SUPPORTING THE DEVELOPMENT OF IRELAND'S NATIONAL INDUSTRY 4.0 STRATEGY

A study for Ireland's Department of Business, Enterprise and Innovation (DBEI)

THE CHALLENGE ❱❱

To understand how digitalisation will affect manufacturing in Ireland and what policy measures are needed to support it

New digital technologies are creating opportunities and challenges for manufacturing sectors and firms around the world. Digitalisation has the potential to transform all aspects of manufacturing from how things are made to how they reach the customer and, ultimately, the way organisations do business.

But the rate of change is fast and there are high levels of uncertainty as to how some aspects of digitalisation will play out. While there is broad agreement that the opportunities for growth are considerable, there is a great deal of uncertainty. Current estimates of possible global job losses range from 2 million to as much as 2 billion by 2030, for example. If governments are to retain their national competitiveness while addressing potential socio-economic disruptions, they need to understand the digital landscape, their place in it and what they can do to capitalise on their existing capabilities.

Ireland has been described as one of Europe's 'digital front-runners'. However, to remain competitive, Ireland needs to ensure that it exploits the full potential of digital technologies.

> " *The study by IfM forms a valuable evidence base which is now being used to inform the development of an Industry 4.0 strategy for Ireland* ''
>
> **Senior Policy Analyst,**
> **Department of Business, Enterprise and Innovation**

THE CLIENT NEED

The Government of Ireland's Department of Business, Enterprise and Innovation (DBEI) commissioned a study from Policy Links to take a systematic look at the implications of digital technologies on Ireland's manufacturing sector and to identify policy options that could support Ireland as it continues on its digitalisation journey.

The Policy Links team looked in detail at:

❱ What is meant by the term 'digitalisation' in the context of manufacturing and why having a clear definition is important for framing effective policy interventions

❱ The current state of Ireland's manufacturing sector - how it is organised, why it is distinctive, its 'digital readiness' and the main opportunities and challenges for both multinational companies and SMEs

❱ What other countries are doing to support the digitalisation of manufacturing and what lessons can be learned from their approaches

❱ The policy priorities for Ireland if it is to support its manufacturing sector on its digitalisation journey.

The project was overseen by a steering group, comprising representatives of public bodies, research institutions and private firms.

THE APPROACH ❱❱

The team developed a framework derived from recent research and used it to inform a broad consultation with more than 50 stakeholders from both the public and private sector as well as a systematic review of international policy approaches.


Interviews with public bodies explored what makes Irish manufacturing distinctive while interviews with businesses elicited insights into how different manufacturing sectors might be affected by digitalisation.

These were complemented by roundtable discussions held in Dublin which looked at cross-sectoral challenges and opportunities both now and in the future, which digital technologies, products or solutions had the most potential and what capabilities Ireland needs to address the challenges and opportunities it faces.

Towards the end of the project, we ran a workshop which brought together representatives from industry associations, public bodies and public research organisations. Participants reviewed the team's findings, validated the emerging narrative, and reflected on how other countries are shaping their policy agendas around digitalisation and what lessons Ireland can learn from their experiences.
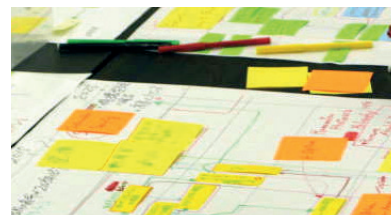
LEARNING FROM OTHERS

Addressing the opportunities and challenges arising from the digitalisation of manufacturing is a top priority for countries around the world and many of them have already put in place programmes to support it. Understanding the global policy landscape is an important part of developing a policy programme, both to gain insight into what other countries are doing and why and to formulate a distinctive approach that builds on existing strengths and strategies.

For this report, the Policy Links team undertook an extensive review of policy developments around the world and looked in more detail at 19 flagship programmes from countries such as China, Denmark, Finland, Iceland, Norway, Singapore, South Korea, Spain, Sweden and Taiwan. We identified the different types of support available for the three core innovation activities – knowledge generation, knowledge diffusion and knowledge deployment – in areas such as research and education, technology demonstration, formation of industrial networks and the provision of financial incentives.

REPORT OUTCOMES ❱❱

The report identified a number of priority policy themes that the Department of Business, Enterprise and Innovation and its agencies could focus on to support Ireland's digitalisation efforts.

For each of the priority themes, the report presents a number of practical policy approaches that could be adopted, based on relevant stakeholder inputs and international experience.

Overall, the information contained in this report is helping inform the design of practical policy action plans for Ireland.

ABOUT POLICY LINKS

Policy Links is a not-for-profit innovation policy consultancy unit whose aim is to help governments develop more effective industrial innovation policies. It is the knowledge transfer unit of the Centre for Science, Technology & Innovation Policy (CSTI), University of Cambridge. Our team is equipped with expertise and resources to provide professional advice, education services and policy solutions based on:

❱ World-class research in the fields of science, technology and innovation (STI) policy

❱ Specialist understanding of established and emerging technologies and industries

❱ Extensive knowledge and practical understanding of international policy approaches and best practice.

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