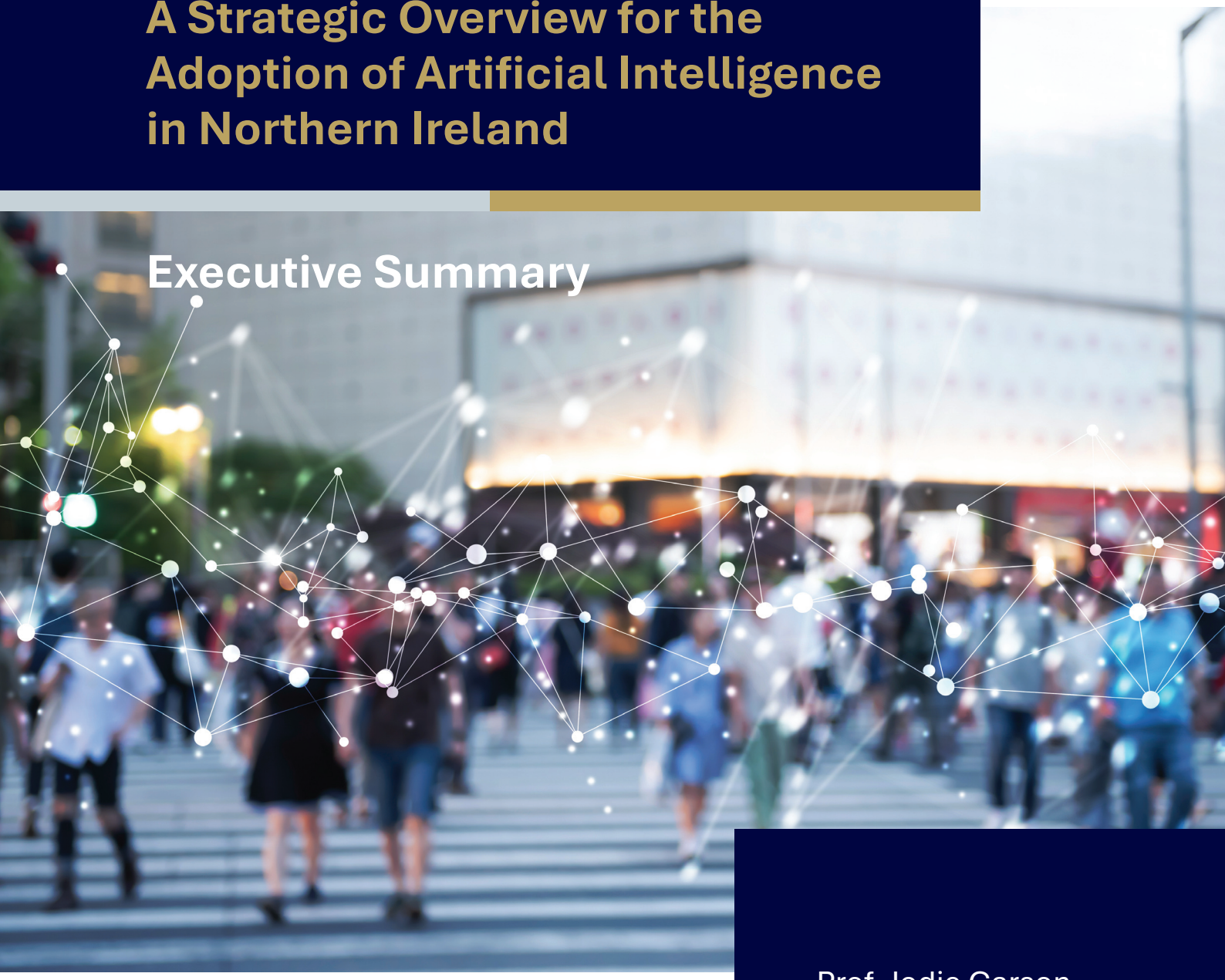
Ulster University | Strategic Policy Unit

AI for NI: A Strategic Overview for the Adoption of Artificial Intelligence in Northern Ireland

Executive Summary



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About SPU

The Ulster University Strategic Policy Unit undertakes strategic policy analysis and engages with academia and policymakers, to inform policy and drive outcomes for the betterment of Northern Ireland and beyond.

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This report reflects the views of its authors and does not necessarily reflect the institutional position of Ulster University.

Five Key Messages

1 AI has the potential to improve the outlook for the Northern Ireland economy, including in relation to our productivity gap, but this will require strategic and cohesive policymaking.

2 AI should be regarded as a key component of public service transformation, contributing to better outcomes and more sustainable public finances in NI.

3 AI adoption must be placed within a strong governance framework, with strong ethics, a commitment to open communication with citizens and full transparency, in order to maximise trust and mitigate risks.

4 AI will drive demand for new technical skills and also bring wider changes to the overall skills landscape, thereby requiring a particular policy focus on the evolution of all levels of education and training.

5 NI should have its own AI strategy that builds on the Executive's current work on AI in the public sector, addresses key strategic drivers and policy dependencies, and actively drives desirable socio-economic outcomes.

Executive Summary

Introduction

This paper considers the emerging technological revolution that is Artificial Intelligence (AI) from a strategic policy perspective for Northern Ireland. **It is not intended to be technical in nature, but rather to identify the potential socio-economic and strategic significance of AI for this region, and to draw out policy recommendations across a range of areas.**

The very nature of this issue is such that it **must be addressed at a strategic overarching level**, acknowledging policy dependencies across a range of departments.

The Executive's current Task and Finish Group, under the leadership of the Chief Science and Technology Adviser Professor Helen McCarthy, is driving forward significant progress regarding the use of AI in the public sector. However, there is a strong case for the development of a wider AI Strategy for Northern Ireland.

It is acknowledged that AI is a fast-moving area and policymaking is doubly challenging in such an environment. **However, this technology presents both opportunities and risks – the outcomes of which are largely dependent on existing and emerging Government policy.**

The Executive must act urgently across a range of areas, from the use of AI in schools, to plans for datacentres, energy and climate implications, issues regarding trust and ethics, and the scope for skills and labour market structures to be disrupted.

Given the pace with which AI is developing, **delay or inaction across any of these policy areas is likely to have deep and lasting consequences for Northern Ireland.** As challenging as it is, it will be easier and more efficient to seek to mitigate against unintended consequences than to seek to repair thereafter.

Equally, we must act quickly to grasp the opportunities associated with AI. **NI is well placed to do so given factors such as relative size and skills base. In turn, this technology could have important consequences for productivity levels in this region.**

SPU intends that this paper contributes to cohesive and cross-cutting dialogue around the issue of AI within policymaking in NI. **We outline the significance of this technology and the particular socio-economic context that pertains to NI, review comparative practices in other regions and in relation to the public sector specifically, and identify a number of key policy imperatives – or 'drivers' – for the responsible and effective deployment of AI in NI.**

Our identified drivers include: 'Data, Trust, Risk and Regulation'; 'Infrastructure and Sustainability' and 'Skills' – it is our view that all of these issues should feature in an overarching AI policy for NI.

We look forward to developing further thinking as this technological revolution continues to unfold, to seek to influence the manner in which it ultimately influences lives and livelihoods in NI.

Policy Significance of AI

Artificial Intelligence (AI) is a major emerging technological revolution that has the potential to significantly reshape our economy, our society, and how we live our lives.

Whilst there is a range of perceptions amongst the general public as to the potential usefulness or trustworthiness of AI, **there is a broad scientific consensus that it is here to stay**.

AI offers the potential for significant productivity gains for both the private sector and public services.

The OECD has ranked the top ten benefits of AI, ranging from accelerated scientific progress, reduced inequality and poverty, better approaches to mitigating climate change, better healthcare and education services, improved job quality and more empowered citizens.

It is SPU's view that, **in order for NI to adequately harness the potential benefits associated with AI, it is important to acknowledge underlying policy dependencies and also to flag potential risks and unintended consequences**.

To inform this, SPU has carried out a review of international best practice. **This draws out the importance of strong governance, ethics, and transparency regarding the application of AI tools. Trust is also key to sustaining public support in this new technology.**

There are a range of additional key strategic policy imperatives for success including: **access to data, provision of sufficient physical infrastructure, educational and climate considerations, consequential skills and labour mismatches, and the need for proactive development of newly relevant skills.**

Undoubtedly, the rapid deployment of AI brings **challenges in terms of energy demands and sustainability, uncertainty for the future of the workforce, amongst a range of other risks to be managed and mitigated**.

With AI here to stay, Northern Ireland stands at a critical inflection point. The global **acceleration of AI adoption means that regions that are comparatively slow to act risk being left behind in terms of competitiveness, innovation and productivity. This implies future economic detriment and further divergence from other regions** in terms of both productivity and public service outcomes.

SPU welcomes the fact that much work is now happening across the Northern Ireland Executive to develop an AI Action Plan which is grounded in strong governance and ethics, and to address the opportunities in the public sector. **This constitutes a core element of public sector transformation in potentially driving better outcomes and, in due course, more sustainable public finances.**

Economic Significance of AI

AI has the potential to drive productivity, innovation and efficiency – all of which imply benefits for the global economy. **It is therefore possible that AI could enable a new economic model for those countries that embrace the technology and harness it strategically and responsibly.**

A lack of growth and relatively low levels of productivity are persistent features of the UK economy. Prevailing instability and uncertainty, alongside deeper structural problems, are such that the UK has suffered from a lack of investment for well over a decade, creating a drag on growth.

Sluggish growth in the UK has been consequential in exacerbating constraints on public finances, **with impacts on Northern Ireland in terms of a deteriorating outlook for local public services and underlying finances**.

AI is widely projected to significantly boost global economic growth over the next decade. Whilst global economic prospects appear promising, **the benefits of AI are unlikely to be evenly distributed**. Developed economies with robust digital infrastructure and AI strategies are poised to gain the most.

In the local context, effectively harnessed **AI could present a potentially transformative opportunity to bridge prevailing gaps in economic outcomes between other regions of the UK and NI by enhancing productivity, improved educational and skills outcomes and driving sustainable, inclusive economic development across NI**.

Much of the economic growth from AI-powered innovation depends on workers actually adopting the technology. It is likely that rates of both business and public sector adoption will depend heavily on levels of trust in the technology.

Within Northern Ireland, many academics and dynamic companies are driving innovation, and businesses and public sector actors are adopting and utilising various AI tools. AI adoption amongst NI businesses is on the rise, with businesses reporting plans to further invest or upscale. As might be expected, uptake is greater in larger organisations.

As a relatively small and agile region, NI has the potential to lead in AI innovation and adoption, supported by local universities and the appropriate policy environment from government.

The Northern Ireland Artificial Intelligence Collaboration Centre (AICC) is spearheading many initiatives and efforts to collaborate with the private sector and to establish NI as a leader in responsible AI innovation and implementation.

From an economic perspective, **it would be worth considering how AI adoption might impact on NI's productivity gap**. There is a relative absence of research on the link between AI and productivity for nations and regions. However early studies consider the productivity gap between companies and suggest that AI can be effective as a leveller, and asserts that this implies similar scope for the levelling-up of economies.

A Bespoke AI Strategy for NI

The NI Executive is currently working at pace to develop an AI strategy and action plan, which is largely centred around adoption of AI across the Northern Ireland public sector.

This process is being driven by the Chief Scientific and Technology Adviser to the NI Executive, Professor Helen McCarthy. **It is particularly notable, and welcome, that the current Executive work is heavily grounded in the need for strong governance and clear ethics.**

There is an argument for expanding the current work of the Executive on a strategy and action plan, focused mainly on the public sector, to a wider AI Strategy encompassing a range of relevant socio-economic issues. This could address public policy interventions to address deployment and innovation across both the public and private sectors, and also consideration of key supporting drivers of change around data, skills and education, and infrastructure.

Such a Strategy would reflect the cross-cutting reality of AI for the Executive, and map out policy dependencies. This would be consistent with the approach taken for example in both Scotland and Ireland.

International AI Policy

International policy relating to AI can provide examples of governance principles, ethics and best practice in both design and delivery. **There is no agreed system of global governance in terms of regulation for Artificial Intelligence.** However, various international bodies and NGOs have set out a range of guidance.

International organisations including the G7, United Nations Children's Fund (UNICEF), the United Nations Educational, Scientific and Cultural Organisation (UNESCO), and the Council of Europe have all **provided frameworks on governance and ethics**. The OECD continues to play a leading role in both addressing governance and ethics issues, and providing policy and practice guidance.

The EU AI Act (2024) seeks to provide a comprehensive approach to managing risks and regulations for what are deemed to be high-risk systems and applications, **to protect fundamental rights of EU citizens and to maintain a framework for businesses**. All businesses wishing to sell any AI-related products into the EU will need to comply with the Act. **At present, some aspects of the Act are applied to Northern Ireland under the Windsor Framework.** There is an ongoing discussion between the UK and EU on a proposal from the latter for full application of the Act to NI.

Developments in UK and neighbouring jurisdictions

The UK already has a significant academic, private and public sector base in AI. The UK launched its National AI Strategy in 2021 to position itself as a global AI leader.

The UK's recent AI Opportunities Action Plan covers a broad range of issues including skills and infrastructure requirements, attracting talent, adoption and innovation in both the public and private sectors, in order to drive economic growth, directly benefit citizens, and open up new opportunities.

The Scottish Government first devised an AI Strategy in 2021. **It is particularly notable that the Scottish strategy is broad-based and looks to the wider economy and society.** The OECD Principles on Artificial Intelligence and UNICEF's **policy guidance on AI for children** also underpin the Strategy.

The Scottish AI Alliance, drawing its members from across society, business and academia, is tasked with the delivery of the Strategy. In light of the ongoing debate around the sustainability of AI, **it is noteworthy that the AI Alliance is sponsoring a People's Panel to discuss AI and Climate Change**.

The Scottish Data Lab is a platform for innovation in data and AI. The Scottish AI Playbook provides a guide to the principles, practices and actions required to implement the AI vision. Finally, the Scottish AI register provides information regarding the deployment of AI by the Scottish Government and within the wider public sector, in order to build trust and transparency around processes and use of data.

Notably, Wales has implemented a social partnership approach to AI related workforce issues developed by the Workforce Partnership Council.

In Ireland, the first AI Strategy, entitled "AI – Here for Good," was put in place in 2021. It was refreshed in 2024, primarily to take into account the EU AI Act and technological developments. **As with the AI Strategy in Scotland, the Irish AI Strategy looks at some broader economic, skills, infrastructure and societal issues.**

The Irish Programme for Government in 2025 included extensive commitments regarding digital and artificial Intelligence, based around positioning Ireland as a Leader in the Digital Economy and Artificial Intelligence fields. **The Irish Government also has a Minister with a brief that directly references AI.** Niamh Smyth TD is Minister of State at the Department of Enterprise, Trade and Employment with responsibility for "Trade promotion, artificial intelligence and digital transformation".

The Irish AI Advisory Council, comprising leading experts from academia, industry and civil society, has been established as an independent body to provide expert advice to the Irish Government on all aspects of artificial intelligence. A notable proposal of the Council is for the establishment of an AI Observatory.

AI in the Public Sector

It is important to note that governments have been using digital and other AI solutions for many years. However, the onset of generative AI has the potential to take this to a new level.

Artificial Intelligence should be regarded as central to public sector transformation in Northern Ireland. **AI carries huge potential to be relevant to government and the wider public sector in two respects: for civil service processes, and even more significantly, for public services – both of which have implications for public finances.**

In particular, there is significant potential for AI to enable a greater focus on prevention and early intervention on a broad range of issues, fuelling public sector transformation – the focus of SPU's previous report. There is a strong case for upscaling the current Transformation Fund to further resource and embed the adoption of AI in the public sector.

Globally, countries like the US, Finland, Estonia, Singapore and China are frequently cited as leading innovators in AI. Some key areas where AI is making a difference include:

- Improving citizen engagement services with AI-powered chatbots to answer queries, resolve issues and provide timely updates.
- Enhancing cybersecurity and protecting data.
- Healthcare innovation, including in public health and prevention, through helping to analyse health data, predicting disease outbreaks, enhancing patient care and targeting resources.
- Providing personalised learning experiences, better tracking of student progress and making education more accessible.
- Improving the efficiency and effectiveness of energy, public utilities and transportation management.

In contrast with other jurisdictions, including our direct neighbours, there are limited examples to date in the public domain on the use of AI in the public sector in Northern Ireland.

Strategic Policy Imperatives

Key Strategic Driver 1: Data, Trust, Risk and Regulation

Data is foundational to Artificial Intelligence, determining the accuracy and bias – or lack thereof – in AI systems, and is therefore central to the development of responsible AI.

At present, public data in NI is heavily siloed within various Departments and Arm's Length Bodies. Work should be undertaken to break these barriers down. **The Executive will need to target data barriers between and within departments, in order that they can fully leverage AI systems for optimal service delivery and other benefits.**

The creation of a National Data Library (NDL) is currently underway in the UK. This seeks to scale up data infrastructure, address barriers that impede the efficient use of data, ease access and help bridge different datasets and methods of collection. Fundamentally, it is about making the greatest economic and societal use of the data resources available.

The Executive might wish to consider the case for the establishment of a Regional Data Hub as an equivalent, localised model of the National Data Library.

Northern Ireland's Open Data Strategy, 2020-2023, is now out of date. In the age of Artificial Intelligence, there is a strong case for the Executive to devise a revised strategy.

Trust and public confidence are key to the sustainable adoption and deployment of Artificial Intelligence. Accountability, transparency around data use, governance and mitigation of risk are all key determinants of that trust and confidence.

A number of studies have been undertaken regarding public attitudes and trust in AI. The common trends from the surveys conducted are that growing numbers of people are using AI, but trust and confidence levels remain mixed, with strong support for increased regulation. **This is still an early field of research, and there do not appear to be many Northern Ireland specific surveys to date.**

It is incumbent upon policymakers to address these perceptions and public fears. The need for accountability points to the need for open debate, democratic oversight and stakeholder engagement. There is a strong case for the Executive to put in place a communications strategy regarding AI and, in particular, demonstrate transparency regarding the adoption of AI within the public sector and how data is being used.

This trust and transparency could be further reinforced by the Executive facilitating an annual tracker poll specific to Northern Ireland to measure public attitudes and levels of trust in AI.

Particularly in the public sector, there is also a need for a strong governance and ethical framework around AI, drawing upon international principles and best practice. Further, as also articulated earlier**, there is a case for considering some of the structures put in place in, for example, Scotland and Ireland to bring in a wider range of voices, including from outside of government, around AI.**

Transparency regarding the operation of AI tools is also a significant issue in engendering trust. The UK Government has developed the Algorithmic Transparency Recording Standard (ATRS) and **Scotland has put in place its AI Register. The Executive may wish to consider something similar**.

Risks associated with malicious use of AI range from harm to individuals through fake content to copyright infringements, with many others in between. The OECD has set out its top ten risk mitigation measures. **It is worth considering whether any of these risks, and the challenges of mitigation, may be particularly acute in Northern Ireland. For example, given Northern Ireland's diverse nature and contested history, a greater premium is placed on equality and human rights protections. As such, there is the potential for exacerbated actual, or perceived, bias.** The approach adopted to the collection and management of data will be key in managing this.

Regulation of Artificial Intelligence for activities within Northern Ireland is largely outside the control of devolved institutions, and involves an intersection between UK and EU regulation. The UK has not yet adopted a single regulatory framework for AI and instead has opted to rely on a range of pre-existing laws and regulations. Rather, the Government has asked individual regulators to factor AI into their work.

There has been relatively little public debate on the extent to which, the EU AI Act should apply to Northern Ireland as set out above. Given that most NI-based companies, and indeed many businesses from other jurisdictions, will seek to place their products on the EU market, there may be little practical difference from the full application of the Act. In common with other countries and regions, it will be advantageous for companies to build AI models in line with EU requirements. However, there is the potential for some complexities regarding different legal regimes. Irrespective of the final outcome, it is in Northern Ireland's interests for this matter to be resolved as quickly as possible to provide certainty and stability for investors.

Key Strategic Driver 2: Infrastructure and Sustainability

The functioning of artificial intelligence tools and systems depends on the provision of data centres. At present, data centres are a significant focal point for investment from both governments and the private sector, driven by the AI revolution.

Affordable, reliable and sustainable electricity supply will be a crucial determinant of AI development, and countries that can deliver the energy needed at speed and scale will be best placed to benefit. **However, AI presents a range of challenges and opportunities in relation to energy use, and wider implications for climate change objectives.** The operation of AI models is much more energy intensive than other IT solutions. **Access to water for coolant purposes is also a major consideration.**

This level of demand poses questions regarding the environmental sustainability of data centres and implications for meeting the net-zero objectives of the Paris Agreement. However, current mitigations exist, and others may be developed.

These issues become pertinent in the context of any further demand for data centres within Northern Ireland, including how their development will affect Northern Ireland's legislative climate change requirements, and how practical issues regarding access to electricity and water will be met.

It remains unclear whether AI will continue to be a net drag on meeting climate change objectives, or whether growth in renewable energy sources, including via AI-driven efficiency in the energy sector and in other areas of technology may mitigate against such negative impacts.

Ireland has seen significant inward investment in datacentres. This absorbs over 21% of national electricity consumption versus a worldwide average of datacentres consuming 1-2% of overall power. Concerns have been expressed as to the sustainability of this approach.

The Scottish Government has been marketing Scotland as an investment location for data centres, highlighting their renewable generation capacity, and an action plan for green data centres and digital connectivity has been in place since 2021.

There may be scope for the Executive to consider whether a formal plan for managing the development of data centres in Northern Ireland should be devised, including an assessment of domestic and inward investment demand and the capacity from existing and future renewable energy provision.

The potential positive and negative impacts on legislative climate change commitments would also need to be taken into account. This could include planning requirements regarding the use of renewable energy or other net zero technologies.

Further to this, consideration may be given to the opportunities to collaborate on an all-island basis to better distribute the demand for data centres. There are mutually beneficial opportunities in that, in 2024, the dispatch down figure for renewable energy in Northern Ireland was 26%, but by contrast the equivalent figure for Ireland was only 9%.

Northern Ireland is facing challenges related to weaknesses in the electricity grid, the speed of the planning system, and water and sewerage connections. If unaddressed, these may be barriers to further developments. However, increased investment in renewable energy associated with the development of data centres may facilitate improvements to the grid.

Key Strategic Driver 3: Skills, Education and Workforce

The increased deployment of Artificial Intelligence brings immediate AI-specific skills pressures, **but also has the potential to radically reconfigure the labour market and change the skills landscape in terms of the profile and level of skills in demand**.

This will pose challenges for policymakers in terms of readjusting education and skills provision, and finding the right balance between anticipatory and reactive interventions.

The demand for certain roles or aspects of jobs will vary. **AI may replace some jobs altogether, others may be relatively untouched, but it is likely in the plurality of cases that AI will change job roles, driving efficiency and productivity.**

There are three key challenges for policymakers in Northern Ireland:

1. **Understanding the evolving skills and workforce landscape in general**
2. **Determining how the skills landscape will develop specifically in Northern Ireland**
3. **Implementing changes to skills and education policy, provision and practice**

Different analysts and commentators perceive a range of impacts, from significant net job creation to significant job losses and increased unemployment. **Nevertheless, the scale of change in the skills landscape and the workplace may be so rapid and of such a magnitude as to necessitate anticipatory action by policymakers.**

Most obviously, pressures will likely build for specific AI-related skills. This requires both upskilling in the workplace and ensuring sufficient numbers of the workforce are AI-literate and ensuring there is a sufficient pipeline of new talent coming through.

The wider impact of AI on jobs could fall into three categories:

- **Replacement or disruption**
- **Augmentation**
- **Relatively unaffected**

AI will not only impact upon routine and repetitive tasks, but have implications across a wider range of activities. **Some degree-level jobs will be impacted. However, overall it is likely that AI will shift the demand for skills proportionally up the skills ladder. By contrast unlike previous technological advances, short of further breakthroughs in terms of robotics/AI intersections, the pressure is less likely to be in manual or blue-collar employment but across a range of office-based or white-collar roles.**

AI literacy may emerge as a standard pre-requisite in the workplace, alongside a greater demand for soft skills related to adaptability and problem-solving within an AI-augmented workplace. However, AI literacy is not keeping pace with adoption.

Analyses also suggest that there are some **significant gender differences in terms of how AI is being used and the nature of job and job roles that will be impacted by AI.**

Given the particular skills profile of Northern Ireland, with a greater proportion of low or unskilled workers relative to other advanced economies, the scale of upskilling and reskilling required may be steeper.

Arising from this general overview and assessment, **the question then becomes one of determining how the skills and workplace projections may apply in the particular circumstances of Northern Ireland**. At the same time employers and the Northern Ireland Skills Barometer are reporting a range of skills shortages.

In the context of the potential for AI to provide the means to close Northern Ireland's productivity gap, provided the right policies and investments are put in place, addressing this skills challenge is even more crucial.

This initial analysis points to the need for more detailed research to be undertaken to identify the potential skills demands and changes in the nature of the workforce arising from increased AI deployment and adoption. In conjunction with the Department for the Economy, Matrix – the Northern Ireland Science Industry Panel – has commenced a project entitled "AI and the future of work".

There may also be opportunities for dialogue and collaboration on AI-related skills development on a north-south and east-west basis.

A very broad range of interventions will be required across all levels of education and skills provision to address a range of objectives.

These include:

- **Ensuring educational and training systems are providing the necessary skills and knowledge for those directly involved in AI innovation and development or using AI heavily within their work.**
- **Making wider changes to the educational and training system to take into account the changing nature of work to ensure that individuals have the practical, employability skills and knowledge to fully participate in the future labour market and thus ensure that Northern Ireland is a competitive economy.**
- **Adapting how school, colleges and universities relay knowledge and skills.**
- **Addressing marginalisation from the labour market, and the intersection with the digital divide.**

In some circumstances, responses may involve consolidation, adaptation and intensification of existing programmes. In other respects, new policies and programmes may need to be devised.

Given the potentially transformational significance of the AI revolution with the associated need for nations and regions to be competitive, there may be a strong rationale for increased resources for upskilling and reskilling in order to fully capture new opportunities available.

Fundamentally, there is a need for a skills strategy or action plan that encompasses the demand for AI-related skills and the wider changes to the skills landscape. This could take the form of an expansion and refresh of the current Digital Skills Action Plan or a fresh process and document entirely.

A broad range of steps should be considered involving careers advice, STEM/STEAM course availability, gender balance promotion, offering of AI literacy, reform to apprenticeships, and life-long learning and reskilling opportunities.

There is an ongoing debate in terms of how far AI can and should be incorporated into the curriculum in schools and in course content in colleges, apprenticeships and universities.

There are fears that AI may compromise academic standards, whilst others argue that AI skills will be so integral to the workplace that the approach to learning should adjust and embrace this new reality with a standardised approach to the achievement of AI literacy for school pupils and college/university students. In some international cases, AI is being integrated into the curriculum.

Northern Ireland is already characterised by significant skills differentials, reflecting wider inequalities within society. **Looking ahead, differential engagement with AI could see further divergence in terms of economic and other prospects, plus missed opportunities to fully utilise potential talent.**

Standardised AI education could help to reduce the risk of a divide through providing more equitable access and opportunity. However, education alone cannot address the digital divide. There will be a requirement for other programmes aimed at adults, particularly those who are currently marginalised from the workforce. **AI provision could be introduced into programmes that could address economic inactivity and disability employment.**

Ultimately, AI could offer a transformative boost to Northern Ireland's productivity and social equity, should the Executive invest strategically in building a future-ready, AI-literate workforce.

Policy Recommendations

Strategic & Economic Context

- The Executive may wish to consider the potential significance of Artificial Intelligence (AI) in the context of the constrained economic and financial outlook for the UK, and the implications for this for NI in terms of both public finances and public services. NI arguably cannot afford not to exploit this emerging technology to seek to drive better outcomes.
- The Executive should identify the imminent deployment of responsible AI as a core strategic area of action and potentially key enabler for delivering on a range of Programme for Government commitments.
- The Executive should urgently assess the potential for AI to provide a new economic model for Northern Ireland, notably including the potential to tackle the productivity gap between Northern Ireland and neighbouring jurisdictions.
- The Executive should recognise the imminency of the opportunities and potential for unintended consequences associated with the rise of AI. Inaction or delay will result in missed opportunities and inadvertent consequences, which will be both costly and challenging to reverse.

Current NI Strategy

- The Executive should consider expanding the remit of the current work on an AI Action Plan, currently primarily focused upon the public sector, to a much more comprehensive and cross-cutting AI Strategy for Northern Ireland. This should span a range of relevant socio-economic considerations and reflect policy interdependencies and key drivers.
- It may also be important to undertake a full review of the UK's AI Opportunities Action Plan to determine actions that partially or fully fall under the devolved remit and address any areas of divergence or omission.
- Northern Ireland's AI Strategy should be closely aligned with the Programme for Government and Investment Strategy for Northern Ireland.

Comparative Policy Context

- International principles and best practice should inform development of an AI Strategy and Action Plan in Northern Ireland, embedding best practice on ethics, transparency and safeguards, in order to build and sustain public trust and support.
- The Executive should note the broader reach of the Scottish AI Strategy in terms of recognising the wider implications for economy and society, and its linkages to the Scottish National Performance Framework.
- The Executive should consider the models of the Scottish Data Lab, AI Playbook and Data Science and Innovation Accelerator for NI.
- The Executive should consider Wales' social partnership approach to workforce issues arising from the deployment of AI.
- The Executive should consider the AI Advisory Council in Ireland, alongside the Scottish AI Alliance as a potential model for engagement, advice and oversight in conjunction with other AI delivery structures.
- The Executive should explore the proposed AI Observatory in Ireland alongside the OECD AI Policy Observatory, with a view to implementing similar functions in Northern Ireland either on a standalone basis or part of wider AI-related structures.

AI in the Public Sector

- Consideration should be given to the guidelines from the OECD G7 Toolkit for AI in the Public Sector, namely:
  - establish clear strategic objectives and action plans in line with expected benefits;
  - include the voices of users in shaping strategies and implementation;
  - overcome siloed structures in government for effective governance;
  - establish robust frameworks for the responsible use of AI;
  - improve scalability and replicability of successful AI initiatives;
  - enable a more systematic use of AI in and by the public sector; and
  - adopt an incremental and experimental approach to the deployment and use of AI in and by the public sector.

- The Executive should apply the UK AI Playbook in the decision of public sector AI projects or create a local equivalent.
- Collaborative engagement mechanisms should be put in place across the public sector including between government departments, arms-length bodies, and local government.
- A review should be carried out to assess current AI competency and literacy within the public sector, with a plan devised for upskilling and bringing in external talent, where appropriate.
- The scale of the transformation fund should be increased either from reallocation of funds or via development of creative, mutually beneficial proposals for additional funding from the UK Government as part of a long-term transformation plan. Digital and AI projects ought to form a significant component of any such proposals.
- Policymakers should, as a matter of routine, consider opportunities, challenges and risks arising from Artificial Intelligence in the development of all future policy and programmes.

Key Strategic Driver 1 – Data, Trust, Risk and Regulation

- A revised Open Data Strategy for Northern Ireland should be devised and implemented.
- The Executive should consider the creation of an NI Data Library and/or Regional Data Hub.
- Fresh legislation should be considered to break down some barriers to future data sharing between and within government departments and agencies.
- Opportunities to collaborate on data-sharing on a north-south basis should be fully explored.
- The Executive should embed the Northern Ireland Strategy and Action Plan with a strong ethical framework, drawing upon principles set out by a range of international bodies.
- Consideration should be given to the creation of an oversight or advisory body in Northern Ireland drawing lessons from the Scottish AI Alliance and similar bodies in other jurisdictions, to provide a wider range of academic and civic voices in the development of AI policy.

- In order to aid transparency and trust, consideration should be given to the publication of algorithmic details of AI models used within the Northern Ireland public sector in line with the UK Government's Algorithmic Transparency Recording Standard or using the model of the Scottish AI Registry.
- The Executive should devise an AI Communications plan to explain how it is using AI in the public sector, to help build and sustain trust.
- The Executive should facilitate an annual tracker poll to assess attitudes and levels of trust in Northern Ireland towards AI.
- Consideration should be given to risks that could have a disproportionate impact on Northern Ireland.
- The EU and UK should reach a conclusion on application of the EU AI Act to Northern Ireland as quickly as possible in order to provide certainty to the business community and other stakeholders.

Key Strategic Driver 2 – Infrastructure and Sustainability

- The Executive should consider a formal plan for how the demand for the creation of additional data centres in Northern Ireland will be addressed, including an assessment of domestic and inward investment requirements, and identifying the capacity from existing and future renewable energy provision.
- The potential for collaboration between the Northern Ireland Executive and the Irish Government should be explored regarding the provision and location of data centres on an all-island basis.
- The potential further development regarding data centres should provide a further impetus to address infrastructure challenges in NI in relation to planning, the electricity grid and connections to NI water infrastructure.
- The ongoing development of data centres should be factored into NI's Climate Action Plans, both in terms of potential improvements in the efficiency of energy systems and/or negative impact on net zero targets.
- Consideration should be given to new planning requirements for data centres to ensure the use of renewable energy or other net zero technology.

Key Strategic Driver 3 – Skills, Education and Workforce

- Detailed work should be undertaken to assess the evolving skills needs that will increasingly be required to directly enable AI innovation and application, alongside more general skills impacts across the economy. The forthcoming report from Matrix on AI and The Future of Work is acknowledged and welcomed in this respect.
- The conclusions of such assessments should be factored into skills and workforce policy assumptions, programmes and funding, with the need for both anticipatory and reactive interventions.
- The Digital Skills Action Plan should be refreshed to encompass AI aspects, or alternatively, AI skills needs should be addressed within a new action plan.
- The Executive should consider the integration of AI into all levels of the education system, reflecting on similar international case studies.
- Revised approaches to a number of policies and programmes may be required, including AI literacy and flexibility in apprenticeships, enhanced upskilling and reskilling opportunities, greater promotion of life-long learning, a revised approach to second primary degrees, AI considerations factored into careers advice, greater STEM (or STEAM) provision, and an enhanced focus at addressing gender imbalances within STEM.
- It should be acknowledged that school pupils, and college and university students will be using AI within their studies, and in turn in their future careers, and teaching and assessment methods need to be assessed and adjusted accordingly.
- AI considerations need to be fully integrated into the review of the curriculum in Northern Ireland, with an appropriate balance being struck between embedding necessary foundational knowledge and the provision of contemporary skills.
- The specific opportunity of providing a standardised approach to AI across the education system in Northern Ireland due to the current C2K and future EdIS (Education Information Solutions) networks should be recognised, particularly in light of the need to ensure equality of opportunity for students and minimise the digital divide.
- Universities and colleges should continue to develop specialised undergraduate and postgraduate courses in areas of emerging technological interests.
- Universities and colleges should seek to integrate AI across curricula, including embedding basic levels of AI literacy within all degree or other programmes, and developing stackable AI micro-credentials for academics, students, businesses and the public sector.
- The Executive should consider the potential role for AI in addressing high levels of economic inactivity and relatively low levels of disability employment in NI.

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AI for NI: A Strategic Overview for the Adoption of Artificial Intelligence in Northern Ireland

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