

NORTHERN IRELAND GOVERNMENT

Making Lives Better

A Strategy for Digital
Transformation of
Public Services

2017-2021



Department of
Finance

An Roinn

Airgeadais

www.finance-ni.gov.uk

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Foreword



We all rely on technology in everyday life for banking, entertainment, employment, education, health, social media as well as accessing Government services. Digital services offer significant benefits for those who choose to use them in terms of convenience and simplicity; however technology continues to evolve at a rapid pace and to remain relevant we need to embrace new and emerging technologies to deliver trusted, efficient and cost effective public services that users want to use.

This Strategy sets out our roadmap to continue our work with citizens and partners to digitally transform Government. This provides real opportunities for us to radically rethink, redesign and rejuvenate how we do business and achieve Programme for Government outcomes. It brings new opportunities to improve how we engage with our citizens and stakeholders to develop better policies, deliver better services and to overhaul business processes. This is particularly important as we are facing a sustained period of major budgetary constraints and policy challenges.

However technology is only an enabler. Transformation involves changing how we work, how we organise ourselves and how we serve our citizens. The key to the success of this Strategy though will be people, not technology. Driving forward our ambitious vision requires strong leadership and a willingness of all those involved to move out of their comfort zones and work across traditional boundaries.

Although the Digital Transformation Service has led the development of this Strategy, and will continue to oversee its implementation, everyone in Government needs to work collaboratively to deliver the outcomes to deliver the benefits and make lives better for everyone. The Strategy also needs to be flexible and adaptable enough to allow us to evolve our plans as new opportunities arise.

Whilst we want everyone to become digital citizens, I realise that there are people who are not online and Government will not leave anyone behind. However we must continue to maximise use of digital technology to drive better services and lower delivery costs. Our measure of success will be that our online services will be used because they are so easy and convenient.

I look forward to seeing this Strategy develop and move forward as we continue on our digital journey to better connect our citizens and businesses as well as contribute towards building a digital society.

A handwritten signature in black ink, appearing to read 'H Widdis'.

Hugh Widdis, Department of Finance Permanent Secretary

Executive Summary

There are a number of key challenges facing Government over the next three years, including increasing citizens' expectations and continuing financial pressures. Digital technology provides us with a huge opportunity to re-think how our public services are better delivered and to work collaboratively to transform and revolutionise how we do business. The Programme for Government (PfG) includes a commitment to increasing use of online channels, with 70% of all citizen transactions with Government online by 2019. But this is not simply about creating websites or online forms. Technology is merely an enabler, the key to true transformation of Public Services lies with our people.

This Strategy sets out a Vision for transforming how Government works, which means that:

- People and businesses will be **enabled** to digitally engage with Government at a time and place that suits them.
- Government operations are digitally **transformed** to deliver effective and efficient public services; and
- Government aspires to **embrace** digital in everyday public services to deliver better outcomes.

Nine Strategic Enablers have been identified to support delivery of the Strategy.

- 1. Leadership** - Creating a digital change environment throughout organisations.
- 2. Digital Principles** - Establishing a common understanding for digital transformation delivery.
- 3. Digital Platform** - Providing a digital infrastructure to support and accelerate service improvement.
- 4. Delivery Capability** - Developing the optimum blend of digital skills to support delivery.
- 5. Digital Inclusion** - Giving citizens access, skills, motivation and trust to use digital services.
- 6. Innovation** - Creating the environment to enable services to be designed differently.
- 7. Procurement and Supply Chain** - Evolving procurement and sourcing practices to optimise delivery of digital initiatives.
- 8. Government Data** - Using, sharing and analysing data to design and deliver better public services.
- 9. Cyber Security/ Data Management** - Building citizen trust in digital public services.

Digital Transformation is a major change programme and needs to be owned by, and driven across all parts of Government. The Digital Transformation Strategy will align with a number of other key Government Strategies including the eHealth and Care Strategy for Northern Ireland and the forthcoming Industrial Strategy for Northern Ireland. A Digital Transformation Programme Board will be established to drive implementation of the Strategy. The local government and Health and Social Care sectors will be represented within the governance structure of the Digital Transformation Programme to ensure links with relevant Government Strategies. The Digital Leaders Forum and the niDirect User forum will be refined and reinvigorated to improve support for, and shaping of, the identified programme of work and ensure that all departmental strategies and action plans are aligned with the digital service Strategy. By 2021 the Strategy aims to deliver a number of outcomes, to improve access to, and quality of, public services including:

- A culture of innovation across the Public Sector;
- A skilled workforce and Digital Leaders who work across boundaries to deliver citizen focused solutions;
- Services are available everywhere to everyone who needs to use them;
- Public services are personalised putting our citizens in control with a range of integrated services available across the Public Sector;
- Public services are easier to use for businesses within the region, reducing red-tape and administration requirements;
- Digital Zones provide access to digital services for those without internet at home;
- Increased use of social media to communicate with service users and to encourage participation in society;
- Maximised use of common technologies and shared services; and
- Interaction both within and with the public sector will largely be made paperless.

1 Introduction

- 1.1** The purpose of the Digital Transformation Programme is to provide better public services in Northern Ireland. This Strategy will enable collaborative planning and design of public sector digital services to deliver Programme for Government outcomes through ‘increased usage of online channels to access public services’.
- 1.2** This Strategy has been informed by a Deloitte research paper, ‘Making lives better’¹, commissioned by the Digital Transformation Service (DTS), which provided recommendations based on a review of digital trends and government digital transformation programmes in other countries. In developing the Strategy we engaged across Government on both Deloitte’s findings and relevant recommendations of a Strategic Review of the public sector in Northern Ireland 2016, which was conducted by the Organisation for Economic Co-operation and Development’s (OECD)². We also reviewed progress in a number of jurisdictions including Estonia³ and Denmark⁴.

This Strategy has also been informed by, and will align with, a number of other key Government Strategies including the [eHealth and Care Strategy for Northern Ireland](#)⁵; which aims to deliver transformation and modernisation of health and social services through the increased use of digital technologies to support the delivery of health and care services between now and 2020. As well as helping the public to use online services, such as booking GP appointments and ordering repeat prescriptions, the Strategy sets out Government’s longer-term vision for improving the flow of information across the health and social care system by implementing a fully integrated Electronic Health and Care Record and creating a fully mobile workforce through remote working.

- 1.3** The Strategy will be underpinned by a Digital Transformation Programme Strategic Delivery Plan for digital service delivery 2017-2021 and ‘Delivering better Public Services through Technology’, the Northern Ireland Government ICT Strategy 2017-2021.

1 Deloitte - Making Lives Better - a future direction digital transformation of public services, July 2016.

2 OECD Strategic Review of the public sector in Northern Ireland

<https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/ni-uk-implementing-joined-up-governance-for-a-common-purpose.pdf>

3 https://e-estonia.com/wp-content/uploads/2014/04/Digital-Agenda-2020_Estonia_ENG.pdf

4 <https://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Digital-Strategy-2016to2020>

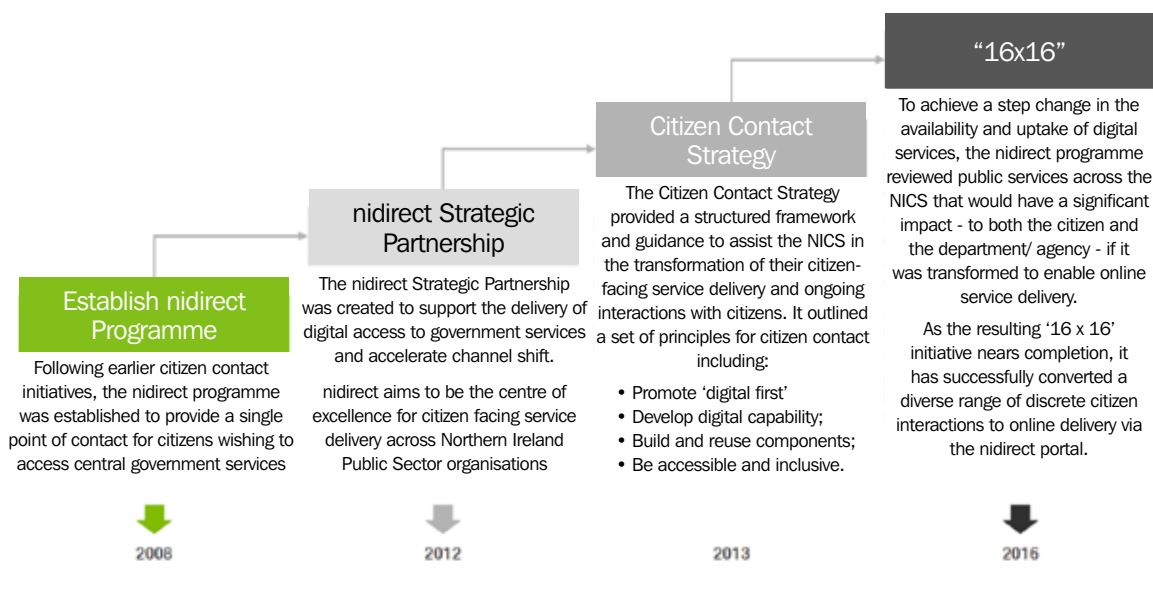
5 <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/interactive-ehealth-strategy.pdf>

6 <https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/ICT-Strategy-2017-2021.pdf>

2 Progress to Date

2.1 The Northern Ireland Civil Service (NICS) has already made considerable progress in transforming its services in a relatively short period of time by implementing a 'digital first' policy for Government services. This means that new or redesigned services must consider the online channel as the primary way for citizens to interact with that service. The key phases of the Digital Transformation Programme to date are set out in Figure 1.

Figure 1: Digital Transformation Programme Roadmap



2.2 To accelerate the reform programme a small dedicated team, Digital Transformation Service (DTS), was established in Enterprise Shared Services (ESS), in the Department of Finance (DoF) to work with departments to support their transformation programmes and help drive more services online. DTS supported departments in the development of an NICS Citizen Contact Strategy (CCS) and all Departments have strategic digital action plans in place which set out how they will drive forward the 'digital first' agenda across Government. The nidirect portal (www.nidirect.gov.uk) is the primary delivery vehicle to implement the Citizen Contact Strategy's recommendations supported by a multi-channel contact capability.

2.3 The service transformation strand has been largely implemented within the "16 by16" initiative (identification and delivery of 16 prioritised high volume or high impact services for transformation by 2016), with BT as a strategic delivery partners, which has successfully converted a diverse range of discrete citizen interactions to online delivery via the nidirect portal. www.nidirect.gov.uk⁷

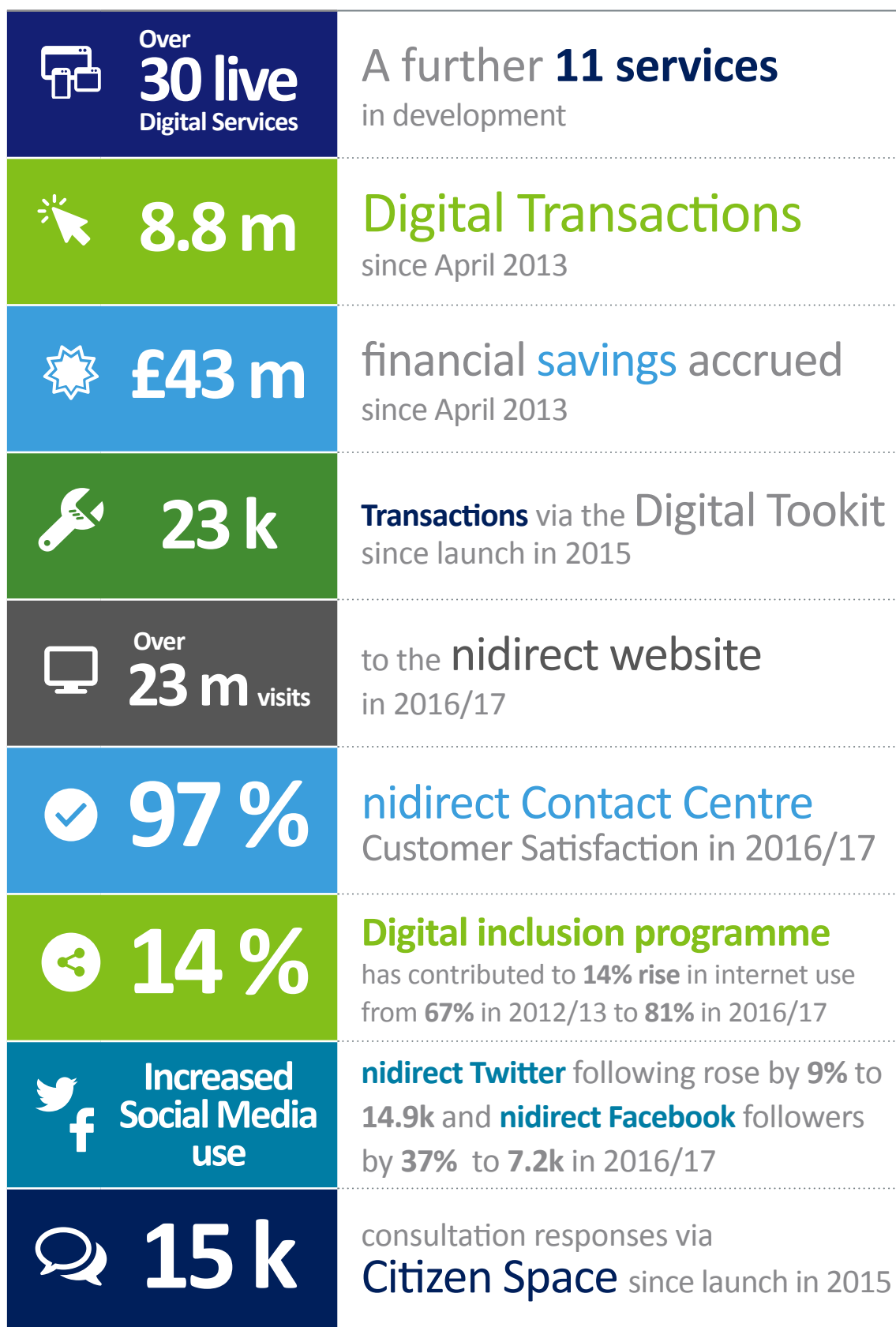
7 <http://www.agendani.com/ni-direct-a-digital-transformation-journey/>

- 2.4** Popular online services now available include: Applying for Motor Tax, Paying your Rates Bill, Applying for an Access NI certificate, Reporting a Road Fault, Purchasing an Ordnance Survey Map, Registering as a Landlord, Careers Service webchat and Ordering copies of birth, death, marriage and civil partnership certificates.
- 2.5** Services have been redesigned end to end to increase on-line take up and make access easy and intuitive by focusing on the citizen, and by placing them at the very heart of how Government services are designed.
- 2.6** Specific examples include:
- **Rates Collection** - the launch of an online system led to a 180% increase in online Rates payments in the first week of April 2016, compared to 2015.
 - **Single Farm Payment** - 99.5% of farmers chose to submit their Single Application Form online in 2017, an increase of 37.5% from 2016.
 - **Access NI Service** - Time taken to process an application reduced from 7-10 days to 1-2 days. 95% of all applications made using the online channel within the first 6 months.
 - **Applying for Motor Tax** - 767k digital transactions, 96% using digital channels.
- 2.7** DTS also developed a suite of reusable tools which allows business areas to quickly introduce and manage a range of online services. The **Digital Toolkit** includes:
- 'Find IT'** A tool that can use Land and Property Service (LPS) mapping and selected government data sets to allow people to find out where to find relevant government services such as their nearest MOT centre.
- 'Book IT'** Allows people to book appointments online.
- 'Report IT'** Allows people to report faults or problems online.
- 'Tell US'** Provides an online channel for enquiry, feedback or complaining about specific government services.
- 'Pay IT'** Provides an online payment channel for Government services.
- 'Rate IT'** Allows real time feedback on a user's experience of the online service.
- 'Invoice IT'** Provides online means of issuing invoices.
- Appeal IT'** Allows people to appeal a decision online.

We have also:

- Commenced, or continued development of, a number of additional transformation projects including: Personal Learning Record, 'MyDirect' Citizen Self Service Portal, 'Social Web', DVA Compliance, LSA Legal Aid, 'Tell Us Once', Secure Messaging and 'Reporting As A Service';
- Expanded the use and functionality of the Short Messaging (SMS) service including Notifications and Reminders;
- Gained a number of National and International innovation and IT Awards.

Figure 2: Summary of Progress at 31st March 2017



3 Why are we doing this?

- 3.1** The '16 by 16' programme has demonstrated that high quality citizen focused and responsive online services drives significant channel shift. This means service users move away from the traditional face to face, telephone and mail channels. Whilst we have undoubtedly made progress, it is very clear that there is much more to be done. Deloitte⁸ have identified three dimensions of public service delivery where digital can provide a positive influence as shown in Figure 3:

Figure 3: Dimensions of Service Delivery



Citizen Experience

Digital can enhance usability, facilitate user-friendly interactions, enable self-service, and drive citizen engagement / behaviour. It should be easy to transact with the Government, so easy in fact that people will choose to do so, i.e. people prefer digital by choice. Digital services are enabled by user-centric design, effective user experience, and engagement across platforms and devices.

Digital Enterprise

Digital can change the way organisations operate, share information, and make decisions. For Government this means ensuring that digital services are designed in the right way (seamless, smart and secure). Government services are digital by design.

8 [Deloitte-Making Lives Better - a future direction digital transformation of public services, July 2016](#)

New Business Models

Digital can transform and disrupt business models, which changes the way government interacts and partners with other stakeholders. As new ecosystems are created, new business models emerge.

Drivers for change in Northern Ireland

There are a number of factors that are driving the need for a continued step-change in the delivery of digital transformation in the Northern Ireland public sector, namely:

Rising citizen expectations

- 3.2** Our society is changing at a rapid pace, and public expectations continue to rise. Research indicates that around 82% of adults use the internet every day⁹. Ofcom (2016) reported that more than 8 in 10 households in Northern Ireland now have internet access, and 72% of adults own a smartphone¹⁰.
- 3.3** People are increasingly using digital technology in their daily lives for activities such as banking, booking holidays and ordering weekly shopping. People are often motivated to use public services because of a change or new event in their personal lives, such as a marriage, birth, job search, or retirement. They may need to renew a licence, book an appointment, purchase a certificate or find information. Research by Steria¹¹ found that 83% of people want to access public services via digital channels and they increasingly expect a user experience that is intuitive and similar to what they get from their bank, supermarket or utility company. 74% say the development of online services should remain a Government priority. The [eHealth and Care Strategy for Northern Ireland](#)¹² notes that technology now enables us to engage with and empower citizens at every stage of their health experience - maintaining health, receiving care and managing long-term conditions. For the individual patient, this can make treatment and care more personalised, and mean they can move out of hospital and be closer to home. For the population as a whole, it can equip us to predict and manage health problems better. Ultimately, using technology creatively can help us towards a health and care system that will be safer, more efficient and more sustainable for current and future generations.
- 3.4** The OECD report on Government digital strategies¹³ argues that setting up more open approaches to policymaking and public service delivery requires governments to re-organise themselves around user expectations, needs and associated requirements, rather than their own internal logic and needs. We therefore need to rethink how we organise and deliver public services. We need to increase the pace of transformation, making the best use of technology and innovative thinking to engage with and serve our customers, in ways, places and at times that meet their needs. Increasing the availability of services through online digital channels will increase the effectiveness of service delivery, reduce costs and enables resources to be redirected from back-office functions to frontline services.

9 https://www.instituteforgovernment.org.uk/sites/default/files/publications/IFGJ4942_Digital_Government_Report_10_16%20WEB%20%28a%29.pdf

10 https://www.ofcom.org.uk/_data/assets/pdf_file/0030/69555/CMR_Northern_Ireland_2016.pdf

11 <https://www.soprasteria.co.uk/newsroom/publication/citizen-view-digital-transformation-government>

12 <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/interactive-ehealth-strategy.pdf>

13 <http://www.oecd.org/gov/digital-government/Recommendation-digital-government-strategies.pdf>

Delivery of Programme for Government (PfG) Outcomes

- 3.5** The Digital Transformation Programme specifically contributes to the delivery of PfG commitments in respect of ‘increased use of online channels to access public services’. It also contributes to a number of OECD recommendations, particularly:
- Recommendation 16: Increase NI People’s access to online services.
 - Recommendation 18: Foster a culture change to strengthen citizens’ engagement and improve dialogue with key stakeholders, notably from the community and voluntary sectors.
 - Sub Recommendation 18.5: Leverage new forms of citizens’ engagement, such as social media or the Open Government data.
- 3.6** Delivery of an outcome focussed PfG will require Departments to work collectively to deliver services in collaboration with the public, private and voluntary sectors. There are real opportunities to join up service delivery through the use of digital zones, citizen hubs and data sharing agreements. Integration of new technologies such as social media and mobile technology can also help to open up how Government engages with people, communities and stakeholders and provides a channel to allow key stakeholders to actively shape political priorities, collaborate in the design of public services and participate in their delivery.
- 3.7** To deliver we must work in different ways. We must invest in developing digital skills, digital leadership capability and capacity to deliver in innovative new ways. There is a need to consider how the next generation of shared services can contribute to and support the delivery of outcomes for citizens. The Public Sector Shared Services Programme (PSSSP), Reform of Property Management and creation of a centralised NICS HR organisation provide opportunities for accelerating digital transformation to drive further changes in culture and behaviours.

Technology trends

- 3.8** The NICS ICT Strategy 2017-2021¹⁴ notes that digital transformation affords an opportunity to re-think how services might be better delivered in future. Further development of the Cloud, working mobility and an increasing use of social media are significant areas. Newer technologies such as Internet of things (IoT), along with Robotic Process Automation (RPA), 3D printing, artificial intelligence and Blockchain can be expected to have a major impact on our work. A summary of key technology trends is included in Appendix B.

State of the public finances

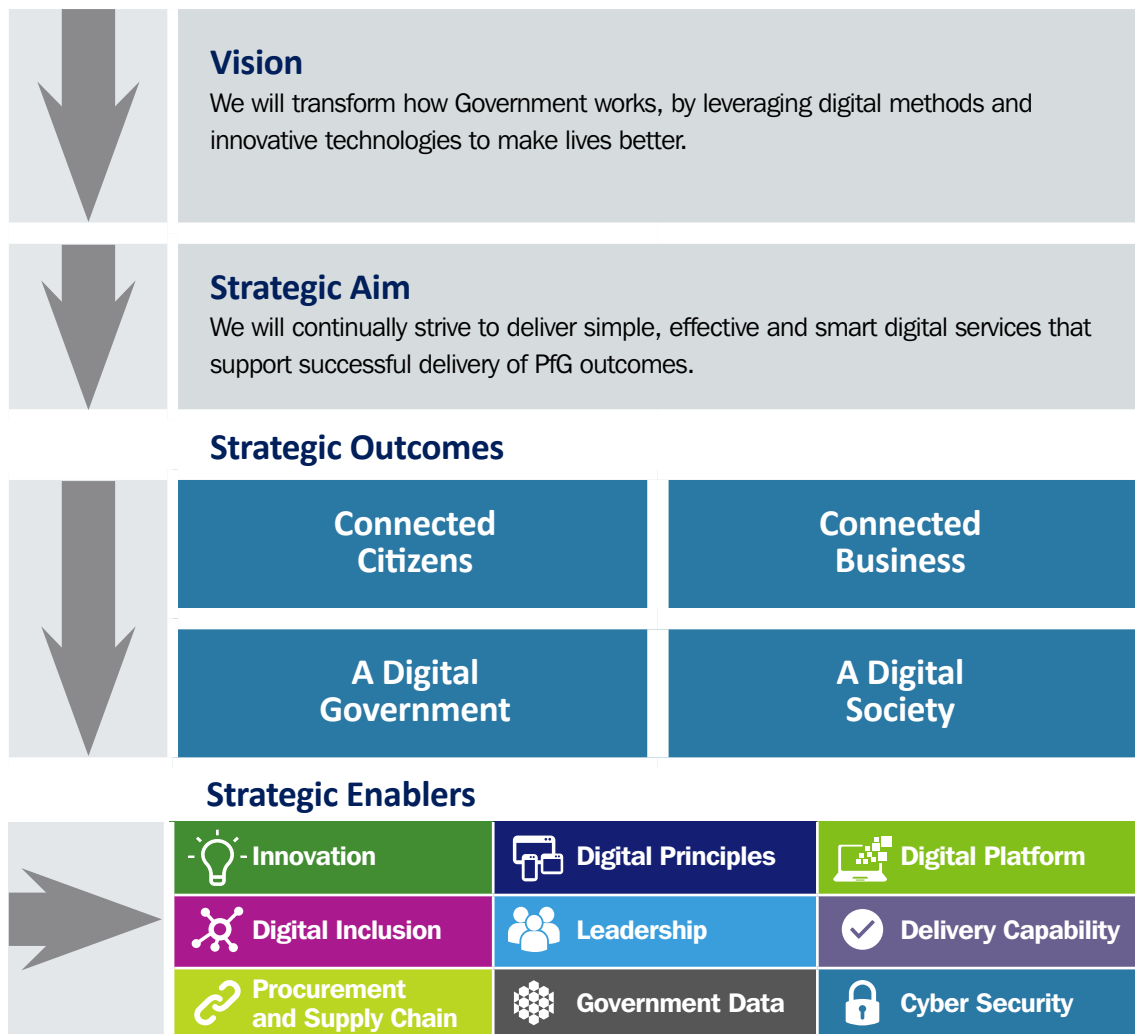
- 3.9** Some eight years after the global financial crisis, the UK continues to deal with the financial consequences. While economic recovery is underway, public sector austerity is expected to remain throughout the mandate of this UK Parliament. This has created unprecedented levels of cost pressures on the delivery of public services within NI and digital transformation is essential to bring efficiencies to the way we deliver services.

14 ‘Delivering Better Public Services through Technology’ The Northern Ireland Government ICT Strategy 2017-2021

4 The Vision, Strategic Aim and Outcomes

- 4.1** The Strategy Map shown in Figure 4 sets out a Vision for Digital Transformation, the Strategic Aim and Outcomes we seek to achieve and the Strategic Enablers that will support delivery of this ambitious Programme of reform. Government will maximise use of digital methods and innovative technologies to deliver PfG outcomes and will increase usage of online channels for people to access public services. The Digital Transformation Programme will aim to deliver 70% of all citizen transactions with Government online by 2019.

Figure 4: Digital Transformation Strategy Map 2017-2021



4.2 VISION

We will transform how Government works, by leveraging digital methods and innovative technologies to make lives better.

This means that:

- People and businesses will be **enabled** to digitally engage with Government at a time and place that suits them.
- Government operations are digitally **transformed** to deliver effective and efficient public services; and
- Government **aspires** to embrace digital in everyday public services to deliver better outcomes.

STRATEGIC AIM:

We will continually strive to deliver simple, effective and smart digital services that support successful delivery of PfG outcomes.

We aim to achieve this by:

- Enhancing and evolving the role of the Digital Transformation Service to work with the public sector as a trusted partner and supplier to support the transformation and delivery of digital shared services.
- Providing quality compliant services in a way that meets the needs and expectations of our customers;
- Innovating and investing in technology aligned to public sector needs;
- Demonstrating the value of investing in digital to support transformation within organisations and across traditional boundaries;
- Developing our people to lead the transformation and delivery of digital shared services.

This Strategy will be underpinned by 4 Digital Transformation Outcomes: to improve access to, and quality of, public service. These are outlined in Figure 5.

Figure 5: Digital Transformation Outcomes



Digital Outcomes

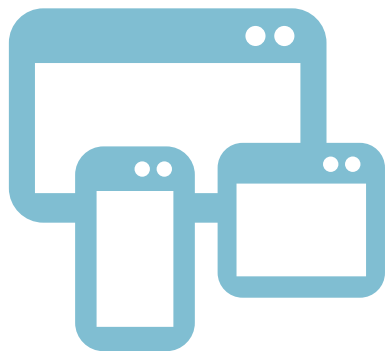
1. CONNECTED CITIZENS

This Outcome is focused on improving the citizen's experience of contacting Government through personalisation and automation by providing a single and personalised user experience for access to all public services. Through the Digital Transformation Programme, we will improve citizen interactions and engagement with Government through a range of Strategic interventions, including:

- Providing access to a greater and more comprehensive range of information on Public Services, through the nirect website, in a convenient and user friendly format;
- Involving users in development of services as they have first-hand experience of the complexity of dealing with Government and they are well-placed to identify how it can be improved;
- Providing a single and personalised user experience - mydirect - for citizen access to services across the entire public sector;
- Simplifying and streamlining citizen interaction with Government, for example by providing improved ability for citizens to 'Tell us once' about changes in their personal details;
- Piloting the use of Citizen Hubs and Digital Zones to support delivery of customer focussed services across a range of organisational boundaries; and
- Driving further channel shift in respect of inbound and outbound call handling; use of paper, printing and postage; and cash handling.

By doing this we will:

- Be able to tailor the experience for each citizen to provide their most relevant services to them in a convenient way; and
- Reduce the burden of citizen touch points and duplication within Public Services making it easier for the citizen to make best use of Public Services.



2. CONNECTED BUSINESS

This Outcome is focused on transforming the business's experience of interacting and transacting with Government through personalisation and automation by providing a personalised experience for business access to relevant Public Services.

Through the Digital Transformation Programme, we will improve business interactions with Government through a range of Strategic interventions, including:

- Providing access to a greater and more comprehensive range of relevant information on Public Services for businesses in a user friendly format;
- Providing access for businesses to Public Services through a single and personalised portal experience such as nidirect; and
- Reducing the administrative burden on businesses through digital enabled process simplification and streamlining.

By doing this we will:

- Tailor the business experience, providing the most relevant services to them in a convenient way;
- Reduce business touch points and duplication, lowering administrative burden and costs; and
- Enable more effective communication; and
- Support economic growth within the region.



3. A DIGITAL GOVERNMENT

This Outcome is focused on enabling a deep and radical digital transformation agenda with the “digital by design” principle at its heart. This will mean that transformation programmes completely re-think services to optimise for digital delivery.

All parts of Government have an important role to play in the delivery of digital government. Through the Digital Transformation Programme, we will improve service delivery by Government through a range of Strategic interventions, including:

- Designing, building and running services in new and exciting ways, and in a manner that puts citizen needs at the centre;
- Investing in our people to enable them to use digital capabilities and technologies to achieve better results from transformation programmes;
- Targeting resources on digital transformation initiatives that will make significant difference to the organisation(s) delivering the service; and
- Promoting and instilling a culture of innovation and collaboration throughout organisations.

By doing this we will:

- Significantly contribute to meeting government efficiency targets;
- Eliminate waste and make services more responsive to rapid change; and
- Re-invigorate our workforce through investing in new training and skills.



4. A DIGITAL SOCIETY

This Outcome is focused on placing leading-edge digital services at the heart of progress towards the Programme for Government outcomes. This means we will promote digital thinking within policy development and planning to deliver creative, digital and innovative public services.

Through the Digital Transformation Programme, we will achieve better outcomes for society through a range of Strategic interventions, including:

- Promoting digital thinking and collaboration within policy development and planning to place digital services at the forefront of supporting PfG outcome-based delivery;
- Supporting the digital inclusion initiatives for all our citizens allowing them to use Government services online;
- Adopting incentives to encourage citizens in our society to take advantage of leading edge digital services and technology; and
- Identifying opportunities to radically alter the citizen's experience of Public Services through digital technology.

By doing this we will:

- Use digital to provide world class Public Services that markedly improve how we address society's core challenges;
- Support digitally averse citizens in accessing Public Services, and to have access to all the economic, social, health and wellbeing benefits of being online.



5 Strategic Enablers

- 5.1** Digital transformation of Public Services in Northern Ireland will require an ambitious change delivery programme across Government. To be able to deliver effectively collaboratively and innovatively, we will need to build upon and evolve the digital environment in the Public Sector. This will require changes to approach, leadership, mandate, and capabilities.
- 5.2** This Strategy accepts Deloitte's Report proposal that the ability to create a truly digital environment will be dependent upon the ability of the Public Sector to successfully address a number of inter-linked strategic enablers¹⁵ as shown in Figure 6. Addressing these enablers will provide the foundation for ongoing digital transformation in the Public Sector.

Figure 6: Strategic Enablers



¹⁵ [Deloitte – Making Lives Better - a future direction digital transformation of public services July 2016](#)



1. Leadership

Creating a digital change environment throughout organisations

- (i) Digital transformation cannot be delivered by one area of Government alone. Every area of Government has a role to play in delivering this Strategy, in particular central and local Government need to work together. Strong leadership embedded throughout all organisations, underpinned with a clear mandate, will be central to the successful delivery of sustainable transformational change, by both seeing the opportunity to improve service delivery and continually improving and adapting the way we work to meet customer needs.
- (ii) In the digital era, the use of agile methods will continue to have a significant impact on the governance of change within the public sector. EY propose the leaders will need to develop new competencies and personal attributes to deliver effectively in a digital world¹⁶ (see Appendix C for further details).
- (iii) To achieve digital transformation, digital leaders need to manage competing priorities and buy into user-centred design, for example:
 - For business cases, leaders will need to be mindful of agile methods, allowing the business to pursue ideas, ‘fail fast’, and iterate to deliver the change required; and
 - Change programmes require strong leadership support to enable policy makers and operational resources to make decisions quickly and with authority.

The Digital Transformation Programme will address the need to exhibit leadership for change initiatives by:

- Establishing a Digital Transformation Board to provide leadership in respect of delivery of the Strategy;
- Reinvigorating the Digital Leaders Forum to drive transformation across the public sector;
- Working with senior management across the Public Sector to secure a mandate for ongoing digital transformation initiatives;
- Delivering an education programme across the key stakeholders within Public Sector to bring about an understanding of the core concepts in our approach and effect a change in traditional culture and approach;
- Promoting an agile ‘mind-set’ for the delivery of change to public services; and
- Supporting Digital Leaders in defining and developing the leadership skills required to achieve transformation.

¹⁶ [http://www.ey.com/Publication/w/LUAssets/EY-Sustaining-digital-leadership/\\$FILE/EY-Sustaining-digital-leadership.pdf](http://www.ey.com/Publication/w/LUAssets/EY-Sustaining-digital-leadership/$FILE/EY-Sustaining-digital-leadership.pdf)



2. Digital Principles

Establishing a common understanding for digital transformation delivery

- (i) Digital Principles allow organisations to define a shared understanding of ideas that provide a clear direction for the delivery of digital transformation initiatives.
- (ii) A common theme among Governments who are driving digital transformation, such as United Kingdom¹⁷ and Australia¹⁸, is that they have a clear set of Digital Principles which help to provide a framework for what they each wish to achieve.
- (iii) The eHealth and Care Strategy is underpinned by five key principles which will drive the development of citizen centred and technology enabled services:
 - Citizen centred: supporting the health and wellbeing of the population of Northern Ireland
 - Connectivity: across Northern Ireland, making information available in the right place, at the right time to support the best care, with the right safeguards in place.
 - Consistency: proven technologies, the way they are used and their roll-out should happen in one way across Northern Ireland.
 - Creativity: driving innovation and promoting best practice.
 - Cost effectiveness: investment must add value and support efficiency.
- (iv) To set a clear direction and help guide the delivery of the individual transformation programmes and projects within departments, we will define a set of Digital Principles, including:
 - Transformation should focus on the needs of our citizens, not on the needs of Government;
 - We will create new service models which make best use of digital technology and are ‘digital by design’;
 - We will understand our customers and build services in collaboration with them;
 - We will use iterative approaches to refine and improve our services;
 - We will make use of open-source technology components, including reusing government IP where possible; and
 - We will contribute to a common platform across Government.
- (v) The purpose of the principles, and associated delivery framework and guidance, will be to provide a common understanding between Public Sector organisations so that they can become self-sufficient in the delivery of transformation programmes.
- (vi) This will help to provide clear guidance for both Public Sector employees and potential suppliers in addition to promoting the utilisation of Government as a Platform services such as nidirect, Pay It and Book It, while reducing overheads and inefficiencies.

¹⁷ <https://www.gov.uk/design-principles>

¹⁸ <https://www.dta.gov.au/standard/>



3. Digital Platform

Providing a digital infrastructure to support and accelerate service improvement

- (i) The NICS ICT Strategy 2017-2021 sets out how Government will deliver the infrastructure to support digital transformation in the Public Sector. This can be enabled and accelerated by the continuing development of a common digital platform and digital infrastructure for public sector bodies to take advantage of.
- (ii) The digital platform for the Public Sector will consist of components, complementary to and interfacing with each other to deliver an enterprise layer supporting services for citizen and Government.

(a) Broadband infrastructure - the physical layer will be provided by ongoing improvements to broadband infrastructure, which will increase capacity, speed and access. From a digital inclusion perspective, internet access at public facilities, such as libraries, will increase accessibility'

(b) Interoperability - provides a federated, common infrastructure delivering components to support online public services, including:

- a. Secure messaging
- b. Document sharing
- c. Data sharing across organisations
- d. Notifications and reminders
- e. Identity assurance
- f. Standard APIs
- g. Electronic forms

(c) Common digital services - reusable digital tools such as Book It, Pay It and Report It as well as social media channels can be used to accelerate digital service delivery across the Public Sector. The Digital Transformation approach will be based on the utilisation of shared capabilities and services, such as nidirect, NIDA, IT Assist, Pay It and Book It, enabled by utility technology and web based infrastructure. We will work with public sector partners to maximise the utilisation of these platforms and will promote the benefits of this approach both to Government and to Citizens.

To support development of the digital platform, the Digital Transformation Programme will continue to:

- Identify target initiatives and objectives for digital transformation from across the Public Sector, assessing each against the digital outcomes defined in the Strategy;
- Support the improvement of ICT infrastructure and data management processes to allow data to be held and accessed more efficiently, facilitating initiatives such as 'Tell us once'; and
- Develop capability to accept digital and electronic signatures as standard, removing barriers to digital delivery of services and making it the channel of choice for citizens and businesses.



4. Delivery Capability

Developing the optimum blend of digital skills to support delivery

- (i) Achieving true digital transformation requires different skills: user research and analysis, technology, agile and iterative project management, user experience skills, financial modelling for digital business models and commercial acumen for a digital supply chain.
- (ii) Changing an organisation's workforce and skills is challenging, but changing culture is particularly hard. The critical barriers to digital adoption are about people not technology. We will work with stakeholders to help prepare for digital transformation by addressing digital skills gaps, and investing in resources and technologies that build a culture and capabilities to support the digital transition.
- (iii) Through the collaborative utilisation of Digital Principles and tailored delivery frameworks, as described within the Digital Principles theme, we will support organisations in being self-sufficient within their project and programme delivery while ensuring that these programmes and projects are aligned to achieving our vision and the outcomes defined within the PfG. This includes ensuring that the realisation of benefits and efficiencies are at the heart of our delivery approach.

We will:

- Strengthen centralised capacity for digital delivery;
- Supplement skills gaps in the short term by partnering;
- Promote the appropriate digital transformation roles, such as Programme and Project Management (agile and waterfall techniques), Business Analysts, and Product Owners, as key digital specialisms;
- Provide support to delivery partners and stakeholders in ensuring that a Service Owner and Service Management functions are in place to provide post-implementation support;
- Develop and promote both e-learning and classroom based learning activities for Digital skills and awareness within the Public Sector, to include basic digital skills, digital engagement / marketing and digital leadership; and
- Provide guidance and support on the application of the Digital Principles and Framework.



5. Digital Inclusion

Giving citizens access, skills, motivation and trust to use digital services

- (i) The case for digital transformation of Public Services is well understood. However, we must make sure that the pace of change does not leave people behind. We must always be mindful of how citizens interact with services, ensuring all citizens can access services regardless of what technology they have access to, and what digital skills and capabilities they have.
- (ii) If people are connected, capable and online, they can do it all easier and faster. If they are not, there is a real risk of isolating them from critical online Government and creating a digital disadvantage for people with no internet at home or no access to a computer. Appendix D sets out the challenge of getting online.

- (iv) The UK Government Digital Inclusion Strategy¹⁹ identified four main kinds of challenge that people face to going online:

- **access** - the ability to actually go online and connect to the internet;
- **skills** - the basic skills²⁰ needed to be able to use the internet;
- **motivation** - knowing the reasons why using the internet is a good thing; and
- **trust** - a fear of crime, or not knowing where to start to go online.

To make sure the internet is accessible to everyone we need to provide the skills, motivation and trust to go online, be digitally capable and to make the most of the internet.

- (v) Through Go ON NI <https://www.nidirect.gov.uk/campaigns/go-on-ni> and the Digital Inclusion Team, the Digital Transformation Programme will continue to build upon current initiatives to make digital services more inclusive, to make sure that everyone has opportunities to take full advantage of being online.

- (vi) We will establish a Digital Resilience Foundation Programme to:

- Develop indicators to measure success;
- Formalise strategic partnerships to enable the delivery of priority targeted interventions to support specific difficult to reach groups such as rural communities and the economically disadvantaged;
- Encourage Departments to embed digital inclusion in the policies and work programmes of all transformation programmes across Government;
- Provide support and assistance to innovative projects which have the potential to make a positive difference to priority groups by addressing issues in respect of access, skills, motivation and trust; and,
- Increase the number of publicly available and free internet access points via access 'hotspots' at facilities such as local libraries and public sector offices. We will put in place work programme to address the challenges that people face.

¹⁹ <https://www.gov.uk/government/publications/government-digital-inclusion-strategy/government-digital-inclusion-strategy>

²⁰ Basic Skills framework - addressing the 5 areas of digital capability <https://www.thetechpartnership.com/basic-digital-skills/basic-digital-skills-framework/>



6. Innovation

Creating the environment to enable services to be designed differently

- (i) Innovation is crucial to the ongoing success of organisations, including those responsible for the delivery of Public Services, and therefore must be a key component of transformation programmes to enable them to deliver against target outcomes.
- (ii) This is noted in the NI Innovation Strategy 2014-2025²¹.
- (ii) We will apply Digital Innovation within the Digital Transformation Programme by:
 - Encouraging Government and its partners to embrace technologies which disrupt traditional ways of doing things and alternative platforms (e.g. social media) to provide potential opportunities to truly transform public service delivery.
 - Making use of collaborative ‘Digital Transformation Labs’ that bring together the service delivery, policy, and technology functions within departments with the knowledge and expertise from DTS, Government partners and private sector organisations to think about service delivery;
 - Funding innovative initiatives that are focused on doing and have the potential to demonstrate how Public Service challenges can be overcome and delivered in a new manner and can provide early learning that can be used to shape the future transformation of services; and
 - Piloting the use of Citizen Hubs and Digital Zones to support delivery of customer focussed services across boundaries in Government.

21 <https://www.economy-ni.gov.uk/articles/northern-ireland-innovation-strategy>



7. Procurement and Supply Chain

Evolving procurement and sourcing practices to optimise delivery of digital initiatives

Procurement: There is widespread recognition across the Public Sector that procurement and commercial strategies need to accelerate to keep pace with the delivery of digital transformation. There is a need to consider how value for money over both the short and longer term is best demonstrated within a fast moving Agile development environment.

- (i) To support the culture change and Agile 'mind-set', the Digital Transformation Programme will work with Central Procurement Directorate and other relevant Centres of Procurement Expertise (COPEs) to continue to adapt the procurement process to support digital transformation projects while ensuring value for money.
- (ii) The Digital Transformation Programme will:
 - Support our stakeholders in ensuring that the procurement process being utilised is optimised for digital transformation initiatives;
 - Provide guidance and education to the wider Public Sector budget holders on the transformation process to facilitate better understanding; and
 - Promote the better utilisation of procurement frameworks to achieve improved digital outcomes and wider procurement benefits.

Supply Chain: To deliver digital transformation, Public Sector organisations need to access a diverse and innovative technology marketplace.

- (i) Given the current economic climate and need for austerity measures across the Public Sector it may not be viable nor desirable to recruit to develop and provide these capabilities in-house on a large scale. However, there is still a need for the Public Sector to identify and obtain sufficient resources and capabilities in order to deliver the required digital transformation.
- (ii) The Digital Transformation Programme will:
 - Blend in-house capabilities with external specialist skillsets and contractors to deliver this digital transformation and provide digital services. This approach can leverage the wider marketplace and promote competitiveness, ensuring value for money while also harnessing the innovation and leading skillsets available within the private sector; and
 - Utilise the various procurement frameworks available to leverage the wider supply chain to balance the economy and facilitate better knowledge transfer and skill development through use of wider digital specialists. This approach will be underpinned by having procurement specialists and Service Owners who can more effectively monitor work done by vendors.



8. Government Data

Using, sharing and analysing data to design and deliver better public services

The Open Data Strategy for Northern Ireland²² commitment to an 'open by default' culture has been endorsed by both the NI Executive & PSG. The intention is to embed the publishing of open data as part of normal internal data management processes, for open data to become established as 'business as usual'.

- (i) Data has been referred to as the new raw material of the twenty-first century, and like any other raw material, it needs investment to locate, extract and refine it before it yields value. Through the power of analytics, data creates opportunities for Government to make more robust decisions, uncover cost savings, improve service delivery and get to know our citizens better.
- (ii) To enable digital transformation of Public Services, open data has the potential to be exploited further, including increased sharing of data across Government and the greater use of data to support policy making.
- (iii) To achieve the vision for digital transformation in the Public Sector, and support the outcomes that will be defined in the PfG, robust and defined open data processes are required. These should build upon the Open Data Strategy for Northern Ireland 2015-18, adding in the concept of managing the handling, sharing and use of data within Government and ensuring external/citizen access to the data is the key driver for open data release.
- (iv) Management of the handling, sharing and use of data within and across government needs to be enhanced and streamlined while adhering to Data Protection Regulations.

The Digital Transformation Programme will:

- Improve our ICT infrastructure and data management and sharing processes;
- Simplify arrangements for data storage and sharing by aiming to hold and store data only once and to access and share data more efficiently;
- Support Departments and Agencies to build authoritative lists of information (registers) that are held once across Government, and ensure that they are kept up to date and secured appropriately;
- Make better use of data and analytics in internal decision-making;
- Use data analytics to help to identify where Government could better deliver services to citizens;
- Work in partnership with CPD to ensure that new systems and services have provision for the release of open data;
- Encourage reuse of data across multiple Government agencies and business areas;

²² <https://www.finance-ni.gov.uk/publications/open-data-strategy-northern-ireland-2015-2018>

- Contribute towards leveraging new forms of citizen engagement using Government Data;
- Use data to support citizen processes, including 'Tell-Us Once';
- Support business areas in maintaining currency and relevance of service information; and
- Design and implement a 'hub' which links technical services and data repositories which departments can subscribe to in support of their own applications²³.

This will all contribute to use of alternative delivery platforms, including social media, to provide more targeted public services and the efficient use of common digital services, such as 'Tell us'.

23 The DTS Datashare Hub will be designed as technical environment which supports online and other line of business services on a subscription basis



9. Cyber Security/ Data Management

Building citizen trust in digital public services

Cyber security and effective data management are central to achieving trust with citizens in meeting their demand for digital services.

- (i) Cyber security is focused on privacy and the ability to protect information from unauthorised access. The exponential growth of connected devices and networks has meant that the focus on cyber security has become a necessity, and is no longer considered to be an “add on”.
- (ii) Recent research reveals that cyber attacks on the Government sector doubled in 2016, increasing to 14% from 7% of all cyber security attacks in 2015²⁴. The report cites a number of worldwide geo-political events which could have contributed to the global government sector being a cyber security attack target including the new political stances across the globe.
- (iii) Whilst the rapid change in technology has provided opportunities for Government, it has fundamentally changed the way privacy is viewed and has created complex security issues, including:
 - Cyber crime culture is growing more rapidly than cyber security, therefore we must find new ways of addressing cyber security that are scalable, efficient and most importantly, resilient.
 - Having an appropriate privacy strategy enables Government to transform; if our end-users trust us they will reward us with service adoption / uptake; and
 - EU Data Legislation impacts all organisations, so understanding the privacy landscape is more crucial than ever. With the increasing amount of data an organisation needs to process, managed by expertise that is hard to find and retain, knowing and responding to business critical threats calls for a different approach.

Within the Digital Transformation Programme, we will:

- Ensure that our policy and implementation adopts and reflects the best practice that the National Cyber Security Centre (NCSC) has and continues to provide.
- Develop a regional Cyber Security Strategy that is effective and efficient, scalable and resilient and which will allow us to capture the trust and confidence of our consumers; and
- Promote Cyber Security Awareness across public sector bodies to ensure that it is considered as part of digital transformation initiatives.

6 Delivery of the Strategy

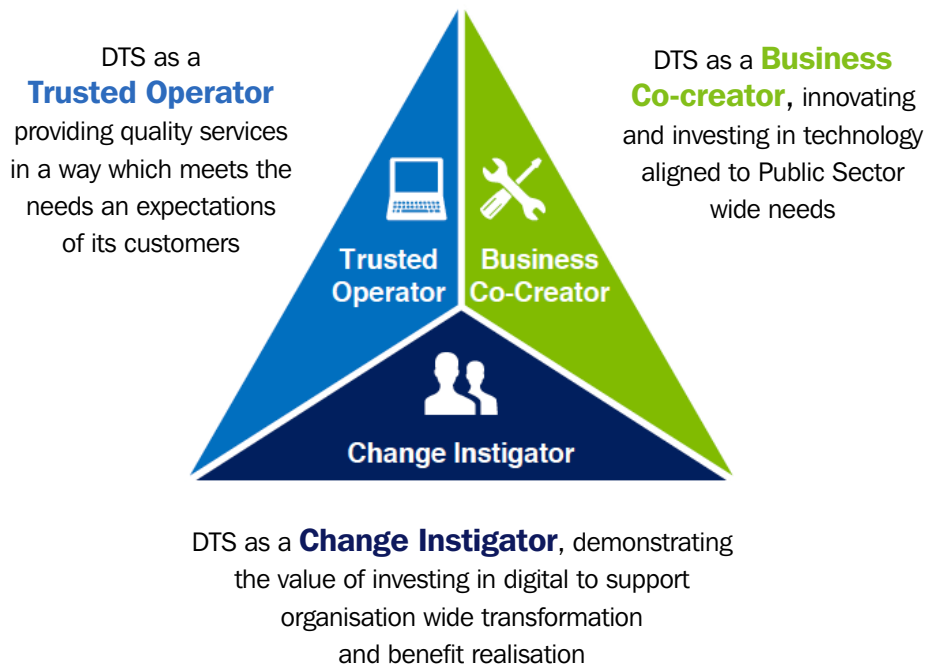
- 6.1** Delivery of this Strategy directly supports PfG outcomes and the NICS Board will provide strategic leadership to ensure that resources and efforts are targeted at transformation programmes which make the greatest impact across Government.

THE EVOLVING ROLE OF DTS IN DRIVING DIGITAL TRANSFORMATION

- 6.2** DTS are the digital transformation advocates within the Public Sector, helping to deliver the digital vision on behalf of Government. The role of DTS in delivering the Strategy will be to:
- Work with Departments and Agencies to design and deliver services to meet user needs;
 - Provide centralised support, expertise, assurance, and a cross cutting perspective to help them to collectively deliver digital transformation of public services to achieve better outcomes for people and businesses in Northern Ireland; and
 - Add value through insight and best practice gleaned from strategic partners and countries (including Estonia and Canada) and collaborate to deliver joint solutions via membership of networks such as the British-Irish Council; and
 - Liaise with other sectors to ensure that the Digital Transformation Strategy continues to align with, and support delivery of key Government strategies.
- 6.3** DTS has considerable experience (including valuable insights and lessons learned) of working with Departments and organisations to improve a focus on citizens by mapping the customer journey, using 'Personas' (fictional characters to describe customer behaviour, attitude, motivation and goal) and user testing. This retains the focus on the customer perspective, it ensures that the service meets the majority of customer needs, including visitors to the nidirect website, contact centre, and customers who require assisted digital support to use the service.

DTS will play three key roles at the heart of digital transformation initiatives, as set out in Figure 7:

Figure 7: The role of DTS



- As a **Trusted Operator** DTS provide reusable cross cutting services and initiatives to Government such as Pay It, Book It and Tell us Once. DTS are also a single and reliable point of contact with citizens via the nirect service which will become more personalised and simple to use.
- As a **Business Co-creator** DTS work with our Public Sector partners to bring a digital perspective in helping to address their most important challenges. DTS facilitate this through digital transformation discovery exercises and by ensuring that they are at the forefront of Digital thinking within the Public Sector.
- As a **Change Instigator** DTS work with Public Sector partners and wider stakeholders to identify areas where efficiencies can be made through digital transformation. DTS work in collaboration with partners and stakeholders to ensure that all parties are aware of, and focused on, the potential benefits and value that can be achieved within each project.
- DTS will play all three roles to deliver outcomes, adapting to the situation at hand, delivering reliable reusable services alongside innovative and responsive change. They will support the NICS Board to deliver on the digital agenda in Government by advising, and challenging where necessary to ensure consistency, quality and value for money in the delivery of digital solutions across the Public Sector. As part of this role DTS will monitor and communicate changes in digital service behaviours and capabilities across programme stakeholders. This will include monitoring technology changes, political and social changes (e.g. regulations on data privacy) and user behaviour to identify issues and opportunities which need to be taken into account as the programme of work develops. Further details on the roles and responsibilities of DTS are set out in Appendix E.

Digital Transformation Programme Governance Arrangements

- 6.4** All Departments will be required to review their Strategies and Action Plans to reflect the commitments made in this Strategy. The following governance arrangements will be put in place to support implementation and further details are included at Appendix F.
- A **Digital Transformation Programme Board** will be established to support the Programme Director to deliver the Programme Outcomes. The Board will ensure that the implementation of the Strategy is focused and consistent, with clear links to the planning and implementation of Programme for Government priorities. The Board will be chaired at Permanent Secretary level and membership will be drawn from the SCS in Departments and relevant business areas including Central Procurement Directorate, NICS HR and DoF Supply. The local government and Health and Social Care sectors will be represented within the governance structure of the Digital Transformation Programme to support both central and local government ownership of the delivery of the vision and commitments of the Digital Transformation Strategy and to ensure appropriate linkages with other key Strategies which support delivery of PfG outcomes.
 - The **Digital Leaders Forum** will be reinvigorated, with a stronger remit to drive a culture of digital transformation both within their Department and across traditional boundaries.
 - The **DTS** remit will be enhanced to directly support implementation of PfG outcomes by delivering an annual work programme agreed by the Digital Transformation Programme Board
 - The role and membership of the **nidirect User Forum** will be reviewed to ensure that it represents both service developers / owners and users interests.

Benefits and Outcomes

- 6.5** The Strategy seeks to put in place a framework to allow Government to demonstrate how the transformation of these services is making a real difference to how people transact with Government. Because technology is advancing at an ever increasing pace, this Strategy and associated Roadmap and Service Delivery Plan cannot remain fixed. They will need to be constantly under review to ensure that the Strategy is delivering the overall aim and outcomes.
- 6.6** Digital Transformation is a major change programme and needs to be owned by, and driven across, all parts of Government. Delivery of this Strategy will require investment of financial and staff resources to deliver sustainable outcomes. While financial resources provided through the Budget may at times significantly influence the pace at which we are able to deliver, the strategic direction set by the PfG remains unchanged. The challenge will be to manage the allocation of resources across competing priorities, ensuring that progress on delivery of the Digital Transformation Strategy is maintained. The Digital Transformation Project Board will play a key role in prioritising strategic projects in line with PfG commitments and securing funding for those which have the potential to create real and lasting change across Government. Individual departments will be expected to consider transformation opportunities at an early stage of policy development and to consider how they may work collaboratively to deliver.

Funding will be made available to enable DTS to deliver priority cross-cutting transformation projects and to pilot the use of innovative new technologies which have the potential to transform how Government does business. DTS will also continue to deliver digital inclusion programmes such as the Go ON NI programme and will provide consultancy advice and support to Departments and Agencies to assist them in developing Business Cases to secure funding for individual transformation programmes.

Because of its evolving nature, benefits will be measured across short, medium and long term taking account of direct cost savings, service improvements and achievement of outcomes.

- 6.7** Successful delivery of this strategy will provide a range of other opportunities and benefits including increased customer and staff satisfaction in terms of accessibility of services and ease of use; increased use of and more online services and comprehensive and improved information for evidence based decision making to inform policy and service delivery. In addition there will be shorter response times and reduced waiting times, improved arrangements for community engagement, reduced staff time spent on administration of services and increased digital literacy.

The Strategy will be implemented through a Strategic Delivery Plan, and annual reports will set out progress on the implementation of the Strategy and Service Delivery Plan. Regular updates will be reported to the Digital Transformation Programme Board and NICS Board.

- 6.8** By 2021 the Strategy aims to deliver:

- A culture of innovation across the public sector;
- A skilled workforce and Digital Leaders who work across boundaries to deliver citizen focused solutions;
- Services are available everywhere to everyone who needs to use them;
- Dedicated Citizen Hubs and Digital Zones providing a wide range of Government services within the community and access to digital services for those without internet at home;
- Enhanced use of social media platforms to communicate and engage with service users and to encourage participation in society;
- Maximised use of common technologies and shared services; and
- Interaction both within and with the Public Sector will largely be made paperless (certificates, permits etc will be digital).

Conclusion

- 6.9** It is very clear that there are some things we do at the moment to deliver our services, which we could and should do very differently in the future. We know that there are a number of key challenges facing Government over the next three years, including increasing citizens' expectations and continuing financial pressures. However this presents a huge opportunity to work collaboratively to deliver in new ways and digital technology is a key enabler in this regard. It creates a renewed sense of urgency and offers us the opportunity to transform and revolutionise how we do business right across Government so we can deliver a better and more trusted and connected service for our customers both citizens and businesses, and in a more modern and efficient way for our taxpayers. This Strategy provides a roadmap for our digital journey and this is summarised in Appendix G.
- 6.10** This journey sets a clear direction in respect of the leadership and programme of work to drive the organisational and cultural change required to truly transform our business, which we must do if we are to deliver on PFG's ambitious vision for the future as well as driving towards a truly digital society.
- 6.11** Mid-term evaluation of the Strategy and its outcomes will be carried out in 2019 and the Strategy and Delivery Plan updated to take account of any changes to the landscape and outcomes achieved thus far.

A APPENDIX A: Glossary

16 by 16	a programme to deliver 16 prioritised high volume or high impact services for transformation by 2016
Accessni	online criminal records check for Northern Ireland citizens
Agile	a method of project management especially for IT development characterised by short phases of work and frequent reassessment / adaptation
API	Application Programming Interface - set of functions and procedures that allow the creation of applications which access the features or data of an operating system, application, or other service
CPD	Central Procurement Directorate
Blockchain	a digital ledger in which transactions are recorded chronologically and publicly
BIC	British-Irish Council - its purpose is to further promote positive, practical relationships among the people of the islands; and provide a forum for consultation and co-operation
BT	British Telecom - the strategic delivery partner for the Digital Transformation Programme
CCS	Citizen Contact Strategy
Citizen Hub	a central location where citizens can transact and engage with Government on a range of front line digital and non digital services incorporating traditional counter services
Citizen Space	online portal for all Government digital consultations
Cloud	a network of remote servers hosted on the internet to store, manage, and process data, rather than a local server or a personal computer
COPE	Centres of Procurement Expertise
Digital ToolKit	sometimes referred to as a 'Multi Tenant Platform' this is suite of reusable tools which allows business areas to quickly introduce and manage a range of self service on line features such as find it, tell us, report it, etc

Digital Zones	A Digital Zone is a designated area in a Government or non Government site, such as a bank or retail store, that people can visit to improve their basic digital skills. They would be staffed by volunteer digital champions from the local area who help people with their specific digital questions or issues
DoF	Department of Finance
DoF Supply	Department of Finance - Supply Division is responsible for recommending the allocation of, and controlling and reporting on, the resources made available to Northern Ireland Departments to optimise the distribution of public expenditure towards achieving the administration's strategic objectives and priorities for Northern Ireland
DTS	Digital Transformation Service
DVA	Driver and Vehicle Agency
Enterprise Shared Services	Enterprise Shared Services (ESS) brings together responsibility for Human Resource (HR), Information Technology (IT), Finance and Digital Services along with the management of Properties into a single directorate within the Department of Finance (DOF)
EY	Ernst and Young are a global professional services firm
Go ON NI	an indirect support initiative and brand which highlights the benefits of being online as well as brings together initiatives, places and tools to help and encourage off-liners to become internet beginners
ICT	Information and Communication Technology
IGIB	Information Governance and Innovation Board
Interoperability	the ability of computer systems or software to communicate, exchange data, and use the information that has been exchanged
IoT	Internet of things (interconnection via the internet of computing devices embedded in everyday objects)
IP	Intellectual property
IT Assist	provider of a common IT infrastructure service to NICS Departments, Agencies and Non Departmental Public Bodies
LSA	Legal Services Agency
mydirect	a citizen self-service and personalised portal currently being developed by the Digital Transformation Service for rapid deployment across Government
NCSC	National Cyber Security Centre

NICS	Northern Ireland Civil Service
NICS Board	An Executive Board made up of Permanent Secretaries of the NICS chaired by the Head of the NICS
NICS HR	The centralised human resource function for the Northern Ireland Civil Service
NIDA	NICS Identity Assurance
nidirect (web portal)	nidirect is the official government web portal for Northern Ireland citizens and brings together information from Government departments and agencies
nidirect (programme)	programme of work in relation to digitisation and transformation of Government services and delivered by a Strategic Partnership consisting of Government working with a private sector partner (BT)
nidirect User Forum	a forum of service users which are engaged with the Digital Transformation Programme on both live and services in development
Digital Notifications	Texts, notifications or email alerts sent by an online service to a user - they can take the place of paper based communications and reminders
OECD	Organisation for Economic Co-operation and Development
Ofcom	communications regulator in the UK for regulation of TV, radio and video-on-demand sectors, fixed-line telecoms, mobiles and postal services, plus the airwaves over which wireless devices operate
ONS	Office of National Statistics
Open by default	All government data be published openly by default, as outlined in the Open data strategy for Northern Ireland 2015-2018 , while recognising that there are legitimate reasons why some data cannot be released (see open data entry above)
Open Data	Open data is data that anyone can access, use or share. Governments release non-personal data to enables small businesses, citizens and researchers to develop resources which make crucial improvements to communities.
PfG	Programme for Government
PLR	the Personal Learning Record is an online, whole life statement of achievement in learning, training, work experience, etc.
Product Owner	provide support to delivery partners and stakeholders in ensuring that a Service Owner and Service Management functions are in place to provide post-implementation support
PSSSP	Public Sector Shared Services Programme

Ransomware	malicious software designed to block access to a computer system until a sum of money is paid
Reform of Property Management	Centralising of the management of NICS office accommodation by transferring the office properties and management responsibility from Departments and their arm's-length bodies into a shared service
Reporting As A Service	A common reporting feature provided as an enterprise service across Government
RPA	Robotic Process Automation
Secure Messaging	a means to conduct secure communications between individuals and Government in line with industry regulations/standards
Single Farm Payment	(SFP) The main agricultural subsidy scheme in the European Union and replaced most of the individual Common Agricultural Policy (CAP) subsidy payments previously made to farmers
Single Application Form	(SAF) The Single Application Form is the claim form for area based schemes and to receive the single farm payment a single application form must be completed (see entry immediately above)
SMS	Short Message Service text messaging component of internet and mobile telephony systems
Social Web	a platform combined with digital content marketing to personalise an online experience that through a 'social' dimension, allowing Government to reach and engage with existing communities of enthusiasts or interested citizens
Service owner	Senior responsible officer for a Government to citizen transaction
Service management	Management of an IT operational service including planning, design, control, maintenance and support
Tell Us Once	digital method allowing citizen to self serve change of personal details - this would automatically distribute to all relevant Government services

B APPENDIX B: Technology Trends

Deloitte²⁵ Tech Trends 2017

IT unbounded

The boundaries surrounding IT are fading as technology becomes integral to almost every business function and relationship.

Dark analytics

Advances in computer vision and pattern recognition allow companies to unlock insights from unstructured data that until now, have been lost in the dark.

Machine intelligence

Machine intelligence is helping companies make better decisions, embed complex analytics into customer and employee interactions, and - with adoption of bots and robotic process automation - automate increasingly difficult tasks.

Mixed reality

Companies are exploring more immersive and engaging ways to combine the physical world and digital systems, creating a new, mixed reality that's more natural, intuitive and intelligent.

Inevitable architecture

Open standards, cloud-first designs and loosely coupled architectures are the norm in start-ups. Now, large enterprises have similar ambitions.

Everything-as-a-service

Traditional business products are being reimagined as services as organisations modernise core systems and the technology stack.

Blockchain: Trust economy

Blockchain is emerging as the mainstay for digital identities in the emerging trust economy.

Exponentials watch list

Advances in disruption forces like synthetic biology, energy storage, quantum computing, and nanotech could exponentially transform the way we do business.

25 https://www2.deloitte.com/uk/en/pages/technology/articles/tech-trends.html?icid=nav2_tech-trends

Gartner's perspective on emerging technology trends for Government²⁶

Digital Workplace

CIOs and IT leaders are building more social, mobile accessible and information-driven work environment.

Scalable Interoperability

Provides government agencies with the ability to seamlessly exchange and use information, regardless of the architectures and technologies the systems have been built on, in a manner that is invisible to the user.

Open any Data

Agencies are determining which open datasets to make public in order to increase data exchange within government, improve agency performance and programme outcomes, and justify the cost of open data programmes.

Citizen e-ID

Provides a trusted domain for how public services can be accessed by citizens on any advice or through any online channel.

Edge Analytics

Allows Government agencies to move beyond traditional reaction dashboards and tools to process models where analytics take place at the point of service to inform context-based decisions.

Multichannel Citizen Engagement

Government IT organisations are adopting agile procurement, agile infrastructure and agile development processes to mirror citizen behaviour in a multichannel environment.

Hybrid Cloud (and IT)

Offers government CIOs a new operating model that supports their IT department's ability to combine and manage on-premises infrastructure or internal private cloud with external cloud based environments simultaneously.

Digital Government Platforms

Governments are becoming more open and horizontally aware across adjacent domains in order to integrate and coordinate services to improve outcomes and citizen experiences.

Internet of Things

IoT is enabling new levels of flexibility, reliability and collaboration for supporting the digital transformation of service strategies, regardless of data ownership, to create, collect, analyse and make decisions based on different data types and sources.

Web scale IT

Enables the rapid and scalable development and delivery of web-based IT services that leverage agile, lean and continuous delivery principles could exponentially transform the way we do business.

²⁶ Source: Gartner emerging trends for Government, 3 June 2015

PWC White Paper - Building a Digital Government²⁷

Technology

- 1 **Think digital first:** Adopting a digital-first mindset lies at the heart of faster and better service delivery.
- 2 **Mobile now:** Citizens want to use their mobile devices to access services on the go.
- 3 **Omni channel:** Governments can provide services seamlessly across channels.
- 4 **Leveraging citizen data:** Governments can use data to give citizens the right services as they need them.

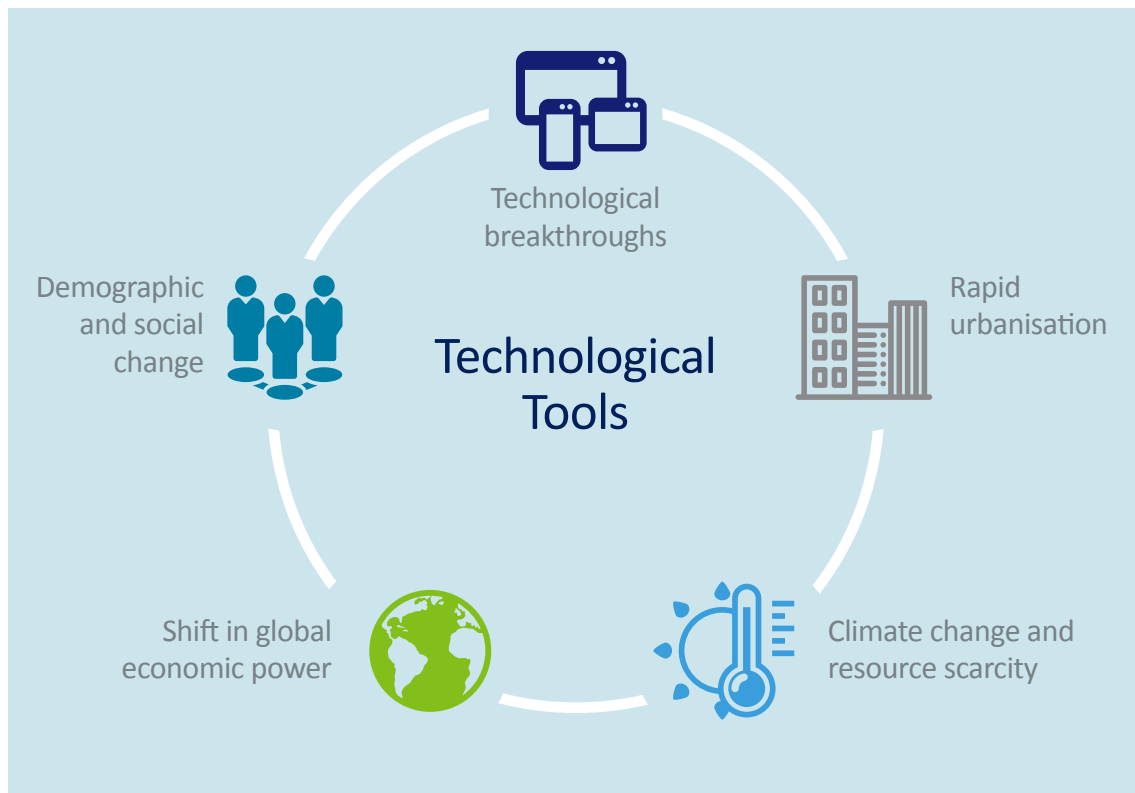
Trust

- 5 **Tracking and transparency:** Access to information and application status will increase transparency and improve service delivery.
- 6 **Cyber security:** Protecting critical data and reassuring citizens that information is secure are critical.

Transformation

- 7 **Efficiency is key:** Operational excellence and efficiency are important, supported by the right technological tools.

PWC Megatrends: 5 Global shifts changing the way we live and do business



27 <http://www.pwc.com/ca/en/public-sector-government/publications/pwc-2016-digital-government-trends.pdf>

The Autonomous Customer 2015: On-hold for Intelligent Customer Service²⁸

'Making it easy' is the top priority

Busy Autonomous customers put a lot of effort into dealing with organisations and prefer easy interactions

Fragvergence extends (fragmentation / convergence)

More devices used in more ways, new options for customer engagement

Omni-channel spiralling

Adding functionality will drive customer journey ease, reduce high buyer drop-out and improve engagement

Video culture continues to grow

As video is more part of our daily lives, there is growing interest in video-chat for customer service and engagement

Supported self-service is a necessity

Consumers like self-service, but when it goes wrong they want live help there and then

Social media service used by 1 in 4 consumers

Consumers want more customer service by social media and less marketing

Security concerns over the phone

Publicity around ID &V and card payment security means new solutions are needed to drive engagement

On-hold for Intelligent Customer Service

Autonomous Customers want organisations to improve service delivery going forward

²⁸ The Autonomous Customer 2015: On-hold for Intelligent Customer Service - Global, British Telecommunications plc & Avaya Inc, 2015

C APPENDIX C: Leadership Competencies for the Digital Age

Leadership Competencies for the Digital Age		Personal Attributes for the Digital Age	
High	← Ease of Development	→	Low
<p>Digital Acumen Demonstrating a sophisticated understanding of technology-centred opportunities, challenges and consequences</p> <p>Leading Virtual Teams Using appropriate technologies and interpersonal styles to form, develop, guide and motivate remote, dispersed or physically separated teams to attain successful outcomes and business objectives</p> <p>Empathy Establishing and sustaining relationships by identifying, understanding, appreciating, valuing and sharing the feelings of others</p>	<p>Hyper-collaboration Working collaboratively with a diverse community of others in person, or virtually, to build a consensus and take collective action to achieve common goals</p> <p>Inspiration Motivating increased employee energy and effort by communicating a compelling view of the organisation's or team's purpose</p> <p>Cultural Curiosity Gathering information and seeking out experiences to learn more about people from other cultures and backgrounds</p>	<p>Intellectual Curiosity Voracious desire to invest time and energy in constant learning</p> <p>Determination Assuming responsibility for difficult tasks/ assignments that contain a high degree of complexity, ambiguity and uncertainty</p> <p>Connectivity Understanding the connections to form a more holistic view of opportunities, challenges, and/or problems and the best ways to leverage people and ideas</p> <p>Integration Assembling and combining information from local sources to form a well-rounded understanding of complex problems or situations that includes both a short-term and long-term perspective</p>	<p>360° Thinking Identifying and understanding problems and opportunities by gathering, analysing and interpreting quantitative and qualitative information from multiple sources</p> <p>Adaptability Maintaining effectiveness when experiencing major changes in work responsibilities or the environment</p> <p>Alignment Using effective communication, involvement, and persuasion behaviours to help teams, groups and organisations synchronise their purpose</p>
Capability can be readily developed through training, coaching and skill practice		Capability reflects a deeply ingrained habit, or style, and is not easily developed	

D APPENDIX D: The Challenge of Getting Online

32.2% NI population	378,000 people	aged 16-65 have low or no digital skills (to send & receive email, use a search engine, browse the internet and complete online forms)
38% Small businesses	49% Charities	lack basic digital skills
66% Small businesses	78% Sole traders	don't invest any money in digital skills
11% Rural premises		will still receive less than 2Mb/s download speeds after December 2017
140,000 NI households		of 700,000 households in NI about 140,000 do not have internet at home
18.8% NI population		have never used the internet* compared to 14.4% in Wales, 12.8% in Scotland, and 11.4% in the UK.

* Those who do not use the internet include: **53% of people over 65; 40% of disabled people; 39% of those who are not economically active.** Those living in rural communities - **about 11% of rural premises will still struggle with low connection speeds** (under 2mb/s) after the current superfast rollout programme.

Sources: Internet users in the UK: 2016, ONS, Northern Ireland Omnibus Survey, 2016, NISRA, Basic Digital Skills: UK Report 2015, doteveryone, Experian Mosaic.

E APPENDIX E:

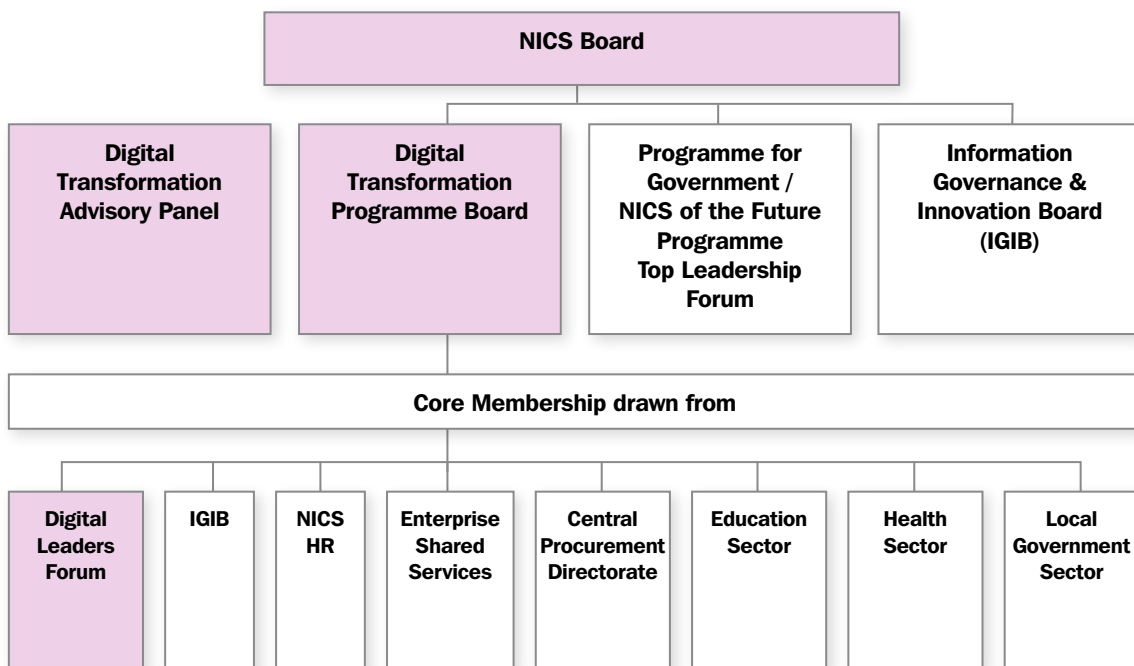
Digital Transformation Service Role

DTS's role will be to support the implementation of the PfG outcomes by:

- Helping public sector stakeholders in developing a clear view of how digital can transform end-to-end business operations;
- Developing digital principles to support the development of good digital services;
- Promoting the ability to work across silos to design citizen centred experiences,
- Working with departments to maximise opportunities for benefit realisation and provide a cross cutting perspective to ensure value for money and address issues of consistency and potential duplication;
- Providing support for business case production including indicative costs and the identification of potential benefits arising from channel shift and service uptake;
- Creating and embedding use of shared platforms, open standards and reusable components to increase the pace of transformation across Government;
- Creating consistent and easy to navigate user experiences that are inclusive and encourage channel shift.
- Acting as a centre of digital expertise to enable innovative new approaches to be tested and prototyped;
- Supporting the development of increased digital capability within government by identifying, developing, and sharing best practice as well as addressing issues of consistency and preventing potential duplication;
- Enabling the workforce with the skills and tools necessary for digital development;
- Adopting an approach to IT expenditure and development based on agile principles; and
- Helping business understand what is possible through digital transformation;
- Liaising with DSS colleagues and ensuring smooth transition to support and maintenance of live services to ensure that transformation takes account of wider ICT policy and strategy considerations; and
- Representing Northern Ireland's interests on the UK Digital Leaders Network, chaired by Government Digital Service.

F APPENDIX F: Digital Transformation Programme Governance

Digital Strategy - Programme Governance



Digital Transformation Programme Board

A Digital Transformation Programme Board will be established to provide strategic leadership to drive digital transformation and delivery of a 'Digital First' culture by NICS Departments and Agencies. It will comprise of Grade 3 Digital Champions from across the NICS and a number of external experts / independent members. The Board will be led by a Permanent Secretary and it will report to the NICS Board. It will be responsible for:

- Ownership, promotion and sponsoring the delivery of the vision and commitments of the Digital Transformation Strategy to support achievement of PfG outcomes and OECD recommendations;
- Providing strategic leadership of the digital transformation agenda including identification, scoping and promoting key opportunities for collaborative transformation across Government;

- Ensuring delivery of projects and programmes that together make the greatest contribution to delivering the vision and to support departments and agencies to work collaboratively to deliver benefits;
- Providing active leadership, individually and collectively, in order to promote business led transformational change at all levels to deliver at pace;
- Reviewing progress and ability to deliver against the commitments made in the Digital Transformation Strategy;
- Providing guidance to the SRO to support delivery of the PfG Indicator to ‘improve online access to Government Services’;
- Supporting and challenging DTS, government departments and agencies to ensure that user needs remain at the forefront of strategy and delivery;
- Acting as advocates for the NI Direct brand, and providing opportunities to drive NI Direct brand into wider parts of the NI Public Sector;
- Ensuring clear ownership and commitment at the appropriate senior level occurs within all departments;
- Ensuring all potential opportunities for digital transformation are made visible;
- Championing the delivery of the Digital Resilience Foundation Programme to improve digital literacy in Northern Ireland;
- Sharing experiences and knowledge to demonstrate how the NICS and wider public sector can continue to improve public services and understand the benefits that can be achieved;
- Ensuring that best practice and lessons from the Cabinet Office, and other relevant Government digital initiatives in both UK and other jurisdictions are considered for NICS; and
- Developing knowledge, skills and capacity for digital transformation across Government.

Digital Transformation Advisory Panel

The Digital Transformation Advisory Panel will be responsible for:

- Supporting and advising DTS to ensure that user needs remain at the forefront of strategy and delivery;
- Providing external advice to ensure that the latest thinking is being applied to transformation opportunities; and;
- Providing links and liaison to areas of best practice.

Departmental Digital Leaders

Departmental Digital Leaders for each Department will be nominated by the NICS Board. They will be SCS and will be expected to:










- Provide strong and visionary leadership in line with their organisation's Digital Strategy and Transformation Plans;
- Drive progress within their department and promote and encourage take-up of digital first with stakeholders and customers;
- Create innovative, highly effective and efficient Digital Teams to lead and deliver digital transformation and culture change across their organisation;
- Champion a strong culture of continuous learning and knowledge sharing between specialists and generalists within their Department;
- Ensure that their Departmental Digital Strategy and associated Delivery Plans are embedded in the department's business planning process;
- Work with Digital Transformation Service to develop appropriate benchmarks and indicators to demonstrate the changing outcomes 'on the ground' through delivery of their Departmental Digital Strategy and Delivery Plans;
- Work with Communications Directors and senior policy makers, to enable the collaboration needed to deliver digital strategies;
- Act as the single point of contact for their department's strategic interactions with the Digital Transformation Board and Digital Transformation Service. This also includes co-ordinating digital activity for departmental agencies, arms length bodies and non-departmental public bodies; and
- Actively participate in Digital Leaders Forum meetings, sharing good practice and learning.

Digital Leaders Forum

The NI Digital Leaders Forum will oversee sustainable and innovative digital transformation across public services provided by each of the NICS Departments, agencies and other associated bodies in line with the Executive's PfG commitments. The Forum will be chaired by a Grade 3 member of the Programme Board. Digital Leaders will be SCS and should sit on the Management Board of their organisation. The Forum will:

- Support the Digital Transformation Programme Board in its role of providing strategic leadership on the development and delivery of a Digital First approach across the NICS;
- Ensure the online user experience of Government is consistent and high quality;
- Support opportunities for joint working across Government on the digital agenda;
- Oversee implementation of the Digital Strategy and Action Plan and ensure that Departmental Strategies and Plans compliment delivery of the overall Strategy and support achievement of PfG indicators;
- Promote new ways of working across government;
- Oversee the development of cross departmental ssisted Digital Strategies and policies;
- Review technological and service developments offering the potential to improve service delivery;
- Contribute to the strategic development of online services, including new transactions and editorial content;
- Review developments and best practice within the Government Digital Service (GDS) in GB and other jurisdictions and align these with the position in Northern Ireland;
- Share learning and good practice in the delivery of the digital agenda across Government;
- Champion improvements to digital literacy across Government, drawing on external expertise where appropriate;
- Drive a culture which supports transformation by ensuring that staff receive appropriate training and development to help them undertake new roles.
- Digital Leaders will be senior level and should sit on the Management Board of their respective organisation.

G APPENDIX G: Digital Transformation Roadmap

	Short Term	Medium Term	Long Term	
Leadership 	Establish Programme Management Board	Support Programme Management Board		
	Establish Digital Leaders Forum	Support Digital Leaders Forum		
	Develop & deliver Digital Leaders training	Conduct study visits to learn from exemplars		
Digital Principles 	Develop digital principles framework	Promote digital principles across digital projects		
	Develop digital standards	Agree and promote digital standards across all digital projects		
Digital Platform 	Develop Social Web and consultation platforms	On board new services to engage with citizens and replace central hub for consultation		
	Grow & develop Tool Kit functionality	Increase number of services using reusable tool kit elements to accelerate channel shift		
	grow mydirect citizen portal functionality	Design and delivery of secure messaging, document store subscriptions and notifications		
	Pilot new technology	Implement new technologies which enhance the citizen experience		
Delivery Capability 	Review NICS digital skills	Enhance digital skills provision and promote digital skills training and awareness		
	Review DTS capacity and capabilities	Enhance internal skills mix / roll out scoping and discovery processes		
	Consider building expertise through interchange/ secondment	Build skills transfer into all digital procurements		
	Develop approach for a Digital Academy	Implement recommendations		
Digital Inclusion 	Formalise partnerships	Promote and champion assisted digital within all transactional projects		
	Conduct baseline research	Provide support for innovative programmes targeted at priority groups		
Innovation 	Baseline/ benchmark with GDS and international partners	Engage and collaborate with partners on digital transformation		
	Develop approach to innovation in major projects	Contribute to pilot of citizen hubs and digital zones		
Procurement and Supply Chain 	Carry out a feasibility study and PPE for replacement framework	Business case and procurement	Award of contracts	Contract management
	Procure services to support Digital Programme and nidirect call centre	Develop exit plan for current contract	Conduct PPE for end of Strategic Contract	
Government Data 	Establish role of data analyst in DTS	Conduct a programme of data analytic work to develop government services		
	Establish a register approach to managing authoritative data	Identify and develop list of priority registers		
	Foster culture of open data	Progress actions in Open Data Strategy and provision of data sets for the OD portal and review		
Cyber Security 	Build trust in online Government services	Promote security to Service Owners and personal safety online		
	Develop approach to accreditation of services	Support development of proportionate accreditation for all digital tools across NICS		

