelligence and does not use artificial intelligence for decision making. DCEDIY is also guided by the Office of the Government Chief Information Officer and by the National Cyber Security Centre (NCSC) on ICT policy and security matters.

“AI is part of a suite of digital technologies that will play a major role in shaping global competitiveness and productivity over the coming decades. Ireland is well-placed to be at the forefront of that change. However, AI adoption is not without risks.

“The Department recognises that, increasingly, some forms of AI have been built into standard digital products and services; however, the Department is not directly employing the use of AI to carry out its functions.

“For security reasons, the NCSC does not provide details of the tools and infrastructure it avails of.”

Government departments' AI approaches



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Department of Agriculture, Food and the Marine.

eolas Magazine received no response from the Department of Agriculture, Food and the Marine.



An Roinn Sláinte
Department of Health

Department of Health

"The Department of Health does not currently use Artificial Intelligence (AI). The Department will continue to follow best practice advice from the Government's *A National Artificial Intelligence Strategy for Ireland*, the NCSC's *Cyber Security Guidance on Generative AI for Public Sector Bodies*, and through regular engagement with other departments/public service bodies in relation to the use of artificial intelligence."

Department of Further and Higher Education, Research, Innovation and Science



An Roinn Breisoideachais agus Ardoideachais,
Taighde, Nuálaíochta agus Eolaíochta
Department of Further and Higher Education,
Research, Innovation and Science

"My department and its officials do not presently use ChatGPT or any other form of artificial intelligence (AI) to generate official text and no such software is installed on my official's devices.

"In accordance with *AI – Here for Good*, the National Artificial Intelligence Strategy for Ireland, my Department's ICT service, which is provided by the Department of Education on a shared services basis, has investigated the potential for AI to assist in improving the delivery of customer services. A proof of concept to examine if AI technologies could support staff in responding to customer queries has been completed. The proof of concept focused on the potential for using AI technologies to analyse large volumes of publicly available information. An external service provider assisted with this at no cost to the Exchequer. Officials will continue to review and follow guidance issued by the NCSC on the use of artificial intelligence for the future."



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Department of Housing, Local Government and Heritage

"The Department does not use artificial intelligence (AI) to conduct business. As with all new technologies, my department is assessing the potential of AI in the delivery of services, in line with the NCSC guidance on its usage in the public service and works closely with the NCSC which encompasses the State's national/governmental Computer Security Incident Response Team (CSIRT-IE)."

Department of Public Expenditure, NDP Delivery and Reform



An Roinn Caiteachais Phoiblí
Sheachadadh PFN agus Athchóirithe
Department of Public Expenditure
NDP Delivery and Reform

"Officials from the Department do not currently use the application in question to conduct official business. The use of artificial intelligence (AI), as with all enabling technologies, will be considered on a solution-by-solution basis. Any such considerations will be discussed, and a risk assessment conducted as appropriate. The Department has issued guidance to all staff reminding them of their responsibilities in using any applications or technologies available on the Internet which are not specifically provisioned for use by staff in the Department."



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

Department of Rural and Community Development

"The Department has as a once off this year trialled Artificial Intelligence to insert a voice-over into video content produced in-house. There is some evidence that voice-overs on video content helps to increase accessibility.

"It is important to emphasise that there are no plans to use AI regularly but management will continue to keep this position under review."



An Roinn Coimírce Sóisialaí
Department of Social Protection

Department of Social Protection

“The Department of Social Protection is developing a responsible use of Generative AI policy before allowing the use of AI applications by officials. In line with the development of a Generative AI policy, the Department is evaluating where generative AI can be of use by its officials and will conduct a limited evaluation of Generative AI by a small working group.

“The Department currently engages in very limited use of AI. We are currently using an AI chatbot on the MyGovID platform. This chatbot linked on MyGovID provides the customer with advice on how best to use the MyGovID service.”



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

Department of the Environment, Climate and Communications

“Given its wide application of to all sectors, high capacity for impact, growth and contribution to improving competitiveness, generative artificial intelligence (GenAI) is one of the technologies with the greatest potential for transformation in all areas of productive activity. GenAI also poses significant opportunities in addressing and overcoming pressing societal challenges and creating new value and possibilities for everyone. However, it must be used sensibly and with a degree of caution...

“With the increasing advances in Generative AI there is the potential for both risks and opportunities. As with the introduction of all new technologies and software into an organisation, appropriate precautionary measures should be taken to implement suitable safeguards to mitigate risks. The area of GenAI will continue to rapidly develop, and it will be necessary to continuously monitor and evaluate these developments to better understand changes to the risks and benefits of these tools.”



Roinn an Taoisigh
Department of the Taoiseach

Department of the Taoiseach

“The National AI Strategy, and this cross-government engagement, will continue to inform departments’ future approach in seeking to leverage AI in relation to the work and functions of the Department. When developing any new systems, the Department assesses the risks and benefits of appropriate technologies, including AI, on a case-by-case basis. When implementing these technologies, advice is sought from all appropriate sources. Suitable policies and safeguards are then put in place.

“The Department of the Taoiseach has not previously and does not currently use artificial intelligence services.”



An Roinn Turasóireachta, Cultúir,
Ealaíon, Gaeltachta, Spóirt agus Meán
Department of Tourism, Culture,
Arts, Gaeltacht, Sport and Media

Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media

“The Department is guided by the NCSC in respect of all matters related to the use or operation of artificial intelligence. Chatbots are not utilised to assist with departmental functions, all applications and platforms used or operated by the Department must be in line with relevant policies and be consistent with advice provided by the NCSC on such matters.”



An Roinn Iompair
Department of Transport

Department of Transport

“As advised by the NCSC in their release *Cyber Security Guidance on Generative AI for Public Sector Bodies* published on 1 June 2023, staff in the Department of Transport are developing risk assessment frameworks and policy guidelines for colleagues to ensure that any use of AI tools is done in a safe and appropriate manner and on the basis of an accepted business case. Until this work is complete and in place, the Department has acted on the advice of the NCSC by restricting access to AI tools by default.”



eTenders

Public procurement buyers should act now to retain past competition data

In 2023, the national electronic tendering platform, eTenders, switched to a new service provider, marking the first time in a decade that eTenders has changed to a different platform. eTenders is facilitated and managed by the Office of Government Procurement (OGP), the national authority for public procurement within Ireland.

To facilitate ongoing access to past procurement competition data that was hosted on the previous platform, public buyers and suppliers have up until now been able to access the previous (legacy) eTenders platform. This is changing soon, and access to the eTenders legacy platform is ceasing in May 2024. The Office of Government Procurement (OGP) is encouraging public procurement buyers to take action now and follow three key steps set out below, to ensure that they retain the procurement competition data they require.

Maintaining procurement competition records

Using eTenders enables and facilitates public buyers to procure electronically and to comply with public procurement regulations. Contracting authorities and public buyers should maintain appropriate records

throughout the purchasing process and beyond in accordance with the public procurement, data protection, data retention, legal, and policy requirements that they are subject to.

The National Public Procurement Guidelines state that “eTenders should not be used as a storage facility and that all relevant documentation records should be maintained off the platform by the contracting authority”.

While eTenders was never intended as a facility for long-term record keeping, over the years, many buyers have become accustomed to the convenience of using eTenders to store and access past procurement data. For some public buyers, the legacy and current eTenders platform may have been used as part of their approach to meeting record keeping and data retention obligations.

However, due to scale, complexity and associated risks to data integrity, past

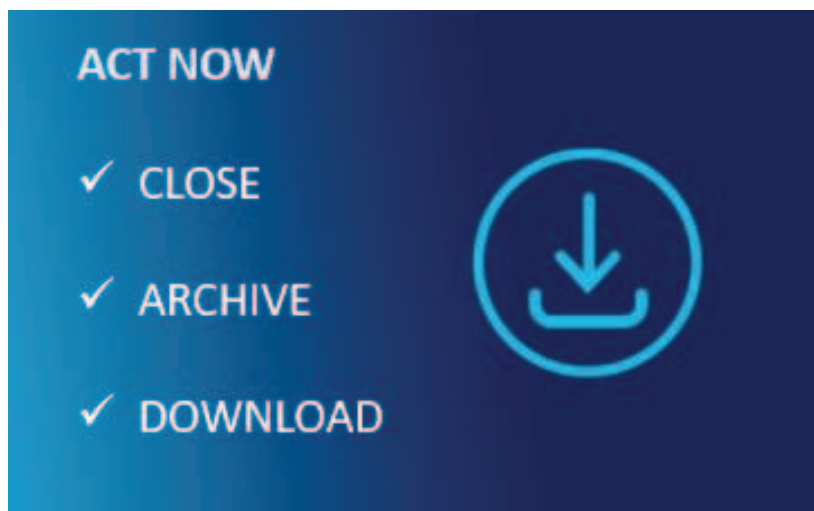
procurement competition data was not transferred from the legacy eTenders platform to the current eTenders platform. To facilitate interim access to past procurement data, the previous eTenders platform has remained online and accessible to buyers and suppliers. However, this access to the eTenders legacy platform will cease in May 2024, and the OGP is encouraging public procurement buyers to take action now to ensure they retrieve the procurement competition data required from the platform in advance of this date.

Key steps to retrieve data from eTenders

There are three key steps public buyers should take to retrieve data associated with past procurement competitions from the eTenders legacy platform:

- **Step 1: Close:** The first step is to close any procurement competition that you want to retrieve the data for.
- **Step 2: Archive:** Closed competitions can now be moved to the archive area on the legacy site. Public buyers can configure the legacy eTenders platform to automatically transfer data and associated documents for closed competitions into an archiving area on the platform, for any competition that has been closed for a specific number of days. Company administrators are able to choose the specific number of days that will best suit their organisation's needs.
- **Step 3: Download:** Once a procurement competition has been closed and archived, you can download the archive file for the relevant procurement competition data and documents to your designated storage location. The archive file will include all relevant documentation, such as tender notices, bidder responses, messaging and an audit trail for the competition process carried out on the platform.

A detailed guide with further information on how to close, archive and download procurement competition data from the eTenders legacy platform is available on the OGP website.



Act now

While the three-step process to retrieve data from the eTenders legacy platform is relatively simple, public buyers may have other internal operational arrangements they need to make and need to act now to identify which procurement competitions to retrieve and to prepare to store data for.

Access to the eTenders legacy platform will cease in May 2024, and the OGP is encouraging public buyers to take action now to ensure they retain the procurement competition data they require. By doing this, public buyers will ensure that they can continue to be able to meet their operational needs and their legal and policy obligations.

For further information, please visit:

- www.gov.ie/en/organisation/office-of-government-procurement/
- www.etenders.gov.ie/

The Office of Government Procurement

The Office of Government Procurement (OGP) is the national authority for public procurement and is responsible for driving the public procurement reform programme in Ireland. The OGP operates as a Division of the Department of Public Expenditure, National Development Plan Delivery and Reform.

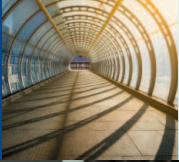


**An Roinn Caiteachais Phoiblí
Sheachadadh PFN agus Athchóirithe**
Department of Public Expenditure
NDP Delivery and Reform



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Innovation in public services

Experts from across the public sector offer their perspectives on how best innovation can enhance public services in Ireland.

What are the key challenges facing the public sector?

Kevin Kelly (KK): Attracting the right talent and then retaining them for ourselves. The private sector companies we are competing with are paying fortunes, so we are having to think a little bit differently, and we are looking at using apprenticeship models, internships, and we are getting some really good people through that.

Gavin Ross (GR): Hybrid and remote working is a topic which has been to the fore over the last number of years, but I feel that we have not cracked it yet. There is a lot of technology that can enable more remote working and I think that is an exciting area which we can look at.

Emer Darcy (ED): Breaking out of siloes; this is something which is a challenge which people in all parts of the public service have grappled with but are starting to make progress and the direction of travel has been set. We all share the sense of public service which motivates us to do our jobs, and this will be a game-changer.

Daragh O'Connor (DO'C): There is a lot being moved on at the moment and if you introduce these things too quickly then there is always a risk that comes with the quality of the final work. In the Department of Social Protection, we have introduced a creation kit which has all of the modules and all the core designs that we have come up with. This gives us a bit more pace in the development, but it also improves the testing and therefore the quality.

How is your organisation approaching innovation?

GR: We moved away from a managed desktop platform from the OGCIO. The reason we did was partially because of a security element but also because it would allow us to be less reactive to external events and more proactive in our own agenda. We have done a lot with robotic process automation [RPA]; with the war in Ukraine there was a huge spike in fuel costs and there was a real need to roll out support to the whole industry. With the RPA platform in place, we were able to deliver that platform and that scheme very quickly.

DO'C: We in the Department of Social Protection have taken a ground up approach to innovation. There are 177 projects that are led from small ideas or

big ideas in various parts of the Department. There is a structure in place and at the top of that structure there is an assistant secretary who is watching it, and they ensure that it gets funding and resources.

KK: The most important thing is managed risk-taking. Around 2019, with some funding from DPER, we commenced two pilots in RPA at the end of 2019 which were functional at the end of February 2020. Little did we realise that one of these was to be instrumental during the pandemic response in Garda recruitment. Our robots were able to make the recruitment process 52-times quicker. The impact of that was that hiring managers were able to have people in place within a week, rather than a month as had been the case previously. This switch was hugely important right through 2020.

ED: There are lots of innovations happening which are coming from our staff. We have a network of innovation advocates within the organisation. We developed our innovation strategy for which we were part of the pilot for the toolkit. We are trying to really get that people-centric focus in terms of that service delivery. The modernisation programme is dealing with the online.

What excites you most about the future of public services?

GR: The AI tools that are coming through. If chatbots can be improved and simplified with their answers that can be brilliant. This is still in its infancy and that all has to be worked out. Within time, though, we will have a model which can be trusted, and this will give our staff a better means of working in a simplified way.

DO'C: I am convinced that technology can help us deliver public services better. If you can tie down the data source that the AI is looking at, it would go a long way to tie down concerns which exist in these technologies' present forms.

KK: Staffing; in the last two years it has been incredibly tough in the area that we are in, but coming out of that I have perceived a sense of a reminder in the importance of the work we are doing. Staff are ready to innovate, and the sense of public duty is really at the core of our work.

ED: Public service value which can be

extracted from enhanced services. We can all make a difference to people's lives no matter where we work in the public sector. The most exciting thing is that this is something which is in front of us and is tangible. Those building blocks are now in place. We have the design

principles that we are talking about. We are pushing past boundaries which will allow us to work on and deliver for the people that we are working for.



Kevin Young (Chair):
Director, Deloitte



Emer Darcy: Acting Head of Strategy and Reform Directorate, Courts Service



Kevin Kelly: General Manager, eHealth (Digital Workflows and Automation, Health Service Executive



Daragh O'Connor:
Principal Officer, Digital Platforms, Department of Social Protection



Gavin Ross: Head of Information Services Division, Department of Transport



The role of AI in

VISION ZERO

The intersection between road safety and technology has been on a long journey since the days of Mary Ward, the first recorded casualty of a road traffic incident back in 1869, underscoring our longstanding mission for safer roads, writes Brendan Walsh, Chief Operations Officer at the Road Safety Authority.

Today, as we stand in an era where technology has leaped bounds, artificial intelligence (AI) emerges as a potentially pivotal tool in this ongoing journey. It is imperative that we consider the transformative role AI can have in enhancing road safety. As we examine the integration of AI into our road systems, we focus on its practical applications and the tangible benefits it can bring to road safety.

Forty years ago, in 1983, Ireland witnessed 535 road fatalities, and in the subsequent years, over 11,000 people have lost their lives while going about their daily activities. As of 2023, the trend indicates that this year might be the deadliest in the past decade.

Over the past 40 years, how we use the road network has evolved significantly. Vehicle safety systems have advanced beyond recognition compared to those of the 1970s and '80s. Major road infrastructure investments and designs are now comparable with our EU neighbours, and our attitudes towards driving under the influence of alcohol have dramatically changed. While we can see improvements from 1983 to 2022 (535 fatalities versus 155 fatalities), we still face the challenge of eradicating this societal scourge, akin to losing an aircraft full of people every year over the last decade.

The Road Safety Strategy (RSS) has identified 186 actions aimed at making our roads safer for all users. However, with the advent of AI, we must ask how AI can support our goal of zero deaths and zero serious injuries by 2050. The investment in vehicle safety by manufacturers, both cars and trucks, has been significant. Over two decades ago, advanced driver assistance systems (ADAS) emerged. Back then, the technology used radar detection that required precise calibration by a technician; otherwise, your vehicle might end up following the car beside you on a motorway instead of the car directly in front of you.

Today, vehicle manufacturers are competing to develop autonomous vehicles (AVs) driven by changes in safety regulations and the increasing demand for "safe vehicles". Additionally, smartphones' ability to connect to the environment and provide traffic congestion information has offered unprecedented levels of information and

safety. So, what is the barrier to further reducing road deaths? Before we delve deeper, it is important to define what an AV actually means. The Society of Automotive Engineers (SAE) has developed a widely adopted classification system with six levels based on the level of human intervention:

Level 0: No automated features. The driver is in complete control.

Level 1: Equipped with one or more primary features, like cruise control, but requires the driver to perform all other tasks.

Level 2: Equipped with two or more primary features, like adaptive cruise control and lane keeping, which work together to relieve the driver from controlling those functions.

Level 3: Allows the driver to relinquish control of the vehicle's safety-critical functions under certain conditions. The driver is expected to take over after a transition period.

Level 4: The vehicle can perform all aspects of driving, even if the driver does not respond to a request to intervene.

Level 5: Fully autonomous, capable of monitoring roadway conditions and performing all driving tasks throughout the trip, with or without a driver present.

Let us consider the infrastructure that our vehicles use. Much of the western world's road and traffic infrastructure, especially in cities like Dublin, London, and Cork, dates back to the mid-20th century, with routes established during the Victorian era for horses and people. Today, our councils and corporations continue to invest in such infrastructure, with limitations to add new routes. The addition of bus lanes and cycleways has provided extra capacity to support safe road use, but as populations grow, we need to offer new solutions to meet societal needs. We have created vehicles that can "think for themselves", and created the opportunity for technology enabled roads to enhance road safety whilst ensuring continual flow of people and goods. How do we harness AI to integrate with our road networks and achieve our Vision Zero target, the ambitious goal of eradicating road fatalities? Cities like Amsterdam, London, and Los Angeles are developing connected intelligent transport systems (C-ITS).

"AI has a significant role to play in reducing road deaths to zero. It is for humans to identify and prioritise how best to optimise this intelligence."

Sam Waide, CEO, Road Safety Authority

This technology allows vehicles to connect with each other, their environment (e.g., traffic lights, road signage), and other parts of the transport network, reducing collisions.

This is achieved by enhancing "signalised intersections" with features like:

- signal phase and timing information;
- emergency vehicle priority;
- green light optimal speed advisory;
- imminent signal violation warning; and
- traffic light prioritisation.

To support these emerging technologies, it is important that we build an ecosystem with the human at its core. This of course will be a challenge – if the machines are thinking for us what do we have to worry about? Do any of us think about knocking off a kettle when it comes to the boil as our grandparent had to? Of course not. That is why it is our role to ensure we are educated on "safe road use". To this end, the RSA has commenced reviews to its National Driver Licencing Service, driver education and driver testing programme and vehicle testing programmes to ensure that the services meet the needs of the road user into the future and to deliver on our Vision Zero commitment.

It is important to consider what we can do today. A simple example is the impact of good road repairs on ADAS systems. This has resulted in our driver

testing team having to consider how a vehicle with lane assist interacts with the road.

These systems are designed to pick up the marker line on the roads. However, in our cities it is necessary to join the seam of a road repair with a filling agent, thereby creating a new line on the road. Unfortunately, this results in the vehicle picking up this road repair as a marker line and results in the vehicle correcting against the false marker. Quite concerning if you are a learner driver or under test at the time. It would appear that we not only need to continue to educate safe road use but that we need to continue to develop the technology to ensure safe vehicles.

In conclusion, as we navigate the ever-evolving landscape of road safety, the integration of AI can act as a powerful tool, guiding the path to a safer future. Our commitment to Vision Zero is not just a target, but a promise to future generations. By marrying technology with human insight, we can turn the tide against road trauma. As we continue to refine our strategies, from enhancing vehicle technology to educating road users, let us remember that every step taken is a stride towards a world where road deaths are a thing of the past.

W: www.rsa.ie



National Data Infrastructure: Data as a strategic asset to the public service

Paul Morrin, Assistant Director General, Central Statistics Office (CSO) talks to *eolas Magazine* about how the National Data Infrastructure (NDI) informs the formulation of public policy and what role the next generation of open, researcher, and operational data will play in doing so.

Ireland's NDI, Morrin explains, is built on three identification pillars: businesses, based on the unique business identifier (UBI) as provided by the Revenue Commissioners; household locations, based on Eircodes; and people, based on PPSNs. "Without this structure, we would always be working in silos, even at times within our own organisations," Morrin says. "Looking at the future of data linkage, we need to have National Data Infrastructure at the core of everything we do."

Across 45 national data sets reported by the CSO, there are 43 million records per year, many of which are now updated on a real time basis. "65 per cent of new records coming into the public service had an Eircode in 2021," Morrin says. "When we started measuring this in 2016, it was 15 per cent, so things are moving along rapidly. The PPSNs are high and always have been; it is at around 80 per cent at the moment and we expect it to go higher."

'An important enabler for nationwide renewal and transformation'

The CSO's "number one reason for existence" is the production of statistics which are used as "evidence to inform decision-making in Ireland". Traditionally, 80 per cent of the statistics produced are mandated by the EU, "but that includes surveys like the Labour Force Survey which are widely used for national purposes". The proportion of statistics produced for national demands is moving closer to 50/50 in recent years. "We believe that people in Ireland have a right to live in an informed society, which includes how we present the statistics," he elaborates. "We believe in the intrinsic value of statistics; we are not using them as part of a communications plan and so we try to present them in an unvarnished but clear and understandable way. We think that builds up trust among citizens in

statistics produced by the CSO. Our figures must reflect the lived reality of the people of Ireland, based on the highest quality standards."

Morrin further explains that, through its work in providing both statistics and data services to government and in seconding teams to public and civil service departments and agencies, the CSO's role is as "an important enabler for delivery of nationwide renewal and transformation". Renewal and transformation are arrived at, Morrin says, through the facilitation of policy and operational analytics within organisations by the NDI.

"You can integrate data well within your own organisation if you are collecting these standard identifiers and that is the first step of doing data analytics in any organisation, making sure that your customers are clearly identified," he says. "The next step in the public service is data linkage across different silos where it is legally facilitated. That

is going to support much deeper analytics over time, when you can see your data in context and check it against other data sets. It will really support policy development in the public service, because it will allow people to see where their data fits into the overall population, allowing all kinds of analysis on policies.” Common standards are essential to data linkage in this future environment, and CSO is happy to engage with public bodies who wish to implement future proofed standards in their systems and processes.

Analytics “is not a black box” and is “very much a human activity”, Morrin states, meaning that organisations will want expert advice on interpretation of the results. As such, the CSO currently has 40 statisticians on secondment in various government departments and agencies. The traditional role of these statisticians was production of statistical reports for their departments. However, many are now involved in business intelligence, the “use of statistical analysis and data visualisation to provide self-service reports” which makes “data available in a way that is understandable for people who are not experts”.

Recently, data modelling has become the main growth area for seconded statisticians: “This is the development of machine learning models and the use of those models to support the business divisions to meet their goals. This is particularly where you do not want the business division trying to interpret a black box, you need someone explaining this to them.”

Privacy and open data

The question, as Morrin states, on anyone’s mind when discussing data use is the respect of privacy while enabling public organisations to become data driven. “What is crucial here is differential privacy,” he says. “You apply the maximum level of privacy to the data while being able to execute the purpose you want to use it for. Open data is useful for monitoring where your customers are in relation to the national picture for different sectors of employment based on survey results. If you want to do policy analysis, you need to go down a level into researcher data, for which we have a secure service, where the only data you can take out is anonymous data from tables. For operations, it is justifiable to exchange ‘raw’ data for defined purposes and that is done through the Data Sharing and Governance Act.”

Ireland is “very successful” with open data, which is a “big focus” for the CSO, Morrin says: “We publish statistics for about 20 government departments and agencies in an open format which meets the requirements of EU Directives. The next generation of open data allows the interrogation of the data, meaning that the tabulations can be ‘sliced and diced’, which will improve the usability of the data.”

From a technology point of view, CSO and many of our seconded statistical teams are moving towards open-source analysis products. “Open-source software and data analytics

“We believe in the intrinsic value of statistics; we are not using them as part of a communications plan and so we try to present them in an unvarnished but clear and understandable way... Our figures must reflect the lived reality of the people of Ireland, based on the highest quality standards.”

Paul Morrin, Assistant Director General, Central Statistics Office (CSO)

are not free; this has to be supported from technology teams and involves data engineering as well to ensure the data flows well to statisticians and other analysts, such as economists.”

Morrin says that the CSO has learned from recent crises such as the Russian invasion of Ukraine and Covid-19 and that the CSO has organised a team to deploy at short notice in response, who can also support short-term analytical needs in public bodies. He concludes: “Looking forward, we hope to service the broader public and civil service. Data as a product is our traditional role, but now we are embracing data as a service as well.

“We need to evolve and scale up in a targeted way; that is the goal. Innovation, collaborations, and partnerships are critical. We gain so much from the partnerships we have with various public bodies, and it is the way to go. We need to leverage each other’s strengths on this journey.”

The impact of NIS2 on Ireland's domain name industry



The European domain name sector is finding itself having to prepare for multiple new regulatory initiatives. Regulatory pressure in this sector is not new, but it is definitely increasing writes Declan McDermott, Internet Policy and Compliance Officer at .ie.

A brief glimpse at the horizon shows that there are multiple regulations coming, like the Critical Entities Directive (CER); the eIDAS 2.0 Regulation, covering e-certificates for authentication, and electronic seals for electronic documents; or new regulations affecting intellectual property rights for everything from crafts to spirits. The one law that everyone in the domain name industry is (or should be) talking about though, is NIS2.

What is NIS2?

NIS2 is an EU directive for a “high common level of cybersecurity across the Union”. It replaces the first Network and Information Systems Directive (hence the name NIS2). As an EU Directive, NIS2 sets out a goal that EU member states must achieve. However, member states are allowed to develop their own national laws in order to reach that goal. The goal in NIS2 is to have a “high common level” of cyber resilience and cybersecurity across the Union.

In Ireland, NIS2 will be transposed into national law by October 17 2024 through the upcoming National Cyber Security Bill. This was announced in the Government’s Autumn 2023 Legislative Programme, but no further details on the contents of the Bill have been released. Just like any other law, the Bill will need to go through the normal legislative procedures of the Oireachtas.

Does NIS2 apply to me?

If your business is operating in the internet domain name space, then it probably applies to you. Article 2 of

NIS2 explicitly names Top-Level Domain Registries (like the .ie registry), domain name service providers, and any “entity providing domain name registration services”. This includes domain name registrars and resellers – the companies that users purchase the rights of a .ie domain or a .com domain name from. Unlike other sectors and businesses affected by NIS2, there is no size cap for registrars and resellers. Any entity providing domain name registration services will be subject to NIS2, no matter how small.

What does NIS2 say, exactly?

For the domain name sector, there are a few parts of NIS2 that are most relevant:

- **Database of Registration Data (Article 28)** – Registries, registrars, and resellers alike will need to have a “dedicated database” of complete and accurate information of any registrant who signs up for a domain name. This database will need to include (at minimum) their name, email, phone number, and information for any administrative points of contact. This also means that registries and registrars will need to have verification processes.



- **Legitimate Access Seekers (Article 28)** – Registries and registrars will also need to disclose this registration information to “legitimate access seekers” within 72 hours, if the request is “lawful” and “duly substantiated”. This means that each request has to be examined carefully to make sure that it is lawful.
- **Cyber Security Risk Management (Article 21)** – Article 21 has a long list of cybersecurity measures that some entities have to implement. Registries like .ie will need to implement these measures as a designated “essential entity”. Registrars are not mentioned in Article 21 but may also be impacted because they are part of a registry's supply chain, and one of the measures is to ensure “supply chain security”.

More specific requirements will be clarified in a separate set of laws called implementing acts. These laws come from the European Commission, and will be passed by 17 October 2024.

The impacts and risks of NIS2

NIS2 presents an opportunity for Ireland to improve its cybersecurity resilience. But in the domain name industry, it risks bringing severe unintended consequences, particularly for small companies, if not transposed carefully in Ireland.

The requirement to have verification processes for registration data could overburden smaller registrars, especially if the information that must be verified is comprehensive or difficult to collect. Even the requirement to provide access to legitimate access seekers may overburden registrars if this term is defined too broadly. If the definition for legitimate access seekers goes beyond things like law enforcement, or government regulators, it will just make it harder and more expensive for companies to verify the access seeker's identity.

The cybersecurity measures under Article 21 may also impact smaller entities. We don't know yet what the requirement measures will be, or how they will affect smaller companies that are part of the supply chain for essential entities (like .ie). Consideration needs to be given to an entity's exposure to risk when prescribing these requirements. Those who will be within the scope of the NIS2 regulations need to have certainty without delay.



Recommendations

Because of the risk that NIS2, specifically Article 28, poses to the EU domain name sector, the Council of European National Top-Level Domain Registries (CENTR) has developed a series of recommendations for member states and the NIS Cooperation Group on how Article 28 should be implemented. It is recommended that national laws:

1. should be proportionate to a registry's and registrar's actual exposure to risk;
2. should allow for diverse approaches to how registration data is verified;
3. should allow for gradual implementation of any new systems or processes to apply to the millions of domains already registered;
4. should be flexible and allow for risk-based processes to be adopted;
5. should allow for hybrid models, where either the registry or registrar can do the required verification;
6. should be respectful of GDPR and the principle of data minimisation;
7. should be flexible for when verification is done;
8. should allow registries and registrars access to national databases and eID infrastructure if applicable; and,
9. should allow for self-identification of legal status (individual versus legal representative).

If member states and officials negotiating the implementing acts follow these recommendations, it would

promote harmonised verification processes across the Union and increase the prospects of NIS2 being implemented effectively and harmoniously.

Conclusion

At .ie we are committed to demonstrating leadership for our sector and providing good governance. This includes meeting all our regulatory requirements, including NIS2. It is not an easy task, but .ie has the benefit of an expert multi-stakeholder Policy Advisory Committee that ensures its policies and procedures are consensus-driven and will help .ie navigate the rough regulatory waters ahead. On this matter, .ie will also continue to advocate for its stakeholders to policymakers, and collaborate with cross-border partners and government officials to mitigate any possible adverse impacts on registrars and internet users.

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Open data: A five-year vision

Efforts to return Ireland to its previously held ranking of first for open data maturity across Europe's member states have been underpinned by a new five-year strategy.

Ireland has made massive strides in open data maturity, emphasised by its rise in EU rankings from 18th in 2017 to first from the three years from 2018 to 2020.

However, in recent years, a focus by other countries including France and Denmark on their own open data policies and practices has seen them leapfrog Ireland to the top title.

Published by the Department of Public Expenditure, NDP Delivery and Reform (DPENDPDR) in November 2023, the *Open Data Strategy for 2023-2027*

provides a framework for the actions the public service will take on open data over the next five years.

The strategy aims to create easy access to high-quality government data to promote trust and innovation across the public sector.

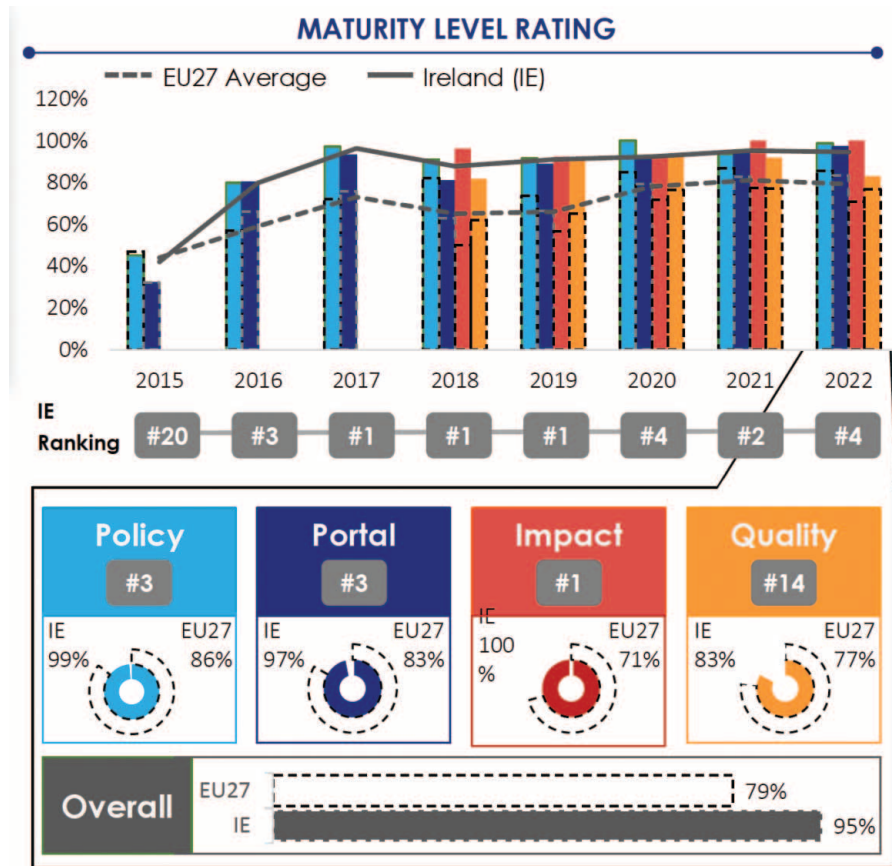
Ireland's first open data strategy was published in 2017, following the establishment of an Open Data Unit in the Department of Public Expenditure in 2015. The value of open data was highlighted following the outbreak of the pandemic, when governments,

businesses, organisations, and public services were able to share vital information quickly, efficiently, and ethically.

To date, Ireland's open data portal, where data is published under an open licence to be freely used, re-used, and redistributed, links to over 15,000 datasets from some 160 publishers.

The five-year strategy comprises a range of guiding goals for data publishers; data users; and the development of the Open Data platform.

Pillar 1	Pillar 2	Pillar 3
Publishers	Platform	Users
<ul style="list-style-type: none"> • standardised formats; • accessible; • quality data; and • responsive to user needs 	<ul style="list-style-type: none"> • a trusted source; • good data governance; • open communication; and • encouraging reuse 	<ul style="list-style-type: none"> • collaboration and partnership; • data visualisation; • engagement; • effective feedback



Source: © European Union.

The aim of the open data publishers pillar is to drive the production of high-value and high-quality datasets responsive to users' needs. Some of the key elements of the delivery of the goal include the facilitation of increased publication of relevant data not currently available to align with stakeholders' data needs.

In addition to seeking the education of a "critical mass" of public servants on effective data management strategies, the Department says that it wants to ensure the publication of high-quality and high-value datasets by building a community of practice through stakeholder engagement, training, and support.

Ultimately, the aim is to create greater clarity among publishers and potential publishers on what data they should make available as open data.

In relation to the open data platform pillar, aiming to drive a thriving open data ecosystem supported by a trusted open data platform responsive to stakeholders' needs, the Department says that it will update the platform to deliver better searches, graphics, and "an improved personalisation of experience through effective stakeholder collaboration and feedback loops".

Additionally, the Department says it will strengthen governance frameworks to meet privacy, security, and ethics standards, building trust in the system.

Finally, for users the aim is to shape and improve easy access to and use of trusted open data sources, with the Department saying it will build data visualisation capability within the portal to make open data more user friendly; create effective feedback loops with user groups and communities of interest; and facilitate collaborative partnerships "to strengthen users' involvement to co-create and increase open data use across sectors and in our communities".

Underpinning the publication of our open data is a technical framework that provides requirements for public bodies to ensure that published datasets meet clearly defined standards and are published in a consistent way that makes them more discoverable, accessible, and reusable.

Encouraging all public bodies to ensure implementation of the strategy as he commented on its launch, Paschal Donohoe TD, Minister for Public Expenditure says: "It is essential that they collaborate to deliver the vision for Ireland as a country where the economic, social, and democratic opportunities and benefits of open data are recognised and achieved by all stakeholders.

"I believe that the implementation of this strategy by all partners, under the leadership of the Open Data Governance Board, will deliver significant opportunities for Ireland over the next five years and beyond. I look forward to seeing the benefits of this for the people of Ireland."

It has never been this easy to run a fleet of microsites



The new LGD Microsites Platform offers organisations a way to manage unlimited sites easily and effectively, writes Annertech's Mark Conroy.

It has been the thing that many large organisations have been clamouring for, for years – one platform that will allow them to run a large number of microsites easily. The LGD Microsites Platform was developed because it was the most requested feature from the organisations that we work with on the LocalGov Drupal project.

We created an easy-to-use, game-changing platform that simplifies the once-arduous task of running many microsites simultaneously. Although it arose from local authority requirements, it has been designed in such a way that any organisation looking to run a fleet of microsites can use it.

It has been met with enthusiasm from those who have used it.

What is LGD?

LocalGov Drupal is a groundbreaking CMS developed by councils for councils. As its name indicates, LocalGov Drupal – or LGD for short – runs on the Drupal platform, offering an out-the-box website solution for local government websites.

The initial goal of the LGD project was to reduce costs by pooling resources, sharing the code, and creating the features that were needed by councils. The project has grown substantially as more local authorities became aware of it. There are currently 42 council

websites running on LGD, with many more in the pipeline.

It is important to note that both LocalGov Drupal and the LGD Microsites Platform are built using open-source software. This means it is available for free and does not lock organisations into expensive contracts or service providers.

LocalGov Drupal aligns perfectly with the Irish Government's 2030 ICT Strategy. Build to Share, which forms part of the strategy, aims to rationalise disparate systems – decreasing the ICT cost base and saving time.

What is the LGD Microsites Platform?

As councils signed up to the LGD platform more features were added to it. These included essential features as well as nice-to-haves. One of these was the stand-alone LGD Microsites Platform.

The platform, which was released late last year, was built in a very generic manner so it can be used by any organisation. It allows organisations to operate their entire fleet of microsites from one place, giving them oversight and control of their entire digital estate.

This platform is a stand-alone system and is independent of the software you may use for your main website.

Who can use this platform?

Although LocalGov Drupal was developed for councils, the LGD Microsite Platform will benefit anyone running more than one site, from national government departments to universities, political parties, multinational corporations, sporting bodies and non-profit organisations.

Some of the features

Unlimited microsities. One platform.

With Annertech's service offering of the LGD Microsites platform you can host as many sites as you want on all of our platforms. You are only restricted by the amount of disk space available on your plan and number of visits in aggregate to your sites.

Create a microsite in three steps

Yes. Just three steps. That is all it takes to create a microsite. When we say the platform is easy to use, we mean it.

Users and permissions

The platform has a progressive permissions system, which is flexible enough to let users edit only the microsities they are members of, so external users (those who are not employed by the organisation running the microsite) could work on an internal microsite if they are given permission to do so. This allows for collaboration or co-branding opportunities that would not otherwise be possible.

Customised designs per site

Are you creating a microsite for a specific event? Does it need to have its own branding? Or maybe it is a new department or club that is affiliated to a parent organisation, so its branding needs to be similar? Each microsite in your fleet can share the same design, or have its own, and you can use the user interface to change the design at will.

Conclusion

Both LGD and the LGD Microsites Platform are great examples of what can be done when organisations "build to share" – developing software that can then be used by others.

Not only does it decrease costs substantially but, because the code has already been written, sites can be built quickly. Plus, all the features have been thoroughly tested on real websites with real users, so you know they work.

As these platforms continue to grow and more features are added they offer savvy organisations the opportunity to do more with less.

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Why Annertech?

We are involved

Not only is Mark Conroy Annertech's Director of Development, but he is also the lead developer on the LGD Microsites Project and is on the board of the Open Digital Cooperative, the co-op behind LocalGov Drupal.

We are experienced

Annertech is a Drupal-specialist digital agency and has been creating ambitious digital experiences for our clients in Ireland, Europe and beyond since 2008. We have extensive experience with both complicated and simple websites and are in the perfect position to advise you on microsities setup and website solutions.

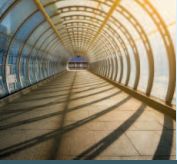
We make your life easier

We will take the pressure of hosting numerous sites off you with our Drupal-primed hosting solution that eliminates downtime and allows you to focus on your content and messaging.

CMS updates, security and continuous improvement will be done by our ring-fenced managed services team of 15 support engineers who solely look after our clients' websites.

We have multiple packages available for microsities hosting and support. Get in touch for more detail.

annertech



Creating a 'quantum literate society'

In November 2023, the Department of Further and Higher Education, Research, Innovation and Science, published *Quantum 2030*. This is Ireland's first national quantum technologies strategy and has the stated aim of "putting Ireland in a quantum super position".

With advances taking place in quantum research globally, there is scope for a considerable role in the technology, in the long term, to accelerate economic transformation. The Department of Further and Higher Education, Research, Innovation and Science has outlined a vision by 2030 to make Ireland an internationally competitive hub in quantum technologies at the forefront of scientific and engineering advances, through research, talent, collaboration, and innovation.

The strategy has been focused on five pillars, each of these will inform sectoral aspects of the advances being made in the quantum space.

Pillar one: Excellent fundamental and applied quantum research

The first pillar of the strategy focuses on supporting "excellent fundamental and applied quantum research". The Department states that the research carried out in forming the strategy underpins considerably advances which have taken place in quantum research in recent years globally.

"Ireland has a strong track record in fundamental and applied quantum research," the report states, adding that there is a need to "enhance this further" and "enable breakthrough discoveries and feed the pipeline in innovations and research".

Pillar two: Top science and engineering talent

The second pillar of the strategy is focused on enabling top science and engineering talent, which the Department describes as the "best way to move knowledge through our economy".

The strategy document states that the Government will develop a pipeline of “agile, innovative, and highly skilled” set of experts across the spectrum of quantum science, engineering, and technology. In tandem with this, it states that it will work to ensure that there is increased equality, diversity, and inclusion in the broad sector, which it describes as a “no-regret investment for the State”.

Pillar three: National and international collaboration

The third pillar is focused on national collaboration, as well as ensuring that Irish-based experts have the means to collaborate internationally in the field of quantum technologies. This can be done through forums which exist in organisations such as the OECD, the UN, and the European Union.

The report states: “As a small country, we need to build on the advantage of our interconnectedness while also contributing to, and learning from, international best practice.”

Pillar four: Innovation, entrepreneurship, and economic competitiveness

The fourth pillar reflects the economic philosophy of the government in office, with the need for entrepreneurship and economic competitiveness key to the growth of and maximising of the opportunities of the research which will take place into quantum technologies.

The Department states that this pillar seeks to “stimulate innovation and entrepreneurship in quantum technologies and related areas”, including in Irish-based small and medium sized enterprises. The strategy also aims to strengthen collaborative work between academia and business in order to foster this innovation.



“This strategy is the product of forward-looking, long-term and community-driven work to prepare Ireland for Quantum 2.0. It supports the broader national goal to equip Ireland with the workforce needed not only today but in years to come.”

Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris TD

Pillar five: Building awareness of quantum technologies and real-world benefits

The fifth and final pillar is an all-encompassing one, with the focus on societal shifts which make the technology more accessible and better understood to the general public.

Quantum technologies are still very new and are evolving at pace, and therefore the Government states its priority of ensuring that there is a mass awareness of quantum technology and the potential real-world benefits it can bring to the economy and jobs.

“The purpose of this pillar,” the Department says, “is to have a quantum-literate society that takes full advantage, for everyone, of the benefits quantum technology can bring.”

Upon launch of the strategy, Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris TD, said: “This strategy is the product of forward-looking, long-term, and community-driven work to prepare Ireland for Quantum 2.0. It supports the broader national goal to equip Ireland with the workforce needed not only today but in years to come.

“My department will continue to work with the quantum community in Ireland and internationally to implement this strategy.”



BUSINESS EXPENDITURE ON RESEARCH AND DEVELOPMENT (R&D) 2021-2022

These statistics have been compiled from figures released by the Central Statistics Office (CSO) in 2023.

Key findings

Research and development (R&D) expenditure in 2021 (**€3.88 billion**) was **19%** higher when compared with 2019 (**€3.26 billion**).



Current expenditure, comprising of labour costs and other current costs, accounted for **89%** (**€3.44 billion**) of all R&D expenditure in 2021.

Capital expenditure accounted for the remaining **11%** or **€440.1 million** of total R&D expenditure.

Irish-owned enterprises reported a **22%** increase in R&D spend between 2019 and 2021, up from **€963 million** to **€1.18 billion**.

Enterprises estimated an R&D spend of **€3.89 billion** for 2022, consisting of **90%** current expenditure and **10%** capital expenditure.

Business expenditure on research and development, 2017 and 2019-2022¹

	2017	2019	2020 ¹	2021	2022 ¹
Current expenditure	2,492,173	2,700,588	2,536,714	3,438,954	3,506,390
Capital expenditure	278,041	555,707	854,451	440,053	380,762
Total expenditure	2,770,214	3,256,295	3,391,165	3,879,007	3,887,152
of which Irish spend	858,849	962,985	977,845	1,177,296	1,143,697
Foreign spend	1,911,365	2,293,309	2,413,320	2,701,711	2,743,455

1. Expenditure for 2020 and 2022 estimated. Source: CSO

Share of R&D expenditure by enterprise size class

Large enterprises (250+ persons engaged) had the greatest share of R&D expenditure in 2021, accounting for **62.6%** (**€2.43 billion**) of all expenditure. This was an **increase** of **12.8%** or €275.1 million compared with 2019.

Small enterprises (<50 persons engaged) had a spend of **€635.8 million** in 2021, accounting for **16.4%** of all R&D expenditure.

Medium sized enterprises (50-249 persons engaged) spent **€814.7 million** on R&D during same period, representing **21.0%** of total R&D expenditure.



R&D expenditure by category of spend

Enterprises reported a spend of almost **€2.05 billion** on **labour** costs in 2021, accounting for **52.7%** of all R&D expenditure.

Other current costs, which include materials, supplies, equipment, and overheads associated with R&D accounted for **35.9%** (**€1.39 billion**) of total expenditure.

Capital expenditure accounted for the remaining **€440.1 million** or **11.3%** of R&D spend.



R&D expenditure by nationality of ownership

Foreign-owned enterprises spent **€2.70 billion** on R&D in 2021, accounting for **69.6%** of all R&D expenditure. This comprised of current expenditure of **€2.47 billion (91.6%)** and capital expenditure of **€228.2 million (8.4%)**.

In comparison, **Irish-owned** enterprises spent **€1.18 billion** on R&D, with current expenditure accounting for **82.0%** (**€965.5 million**) and capital expenditure accounting for the remaining **18.0%** (**€211.8 million**).

R&D expenditure by sector of activity



In 2021, R&D spending was highest in the **services** sector, accounting for **61.3%** (**€2.38 billion**) of all expenditure, while **manufacturing** accounted for the remaining **38.7%** (**€1.5 billion**).

Labour costs accounted for **69.6%** (**€1.46 billion**) of current expenditure for enterprises in the services sector in 2021, compared with **43.6%** (**€583.4 million**) for manufacturing enterprises.

In terms of R&D capital expenditure, **services** accounted for **62.8%** (**€276.3 million**), while **manufacturing** enterprises accounted for **37.2%** (**€163.7m**).

R&D expenditure by region



Total R&D spending in the eastern and midland region amounted to **€2.49 billion** in 2021, accounting for **64.3%** of all R&D expenditure.

- Southern region (**€1.05 billion** or **27.0%**)
- Northern and western region (**€338.1 million** or **8.7%**)

In comparison with capital expenditure, current expenditure accounted for the majority of R&D spending in each region.

In the northern and western region, **current expenditure** accounted for **95.9%** of all R&D expenditure

- **91.7%** for the southern region
- **86.4%** for the eastern and midland region.

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David Scanlon, Government Lead Ireland, **AWS**



Niall O'Donohoe, Managing Director, **ProCloud**



Rory Hopkins
Head of Information Systems
Kildare County Council

Key issues examined include:

- ✓ Designing public services for the digital age – **Digital by Default**;
- ✓ Digital public services for citizens' life events: **A user-centred design approach**;
- ✓ Business use cases for **Generative AI**;
- ✓ The **Build to Share** programme;
- ✓ Improving **the citizen experience**;
- ✓ Building **resilient** organisations – digital **security by design**;
- ✓ **Transforming** public services cloud-first;
- ✓ Supporting organisations to **embrace AI safely and ethically**;
- ✓ The **hybrid workforce**;
- ✓ **Connecting citizens** – ensuring **equitable and inclusive access**;
- ✓ **Emerging technologies**;
- ✓ Enabling **better healthcare outcomes**;
- ✓ Identifying **cyber threats** for public service organisations;
- ✓ **Smarter government**, driven by digital;
- ✓ **Best practice case studies** in digital delivery from outside Ireland.

Exhibition opportunities

There are a limited number of opportunities to become involved with this conference as an exhibitor. This is an excellent way for organisations to showcase their expertise and raise their profile with a key audience of senior decision makers from across Ireland's public services. This interactive conference provides an excellent opportunity for making contacts and networking. For further information on how your organisation can benefit contact **Olivia Ross** on **01 661 3755** or email

To register



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