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FORK IN THE ROAD

Maximising the Economic Opportunity of Britain's Food and Drink Industry



A REPORT AND SUBMISSION TO THE INDUSTRIAL STRATEGY CONSULTATION BY RESPUBLICA





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About ResPublica

The ResPublica Trust (ResPublica) is an independent non-partisan think tank. Through our research, policy innovation and programmes, we seek to establish a new economic, social and cultural settlement. In order to heal the long-term rifts in our country, we aim to combat the concentration of wealth and power by distributing ownership and agency to all, and by re-instilling culture and virtue across our economy and society.

This is an interim report which highlights key challenges and opportunities and develops initial responses to these. A final report will be produced later this year, assessing and developing the themes and recommendations in this report. Both seek to be complementary to other contributions on the opportunities and needs of the Food and Drink industry. This report is supported by Nestlé UK, a subsidiary of the world's largest food company, and a significant contributor to the UK economy. The report is editorially independent of Nestlé. The contents of this report have been submitted to the Government's industrial strategy consultation.

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1. Overview

When 15 million tuned into last year's *The Great British Bake Off* final it was a sign of the huge interest across the country in British food. Over the last two decades our food industry in all its forms has developed in scale, diversity, reach, cultural significance and economic contribution.

The UK now has the most breweries in Europe, more than twice that of France and a third more than Germany, spurring a craft beer renaissance.¹ A huge rise in artisanal producers, regional growers and farmers' markets has flourished, and there are now 73 protected regional and traditional British foods and drinks. At the same time, a plethora of eating establishments have opened that has seen London hailed as the food capital of the world, while new business models have spurred home delivery businesses. The food industry at large - from 'upstream' farmers to manufacturers and 'downstream' retailers, caterers and restaurants - has a huge economic and social footprint, worth £109 billion in Gross Value Added (GVA) and provides jobs for 3.9 million people.²

At the heart of the food industry is its Food & Drink (F&D) manufacturing arm, the focus of this paper. It is a sixth of the entire UK manufacturing sector and its largest element. Global companies like Nestlé, the world's largest food company, have significant operations in the UK, and a strong presence in the North West, Yorkshire and the Midlands. The sector is a sizeable employer, with many highly skilled jobs, and is a significant investor in research and development (R&D). Industry primes are anchors in local economies and through their supply chains, have a positive impact across Britain. F&D manufacturing productivity gains are 22 times greater than the wider economy. The sector contributes significantly to exports, to Britain's global brand and in delivering food security.

F&D manufacturing has wider potential. The sector can be a key partner in helping up-skill the country's workforce and as an innovator, is developing new research and applying new technologies. With the location of its factories and jobs profile, it has the ability to play a critical role in the Government's focus on 'left behind' areas, spreading prosperity and opportunity. Companies like Nestlé are thinking searchingly about their broader societal purpose and contribution to wider public benefits such as health outcomes and how this runs through their business plans. F&D leaders can therefore be key partners in the new economic model championed by the Prime Minister.

The Government has said it wants to support races, not winners, but there is a sense that not all sectors are being supported in this way. Despite the scale of F&D's economic footprint, the stable contribution to growth, including in areas that face economic difficulties, and the potential for future growth, F&D manufacturing does not feature in the Industrial Strategy Green Paper - indeed, the omission risks undermining it. There are long-term sector strategies and arrangements for sectors, and aerospace and automotive are often cited and lauded for their products and economic contribution at the highest levels of Government - F&D should be too.

F&D faces a range of challenges which require specific attention. Infrastructure is critical to both the enlisting of the very best workforces and for maintaining operations, including the importing of raw goods and exporting finished products. Weaknesses in that infrastructure risk harming productivity. There are also looming skills deficits, particularly at the technical level.

The industrial strategy is championed by the Government as a route for addressing challenges in a comprehensive way. The strategy should therefore give a clear focus to F&D, recognising the economic contribution and the challenges the sector faces. To respond effectively, the challenges must be seen through the eyes of the anchors of the industry - its placed-based primes. They are a way to connect the Government's pillars of place, strong sectors and inclusive growth.

The systemic challenges, such as infrastructure and skills, are not simply macro concerns but shape the productivity and profitability of the individual sites of primes in localities. To respond to these at each site requires engagement by primes through a range of different arrangements and institutions, local and national, and with different capabilities. Locally enabled institutions are critical pillars of the industrial strategy and in rebalancing economic powers - economic devolution is fully backed by ResPublica - but there is a risk that if areas do not have the resources or capabilities there can be a post-code penalty for place-based primes. This variability creates a risk for primes, for the sector, and for the UK's economic performance. In turn, there is a challenge as to the degree to which national institutions support the industrial strategy, such as the National Infrastructure Commission (NIC), connect effectively to sectors, have visibility on the challenges of the sites of these place-based primes, and link to local institutions.

This landscape is made more complicated by Brexit. Exiting the EU provides additional pressures for primes which have to navigate far-reaching implications such as on rules governing food standards to potential changes to tariff-free trade with 60 per cent of food manufacturing exports heading to the European Single Market. The systemic challenges are also impacted by Brexit. Many F&D primes are non-UK owned and investment decisions are being considered against these concerns and how their sites remain competitive.

Sectors like automotive have had specific Brexit needs addressed, and publicly so. F&D has not been given the same assurances. The test for the industrial strategy is how it offers a way through these challenges, and this report outlines ways that this can be done:

- Fully recognising the value of the F&D manufacturing sector and place in the industrial strategy to provide certainty to businesses
- Enhancing the voice and role of primes including through co-ordinated sector representation and in developing sector support arrangements
- Enabling local and regional institutions and national bodies to respond to the needs of sector placebased primes and the targeting of industrial strategy support to achieve this
- Co-ordinating the industrial strategy and Brexit processes

2. Summary of Recommendations

This report outlines key challenges and opportunities faced by the Food & Drink sector in response to the Government's 2017 Industrial Strategy Green Paper consultation and makes the following policy recommendations:

Industrial Strategy

 F&D is an important sector for meeting the Government's objectives including economic rebalancing. The industrial strategy must fully recognise the contribution and value of the F&D manufacturing sector. Responding to the sector will not to be addressed simply through food industry or manufacturing sector approaches but with a specific F&D manufacturing focus and recognising that is it also an integral part of the food value chain.

Infrastructure

- To effectively identify and resolve the infrastructure challenges for the F&D sector requires a consideration of the perspective of place-based primes and anchor businesses. For their part, primes could come together to articulate shared challenges, most likely through a strengthened sector body or sector strategy.
- LEPs and Combined Authorities should be empowered to respond to the infrastructure needs of primes and their sites to avoid a post-code penalty for primes.
- The National Infrastructure Commission (NIC) should be empowered to assess the unique infrastructure needs of sectors, like F&D, and to work with localities to create a holistic picture and identify local gaps for primes. This could make up a key policy element of a sector deal or strategy.

Skills

 Although the Industrial Strategy Green Paper refers to an upcoming comprehensive skills audit, F&D continues to encounter considerable skills

- challenges. The audit should reflect the specific skills gaps of primes and at their sites and connect to the capacity of local institutions as well as responsibilities of national skills bodies.
- Career and apprenticeship pathways established in other manufacturing sectors are generating increased prestige and awareness. Equivalent measures in the F&D industry could offer similar results. There is an opportunity for government to join with the industry to talk more about the career paths within F&D to help overcome public misperceptions on the range of careers available.
- New public-private partnership models present a
 way of tackling local skill shortages such as repurposing LEPs with an effective skills function or
 strengthening business links with higher and further
 education institutions and with F&D specificity. This
 includes ways to enable a pathway of skills and
 qualification development alongside employment.

R&D investment and technological innovation

- The industrial strategy must articulate more clearly how investment in R&D and technological application can be realised in the F&D sector and recognise where there are opportunities for clusters and place-based primes to harness investment.
- A holistic picture should be developed on innovation potential within the food industry, farming, manufacturing and food use, including its clusters.
 This includes opportunities through the development and application of research, new technology, Al, robots, and automation, throughout the food pipeline; an assessment of the support eco-system; and how technology will shape the industry and future jobs. This could involve a debate about what science investment delivers and the social outcomes achievable such as better nutrition.
- Government research funding and industrial support is focused on certain industries to improve products and meet social goods. It should be applied to the F&D industry to help achieve health objectives and industry growth, and could form part of the Challenge Fund.

Supporting research and innovation at a local level requires an institutional framework to identify opportunities and foster collaboration, including between primes and local research institutions. LEPs must be enabled to support this around primes and through collaboration across supply chains.
 As primes operate across LEPs, co-ordination is needed to develop sector supply and cluster chain density, linking places and sectors. Presently, LEPs lack powers and funding for this. Reforms could mirror the success of places like the Ruhr in Germany or Lombardy in Italy, which encourage innovation across smaller firms and primes.

Brexit and Industrial Strategy

- The F&D sector provides a compelling example of where the industrial strategy must be integrated with Brexit processes in order to build long-term certainty, a sector strategy, institutional support, and respond in a co-ordinated way to structural challenges like skills. Other parts of the food chain like farming will be hugely affected by Brexit and this will in turn affect F&D. This also needs to be co-ordinated.
- Effective alignment of industrial strategy development and Brexit management could be formally assessed through the Exiting Europe and BEIS Select Committees joining more systematically alongside other relevant committees such as the Environment, Food and Rural Affairs Committee and the Environmental Audit.

A sector deal for Food & Drink

- There is a strong case to view the challenges and opportunities of F&D through the prism of placedbased primes and sites given these are where a range of challenges are located. This connects the idea of place, sectors and institutions within the industrial strategy.
- Using the lens of primes highlights the difficulty for industry in responding to challenges like infrastructure, skills and innovation. Place institutions like LEPs and Combined Authorities have responsibilities to act as do national bodies. If local institutions cannot act effectively, a situation of a post-

- code penalty emerges for primes and the sector and the strategy should seek to avoid this; and national bodies must be empowered to act on sector needs from the perspective of placed-based primes and to better co-ordinate with localities.
- The ability to capture and act on these challenges is a basis for renewed sector co-ordination and voice. The Food and Drink Federation (FDF) can have a critical role or as part of a body more akin to those overseeing strategies in other sectors (Automotive Council). Diversity of the needs of the sector and its primes and sites would need to be reflected.
- This approach should be a foundation of a sector strategy and for developing a long-term shared vision around key missions for F&D manufacturing, including links to wider manufacturing sectors and the food industry. The strategy or deal should support, through any government industrial sector funding arrangements, the co-ordination and capacity of localities to act to resolve site challenges a sectorplace pledge.

Purposeful Companies

- The industrial strategy should explicitly seek to cultivate and incentivise more purposeful behaviours and models through governance, taxation, procurement, business support and regulatory frameworks. Purposeful companies should not be viewed as a worthy addition but essential to achieve a more balanced, inclusive and productive economy.
- The industrial strategy can be a vehicle for redefining success and through a sector like F&D, shift the models to enable and support companies which can deliver the productivity growth and wider value on which living standards across all regions depend.

3. The Economic Contribution of the Food and Drink Manufacturing Sector

3.1 Value and contribution

The F&D industry is a significant economic contributor to the UK economy in value, output, size, employment, geographical footprint and positive impact. Its influence however extends well beyond the economic sphere, with key contributions to public health and wellbeing as well as the nation's cultural fabric, global reputation and national security through food resilience. F&D manufacturing encompasses a diverse range of innovative technologies, processes and finished products.

• F&D economic output

Annual F&D manufacturing turnover is £84 billion, producing Gross Value Added (GVA) worth £22 billion, almost the equivalent of automotive and aerospace put together.⁶ It is the largest sub-sector of manufacturing, equal to 16 per cent of output, ahead of transport with 13 per cent, pharmaceuticals with eight per cent from and chemicals with four per cent.⁷

Employment

F&D comprises approximately 15 per cent of the UK's total 2.7 million strong manufacturing workforce, equivalent to 411,000 workers. The industry also provides jobs for an additional 1.2 million people across its supply chains and in non-manufacturing F&D activities.

Productivity

While there is no silver bullet for addressing the UK's long-standing productivity gap, F&D manufacturing makes a notable contribution, having increased productivity by 11 per cent from 2009 to 2014 compared to 0.5 per cent in the overall economy. Since 2000, F&D has registered year on year growth in productivity per person hour which following the 2008 financial crash, outpaced the performance of key sectors such as finance and insurance, chemicals, textiles and machinery. 11

R&D

The F&D sector is an active investor in R&D, allocating £430 million towards innovation in 2014, an increase in 43 per cent on 2010 and equivalent to 2.2 per cent of UK private R&D spend.¹²

Exports

The sector has bucked a downward trend of UK goods traded abroad over the last decade, with trade rising by 10.5 per cent in 2016 to reach a record £20.2 billion.¹³ With total export value of all goods and services calculated at £301 billion by the ONS in 2016, F&D exports made up 6.7 per cent.¹⁴

Food security

From a security of supply perspective, thanks to the scale and productivity of the domestic F&D base, the UK is 76 per cent self-sufficient in home grown foods, marginally higher than the ratios for France and Germany.¹⁵

• Brand Britain

The UK now has 73 protected regional and traditional British foods and drinks. The strength of these goods and the high-quality reputation they carry is beneficial to UK exports and marketing appeal overseas. An international perceptions survey by Barclays Bank found the label 'Made in Britain' inspired customers in emerging markets to spend an extra seven per cent on food goods when compared with products without a declared country of origin. ¹⁶

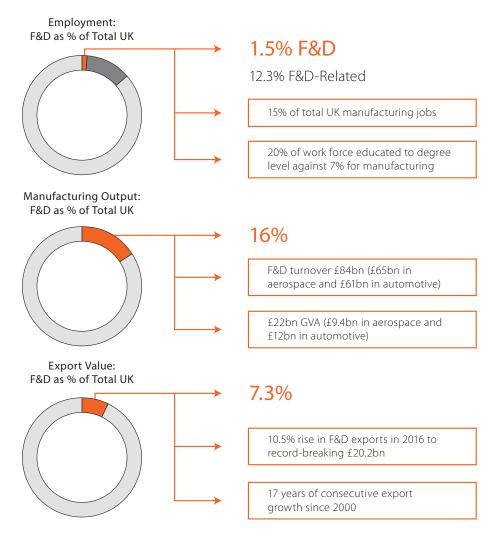
• Business creation

The F&D manufacturing industry expanded by 66 per cent between 2000 and 2014, representing a net increase of 1,930 new enterprises in 2014 alone.¹⁷

Clusters and economic footprint

The sector, through its primes, clusters and supply chains, is a significant employment anchor and has a strong economic footprint across the country with

ECONOMIC CONTRIBUTION IN A SNAPSHOT

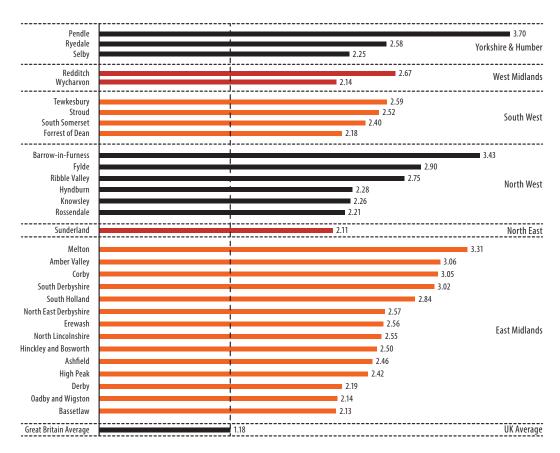


Source: ResPublica Calculated from ONS

particular representation in the North West, Yorkshire and Midlands. The same is true more generally of manufacturing (of which F&D is a significant part. Location Quotient (LQ) is a valuable methodology to quantify how concentrated a particular industry or cluster is in a given place as compared to the national average. An outcome of 1.0 means a specific area is just as specialised in the sector in question as the rest of the

nation; where the higher the LQ, the greater the degree of industry specialisation. The table overleaf shows the geographical spread of the top 30 English local authorities by LQ for specialisation in manufacturing, including F&D. While Yorkshire & Humber is home to the local authority with England's highest concentration of manufacturing, the East Midlands overall make up the lion's share of manufacturing clusters.

TOP 30 MANUFACTURING CLUSTERS BY ENGLISH REGION



Source: ONS 'Location quotient data and industrial specialisation for local authorities' (2017)

3.2 Lack of F&D in the industrial strategy

Despite the size, importance and potential opportunities of the sector, F&D has not received adequate focus within the industrial strategy giving rise to industry concerns that its overall contribution is undervalued. While F&D is connected to the manufacturing sector and shares many common challenges, and has connections to the wider food industry and production including farming, there is not an equivalency. F&D manufacturing has concerns that require specific focus and could reasonably be expected to have direct attention but equally it is part of a food value chain, including farming, and is shaped by it and derives value from it.

While there is a lack of recognition specifically of the F&D manufacturing sector and its challenges, the Government has commissioned many reviews on the back of the industrial strategy Green Paper. Sector-specific reviews like those into the Nuclear and Creative Industries have been announced. There is not one for the F&D sector but there are several reviews that are linked to or affect the sector, and which require engagement across departments. It suggests more effective co-ordination with the F&D sector is needed. The table below, although not exhaustive, outlines a snap shot of these reviews.

Sample of recent reviews or strategies linked to industrial strategy and business operations that shape the F&D sector in 2017	Department
Business Energy Costs	BEIS
Entrepreneurship led by Sir Tim Dafforn	BEIS
Industrial Digitisation led by Juergen Maier	BEIS
Industrial Strategy	BEIS
Life Sciences led by Sir John Bell	BEIS
Corporate Governance	BEIS
Small Business Research Initiative led by David Connell	BEIS
Ultra-low Emission Vehicles led by Richard Parry-Jones	BEIS
Modern Employment Practices led by Matthew Taylor	BEIS
FTSE 100 Female Leaders led by Sir Philip Hampton/Dame Helen Alexander	BEIS
Ethnic Diversity on UK Boards led by Sir John Parker	BEIS
Productivity Review led by Sir Charlie Mayfield	BEIS/HMT
Role of Local Enterprise Partnerships	DCLG
Digital Strategy	DCMS
Artificial Intelligence led by Dame Wendy Hall	DCMS and BEIS
Food and Farming	DEFRA
Post-16 technical Education led by Lord Sainsbury	DfE and formerly BIS
Post-16 Mathematics Education led by Sir Adrian Smith	DfE and HMT
Childhood Obesity Plan	DfH
R&D Tax Credits	HMRC
Patient Capital led by Sir Damon Buffini	HMT
Infrastructure Cost and Performance	HMT/Infrastructure & Projects Authority

Policy Recommendations

• F&D is an important sector for meeting the Government's objectives including economic rebalancing. The industrial strategy must fully recognise the contribution and value of the F&D manufacturing sector. Responding to the sector will not to be addressed simply through food industry or manufacturing sector approaches but with a specific focus.

4. Risks and Opportunities for Growth

4.1 Infrastructure

Context

High performing infrastructure underpins economic productivity, private sector investment, agglomeration and clustering for anchor businesses, and trade efficiency.¹⁹ The UK has a chequered track record. The World Economic Forum ranks the UK 24th on infrastructure competitiveness behind Japan in 6th, France in 8th and Germany in 13th place.²⁰ Spending has also not kept apace to that of the UK's competitors, with the annual infrastructure budget falling almost £30 billion short of OECD recommended targets.²¹

Infrastructure strengths and weaknesses are distributed unequally across the country. In 2016 for instance, public spending on transport amounted to £1,870 per person in Greater London but only £300 in the North East, £290 in the North West, and £250 for the Yorkshire Humber region whose population is only a third smaller than London. 22

The establishment of the National Infrastructure Commission (NIC) in 2015 has sought to provide a clearer process and pipeline for delivering projects and an enduring institution that commands political consensus throughout electoral cycles. Elsewhere, new civic leadership and devolved budgetary powers for major city regions such as Greater Manchester, Liverpool and Sheffield are set to drive infrastructure improvements in metropolitan areas. On a more granular level Local Enterprise Partnerships (LEPs) have responsibility for drawing up plans for strategic business needs in localities.

Challenges

High-performing transport infrastructure is critical for manufacturing, especially F&D, for both its workforce and goods. F&D is export-intensive with

long-established capital and is dependent on good connectivity for supply chain clustering and density, access to international markets, fewer business costs and attracting investment.²³ F&D manufacturers rely on local transport infrastructure to bring raw materials on site and ship finished products efficiently around the country and to export markets. Regarding the workforce, for F&D plants to reach maximum capacity and for workers to be as productive as possible, staff must be able to arrive quickly and safely for shift-based work.

The factories of place-based primes and industry clusters, can face poor local infrastructure which impinges on business performance, productivity and profitability and shapes investment decisions for UK sites. How the needs of primes are raised and addressed is therefore a mission-critical question. As primes have multiple sites they must work with and through multiple LEPs, whose effectiveness and capabilities differ. In addition, LEPs can also lack resources and staffing. Delivery, budgets, and decisions also rest within the remit of national bodies and in Government. Overlaid are new combined authorities, which offer the opportunity of additional focus in some areas, and some areas will have new metro-mayors, which could offer additional leadership. In addition, there are new co-ordination bodies in Transport for the North and the Northern Powerhouse, covering some localities and F&D sites. Local enabled institutions are critical pillars of the industrial strategy and to rebalancing economic powers but if areas do not have the appropriate resources or capabilities there is a risk of post-code penalties for place-based primes. This variability poses obstacles for primes, for the sector, and for the UK's economic performance.

A corollary is looking through the lens the other way, and how the visibility of the infrastructure challenges of these place-based primes is captured through the industrial strategy and institutions at a national level. The case study below illustrates the infrastructure challenges an industry prime can face.

Case study: Halifax

Nestle's site in Halifax is a significant part of the company's operations and has a strong local economic footprint, cementing the supply chain. Good transport links are vital for the transport of the factory inputs and finished products, and the 1,000 strong commuting workforce. However, links are via the M62 motorway, and through one of the UK's most congested stages, while train services are also poor. These transport challenges contribute to the productivity and competitiveness of the site. There is also a wider socio-economic cost locally, estimated at £1.5 billion.²⁴

Although the Halifax plant falls outside of a metropolitan area, it is part of the West Yorkshire Combined Authority (WYCA) which could mean stronger articulation of needs and coordination around local infrastructure. Nevertheless, resolving the infrastructural failings in Halifax will necessitate cooperation between WYCA and Calderdale Council, the Department for Transport, Department for Communities and Local Government, Treasury and the Department for Business, Energy and Industrial Strategy (BEIS). It will also likely draw in regional institutions like Transport for the North, the Leeds City Region LEP and national bodies such as the NIC, Network Rail and Highways Agency.

This is a complex environment of overlapping responsibilities for this infrastructure challenge to be prioritised and addressed.

Policy Recommendations

To effectively identify and resolve the infrastructure challenges for the F&D sector requires a consideration of the perspective of place-based primes and anchor businesses. For their part, primes could come together to articulate shared challenges, most likely through a strengthened sector body or sector strategy.

• LEPs and Combined Authorities should be empowered to respond to the infrastructure needs of primes to avoid a post-code penalty for primes. The NIC should be empowered to assess the unique infrastructure needs of sectors, like F&D, and to work with localities to create a holistic picture and identify local gaps for primes. This could make up a key policy element of a sector deal or strategy.

4.2 Skills gaps

Challenges

The processes and technologies within the F&D sector demand a significant proportion of high-skilled workers. In food manufacturing, 38 per cent of employees are qualified to A-Level or above and 20 per cent educated to degree level compared to just seven per cent graduate employment in all manufacturing sectors. ²⁵ In spite of this, the sector has struggled to overcome misconceptions that its processes require fewer complex and high-end skill requirements than other engineering fields. In 2015, no F&D company entered the top twenty of engineering graduates' perceptions of the top one hundred companies to work for in the UK and only a handful made the list at all. ²⁶

Like wider manufacturing, the F&D sector is facing a cliff edge on STEM and technical skills as workers retire. Over a third of employees in the F&D sector are expected to retire within the next 15 years, taking with them invaluable experience, skills and knowhow. Replenishing lost talent with ready-to-work and technically skilled staff quickly across the sector will be especially testing. By 2022, the industry will require an additional 110,000 new jobs to sustain current growth projections.²⁷

The industry is taking proactive action to address skills shortages. The National Centre of Excellence for Food Engineering in Sheffield involves industry and education institutions working to develop the next generation of engineers.

Similar to resolving infrastructure challenges, to address skills needs at their sites, primes will have to work with a range of national and local institutions and with various capabilities. Only two of the country's top 15 LEP skill areas are north of the Midlands. Sectors and companies, particularly those located outside of cities face smaller pools of talent, affecting local business performance.²⁸

Policy Recommendations:

- Although the Industrial Strategy Green
 Paper refers to an upcoming comprehensive
 skills audit, F&D continues to encounter
 considerable skills challenges. The audit
 should reflect the specific skills gaps of
 primes and at their sites and connect to
 the capacity of local institutions as well as
 responsibilities of national skills bodies.
- Career and apprenticeship pathways established in other manufacturing sectors are generating increased prestige and awareness, such as the apprenticeship programmes at Rolls Royce, BAE Systems and National Grid. Equivalent measures in the F&D industry could offer similar results. There is an opportunity for government to join with the industry to talk more about the career paths within F&D to help overcome public perceptions.
- New public-private partnership models may present a way of tackling local skill shortages such as re-purposing LEPs with an effective skills function or strengthening business links with higher and further institutions with F&D specificity. This includes ways to enable a pathway of skills and qualification development alongside employment.

4.3 R&D investment and technological innovation

Context

Technological progress and investment in innovation are key drivers of higher income and skill levels and of maintaining the UK's economic and sectoral competitive advantages. Raising UK productivity rests on the capacity to innovate, attract and retain world class talent, and adequately fund and support knowledge-intensive economic activity. ²⁹ There is broad consensus that a high-quality innovation system requires a combination of concerted R&D funding, skills pipelines, knowledge infrastructure, structural incentives and competition. ³⁰ Manufacturing within the UK, including F&D, employs eight per cent of the UK workforce, and innovation and technological gains made by individual firms in the industry have the potential to contribute significantly to productivity and GVA.

With three of the world's top ten universities, 12 per cent of international research citations and the top rank for research quality among all OECD nations, the UK has some research strengths.³¹ However, the UK year on year R&D spend has flatlined in real terms since 1990 and is only 1.7 per cent of GDP equal to £30.6bn, in 2014.³² The US spends three per cent of GDP, £250bn, while Germany and France consistently allocate above two per cent. The UK is also failing to produce enough highly-skilled STEM specialists and technicians.³³

Higher automation levels are closely linked to innovation and productivity gains but the UK lags behind other advanced economies deploying just 71 robots per 10,000 manufacturing employees, compared with almost 500 in South Korea and 300 in Japan and Germany.³⁴

Challenges

The industrial strategy places a strong emphasis on boosting investment in research and technology with the establishment of the Challenge Fund, publication of the digital strategy, setting up of UK Research and Innovation, and the commissioning of Science and Innovation Audits (for areas such as biotechnology and energy in cities like Sheffield and Manchester). However, not fully recognising the F&D sector risks missing opportunities - to grow R&D spend, encourage and apply technological innovation, and respond to the technical skills cliff.

F&D is an innovative and R&D-intensive sector, contributing four per cent of UK private sector R&D investment. This supports the creation of around 6,000 new products every year.³⁵ Currently, F&D manufacturers fund three quarters of their R&D.³⁶ In terms of robotics, around half the country's F&D manufacturers are looking to increase investment in automation over the coming years, and contribute to productivity gains.³⁷ In addition, the sector is an important driver in the development and application of research across a range of public policy challenges and opportunities such as curbing food waste, producing new forms of food, and enhancing nutrition and food benefits.

Case study: health

The UK faces growing obesity challenges and major health concerns such as diabetes. Food production is integral to overcoming these problems, and the industry subsequently has important responsibilities and opportunities. F&D offers routes to innovate and use food science to help meet goals set out in the government's Childhood Obesity Plan. Industry needs to come together to invest in R&D to deliver the innovation needed for products that taste good and that people want to consume while containing less sugar, fat and salt. This is a significant R&D cost for the industry, which is mostly self-funded. The industrial strategy must create an environment which encourages private investment in R&D. Nestlé, through its company Nestlé Health Science, for example, is also developing partnerships with universities to support research into nutritional solutions for complex diseases, demonstrating the potential of F&D to innovate and tackle broader health challenges.

Some industries receive government innovation and research funding which joins with company R&D funding and is linked to industrial support to improve products that advance the industry and meet social goods. This approach would benefit F&D in meeting health goals. The industrial strategy, underpinned with an ambition to boost R&D spending, should have a specific strand which could be part of the Challenge Fund. This would seek to leverage and increase the R&D spend, and across the number of companies in the sector, alongside a focus on improved health outcomes.

An appropriate regulatory environment is also needed to replace the voluntary arrangements that have not delivered, to encourage innovation in public health benefits. This would mean health innovation, R&D, and industry growth cemented through the industrial strategy.

Policy Recommendations

- The industrial strategy must articulate more clearly how investment in R&D and technological application can be realised in the F&D sector and recognise where there are opportunities for clustering and placebased primes to harness investment.
- A holistic picture should be developed on innovation potential within the broader food industry, farming and manufacturing and food use, including its clusters the opportunities through the development and application of research and new technology, Al, robots, and automation, throughout the food pipeline; an assessment of the support eco-system; and how technology will shape the industry and future jobs. This could involve a debate about what science investment delivers and potential social outcomes.
- Supporting research and innovation at a local level requires a local institutional framework to identify opportunities and foster collaboration, including between

primes and local research institutions. LEPs must be enabled to support the innovation system around primes and support collaboration across supply chains. As primes operate across different LEPs, co-ordination is needed to develop overall sector supply and cluster chain density, linking places and sectors. Presently, LEPs lack powers and funding for this. Reforms could mirror the success of places like the Ruhr in Germany or Lombardy in Italy, which encourage innovation across smaller firms and primes.

 Government research funding and industrial support is focused on certain industries to improve products and meet social goods. It should be applied to the F&D industry to help achieve health objectives and industry growth, and could form part of the Challenge Fund.

4.4 Brexit and industrial strategy

Context

The scale and breadth of the industrial strategy seeks to draw together sectors, policies and places in a way that no other Government programme does save the process of leaving the European Union. Both have long-term implications, yet the processes are not sufficiently co-ordinated.

The industrial strategy Green Paper contains only a few explicit references to Brexit even though the ten industrial strategy pillars are all shaped by withdrawal from the EU, particularly those pertaining to skills, trade and investment, and science and innovation. Brexit remains the "elephant in the room". Similarly, the

Government's White Paper laying out the groundwork for leaving the EU makes scarce mention of the industrial strategy and only through the prism of "Science and Innovation".

Challenges

Brexit has many implications for the sector. Optimism that Brexit could lead to the opening of new markets is balanced by concerns that F&D trade could become more complicated and expensive. The EU currently receives 60 per cent of all UK food exports, while the UK receives 70 per cent of EU food imports, making trade environments a highly consequential issue for F&D.³⁹ In the absence of a comprehensive EU-UK Free Trade Agreement and through the UK exiting the EU Customs Union, cross-border trade could be subject to new, higher tariff quotas dictated by the EU's Most Favoured Nation principle.

The UK could lose access to EU preferential trading deals with partners outside the bloc and see agricultural products, including finished food products attract up to 20 per cent in extra tariff costs.⁴⁰

It is perhaps unsurprising that a Lloyd's 2016 survey of firms in the sector found 44 per cent of respondents identified Brexit as the biggest challenge facing their business.⁴¹

A significant element of the industry's production of plastic packaging comes from the EU, and it is a useful illustration of the interconnectedness of Brexit and industrial approaches. There is not the capacity and quality outside of the EU to meet this industry packaging need and so Brexit poses a risk to this critical input of F&D production. There is an opportunity to develop UK businesses to meet the gap but this will need active support through the industrial strategy, with a Brexit decision shaping an industrial response and possibility.

In terms of the effect on workers, analysis on the composition of the UK's biggest employment sectors reveal F&D is among the most reliant on non-UK EU workers who make up approximately a third of the

total workforce.⁴² The fate of high-skilled EU nationals employed within F&D is also a concern where curbs on attracting world-class talent could affect sectoral innovation potential.

Unless underwritten by Government, departure from the EU will entail reductions in EU R&D funding. The Treasury has promised to secure funding for all EU-financed projects including European Regional Development Fund (ERDF) programmes contracted before the 2016 Autumn Statement until the UK leaves the EU, but the security of future R&D funding remains unclear.⁴³ This funding underpins the Food and Drink Innovation Network which has supported 80 innovative firms in the F&D sector.

EU regulations and processes have a profound impact. The Centre for Food Policy estimate the UK would have to renegotiate up to 12,295 EU regulations, many of which concern food.⁴⁴ It does not mean however, that leaving the EU should entail a relaxing of environmental standards as this would harm F&D companies and is not advocated within industry. Two different regimes adds complexity, and could increase uncertainty, change terms of access to the EU market and negatively affect the perceptions of British products.

Brexit also has an impact in more indirect but critical ways. F&D is reliant on and shaped by UK farming. Therefore, how Brexit affects farming - its operations, value and productivity - through changes to standards, terms of trade and funding support, particularly regarding the replacement of the Common Agricultural Policy (CAP), will also impact F&D manufacturing. This, however, is not reflected in the industrial strategy and Brexit approaches for the F&D sector.

Policy Recommendations

- The F&D sector provides a compelling example of where the industrial strategy must be integrated with Brexit processes in order to build long-term certainty, a sector strategy, institutional support, and respond in a co-ordinated way to structural challenges like skills and infrastructure.
- Effective alignment of industrial strategy development and Brexit management could be formally assessed through the Exiting Europe and BEIS Select Committees joining more systematically alongside other relevant Committees such as the Environment, Food and Rural Affairs Committee and the Environmental Audit

5. A Sector Deal for Food and Drink

The UK has traditionally suffered from piecemeal actions and short-termism in industrial approaches, a lack of political consensus on industrial strategy, and ineffective co-ordination and alignment across government departments and agencies, as well as effective connection to localities. For the industrial strategy to be enduring and successful it must build political consensus and certainty, so that businesses can plan and unlock investment.

In the case of the F&D industry, there have been longstanding co-ordination difficulties with challenges and opportunities which straddle departmental responsibilities. Resolution requires recognition that the F&D manufacturing sector has specific requirements that will not be effectively addressed by being considered simply as part of other sectors, such as manufacturing or farming. It does share common challenges with manufacturing but F&D is not identical. At the same time, F&D is within the food value chain and it should be recognised that there is a need to support the whole of the food industry pipeline, including innovation support and skills. F&D manufacturing is integrally linked to farming and the agricultural sector with F&D sites that are dependent on raw materials like milk and cereal often located close to the dairies and farms that produce them. F&D does not sit in isolation but is fundamentally a part of and shaped by its value chain. A one-size-fits all approach is therefore not the appropriate one, but should instead reflect the overlap and joined-up nature of the value chain. This complexity provides a challenge for sector co-ordination and through the sector body, the FDF, particularly linking effectively with other sectors and the whole value chain, and for government strategies and co-ordination which also need to reflect this.

Unlike other manufacturing sectors like automotive or aerospace, F&D is more fragmented, covering a diverse range of companies, supply chains and outputs. The industrial strategy emphasis on institutions is an opportunity to focus on how there can be further effective co-ordination and leadership.

A sector deal and strategy needs to reflect that F&D responds to programmes and policy within other parts of government, importantly health. Regulatory measures or changes can shape the performance of the industry and should cover new co-ordination arrangements and a sector-wide approach. If they do not, they risk cutting across and undermining the very gains the industrial strategy seeks to achieve. Equally, co-ordinating a shared approach and mission could entail securing more benefits. By way of illustration, aligning government innovation support and increasing R&D spending through a strategy could both secure health objectives and enable industry to grow.

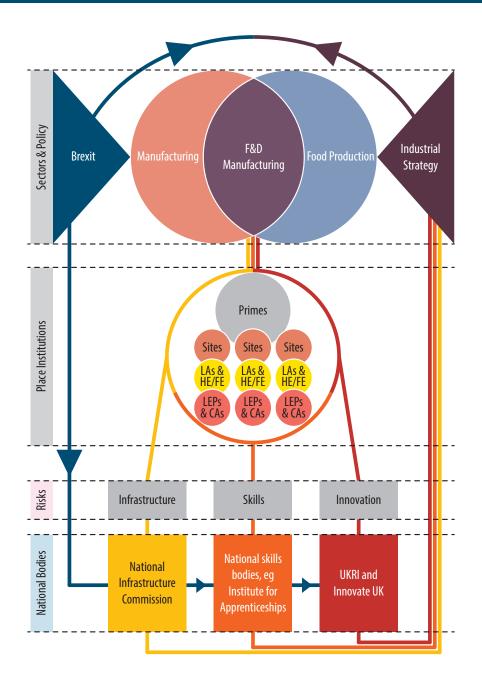
As outlined earlier, primes face co-ordination difficulties to resolve challenges and this requires much more national and local co-ordination. A strategy or deal for the sector should support, through any government industrial sector funding arrangements, the co-ordination and capacity of localities to act to resolve site challenges - a sector-place pledge.

The challenges of co-ordinating and resolving sector issues, such as infrastructure, skills and increasing innovation funding, and reflecting the needs of primes as seen through place and national institutions, is outlined in the diagram overleaf. This is complex but necessarily so as it shows the landscape primes face and how co-ordination can be improved. The diagram focuses on three main challenges and opportunities but there are many others that can be viewed through this frame such as energy needs. It shows a range of national and local institutions that impact on and shape these.

Policy Recommendations:

- There is a strong case to view the challenges and opportunities of F&D through placed-based primes and sites given these are where a range of challenges are located. This connects the idea of place, sectors and institutions within the industrial strategy.
- Using the lens of primes highlights the difficulty for industry in responding to challenges like infrastructure, skills and innovation. Place institutions like LEPs and Combined Authorities have responsibilities to act as do national bodies. If local institutions cannot act effectively, a situation of a post-code penalty emerges for primes and the sector and the strategy should seek to avoid this; and national bodies must be aided to act on sector needs from the perspective of placed-based primes and to better co-ordinate with localities.
- The ability to capture and act on these challenges is the basis for renewed sector co-ordination and voice. The FDF can have critical role in this or as part of a body more akin to those overseeing strategies in other sectors (like the Automotive Council) and would need to reflect the diversity of the sector and its primes and sites.
- This approach should be a foundation of a sector strategy and for developing a longterm shared vision around key missions for F&D manufacturing, including links to wider manufacturing sectors and the food industry. The strategy or deal should support, through any government industrial sector funding arrangements, the co-ordination and capacity of localities to act to resolve site challenges – the sector-place pledge.

THE INDUSTRIAL STRATEGY FROM A PLACE-BASED PRIME PERSPECTIVE



^{*}LEPs: Local Enterprise Partnerships *LAs: Local Authorities *HE/FE Higher Education/Further Education Institutions *CAs: Combined Authorities

6. Purposeful Companies

Companies are being asked more searching questions about their purpose and contribution including closer public scrutiny of tax practices, pay and conditions. As the Prime Minister has argued, there is a need to more evenly distribute the rewards of growth, captured in the notion of a 'shared society' and an economy that works for all.

The notion of companies engendering purpose, contributing to more inclusive growth, delivering wider social policy goals and creating shared value across their workforce, supply chains and communities in which they operate is gaining traction. Evidence suggests that companies with an express purpose understood by management, employees and stakeholders perform better. A study by EY and Harvard Business Review found that firms that prioritise a shared understanding of 'purpose' are more likely to grow at a rate above 10 per cent than those that do not.⁴⁵

Champions like Nestlé and Unilever within the F&D sector are already actively considering the role that their companies and the wider industry can play. In early 2017 for instance, Nestlé committed to reduce sugar by 10 per cent across its confectionery and chocolate portfolio. It has also initiated a public conversation, breaking from customary industry backing for voluntary approaches on how an effective regulatory environment can help deliver and contribute to domestic health policy. This could help set the bar and level the playing field for other businesses by instilling minimum requirements, and enabling businesses to race to the top rather than the bottom.

Nestlé is taking forward further measures in workforce health and training. Sickness-related absences have a direct impact on productivity with associated replacement and disruption costs calculated at around 2.5 times the salary of the employee involved. In 2016, the UK lost an estimated 137 million working days. 46 However, evidence indicates these could be prevented through better lifestyle choices. Nestlé is investing in preventative healthcare and staff awareness and partnering with healthcare provider Nuffield Health to

proactively manage and reduce the risks of sickness-related absences. This also offers transferable insights for the NHS in how it engages with businesses in addressing long-term public health challenges to improve national productivity.

In terms of skills, some of Nestle's own factories are accredited as further education providers. Industry's role in designing apprenticeship standards recognises that engaging in education and training is critical for increasing skills supply among young people including the Government's 2020 apprenticeships target. Shaping the purpose and quality of apprenticeships also improves the quality of local workforces for entire supply chains within and beyond F&D. Purposeful companies are not only contributing to productivity improvements they are also improving social inclusion through anchoring jobs that pay people a good standard of living. Productivity improvements should not be seen simply at a macro level but through companies that are achieving social and economic aims.

Policy Recommendations

- The industrial strategy should explicitly seek to cultivate and incentivise more purposeful behaviours and models through governance, taxation, procurement, business support and regulatory frameworks. Purposeful companies should not be viewed as worthy additions but as an essential to a more balanced, inclusive and productive economy.
- The industrial strategy can be a vehicle for redefining success and through a sector like F&D, shift the models to enable and support companies which can deliver the productivity growth and wider value on which living standards across all regions depend.

7. Conclusions

- F&D sector value recognition: The primary recommendation within this report is that the industrial strategy needs to reflect and respond to the important economic contribution of the F&D manufacturing sector, the largest part of UK manufacturing. This requires a specific focus and it is not sufficient for these needs to be addressed simply through wider food industry or manufacturing sector approaches. F&D is an important sector for meeting many government objectives including inclusive growth. Many primes are foreign-owned, and UK bases must remain competitive in the portfolios of these primes. F&D primes are important economic anchors in these areas but face a range of productivity challenges in maintaining their important contributions that the industrial strategy can help overcome.
- Place-based primes: There is a strong case for the challenges and opportunities of the industry to be seen through the lens of its placed-based primes and its sites, as these are where the structural challenges are located. This lens connects the idea of place and sectors and institutions to address structural concerns and realise growth opportunities including: infrastructure; skills and innovation.
- Place institutions and post-code penalty: Place institutions like LEPs and Combined Authorities have remits for resolving these challenges, as do national bodies, and both must be enabled to relate to primes. If local institutions are not enabled there is a post-code penalty for primes and the sector. National institutions that can respond to and have a remit or a potential remit over sector challenges like the NIC must be enabled and tasked specifically to act on sector needs and a placed-based prime focus.
- Co-ordination and voice: Renewed sector coordination and voice is the basis for a sector approach and deal. The FDF has an important role which could also be within a body more akin to those overseeing

the sector strategies in automotive. Such a body and strategy would need to reflect the diversity of the sector and its primes and sites, the specific needs of F&D manufacturing but also its place in wider sectors, particularly manufacturing and in the value chain of food production including links with farming. Through its convening power government should also support more effective co-ordination.

• Sector strategy and sector place-pledges:

The foundations of a sector strategy need to be developed which agree a long-term shared vision around key missions and the sector body and would determine links to other manufacturing sectors and food industry shared agendas. The strategy or deal should agree to support, through industrial sector funding arrangements, the co-ordination and capacity of localities to act.

- Brexit and industrial strategy: The implications of Brexit for the sector are significant. There needs to be much more effective alignment of Brexit processes and the industrial strategy. This co-ordination could be formally assessed through a systematic joint approach of Parliamentary Select Committees particularly the Exiting Europe and BEIS Committees.
- Social objectives: With its extensive economic footprint and with the leadership of primes, F&D has the ability to play a role in meeting wider societal objectives including on health. The industrial strategy should explicitly seek to cultivate and incentivise more purposeful behaviours and models. Purposeful companies should not be viewed as nice addition but as essential to a more balanced, inclusive and productive economy.

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Industrial Strategy Programme

The economy does not produce the widened prosperity we need. Productivity is unequal and uneven with many places lacking access to high quality jobs and social opportunity. Too much is owned by too few, stifling competition and creativity in markets. Business investment is too low and too short-term, and the UK invests less of its GDP in R&D than its competitors, restricting innovation and global trade. Infrastructure has been poorly planned and under-delivered holding back new investment and job creation. While there are strong businesses and sectors, to address the significant trade deficit, the UK needs a more productive economy and tradeable sectors.

The UK has also traditionally suffered from piecemeal actions and short-termism in industrial strategy and approaches, a lack of political consensus, and ineffective co-ordination and alignment across government departments and agencies, as well as effective connection to localities. This started to change with a new industrial approach begun under the Labour, Coalition and Conservative governments over the last decade. There is an opportunity to build on these foundations, correct past mistakes and forge a new industrial and economic path, which ResPublica advocates.

To be successful an industrial strategy must address the UK's systemic challenges. It must also be enduring, building political consensus and certainty, avoiding the chop and change of past interventions, and have the confidence of sectors so businesses can plan and unlock investment. It must help create opportunity for all, unlocking talent to spread prosperity. We must support races not pick winners, building on strengths and incentivising future industry and technologies. We must harness regulation to enable innovation and new entrants, boost export capacity and advance our global advantage, strengthen competition, and help create the conditions for best business practice. We must future proof our labour force and re-enfranchise communities whose skills are lacking or going to waste. Government's role must be an entrepreneur and an enabler and capabilities devolved to the lowest appropriate level, such as councils, city regions, Local Enterprise Partnerships, universities and other devolved institutions to harness opportunities unique to each place and drive bottom-up innovation.

ResPublica also recognises that the industrial strategy is a way to help face the most significant economic and business challenges the UK has seen for decades. Brexit has huge implications for the UK's future trade relationships, regulatory environments, inward investment, and skill pipelines. The country faces ever stronger global competition. The devolution path continues with new economic and political agency most clearly felt in England, which will see new combined authorities and new metro-mayors take office with greater economic powers and scope to shape business environments and tackle strategic priorities. There are continued challenges for the corporate world over questions of trust and governance, with companies being asked searching questions about their contribution, while there are hugely transformative opportunities coming through the power of technological change, which is reshaping products and services, and employment and business models.

ResPublica has a track record in the debate over devolution, cities and place-based policy, and has an ambitious industrial strategy programme to shape thinking and direction of the new industrial and economic approaches.

In early 2017, the Conservative Government unveiled its Industrial Strategy Green Paper to reshape the UK's economic model and create a new industrial framework, with a focus on places and sectors. The strategy seeks to address historical failings of piecemeal interventions, short-termist policy, and a lack of co-ordination across Whitehall and with localities.

More ambitious than recent industrial approaches, the strategy sets out to tackle long-standing barriers to growth from poor productivity and infrastructure to insufficient R&D spending and skills gaps, as well as to spread growth around the country. To do this Government must work closely with industry and support key sectors. One sector is Food and Drink manufacturing, which is a sixth of all manufacturing, a major exporter and employer. While other industries have been prioritised including with specific sector deals, Food & Drink has not, which is a failure to recognise its considerable economic footprint, stable growth, productivity gains and employment in areas of economic challenge.

This report outlines why the sector must be given due focus and with commensurate support, including co-ordinating infrastructure and skills sector needs. Unless addressed, productivity could be harmed - many Food and Drink primes are foreign owned and UK sites compete within company portfolios. The report looks at the need to increase R&D and apply new technology, which can bring public policy benefits such as better health outcomes and drive growth. Also highlighted is the need to recognise the implications of Brexit and need to co-ordinate with industrial approaches, which is not adequately taking place.

Given the importance of Food and Drink manufacturing, it is insufficient to see it simply as part the manufacturing sector or farming food chain. Food and Drink is linked to farming and shaped by changes to farming, but the sector requires specific focus to address specific needs. Support for the sector should be seen through the lens of industry anchors, its placed-based primes and their sites. Productivity of these sites impacts local economies, wider economy and the sector. Co-ordination for addressing challenges is fragmented through national and local institutions. There is a place-based penalty for primes where these are not resolved locally. This report provides unique insights from the perspective a prime, Nestlé, the world's largest food company. It outlines how challenges can be addressed holistically, with a remit for local and national institutions to resolve sector needs, and co-ordinated within a sector approach.

The report outlines why the industrial strategy should be active in supporting more purposeful businesses that seek to embed and deliver a broader range of public benefits. For the industrial strategy to be enduring and provide certainty, there must be a goal to build a political consensus behind the industrial approach.

A final report will follow later this year developing concepts and research within this report.

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