

SKILLS INSIGHTS AND LABOUR MARKET FOCUS

UK FOOD & DRINK MANUFACTURING AND PROCESSING INDUSTRY

SEPTEMBER 2022



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## 1.0 Introduction

#### The FDMP Sector in Context

The UK Food & Drinks Manufacturing & Processing sector (FDMP) is both diverse and dynamic. It plays a critical role in the wider UK economy and is at the forefront of shaping and implementing consumer, regulatory & environmental requirements, including the drive towards Net Zero. Continuity of food supply is critical, highlighted by the challenges of the Covid-19 global pandemic, Brexit and war in Eastern Europe, resulting in supply chain issues and rising production costs.

The sector makes a substantial contribution to UK manufacturing, encompassing around 11,675 businesses, employing in excess of 450,000 people and with estimated industry turnover of nearly £112bn.

'FDMP' comprises processing/production of meat & fish, fruit & vegetables, dairy products, milling & bakery, confectionery, oils & fats, pet foods & animal feeds, plus an ever-expanding range of 'other foods'. The latter reflects changing consumer tastes, from special dietary to prepared meals. Meanwhile, the drinks sector continues to expand, with a focus on new product development.

One of the most significant challenges within the sector is lack of labour, with widespread reports of unfilled vacancies and rising wages. With a large number of people also nearing retirement, coupled with uptake of smart manufacturing processes & automation, the need to attract new talent to the industry, and to develop and retain the necessary skills for the modern workforce, has never been more important.

Our report reviews the key influences within the FDMP sector and highlights the skills required to enable the industry to continue to thrive. We place a spotlight on the potential role of sector-specific training & Apprenticeships.

## 2.0 Sector Productivity

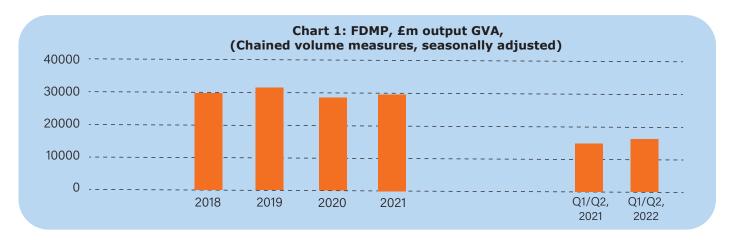
- FDMP is a major contributor to the UK economy.
- Around £30bnGVA per annum.
- Around 15% of Manufacturing GVA.

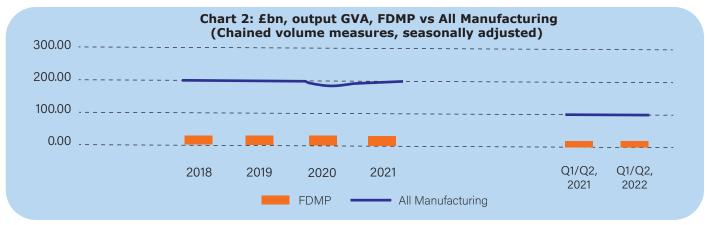
The UK Food & Drinks Manufacturing sector makes a significant contribution to the UK economy. Together, food and beverages account for just over 15% of manufacturing output Gross Value Added (GVA). That represented nearly £30bn in 2021.<sup>1</sup>

The last 2 - 3 years have presented major challenges for the industry, in the shape of Brexit and Covid. There have been widespread reports of supply chain issues

and major labour shortages, coupled with rising costs of production and soaring energy prices. The war in Ukraine has further exacerbated the situation, impacting upon wheat prices, whilst the drinks sector has experienced shortages in carbon dioxide, to name but one area.

However, whilst FDMP GVA (chained volume measures) understandably fell by an estimated -5% in 2020, reflecting the impact of Covid, the sector's contribution to manufacturing proved robust, no doubt influenced by essential food operations during the pandemic. Despite challenges, there have been early indications that the industry is continuing to improve it's position. Estimates for Q1/Q2, 2022 indicate growth of nearly +6% compared to the same periods a year earlier.<sup>2</sup> Rising costs are however expected to continue to impact on the sector in 2022.





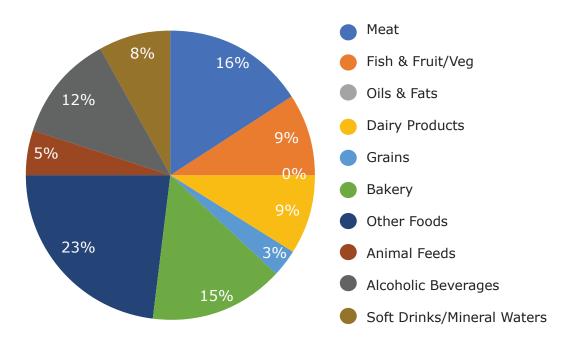
Analysis of sub-sector contribution to GVA, within the FDMP sector, highlights that Meat production and processing (16%) and Bakery (15%) are key categories, followed by Alcoholic beverages (12%).<sup>3</sup>

However, 'Other Foods', as a broad category, accounts for around 23% of GVA and includes special dietary needs and prepared foods. The popularity of 'Other Foods' indicates how the industry is continuing to diversify, responding to changes in consumer taste and habits.

Some food and drink businesses placed staff on furlough under the Coronavirus Job Retention Scheme, with those supplying primarily trade/catering businesses particularly badly affected.

In 2022, the FDMP sector continues to face challenges of rising inflation. Energy prices are also reported to have impacted the food and beverage sector more than others (which includes manufacturing, wholesale and retail). Food and beverage businesses were nearly twice as likely to state they had additional transportation costs, as a result of the end of the EU transition period, and nearly a third of businesses reported global supply chain challenges in Q1, 2022. Over half were therefore using more UK suppliers.<sup>4</sup>

Chart 3: % FDMP Output GVA By Sub-Sector, 2021



"We have experienced significant price increases across the supply chain. These have been anything up to and including 100% increases."

"Goods imported are taking longer to reach us. They cost more, and we are having to consider other suppliers' goods whose prices are greater than what we bought before". "Prices have shot up in an unprecedented manner. Then electricity prices and wages on top of our raw materials - it's very difficult. We are struggling to keep pace with the increases."

## Food Manufacturing / Animal Feed Businesses<sup>4</sup>

<sup>&</sup>lt;sup>3</sup> See footnote 1. Chart 3. Refer to source notes.

<sup>4</sup> ONS, 'Recent challenges faced by food and drink businesses and their impact on prices'; Business Insights and Conditions Survey (BICS), March 2022 (note small base of responses and question routing).

## 3.0 Business Profiles & Turnover

#### 3.1 Number of Businesses

- The number of UK FDMP businesses has grown (11,675).
- Typified by a high number of small enterprises of less than 10 employees.
- Growth in Bakery,
  Beverages & Other Foods.

The number of VAT/PAYE registered businesses within the UK FDMP sector has continued to grow, despite all the economic and regulatory challenges.

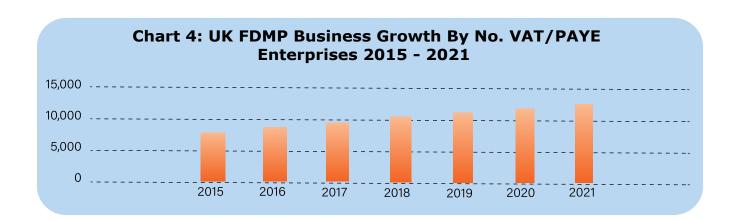
In 2021, there were around 11,675 enterprises in the UK. This represents an increase of just over +13% since 2018 (and +9% since 2019). The majority of these businesses are in England, (81%), with Scotland accounting for just under 10% and Wales and Northern Ireland for just under 5% each.

As a combined sector, the FDMP industry represents around 9% of all UK manufacturing businesses, in terms of overall business numbers.

Significant other manufacturing sectors, by number of businesses, are fabricated metal products (other than machinery/equipment, over 27,000), printing/reproduction of recorded media & other manufacturing (both over 10,000), wood/cork products, other than furniture (over 9,900), and machinery/equipment (nearly 7,500). The period of consistent growth in FDMP businesses is shown in the chart below.<sup>5</sup>

Nevertheless, there are indications of some food and beverage businesses reporting a reduction in turnover from December 2021 to end February 2022, but this includes manufacturing, wholesale and retail.<sup>6</sup>

Adding to this picture, The Association of Labour Providers (ALP) indicates in its May 2022 Food Labour Market Survey that nearly half (49%) of UK food growers and manufacturers taking part in the survey had rationalised or reduced their output owing to labour shortages. Over three quarters (77%) of businesses were experiencing shortages of lower and unskilled workers, with 45% stating that these shortages were chronic.<sup>7</sup>



<sup>6</sup>ONS, Food & Beverages Sector, UK Businesses with 10+ Employees Reporting Decrease in Turnover, to Feb 2022; ONS, Recent challenges faced by food and drink businesses and their impact on prices; Business Insights and Conditions Survey (BICS), March 2022 (note small base of responses & question routing).

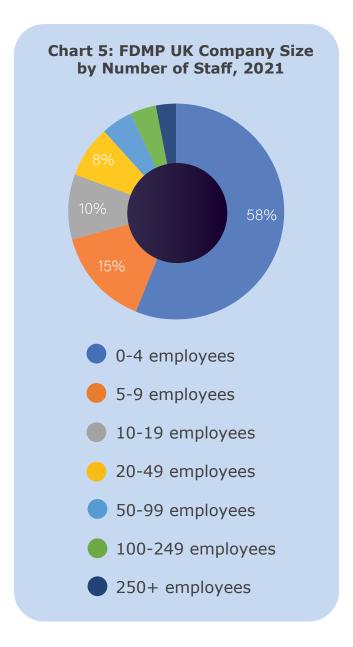
7Association of Labour Providers, Food Supply Chain Labour Survey Results, May 2022; base 87.

#### 3.1.1 By Staff Size

Despite growth in the number of businesses, the UK FDMP sector is still characterised by a high number of very small companies. Businesses with less than 5 employees accounted for well over half of the industry (58%) in 2021.

Collectively, those with less than 10 employees accounted for 73%.

Smaller companies are typical across most FDMP sub-sectors. However, businesses involved in processing/preserving of fish, poultry meat, & potatoes had a slightly higher proportion of 10+ employees, although the latter two sub-sectors also represent a comparatively small number of businesses.8 This broad industry focus upon fewer employees & micro company size highlights the potential implications for recruitment, retention and training of core staff to meet the requirements of a small business.



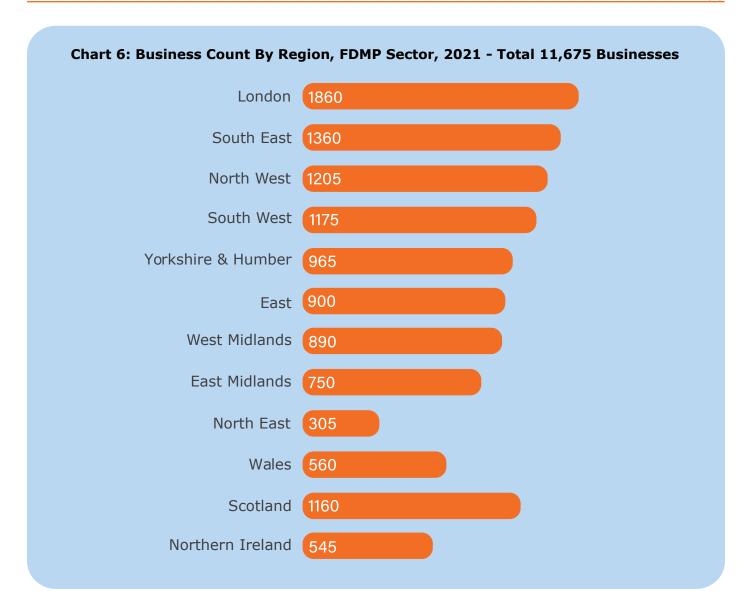
#### 3.1.2 By Region

The potential for workforce requirements and skills development around the UK is set in context when analysing the regional spread of FDMP businesses.

Scotland has more than double the number of businesses compared to Wales and Northern Ireland individually. Combined however, these three nations only account for just under a fifth of the UK total.

Within England, regions with the highest proportion of businesses are in London and the South East, accounting for over a third (34%), no doubt reflecting population density.

The North West (13%) and South West (12%) also account, together, for a quarter of businesses in England, with the North East representing the least (3%).9



#### 3.1.3 By Sub-Sector

The largest number of businesses within the UK FDMP industry in 2021 were in Bakery (26%), Drinks (23%), Other food products (21%) and Meat (9%). Whilst the number of businesses in the leading sub-sector, Bakery, continued to increase from 2018 to 2021 (+8%), there have been some substantial changes across some sub-sectors within FDMP.<sup>10</sup>

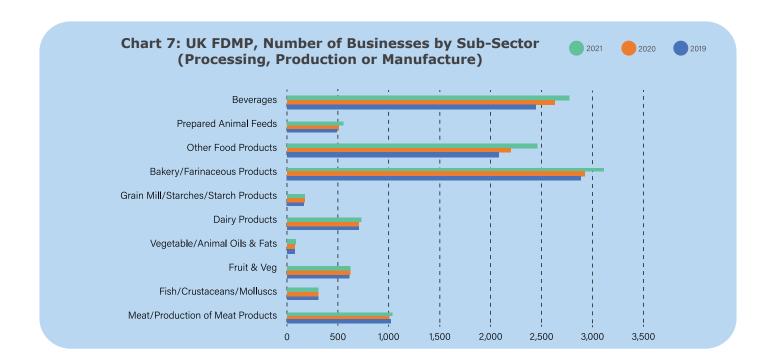
There has been rapid growth in drinks (notably distilling/blending of spirits (which grew +73% from 2018 to 2021, to 820 businesses) & soft drinks/bottled waters (+26% to 410 businesses). Media reports and research insights suggest that consumer demand for niche vodka/gin and craft beers, as well as mixers and sports drinks, has helped to fuel this growth.

Similarly, the popularity of vegan diets, greater interest in healthy/nutritional food and general demand for more choice and variety, has most likely supported growth in the 'Other Foods' sector. This includes Homogenised/Dietetic Food (+24%),Prepared Meals/Dishes (+29%) and any other foods, not categorised elsewhere (+38%), as well as condiments & seasonings (+24%) over this period. Only businesses involved in processing/preserving poultry meat saw a reduction from 2018 to 2021 (-10%), although they represent a much smaller base.

27% of UK adults are estimated to own a dog and 24% a cat in 2022. Whilst the estimated dog population has increased since 2021, there has not been a statistically significant increase in the overall estimated population size for UK pet dogs, cats and rabbits since February 2020. However, around 2 million owners acquired their pets from March 2020 to May 2021.<sup>11</sup>

It is possible that the general popularity of pet ownership may have influenced the increased number of businesses involved in the manufacture of pet foods in recent years (+30% since 2018). However, it remains to be seen if the cost-of-living crisis will impact in the short term on this market.

Reflecting the period from directly before the pandemic, the following charts show the performance of each sub-sector from 2019 to 2021. This again highlights growth in Bakery, 'Other Foods' and Beverages.<sup>12</sup>



#### 3.2 Business Turnover

As might be expected, the performance of businesses within the UK food & drink manufacturing sectors, from a turnover perspective, has varied in recent years. This reflects a period of economic and political turbulence and, of course, the impact of Brexit and Covid. There are different sources for analysis of turnover, with The ONS Monthly Business Survey (MBS, production industries) indicating UK turnover of nearly £112bn for calendar year 2021. The Inter Departmental Business Register (IDBR), based on analysis of VAT/ PAYE registered businesses (taken March each year), indicates £104.2bn (although note cautionary for that year). Over 80% of FDMP turnover is in England. 13

increased in 2018 and 2019, with a decline in 2020, reflecting the impact of Covid, although with recovery in 2021 (+5%, MBS calendar year). The most significant areas, in terms of turnover contribution, are Beverages, Meat & Other Foods (roughly £19-£21bn each, per annum).<sup>14</sup>

Trends concur that overall FDMP turnover

Chart 9: Indicative % Turnover by FDMP Sub-Sector, 2021 (processing, production or manufacture)

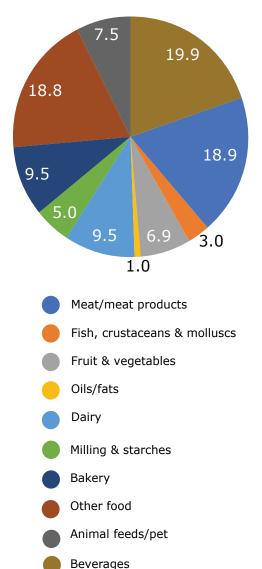
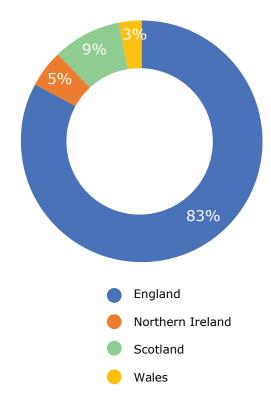


Chart 8: Indicative % Turnover, FDMP Businesses By Nation, 2021



## 4.0 Employment & Workforce Characteristics

#### 4.1 Overall Employment

- Overall FDMP employment (VAT/PAYE) appears relatively stable to 2021.
- Food sector playedimportant role during Covid pandemic.
- However, some sub-sectors reporting severe skills/ labour shortages.

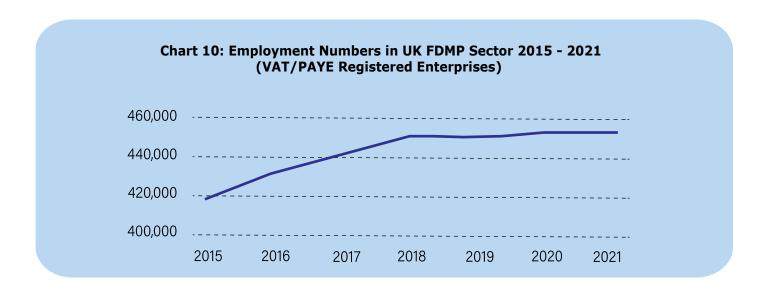
UK FDMP employment (defined as employees, working owners & self-employed registered for VAT/PAYE), remained relatively stable throughout the pandemic.

In March 2021, there were around 450,860 people in employment, comparable to March 2020 (450,684), reflecting only a marginal increase.<sup>15</sup>

Other analysis of the FDMP jobs market in Q1, 2022 (including where workers may have more than one job and includes self-employed jobs) provisionally indicates overall UK employment stood at 475,000; note also includes a tiny proportion of tobacco industry.<sup>16</sup>

The food production industries played an essential role in keeping the nation fed during Covid lockdown periods in 2020/21, enabling many businesses within the sector to continue operating. However, accommodation and food services (especially wholesale) were badly affected by the pandemic, with over two thirds of employees on furlough at the peak.

Whilst this is not manufacturing-specific, there was a major impact on the restaurant/ catering trade, which are key end markets for many food production & processing products. However, with more consumers working (& cooking) from home, there were reports of greater demand for Business to Consumer services during the pandemic. Other food businesses temporarily rationalised ranges to focus on core lines and some also made use of the furlough scheme.



<sup>&</sup>lt;sup>15</sup>ONS, Data extracted 23 August 2022 from IDBR (BRES) based on a sample of enterprises & estimates from previous returns/surveys; used for chart 10. [Employment Includes employees, plus working owners, typically sole traders, sole proprietors or partners who receive drawings & includes self-employed workers registered for VAT or PAYE schemes; excludes self-employed not registered for these, along with HM Forces and Government supported trainees); see source notes.

<sup>16</sup>ONS, JOBS03 and JOBS04 to March, 2022; counts short-term changes in number of jobs in sector; this includes self-employment. Note: workers may have more than one job; also includes small degree of tobacco industry (for comparison, Annual Business Survey data for 2020 indicated less than 10 businesses in tobacco sector); see source notes.

Longer term trends, including pre-Covid, show that employment grew by nearly +8% from 2015 to 2021 (enterprises), with the largest increase being in 2016 (+3%) and with 2019 reflecting a marginal decline. 17 However, this may mask the situation in many sub-sectors, which have reported severe skills shortages post-Brexit, given reliance on EU/seasonal workers. This has been noticeable amongst growers and abattoirs, for example, but has also had knock-on effects for the FDMP sector throughout the supply chain. The introduction of temporary visas, for example for poultry workers and seasonal workers, has been designed to ease the situation, although with mixed results.

Nevertheless, in March 2022, 60% of businesses in the food and beverage sector stated that they had a low number of applications for roles on offer, resulting in higher labour costs.<sup>18</sup>

"Labour shortages mean that we are struggling to fill vacant positions."

"It is very difficult to recruit and maintain staff, both managerial and production staff."

Food manufacturing businesses. 19

#### 4.1.1 Employment by Nation & Region

As FDMP employers may have staff spread across more than one region, geographical analysis of employment has been undertaken at local site unit level. This highlights that England accounts for the largest proportion of people employed in the FDMP sector (79%), with Scotland accounting for 10%, Wales for 6% and Northern Ireland for 5%.

Employment in Scotland increased by +2%, Northern Ireland by +3% and Wales by +10% from 2019 to 2021, whilst England marginally declined (-0.5%).<sup>20</sup>

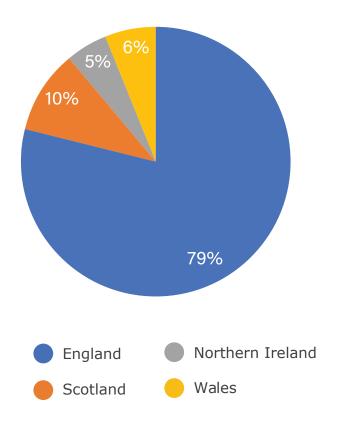
Regional employment within the English FDMP sector, analysed at local site level, indicates that in 2021, Yorkshire & Humber (17%), East Midlands (16%) and North West (15%) accounted for the largest employment numbers, whilst the North East accounted for only 3%.

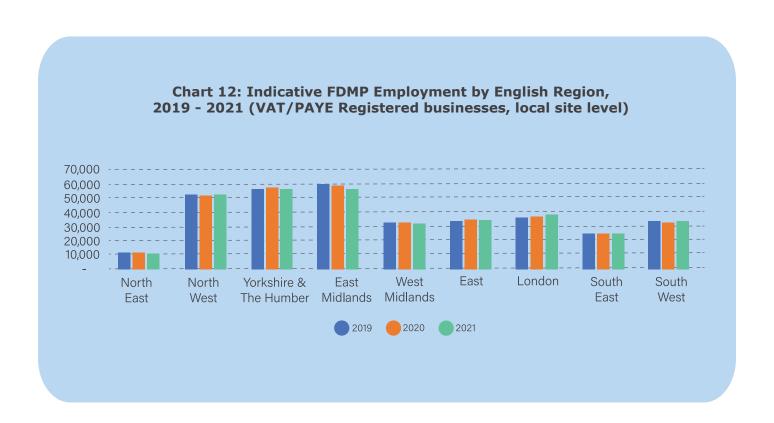
In terms of growth rates, the best performing area, over the 3-year period 2019 to 2021, was London (+7%). Meanwhile, the East Midlands (-7%), West Midlands (-3%) and North East (-3%) have experienced declines over the same period. Other areas, such as Yorkshire & Humber and The East have had only marginal increases.<sup>21</sup>

<sup>&</sup>lt;sup>20</sup>ONS, IDBR (BRES) extracted June 2022, used for Charts 11 & 12; note employment at local site level for food/drink manufacture specifically; totals may therefore differ to Chart 10 which focuses upon enterprise level for all operations.

<sup>21</sup>ONS, IDBR (BRES) extracted June/July 2022; those registered for VAT/PAYE schemes. Regional analysis is at local site level.

Chart 11: FDMP Employment by Nation, 2021 (VAT/PAYE Registered businesses, local site level)



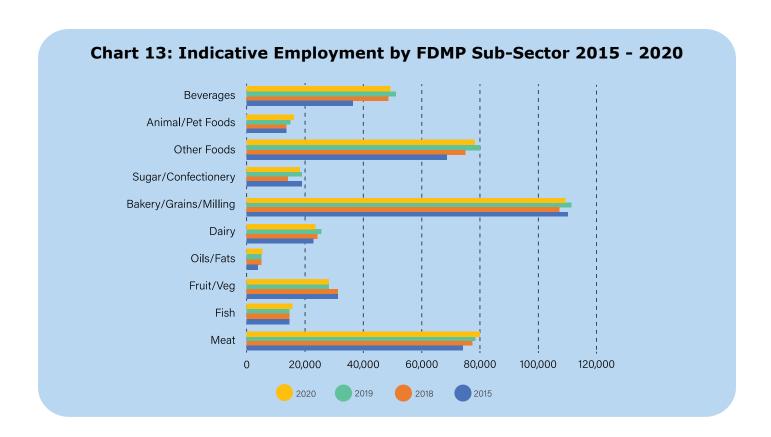


#### 4.1.2 Employment by Sub-Sector

Sub-sector employment analysis (available for Great Britain only to 2020, rounded) indicates that the sectors which employed the most people were Bakery (23%), Other Food (23%), Meat (19%), and Beverages (11%).

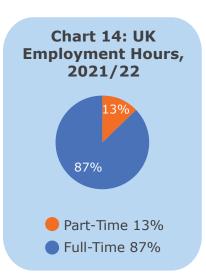
In terms of rate of growth in employment, it is worthwhile comparing trends from 2015. This indicates that the fastest growing sectors, over the 5-year period, have been Oils/Fats (+43%) and Beverages (+24%), although the former only accounts for a small proportion of businesses.

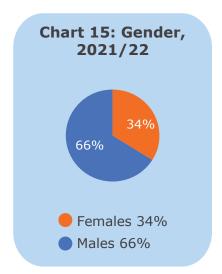
Animal/pet foods (+14%) also grew strongly over the period, as did Milling/Starches (+10%) 'Other Foods' (+9%) and, to a lesser extent, Meat & Fish (both +7%). Meanwhile, Bakery declined (-2%), although with an increase in 2019. The impact of the pandemic was evident in a slight decline in overall GB employment from 2019 to 2020 (indicatively, -0.7%, as numbers are rounded).<sup>22</sup>



#### 4.2 Workforce Characteristics

- Workforce remains male-dominated & primarily permanent, full-time employees.
- A high proportion of older workers, nearing retirement.
- Apparent impact of reduction in non-UK workers, post Brexit/Covid.

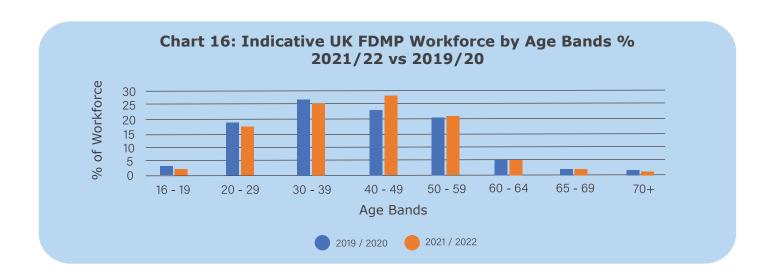




#### 4.2.1 Profile & Age of Workforce

Our analysis of employment of all UK workers (both temporary and permanent), for fiscal year 2021/22, is based on The Annual Population Survey/Labour Force Survey. The composition of the FDMP workforce remains male dominated (66%), with the vast majority working on a full-time basis (87%).<sup>23</sup> These figures have marginally fluctuated over the years, but proportions remain broadly similar.<sup>24</sup>

Around 28% of the UK FDMP workforce are estimated to be aged over 50, with a significant proportion therefore due to retire over the next decade or so. Whilst just over half (52%) are aged between 30 and 49, less than a fifth are aged under 29. This highlights the need to attract new talent into the industry to ensure skills continuity.<sup>25</sup> These periods have been selected to show the situation pre and post the height of the pandemic.



<sup>&</sup>lt;sup>23</sup>ONS, customised data extract from Annual Population Survey/LFS (July 2022), all workers both temporary & permanent, fiscal years; sample base 345,506 gender /345,375 working hours.

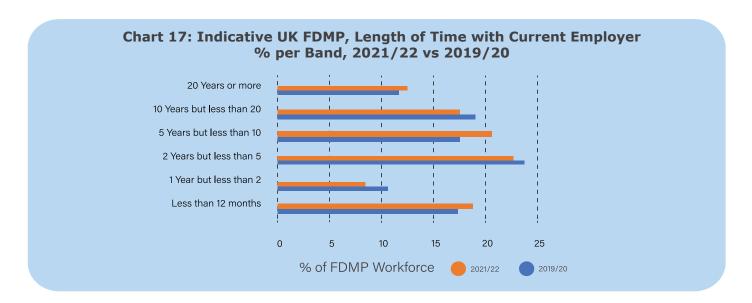
<sup>&</sup>lt;sup>24</sup>Analysis of JOBSO3/JOBSO4 Q1, 2022 (p); short term jobs trends; note base differs and workers may have more than one job; refer to source notes.

<sup>25</sup>ONS, customised tables derived from Annual Population Survey (July 2022). Note fiscal years; please treat with caution aged 70+, given small base and as survey derived, base may differ from other charts/data sources. Sample 2019/20 is 381,044; 2021/22 is 345,506.

## **4.2.2 Length of Time with Current Employer**

In 2021/22, just under a third of the workforce (30%) had been with their employer for over 10 years (including 12% for over 20 years). Combined, this is marginally less than in 2019/20 (31%), potentially reflecting retirement, or people leaving the industry during Covid.

Interestingly, nearly a fifth (19%) had been with their employer less than 12 months, an increase versus 2019/20 (17%), reflecting some potential fluidity in the job market.<sup>26</sup>



#### 4.2.3 Use of Agency Staff

There are early indications, from recent 2021/22 data, that the number of FDMP permanent staff may be on the increase, compared to temporary workers (although data is still subject to potential revision and is sample based). Reasons why a job is classified as 'not permanent' may include a fixed term contract, seasonal or casual work, or – and this is a key reason cited – the person may be working for an employment agency.

Drilling down on both permanent and temporary staff, who classified themselves as 'agency staff', suggests that around 7.7%

(of the FDMP workforce answering this question) fell into this category in 2019/2020 (i.e. pre-Covid). Data for 2021/22 is still subject to change at time of writing. However, at first read, this suggests a decline (to 5.9%), most likely driven by a reduction in the number of non-UK nationals.

The overall proportion of non-UK nationals apparently declined from nearly 30% of the FDMP workforce in 2019/2020 to just over 25% in 2021/22, with reports of workers returning home due to both Covid and Brexit.<sup>27</sup>

treat with caution as 2021/22 data is subject to change; agency data is also based on a tighter sample base, for those who answered if permanent/non-permanent and agency only.

## 5.0 Occupations & Salaries

#### 5.1 Occupations

staff.

- Proportion of FDMP
   operatives, elementary and skilled trades in apparent decline vs more professional/
- Wages rising in competitive jobs market to attract/retain

managerial roles.

As might be expected, process, plant & machine operatives typically account for the largest proportion of the FDMP workforce (31-32%). Elementary roles (typically simple/routine tasks) also comprise around 16-18% and skilled trades around 9-10% (past 2-year trends).

Although data for 2021/22 is still provisional (subject to ONS revision of occupational coding), the indication is that there has been a continuing downward trend in the relative proportion of these roles. This is supported by reported labour shortages in certain jobs. Industry feedback also suggests that this has been exacerbated given a decline in the availability of non-UK nationals and due to recruitment issues, given the increased number of job vacancies in the labour market.

At time of writing, there are reported shortages across many areas, including technical operatives and engineering. The long-term trend currently anticipates a sustained reduction in process, plant & machine operatives in the FDMP sector, with more highly qualified roles increasing. Managerial / professional / associate roles accounted for 29% of the workforce in 2019/20 and provisional data suggests that this may have increased to around 34% in 2021/22.<sup>28</sup>

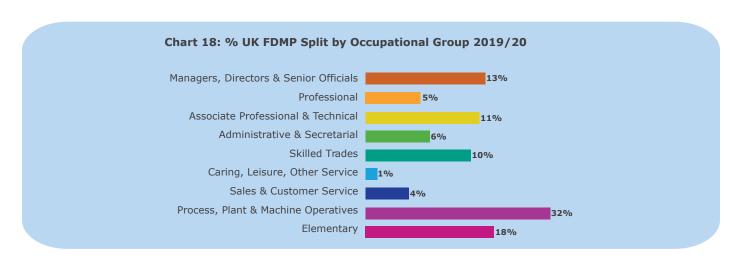


Table 1: Indicative % Composition of UK FDMP Workforce 28 (% rounded, provisional)

UK FDMP Occupational Groups	2019/20	2021/22 (p)
Managers, Directors & Senior Officials	13%	12%
Professional	5%	9%
Associate Professional & Technical	11%	13%
Administrative & Secretarial	6%	6%
Skilled Trades	10%	9%
Caring, Leisure, Other Service	1%	0%
Sales & Customer Service	4%	4%
Process, Plant & Machine Operatives	32%	31%
Elementary Occupations	18%	16%

#### **5.2 Salaries**

Industry and media feedback concur that wages have risen in the FDMP sector (and other sectors), in order to attract and retain staff, as well as a result of implemented increases to the minimum wage. All of this has added to the cost burden on FDMP businesses.

Nevertheless, data indicates that mean gross average salaries in the food & beverages manufacturing sector were lower than for UK manufacturing as a whole in 2021 (food -15% and beverages -2%).

Indicatively, salaries for females were higher in the beverages sector, compared to all manufacturing.<sup>29</sup> However, there are likely to be wide variations by employer and by region, reflecting local labour supply and the picture is still evolving in 2022.

Table 2: Indicative Mean Gross Annual Salary (£), UK FDMP, 2021 (provisional)

Sector	Male	Female	Full-Time	Part-Time	All Employees
All Manufacturing	£37,251	£29,019	£36,891	£16,622	£35,277
Food	£32,088	£25,632	£31,841	£14,988	£29,879
Beverages	£36,533	£30,901	£36,031	£17,969	£34,679

Table 3: Indicative Mean Annual Gross Pay by Employee Job Title, UK, 2021 (provisional)		
Process Operatives (food, drink & tobacco sector)	£21,372	
Packers, Bottlers, Canners & Fillers	£20,360	
Engineers (all production & process)	£41,196	
Planning, Process & Production Technicians (all industries)	£32,169	

Data for specific roles further highlights the differential between engineers & technicians (all sectors), compared to process operatives and packers working within the food & drinks sector.<sup>30</sup>

There is anecdotal evidence that greater competition to attract personnel has led to wage inflation in 2022. In some cases, senior managerial and supervisory roles are reported to be offering +20-30% above salaries highlighted in Table 3 above, particularly for technical, operational and engineering roles, with wages for supervisory roles also increasing.<sup>31</sup>

Earnings data for the first few months of 2022 also supports this upward trend, with sustained growth in average FDMP weekly earnings (+5.6%, both May & June, 2022 (provisional)<sup>32</sup>. Despite rising wages, real wages are not necessarily keeping ahead of inflation.

### 6.0 Recruitment & Future Skills Gaps

- FDMP is facing sizeable skills shortages.
- Reported higher vacancies than many other sectors.

FDMP makes a significant contribution to UK manufacturing. It has long been highlighted that manufacturing, as a whole, needs to attract fresh talent to meet current and future skills demand.

We review industry recruitment needs & skills gaps.

#### **6.1 Recruitment**

Survey data indicates that manufacturing has a high proportion of vacancies which are hard-to-fill due to lack of skills, qualifications or experience (36%). This is much higher than the average across all industries (24%). Density of skill-shortage vacancies is particularly acute in skilled trade occupations (61%).<sup>33</sup>

Indicatively for FDMP businesses (smaller base), survey data also highlights that nearly 58% (base 109) had 'hard-to-fill' vacancies, including for machine operatives. Key reasons were felt to be down to a low number of applicants with required skills (36.5%, base 63).

Overall, two-thirds stated that they had skills-shortage vacancies of some kind and over a fifth (23%, base 87) felt that skills gaps have a 'major impact' on how an establishment performs.<sup>34</sup>

More recent reports also suggest that food & drinks manufacturers have experienced higher vacancies than many other UK business sectors and across different roletypes, with 6.3 vacancies for every 100 jobs in Q2, 2022.<sup>35</sup> Again, this has been exacerbated by fewer people within the overall labour market, post-pandemic, partly due to early retirement and greater competition to attract applicants.

#### Businesses are resorting to diverse measures to recruit or fill future skills gaps.<sup>36</sup>

"We have introduced retention payments in our operational roles and also included salaries in the job adverts, so as to make us more transparent in the adverts that we publish."

"We have adopted more streamlined/virtual recruitment processes and are looking more and more at how we support diversity and social mobility".

"We have ramped up our social media, face to face interactions and attendance at apprenticeship fairs and visibility in schools."

#### 6.2 Skills Gaps

Role-related technical or practical skills, involving specialist knowledge, as well as people/personal related skills (team working & time/task management), are cited as core skills, felt to be lacking/difficult to obtain, across all manufacturing applicants generally and in FDMP businesses (note indicative due to small base, 42).<sup>37</sup>

Table 4: Manufacturing Companies vs FDMP Only - Applicant skills lacking/difficult to obtain <sup>38</sup>

Type of Skills		Manufacturing Top Responses (Base : 660)	FDMP Top Responses (Indicative, Base : 42)
Technical/practical	Specialist skills or knowledge	61%	66.7%
People/personal	Team working Ability to manage own	32%	45.2%
time/prioritise tasks		31%	47.6%

Areas for further improvement within FDMP businesses were also recognised as specialist skills or knowledge to perform the role (63.2%), the ability to manage own time/prioritise tasks (69%) and team working (58.6%, base 87).<sup>39</sup>

The Association of Labour Providers further indicated in its May 2022 survey<sup>40</sup>, that around 77% of businesses had experienced shortages of lower and unskilled workers, leading to 46% using more agency labour and 30% automating to reduce reliance on skills and labour.

situation regarding shortages highly skilled (degree level) workers, such as engineers and directors, as well as production/operations managers, has also worsened. There were mixed reactions on the likely impact of workforce shortages on their businesses in 2022. 34% still expect to use more agency labour, whilst 24% expect to increase the proportion of permanent workforce and use less agency labour. However, 66% agreed the government should extend the seasonal worker visa route to other low and unskilled roles and sectors.

<sup>&</sup>lt;sup>37</sup>Employer Skills Survey, 2019; data interrogated for FDMP August 2022; accessed under special license; note low base of 42 for this question; England, Wales & N. Treland

<sup>&</sup>lt;sup>38</sup>Employer Skills Survey 2019, Skills Needs Research Report (Nov 2020), tables A.3.3. and A.3.4. Note: England, Wales, N. Ireland; see also footnote 37; see source notes. <sup>39</sup>See footnote 37; base 87.

<sup>&</sup>lt;sup>40</sup>The Association of Labour Providers, Food Supply Chain Labour Survey, May 2022; base 87, of which 42% were food & beverage manufacturing companies; and Labour Provider Survey, base 92.

Labour shortages have also been raised as an area of concern by the FDF/NFU and other parties<sup>41</sup>, as well as The Environment Food & Rural Affairs (EFRA) Committee<sup>42</sup>, with the government since announcing additional seasonal worker visas for the remainder of 2022.

A list of skills and role shortages reported by FDF members (Q2 survey) further indicates demand for higher level skills (such as R&D, line leaders & supervisors, procurement, HR, project managers, engineers & sales), as well as specialist roles (such as butchers and lab technicians).

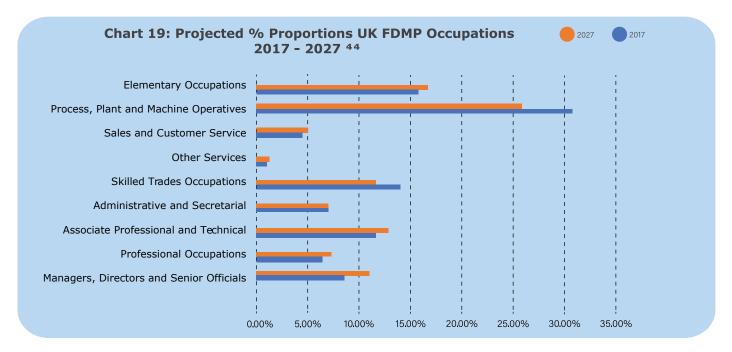
Also production & warehouse operatives (including short term, seasonal labour, packers, drivers, machine operators and NPD technologists).43

#### **6.2.1 Future Skills Needs**

"The main points that seem to be putting people off joining the manufacturing industry are around pay and working conditions, with more of an emphasis being seen on promoting officebased roles within schools, rather than factory-based jobs."44

Future employment and skills shortages in the UK food & drinks sector is the topic of much debate. New forecasting models are expected to be released in 2022/23 to reflect the impact of Covid, Brexit and the war in Ukraine. Reference to forecasting models, available at time of writing, indicate that there was potential for 92,000 future jobs requirement from 2017 to 2027 (pre-Covid/Brexit forecasts).

Projected changes within FDMP occupations reinforce the expected reduction process, plant & machine operatives and skilled trades. Meanwhile, managerial & professional/assistant professional trades are expected to grow. At the same time, the level of qualifications is expected to rise.45



<sup>41</sup>Establishing the Labour Availability Issues of the UK Food and Drink Sector, August 2021.

<sup>&</sup>lt;sup>42</sup>EFRA Labour Shortages in the Food and Farming sector, 29 March 2022 report/government response June 2022. <sup>43</sup>Food and Drink Federation Q2, 2022 Member Survey. <sup>44</sup>National Skills Academy for Food & Drink (NSAFD) Employer Survey, Wave 1, Q2, 2022.

<sup>45</sup>Extrapolated from Working Futures 2017, Dept for Education, Warwick Inst. For Employment Studies/Cambridge Econometrics; Occupation composition by employment status; used as base to compile Chart 19; see original source notes. Note FDMP also includes an element of 'tobacco' in this chart.

## 7.0 Qualifications & Training

- FDMP workforce is becoming more highly qualified.
- Job specific and H&S most common types of employer training.

Qualifications and training have implications for how businesses may seek to fill gaps in labour supply and to upskill existing staff, to achieve efficiencies and improve productivity.

#### 7.1 Qualifications

Data is available to compare trends in the National Qualifications Framework (NQF) format. The FDMP workforce would appear to be becoming more highly qualified. Just 8% stated that they held no qualifications in calendar year 2021 (compared to 11% two years before). The sharpest upward trend is seen in Level 4 and above, accounting for a third of qualifications held in 2021. A further 15% also held Level 3 qualifications, although down on 2020 (18%).

There was also an increase in the proportion holding Level 2 qualifications compared to 2 years ago (16% versus 13%).<sup>46</sup>

Qualifications are broken down in two ways, with degrees and higher education again reflecting an increase (accounting for 32% in 2021).<sup>47</sup>

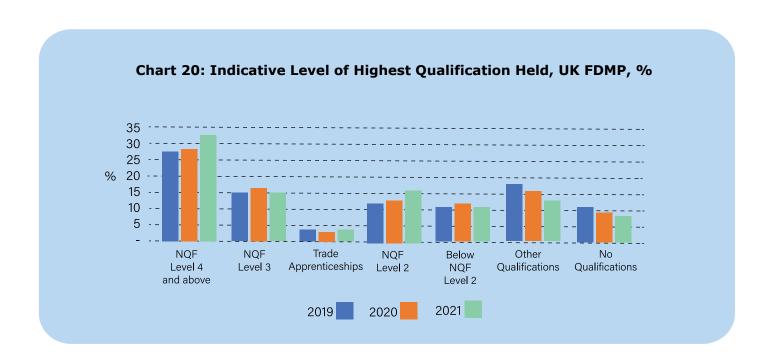


Table 5: Indicative Highest Qualification Held, UK FDMP %			
	2019	2020	2021
Degree or equivalent	21	20	23
Higher education	7	9	9
GCE A Level or equivalent	20	23	21
GCSE grades A*-C or equivalent	18	18	22
Other qualification	19	17	14
No qualification	11	10	8
Don't know	3	3	2

#### 7.2 Training Spend & Type

The need for upskilling of employees may be driven by many different factors. According to employers across multiple sectors, these may include new legislative or regulatory requirements (42%), new technologies or equipment (41%), new products and services (35%) and the introduction of new working practices (35%).48 Adapting to new equipment or materials also featured highly as an area of improvement for FDMP businesses. (54%, base 87).49

Training budgets may also vary significantly between employers. The average training spend per employee within the manufacturing sector generally is around £1,200, compared to £1,530 across all sectors. Overall, around £2.7bn is spent on training per year in manufacturing, with an average of 2.3 days per employee (and 4.9 days for all people trained, or £2,500 per trainee).50

Around half of FDMP businesses in the same survey stated that they spent an average of 2 days or less on training for trainees (base 228). In terms of indicative training expenditure, 63% of FDMP businesses had spent up to £5,999 on external training providers within the previous 12 months (but note small base of 30).51

In training per employee in manufacturing sector

Spent on training in manufacturing sector

Spent per employee training in manufacturing sector

<sup>&</sup>lt;sup>g</sup>Employer Skills Survey 2019, Skills Needs Research Report (Nov 2020), p.73. England, Wales, N. Ireland; see source notes.

<sup>&</sup>lt;sup>49</sup>Employer Skills Survey 2019; data interrogated for FDMP August 2022; base 87. Accessed under special license.
<sup>50</sup>Employer Skills Survey 2019 Training & Workforce Development Research Report (Nov 2020). England, Wales, N. Ireland; also used for graphic boxes. Source Tables A.4.2

<sup>51</sup>See footnote 49 but base here is 30, indicative only.

Nearly 48% of FDMP businesses train both off and on-the-job, with 15.1% training only on-the-job, 10.3% only off-the-job and 26.7% stated that they did not train at all (base 311, note timeframe of 12 months). The indications are that FDMP businesses may tend to utilise both off and on-the-job training at a higher proportion than other types of manufacturers (36.6%) and other businesses (42.8%).52

Job specific and Health & Safety training are the most important types of training, with FDMP businesses also rating these very highly.<sup>53</sup>

One area of potential development is training in new technology, with a more recent survey across a cross-section of employers in England indicating that this was around 49% in 2021.54

Table 6: Types of Training Provided past 12 Months (prompted; note different bases/years)

Type of Training	All Manufacturing (2019) <sup>55</sup> England, Wales & N. Ireland Base: 4,191	FDMP Only (2019) <sup>56</sup> England, Wales & N. Ireland Base: 228	All Employers (2021) <sup>57</sup> England only Base: 3,373
Job Specific	82%	90.4%	84%
Health & Safety	77%	87.7%	71%
Basic Induction	62%	79.8%	67%
New Technology	45%	41.7%	49%
Extensive Induction	34%	49.6%	39%
Management	25%	44.7%	35%
Supervisory	28%	50.4%	36%

A 2021 pulse survey, with a cross-section of employers from different industries in England, indicates that just under half (48%) had arranged or funded any training over the previous 12 months for any employees (compared to 61% in 2019). Employers were more likely to have arranged only onthe-job training (23% compared to 18%, 2019).

Most said that the amount of training funded had stayed the same (66%), although nearly a fifth (19%) stated it had fallen, with some increasing (11%). Around 12% of employers currently had Apprenticeships. 58

<sup>&</sup>lt;sup>52</sup>Note sample variation here of FDMP base 311, other types of manufacturers 5,080 and other businesses, 64,826.

 <sup>53</sup>See footnote 49, but note base of 228 for this question.
 54Employer Pulse Survey, Research report April 2022 (England), Department for Education. P. 31.

<sup>&</sup>lt;sup>55</sup>Employer Skills Survey 2019, Training & Workforce Development Research Report (Nov 2020). England, Wales, N. Ireland; tables A.6.1; <sup>56</sup>See footnote 49; note different bases; table is 228.

<sup>&</sup>lt;sup>57</sup>Employer Pulse Survey, Research report April 2022 (England), Department for Education. P.26.

<sup>58</sup>See footnote 57. p.49.

#### **Barriers to training**

# Key reasons for not providing training amongst FDMP businesses (past 12 months) included:

- Staff already being fully proficient/no need for training (66.7%).
- Training not considered a priority (7.4%)
- Training not in a relevant subject area (7.4%)
- Money not being available for training (6.2%, all base 81).

#### 7.3 Impact of Covid on Training

Whereas 38% of all manufacturing enterprises (including FDMP) arranged or funded online training/e-learning in 2019,<sup>59</sup> this compared to 57.9% for FDMP businesses specifically.<sup>60</sup>

There are however signs that online training also rose significantly during the Covid pandemic (51% for all manufacturing and 74% across all employers in England).<sup>61</sup>

# Key reasons for not providing *more* training amongst FDMP businesses included:

- Not being able to spare staff time for additional training (58%)
- Lack of funds/too expensive (46.2%, both base 119).

### 8.0 Apprenticeships, T-Levels & NSAFD Insights

- FDMP Apprenticeship
  Starts have fallen during the pandemic.
- Most have been ASA Levy-Fund supported.

Apprenticeships can provide a key means of tackling future skills shortages.

We review volume of Apprenticeship Starts and provide feedback, from our Employer Surveys, on use of the Levy. Due to differences in definitions & data between different UK nations, our analysis focuses upon England.

#### 8.1 Apprenticeship Starts

Analysis of Apprenticeship Starts within the FDMP sector in England highlights that Starts were already beginning to decline in 2019/20. However, there was a significant drop in 2020/21 (-30.5%), apparently reflecting the impact of Covid.

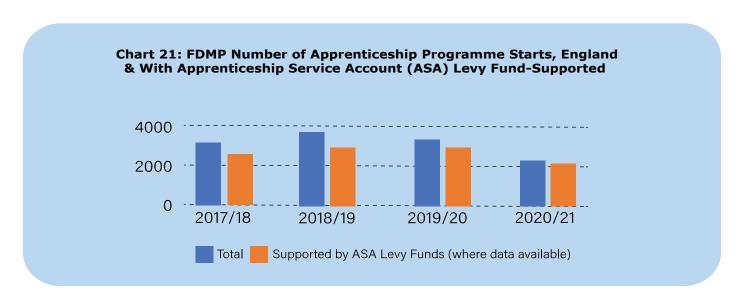
FDMP Starts in 2020/21 represented around 13.5% of all manufacturing Starts in England. Manufacturing Starts also declined in 2019/20 (-14%) and 2020/21 (-25%).

Besides lower numbers coming forward, anecdotal feedback on Apprenticeships generally suggests that, in some industries, there may have been slower adaptation to digital learning during Covid, given the practical nature of many sectors. The food & drinks industry was also faced with other priorities during this time.

The Apprenticeship Levy was introduced in 2016/17 (paid by all employers with an annual wage bill in excess of £3m), along with other Apprenticeship reforms.

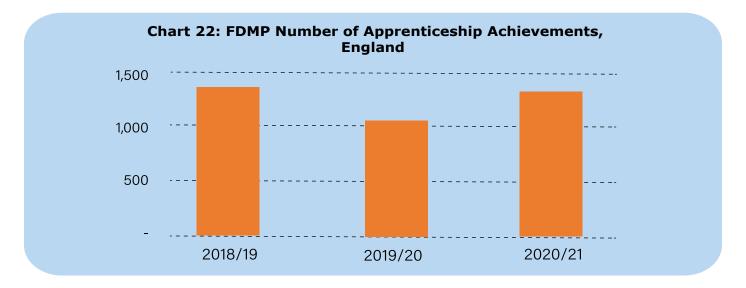
The chart illustrates how the majority of FDMP Apprenticeship Starts have been supported by the Apprenticeship Service Account (ASA) Levy Funds (88.5% 2020/21). This online service enables levy-paying employers to choose and pay for Apprenticeship training.<sup>62</sup>

Notwithstanding the drop in Starts, the number of FDMP achievements of individual qualification aims still rose in 2020/21 (+28%).<sup>63</sup>



<sup>62</sup>Dept. of Education tables; Starts is the number of programmes beginning in an academic year and indicating take-up of programmes and is not a count of individual learners. An apprentice is counted for each apprenticeship they start at a provider. In England, all new Apprenticeship starts from 2020/21 will be employer-led Apprenticeship Standards and not the previous Frameworks. Refer to source notes as to how Levy calculated/reported in 2020/21.
62Dept. of Education tables; Achievements reflect completion of individual qualification aims in the relevant year and are calculated as the number of aims achieved, divided by the number started, excluding aims of learners transferring to another qualification at same institution. Given that learners do multiple aims this is not a count of unique

learners.



Caution needs to be exercised in comparing data from other UK devolved nations, given differences in definitions, standards & frameworks. However, indications of Starts on relevant programmes have been provided below.

#### Wales

Indicatively, in 2020/21 there were 190 Starts (+19% on 2019/20 (160); 2018/19 (185). A significant number of food & drink pathways in 2020/21 were related to food industry skills/technical management and team leading, as well as Meat & Poultry level (note some data suppressed).<sup>64</sup>

#### 8.1.1 Apprentices By Job Role/ Aim Title

Analysis of FDMP Apprenticeship Starts by specific title/job role, for the Food/Beverages manufacturing industries, is subject to a Freedom of Information request, with some data suppression. However, as a broad guideline, this analysis indicates that Team Leader/Supervisor may account for a significant proportion (potentially around 18% of all FDMP Apprenticeship Starts in 2020/21). Operations / Departmental managers may also account for around 6%, compared to similar numbers for Process Operators & Technical Operators (5-6% each).

#### Scotland

There were 901 Apprenticeship Starts in Scotland, in the Food & Drink occupational grouping, in 2021/22, compared to 846 in 2020/21 and 1,217 in 2019/20. Whilst this includes food & drink operations & technical elements, as well as agriculture, aquaculture and maritime, there were 701 Apprenticeship Starts in food & drink operations alone in 2021/22 compared to 608 in 2020/21.65

#### **Northern Ireland**

There were 969 Apprenticeship Starts in 2020/21 on the Food Manufacture Framework, compared to 385 in 2019/20 and 608 in 2018/19.66

The Data for Advanced / Maintenance Engineers is suppressed. Of all FDMP Achievements in 2020/21, around 15% appear to be for Team Leaders.<sup>67</sup>

Analysis by Aim Titles related to food processing/manufacturing, across England, also indicates the following Starts in 2020/21:68

#### **Table 7: Indicative Food-Related Aim Titles**

Aim Title	2020/21 No. Starts
Abattoir Worker	10
Advanced Butcher	30
Baker	120
Butcher	630
Food & Drink Advanced Engineer (integrated degree)	10
Food & Drink Engineer	10
Food & Drink Maintenance Engineer	110
Food Technologist	90
Food & Drink Process Operator	240
Food & Drink Technical Operator	140
Food Industry Technical Professional (integrated degree)	60

#### 8.1.2 Update on T-Levels



New 2-year technical qualifications introduced September 2020, with a work placement of c.45 days.

T-Levels are Level 3 technical education qualifications, roughly equivalent to three A Levels, introduced in England to address skills gaps.

Preliminary feedback on learner experience of T-Levels (May 2022) indicates that satisfaction is relatively high (79% very/ quite satisfied with course), although a lack of in-person teaching was a key barrier to learning for some. Those being taught mainly online found it more challenging (note the pandemic impacted on how learners were taught in 2020/2021 and on work experience).

Where undertaken, most T-Level learners were satisfied with their industry placement and felt supported by employers. Over quarter of respondents (27%) were planning to go on to a paid job, although taking a university degree was the most common response for next steps (31%). A key reason for choosing their course in the first place was that it fitted with a desired area of work.69

Other employer-led research, cross-sector, indicates that nearly two-thirds (64%) thought that offering T-Level placements would be difficult for their site's capacity, compared to those thinking it would be easy (30%). However, three in ten (30%) were interested in providing work placements to T-Level students (of which 6% very interested), although most were not interested (63%). This may be influenced by relevance to their business sector. Nevertheless, uptake of Apprenticeships improved over this period (23% offering compared to 19%, 2019).70

#### Forthcoming T-Level courses potential relevance to the food & drinks sector include:71

#### Potentially from September 2022:

 Design & development for engineering and manufacturing; Engineering, manufacturing, control; Maintenance, processing & installation and repair for engineering & manufacturing. Also Accounting; Finance; Management & Administration.

#### **Potentially** from 2023 September (broader food sector):

 Animal care and management; Agriculture, management & production; land Catering.

Preliminary T-Level results, announced on 18 August, 2022 by The Department for Education, for 1,029 learners, indicate that 94% had completed an industry placement and 97.5% achieved a 'pass' or above in their occupational specialism in 2021/22.72

## 8.2 NSAFD Snapshot Employer Insights

#### 8.2.1 Background

In order to gather preliminary qualitative insights on Apprenticeship training and the role of the Levy in supporting Apprentices, the NSAFD invited feedback from a small sample of employers in Q2/Q3, 2022.

Just over two thirds of businesses providing feedback had a Levy below £1 million. Team Leader / Supervisor (Level 3) was the most frequent Standard used among Apprentices.

#### 8.2.2 Apprenticeship Training

Feedback indicates that over three quarters were satisfied/very satisfied with the availability of appropriate Apprenticeship Standards, most were retaining Apprentices and plan to continue to use Apprenticeship Standards at a higher or equal volume in the future.

However, less (just over half) were satisfied/ very satisfied with the return on investment from Apprenticeships and even less so with the quality of training provision. The 20% off-the-job learning hours and lack of internal resources were cited as some of the biggest challenges.<sup>73</sup>

#### Time 'off-the-job' requirement may restrict number of Apprentices:

"There is an appetite for colleagues to learn via Apprenticeships, but sometimes it can be difficult to release the numbers from day-to-day roles, for the 20% off-the-job who would like to take part, so this can impact how many we have on programmes at any one time".

"The minimum length of the Apprenticeship course at 18 months presents a challenge in terms of the commitment involved for this length of time - one year would be more popular for our employees".

#### Identifying subsequent roles can also be a challenge:

"Succession planning...identifying roles for the Apprentices to go into after they complete, which really align to their knowledge and capability...ensuring a consistent journey with the training providers with regular updates on progress and clear objectives set".

#### 8.2.3 Recruitment of Apprentices

The impact of Covid on the recruitment of Apprentices was also highlighted and some had increased their use of social media in job advertisements, in a bid to improve the recruitment process.

In terms of industry perceptions, half of businesses also believed that the lack of interest in manufacturing roles at school is caused by the increasing encouragement of educational institutions for their students to pursue further education and/or attend university. Meanwhile, some also felt that there is still a stigma associated with manufacturing work.

#### **Recruitment:**

"Food manufacturing has a reputation not to be attractive. More focus on the industry is essential and engagement with local schools, universities."

"We work with our training providers and this has helped us to recruit to new Apprentice roles. They have helped with screening and expectations of applicants."

Key reasons for employing Apprentices included relevance to the needs of their business, as well as use of the Levy. Acquiring technical skills and staff retention were also cited. None of the organisations taking part in the survey felt that Apprentices simplified the recruitment and training process.

#### 8.2.4 Levy Utilisation

Other employers also provided more indepth insights on their use of The Levy to fund Apprenticeships. Most again had a Levy below £1 million, although over a third had a Levy between £1 million & £3 million. Very few had a Levy above £3 million.

For around half of these businesses, Apprentices represented under 1% of their workforce. However, a fifth stated 1-2% and over a guarter 2-3% of their workforce.

Apprentices within these organisations were following a variety of different Standards, with responses indicating a higher relative proportion on Food & Drink Maintenance Engineer and Team Leader / Supervisor Standards.

For most, only a small number of their Apprentices were following one particular Standard, reflecting the diversity of Apprenticeship training.

Standards Other mentioned included Operations/Department Manager, Food Drink Advanced Process Operator/ Technical Operator, Food & Drink Process Operative, Food Technologist & Food Technical Professional (the latter apparently having fewer Apprentices amongst these businesses).74

Interestingly, a broad array of other business disciplines were mentioned (those in bold mentioned multiple times):

- CMDA (L6)
- Supply Chain Practitioner (L3)
- Packaging Professional (L6)
- Packaging Technology
- Warehouse Operative (L2)
- Data & Analytics
- Engineering Operatives (L2) / Technician (L3) / Degree (L6)
- HR Support
- Chartered Managers (L6)
- Digital Marketer
- Accountancy (L7) / Finance
- Project Manager
- Sustainability
- Procurement
- Continuous Improvement Specialist (L5) / Practitioner (L4)
- Customer service specialists
- Lean manufacturing
- L&D Development (L5)

Over two thirds of businesses had utilised up to half of their Levy in the last 24 months (and just over a fifth had used less than 20%). Only one business had used over 90%.

Interestingly, half of businesses stated that the proportion of their Levy utilised had increased within the past 24 months and over a third stated it had stayed the same. For some therefore, it had decreased.

Over four-fifths of businesses were 'strongly in favour'/'in favour' of The Levy. However, most would like to see greater flexibility in its use to support other programmes, traineeships & employees. Also, more flexibility to transfer funds that might otherwise expire, as well as flexible calculation of The Levy, based upon spend.

As before, time constraints for provision of '20% off-the-job' training were also highlighted, as well as the added administration for businesses to run Apprenticeship schemes, with calls for a common process across UK nations.

#### Calls for greater flexibility in Levy utilisation:

"More flexibility on utilising the funds to support up-skilling of other employees."

"We know what funds are due to expire, and there could be a time limit to transfer these funds. This could boost other funds to make a real difference."

"20%-off is a tough deliverable for existing employees to comply with. Prevents us from using more of the Levy."

"The use of the Levy to support additional programmes, such as traineeships and being able to pay for English and Maths functional skills in advance of an Apprenticeship starting."

## **8.2.5 Potential implications for the FDMP sector**

This preliminary research indicates the diverse range of Apprenticeship training which is taking place within organisations. However, this is not without its challenges, not least enabling time-off-the-job around stretched internal resources, especially within smaller organisations.

There is also an indication that The Levy is not being fully utilised, or even able to be fully utilised, with calls for greater flexibility in how it is both calculated and used for training to make it more useful for some organisations.

### 9.0 Technology Skills & Investment

- Automation & Smart

  Manufacturing set to
  increase in FDMP sector.
- Business investment has proved resilient but may cool in face of increasing business costs.

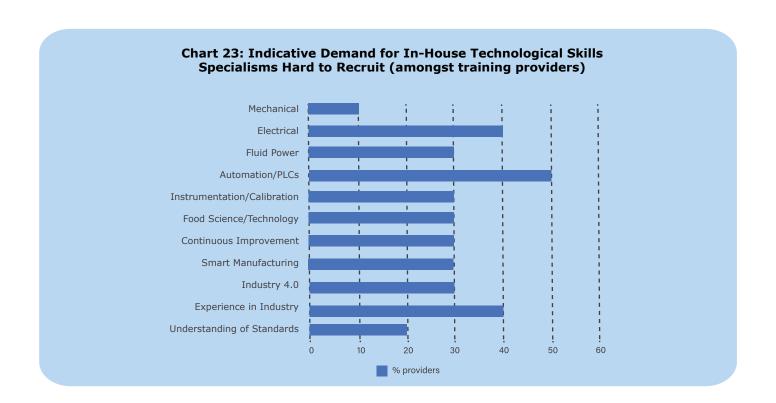
As manufacturing processes incorporating emerging technologies continue to evolve within the food & drink manufacturing industry, there is likely to be greater requirement for upskilling to meet the needs of this modern workplace.

#### 9.1 Technology Skills

There is currently wide variation in the degree of automation across sub-sectors within the food & drink manufacturing & processing industry. For example, dairy is already highly automated compared to meat processing, but uptake is expected to increase across most sectors in the longer term.

Apprenticeship standards designed by employers are helping to drive the skills agenda by developing capability for new technologies in workers.

Training providers are also seeking to gear up to meet this demand for a greater focus on highly contextualised and role-specific skills, including in automation and smart manufacturing. A 2022 survey by NSAFD for The Blair Project<sup>75</sup> reflects market demand for technical /technological skills amongst training providers who, like much of the industry, face challenges in the recruitment of staff in areas such as Automation/Programmable Logic Controllers, Industry 4.0 & Smart manufacturing. Electrical skills and Instrumentation skillsets are also in demand.



#### **Definitions** 76,77

#### Industry 4.0 -

Demand for increased productivity, in the face of labour shortages, is leading to more widespread uptake of smarter manufacturing processes, including use of Industry 4.0 (and eventually Industry 5.0). This involves integration of technologies, such as AI & machine learning, IoT, cloud (and edge) computing & analytics into manufacturing operations. Robotics, sensors and software, with ultra-fast analytics, can align with production operations to improve decision making and reduce costs.

#### **Automation -**

Whilst on-the-job training provides practical industry experience, there may also be demand for increased use of training rigs to simulate automation in training programmes.

#### 9.2 UK Business Investment In The **FDMP Sector**

A key factor to consider in the uptake of automation is the ability and willingness of UK FDMP businesses to invest, especially in view of economic and labour market challenges and threats of impending recession.

#### **Programmable Logic Controllers** (PLCs) -

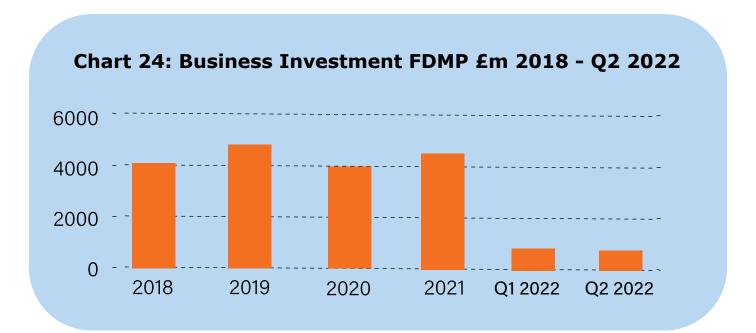
Already form part of engineering maintenance programmes to control production machines and processes and aid fault diagnosis. More advanced automation, including robotics and IoT, is however likely to require upskilling.

#### **Processing Instrumentation -**

Is continuing to advance and is heavily regulated for food compliance, including monitoring and measurement of safety, quality control & consistency. Demand for training on sensors and imaging may increase in line with investment in automation.

#### Robotics -

Potential for upskilling within the industry in order to process and interpret operational information.



<sup>&</sup>lt;sup>76</sup>Various media sources consulted for background reading, including daily press, to identify trending topics and including: www.ibm.com/blogs/internet-of-things/iot-manufacturing-ready/

https://www.madesmarter.uk

https://www.foodmanufacture.co.uk 77Supporting Outstanding Teaching, produced by the National Skills Academy for Food & Drink for The Blair Project, May 2022.

Investment by UK businesses in the food & drink sector accounted for around £4.3bn in 2021 at current prices.<sup>78</sup> Levels understandably dipped in 2020 (-14%), reflecting the impact of the pandemic. However, the sector recovered in 2021 (+8%). Q1/Q2, 2022 indicate some volatility (estimated -15% versus same periods 2021).

Across all types of UK businesses, whilst (non-dwellings) & structures accounted for around 30% of investment by asset, ICT equipment & other machinery or equipment represented around 23.5% in Q1/Q2, 2022.

The latter had also increased by nearly +14% 2021 versus 2020.79 This may augur well for investment in automation and smart manufacturing within the FDMP sector. However, there are indications that overall business investment in the economy may start to slow in 2022. Funding has however been previously announced to support investment in smart manufacturing and technology initiatives.80,81



This willingness to invest is also likely to extend to training. Research by The NSAFD<sup>82</sup> indicates that a third of employers who responded to the survey were investing in additional training, while Apprentices are on programme, in order to support or expand on the content within the Standard, whilst over four-fifths were also investing to support content not in the Standard.



<sup>78</sup>ONS, Business Investment by Industry & Asset; chart 24 features chained volume measures not seasonally adjusted, August 2022. Note source data also includes a small degree of tobacco; caution should be exercised with lower-level series as prone to revisions; business investment does not include expenditure on dwellings, land & existing buildings & costs of ownership transfer of non-produced assets.

79 See footnote 78, T1 Business Investment by Asset Chained volume measure seasonally adjusted.

80 https://www.madesmarter.uk Made Smarter is a smart factory innovation hub enabling businesses

ter.uk Made Smarter is a smart factory innovation hub enabling businesses to try out digital manufacturing solutions, funded by The UK Research and Innovation body (UKRI)

<sup>81</sup> https://www.ukri.org/news/147-million-investment-in-manufacturing-made-smarter/ 82 Supporting Outstanding Teaching, produced by the National Skills Academy for Food & Drink for The Blair Project, May 2022. Base 9 employers.

### 10.0 Environment, Sustainability & Food Strategy

- Environmental targets & food waste reduction/prevention is an area of focus in the FDMP sector.
- Also influencing demand for workforce skills.

The FDMP sector encompasses businesses which are energy, water and packaging intensive, with a requirement for refrigeration and transport. Environmental targets are therefore a key area, with the goal of reducing waste, consumption & emissions in these areas, whilst exploring more sustainable options.

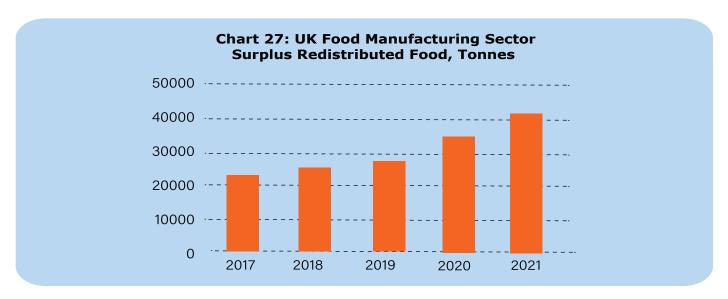
#### 10.1 Greenhouse Gas Emissions

The Waste and Resources Action Programme (WRAP) has estimated that around 150m tonnes of carbon dioxide equivalents are associated with the UK food and drink sector as a whole.<sup>83</sup> Put another way, around 35% of total UK GHG emissions (not all occurring in UK) are estimated to come from the production and consumption of food and drink. However, an absolute reduction of around 8% in GHG emissions associated with the UK's food and drink system was achieved between 2015 and 2019.<sup>84</sup>

For goods consumed in the UK, the production of raw ingredients is a major source of emissions and this is therefore a key area of focus, in order to achieve a more sustainable supply chain.

## **10.2 Food Waste In The Manufacturing Sector**

WRAP estimates that, in the UK, households throw away 6.6 million tonnes of food waste per year and around 75% of this could potentially have been eaten.<sup>85</sup>



The FDMP sector has continued to make improvements in the reduction of food waste. Since 2017, surplus food redistribution from UK manufacture has increased by over 18,900 tonnes, contributing nearly 40% of overall surplus food redistribution in 2021.86 Much of this goes into the commercial sector and more gains are expected to be made as capacity to store & handle surplus foods increases throughout the supply chain (and following some disruption due to Covid and Brexit).

#### 10.3 Increasing Sustainability

The challenge for the food sector is to maintain yield and efficiency, whilst reducing environmental impact. We outline some of the key regulatory & strategic influences that are impacting on the FDMP sector, as well as other areas of the food & drink industry. These continue to evolve.

Table 8: Environmental Influences on FDMP Sector			
Regulatory/Strategic Influences	Potential Impact On FDMP Sector (direct/indirect)		
Food Strategy <sup>87</sup>	<ul> <li>Drive towards more sustainable production.</li> <li>Exploration of alternative ingredients (such as protein/plant/health based).</li> <li>Drive to improve productivity, innovation &amp; skills.</li> <li>Greater transparency of food data/traceability.</li> </ul>		
UK Food Waste Reduction Roadmap <sup>88</sup>	<ul> <li>Increasing number of producers/manufacturers committed to food waste reduction (over 200, Sept 2021).</li> <li>Covering all major food categories.</li> </ul>		
The Courtauld Commitment 2030 89	Combined impact of:		
<ul> <li>50% per capita reduction in food waste by 2030.</li> <li>A 50% absolute reduction in GHG emissions associated with food &amp; drink consumed in the UK.</li> <li>50% of fresh food sourced from areas with sustainable water management.</li> <li>FDF Net Zero 2040 90,91</li> </ul>	<ul> <li>Voluntary collaboration action to:         <ul> <li>Reduce food waste,</li> <li>CO<sub>2</sub> emissions,</li> <li>Water stress.</li> </ul> </li> <li>Understanding ingredient emissions &amp; procuring lower carbon options.</li> <li>Surplus Food Distribution to prevent waste at source.</li> <li>Decarbonisation, improved energy efficiency, sustainable refrigerants.</li> <li>Implications for green skills &amp; training.</li> </ul>		
Plastics & Packaging <sup>92</sup> , <sup>93</sup> (In addition to Producer Responsibility Obligations/Packaging Regulations)  The Environment Act 2021 <sup>94</sup>	Combined impact of:  Greater responsibility for/use of recycled packaging in the supply chain. Ensuring consideration of waste & resource efficiency, nature & biodiversity.  More potential for environmental/packaging specialisms in FDMP.		

<sup>86</sup>WRAP, 2022, Surplus food redistribution in the UK 2015 – 2021 p.9.

<sup>87</sup>https://www.gov.uk/government/publications/government-food-strategy
88https://wrap.org.uk/taking-action/food-drink/initiatives/food-waste-reduction-roadmap

<sup>89</sup>https://wrap.org.uk/taking-action/food-drink/initiatives/courtauld-commitment; supporting UN SDG 12.3
90https://www.fdf.org.uk/fdf/what-we-do/environmental-sustainability/climate-change-net-zero/

 $<sup>{\</sup>tt 91} \underline{\sf https://www.fdf.org.uk/globalassets/resources/publications/guidance/net-zero-handbook-summary.pdf}$ 

<sup>92</sup>https://www.gov.uk/government/collections/plastic-packaging-tax

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## **10.4 Potential Implications for Skills Requirements**

The shift to Net Zero & sustainability within the FDMP sector is reported to be creating demand for environmental and other business specialisms and is also reflected in NSAFD surveys (see 8.2.4). The need to monitor targets, from waste reduction to packaging, whilst reducing energy consumption and introducing renewable energy sources, requires a range of expertise. These may include:

- Environmental management/ Sustainability skills - reducing carbon footprint & monitoring Scope direct/indirect emissions.
- Procurement skills sourcing ingredients/suppliers/resources with lower carbon footprints.
- Supply chain management skills to develop collaborative partnerships to reduce food waste (including potential for Deposit Return Scheme).
- Business skills (including project & data management) - to integrate information within an organisation.

Similarly, greater interest in developing plant & alternative protein-based food sources, with high nutritional content, is likely to require NPD, laboratory & innovative food technology skills, within the food & beverage sectors, to achieve ingredients reformulation. Other areas include expertise in precision and biomass fermentation. Similarly to prove vital for the modern FDMP workforce.

### 11.0 Conclusions

Table 9: Underlying Trends Influencing FDMP Businesses 96				
Economic/Social: Brexit/Covid/Inflation	<ul><li>Rising production costs &amp; food prices.</li><li>Supply chain &amp; labour issues.</li></ul>	<ul> <li>Impact on consumer spending.</li> <li>Drive to achieve production efficiencies.</li> <li>Use of technology/automation.</li> <li>Skills development.</li> </ul>		
Ingredients: Food Allergies. High Fat, Salt & Sugar (HFSS)	<ul><li>Impact on ingredients &amp; labelling.</li><li>Provenance of food.</li></ul>	<ul><li>NPD.</li><li>Innovation.</li></ul>		
Consumer tastes	<ul> <li>Demand for more plant-based/ protein/healthy diets.</li> </ul>	<ul> <li>Product &amp; business differentiation.</li> </ul>		
Sustainability	<ul> <li>Reduction of waste/ environmental impact.</li> </ul>	<ul><li>Stringent monitoring/targets.</li><li>Skills development.</li></ul>		

The Food & Drink Manufacturing & Processing (FDMP) sector is evolving in the face of considerable challenges. In order to meet future requirements for food production, there is general recognition that the sector needs to recruit, develop and retain the necessary skills for the modern workforce, mindful of long-term requirements. Research is taking place by government and other bodies, to establish exactly what these skills should comprise and where they are most needed.

Whilst the FDMP workforce is becoming better qualified, with greater penetration of more managerial & professional roles, there remain significant skills shortages at operational levels. Greater automation and implementation of technology are key measures proposed in response to this situation, but these are also dependent upon sustained investment and funding. This also needs to be supported by positioning the industry as an attractive option to appeal to new talent.

From a training perspective, there is evidence that both employers and training providers recognise a need to embed technological and smart manufacturing skills, including upskilling of existing workforce.<sup>97</sup> There are also encouraging signs that Apprenticeships present a means of attracting new recruits, although with varied use of The Levy to date.

Innovation within the sector is expected to continue to thrive, given demand for more sustainable ingredients, with a focus on healthy options. The industry is likely to require an increasing range of multidisciplinary business skills, not just those typically associated with food production. This includes procurement, supply chain management, environmental and data specialists, creating opportunities for new talent.

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