



# What Technical Skills does the UK Food & Drink Sector Need?



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# Foreword

The Food System of the 21st Century will require us to lead transformational change in areas including digitization and sustainability: environmental, social and economic.

Addressing these challenges as we continue to grow our current UK Food Sector both at home and through value-added exports, requires a step up in skills through both CPD for our current workforce and especially for students qualifying from our schools, colleges and universities.

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Covid-19 has shown both the importance and resilience of our UK Food Sector economically and as a career destination, with strong gender balanced opportunities through STEM, offering opportunities to all.

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Our sector is displaying its usual entrepreneurial, creative determination to finding solutions, with those companies able to commit resources to programmes such as the IGD's Feeding Britain's Future doing so and with KTN members working to collate the currently available resources for all to use.

However, we need to go further, and through partnership with government build the future skills our Food Sector requires to win, into the UK national skills strategy.

This report is a timely reminder of the need to act, ensuring that the skilled people needed for our sector today and in the emerging future that we see around us are graduating from our schools, colleges and universities, ready to grow our UK Food Sector into a new sustainable future.



**Professor  
Ian Noble**





# Executive Summary

The food and drink sector makes up a significant and successful part of the UK economy. Its success relies on the sector being able to continually innovate and improve productivity within an environment where a number of new disrupters are emerging.

At the heart of the sector's capability to face these challenges is its access to a skilled workforce who can facilitate future opportunities for growth. However, recruiting technical and skilled personnel is being reported as becoming increasingly difficult by businesses, who feel there is a growing shortage of adequately skilled candidates for a number of roles.

These recruitment issues are likely to act as a significant barrier to innovation, improving productivity and assuring capability within the sector in the future.

This report presents the results and findings of a sector-wide survey carried out by KTN and IFST addressing a number of themes relating to the food and drink sector, specifically engagement, resources, skills & training and recruitment.

## Some of the key findings from the survey were:

- **76%** of survey respondents are currently engaging with educational establishments; whilst **52%** attend or support careers events. However, this engagement was far more likely to be done by large organisations rather than SMEs.
- Only **53%** were aware of any resources or materials available to support engagement activities. SMEs were again less likely to be aware of any resources.
- **91%** of respondents would like, or would consider using, a developed resources pack for use in outreach activities.
- **Fewer than half** of respondents currently engage with schools, colleges or universities on the skill requirements they expect from students on completion of their studies.
- The ease of filling skilled vacancies was described as being **'difficult'** by almost a quarter of those surveyed (24%). Those organisations reporting recruitment problems as being greatest were manufacturing, processing and testing laboratories.
- The majority felt that there were specific types of roles in which recruitment was **especially challenging**. 'Technical' positions were identified as being the most difficult type of roles to fill.
- A number of skills and competencies were highlighted as often lacking from candidates, with **'Technical' skills** most frequently being cited as an issue.
- **A negative image of the sector**, lack of awareness of available opportunities and a poor perception of career prospects were all frequently mentioned as possible barriers to joining or training for technical roles.



# Our Recommendations

This report concludes that there is a growing shortfall in the availability of technical and skilled personnel to fill the food and drink sector's needs. Proactive actions are now required to ensure that the sector can develop a 'pipeline' of talent that will secure its future workforce needs.

## The following recommendations are proposed:

- 1** Develop a sector-wide campaign to improve the image and visibility of food and drink sector careers 
- 2** Build collaborations between industry and education to produce a future-proof technical skills agenda 
- 3** Industry and government commitment to invest in supporting a food and drink sector strategy for technical skills and recruitment 

# Introduction

The UK food and drink sector is a significant and successful part of the UK economy, employing 14% of the national workforce and contributing over £120 billion to the national Gross Added Value (GVA).<sup>1</sup> The success of the sector relies on it being able to continue to innovate and improve productivity against a backdrop of a number of challenges it faces in the future.

To unlock these opportunities for future growth it is vitally important it has access to a sufficiently technically skilled workforce to meet current and future demands. However, it has been reported recently that businesses are finding it increasingly difficult to fill specific roles, most notably those across a range of technical and skilled functions such as engineering and food science/technology.<sup>2,3,4,5</sup>

Shortages in filling these positions and a 'lack of available skills' are beginning to act as a major barrier to implementing innovation, improving productivity and assuring capability within the sector.<sup>2</sup>

This report outlines the findings of a sector-wide survey carried out by KTN in partnership with Institute of Food Science and Technology (IFST).

The overall objective of this project is to provide further evidence on the current state of the recruitment 'pipeline' for technical roles within the food and drink sector, supporting decision making and improvements that ensure its workforce is ready to meet future demands.

Specifically, this survey looks at how the sector currently interacts with the wider community to promote technical careers and attract talent, as well as identifying areas where skills and resources may be lacking. We also highlight the concerns organisations have relating to filling roles with candidates that possess the necessary technical skills and capabilities to support productivity growth and innovation.

The survey respondents also provide a pool for identification of existing resources that support food sector career education and promotion, as well as inform future work to identify potential opportunities to improve these resources.

<sup>1</sup> FDF (2020): 'The food and drink industry: Economic contribution and growth opportunities'

<sup>2</sup> FDSC (2019): 'Preparing for a changing workforce: A food and drink supply chain approach'

<sup>3</sup> Skills Development Scotland (2019): 'Sectoral skills assessment – Food and Drink'

<sup>4</sup> DEFRA (2019): 'Survey of the UK Food and Drink Manufacturing Industry 2018'

<sup>5</sup> IGD (2017): 'Bridging the skills gap report'



# Survey Results

The KTN/IFST food and drink sector skills survey was disseminated across the sector through a variety of routes, and responses were collected during November 2020. The survey asked respondents to provide their views on four broad themes regarding the food and drink sector: Engagement, Resources, Skills & Training and Recruitment.

In total 108 responses were received from a wide range of organisations, with a high proportion from those classified as 'Technical service providers' (36%) and 'Research organisations' (24%) (Table 1). 73% of those respondents from 'Research Organisations' represented universities, or other Further Education and Higher Education establishments.

Responses were received from businesses operating across all food and drink categories and included organisations of all sizes with over half (52%) of respondents representing small and medium-sized enterprises (SMEs).

Type of organisation	Number of respondents	% of respondents
Primary food producer/grower	5	5
Primary food processor	3	3
Food & drink manufacturer	15	14
Retailer	10	9
Research organisation	26	24
Technical service provider	38	36
Testing laboratory	1	1
Governmental policy body	1	1
Regulatory enforcement body	1	1
Trade body	8	7
<b>Total</b>	<b>108</b>	

Table 1. The number and composition of respondents to the survey



# Societal Engagement

A major challenge the sector faces in developing the technical skilled workforce it requires in the future is to ensure improved public awareness of the various opportunities that exist within it.

The fragmented nature of the sector and so the lack of cohesion in offering careers resources is negatively impacting awareness of career opportunities. New prospective talent can't easily access existing resources provided and existing major careers advisory resources do not accurately reflect food sector opportunities for highly skilled roles. One way to address this is through engagement with the wider public, particularly young people and influencers such as teachers, career advisors and parents to promote the food and drink sector as an appealing destination for STEM careers. This section of the survey focused on identifying the engagement activities currently being delivered across the sector.

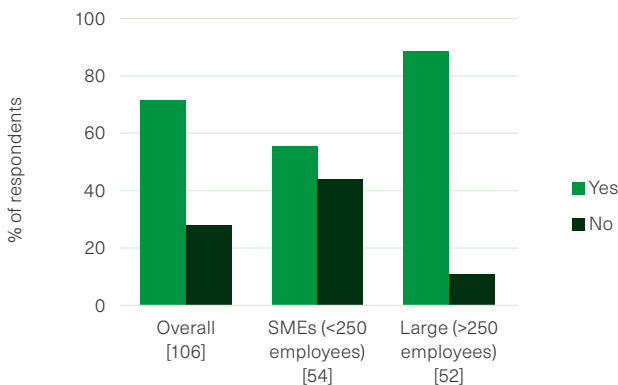


The survey revealed a relatively positive picture with regards to current levels of engagement with the majority of respondents (76%), spanning all organisation types, saying that they currently took part in activities with schools and other educational establishments to promote the food and drink sector (Figure 1a).

Moreover, 52% of organisations responded that they also attend or support career events (e.g. IFST Career Launchpad, Food Matters Live, university career fairs) to promote all types of careers in food and drink (Figure 1b). However, the relative size of an organisation did appear to have an important influence on whether or not engagement was undertaken. 88% of large organisations reported as engaging with schools and educational establishments in comparison to only 56% of SMEs, with a similar trend being seen when assessing the size of those organisations involved with careers events.

**1a** "Does your organisation engage with schools and other educational establishments either locally or nationally?"

[106 respondents]



**1b** "Do you attend or sponsor career events / job fairs or provide resources for such events to promote careers in the food and drink sector?"

[104 respondents]

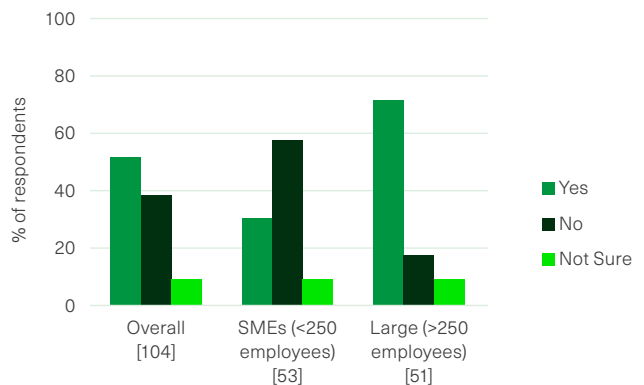


Figure 1. The levels of engagement of SMEs and large organisations. The total number of responses per group is indicated within the square brackets.

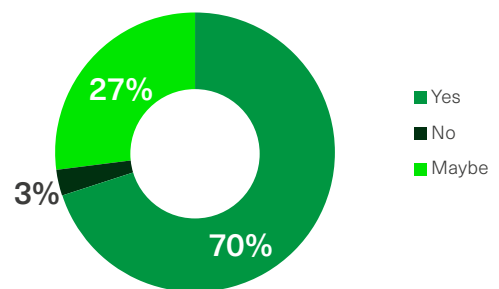




The majority of organisations (regardless of the type or size of organisation) expressed that they would like to, or would consider, taking part in engagement activities either virtually or in person to promote the food and drink sector (Figure 2). This clearly highlights a desire among a number of businesses to take part in engagement to promote the sector, although despite this our survey suggests that these activities are currently limited predominantly to larger organisations rather than SMEs.

**“Would you like to work with a school, college or university to share STEM or professional career talks and/or science and engineering demos?”**

[105 respondents]



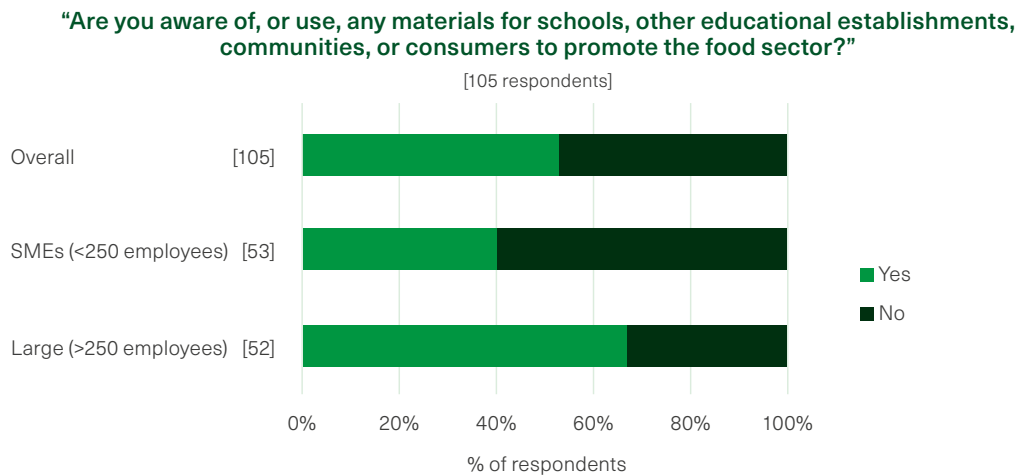
**Figure 2.** Proportion of respondents who were interested in being involved with engagement activities.

# Resources for Engagement and Outreach

Food and drink sector specific public engagement and outreach resources are an invaluable tool that can support the industry in promoting food sector careers and engaging with communities; whether they're aimed at young people, parents or educators.

These resources can help attract future talent through sparking an interest in food and showcasing the wide array of opportunities available in the sector. We aimed to explore how resources are currently being utilised and identify areas where they may be developed to maximise their impact.

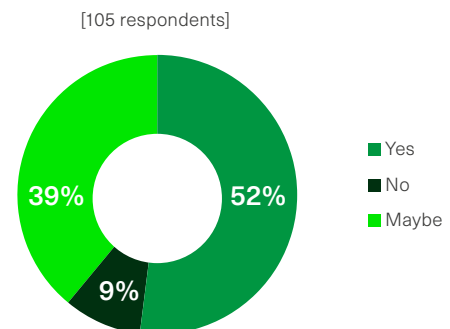
Just over half of those surveyed were aware of, or used, materials to help promote the food and drink sector. However, as Figure 3 illustrates SMEs appear to be less aware and more unlikely to use resources to support promoting the food and drinks sector.



**Figure 3.** Awareness of resources and materials for use in supporting external engagements to promote the food and drink sector. The total number of responses per group is indicated within the square brackets.

One of the primary outcomes of this project is to curate a list of appropriate resources for the food and drink sector. Where gaps in coverage are identified appropriate resources would then be developed. These expected outcomes appear to be widely supported by those surveyed, whether an SME or larger organisation, with 91% overall responding that they would like, or would consider if appropriate, to have a developed pack available to them for use in external engagements and careers talks (Figure 4).

**“Would you like to have a developed pack of food and drink sector relevant resources available to you for use for external engagement and career talks?”**



**Figure 4.** Views on whether or not the provision of a developed pack to be used in external engagement events would be of value.

# Skills and Training

It is essential for the growth and continued development of the food and drink sector that it has access to a workforce possessing the necessary technical skills required.

These technical skills requirements must be led by the needs of industry and the skill sets it is likely to require in the future to deliver innovation and meeting supply chain resilience needs. Within this portion of the survey, we aimed to identify how the sector currently engages and supports skills development for those entering technical roles.

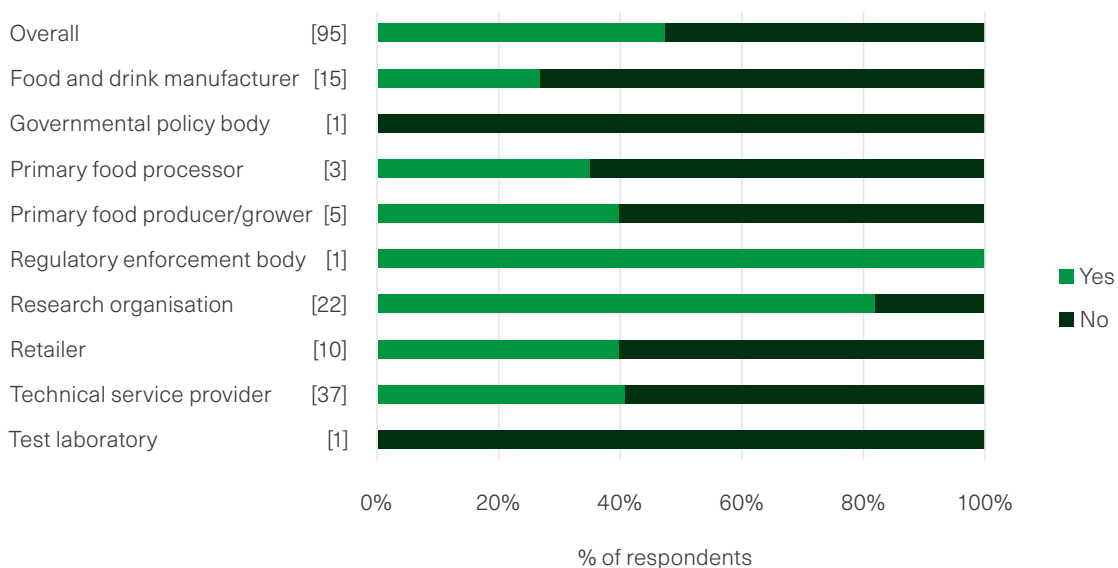
Educational establishments are a key part of the system that develops the skills and competencies that are vital to the food and drink sector, as such a number of questions focused on how organisations engage and interact with them.

Less than half of those surveyed currently engage with schools, colleges or universities on the skill requirements they expect from students on completion of their studies (Figure 5).

This trend was consistent across all organisation types and categories, apart from 'Research Organisations', who were primarily universities or colleges, and 'Regulatory Enforcement Body's' whose responses indicated that the majority engaged already with educational establishments on skill requirements.

**“Do you currently work with schools or universities on the skill requirements for their students on completion of study?”**

[95 respondents]



**Figure 5.** Current level of collaboration between organisations and educational establishments delivering teaching and training. The total number of responses per group is indicated within the square brackets.





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Despite apparently low engagement of businesses with educational establishments on their skills needs; our survey did suggest that there may in fact be an aspiration within the sector to take a more active role in defining the competencies they wish to be developed.

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Only 9% of those who took part in the survey explicitly said they would not consider working with schools, colleges or universities. The remainder stated they would either like to (51%) or would maybe consider (40%) engaging with educational establishments on skill requirements. Furthermore, 52% also agreed they would be willing to contribute towards either a session or activities in related teaching and training programmes if relevant to their needs.

Finally, organisations were asked whether they possessed and used training resources for staff moving into different technical roles, or other areas within the business, to ensure competency.

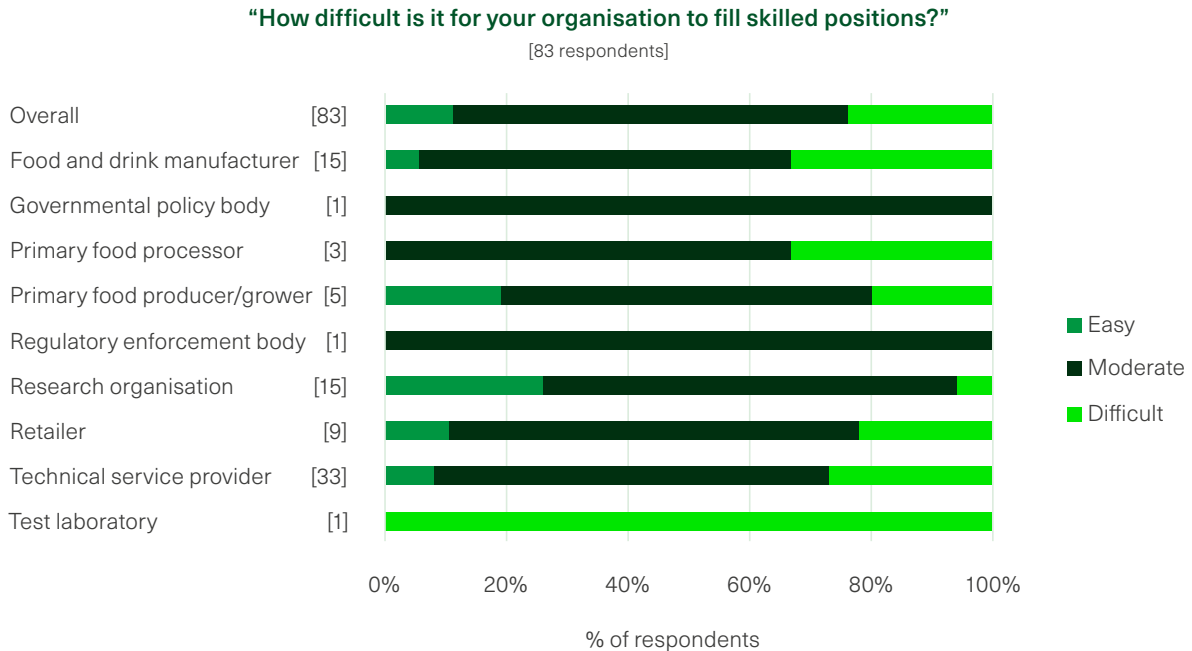
The majority of respondents (64%) said that their organisation held such resources. However, the proportion of small businesses that had resources to support an individual's transition was relatively low with only 38% saying they had them, compared to 79% and 100% of respondents from large and medium sized organisations, respectively.

# Recruitment

This section outlines the survey’s findings relating to the state of recruitment of technical skills within the sector. It covers how respondents feel about the current recruitment landscape in the food and drink sector; through to their thoughts on the barriers that exist which they view as limiting applicants from applying or training for technical roles.

To appreciate the current state of the recruitment landscape within the sector, we initially asked how difficult organisations found filling skilled positions. The survey revealed, as is shown in Figure 6, just under a quarter (24%) of organisations find it ‘difficult’ to fill skilled positions, whilst only 12% find it relatively ‘easy’. However, not all types of businesses reported equally in terms of their difficulty recruiting for skilled roles.

Those in manufacturing, processing and testing laboratories had the highest proportion of responses saying that hiring was ‘difficult’, whereas in contrast 27% of responses from those within research organisations, who were primarily consisting of universities, reported it as being ‘easy’.



**Figure 6.** The current level of difficulty organisations have in filling skilled positions. The total number of responses per group is indicated within the respective square brackets.

**7a “Are there any roles where there is an obvious lack of suitable candidates?”**

[81 respondents]

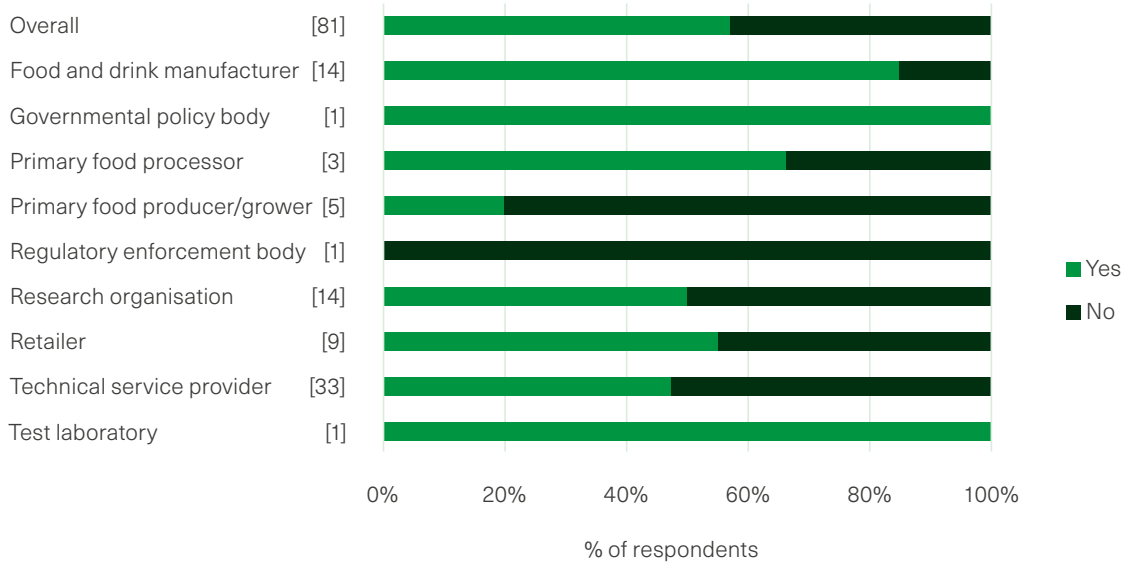


Figure 7

Respondents to our survey were also asked whether or not they found there to be any roles where there was an obvious lack of suitable candidates. Overall, 56% felt there was a general lack of candidates. Figure 7a shows this to be more acute in certain types of organisations.

Most notably manufacturing and processing where over 80% of respondents felt that they had insufficient numbers of suitable candidates. Moreover, 88% of the respondents representing trade bodies did not believe that there is a sufficient pool of skilled personnel within their sector at the moment.

The type of roles which viewed as being most problematic to fill are depicted in Figure 7b, with technical roles (e.g. Scientific, Food Technologist) being by far the most commonly cited followed by engineering, operations and packaging.

These survey results are not the first place to report a lack of skilled workers as being an issue, for example the FDSC ‘Preparing for a changing workforce’ report found technical roles as being amongst some of the most difficult-to-fill vacancies<sup>2</sup>.

In addition to the lack of suitable candidates for certain roles, our survey uncovered that the majority of respondents (57%) perceived that there were notable skills lacking from applicants. This belief was held by a number across the various different business types and sectors. Numerous types of technical skills thought to be absent were mentioned in our survey feedback.



Figure 7. The world cloud was generated from responses from 81 individuals who gave answers to an open-ended question which were subsequently coded/categorised.



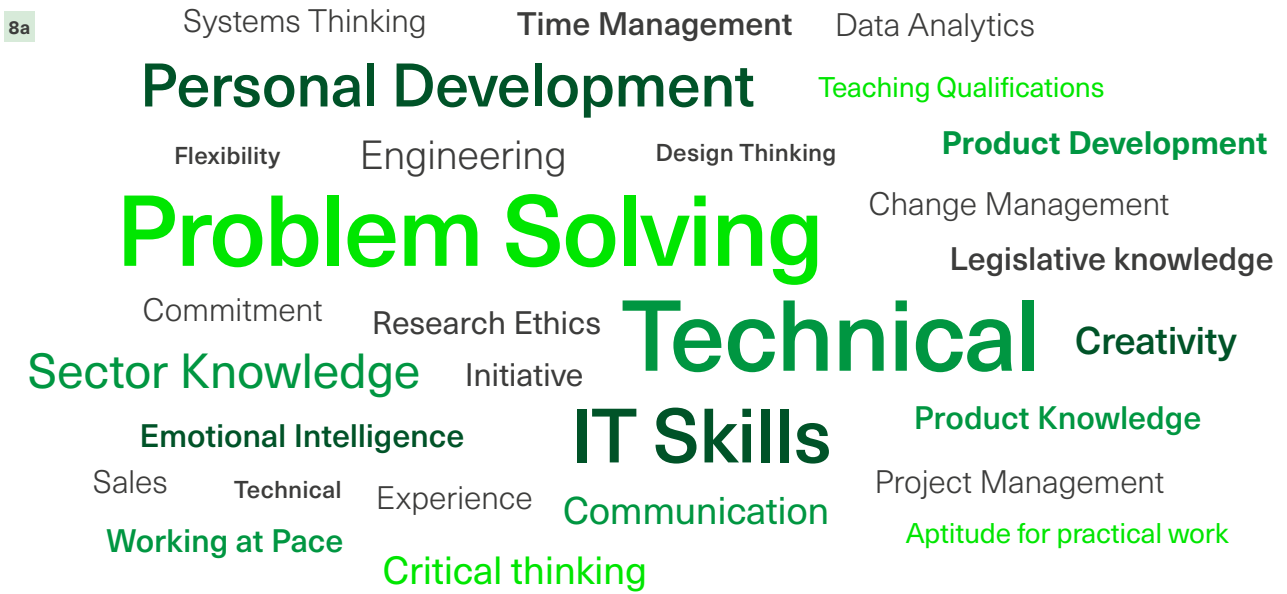


Figure 8. The word cloud was generated from responses from 77 individuals who gave answers to an open-ended question which were subsequently coded/categorised.

Perhaps unsurprisingly given the earlier feedback relating to those roles which have a lack of suitable candidates, 'technical' skills were reported most frequently as lacking. However, other skills such as 'problem solving', 'IT skills', 'engineering' and 'personal development' were also frequently raised as issues (Figure 8a).

8b

"Are there any notable skills which you currently find lacking in candidates?"

[77 respondents]

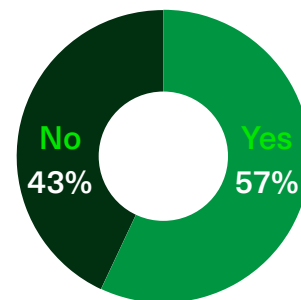


Figure 8



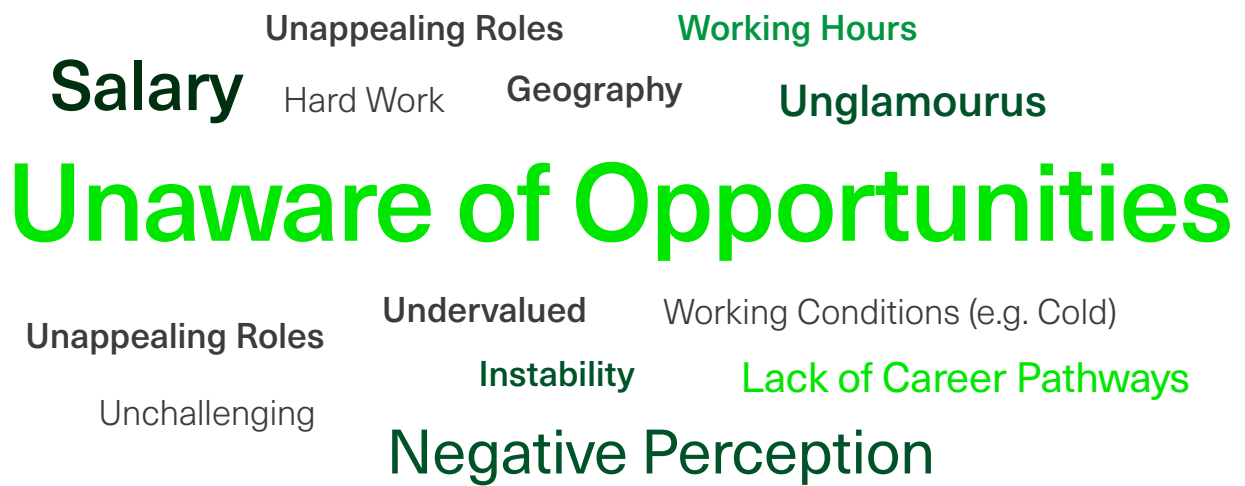


Figure 9. The world cloud was generated from responses from 77 individuals who gave answers to an open-ended question which were subsequently coded/categorised.

Figure 9 outlines a range of explanations proposed by respondents as possible reasons why interest in joining or training for technical roles is limited and leading to the recruitment difficulties that have been highlighted. A lack of awareness of the opportunities available and the poor image of the sector were regularly identified as barriers restricting people taking up these roles.

Interestingly, the lack of career pathway and salary were also raised as common barriers limiting interest in technical roles.

# Discussion and Survey Conclusions

This survey has uncovered a number of interesting findings relating to topics such as engagement and resources which have had little attention previously, as well adding further evidence in support of conclusions regarding technical skills and recruitment deficiencies that have been reported elsewhere.

Those questioned within this survey showed a generally positive picture in relation to the level of engagement activities currently being undertaken to promote the food and drink sector. According to our results, these activities were more likely to be carried out by large organisations rather than SMEs. Given that over 95% of businesses within the UK's food and drink sector are SMEs, and employ over half of the sector's workforce<sup>1,2</sup>, it clearly appears to be an opportunity for improvements that could support increasing the promotion of the sector.

One possible reason why SMEs do not partake in these engagement activities as readily may be due to the availability of resources, which SMEs reported as being less aware of compared to larger

companies. Larger organisations may be more likely to have the means to support the development of in-house resources and materials, reducing barriers to taking part in engagement activities. The signposting to existing resources and development of materials and resources that could be easily accessed and used by all stakeholders within the sector, could be one way to overcome this challenge. The results of this survey indicate that this would be supported by the sector.

Importantly, if an improvement in the level of external engagement events is to happen then a shared willingness to be involved must exist across the sector.

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Our survey results indicate, at least amongst respondents, that there is an openness to improve in this respect with the majority saying they would like to deliver careers talks or demonstrations in the future.

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Our findings here relating to the recruitment of skilled personnel within the food and drink sector, echo similar trends raised in numerous other reports and investigations<sup>1,2,3,4,5</sup>. Recruitment for technical and skilled positions is more challenging for all businesses within the sector. Applicants with the sufficient skills and capabilities that the industry requires to support innovation and growth are in short supply, and urgently requires addressing.







Interestingly, despite technical skills and other related capabilities being highlighted as lacking from job applicants, only a relatively small proportion of the respondents reported as engaging directly with educational establishments to outline their needs.

As has been discussed within FDF report - [‘The food and drink industry: Economic contribution and growth opportunities’](#) there is a desperate need for better links between industry and education if the developing skills gap is to be bridged. Encouragingly, the majority of those who took part in this survey indicated that they would like to develop links with educational establishments to support training and teaching that meets their skills needs.

Finally, we sought to identify the barriers which might be restricting people joining or training for technical roles within the food and drink sector. A lack of awareness of the available opportunities and poor image were frequently viewed as important barriers, an opinion that is widely held across the sector<sup>1,2,5</sup>.

However, there were also suggestions that the sector does not support careers and skills development sufficiently with a number respondents referring to salary and a lack of opportunities for career development acting as impediments.

This view risks fuelling a perception that vacancies within the food and drink sector are ‘jobs’ to be filled rather than careers and must be addressed if the sector wishes to attract and retain technically capable individuals.

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This report clearly highlights a shortfall in the availability of technical personnel and skills within the UK’s food and drink workforce, requiring actions to be taken at all levels to address it. At the forefront of this is the need for actions to be taken to reverse the negative image and stereotypes that are currently perceived as restricting interest in entering the sector.

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Greater visibility of the industry and the opportunities available might be achieved through developing strategies to promote the industry and a clear map of the variety of career pathways. There are some examples of good schemes like [IGD’s Feeding Britain’s Future](#) and [Good Food Champions](#) partnership; but more cooperation across the sector to define the technical competency requirements needed in employees, together with an improved strategy to promote the food and drink sector would support the development of a pipeline of talent that would ensure workforce needs are met in the future.

<sup>1</sup> FDF (2020): ‘The food and drink industry: Economic contribution and growth opportunities’

<sup>2</sup> FDSC (2019): ‘Preparing for a changing workforce: A food and drink supply chain approach’

<sup>3</sup> Skills Development Scotland (2019): ‘Sectoral skills assessment – Food and Drink’

<sup>4</sup> DEFRA (2019): ‘Survey of the UK Food and Drink Manufacturing Industry 2018’

<sup>5</sup> IGD (2017): ‘Bridging the skills gap report’

# Recommendations

As has been discussed this report provides further evidence highlighting the need for action to be taken to secure the future success of the food and drink sector, ensuring it has access to an appropriately skilled and technical workforce.

**The following recommendations are proposed as important steps that will begin to address the issues and concerns already discussed:**



1

## Develop a sector-wide campaign to improve the image and visibility of food and drink sector careers

The focus of any such campaign must be primarily directed at reversing the negative image of food sector careers held widely by those outside the industry.

Highlighting the broad range of opportunities for highly skilled individuals and the benefits that exist within the sector, as well as offering clarity on career development and pathways, would help dispel the view that roles within the sector are primarily 'jobs' rather than careers.

Altering the perception of careers in the food and drink sector is fundamental to the success of improving the recruitment landscape in the future, especially for technical roles. Without fully addressing this challenge any improvements further downstream will have limited impact.



2

## Build collaborations between industry and education to produce a future-proof technical skills agenda

Industry has indicated that it currently feels there are a lack of specific skills possessed by candidates that needs addressing. However, the limited level of cooperation between industry and educational establishments, who are responsible developing the skills required, suggests that this skills gap will only continue to persist without intervention.

Food and drink businesses, as well as educational establishments, should actively seek to identify appropriate partner organisations to work with either locally or nationally to set skills agenda for the sector. There are a number of existing food science and technology courses available across a number of institutions which businesses could support. In order to establish these networks, it may be necessary for organisations such as IFST to take an active role as an intermediary to initiate collaboration. However, the long-term success of any industry-education networks will be reliant on a high degree of engagement and sustained support from all partners.



3

## Industry and government commitment to invest in supporting a food and drink sector strategy for technical skills and recruitment

To adequately address the skills and recruitment concerns that have been raised, a long-term commitment from both industry and government is needed. Food and drink businesses must commit to being active participants in developing and delivering a strategy for improving the skills and recruitment landscape and supporting this with the necessary resources and finances required. Leading businesses and organisations will be required to take a key role in driving the strategy that will benefit the whole of the sector.

In addition to industry's role, government must play an active part in building an environment that promotes the development of a skilled food and drink workforce. UK and devolved government policies, including the 'National Food Strategy', must address and make a strategic commitment to supporting the sector in developing the robust recruitment landscape it needs. Failure to deliver on these objectives risks undermining the continued growth and success of one of the UK's most economically important sectors.



# Follow-up Work

An additional aspect of this project was to identify all existing resources that support the food and drink sector as promoting itself as an exciting industry with a diverse range of opportunities and careers available.

With this information, IFST plans to create an online curated resources repository to be located on their '[Love Food Love Science](#)' web page. This repository will make valuable resources more easily accessible supporting greater visibility of and engagement with the sector. Collating these materials into a single repository also offers an opportunity to review its content and identify where gaps in coverage may exist.

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IFST can then work with appropriate industry members to develop resources that fill those gaps, ensuring all categories and areas are adequately represented.

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Connecting for  
Positive Change.



This survey and report was produced by Mr Nicholas Kuht (University of Warwick) during his placement at KTN which was supervised by Dr Serena Broadway (KTN)



Institute of Food Science & Technology  
5 Cambridge Court  
210 Shepherds Bush Road  
London W6 7NJ

020 7603 6316  
info@ifst.org  
www.ifst.org

KTN  
Suite 218 Business Design Centre  
52 Upper Street  
Islington  
London N1 0QH

03333 403251  
enquiries@ktn-uk.org  
@KTNUK  
ktn-uk.org