



Department for the
Economy
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A 10X ECONOMY



NORTHERN IRELAND'S DECADE OF INNOVATION

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To note, any reference within this document to the term '10x' is purely for narrative purposes and is not intended to evoke a particular good or service

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MINISTERIAL FOREWORD

One hundred years ago, Northern Ireland was internationally renowned for its shipbuilding, rope works and linen factories. Today we are global leaders in cyber security, fintech and advanced manufacturing. I now want us to prepare for what tomorrow brings and ensure that we are ready to embrace future economic trends and job opportunities for our people.

In our centenary year we stand on the shoulders of our industrial pioneers, glancing back and reflecting on the impact they have had on the global economy, but with our focus firmly on the road ahead and planning for the future.

Our economy has already been dramatically reshaped by the Covid-19 pandemic. In the next ten years we can expect to see dramatic technological advancements and a greater focus on tackling climate change. We must embrace these changes with confidence and ambition, and I am delighted to present this future as Northern Ireland's decade of innovation.

I am immensely proud of the resilience, innovation and creativity shown by our local businesses. It is these characteristics that are putting Northern Ireland on the map as an exciting place to be and attracting attention on the future we are building. This vision is focussed on capturing that energy to make Northern Ireland the most exciting place to do business, with all of our people feeling part of this success.

We know that when our economy is thriving, Northern Ireland thrives. We have seen the mirror image of this over the past year with the restrictions on our economy taking the colour out of our lives. My Economic Recovery Action Plan brings that colour back to life by supporting those businesses and individuals to recover, rebuild and rebound back stronger than ever. This vision is about doubling down on our efforts to rebuild a stronger economy. For all of our people, this means better jobs with better wages, in a more flexible working environment and a better overall quality of life.

This starts with focussing on our strengths. As a small advanced economy we need to focus on the parts of our economy where we already are or can be global leaders. Success in these areas will bring momentum that can spread to all parts of our economy and create opportunities for people across our society.

We have a first class reputation for innovation. This vision embraces our innovative heritage and sets a pathway to see more of our businesses – especially our small businesses and emerging entrepreneurs – putting new ideas into practice to build a competitive advantage in this decade of innovation. Our public sector is just as important to this transformation. Our service delivery to the public must match the levels of innovation we expect from our businesses, and through collaboration and co-design with all parts of our economy and society we can become far greater than the sum of our parts.

All of our activities have to be relevant to the real-world challenges facing society. Advancements at the high-tech frontier are fantastic but may not always make life better for the people and places in our economy in most need of our support. Innovation does not have to be exclusive, and this does not have to be an either-or choice; we can have innovation that is relevant to our society and this vision shows exactly how we can achieve this.

Since taking Ministerial office it has been my clear view that ensuring everyone has an opportunity to develop skills will be a cornerstone of our success. Our renewed focus on investing in skills will mean that all of our people feel they can be part of the changes that are coming in this decade of innovation. It is critically important that this includes those furthest away from the labour market, and those with low or no formal skills. This renewed focus will also mean that our businesses have the right people, with the right skills, at the right time, to underpin our innovation.

All of these ambitions are brought together by the 'Giant Spirit' of Northern Ireland. Our big-hearted, pioneering, legendary and elemental spirit can only be found here. It is this spirit that sets us apart and makes Northern Ireland an exciting place to work, live and visit. This vision for the future recognises the uniqueness of Northern Ireland and unlocks the potential of these key strengths

My vision for the future is purposefully bold and ambitious. This level of ambition reflects the scale of the challenges ahead, the competition we face from others and the opportunity we have to make a generational change. All of this means standing still is not an option. To compete in this decade of innovation our ambition is a tenfold increase in innovation to see Northern Ireland's economy be ten times better over the next decade.

A '10x ambition' is about creating a step change in how we think about our economy. It is not a literalist term about increasing a single metric by a factor of ten; instead we are setting an ambitious pathway for fundamental change to our economy and committing to everyone feeling they are part of this transformation.

The outcome of this vision will ultimately see Northern Ireland positioned amongst the elite small advanced economies in the world, and the benefits of this change felt by all of our people. This cannot be achieved in isolation or in a single document, and I am committed to continue working with our key partners as we navigate this road of economic transformation and deliver the dependent 10x strategies that fan out from this vision; on skills, energy and other key economic drivers.

This level of change cannot be delivered alone. We need a collective, collaborative approach across government and industry. We need politicians and communities to buy in to the bold and highly ambitious vision. We need support from leading industry figures and entrepreneurs to deliver the step change our economy needs.

I am excited about what our future holds, and invite everyone across Northern Ireland to help us create the type of economy that we all want for future generations.



DIANE DODDS MLA
MINISTER FOR THE ECONOMY

Endorsements

Michael Ryan, Vice President and General Manager of Spirit AeroSystems said:

“ I welcome the Department’s Economic Vision. It builds upon Northern Ireland’s existing strengths and rightly focuses on the core sectors and advanced technologies where NI can excel as a global leader in the next decade and beyond. As a company renowned for innovation, we know that it is a catalyst for economic growth and prosperity and can help deliver a more sustainable future for all. ”

Dr Jayne Brady MBE, Belfast Digital Innovation Commissioner said:

“ I am delighted to see that the role of digital innovation is recognised in the Department’s Economic Vision. We already have an extremely talented digital innovation sector and, with the right support and encouragement, it has the potential to transform our economy. ”

Steve Orr, CEO of Catalyst Inc said:

“ The Department’s Economic Vision sets out an ambitious – but achievable – vision centred around inclusive innovation in Northern Ireland. Focussing on sectoral clusters, such as digital tech, fintech and green tech, and funding innovation in the right way, means that Northern Ireland will be placed to compete on a global scale like never before. ”

Kirsty McManus, National Director of the Institute of Directors, Northern Ireland said:

“ The IoD welcomes the publication of the Department’s Economic Vision which recognises the need to ensure Northern Ireland becomes a more enterprising region that supports new business development in any and all parts of the country. It also acknowledges the role that skills development will play in attracting businesses to invest and to take advantage of the exciting and emerging opportunities of the next decade. ”

Endorsements (contd)

Professor Sir John McCanny, Regius Professor Emeritus, Electronics and Computer Engineering, QUB said:

“ I wish to offer my support to the Department’s ambitious and daring vision, which will set the roadmap for the future of the Northern Irish economy. I am excited to be part of the conversation, where science, technology and innovation are at the forefront of future thinking within the region. ”

Jackie Henry MBE, UK Managing Partner for People and Purpose and the Deloitte Northern Ireland Office Senior Partner, said:

“ I am delighted to support the Department’s Economic Vision, and particularly welcome the renewed focus on skills as a critical means of supporting business growth. I look forward to joining the conversation about how we translate the bold plans into action, shaping the direction of travel for an exciting and prosperous region. ”

Ann McGregor MBE, CEO of the NI Chamber of Commerce said:

“ I am delighted to offer an endorsement to the Department’s Economic Vision. NI Chamber is particularly interested in how businesses can support and benefit from Northern Ireland’s economic recovery and be well placed to grasp new opportunities when they arise. ”

Trevor Lockhart, CEO of the Fane Valley Group said:

“ The Department’s Economic Vision lays out an ambitious plan, which will support businesses like ours in the agri-food sector to continue to invest in innovation and R & D, ensuring we continue to compete with world class produce, and remain competitive in global markets. ”

Paul Stapleton, Managing Director of NIE Networks

“ I am very pleased to support the Department’s 10X vision, and particularly the ambition to drive a greener, more sustainable economy that will benefit all our citizens. The strengths we have in zero carbon technologies, the clean energy sector and in the wider ‘green economy’ mean the opportunities in the next decade could be genuinely transformational for the Northern Ireland economy and society as we move away from a reliance on imported fossil fuels. NIE Networks will play its part in working with the Department and other stakeholders to help realise this Vision. ”

1. Strategic Framework

Our Vision

The ambition we have set out in this economic vision is for a '10x Economy'.

Northern Ireland's decade of innovation will encourage greater collaboration and innovation to deliver a ten times better economy with benefits for all our people.

We will realise this ambition by focussing on innovation in areas where we have real strengths and making sure these gains mean something to all businesses, people and places in Northern Ireland.

Overall we will see a positive impact on our economic, societal and environmental wellbeing.

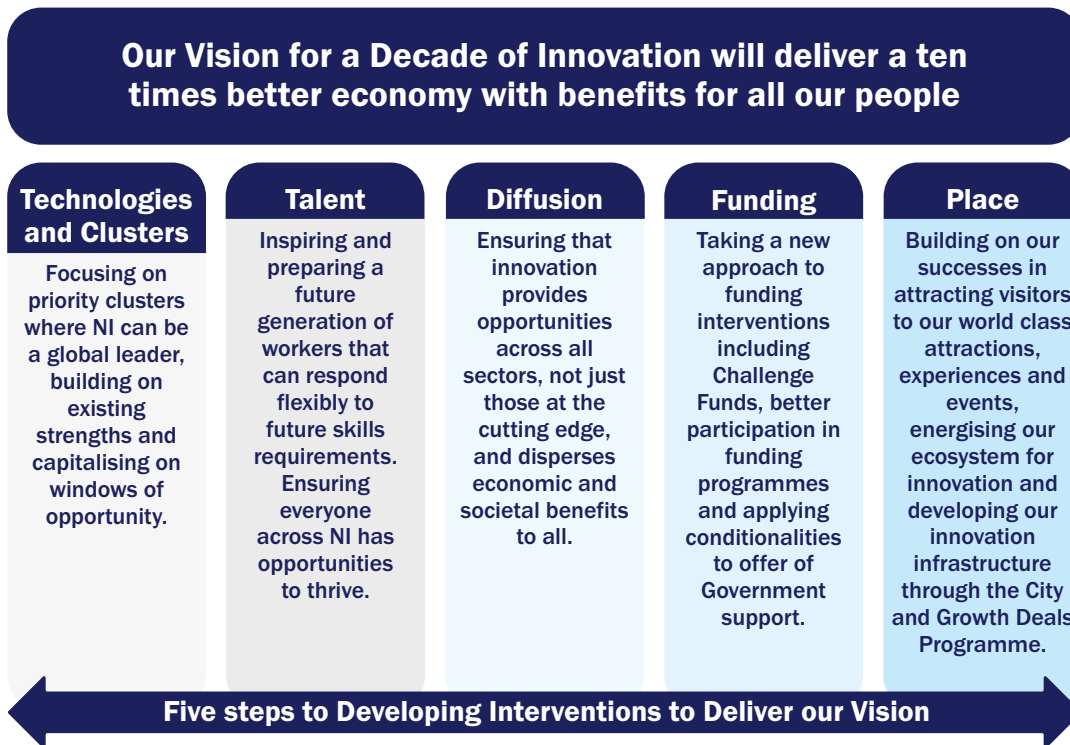
Guiding Principles

We have identified ten guiding principles to underpin our vision. These are to:

1. Address those issues that really matter and will make a lasting and positive difference in peoples' lives;
2. Deliver positive economic, environmental and societal outcomes;
3. Support a greener, sustainable economy;
4. Provide a fairer distribution of opportunities for all our people;
5. Inspire the future generations to thrive;
6. Position NI amongst the most competitive small advanced economies in the world;
7. Focus on increasing innovation in high value-added areas and priority clusters resulting in higher wages;
8. Deliver improved outcomes for all including better jobs with better wages for all our people, with a more flexible work environment and a better overall quality of life;
9. Position NI as an optimum place to work, invest, live and visit; and
10. Shaped by public sector innovation and co-design with partnership working at its heart.

Delivery of our vision

We have identified five steps to success to develop interventions to help us realise this vision. Whilst the initial thinking behind these steps is set out in this document, we will be bringing forward a more detailed plan for the development and implementation of the necessary policies and interventions to achieve these steps.



Measuring Success

A bold and ambitious vision requires a unique and innovative set of metrics. While our vision strives for growth through innovation, we want this growth to mean something to everyone. We need to capture how this growth improves the standard of living and wellbeing throughout society, and what impact economic growth has on our environment. Suitable new metrics for our vision will be developed through a collaborative approach with stakeholders and those who are affected by our policy interventions.

Next Steps

This document represents the first stage in setting out our long term ambition for Northern Ireland. The vision will be a living document and will be updated and refined based upon emerging developments and arising opportunities. The next stage in the journey will be to build upon and implement the framework for a future work programme set out in this document, which will guide the next steps over the next year and beyond.

2. SEIZING THE OPPORTUNITY FOR GENERATIONAL CHANGE

- 2.1. There is genuine opportunity presented here to reshape the economy for the benefit of all of our people in a way that we have never before been able to achieve.
- 2.2. The Northern Ireland economy is rapidly adapting to the recent events of Covid-19 and Brexit. Either one of these in isolation would be a once in a generation economic event for policy makers to respond to; for them to materialise at the same time, and for their impacts to collide and compound, is unprecedented. Our economy is also exposed to global shifts, or 'megatrends', such the response to climate change and ageing populations. Other small advanced economies are responding to these same events and megatrends. Those economies which deliberately shape their future, rather than reactively moving to the next stage, will seize a significant competitive advantage.
- 2.3. The Covid-19 pandemic has been devastating and will forever change the shape of our economy. Amongst all the challenges there has been a stark realisation of what can be done if the will is there. It has highlighted the benefits of research and development, innovation and collaborative working. It has also confirmed that true success is an amalgam of economic, social and environmental progress. The realisation of the art of the possible should raise our ambition beyond where it has been before and set goals that exemplify where we want to be, not simply what we feel we can achieve.
- 2.4. In ten years' time after this crisis we cannot be looking at the same problems or asking ourselves why the policy response to Covid-19, Brexit, climate change and other megatrends did not better position the NI economy for the next set of crises.
- 2.5. Achieving this aim will require us to tackle the deep and stubborn structural weaknesses that have held us back. There are too few higher paying jobs, we have relatively low levels of investment in research and development and challenging levels of economic inactivity. Northern Ireland also has longstanding low levels of productivity in comparison to the rest of the UK. This vision marks a change in understanding of how productivity improvements need to be delivered.

- 2.6. The damage and disruption to lives and livelihoods caused by Covid-19 has fallen on top of these existing weaknesses. Our young people, those with lower qualification levels, low income households and women are facing increasing struggles; and the long-term scarring effects of recessions risk compounding and cementing the impacts on these groups. The impact of Covid-19 on the educational performance of young people in Northern Ireland is a particular concern due to the high levels of existing underachievement within the region. These effects could in turn impact the recovery and long term growth of our economy with potential skill shortages in the future as businesses struggle to find domestically qualified individuals.
- 2.7. The Economic Recovery Action Plan has set out how we can rebuild from the effects of the pandemic. It outlines the interventions and actions required to assist people and businesses to adjust to, and recover from, the changing economic fundamentals. It focuses on supporting innovation; a highly skilled and agile workforce; investment, trade and exports; and a greener economy. This paper has a different focus, with the purpose of starting a conversation on the long term vision for the Northern Ireland economy that will guide our economic policy response to the simultaneous occurrence of these so-called 'once in a generation events.'
- 2.8. There are really exciting things happening in our economy: the parts of our 'ecosystem' that bring innovators together are alive with energy; we have entrepreneurs bursting with ambition to build 'billion dollar' businesses; Belfast is ranked in the top ten of fDi and TNW's Tech Cities of the Future for 2020/21¹; Northern Ireland has been ranked as the number one international investment location for US cybersecurity firms; and Project Stratum will transform broadband connectivity for many citizens and businesses and position Northern Ireland as the highest full fibre connected region in the UK. Before the pandemic, we also had a record number of visitors to Northern Ireland, and were on the world's stage with our events and film locations. All of this gives us a strong base to build from.
- 2.9. This is only the first stage in the journey and does not represent the total economic response. We need to plan for the future and set out the economic response that will work in lockstep with other strategies and policies both within the Department for the Economy on Skills, Tourism and Energy; the Executive's new Programme for Government; and wider strategic responses to address social inequalities, infrastructure and green growth.

1 [London storms inaugural Tech Cities of the Future ranking | fDi Intelligence - Your source for foreign direct investment information - fDiIntelligence.com](#)

3. WHAT DOES GENERATIONAL CHANGE MEAN FOR ME?

- 3.1. The ambition in this vision is to drive economic growth through a focus on innovation, whilst also achieving a fairer distribution of opportunities for all our people to participate in, and benefit from, this growth.
- 3.2. Generational change in this vision means a Northern Ireland that has better jobs with better wages for all of our people, with a more flexible working environment and a better overall quality of life.
- 3.3. Innovation is at the centre of our vision as it will unlock a higher number of better jobs. Innovation can mean different things to different people. Some may view it as the outcome of research; others as new technology. In its most basic form, innovation simply means the development of creative ideas and methods into new products or services. Innovation not only brings economic growth but it can transform ways of living by providing security online, improved medical treatments or reducing pollution. It can be harnessed to keep Northern Ireland relevant to the generational challenges we face today.
- 3.4. We want to give all our people the opportunity to participate in the changes that are being driven by innovation. In education and the workplace this means giving our people the necessary training, reskilling and upskilling in order to do so, both within existing and future growth sectors.
- 3.5. We need to inspire future generations to work in and create their own businesses and provide opportunities for our talented young people, with the ultimate goal of attaining and retaining these entrepreneurs and innovators of tomorrow.
- 3.6. We also need to ensure there are opportunities for those furthest away from the labour market, and those with low or no formal skills in those areas to enable them to thrive.
- 3.7. A thriving and sustainable economy will have a positive impact on everything around it. Northern Ireland becoming internationally recognised as a thriving economy, will ultimately attract more visitors, and investors and encourage more of our talented people to stay here. A prosperous economy will, as a result, have positive spillover effects providing more opportunities for all our people. Success will not only be visible through economic growth, but this growth meaning something to all people and places in Northern Ireland, with positive impacts on wider societal and environmental wellbeing.

3.8. When our economy is thriving, Northern Ireland thrives.



4. OUR VISION

A Decade of Innovation

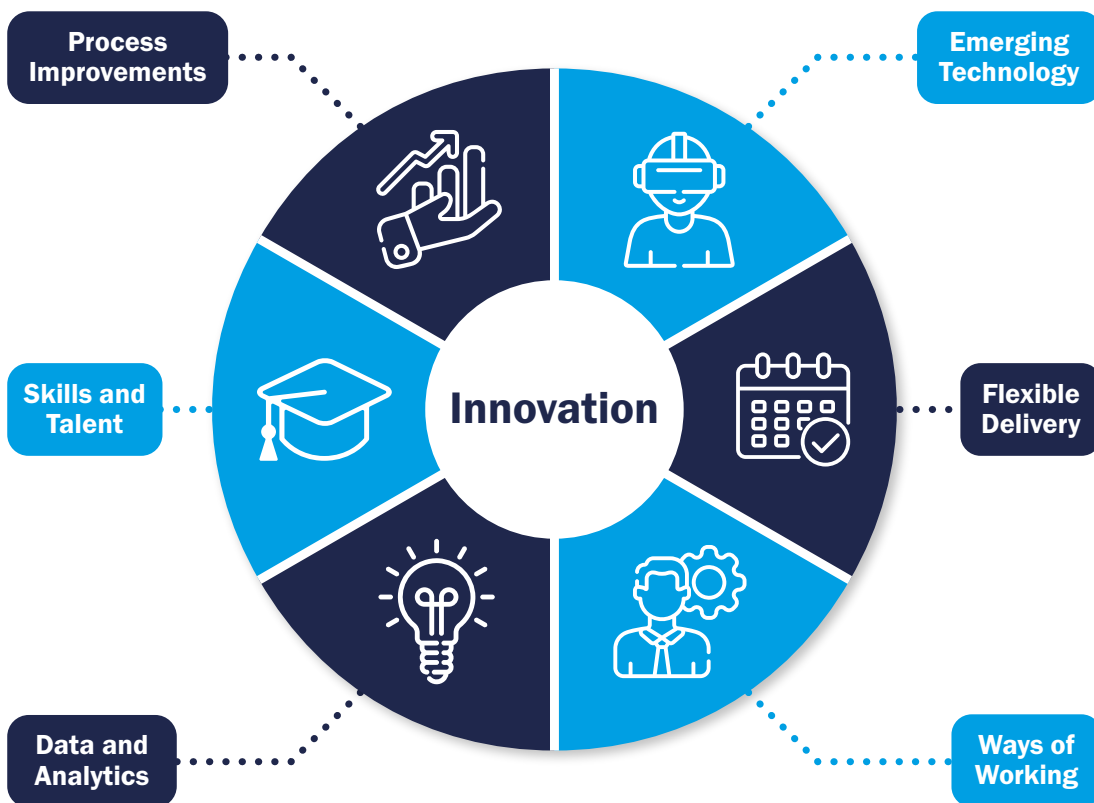
- 4.1. Our vision for the future is centred on the decade of innovation ahead of us. Within the next ten years technological change will bring about more computers than human brains, more sensors than eyes, and more robotic arms than human labour in manufacturing.² Simply keeping pace with these changes will not deliver change in real terms. Instead, we need to be forging ahead of our competitors. Achieving this goal in this new decade requires innovation on a new scale. Unlocking the unique opportunity to drive growth through innovation while also achieving a fairer distribution of opportunities for all of our people to participate in and benefit from our economic growth.
- 4.2. The scale of ambition we are setting is a tenfold increase in innovation. This is a familiar concept in growth strategies for high potential companies, and applying this to economic policy represents a transformational mindset that we want to see in economic development. This level of ambition to build a '10x Economy' reflects the scale of the challenges ahead, and the opportunity we have to make a generational change.

Embracing Innovation

- 4.3. Our economy will only grow and become more competitive if we see more of our businesses and people seeing innovation as more than technology, and using this perspective to put new ideas into practice. Due to the structure of our economy it is essential that our small and micro businesses are part of this change, that innovation reaches into the supply chains that already exist in our economy, and that the traditional parts of our economy such as agri-food, tourism and hospitality are part of this transformation. Future work on these aspects of the economy will be important in this decade of innovation, in particular our work on regenerative tourism in Northern Ireland.³
- 4.4. Thinking about 'innovation' as more than just technology includes process improvements, data and analytics, emerging technology, skills and talent, flexible delivery and new, more agile ways of working and, ultimately, more agile ways of thinking about business management and business growth. Management skills are no longer about managing a "steady state", but about embedding the dynamic capabilities that can sense, seize and shape emerging opportunities quickly, and quicker than most.

2 Mauro F. Guillén, *2030: How Today's Biggest Trends Will Collide and Shape the Future of Everything*, October 2020.

3 Anna Pollock, [Regenerative Tourism: The Natural Maturation of Sustainability](#), by Anna Pollock, [Activate The Future](#), Medium.



4.5. A culture that embeds and champions innovation must embrace the ‘fail fast, move on’ principle that is widely accepted as a key part of an iterative innovation process. Reconciling this principle with policies aimed at stimulating innovation through potential funding mechanisms – such as the UK Government’s Small Business Research Initiative (SBRI) – will afford opportunities for government and industry to collaborate and co-create in a meaningful way. Agile policy making and implementation is the best way to try ideas, respond to opportunities and build on early successes quickly. It is also about ensuring our businesses are able to grow out to export markets on the foundation stone of a strong home market advantage, one where demand for products and services here – particularly through government procurement – can then act as a springboard for significant export led growth.

4.6. In this decade, our innovative sectors will be our engine of economic growth and we need to see these sectors take up a bigger share of our economy to redress the imbalance in our non-tradable (e.g., local service jobs) and tradable (e.g., innovative firms) sectors. The rationale behind this is neatly explained by David Sainsbury:

“ While the vast majority of jobs in a modern economy are in the non-tradable sector, the wealth of a country is disproportionality and favourably impacted by the tradable sector. There are two reasons why this is the case. The first is that labour productivity does not grow very much in the non-tradable sector. The amount of labour to teach a class, paint a house, or sell real estate is much the same today as it has always been. By contrast, productivity in the tradable sector has tended to increase over time as a result of technological progress. Today, it takes 78 per cent fewer worker hours to make a car than it did in 1950, while a constant stream of innovation causes labour productivity to grow even fast in high-tech-industries. ⁴ ”

- 4.7. This argument is particularly true for small economies such as ours where tradable sectors, which make up a greater share of the economy than in larger economies, have a greater ability to influence economic growth.
- 4.8. Our public sector must also build its own capacity and capabilities for innovation. Taiwan's Industrial Technology Research Institute, Israel's' Office of the Chief Scientist and Singapore's Agency for Science, Technology and Research show that public agencies are crucial in allowing innovation powerhouses to emerge.⁵ The same organisation and driven purpose needs to be reflected in how we, as the public sector, deliver this vision.
- 4.9. We know from the successes elsewhere that taking full advantage of the decade of innovation will increase incomes, create jobs, improve productivity levels, provide opportunities for all our people, revitalise places, realise a net-zero economy and showcase our brilliance.

Making Innovation Relevant

- 4.10. Innovation-driven growth, in itself, is not enough. There are both global and closer-to-home examples of high Gross Domestic Product (GDP) per capita countries with high levels of inequality, or hubs of high-tech innovation that have not improved the life chances of those who live near them.⁶ If not properly addressed, these increased income inequalities have the potential to weaken a consumption-driven economy like Northern Ireland in the medium term.
- 4.11. GDP and global league tables cannot be the only yardstick by which success of policies to stimulate the recovery – and subsequent economic growth – is measured. A sustainable and equitable economic recovery – and an economy that is more resilient to sudden shocks – needs to be the goal.

4 David Sainsbury, *Windows of Opportunity*, February 2020

5 Marianna Mazzucato, *Mission Economy: A Moonshot Guide to Changing Capitalism*; January 2021

6 NESTA, *How Inclusive is Innovation Policy? Insights from an international comparison*, November 2018

4.12. Bringing our motivations of innovation, life chances and wellbeing together the vision is structured in a way to drive growth; tackle the concentration of impacts on those groups least able to absorb the shocks; increase wider societal wellbeing; contribute towards our response to climate change and meeting net-zero carbon emissions; and be relevant to the challenges that we are facing in our society, environment and economy.

Right Time, Right Place

4.13. Focusing economic policy on core high potential industries to gain competitive advantages, putting innovation centre stage, or packaging innovation and inclusion together are not new approaches and follows a great tradition.

- In 2014, **New Zealand** established National Science Challenges to tackle science-based issues and opportunities;
- Human capital and innovation are at the core of **Finland's** economic strategy, this along with significant R&D spending, enables them to build a distinctive competitive position;
- Investment in skills and innovation has been a core focus of the Estonian economic policy approach with **Estonia** now considered 'the most digitally advanced society in the world'⁷;
- In 2018, **Nesta** published a framework for inclusive innovation policy which recognised the growing focus on social impact as a goal of innovation policy.

4.14. While this is not a new lens to understand economic issues it is one that fits the moment. There is genuinely exciting innovation happening in the Northern Ireland economy. At the same time our young people, those with lower qualification levels, low income households and women are being disproportionately impacted by Covid-19. Driving growth through innovation and converting this into broadly felt economic gains captures these realities in a simple way that can focus policy makers and industry on the parts of the economy we want to make ten times better than they are today.

4.15. There is also significant momentum and funding behind this agenda. This is most visible through the UK Government's focus on 'Levelling Up', and in our own City and Growth Deal programme that will attract more than £1 billion investment.

5. FOCUSING ON OUR AREAS OF STRENGTH

Fear of Focus

- 5.1. In the past we have suffered from a 'fear of focus' that has prevented us realising our potential. We recognise that small advanced economies such as ours need to deliberately develop key and unique strengths to give us a competitive advantage.⁸
- 5.2. We must also position ourselves to respond to the global shifts and megatrends which cut across the economy, society and the environment. These include digital advances, increasing connectedness, an ageing population and climate change. Other small advanced economies are responding to these same challenges and we must prepare to take advantage of the opportunities they present.

Areas of Strength

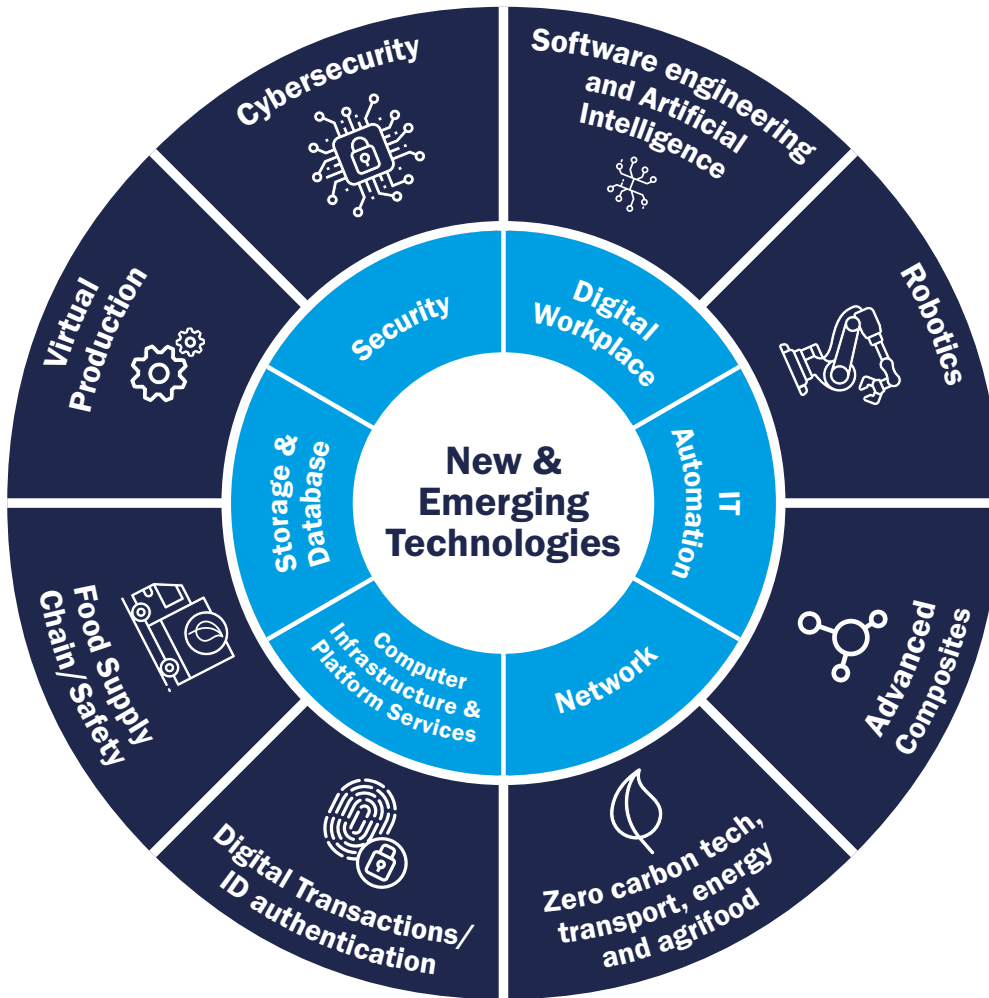
- 5.3. The delivery of this vision will focus on the areas of strength where Northern Ireland can be a global leader within the next decade. We need to define our priority areas of focus, and understand how these areas of speciality can be applied to support the whole economy and provide opportunities for all our people.

Technologies

- 5.4. We have worked with representatives from industry, academia and government to identify the technologies where Northern Ireland has key strengths. This engagement has included our [MATRIX](#) Panel, who provide advice to the Department, and informs academia and industry on the commercial exploitation of R&D and science and technology in Northern Ireland.

8 David Skilling, *Economic Context and Policy Approaches in Small Advanced Economies*, July 2016

5.5. The technologies that will shape the future from Northern Ireland are:



5.6. These ‘enabling technologies’⁹ are the foundation of our future growth. When applied on their own, or with a greater impact in combination, they generate increased innovation, higher levels of competitiveness and help businesses diversify into new markets. However, their real impact comes when they are supported to come together and form ‘clusters’ in the economy. We have identified a number of clusters where we have the potential to be world class, creating a unique proposition for NI and developing global leadership capabilities.

9 An enabling technology is something which enables the user to improve their overall performance. They can sit alone, or in combination, to generate increased innovation, higher levels of competitiveness and help businesses diversify into new markets.

Clusters

- 5.7. The development of key strategic clusters is widely acknowledged as an important driver of competitiveness in economies around the world. Internationally orientated firms are frequently embedded in deep clusters with highly integrated supply chains. Other small advanced economies with successful clusters include Switzerland (finance, pharma, precision engineering), the Netherlands (logistics, food), Denmark (shipping, renewable energy, pharma), Israel (high tech) and Hong Kong (finance, logistics).¹⁰
- 5.8. Our five priority clusters set out below relate to areas where we have seen the emergence of significant capability and capacity with the potential to drive the economy forward. A number of local businesses within these specialisms, both Small and Medium Enterprises (SMEs) and large companies, have already demonstrated an appetite for collaborative working and have come together with academic partners and other key stakeholders to develop new products, services and ways of working.
- 5.9. These technologies and clusters will evolve and change, and policy must keep pace with these changes. Whilst these clusters may change over time, our commitment to 'tightening an economic strategy from broad sectors to strong or emerging specialisations'¹¹ will remain.

10 David Skilling, *Economic Vision: supporting analysis & assessment*, 2021

11 Julie Wagner, Bruce Katz & Thomas Osha, *The Evolution of Innovation Districts: The New Geography of global Innovation*, June 2019

NORTHERN IRELAND CLUSTERS READY TO ADOPT ENABLING TECHNOLOGIES



Priority Cluster	Definition
Digital, ICT and Creative Industries	The processing and communication of information by electronic means, including transmission and display, and incorporates Cyber Security; AI & Data Analytics; Telecom, Mobile & Data, Networks; Healthcare IT; Smart Cities; and Sports Tech. Digital and Entertainment Media.
Agri-Tech	The application of innovation and enabling technologies to build competitive advantage and transition to net zero across the primary and secondary processing sectors, including genomics, traceability of food, advanced packaging, plant and animal health specialisms, and the application of AI to new agricultural methods.
Fintech/ Financial Services	Services and technological solutions to the international financial services industry including banks, insurance companies, and asset management companies.
Advanced Manufacturing and Engineering	Advanced manufacturing is the use of innovative or cutting edge technologies and methodologies for improved competitiveness in the manufacturing sectors. It embraces companies in Aerospace & Defence, Automotive, Construction, Materials Handling, Electronics, Energy, Water and Consumer Products.
Life and Health Sciences	Specialisation in Pharmaceutical, Diagnostics, Connected Health, Medical Devices and Biotechnology with a focus on enhancing wellbeing and providing health care solutions.



6. MAKING IT HAPPEN

- 6.1. We have a real opportunity to make a difference over the next decade, but we can only do so by adopting a partnership approach to delivery. Co-design and collaboration across government, businesses and academia will be vital to achieving a culture of innovation that benefits everyone.
- 6.2. Our approach to developing interventions will fall into five categories:
- i). Exploiting the **'windows of opportunity'** that are in our priority technologies and clusters;
 - ii). Preparing a **future generation of workers** that can respond flexibly to skills shortages and drive economic growth.
 - iii). **Diffusing innovation** from our core strengths to the wider economy;
 - iv). Taking a new approach to **funding interventions**; and
 - v). **Place-based investment** that sets Northern Ireland apart from the crowd.

Windows of Opportunity in our Priority Technologies and Clusters

- 6.3. 'Windows of opportunity'¹² are being created by the seismic changes to the global economy. Aligning our key strengths to these opportunities can help us reverse the economic drag of our structural weakness and catch up lost ground on our competitors.
- 6.4. The three different types of windows that exist are:
- **Technological windows** that are created by major technological advancements, e.g., digital opportunities in electronics created by the advancement from analogue technology;
 - **Demand windows** where new consumers or new local demand creates a major shake-up in the market, the demand for sustainable and zero carbon products and services; and
 - **Institutional windows** that are created by public policy intervening in an industry or market to make drastic changes, e.g., the unique set of trading arrangements created from leaving the EU.

12 David Sainsbury, *Windows of Opportunity*, February 2020

- 6.5. These windows of opportunity vary between technologies and clusters, and firms do not have equal capabilities to take advantage of them. These differences need to be understood so that we can target our strengths at the right windows.
- 6.6. Examples of the windows of opportunity for our priority clusters include¹³

Digital, ICT and Creative Industries:

Northern Ireland already has recognised world class strengths in Cyber Security. We now have the opportunity to build upon our existing success and attract new people to this sector through initiatives like DfE's new pilot online Cyber Security Skills Development Platform which allows us to grow our Cyber skills base and allow a cross section of people to develop specialist skills and access employment opportunities. With the digital transformation market forecast to significantly grow over the coming years, there is the potential for there to be demand for up to 2,500 new workers annually with an additional 25,000 potentially required over the next decade.

Agri-Tech:

Northern Ireland has a large agriculture industry that is successfully evolving to meet changing customer demands and there is high potential to apply innovation and technologies such as Artificial Intelligence to this industry. With the NI food and drink sector growing by 7% in 2018 to over £5 billion, agri-food remains a key catalyst for other sectors of the economy. We need to build on opportunities such as demand for locally sourced, organic foods, and understand how applying innovative technologies to this sector can lead to advancements and position businesses to meet the demands of the future. We have leading edge research facilities in this area, such as the Institute for Global Food Security, which, through collaboration with our strong food manufacturing sector, can provide opportunities for companies to develop new products and processes. It is estimated that the demand for new workers in agri-food could grow by 1,000 annually, with up to 10,000 new workers required in the next decade.

¹³ The job potential identified within the five priority clusters has been calculated by analysing data from the 2019 Skills Barometer produced by Ulster University Economic Policy Centre. The projections that have been used refer to total demand for new workers (from education and/or migration) annually. Some of this is because of sectors expanding but will also include demand generated from replacing workers that leave the sector through the likes of retirement or sickness. It is higher than just net employment growth.

Fintech/ Financial Services:

The radical, technological transformation in how financial services are delivered represents a technological window of opportunity for NI. The UK has positioned itself as a global leader in this sector and Belfast is emerging as a key regional hub delivering innovative financial services.¹⁴ There is an opportunity to deliver high value jobs in Northern Ireland whilst also improving inclusion through faster, cheaper financial services for small businesses. Northern Ireland has an estimated 7,000 Fintech related roles, with over 70 firms operating in this field, contributing over £390m in Gross Value Added. It is estimated that there may be potential demand for around 1,100 new workers annually in this area, with the potential for there to be up to 11,000 new workers required over the next decade.

Advanced Manufacturing and Engineering:

Northern Ireland has a technological window through our strong manufacturing heritage combined with world class innovation. There remains a higher concentration of manufacturing businesses here than in the UK as a whole. Northern Ireland has a number of centres of excellence such as Northern Ireland Advanced Composites & Engineering Centre that continually innovate to ensure our businesses compete at a global level. It is envisaged that there is the potential for an additional 1,500 workers to be required by the Advanced Manufacturing, Materials and Engineering sector each annum, if this projection is correct, this could result in up to 15,000 new workers within the next decade.

Life and Health Sciences:

By 2030, 400 million people will be over 60. The most exciting breakthroughs in technology will be driven by the needs of this population, and the Life and Health Sciences Sector will be at the cutting edge of this opportunity.¹⁵ Northern Ireland has an ideal environment for cutting-edge healthcare R&D and innovations underpinned by a uniquely integrated health and social care system. With an ageing and growing population across the globe, we can capitalise on the opportunity for increased demand to provide remote and digital medical solutions for our ageing population with more complex needs. Northern Ireland has a strong base of market leading companies to build from, with a significant number of private enterprises associated with diagnostics, and our universities in the top 10 in the UK for bioscience research. The benefits of innovation in this area can be seen not only in global sales, but in the positive outcomes they can bring to people living with a wide range of illnesses. It is forecast that there could be a requirement for up to 300 new jobs in this area annually with up to 3,000 new workers in the next decade.

14 <https://www.gov.uk/government/publications/the-kalifa-review-of-uk-fintech>

15 Mauro F. Guillén, 2030: How Today's Biggest Trends Will Collide and Shape the Future of Everything, October 2020

- 6.7. The transformation to our ways of living in order to reduce our carbon footprint and waste cuts across these priority clusters. There are both significant economic opportunities and adjustments across the priority clusters and the economy more broadly as part of our efforts to address climate change. Various industries such as energy, transport and construction will see changes in technology which will have substantial implications for the mix of skills required. The UK Government's '10 Point Plan for a Green Industrial Revolution' sets out a commitment for up to 250,000 new jobs to be created across the UK by 2030 as part of efforts to move towards net-zero. We want to see Northern Ireland obtaining a significant share of this growth in jobs and taking advantage of other opportunities which arise from our transition to a greener, more sustainable economy.
- 6.8. Driving innovation through all of these windows of opportunity must be accompanied by our commitment to economic growth and development meaning something to all of our people, i.e., these windows of opportunity must provide a gateway to 'good growth' for Northern Ireland's economy, society and environment.

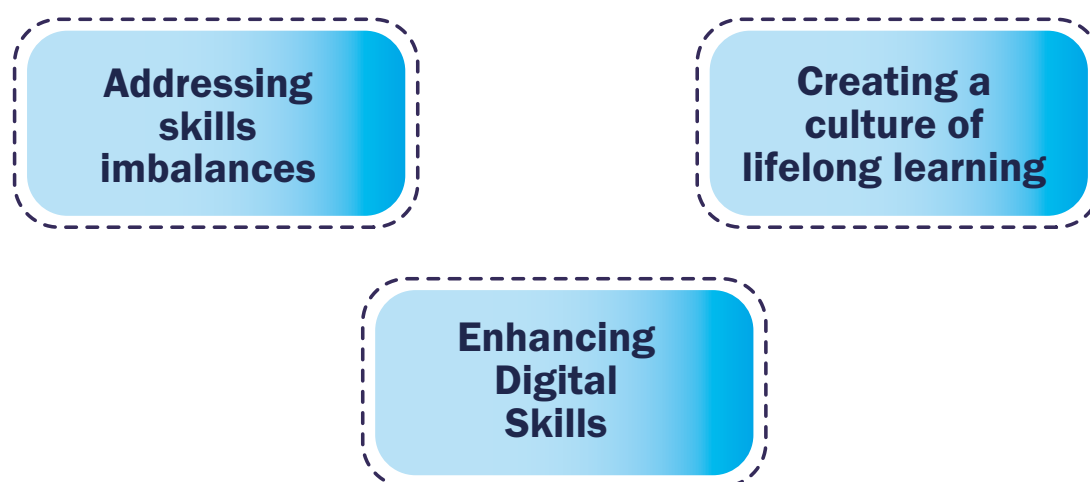
Investment in Skills

- 6.9. The global economy is changing quickly:
- Almost one-third of all jobs worldwide are likely to be transformed by technology in the next decade;
 - By 2022, 133 million new jobs in major economies will be created to meet the demands of the Fourth Industrial Revolution; and
 - In the next two years – by 2022 – 42% of core skills required to perform existing jobs are expected to change.¹⁶
- 6.10. For this vision to translate into something meaningful for all our people these global changes cannot pass them by, or their economy change without equipping them with the skills to participate in the new opportunities. Our world-class Further Education Colleges and Universities, working in partnership with industry, will be at the heart of preparing our people for the workplace of the future.

16 World Economic Forum, *Why we need a global reskilling revolution*, March 2021

6.11. 'Skilled people generate new knowledge, adopt and develop ideas, and quickly learn and adapt to changes in the landscape'.¹⁷ Such a workforce can enable firms to build their capabilities and have the capacity to take advantage of new and emerging opportunities. Adopting this approach will be key to attracting businesses to invest, supporting companies to start up and scale up and giving all of our people the skillsets to participate in the decade of innovation.

6.12. Achieving our goals will be delivered through three major policy objectives:



Addressing Skills Imbalances

6.13. We want to boost the potential of our labour force at all levels of qualification and employment to drive economic performance and provide access to new opportunities for all.

6.14. We have too many people with low or no formal skills. Addressing this is fundamental to achieving Northern Ireland's economic ambitions and to improving wellbeing and getting more people into better jobs. This will mean an increasing emphasis on the qualifications that businesses need to drive growth and support innovation. We will focus on our core technologies and clusters, addressing the under-representation of women in STEM and increasing participation in STEM across the board. More people in apprenticeships, gaining technical skills and advancing to mid-level, sub-degree qualifications will build the capacity of our businesses to adapt to new technologies.

6.15. Collaboration across Government is key to this, working closely with the Department of Education on projects such as the 'Transition of Young People into Careers (14 – 19) Project' and the 'Independent Review of Education', announced by the Minister of Education in December, will be of crucial importance. Likewise, we will work with colleagues in the Department for Communities, to address barriers to employment and supporting the economically inactive to move towards the labour market. At the heart of it all will be our schools, Further Education Colleges and Universities working in unison to ensure that all of our young people have the opportunity to reach their potential.

Culture of Lifelong Learning

6.16. In developing an economy and society that works for everyone, we must focus on supporting individuals to achieve higher level qualifications; qualifications which have real labour market relevance and provide access to quality jobs, creating a culture of lifelong learning.

6.17. Strategic planning in our education system is essential, and we must work in partnership to bolster an education system that provides pathways to successful education and employment outcomes for everyone. The need for more urgent change, however, cannot be overlooked. Changing the skills profile of our population will rely on individuals in the workforce and their employers recognising the benefits of re-engaging with education, taking advantage of upskilling and reskilling opportunities. Addressing Northern Ireland's comparatively poor participation rates in lifelong learning will be crucial.

Enhancing Digital Skills – Developing our Digital Spine

6.18. Keeping pace with the rapid technological change in the global economy will require transformation in the digital capabilities of our population. The priority clusters identified in this vision where Northern Ireland can develop a unique, competitive proposition are intrinsically reliant on advanced digital skills; bolstering the supply of such skills will be key to our success. Beyond that, however, some level of digital capability is essential in almost every modern workplace and as the Covid-19 pandemic has illustrated, is increasingly linked to an individual's capacity to participate in modern life. We need to look across the digital skills spectrum, boosting the supply of high level skills and ensuring everyone has the capacity to participate in, and benefit from, Northern Ireland's emerging economic prosperity.

- 6.19. Underpinning these objectives, we recognise the need to work more collaboratively across Government, drawing out the benefits of more cohesive approaches to economic, innovation and skills policy; to ensure benefits and employability policy are directly linked to an economically relevant skills agenda and to provide clear pathways from compulsory education through third level provision and onward to fulfilling and rewarding jobs.
- 6.20. Finally, we must recognise the central importance of investment in our skills system. Our people, and the skills they bring to the labour market, are our most valuable resource. We cannot reach our economic potential without substantial investment in their talents, through a skills system which is designed to support a small advanced economy.

Innovation Diffusion

- 6.21. Innovation in the wider economy is essential to ensure we do not repeat the trend of innovation not being converted into widely felt economic gains. Only by applying innovation across the economy will we have an opportunity to disperse economic and societal benefits.
- 6.22. This requires a commitment to see the development, diffusion and dissemination of innovation, particularly in the areas where low productivity is an issue. The slow adoption of technologies or best practices are seen as a barrier to improving productivity amongst small and medium enterprises. We must recognise and overcome the challenges faced by businesses in adopting new practices, such as skills availability, time and financial pressures. In doing so we can unlock the potential for businesses to scale up and grow, create jobs, increase wages and lift the long tail.
- 6.23. In our context, this has to recognise the overwhelming dominance of the small business in our economy and our lower productivity. If we are to deliver on sharing the benefits of economic growth then we need to set an ambition to see a more even distribution of productivity and future productivity growth through innovation in these sectors.

6.24. Germany has a well-established infrastructure to support innovation and its diffusion into the wider economy, particularly in helping 'non-frontier' firms adapt technologies and innovative practices to their business models.¹⁸ Through our City and Growth Deals we are establishing the necessary infrastructure to connect businesses at all levels to new ideas and technologies. We must harness these Deals to ensure a sustained, positive impact on our economy. This network will be the foundation of translating innovation to the wider economy and bringing to life the benefits for our people of a highly productive economy. They aim to build upon the strengths and unique characteristics of the region, through targeted innovation interventions and address barriers to economic growth across all communities.

How we Fund Innovation

6.25. Transforming the scale of our ambition and where we focus our interventions also needs a change to how we support businesses to innovate. We're proposing to bring in three key changes to our approach:

- Better positioning NI's excellence to change our track-record on competing in UK-wide funding programmes;
- Using 'mission-orientated innovation' to make economic policy relevant to society; and
- Including conditionalities to offers of government support.

6.26. Northern Ireland has a poor track-record of competing in UK-wide programmes and this needs to change. The availability of funding, in itself, justifies this objective, but so does the fact that NI has an important role in supporting the wider UK Innovation agenda. The importance of putting NI on the map in the wider UK Innovation Ecosystem as a priority for investment is doubled down by the direction of travel towards a centralisation of former EU funding programmes. Separately, NI should maximise the benefits of its remaining access to EU structural funds, in particular the PEACE Plus programme (2021-2027) worth approximately €1 billion, as a significant allocation of these funds will be directed toward economic transformation.

18 Andy Haldane, *The UK's Productivity Problem: Hub No Spokes*, June 2018

- 6.27. There are huge challenges facing society that touch all of our lives on a daily basis, from chronic health conditions to the digital divide. The use of Challenge Funds and 'mission-orientated innovation'¹⁹ can help address these challenges, fostering collaboration between local businesses and institutions to develop innovative solutions to wider societal problems. In this context the economy is driving solutions for the society and the environment. Other creative ways to actively stimulate innovation and encourage collaboration between business, academia and government must also be leveraged, such as targeted accelerator programmes and more clustering activities.
- 6.28. We must also pivot from a mentality of subsidy entitlement towards a problem solving one. In France, bailouts for the car and airline industries were linked to emission-reduction requirements. In Denmark, State Aid was denied to companies that use offshore tax havens.²⁰ Applying similar conditionality to offers of government support should be included in our vision to reflect the holistic and interconnected nature of the economic policy response.

The Importance of Place

Setting Northern Ireland Apart from the Crowd

- 6.29. 'Place' brings all of this vision together. In isolation, the key steps of this vision will not deliver the change we are looking to achieve. These factors need to combine and react in a specific environment to catalyse the economy. More importantly, this environment has to be unique to Northern Ireland to give us the competitive advantage that could not be achieved anywhere else.
- 6.30. This is what 'place' means in a decade of innovation. The challenge is understanding what makes 'this place' unique, and channelling investments and interventions into those areas that set Northern Ireland apart from the crowd.

A Thriving Innovation Ecosystem

- 6.31. The City and Growth Deals programme is game-changing for Northern Ireland. The injection of £1 billion investment in bespoke packages builds innovative capacity and capability throughout Northern Ireland, and will make a major contribution to driving inclusive economic growth in the regions.

19 Mariana Mazzucato, *Mission Economy*, January 2021 NESTA, How Inclusive is Innovation Policy? Insights from an international comparison, Nov 2018

20 Mariana Mazzucato, *Mission Economy*, January 2021

6.32. The importance of place is more than investment in our innovation infrastructure. The innovation ecosystem – the place where people and ideas collide to create the extraordinary – is also about the things that make Northern Ireland special. This ranges from the attractions you can see, through to the intangibles that we can't touch or feel but you could only find here.

What Makes Northern Ireland Unique – Our Thriving Tourism Offering

6.33. Our artists, writers, rich and unique cultural assets, the authenticity of our visitor attractions, our outstanding landscape and our warm-hearted hospitality brings more than 3 million people to our shores each year. This also saw Lonely Planet designate Northern Ireland as the Best Region in the World to visit in 2018. Our international visitors are not just important to the visitor economy, they bring a vibrancy to our towns and cities and help create the welcoming, diverse and multicultural environment required to retain and attract the talent needed to drive the knowledge economy over the next decade.

6.34. Our 'Giant Spirit' captures these characteristics that make Northern Ireland unique – our 'big hearted, pioneering, legendary and elemental spirit' can only be found here. The Open coming to the Royal Portrush Golf Club brought this to life. It was the product of who we are as people and the place we live in. Working together we improved the roads, regenerated towns, refurbished train stations, upgraded the water supply, made travelling easy and had world beating but invisible security for some of the biggest sporting stars on the planet. We had a world class golf course which we made even better, outstanding scenery, world class visitor attractions and a welcome so warm that it became as big a story as the golf itself.



- 6.35. The vision is dependent on unlocking the potential demonstrated in our unique attractiveness throughout this decade, and therefore our tourism sector will be at the forefront of marketing our reputation and attractiveness to the world.
- 6.36. Similarly, our creative industries put Northern Ireland on the map as a place apart from the rest – the biggest global audience in the history of television drama recognise us as Westeros from Game of Thrones but this is only the latest in a long tradition of legendary storytelling inspired by our place; a tradition that began with giants, and includes that other titan of inspirational mythology, Narnia, at the bottom of our mountains. This positive exposure is a powerful ingredient of place, but the arts and culture that surrounds these industries is also a key ingredient in the ecosystem that brings innovators together, and the economic benefits from thriving innovation flow into these very parts of our economy that bring colour and creativity to our lives.

Our Innovative and Agile Business Environment

- 6.37. Investment in Northern Ireland will make it attractive as a place to work, learn and visit, and help retain and attract the talent needed to drive the innovation led economy of the future. The Covid-19 pandemic alongside digital advancements has driven transformative change in attitudes to remote working. For people in remote locations this change opens up the opportunity to participate in high value employment, and for people currently in cities there is an opportunity to retain their high value jobs but also live in a spectacular part of Northern Ireland. This increased flexibility will additionally provide an opportunity for those with conditions or lifestyles that previously limited participation to now partake in a way not possible before.
- 6.38. Entrepreneurship and enterprise in our priority clusters and core areas of strength will help drive growth at a macro level. We also need to ensure this energy and growth can happen in any part of Northern Ireland by fostering a culture of entrepreneurship that supports new business development, embraces a 'can do' attitude and moves away from the traditional 'fear of failure' which makes us unimaginative or risk averse. This is an integral aspect of place-based growth in Northern Ireland's decade of innovation.
- 6.39. Northern Ireland has an existing rich structure of innovative spaces such as incubators which support young firms through early stages of growth with positive consequences for job creation, regional development and economic growth.

6.40. Organisations such as Catalyst provide agile workspaces which enable a connected community and help support both early stage and scaling companies and play a vital role within our innovation ecosystem. These connected and collaborative spaces may become even bigger in the wake of the Covid-19 pandemic and there is an opportunity for us to embrace this trend and really transform our innovative workspaces.

7. Showcasing NI Talent

- 7.1. This is a purposefully ambitious vision for the future of the Northern Ireland economy, but we are at a standing start. The businesses highlighted below provide only a snapshot of the talent we have in our economy. They demonstrate the outcomes we want to see and how we want to ensure that businesses in Northern Ireland are competitive on the world stage, admired across the globe and creating exciting opportunities for our people. Successful businesses will not just have an economic impact, but many will also have positive impacts on society and the environment.
- 7.2. It is clear from this small set of case studies that the change we are looking to achieve is already happening; the challenge set by this vision is how we mainstream this level of ambition and impact.

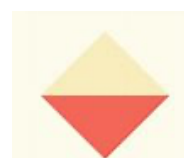
Entering the labour market – supporting our social enterprises

We want to draw upon the talented pipeline of individuals who may currently not be active in the labour market. One of the ways in which we can reach these people, and help them make the most of opportunities, is through supporting innovative social enterprises.

Ulster Supported Employment Limited (USEL) is a highly successful social enterprise which has attracted global attention and won awards through their innovative practices in carpet and mattress recycling. USEL assists people with disabilities and health conditions access the labour market through entering previously untapped markets. Their innovative thinking has led to a circular economy model that offers employment to those across society and demonstrates that innovation can and does occur at all levels of business.



Madlug, based in Craigavon, is an award-winning bag brand helping people giving dignity to children in care. The company operates a successful 'buy one, give one' model so that with every bag purchased, a pack-away travel bag is given to a child in care. Former social worker and founder, Dave Lindon, used his insight into the difficulties faced by children in the care system to establish this innovative Community Interest Company. Its social values has attracted interest in the social enterprise, care and business sectors with a market presence in NI and GB as well as initial steps into the US, Canadian and European markets.



Supporting entrepreneurs to start a business

Our ambition is to become an economy known for its enterprising culture and we want to drive up the rate of new business starts ups and create an environment that actively fosters and supports entrepreneurs to turn their ideas into reality.

The Vet Service, based in Coleraine, was founded by veterinarian Edwin Taylor. The company's focus is utilising their digital technology to streamline vet practice staffing requirements, connecting these organisations with candidates in the UK, Ireland and internationally. They have grown quickly, having successfully gained a number of domestic and international supply contracts.²¹



AIC Group Limited, based in Armagh, commenced trading in 2018. Founded by two young entrepreneurs, Connor Donnelly and Lorcan McGillian, this is an innovative driven company specialising in cutting edge environmental and waste management engineering practices. The company has more than doubled its employee base in the last eight months and is receiving support to enter the American market.



Growing and scaling existing businesses

Encouraging more companies to scale up and achieve high growth is a key element in creating more employment opportunities for all our people. We want to see new and smaller businesses take inspiration from our already successful scaling high growth firms.

TriMedika Ltd, based in Belfast, is a designer and manufacturer of non contact digital thermometers for use in a clinical setting, founded by Dr Roisin Molloy and Julie Brien who identified a gap in the market for devices that were not reliant on disposable covers. TriMedika is currently enjoying significant growth in global markets and is working on the development of an expanded product range to build on this initial growth and take the business to the next level.



21 <https://www.newsletter.co.uk/business/consumer/digital-vet-job-platform-continues-to-grow-3170381>

Diversifying the business base

What sets a successful business out from its competitors, is the ability to anticipate future needs, adapt to shocks and advancements and adopt innovative practices within its business model.

O'Neills, Ireland's largest sportswear manufacturer based in Strabane, has been awarded prestigious Platinum Level Innovator status in the Innovate NI Accreditation, the highest possible accolade in the accreditation. In March 2020, O'Neills transformed its production line to manufacture scrubs and gowns for frontline healthcare staff in response to the Covid-19 pandemic demonstrating how to respond to changing market conditions, add value and embrace a strong innovative culture.

The logo for O'Neills, featuring the brand name in a bold, lowercase, sans-serif font.

Expanding into external and global markets

Northern Ireland is a small, advanced economy and to be truly successful, we want to see many of our companies expand and export into external and international markets.

Shnuggle Ltd was founded in 2009 as a baby products design company is based in Newtownards. They launched the first hypoallergenic and wicker-less Moses basket in the autumn of 2009. They now have a growing range of innovative products with over 50 awards including prestigious a Queen's Award for International Trade in 2019 for outstanding short term growth in overseas sales over the last three years.

The logo for Shnuggle, featuring the brand name in a lowercase, sans-serif font inside a light purple oval shape.

8. HOW WILL WE MEASURE SUCCESS?

Development of a unique set of metrics

- 8.1. The ambition to make a generational change to our economy and to our ways of living should be matched by a new approach to how we measure the progress we are making.
- 8.2. Our vision strives for growth through innovation and for this growth to be inclusive. We need to capture how our economic policy improves the standard of living and wellbeing throughout society and what impact it has on our environment. We want to design our policies and programmes so that the rewards are distributed fairly across people and places, creating opportunities for all.
- 8.3. We are developing a core set of globally recognised metrics which will be used to assess how we are moving towards achievement of this vision. These are being designed so we can understand how we compare to the best in class economies on the international stage, and how our performance is improving against those exacting benchmarks.
- 8.4. This approach compares Northern Ireland to a diverse group of sixteen other small advanced economies. These high performing economies are characterised by active international engagement; strong, sustained investment in knowledge, innovation and human capital; as well as strong policy foundations that provide the support for economic success.²² These economies are also recognising that inclusive growth is fundamental to development and are taking steps that support innovation that is relevant to societal and environmental wellbeing.
- 8.5. We will produce an annual monitoring report which will set out what has been achieved, what more needs to be accomplished and to ensure that those we compare ourselves against remain appropriate. In order to tap into the best minds in this field, we will establish a panel of experts to provide recommendations on the way forward and to validate the approach we take to measurement on a continual basis.

22 [Economic-Context-and-Policy-Approaches-in-Small-Advanced-Economies.pdf \(economy-ni.gov.uk\)](#)

8.6. There may be other countries or regions outside of this group which can offer lessons for Northern Ireland. We want to focus further our efforts to build economic relationships globally, where by doing so, we create momentum in those areas of our economy where we have a clear potential to be a global leader. We will commission a programme of research which will identify relevant policy lessons from across the globe and provide recommendations for further international economic engagement to drive achievement of the Vision forward.

8.7. We have proposed indicators that will help provide a clear picture of performance across three separate pillars which capture our vision for Northern Ireland:



8.8. These proposed metrics have been selected by drawing from best practice approaches deployed elsewhere including the Brookfield Institute for Innovation and Entrepreneurship in Canada, NESTA, the Ulster University Economic Policy Centre²³, International Competitiveness reports from the World Economic Forum, the International Institute for Management Development and recommendations from globally respected experts such as Dr. David Skilling.

8.9. We are also taking our cue from a growing cadre of businesses whose yardsticks are not just the bottom lines of profit and growth but also by how they act to protect the environment and play their part in broader society. This approach is commonly called Triple Bottom Line Reporting and we plan to adapt it to underpin our vision.

8.10. Measurement of our performance on a global stage, building international economic relationships in the right areas and learning from international best practice will be important drivers towards realisation of our vision. Even more important will be ensuring that the programmes and policies we implement are designed and implemented in a manner that drives out the top level improvements we need to see. We are designing an approach to monitor the quality and performance at programme and policy level which will ensure we are making the right progress. We will set out more details of that as we move to the next stage of delivery.

23 [Competitiveness-Scorecard-for-NI.pdf \(ulster.ac.uk\)](#)

9. NEXT STEPS: DEVELOPMENT, DELIVERY AND TRANSFORMATION

- 9.1. This paper sets the vision for Northern Ireland prospering through a decade of innovation to make an economy that is ten times better than it is today, identifies the longstanding structural weaknesses and impacts of the Covid-19 pandemic where we need to see change, and positions innovation that works for everyone as the key to unlocking positive change in these areas.
- 9.2. We recognise that realising this ambition will not be easy. We have purposely chosen a 10x Economy and the wider challenges in this vision as our goal 'not because they are easy, but because they are hard; because that goal will serve to organise and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win'.²⁴
- 9.3. We have also chosen now as the time to be bold and ambitious because 'a time of crisis is exactly the moment to reimagine what type of economy and society we want to build, and the capabilities and capacities we need to get us there'.²⁵

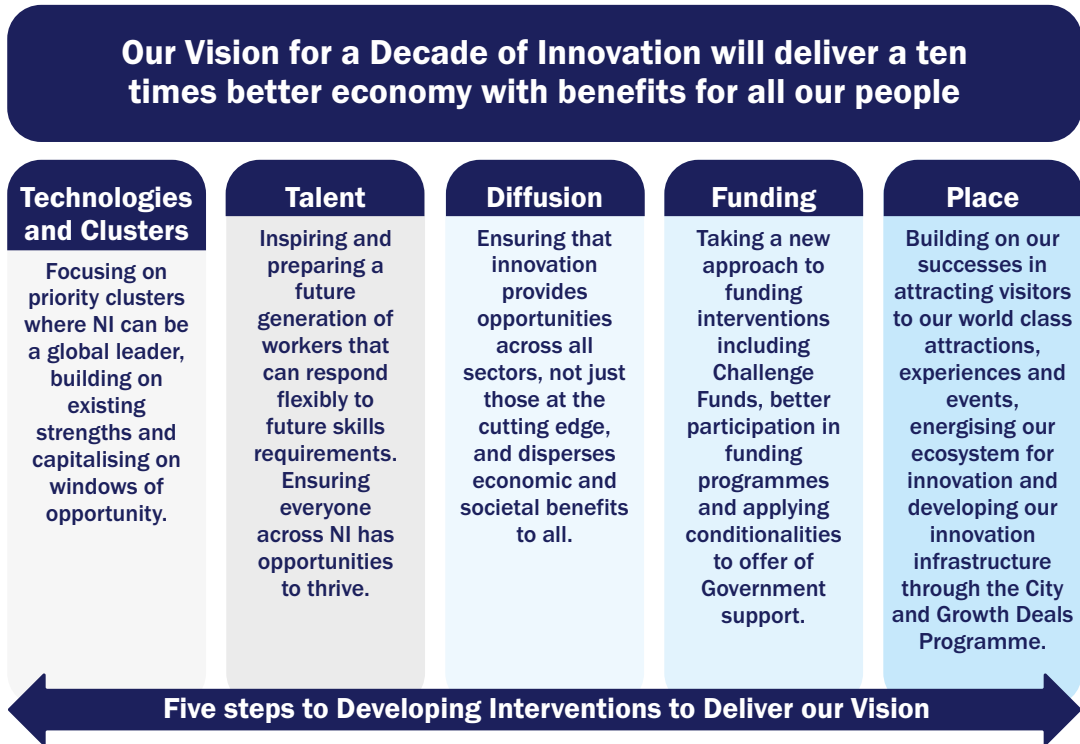
Overarching Challenge Questions

- 9.4. There is a wide policy framework created by this vision. This framework is brought together by three overarching challenge questions:
 - i). How does Northern Ireland become one of the most competitive small advanced economies?
 - ii). How do we ensure that this economic growth and development means something positive to everyone in Northern Ireland?
 - iii). How does a 10x mind-set deliver economic, societal and environmental (e.g. 'triple bottom line') benefits?

24 President John Kennedy's Rice Stadium Moon Speech, 12 September 1962. Accessible at <https://er.jsc.nasa.gov/seh/ricetalk.htm>

25 Mariana Mazzucato, *Mission Economy*, January 2021

9.5. The answer to these overarching challenge questions will be found within the five steps to success for developing intervention.



Collaborating towards a better tomorrow

9.6. Within each of these steps there is a sub-set of challenge questions. For example, in developing policy for our technologies and clusters we need to ask what are the largest global opportunities and how do we ensure growth in these areas is inclusive?

- 9.7. We will be taking a partnership and collaborative approach to answering these questions. There are some core personal qualities, experience and diversity that will be essential for this collaboration to work.



- 9.8. This co-design process must also actively understand and engage the dependencies this vision creates with wider cross government strategic approaches. It will be particularly important that this transformation moves in lockstep with similar programmes in education, social inequality and climate action, on top of the work being driven within the Department on skills, energy and tourism.

Organisational Development and Transformation Programme

- 9.9. It is from this strategic vision for the Northern Ireland Economy that DfE will derive its organisational purpose over the next ten years. To ensure DfE is appropriately positioned to meet these challenges, its Leadership Team has set out its own road map to success through an ambitious Organisational Development and Transformation (ODT) Programme.
- 9.10. The ODT Programme aim is to bring together, in synergy, DfE's strategic policy agenda and organisational development agenda to deliver real and lasting change to what the Department does and how it does it, so that we deliver for the people of Northern Ireland.

- 9.11. At a strategic level this aim will be advanced through six interlinked and interdependent projects as shown below. Each project contributes to supporting the 10x vision and the organisational culture that DfE seeks to develop. This can only be achieved through a transformation of working culture, behaviours, systems and processes, which are the supporting pillars to enable long term and sustainable change in our organisation.
- 9.12. The Policy & Strategic Direction Project, which will build on the vision set out in this paper, is positioned at the apex of the complex interdependencies that exist within the ODT Programme; it is therefore the focal point in support of which the entire DfE Transformation effort will be designed.



Future Work Programme

- 9.13. Our future work programme is ultimately focussed on the type of economy and society we have in 2030. The realisation of a 10x Economy by the end of this decade of innovation will have resulted in Northern Ireland being amongst the most competitive small advanced economies in innovation led, inclusive and having achieved green growth. In real terms, this will look like Northern Ireland being a magnet for investment, talent and visitors; thousands of high value jobs accessed by our non-academic population; and Northern Ireland is internationally renowned for our clusters and technologies.

9.14. The immediate steps we are taking on this journey are phased through our business planning cycles to promote and embed a fully developed 10x vision, that permeates all our strategies and policies, and brings forward interventions at speed to deliver this vision. This process will be driven by our ODT programme. Within the Department, a new Economic Policy Unit will drive delivery, create a shared goal of delivering on the 10x vision within the Department, and connect the dependencies with our strategic and delivery partners.

9.15. Key milestones in this process will be:

- Co-design groups working in partnership across all Divisions in the Department, preparing for our next business plan by the autumn; and
- Our 2022/23 Business Plan will include a delivery plan for 10x and signal our direction of travel throughout our decade of innovation.

9.16. The next decade will define us. Together we can build a bigger, brighter and better economy. Together we can achieve a 10x Economy.

Further Information

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