

A Nation with Ambition: a high tech, low carbon, inclusive economy

Discussion Paper – Innovation, creativity and digital drivers for industries of the future

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Overview

Technological change is transforming the way we work, conduct business, buy goods, entertain ourselves and communicate with one another. Businesses and governments across the world are investing in artificial intelligence, machine learning, data analytics, immersive technologies and low carbon energy technologies that will revolutionise the global economy.

This workshop will explore what technological change means for the Scottish economy: how it will impact on communications, production processes, design, logistics, and quality assurance. It will consider what Scotland must do to maximise the economic, employment and social benefits of technological change.

Scottish Government: ambitions and actions

The Scottish Government's Programme for Government (PfG) 2017-2018 acknowledges that:

“Change is happening all around us. We see it in technology, in the workplace, in the wider economy, in our environment, in so many aspects of everyday life...Rapid technological change is having a huge impact on our daily lives, often in exciting and life-enhancing ways, and we must ensure our businesses and people are ready to grab those opportunities. The good news is that there are few countries better placed than Scotland to tackle the challenges and take advantage of the opportunities that present themselves in the 21st century.

The Scottish Government has also highlighted the importance of ensuring that the challenges presented by technological change – including the increasing cyber threat to digital services – are addressed, and that good cyber resilience is seen as fundamental to Scotland's digital innovation.

The PfG included a number of significant initiatives aimed at ensuring Scotland realises the opportunities and addresses the challenges arising from technological change. These include action leading to the establishment of a National Investment Bank and National Manufacturing Institute for Scotland; additional support for Business Research and Development; a doubling of support for CivTech; the creation of FinTech Scotland; and the development and implementation of a suite of action plans to help realise our goal of being a world leading nation in cyber resilience.

In a recent major speech on the Scottish economy at the end of August, the First Minister emphasised the extent of her ambitions:

“...the overwhelming point I want to make is that Scotland wants - not just to embrace, but to lead, the key technological and social changes of the future. This is a fundamental point. I want Scotland to be the inventor and the producer of the innovations that will shape the future – not just a consumer of those innovations.

That’s partly a matter of necessity. No country can close itself off from the future. But more fundamentally, it’s because most of the changes we are seeing either are now – or have the potential to be – hugely positive for society as a whole. New technology is key to the productivity improvements which can then raise living standards for all’.

The Scottish Government’s policy framework - including Scotland’s Economic Strategy, and its defining commitment to Inclusive Growth, the Innovation Action Plan and the Labour Market Strategy - provides a strong basis from which to confront the economic challenges posed by technological change, ensuring that all Scotland’s people have the opportunity to benefit from new goods and services and employment opportunities in emerging sectors. The new type of dialogue between employers, unions and Government promoted through the Fair Work Convention will help ensure technology leads to positive change in the workplace. The Scottish Government also remains committed, as far as devolved powers allow, to the maintenance of a robust social safety net which meets the needs of all Scotland’s citizens as well as providing the security necessary to support innovation and entrepreneurialism.

It is important to note that quality jobs are already being created in sectors where Scotland is at the forefront of technological change. These include the games industry in Dundee and the emerging technology cluster (including FinTech) in Edinburgh. The world leading research pursued by Scotland’s higher education – for example, Edinburgh University’s work on robotics, data analytics and cyber security - and research institutions is translating into successful commercial ventures. Scotland has a global edge in enabling technologies such as sub-sea, data analytics, advanced therapies and sensors.

Possible Discussion Questions

1 What must we address now to ensure we can remain a creative and innovative nation?

2 In what sectors/technologies do the main opportunities and challenges for Scotland lie?

3 Are there major constraints to realising economic opportunities and, if so, what are the roles of Government, business and other stakeholders in overcoming them?

4 Can we be confident that the benefits of technological change will be evenly distributed? If not, what mechanisms can be deployed to ensure that every person and region in Scotland benefits?

5 How can technology support the Scottish Government's Fair Work agenda?

6 How can we most effectively address the cyber threat, which represents a significant and increasing challenge to all nations' digital ambitions?