

DEVELOPING THE UK'S INDUSTRIAL CAPABILITIES

WHAT WE CAN LEARN FROM OTHER COUNTRIES

A study by Policy Links for the Department for Business, Energy and Industrial Strategy

THE CHALLENGE >>>

In 2017 the UK government published its Industrial Strategy with the aim of boosting the UK's productivity and competitiveness. At the heart of the Strategy are five 'Sector Deals', partnerships between government and industry designed to support the growth of some of our most important industries.

In the Green Paper which preceded the Industrial Strategy, the Department of Business, Energy and Industrial Strategy (BEIS) emphasised the importance of supply chains and the role smaller companies have in providing access both to vital materials and components and to new technologies and ideas. Large firms in other countries source more from their domestic suppliers than their counterparts in the UK and a large proportion of the UK's SMEs find it hard to carry out R&D and innovate.

If the Industrial Strategy is to succeed, therefore, it needs strong domestic supply chains. Without them, technologies developed in the UK might be commercialised – and the rewards reaped – elsewhere. But a key challenge for policy makers is a lack of clarity about how best to support these key industrial sectors in today's complex and interconnected global marketplace. This complexity makes it particularly difficult to understand the role of smaller companies within and across sectors, the barriers to their growth and the potential for policy interventions to build their capabilities.





BEIS asked the Policy Links team to look at how other countries are approaching the same problems and to provide insights which could inform its own policy decisions.

"We wanted to understand global policy best practice in supporting manufacturing value chains. Policy Links were a clear choice given their research expertise and global contacts. The team were responsive and flexible in meeting our requirements and the findings have already influenced our policy approach"

Clare Porter, Head of Advanced Manufacturing, BEIS

KEY OPPORTUNITIES FOR THE UK

To compare the different approaches taken by national governments, the team developed a common framework looking at 'value chain capabilities': how good is a value chain at delivering products and services to the customers and at being able to take advantage of new opportunities. It then applied this framework to four key areas of opportunity:

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1. Exploiting domestic supply opportunities
 – value capture from efficiency gains & improved trade balance
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2. Technology diffusion along value chains
 – value capture from improved productivity & competitiveness
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3. Promoting R&D among SMEs in the value chain
 – value capture from a more inclusive national innovation system
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4. Enabling development of the value chains of the future
 – value capture from industrialisation of emerging technologies





Policy Links then looked at how other countries are addressing these challenges, reviewing more than 60 national initiatives and programmes from Canada, the European Union, Germany, Japan, Taiwan, Singapore, Sweden and the United States before selecting 13 for detailed study.

KEY FINDINGS >>>

From its review of international approaches, Policy Links highlighted a number of areas policy makers should consider:

BUILDING THE RIGHT INFRASTRUCTURE



If the UK is to capitalise on its opportunities for growth, it needs flexible, decentralised institutions that are able to engage with different sizes and types of firms across regions. This does not mean creating new institutions but building on existing ones to develop long-term approaches that are at the right scale and have sufficient financial flexibility to deliver the right support. This might involve developing some decentralised facilities, as well as creating partnerships between research and technology organisations, industry associations, professional bodies, and universities.

SUPPORT FOR SMES



If the UK is to improve its national competitiveness it needs all types of companies to participate in the transformations made possible through innovation. Yet evidence suggests that smaller firms find it difficult to engage in innovation. They usually do not have the time, capacity or funds to keep up-to-date about existing sources of support. Other countries have used a variety of policy mechanisms to support SME engagement with new technologies.

INNOVATION IS NOT JUST R&D



If innovation programmes are to succeed they need to extend their scope beyond funding R&D to include activities that promote the knowledge and application of new technologies across the supply chain through, for example: pilot line and test-bed demonstration, developing skilled technicians and engineers, creating regional consortia of firms, building SME capacity and enabling them to enter new supply chains, and attracting FDI.

BETTER PERFORMANCE METRICS



In the UK, productivity and R&D metrics are the principal measures of industrial performance. But relying on R&D-related metrics (such as numbers of publications and patents) might not provide a complete picture of the impact of innovation and competitiveness policies. Similarly, rather than relying on productivity measures other countries use a variety of performance indicators, paying more careful attention to the particular challenges that institutions and programmes seek to address.

ABOUT POLICY LINKS

Policy Links is the (not-for-profit) knowledge transfer unit of the Centre for Science, Technology & Innovation Policy (CSTI), University of Cambridge. Embedded within the University of Cambridge's Engineering Department, the 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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