

University of Lincoln

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Date: 09/09/2022
Our ref: FS900239

Dear [REDACTED]

Supply of Understanding prevention strategies to reduce food fraud

Following your tender/ proposal for the supply of Understanding prevention strategies to reduce food fraud to Food Standards Agency, we are pleased confirm our intention to award this contract to you.

The attached contract details ("**Order Form**"), contract conditions and the **Annexes** set out the terms of the contract between Food Standards Agency for the provision of the deliverables set out in the Order Form.

We thank you for your co-operation to date and look forward to forging a successful working relationship resulting in a smooth and successful delivery of the deliverables. Please confirm your acceptance of the Conditions by signing and returning the Order Form. No other form of acknowledgement will be accepted. Please remember to include the reference number above in any future communications relating to this contract.

We will then arrange for Order Form to be countersigned which will create a binding contract between us.

Yours faithfully,

[REDACTED]
[REDACTED]

Order Form

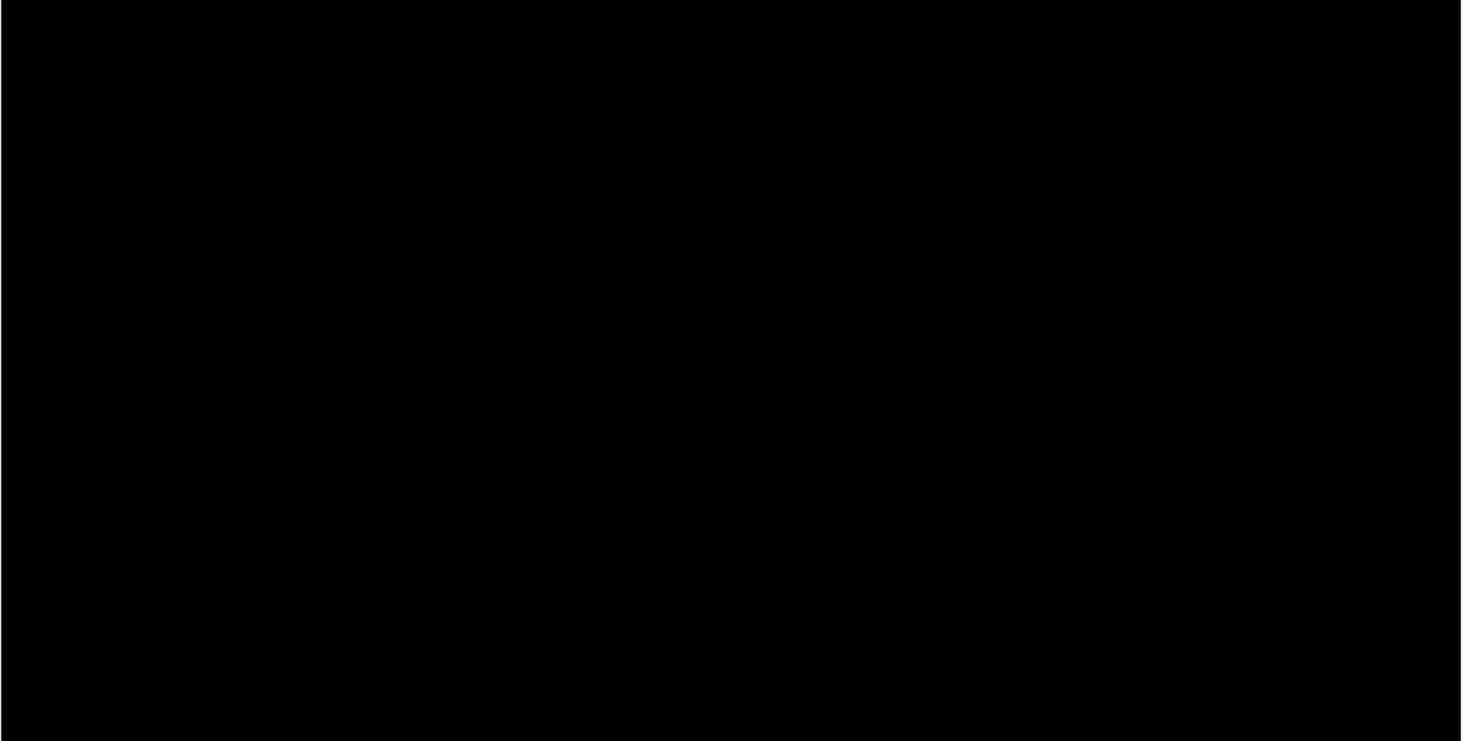
1. Contract Reference	FS900239	
2. Date	30/09/2022	
3. Buyer	Food Standards Agency Clive House 70 Petty France London SW1H 9EX	
4. Supplier	University of Lincoln 	
5. The Contract	<p>The Supplier shall supply the deliverables described below on the terms set out in this Order Form and the attached contract conditions ("Conditions") and any Annexes.</p> <p>Unless the context otherwise requires, capitalised expressions used in this Order Form have the same meanings as in Conditions.</p> <p>In the event of any conflict between this Order Form and the Conditions, this Order Form shall prevail.</p> <p>Please do not attach any Supplier terms and conditions to this Order Form as they will not be accepted by the Buyer and may delay conclusion of the Contract.</p>	
6. Deliverables	Goods	None

	Services	To be performed at Suppliers Premises. See Annex 3 – Technical Proposal
7. Specification	The specification of the Deliverables is as set out in Annex 2.	
8. Term	<p>The Term shall commence on 09/09/2022</p> <p>and the Expiry Date shall be 23/12/2022, unless it is otherwise extended or terminated in accordance with the terms and conditions of the Contract.</p> <p>The Buyer may extend the Contract for a period of up to 3 months by giving not less than 10 Working Days' notice in writing to the Supplier prior to the Expiry Date. The terms and conditions of the Contract shall apply throughout any such extended period.</p>	
9. Charges	The Charges for the Deliverables shall be as set out in Annex 4.	
10. Payment	<p>All invoices must be sent, quoting a valid purchase order number (PO Number), to: [REDACTED]</p> <p>Within [10] Working Days of receipt of your countersigned copy of this letter, we will send you a unique PO Number. You must be in receipt of a valid PO Number before submitting an invoice.</p> <p>To avoid delay in payment it is important that the invoice is compliant and that it includes a valid PO Number, PO Number item number (if applicable) and the details (name and telephone number) of your Buyer contact (i.e. Contract Manager). Non-compliant invoices will be sent back to you, which may lead to a delay in payment.</p>	

<p>11. Buyer Authorised Representative(s)</p>	<p>For general liaison your contact will continue to be</p> <p>[REDACTED]</p> <p>or, in their absence,</p> <p>[REDACTED]</p>
<p>12. Address notices for</p>	<p>Buyer:</p> <p>Food Standards Agency FSA Commercial Foss House Peasholme Green York YO1 7PR</p> <p>Supplier: University of Lincoln [REDACTED]</p>
<p>13. Key Personnel</p>	<p>[REDACTED]</p> <p>See Annex 3 – Technical proposal for further details</p>
<p>14. Procedures and Policies</p>	<p>The Buyer may require the Supplier to ensure that any person employed in the delivery of the Deliverables has undertaken a Disclosure and Barring Service check.</p> <p>The Supplier shall ensure that no person who discloses that he/she has a conviction that is relevant to the nature of the Contract, relevant to the work of the Buyer, or is of a type otherwise advised by the Buyer (each such conviction a "Relevant Conviction"), or is found by the Supplier to have a Relevant Conviction (whether as a result of a police check, a Disclosure and Barring Service check or otherwise) is employed or engaged in the provision of any part of the Deliverables.</p>

Signed for and on behalf of the **Supplier**

Signed for and on behalf of the **Buyer**



Annex 1 – Authorised Processing Template

Contract:	FS900239
Date:	
Description Of Authorised Processing	Details
Subject matter of the processing	The processing is needed in order to ensure that the Processor can effectively deliver the contract to provide a service to members of the public.
Duration of the processing	From the start date until the end date of the Contract
Nature and purposes of the processing	<p><i>[Please be as specific as possible, but make sure that you cover all intended purposes.]</i></p> <p><i>The nature of the processing means any operation such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction of data (whether or not by automated means) etc.</i></p> <p><i>The purpose might include: employment processing, statutory obligation, recruitment assessment etc]</i></p> <p>Expert contact details will be gathered and stored to enable interviews to be scheduled.</p> <p>Data collected during interviews will be stored by the University of Lincoln. This data will be analysed and will be used to produce a research report for the FSA.</p> <p>Consent will be gained at the beginning of the interview including explaining what the data will be used for and how long it will be stored for.</p>



Type of Personal Data	<p><i>[Examples here include: name, address, date of birth, NI number, telephone number, pay, images, biometric data etc]</i></p> <p>Contact details including names, organisation name, email address and telephone number.</p> <p>Audio recordings of the interviews and transcripts will be obtained and stored.</p>
Categories of Data Subject	<p><i>[Examples include: Staff (including volunteers, agents, and temporary workers), customers/ clients, suppliers, patients, students / pupils, members of the public, users of a particular website etc]</i></p> <p>Experts working in industries and at organisations within scope of this research, in the UK and internationally.</p>

Annex 2 - Specification

A. THE SPECIFICATION

Background

The Food Standards Agency (FSA) is an independent Government department working across England, Wales and Northern Ireland to protect public health and consumers wider interest in food. We make sure food is safe and what it says it is.

The National Food Crime Unit's (NFCU) role is to detect, investigate and disrupt serious fraud and related criminality within food/feed supply chains, across England, Wales and Northern Ireland. This supports the Food Standards Agency's statutory duty to protect consumers from risks which may arise in connection with the production, supply and consumption of food.

The NFCU identifies seven types of food crime:

- **theft** - dishonestly obtaining food, drink or feed products to profit from their use or sale
- **illegal processing** - slaughtering or preparing meat and related products in unapproved premises or using unauthorised techniques
- **waste diversion** - illegally diverting food, drink or feed meant for disposal, back into the supply chain
- **adulteration** - including a foreign substance which is not on the product's label to lower costs or fake a higher quality
- **substitution** - replacing a food or ingredient with another substance that is similar but inferior
- **misrepresentation** - marketing or labelling a product to wrongly portray its quality, safety, origin or freshness
- **document fraud** - making, using or possessing false documents with the intent to sell or market a fraudulent or substandard product

The NFCU already carry out activities which aim to prevent people from committing food fraud. However, they are seeking to understand what more can be done by gaining insight into fraud prevention strategies implemented by other organisations and sectors.

The Specification

Tenderers are invited to conduct a literature review of domestic and international evidence and supplementary expert interviews to understand 'what works' or 'what may work' in preventing food fraud.

The aims of this research are to:

- Investigate strategies for the prevention of food fraud which have been successfully utilised in other countries and organisations outside of the FSA (both within the UK and internationally);
- Understand what has worked well in preventing food fraud and the lessons learned from these initiatives/strategies;
- Understand what has worked well in preventing fraud in other commodity/ physical goods based industries (e.g. pharmaceuticals) and the lessons learnt from these strategies;
- Provide recommendations which could be adopted by the NFCU and incorporated into the Unit's key strategies;
- Provide recommendations for any future research required within this area.

The key research questions which underpin these aims are:

- What food fraud prevention strategies and initiatives have been implemented in the UK and other countries? What were the aims of these strategies?
 - Which strategies/initiatives have worked and which haven't worked? What factors have made these successful or unsuccessful?
 - Where available, we ask that any evaluations of strategies/initiatives are reviewed.
 - What challenges were faced? How were these overcome?
 - What lessons learnt/recommendations can be applied to future strategies?
- What strategies/initiatives have been implemented to prevent and tackle commodity based fraud in other industries?
 - Which strategies have worked and what factors have contributed to these being successful?
 - What challenges were faced? How were these overcome?
 - Which strategies/initiatives haven't worked and why?
 - Are there transferrable lessons from other sectors which can be applied to food fraud?
- What conditions need to be in place to enable fraud prevention strategies to be successful?

Scope

While any relevant food crime prevention initiatives/strategies are of interest, the focus of the research should not be restricted to the food landscape. We expect the final outputs to include transferable lessons from other sectors and both domestic and international bodies.

Areas of interest may include:

- College of Policing- What Works Centre for Crime Reduction
- Food fraud prevention activity in other jurisdictions with developed enforcement responses to food fraud

- Prevention strategies and initiatives related to other commodity/physical goods based fraud- we are interested in learning about the transferable lessons from these sectors. We would be particularly interested in areas where physical goods may be substituted/ mislabelled leading to consumers being deceived or a public safety risk (e.g. pharmaceuticals).

Countries and organisations of interest include those where there is a similar environment and political structure as the UK. Countries of interest may include (but are not limited to) the Netherlands, Germany, Italy, Australia and New Zealand, Canada and the devolved administrations (Scotland and Ireland).

Please outline in your response any organisations/initiatives and countries you propose would be of interest to this research. A discussion with the successful tenderer and FSA stakeholders will be arranged at the start of the project to agree the exact scope of the research.

Methodology

There are two components:

1. A review of domestic and international literature (grey & published English language) on food crime prevention initiatives and crime prevention strategies from other sectors which can be applied to food fraud.

Tenderers are asked to explain in their response to this specification how they might approach the review to ensure that evidence from across disciplines is captured robustly. This could include (but not limited to) outlining the search engines/websites you propose to use, what time period you propose to use literature from, the language the evidence is available in, and proposed search terms.

We proposed that the literature review is started ahead of the interviews and that interim analysis findings are used to inform the topic guide questions and to identify organisations and countries who would be beneficial to gather more in-depth information on through interviews.

2. Interviews with domestic and international experts, including representatives from organisations which have established fraud prevention strategies.

Interviews will provide an opportunity to identify relevant detailed examples of where fraud prevention strategies/initiatives have been implemented. The findings from the interviews will be triangulated with the evidence gathered in the evidence review. We anticipate that up to 15 interviews could be conducted to allow for a range of international and domestic food and non-food focused organisations to take part.

We propose that a purposive sampling approach is taken. In your response, please outline your proposed approach to sampling, recruitment and the number of interviews you propose conducting to

obtain the evidence required to answer the research questions.

In your response please outline your experience and expertise in conducting evidence reviews and qualitative interviews. It is also desirable that the contractor has experience and knowledge within the crime sector. If you do not have the required expertise within your organisation, please outline which organisation(s) you will partner with to fulfil the requirements for this project.

Analysis

In your response, please provide detail of how you propose to conduct the analysis. A full analytical plan is required to ensure that this work is transparent and replicable. This should include details of your proposed approach to conducting the literature review (the platforms you will use to search for literature, the structure of the literature review and proposed search terms) as well as providing details of the approach you propose to use to thematically analyse the interview data.

Timing

We require the final outputs from this research to be delivered by the w/c 19th December 2022.

We request that interim findings are delivered by November 2022 and a draft of the report is delivered in early December.

Tenders must provide a proposed timetable including key dates for deliverables and meetings. The FSA will review all outputs, suggesting alterations and amendments, before final versions are approved for sign-off. The timetable must allow sufficient time (a minimum of 4 working days) for the Agency to comment on draft research material and outputs.

Time should be allocated to review the initial findings from the literature review ahead of the interview fieldwork commencing. We recommend that the initial findings from the literature review are used to inform the topic guide questions and to identify organisations which may be beneficial to interview.

Time should also be allocated to conduct review meetings during the fieldwork period. This should include after the first 2/3 interviews and mid-way through to ensure that the topic guides are relevant and capturing insight to answer the research questions. If saturation is reached a further meeting will be needed between the contractor and the FSA to determine how to proceed.

Outputs

- Interim findings from the literature review and early stage interviews.
- A full written report in a 1-3-25 style. This report should contain informed recommendations on food crime prevention strategies that can be adopted by the NFCU as part of their control strategy, as well as recommendations on future work in this area.

- A presentation of findings for dissemination amongst key FSA stakeholders. The successful tenderer will be required to deliver this presentation to all key stakeholders at the end of the project.

All outputs should be anonymised before being shared with the FSA.

Risk

Tenderers must complete a detailed risk register, including mitigations, for their proposal. Please consider any risks that the COVID-19 pandemic may have on the project, and proposed mitigations.

It is desirable but not essential for tenderers to hold [ISO 31000 - Risk management](#).

Ethics

Tenders should identify any ethical issues relevant to this project and give details of how any specific risks will be addressed. Tenders should refer to the five principles outlined in the [GSR Professional Guidance – Ethical Assurance](#):

- Research should have a clear and defined public benefit
- Sound application and conduct of social research methods and interpretation of the findings
- Participation based on informed consent
- Enabling participation
- Avoidance of personal and social harm
- Non-disclosure of identity

Tenders should provide details of any ethical review and research governance arrangements that would apply to the project.

The successful contractor will be required to complete the [GSR Ethics checklist](#) alongside the FSA project lead, to ensure that the research is conducted in line with the 6 ethical principles highlighted above.

Data protection

Contractors are responsible for ensuring that all necessary permissions are acquired for the use of data, visuals, or other materials throughout projects that are subject to copyright law, and that the materials are used in accordance with the permissions that have been secured. Contractors are also responsible for ensuring suitable referencing of materials in all project outputs including project data.

The successful contractor must comply with General Data Protection Regulation (GDPR) and ensure that any information collected, processed and transferred on behalf of the FSA will be managed, held, handled and transferred securely. The successful supplier will be assigned the role of 'Data Processor' for the duration of the contract and the FSA will act as the 'Data Controller'.

The Data Processor (the lead contractor) must:

Process any personal data only on the documented instructions of the Controller (the FSA);

Comply with security obligations equivalent to those imposed on the Controller (implementing a level of security for the personal data appropriate to the risk);

Ensure that persons authorised to process the personal data have committed themselves to confidentiality or are under an appropriate statutory obligation of confidentiality;

Only appoint Sub-processors with the Controller's prior specific or general written authorisation, and impose the same minimum terms imposed on it on the Sub-processor; and the original Processor will remain liable to the Controller for the Sub-processor's compliance. The Sub-processor must provide sufficient guarantees to implement appropriate technical and organisational measures to demonstrate compliance. In the case of general written authorisation, Processors must inform Controllers of intended changes in their Sub-processor arrangements;

Make available to the Controller all information necessary to demonstrate compliance with the obligations laid down in Article 28 GDPR and allow for and contribute to audits, including inspections, conducted by the Controller or another auditor mandated by the Controller - and the Processor shall immediately inform the controller if, in its opinion, an instruction infringes GDPR or other EU or member state data protection provisions;

Assist the Controller in carrying out its obligations with regard to requests by data subjects to exercise their rights under [chapter III of the GDPR](#), noting different rights may apply depending on the specific legal basis for the processing activity (and should be clarified by the Controller up-front);

Assist the Controller in ensuring compliance with the obligations to implementing a level of security for the personal data appropriate to the risk, taking into account the nature of processing and the information available to the Processor;

Assist the Controller in ensuring compliance with the obligations to carry out Data Protection Impact Assessments, taking into account the nature of processing and the information available to the Processor; and

Notify the Controller without undue delay after becoming aware of a personal data breach.

Tenders should also provide a **data management plan** outlining any specific data security issues related to this project and detailing how these will be managed.

If successful, you may also be asked to carry out a Privacy Impact Assessment (PIA), and a privacy notice may be required, which will be reviewed by the FSA data security team.

Quality

A quality plan should be included within the proposal, demonstrating internal quality assurance procedures and how the contractor will achieve high quality outputs to time and budget. It is desirable but not essential for tenderers to hold [ISO 9001 - Quality management](#).

To help ensure the quality of the outputs throughout the project we propose that:

- You outline as part of the quality plan how you will ensure that the outcomes of the literature review are robust
- An iterative approach is taken when interviewing. We request that regular review meetings are throughout the fieldwork period including after the first 2/3 interviews with each group to review the flow of the topic guide and ensure that the questions been asked are relevant.
- We also request that regular meetings are scheduled to monitor progress.
- All interviews are recorded and transcribed to formally document the data collected.
- There are at least 2 researchers involved in the analysis and coding of the data collected to enhance the trustworthiness and credibility of the qualitative analysis.
- Participants are given the opportunity to review any detailed examples related to their organisation to ensure they are accurate and to provide sign off ahead of publication.

Please outline within your response whether you are able to meet these requests. If not, please outline what you will do to ensure the quality of each stage of the research.

All reporting must be of a publishable standard, e.g. ensuring that all outputs: meet the FSA's accessibility standards (outlined below), are suitable for the intended audience, and are written in line with the [Digital Government Service](#) guidance.

Quality management considerations should be given as to whether any particular standards need to be met. If the project includes any mathematical modelling, the quality assurance considerations need to include how the work will meet the standards [in the Aqua Book](#). The [Joint Code of Practice for Research](#) sets out standards for the quality of science and the quality of research processes.

The Government statistical service (GSS) also produce helpful guides on [producing quality graphs and tables](#), and on [data visualisation](#). These should be utilised as a guide to best practice.

Dissemination and exploitation

The Agency is committed to openness and transparency. All reports will be published on the [FSA website](#) and if appropriate underpinning data will be published on the Agency's open access [data catalogue](#). Data should be published in an open, accessible and re-usable format, such that the data can be made available to future researchers and the maximum benefit is derived from it.

The Agency is committed to openness, transparency and equality of treatment to all suppliers. As well as these principles, for science projects the final project report will be published on the Food Standards Agency website (www.food.gov.uk). For science projects we will encourage contractors to publish their work in peer reviewed scientific publications wherever possible. In addition to the publication of reports and any data, tenderers are invited to present any additional proposals of how best to disseminate findings to achieve maximum impact with both internal and external stakeholders. We request that the successful tenderer presents the findings from the work to stakeholders within FSA upon completion of the project.

Accessibility

Any outputs produced should meet the FSA's accessibility and branding guidelines, and any future requirements.

The accessibility requirements and branding guidelines which the successful tenderer will be required to meet can be found in Annex A, B, C and D. In your proposal please clearly outline any timings associated with meeting these requirements.

Budget

The budget for this project is £45,000-£55,000.

Please include in your proposal the costings you believe are reasonable to meet the research activities outlined in this specification and provide the justification for this. The tenderers should be aware that one of the key criteria that all research proposals are evaluated against is 'value for money' which is delivering the research asked for in the research requirement (including the anticipated outputs and benefits) at a competitive price.

Personnel

Details of all key personnel who will be working on this project must be given. Should any element of this project be subcontracted, this must also be stated in proposals with details of subcontracted companies, their key personnel and working arrangements with subcontractors. Tenderers should demonstrate previous experience of successful delivery of similar projects.

The tenderer will be required to appoint a Contract Manager (generally the named Principal Investigator) who will be fully accountable for the delivery of the project against the contract. They will be required to liaise closely with the Agency's nominated project officer.

Sustainability

The Food Standards Agency is committed to improving sustainability in the management of operations. Tenders should demonstrate a clear approach to sustainability, in particular how it will be applied in practice to the project, taking into account economic, environmental and social aspects.

Annex A- Accessibility Checklist for third parties



Accessibility
Checklist for third p

Annex B- WCAG Checklist for third parties



WCAG Checklist for
third parties (1).odt

Annex C- FSA Style Guide



FSA Style Guide.pdf

Annex D- FSA brand guidelines



FSABrandGuideline
s.pdf

Annex 3 – Technical Proposal

Tender Application form for a project with the Food Standards Agency



- Applicants should complete each part of this application as fully and as clearly as possible
- Brief instructions are given in the grey boxes at the start of each section.
- Please submit the application through the Agency's eSourcing Portal (Bravo) by the deadline set in the invitation to tender document.

LEAD APPLICANT'S DETAILS

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Is your organisation is a small and medium enterprise . (EU recommendation 2003/361/EC refers http://www.hmrc.gov.uk/manuals/cirdmanual/cird92800.htm)			Yes	No	X

TENDER SUMMARY

TENDER TITLE

UNDERSTANDING PREVENTION STRATEGIES TO REDUCE FOOD FRAUD

TENDER REFERENCE FS900239

PROPOSED START DATE [05/09/2022]

PROPOSED END DATE [23/12/2022]

1: TENDER SUMMARY AND OBJECTIVES

A. TENDER SUMMARY

Please give a brief summary of the proposed work in no more than 400 words.

The aims of this project are to (1) Investigate strategies for the prevention of food fraud which have been successfully utilised in other countries and organisations outside of the FSA (both within the UK and internationally); (2) Understand what has worked well in preventing food fraud and the lessons learned from these initiatives/strategies; (3) Understand what has worked well in preventing fraud in other commodity/physical goods based industries (e.g. pharmaceuticals) and the lessons learnt from these strategies; (4) Provide recommendations which could be adopted by the NFCU and incorporated into the Unit's key strategies; and (5) Provide recommendations for any future research required within this area.

To realise the aims above this project will conduct (1) a literature review on domestic and international evidence and (2) supplementary expert interviews. This project will focus on food and non-food landscapes, highlighting transferable lessons from fraud prevention initiatives used in food/feed, non-food sectors, domestic and international bodies that can be adopted by the National Food Crime Unit (NFCU) and incorporates into the Unit's key strategies. In addition, this project will explore the crime prevention initiative and strategies utilised in different countries including (but not limited to) Netherlands, Germany, Italy, Australia and New Zealand, Canada and the devolved administrations (Scotland and Ireland).

The outcome of this project will help the NFCU and the FSA gain insight into fraud prevention strategies implemented by other organisations, bodies and sectors and gain better understanding of what more can be done. The project technical report will critically review available literature and guidance documents designed to aid the prevention of fraud in different sectors and countries. It will identify, highlight and recommend fraud/crime prevention initiatives and strategies that can be adopted by the NFCU. A database of the publications included in this review will also be provided.

Food fraud prevention falls within an interdisciplinary field, therefore the project team members that will deliver this project are all experts from food safety, food science, food crime, food fraud and criminology fields and include a Lead Environmental Health Officer specialising in Food Control for 28 years and food fraud expert who have contributed significantly to understanding of vulnerabilities in the supply and .

Also, this project team have recent experience of carrying out similar reviews for the Agency and are very well positioned to carry out this review for the FSA. This project will take 16 weeks to complete.

B. OBJECTIVES AND RELEVANCE OF THE PROPOSED WORK TO THE FSA TENDER REQUIREMENT

OBJECTIVES

Please detail how your proposed work can assist the agency in meeting its stated objectives and policy needs.. Please number the objectives and add a short description. Please add more lines as necessary.

OBJECTIVE NUMBER	OBJECTIVE DESCRIPTION
01	DOCUMENT SEARCH AND SCREENING: This objective will focus on (1) carrying out a structured search of appropriate bibliographic databases and sources in order to compile a broad set of information of as many potentially relevant articles and publications pertaining to the prevention of fraud in different sectors and countries. A record of all identified publications will be compiled and recorded, and (2) screening the compiled data set of potentially relevant articles and select relevant articles for information extraction. To ensure transparency a record will be kept of all articles determined as not relevant and reasons for their exclusion.
02	DATA EXTRACTION AND DATA ANALYSIS: This objective will focus on extraction and analysis of pertinent information from articles and publications that have been selected as containing important information on the prevention of fraud in different sectors and countries.
03	DATA SYNTHESIS AND REVIEW COMPLETION: This objective will focus on synthesising the extracted data from articles and publication into a formal review report in order to establish what existing information and understanding there is on the prevention of fraud in different sectors and countries. This review will (1) identify what works or what may work in preventing food fraud and (2) highlight what information gaps remain and provide recommendations for further work.
04	DEVELOPMENT OF INTERVIEW QUESTIONS, INTERVIEW STRUCTURE: This objective will focus on the development of the questions for the interview and structuring of the interview. The objective will be informed by the literature review conducted in objectives 01 – 03 above. Interview questions and structure will be agreed with the FSA

	project officer before commencing objectives 05. The interview plan will be submitted for review and ethics approval by the University of Lincoln's ethics team.
05	RECRUITMENT OF PARTICIPANTS AND INTERVIEWING: This objective will focus on recruitment of domestic and international experts, including representatives from organisations which have established fraud prevention strategies. An elective i.e non-probability sampling technique will be utilised for the selection of a minimum of 15 participants for the interview; this selection will be based on the knowledge and expertise of this project team. The interviews will be conducted with 2 research team members present and will be recorded to allow for easy transcription. Interviews will be conducted in English language and participants consents will be confirmed before commencing the interview. An iterative approach will be taken during the interview, this will allow the project team to enhance and modify the interview as required. A review meeting will be held together with the FSA after the first 2/3 interview.
06	INTERVIEW DATA TRANSCRIPTION, CONSOLIDATION AND ANALYSIS: This objective will focus on transcribing the recordings of the interview and verifying the transcription. The transcription, anonymized participant ID and demographic data will be entered into NVivo for further analysis. Thematic analysis will be utilised for analysing the transcribed interview data. The findings from the interviews will be triangulated with the evidence gathered in the review in objectives 01 – 03 above.
07	DISSEMINATION: This objective will focus on dissemination of the findings of the project (by meetings, formal report (interim findings from the literature review, after the 2/3 of the interview and final project report), peer-reviewed publication, and presentations) to key stakeholders. A full written report will be presented in 1-3-25 style and will contain informed recommendations on food crime prevention strategies that can be adopted by the NFCU as part of their control strategy, as well as recommendations on future work in this area. We will also present the findings of the project in form of PowerPoint presentation amongst key FSA stakeholders at the end of the project.

2: DESCRIPTION OF APPROACH/SCOPE OF WORK

A. APPROACH/SCOPE OF WORK

Please describe how you will meet our specification and summarise how you will deliver your solution. You must explain the approach for the proposed work. Describe and justify the approach, methodology and study design, where applicable, that will be used to address the specific requirements and realise the objectives outlined above. Where relevant (e.g. for an analytical survey), please also provide details of the sampling plan..

Project aim

The aims of this project are to:

- (1) Investigate strategies for the prevention of food fraud which have been successfully utilised in other countries and organisations outside of the FSA (both within the UK and internationally);
- (2) Understand what has worked well in preventing food fraud and the lessons learned from these initiatives/strategies;
- (3) Understand what has worked well in preventing fraud in other commodity/ physical goods based industries (e.g. pharmaceuticals) and the lessons learnt from these strategies;
- (4) Provide recommendations which could be adopted by the NFCU and incorporated into the Unit's key strategies; and
- (5) Provide recommendations for any future research required within this area.

The key research questions which underpin these aims are:

- What food fraud prevention strategies and initiatives have been implemented in the UK and other countries? What were the aims of these strategies?
 - a. Which strategies/initiatives have worked, and which haven't worked? What factors have made these successful or unsuccessful?
 - i. Where available, we ask that any evaluations of strategies/initiatives are reviewed.

- b. What challenges were faced? How were these overcome?
- c. What lessons learnt/recommendations can be applied to future strategies?
- What strategies/initiatives have been implemented to prevent and tackle commodity based fraud in other industries?
 - a. Which strategies have worked and what factors have contributed to these being successful?
 - b. What challenges were faced? How were these overcome?
 - c. Which strategies/initiatives haven't worked and why?
 - d. Are there transferrable lessons from other sectors which can be applied to food fraud?
- What conditions need to be in place to enable fraud prevention strategies to be successful?

Project scope

This project will cover both food and non-food sectors/landscapes and will focus on any relevant crime prevention initiatives/strategies. This will ensure that the final outputs of this research will include transferable lessons from other sectors in domestic and international bodies.

Areas of interest for this research is the College of Policing What Works Centre for Crime Reduction, food fraud prevention activity in other jurisdictions with developed enforcement responses to food fraud and prevention strategies and initiatives related to other commodity/physical goods based fraud and areas where physical goods may be substituted and mislabelled leading to consumers being deceived or a public safety risk (e.g. pharmaceuticals).

Particular focus will be placed on countries and organisation that have similar environment and political structures as the UK. Countries of interest include (but not limited to) the Netherlands, Germany, Italy, Australia and New Zealand, Canada and the devolved administrations (Scotland and Ireland).

Other countries such as Denmark which came out on the top of Forter's list for having the lowest percentage of fraudulent e-commerce transaction in 2014 and fraud prevention groups/committee/initiatives such as listed below will be explored.

- Southern African Fraud Prevention Service (SAFPS)
- Fraud Advisory Panel
- National Fraud Intelligence Bureau (NFIB)
- CIFAS
- Food Industry Intelligence Network (fiin)
- Allianz Global Anti-Fraud Initiative
- Authenticity Steering Group (ASG)
- Technical Sub Group (TSG)

Background and rationale

Food fraud has been conducted since ancient Greek and Roman times (Robson et al., 2021) but it is rapidly increasing due to the complex, global supply chain, pressure on suppliers to reduce prices and the possibility of large profits. Food fraud is a global problem and incidences such as those that occurred in 2008 when milk and infant formulas were contaminated with melamine in China, followed by horsemeat being detected in products labelled as beef in Europe in 2013 have led to heightened global concerns.

The number of reported cases of food fraud is increasing and food fraud costs non-fraudulent producers around \$52 billion a year worldwide. Food fraud is typically motivated by profit, some forms can be harmful to consumers or mislead the purchaser/consumer as to the authenticity of the food or animal feed.

Food manufacturers, as part of the assessment of their vulnerability to food fraud need to identify the individual food materials and products that they procure, supply and/or produce that have a history of illicit activity (Manning

and Soon, 2019). Supply chains are complex networks that are shaped by the inter-relationships between actors, the processes undertaken, and the inputs and outputs associated with those processes (Wang et al., 2017).

Fraud is a complex and elusive concept, both as a behavioural category and as a legal one (Reurink, 2018). Fraud is defined as 'any crime which uses deception as its principal modus operandi', and thus embraces a wide range of deviant behaviours by individuals and organizations, some of which are not always criminal but 'morally dubious' (Wells, 1997).

Black's Law Dictionary also defines fraud as 'all multifarious means which human ingenuity can devise, and which are resorted to by one individual to get an advantage over another by false suggestions or suppression of the truth. It includes all surprises, tricks, cunning or dissembling, and any unfair way which another is cheated' (Ghazali et al., 2014).

Food fraud involves intentional modification of food products and/or associated documentation for economic gain and may lead to issues of food safety, legality and/or quality depending on the activities undertaken or the agent(s) used. Food fraud also includes Economically Motivated Adulteration (EMA), stolen goods, grey market and counterfeiting. It becomes 'food crime' when the fraudulent activity is no longer conducted by individual criminals, but by a group with the intent to deceive and harm businesses or consumers purchasing food products. One of the defining factors of food fraud is that it is deliberate or intentional and it is for economic gain. However, if contamination occurs unintentionally across the food value chain, then it is not a fraudulent act, rather a food safety incident (Robson et al., 2021).

Food fraud has emerged as a serious food safety risk that ranks as one of the biggest concerns for both the food industry, government regulators and national administration worldwide. It represents a serious problem that may compromise the safety and quality of food products being sold on the market (Marvin et al., 2022).

There is a growing motivation to adulterate or counterfeit food by individuals or groups. Food and drink in the United Kingdom (UK) is more than a £225 billion industry and as food fraud can result in thousands of pounds of profit, from just one shipment of fraudulent food, it can be a very profitable venture. Indeed, close to approximately £100 million is lost to food fraud in the UK food industry including customers and consumers (Shear, 2010).

The food industry is in the unique position of being a victim of food fraud and also largely liable for food fraud incidents (Wisniewski & Buschulte, 2019). Therefore, the food industry needs a clear understanding of food fraud, as well as guidance on food fraud prevention and mitigation.

Food fraud is an issue affecting all food supply chains and therefore the entire food industry, customers and consumers. Food supply chains are increasing vulnerable due to globalisation and lengthening of supply chains (Lotta & Bogue, 2015; Trivedi et al., 2016). Therefore, the need for sophisticated food fraud prevention and mitigation is greater than ever.

Lack of understanding of where fraud may be occurring and what types of fraud are happening has left the food industry vulnerable (Spink et al., 2019a). Van Ruth et al., (2017) assess a company's food fraud vulnerability through determining the motivation of fraudsters, opportunity for fraud, and control measures to detect fraud.

A range of academic literature, government publications, stakeholders have defined food fraud and offered guidance on and mitigation strategies. However, within these documents definitions of food fraud often differ, as well as on the types of food fraud that can occur. Therefore, prevention and mitigations strategies are generalised and not specific to a particular supply chain which adds to the ambiguity.

The National Food Crime Unit (NFCU) is a dedicated law enforcement function of the Food Standards Agency (FSA). The unit provides leadership on food crime across England, Wales and Northern Ireland. The unit works

closely with the Scottish Food Crime and Incidents Unit within Food Standards Scotland. The NFCU was established in 2015 following a review of the 2013 horse meat incident. The NFCU is tasked with protecting consumers and the food industry from food crime within food supply chains. The NFCU Control Strategy outlines the Unit's current food crime priorities, on which we focus our efforts to prevent food crime, deter and disrupt food criminals and bring offenders to justice.

Although it is the governments' responsibility to set clear legal requirements it is the responsibility of the industry to mitigate food fraud risks (Spink & Moyer, 2011). Based on the food safety paradigm, there is a belief that current control systems of HACCP plans are holistic and all-encompassing for all public health-related food risk. However, the application to food fraud is that there is often a belief that the current food safety response systems and HACCP plans already are competently addressing the-and assumed all-food public health hazards.

However, the food fraud incident is fundamentally different from food quality, food safety, or food defense. This a separate to cause analysis for food fraud would focus on the unique 'cause' which is an intelligent, human, criminal adversary who is actively seeking to avoid detection (Spink 2019).

Prevention and mitigation both aim to control food fraud. Mitigation assumes food fraud events will frequently occur and focus on trying to mitigate or reduce the negative consequence (Spink et al., 2017; 2019a). Prevention assumes that the root cause of the event could be eliminated or at least significantly reduced in the likelihood of occurrence (Spink et al., 2017; 2019a). Food fraud prevention aims at reducing food fraud before it occurs (Moyer et al., 2017). Achieving food fraud prevention and mitigation depends on identifying, reducing or eliminating vulnerability. A vulnerability is a weakness or flaw that creates opportunities; or susceptibility to the system for food fraud (Spink et al., 2017). This differs from risk which is the potential for an unwanted outcome resulting from an incident, event, occurrence, as determined by its likelihood and the associated consequence (Spink et al., 2019b). Manning and Soon (2019) presented a comprehensive review on food fraud vulnerability assessment and how data sources can be reliable as well as exploring effective approaches to tackle this menace. According to their findings, industries need to be more cohesive and consistent in their approach to multiple food fraud vulnerability assessment in order to tackle both intrinsic and extrinsic food fraud vulnerability.

The food industry is responsible for the quality and safety of its products and therefore is also liable for food fraud even if they were a victim of the fraud themselves (Wisniewski & Buschulte, 2019). Therefore, the responsibility of food fraud mitigation and prevention primarily falls on the food industry (Wisniewski & Buschulte, 2019).

The food industry includes primary processors who turn raw materials into a form which is safe for human consumption, manufacturers who produce products into raw material or components into retail units or supplier products, retailers who sell product to the consumer and any business or operator who carries out the processing, manufacturing, packaging, storage, transports, import, distribution or sale of food (Nestle, 2016; BRC, 2018; EIT Food & Queens University Belfast, 2020).

There are several guidance documents designed to aid the prevention and mitigation of food fraud (Table 1). Most of these documents are aimed at large business food operators, which are organizations that carrying out activities related to processing, manufacture, packaging, storage, transportation, import and distribution of food (Nestle, 2016). These types of businesses have staff and resources available to follow the advice given in the guidance documents found in this review. Food authenticity five steps to help protect a business from food fraud did offer a number for small businesses to contact and get advice on fraud mitigation (FDF, 2014). Manning and Kowalska (2021) identified some critical issues such as harmonization of food fraud and food crime definitions at the EU and international level, convergence of private and regulatory approaches to food crime classification and effectiveness and efficiency of system of sanctions to deter (potential) perpetrators which must be addressed to help combat food fraud as well as facilitate consumer trust in food and the integrity of food supply chains. Still, there is a gap in knowledge and available support for small producers, manufactures and retailers who may not have the resource available to dedicate to practices shared in the guidance documents below, which leaves the food supply vulnerable to fraud.

Table 1: Comparison of food fraud prevention and mitigation guides (From Robson et al., 2021)

Title	Description	Nature of Business	Supply Chain	Mitigation Measures
Food authenticity five steps to help protect your business from food fraud (FDF, 2014)	This simple guide, which follows on from FDF's Guide on 'Sustainable Sourcing: Five Steps Towards Managing Supply Chain Risk', sets out a step-by-step process to help food and drink manufacturing businesses of all sizes protect their businesses from food fraud by helping them to identify, priorities and manage upstream supply chain food authenticity risks	Large Scale Operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ Map Your Supply Chain ✓ Identify Impacts, Risks and Opportunities ✓ Assess and Priorities Your Findings ✓ Create a Plan of Action ✓ Implement, Track, Review & Communicate
GFSI position on mitigating the public health risk of food fraud (GFSI, 2014)	The GFSI Board decided to follow the recommendations of the Food Fraud Think Tank and proposes to incorporate the two food fraud mitigation steps in the form of two new key elements in the GFSI Guidance Document to; <ul style="list-style-type: none"> 1. Require a company to perform a food fraud vulnerability assessment 2. Have a control plan in place. The vision is that, like the introduction of food defense into the Guidance document a few years ago, the mitigation of food fraud and the potential impact on consumers' health becomes an integral part of a company's food safety management system. 	Large Scale Operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ GFSI position ✓ Proposed key elements for food fraud mitigation
Counter Fraud Good Practice Guide for Food and Drink Businesses (CIEN, 2016)	The purpose of this guide is to outline how food and drink business can apply established counter fraud good practice to improve fraud resilience and reduce its financial and reputational cost	Large scale food operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ The impact of fraud ✓ Fraud affects food businesses ✓ The advantage of focusing on fraud reliance ✓ The role of government in detecting and addressing fraud ✓ The modern strategic approach to counter fraud ✓ Summary of counter fraud good practice ✓ Counter fraud good practice for food and drink businesses ✓ Establish the nature and scale of the problem ✓ Develop a strategy ✓ Establish an implementation structure

Food Fraud Mitigation Guidance (USP, 2016)	USP's Food Fraud Mitigation provides a practical framework to help your organization develop a system for identifying vulnerabilities in your ingredient supply chain and developing a control plan to mitigate risks.	Large scale food operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ Design and implement fraud prevention measures ✓ Design and implement fraud detection measures ✓ Design and implement investigative processes ✓ Monitor outcomes ✓ Terminology ✓ Contributing factors assessment <ul style="list-style-type: none"> o Supply chain o Audit strategy o Supplier relationship o History of suppliers o Testing frequency o Geopolitical considerations o Fraud history o Economic anomalies ✓ Potential impact assessment <ul style="list-style-type: none"> o Public health impact o Economic impact ✓ Overall vulnerabilities ✓ Mitigation strategies development
Food Fraud Prevention (Nestle, 2016)	The purpose of this booklet is to guide food operators through approaches and processes to improve the resilience of supply chains to food fraud. It provides guidance on how to assure the authenticity of food by minimising vulnerability to fraud and mitigating the consequences of food fraud. This booklet Describes a process for food fraud prevention and the principles of the vulnerability assessment; Outlines measures that can deter fraudsters or give early detection of food fraud and provides sources of information and intelligence that may help to identify emerging threats.	Large Scale Operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ What is food fraud ✓ Raw Material Specifications ✓ Analytical surveillance ✓ Supplier relationship ✓ Supplier audit
Food fraud vulnerability assessment and mitigation (PwC, 2016)	PwC has the expertise in risk assessment, forensic services, supplier management and internal controls required to help companies assess their vulnerability to food fraud, then design and implement measures to mitigate food	Large Scale Operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ Are you doing enough to prevent food fraud? ✓ A few things you may want to know ✓ Food fraud and food safety: What is the connection? ✓ A science-based framework for understanding food fraud risk ✓ Opportunities

fraud risk. Along with the SAFEE tool PwC has published a sort mitigation guide offering information on food fraud.

- ✓ Motivations
- ✓ Control Measures
- ✓ The war on food fraud
- ✓ Ready to get started a few things you should know
- ✓ Food fraud Challenges
- ✓ New GFSI food fraud requirements
- ✓ We can provide greater insight and management of fraud risk
- ✓ Threats to the food supply chain
 - o Malicious tampering
 - o Theft
 - o Food Safety and temperature control
- ✓ Securing the supply chain

Food Supply Chain Vulnerability: A Ti whitepaper in partnership with RQA Group (RQA Group, 2016)

Vulnerability of the food supply chain is one of the hottest topics in the international food industry. Those vulnerabilities are not limited to breaches of physical security, theft and malicious contamination by ideologues, extortionists, criminals, or terrorists. In this whitepaper, Ti's CEO, Professor John Manners-Bell, and Managing Director, RQA Group, Vince Shiers Ph.D., offers insight into the vulnerability of the food supply chain by highlighting the threats and offering analysis of the best practice for securing the supply chain.

Large scale food operators

General guidance for all supply chains

Guidance on Authenticity of Herbs and Spices: Industry best practice on assessing and protecting culinary dried herbs and spices (FDF, 2016)

This guidance was developed by a Joint Industry Working Group comprised of representatives of the British Retail Consortium, Food and Drink Federation and Seasoning and Spice Association, in liaison with the Food Standards Agency and Food Standards Scotland to provide Industry Best Practice Guidance on vulnerability assessment for culinary dried herbs and spices (including blends), in order to mitigate against potential adulteration and substitution.

Large scale food operators

Herbs and spices

- ✓ Decision tree to protect herbs and spices against supply chain vulnerabilities
- ✓ Product Specifications
- ✓ Supplier Assurance
- ✓ Product type
- ✓ Knowing your Market Understanding Vulnerabilities in Your Supply Chain
- ✓ Verification and detection measures
- ✓ Sampling and inspection programmes
- ✓ Selection a Test Method and Laboratory
- ✓ Supply Chain Verification Measures
- ✓ Receipt of Material
- ✓ Devising Testing Strategy
- ✓ Types and Methods of Adulteration
- ✓ Generic Supply Map for Herbs and Spices with Examples of Fraud Vulnerabilities
- ✓ Typical Harvest Charts

Working Together to Tackle the Threat From

The UK National Food Crime Unit (NFCU) has produced a guide for working in partnership with the food industry to

Large Scale Operators

General guidance for all supply chains

- ✓ What is the National Food Crime Unit?
- ✓ What is the Threat from Food Crime?
- ✓ Tackling Food Crime, a Shared Objective
- ✓ Looking After Your Information

Food Crime (NFCU, 2016)	respond to the challenge of food crime. The guide explains the role of the NFCU in the fight against food crime, how the NFCU can support industry, and how in turn industry can support the NFCU to enhance the UK's resilience and response to food crime in its many forms.			
PAS 96:2017, Guide to protecting and defending food and drink from deliberate attack (BSI British Standards institution, 2020)	The purpose of PAS 96 is to guide food businesses through approaches and procedures to improve resilience of the supply chain from fraud and other forms of attack. PAS aims to assure food authenticity and safety and minimize chance of attack.	Large Scale Operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ Terms and definitions ✓ Types of threats ✓ Understanding the attacker ✓ Threat Assessment Critical Control Point (TACCP) ✓ Assessment ✓ Critical Controls ✓ Response to an incident ✓ Review of food protection arrangements ✓ TACCP Case Studies
Guidance on Food fraud Mitigation (FSSC 22000, 2018)	Following the GFSI benchmarking requirements, FSSC 22000 has introduced a chapter on Food fraud mitigation in the latest version of the Scheme (v4.1). This has become mandatory from January 1, 2018 and includes requirements for a Food fraud Vulnerability Assessment and a Food fraud Prevention Plan applicable to all products.	Large Scale Operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ Definition ✓ FSSC 22000 scheme Requirements ✓ Food fraud Mitigation Team Training ✓ Implementation ✓ Auditing
Tackling food fraud through food safety management systems (GFSI, 2018)	Builds off GFSI, 2014. To offer more insight on types of food fraud and food fraud vulnerability.	Large Scale Operators	General guidance for all supply chains	<ul style="list-style-type: none"> ✓ What is food fraud and is it a challenge for food safety and management systems ✓ The GFSI requirements on food fraud ✓ The implementation ✓ Auditing a vulnerability assessment and a food fraud mitigation plan ✓ Detail of types of fraud, and examples

Although, all documents listed in Table 1 provide beneficial information on food fraud prevention and mitigation for food business operators, guidance is still lacking. Many of the documents give companies the same advice digested and presented in various ways. The core advice given include: (i) the development a system to check and approve suppliers, (ii) supplier audits, (iii) creating open and transparent relationships with suppliers, (ix) horizon scanning, the act of looking for and analysing external threats and opportunities that will emerge,

including economic anomalies, geographical considerations, political unrest and climate change (Food Fraud Advisors, 2020); (x) identification of vulnerabilities, and (xi) risk assessment.

All of the above advice is agreed as being essential in food fraud prevention and mitigation plans. In addition to the guidance documents, there are also a variety of tools available to the food industry to aid in food fraud mitigations, including tools to determine food fraud vulnerability, and identify what is susceptibility to food fraud within a company or supply chain (Spink et al., 2017). Identified vulnerabilities are then used as a basis for food fraud prevention and mitigation programs. Another tool often issued is horizon scanning, which refers to the act of proactively looking for and analysing threats and opportunities that may emerge in the medium to long term (Food Fraud Advisors, 2020; Ulberth, 2016). Different vulnerability assessment tools have been summarised in recent publications (Manning & Soon 2019; Marvin et al., 2022; Ulberth, 2020). Marvin et al. (2022), for example, reported the use of a global media food fraud system (MedISys-FF) in the early detection and as a warning tool for food fraud. The study concluded that the MedISys-FF is a very useful tool to detect food fraud and may be used to ensure authentic, healthy and safe food within the food supply chain.

Although the NFCU already carries out activities aimed to prevent food fraud from occurring and there are various documents and tools available for food industry to aid in food fraud mitigations. However, there is still the need for a better understanding of what more can be done by gaining insight into fraud prevention strategies implemented by other organisations and sectors.

How this proposal meets the FSA specification

The proposed study has been structured in line with the Agency's specification as is squarely aimed at addressing all the key elements requested in the FS900239 specification document, namely this study will address these 3 specific tasks and sub-task as described in the project approach below.

Project approach

Tasks

This project is divided into 3 main tasks:

Task 1: Carry out a literature review (Component 1) on domestic and international evidence

Task 1.1: Document search and screening [Objective 1]

Task 1.2: Data extraction and data analysis [Objective 2]

Task 1.3: Data synthesis and review completion [Objective 3]

Task 2: Conduct supplementary expert interviews (Component 2) to understand 'what works' or 'what may work' in preventing food fraud.

Task 2.1: Development of interview questions, interview structure [Objective 4]

Task 2.2: Recruitment of participants and interviewing [Objective 5]

Task 2.3: Interview data transcription, consolidation and analysis [Objective 6]

Task 3: Provide recommendations which could be adopted by the NFCU and incorporated into the Unit's key strategies and for any future research required within this area.

Task 3.1: Dissemination [Objective 7]

Proposed scientific approach

The proposed study will apply two main qualitative research approaches to address the aims and objectives of this project and answer the research/review questions:

1. What food fraud prevention strategies and initiatives have been implemented in the UK and other countries? What were the aims of these strategies?

- a. Which strategies/initiatives have worked, and which haven't worked? What factors have made these successful or unsuccessful?
 - i. Where available, we ask that any evaluations of strategies/initiatives are reviewed.
 - b. What challenges were faced? How were these overcome?
 - c. What lessons learnt/recommendations can be applied to future strategies?
2. What strategies/initiatives have been implemented to prevent and tackle commodity-based fraud in other industries?
- a. Which strategies have worked and what factors have contributed to these being successful?
 - b. What challenges were faced? How were these overcome?
 - c. Which strategies/initiatives haven't worked and why?
 - d. Are there transferrable lessons from other sectors which can be applied to food fraud?
3. What conditions need to be in place to enable fraud prevention strategies to be successful?

The project will be carried out by a multidisciplinary team from the University of Lincoln, Food Refrigeration & Process Engineering Research Centre (FRPERC) at the Grimsby Institute of Further and Higher Education (GIFHE), part of the TEC Partnership and by the Food Standards Company which includes extensive expertise in statutory Official Controls and dealing with Food Fraud and Crime.

The project team has extensive experience and expertise (relating to food fraud and non-fraud topics) in conducting evidence/literature reviews and in-depth interviews. The team has experience of conducting similar studies having in their time carried out studies on the 'purchasing and eating behaviour of UK consumers using online surveys', 'Factors influencing the perception and decision-making process of consumers using narrative synthesis', 'impact of heat treatment of food on antimicrobial resistance genes and their potential uptake by other bacteria using a critical review methodology', 'Analysing Terrorism Prevention Policies Using Althusser's Framework', 'Street-level Theories of Change, adapting the Medical Model of Evidence-based Practice for Policing', 'Global media as an early warning tool for food fraud; an assessment of MedISys-FF', 'Making the Most of the Evidence: Evidence-based policy in the classroom'.

The team embodies front line practical experience with significant Food Frauds in the Scottish Salmon industry and Operation Tacana tackling extensive frauds in the shellfish industry. A list of similar projects and publications from such similar studies are listed in section 4. More details around team expertise and experiences are provided in section 4.

Also, members of this project team have contributed significantly to providing knowledge around food fraud in the past 5 years. [REDACTED] [REDACTED] have 10 representative publications that are strongly linked to Food Fraud, Horse Meat and Crime. Examples of such publication include Considering fraud vulnerability associated with credence-based products such as organic food; Advancing understanding of pinch-points and crime prevention in the food supply chain; Food Supply Chain Fraud: The Economic, Environmental, and Sociopolitical Consequences; Using the rapid alert system for food and feed: potential benefits and problems on data interpretation and so on.

Within the team we also have members with expertise in criminology, criminal justice, policing, policy, politics and economics and terrorism

The team's recent review for the FSA [1] Assessing the impact of heat treatment of food on antimicrobial resistance genes and their potential uptake by other bacteria) covered reviewing current knowledge on AMR gene transfer mechanisms and pathways and [2] Exploration of the potential for technology to support agency objectives in meat operations.

Also, members of the team have delivered projects on 'The local prevention of Terrorism in strategy and practice: 'Contest' a new era in the fight against terrorism — awarded by Economic and Social Research Council in 2009';

Also, members of the team are currently engaged on a complimentary critical review for the FSA on the role of biocides and heavy metals in food animal production on AMR. They are thus ideally placed to ensure that the findings of this review are robust and relevant to practices used in the UK and to the needs of the key stakeholders.

Task 1 - Evidence review

Task 1: Carry out a literature review (Component 1) on domestic and international evidence

Task 1.1: Document search and screening [Objective 1]

Task 1.2: Data extraction and data analysis [Objective 2]

Task 1.3: Data synthesis and review completion [Objective 3]

A mixed-method knowledge synthesis approach will be adopted for this critical review, based on the approaches used by Newell et al., (2008), Mateus et al. (2016), Hutchison et al. (2020), EFSA BIOHAZ Panel (2021), James et al. (2021), amongst others, and currently by the team for a similar review for the FSA on the role of biocides and heavy metals in food animal production on AMR. This should enable a critical review to be completed that is as unbiased, and as evidence based as possible. The use of a structured and transparent approach to identify, assess, and synthesize available evidence on the extent of fraud prevention initiatives used in food/feed and non-food sectors and domestic and international bodies and the crime prevention initiative and strategies utilised in different countries. This approach should provide more credible and reliable evidence to the FSA than a traditional narrative review.

Although it is anticipated that the review will incorporate traditional narrative aspects where appropriate (e.g., when highlighting data gaps, and identifying, highlighting, and recommending areas for further work). The approach will follow that detailed in the specification, i.e.: to review of domestic and international literature (grey & published English language) on food crime prevention initiatives and crime prevention strategies from other sectors which can be applied to food fraud.

The review will adopt a comprehensive search strategy considering all available evidence in the public domain, including peer-reviewed articles, grey literature (e.g., government and industry reports), relevant government reports, European and International literature. This will include previously published systematic and critical reviews, and relevant assessments, as well as primary research. A list of the databases and key search terms to be used and also any indicative criteria for inclusion and rejection based on the quality of the studies being considered is provided within this proposal. Finalised terms will be agreed with the Agency prior to project initiation. The project will use a similar approach to collecting, collating, and reviewing the data on the two tasks but will differ according to the type of data gathered, i.e., literature evidence will be reviewed in a systematic manner, while a different approach will be applied to gathering data on the different prevention strategies used in different disciplines and different countries.

To ensure that the review and interview are both transparent a list of all the key search terms (as well as any indicative criteria for inclusion and rejection), interview questions and interview transcriptions will be documented. Finalised key search terms and interview questions and structure will be agreed with the Agency prior to the project initiation. If required, a full database of all the relevant articles will be provided to the FSA. The database will be in a format suitable for publication on the Food Standards Agency website e.g., in an accessible format (for example CSV or Excel).

The project team will work closely with FSA representatives throughout the agreed timeline and monitor progress of the project to ensure the maximum visibility and usability of all findings and dissemination materials produced by the project.

Task 2 – Expert interview

Task 2: Conduct supplementary expert interviews (Component 2) to understand ‘what works’ or ‘what may work’ in preventing food fraud.

Task 2.1: Development of interview questions, interview structure [Objective 4]

Task 2.2: Recruitment of participants and interviewing [Objective 5]

Task 2.3: Interview data transcription, consolidation and analysis [Objective 6]

After Task 1 (review of domestic and international evidence) supplementary expert interviews will be organised and conducted as part of this project.

The project team have extensive experience in developing and validating interview questions, conducting qualitative interviews, transcribing, thematic analysis of data generated from interviews and reporting the outcome.

Development of interview protocol and questions

These expert interviews will seek to gain understanding on ‘what works’ or ‘what may work’ in preventing food fraud. Interim analysis findings from the review will be used to inform the topic guide questions for the interview and also to identify organization and countries who would be beneficial to gather more in-depth information from.

A minimum of 15 in-depth structured virtual interviews using qualitative research methods that will allow us to collect a more in-depth and accurate information directly from the interviewees will be adopted. We will create an interview protocol based on various topics that will emerge from the evidence review (component 1) that will be conducted prior to the interviews. The overall research aims, and the following research questions will also be put into consideration when developing the interview protocol and questions. Interviews will be conducted via video call over secured networks. After the interview protocol and questions have been agreed ethics approval will be sought from the University of Lincoln ethics department.

Sampling/Recruitment

A non-probability purposive sampling technique will be administered for this study. This technique is a well-known sampling technique for the identification and selection of participants and proven to be the most effective when there is limited resources (Patton, 2002). Purposive sampling involves identifying and selecting individuals that are knowledgeable about and experienced with the researched phenomenon (Cresswell & Plano Clark, 2011), in this case, prevention of fraud. Based on the expertise and experience of the members of the project team decisions will be made on which organisations/individuals to be interviewed. In the selection of international and domestic participants we will ensure as best as possible representatives from the regulators (food crime units where relevant), industry representative bodies, industry network (such as FIIN [Food Industry Intelligence Network]), policy-makers and experts (such as academic, researchers, consultants) are included.

Interview

We will conduct the in-depth-interview using a structured interview models consisting of Deductive/Inductive open/closed sequences. This approach will ensure a fixed format of questioning is followed and questions are asked in a specific order for all participants, while also giving the interviewee the opportunity to express the depth of answers.

Once a final agreed version of interview questions is ready participants will be contacted, followed by confirmation of date and time of the interview. Participants consent for the interview and for recording of the interview will be confirmed and documented prior to the interview.

All participants will be emailed a document containing the main interview questions beforehand, this will help the interviewee to prepare for the interview and will give an opportunity to look up information if needed.

The interviews will be conducted with a least 2 research teams members present and will be recorded to allow for easy transcription. Interviews will be conducted in English language and an iterative approach will be taken during the interview, this will allow the project team to enhance and modify the interview as required. A review meeting will be held together with the FSA after the first 2/3 interview [this meeting will be scheduled for around week commencing 14th of November 2022].

Transcribing/Interpretation of data

All interviews will be audio recorded (upon permission), for transcription to ensure data completeness and accuracy (Leedy & Ormrod, 2013). Recording the interview will make it possible to transcribe the interview responses/discussions easily. After the interviews the recorded audio data will be transcribed using Otter.ai (text transcribing software), and then analyzed to explore the themes and recurrent trends.

Content analysis will be used to interpret the qualitative findings of the interview. This analysis is considered a popular methodology performed on different types of human communications to identify the pattern and themes (Schreier, 2012). Four steps as described by Leedy and Ormrod (2013) will be followed for the content analysis, and these include:

1. Identify body of material that need to be studied,
2. Precisely define the characteristic that the researcher is looking for,
3. Code the concepts, tabulate each characteristic, and
4. inspect the patterns that the material reflects.

All the project team (including the FSA project officer) will have an opportunity to evaluate the interview transcript and will review and discuss the codes assigned to the responses before data analysis.

Analysis of interview data

The transcribed interview data will be analysed using established techniques for thematic analysis and will utilise NVivo. In summary this approach is applied to a set of texts, such as an interview or transcripts. The researchers closely examine the data to identify common themes, topics, ideas and patterns of meaning that come up repeatedly.

All the responses from the interview will first be saved in Microsoft Word, after which a project will be created in NVivo and the Word document transferred to a rich text file which will then be imported into NVivo.

Task 3 – Recommendations

Task 3: Provide recommendations which could be adopted by the NFCU and incorporated into the Unit's key strategies and for any future research required within this area.

Task 3.1: Dissemination [Objective 7]

This task will focus on dissemination of the findings of the project (by meetings, formal report (interim findings from the literature review, after the 2/3 of the interview and final project report), peer-reviewed publication, and presentations) to key stakeholders. A full written report will be presented in 1-3-25 style and will contain informed recommendations on food crime prevention strategies that can be adopted by the NFCU as part of their control strategy, as well as recommendations on future work in this area. We will also present the findings of the project in form of PowerPoint presentation amongst key FSA stakeholders at the end of the project.

Project Methodology

The methods that will be followed for each of the objectives describe in section 1B are described below:

To realise **Objective 1**, the **document search and screening**, the project will follow the following key approaches. It is proposed that the overall review questions will be: **'what works?' or 'what may work?' or 'What innovations are being made?' in preventing food fraud.** To specifically address Task 1 and Task 2 a systematic literature search will be carried out.

The key elements of the question (PIO): Population (P), Intervention (I), and Outcome (O) are:

- The **population** of interest will include **national and international manufacturing sector, policy makers, government organisations, food/feed and non-food industries, public and private sectors.**
- All **interventions** (or prevention strategies) used to prevent fraud within non-food, food/feed supply chains, across England, Wales and Northern Ireland and internationally will be considered.
- The likely **outcomes** of the prevention strategy.

Initial Consultation

Before commencing the literature search, the review questions, keywords, scope of search, and eligibility criteria will be agreed with the FSA. Suggested keywords, scope of search, and eligibility criteria are listed below.

Inclusion/Exclusion Criteria

All evidence on the prevention of fraud and crime in non-food, food/feed supply chains, across England, Wales and Northern Ireland and internationally. The literature search will be restricted to English-language peer-reviewed journals, books, reports, or articles. Grey literature (e.g., government and industry reports) will also be considered. The results will be refined by relevance to keywords. Post-2000 articles will be given precedence, but older articles may be considered for background information.

Search Engines/Databases

The following databases search engines [Supplemented by focussed searches using Google Scholar from 2000-current] will be used:

- **EBSCOhost from 1977-current**
- **Scopus from 1974-current**
- **Web of Science from 1969-current**

A review will be carried out on further bibliographic databases to identify scope for wider inclusion. A provisional list is appended as Appendix A.

If any other relevant databases are identified in the early stages of the project, these will be considered and included if agreed of importance by the project team and FSA Project Officer.

Additional sources of grey literature will also be examined so as to minimise publication bias. First, reference lists of included studies will be checked for additional studies not returned from the initial searches. Secondly, key authors in the field will be consulted to check for any unpublished findings and additional sources of information (Higgins & Green, 2011).

Supplementary Collation Methods

In addition to the database searches, collation will be supplemented by:

- Searching through relevant government reports, e.g., FSA published studies, government reports, etc.
- European and International literature, e.g., EU scientific opinions, WHO reports, IFST reports, GSFI reports etc.
- Searching of key journals
- Searching articles, e.g., New Food Magazine etc.
- Contacting expertise in the subject area.
- Fraud risk assessment documentation, particularly in the case of Task 1.
- A public “call for data”.

Keywords and search string, and Boolean operators

Finalised keywords will be agreed with the Agency prior to project initiation. Suggested categorised search words that cover both Task 1 and Task 2 are presented in Table 2 below:

Table 2: Suggested Keywords

1	2	3
Arts Banking Commodity Document Feed Financial Food Food Crime Food Fraud Food Standards Goods Health care Industries Ingredients Institutions International Manufacturing Medical Medicine Official Controls Pharmaceutical Physical goods Processes Services Supply chain Waste	Anti-fraud Block Campaign against Capable Guardians Challenge CLEO CLUE Combatting Control Food Crime Hotline Food Fraud Vulnerability Assessment Horizon scanning Intelligence Intelligence Network Interception Intervention MEMEX Policing Prevent Preventing Prevention QUACCP Quality Assurance Routine Activity Theory Six Sigma Statistical Process Control in Food Industries Stop TACCP Tackle VACCP	Adulteration Authentic Authenticity Counterfeiting Crime Diversions Economically motivated adulteration Fake Fraud Illegal Integrity Misrepresentation Natural Quality Substance Quality Risk Substitution Supply chain vulnerability Tampering Theft Traceability

For full Boolean search, a full suggested search string is:

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(Arts OR Banking OR Commodity OR Document OR Feed OR Financial OR Food OR “Food Crime” OR “Food Fraud” OR “Food Standards” OR Goods OR “Health care” OR Industries OR Ingredients OR Institutions OR International OR Manufacturing OR Medical OR Medicine OR Pharmaceutical OR Services OR “Supply chain” OR Waste)

AND

(“Anti-fraud” OR Block OR “Campaign against” OR “Capable Guardians” OR Challenge OR CLEO OR CLUE OR Combatting OR Control OR “Food Crime Hotline” OR “Food Fraud Vulnerability Assessment” OR “Horizon Scanning” OR Intelligence OR “Intelligence Network” OR Interception OR Intervention OR MEMEX OR Policing OR Prevent OR Preventing OR Prevention OR QUACCP OR “Quality Assurance” OR “Routine Activity Theory” OR “Six Sigma” OR “Statistical Process Control in Food Industries” OR Stop OR TACCP OR Tackle OR VACCP)

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(Adulteration OR Authentic OR Authenticity OR Counterfeiting OR Crime OR Diversion OR “Economically motivated adulteration” OR Fake OR Fraud OR Illegal OR Integrity OR Misrepresentation OR “Natural Quality” OR “Substance Quality” OR Risk OR Substitution OR “Supply chain vulnerability” OR Tampering OR Theft OR Traceability)

The search algorithm (and the words Fraud AND Prevention) has been pre-tested in **EBSCOhost, Scopus and Web of Science**. These searches have identified the following numbers of articles for initial screening.

Table 3: Result from pre-liminary data search

Keyword strings	Number of documents identified		
	EBSCOhost	Scopus	Web of Science
Fraud AND Prevent	1,701	1,929	3,670
Food AND Prevention AND Integrity	2	325	973
Crime AND Prevention AND Good	5	1,939	1,871

For databases that limit the size of search string the most relevant keywords from the first and the second category will be combined with one of the keywords of categories 3.

Any searches of the literature and criteria used will be documented at all times to allow replication of the methodology used.

Collation of articles

For all searches, citations and abstracts will be uploaded from each of the electronic databases into Covidence [<https://www.covidence.org>] (this SR tool has been chosen because a number of reviews of SR tools (Kellermeyer *et al.*, 2018; Van der Mierden *et al.*, 2019; Harrison *et al.*, 2020) have highlighted it as the most comprehensive SR tool package and one of the easiest to use). The applicants have used Covidence on a previous similar critical review project (FS307036) and are using it in a current review project (FS430957) for the FSA. The references will be processed using the ‘find duplicates’ automated functionality of the program and the duplicates will be removed.

Objective 1 will produce a database consisting of collated citations and abstracts of all articles identified in the literature search.

For article **screening**, the project will follow the following key approaches.

Selection of articles for data extraction

The relevance of each unique citation/article to Task 1 and Task 2 will be assessed at the title and abstract level within Covidence. Abstracts will be excluded if:

- They contain no relevant data on strategies for fraud or crime prevention.
- Are in a language other than English.

The criteria will be independently applied to the abstract of each paper by at least two members of the project team. For each citation, a consensus will be reached that the article is relevant for inclusion. Arbitration by a third member of the project team will be used to settle conflicting appraisals. Full articles will be obtained for all abstracts that pass the inclusion criteria. To ensure transparency a record will be kept of all articles determined as not relevant.

A preliminary search of articles on the prevention of fraud using the ‘prevention AND fraud’ keyword search has shown that the initial broad literature search will identify a large number (1,927 in Scopus) of diverse articles that may be relevant. However, having looked through a sub-section of the abstracts that this preliminary broad search identified it is expected that articles specifically related to fraud or crime prevention in different sectors and countries will possibly only number in the low hundreds at most. In order to prevent data saturation without analysing all captured articles in detail, we will prioritize the selection of articles. Our criteria

for prioritization will include the following: (1) unique or comprehensive insights are provided, (2) article is broadly applicable and generalizable, and (3) sufficient information is reported for extraction.

Objective 1 will produce a database consisting of collated citations and abstracts of (1) all articles identified in the literature search, and (2) screened articles considered of direct relevance to the overall objectives of the project. This database will also provide the criteria used for the selection and non-selection of relevant articles.

To realise **Objective 2, data extraction and analysis**, data from the articles identified, screened, and collated as relevant in Objective 2 will be extracted and analysed by the project team as per the following key approaches.

Data extraction and analysis of relevant literature

For literature articles. Once collected, the relevance of each unique article will be assessed again at the full article level again within Covidence to ensure the relevance of the article. For each article identified in the initial screening as relevant, two of the team will read the entire paper. If considered relevant, an in-depth content analysis of the selected articles will be carried out. Each will extract the key elements of interest from each paper. These will be collated by the PI and used to produce the draft critical review of the literature. The compiled draft critical review will then be reviewed by the entire project team, with the final editing carried out by the PI before submission to the FSA Project Manager.

The reviewers will assess what existing data there is that addresses the following key research questions:

1. What food fraud prevention strategies and initiatives have been implemented in the UK and other countries? What were the aims of these strategies?
 - 1.1: Which strategies/initiatives have worked, and which haven't worked? What factors have made these successful or unsuccessful?
 - 1.1.1: Where available, we ask that any evaluations of strategies/initiatives are reviewed.
 - 1.2: What challenges were faced? How were these overcome?
 - 1.3: What lessons learnt/recommendations can be applied to future strategies?
2. What strategies/initiatives have been implemented to prevent and tackle commodity based fraud in other industries?
 - 2.1: Which strategies have worked and what factors have contributed to these being successful?
 - 2.2: What challenges were faced? How were these overcome?
 - 2.3: Which strategies/initiatives haven't worked and why?
 - 2.4: Are there transferrable lessons from other sectors which can be applied to food fraud?
3. What conditions need to be in place to enable fraud prevention strategies to be successful?

A template for data extraction will be prepared by the research team based on the PIO (Population, Intervention and Outcome(s)) as an Excel document. This template will be tested prior to implementation. Once implemented, the template will be used by reviewers to collect the data from eligible studies. Study characteristics (e.g., study design, sample size, sampling methods amongst others) and outcome(s) of interest will be described and summarised accordingly.

The uncertainty in this review will be investigated in a qualitative manner following the procedure detailed in the EFSA guidance on uncertainty analysis in scientific assessments (EFSA Scientific Committee, 2018a,b). The sources of the main uncertainties will be identified and for each of these the nature or cause of the uncertainties described.

Objective 2 will produce a database consisting of the key data extracted from articles of direct relevance to the overall objectives of the project.

To realise **Objective 3, Data synthesis and review completion**, the data extracted and analysed from individual articles in Objective 3 will be synthesised and reviewed by the project team and a formal technical report completed, as per the following key approaches.

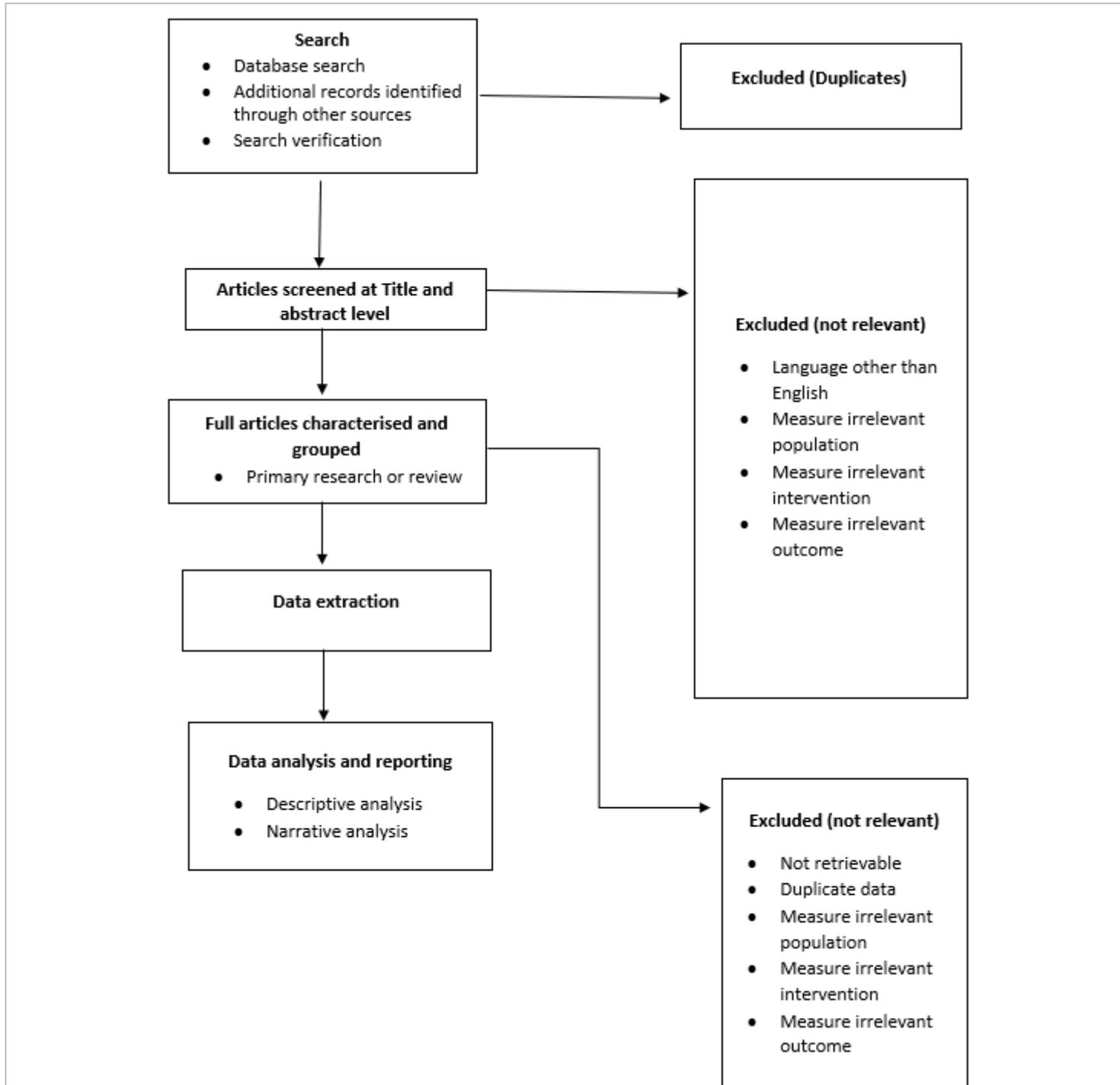
Data synthesis and report completion

To synthesise the data extracted and evaluate its quality a narrative approach will be used. This will be used to; a) develop a synthesis of findings of the studies, b) investigate relationships within and between studies, and c), evaluate the degree of robustness of the synthesis. The findings of the review will be collected in a technical report suitable for publication on the FSA website and structured and formatted in accordance with appropriate guidelines. If required a database of the articles included in the review will also be provided. The database will be in a format suitable for publication on the FSA website. The report will also highlight any information gaps and identify and recommend areas for further work.

A draft final report will be submitted at least 4 weeks before the final report is due to allow time for Agency officials to provide feedback comments.

Objective 3 will produce a report that will include a lay summary, executive summary, introduction (including the background and aims/objectives of the study), methodology, and key findings of the review, discussions, conclusions, what remains unknown, uncertainty around findings, and recommendations for further work. The criteria for selection and non-selection of articles relevant for consideration in the review will also be clearly identified in the report. The report will be suitable for publication on the Food Standards Agency website and structured and formatted in accordance with the relevant guidelines.

A flow chart of the knowledge synthesis process for this review is shown below:



To realise **Objective 4, Development of interview questions, interview structure**, we will create an interview protocol based on various topics that will emerge from the evidence review (component 1) that will be conducted prior to the interviews. The overall research aims, and the following research questions will also be put into consideration when developing the interview protocol and questions. Video interviews will be conducted via secure links. After the interview protocol and questions have been agreed ethics approval will be

sought from the University of Lincoln ethics department. Interim analysis findings from the review will be used to inform the topic guide questions for the interview and also to identify organization and countries who would be beneficial to gather more in-depth information from.

To realise **Objective 5, Recruitment of participants and interviewing**, we will use a non-probability purposive sampling technique to selected and recruit participants for the interview component of this project. This technique is a well-known sampling technique for the identification and selection of participants and proven to be the most effective when there are limited resources (Patton, 2002). Based on the expertise and experience of the members of the project team decisions will be made on which organisations/individuals to be interviewed. In the selection of international and domestic participants we will ensure as best as possible representatives from Official Controls the regulators (Environmental Health/Food Crime Units where relevant), industry representative bodies, industry network (such as FIIN [Food Industry Intelligence Network]), policy-makers and experts (such as academic, researchers, consultants) are included. We will aim to conduct a minimum of 15 in-depth semi-structured virtual interviews. Also, we will use the qualitative research methods that will allow us to collect a more in-depth and accurate information directly from the interviewees. We will create an interview protocol based on various topics that will emerge from the evidence review (component 1) that will be conducted prior to the interviews.

We will conduct a semi-structured interview to allow for us to covered different questions areas/topics while still giving the interviewee the opportunity to express the depth of answered.

In preparation for the interview a pilot test as described by Steinar, 2007, will be conducted using a couple of participants (one international and one domestic), this will assist with the refinement of the final interview questions. Once a final agreed version of interview questions is ready participants will be contacted and date and time of interview will be agreed. Participants consent for the interview and for recording of the interview will be confirmed prior to the interview.

All participants will be emailed a document containing the main questions beforehand, this will help the interviewee to prepare for the interview and an opportunity to look up information if needed.

The interviews will be conducted with a least 2 research teams members present and will be recorded to allow for easy transcription. Interviews will be conducted in English language and an iterative approach will be taken during the interview, this will allow the project team to enhance and modify the interview as required. A review meeting will be held together with the FSA after the first 2/3 interview [this meeting will be scheduled for around week commencing 14th of November 2022]. All interviews will be recorded.

To realise **Objective 6, Interview data transcription, consolidation and analysis**, all interviews will be audio recorded, upon permission, for transcription to ensure data completeness and accuracy (Leedy & Ormrod, 2013). Recording the interview will make it possible to transcribe the interview responses/discussion easily. After the interviews the recorded audio data will be transcribed using Otter.ai (text transcribing software), and then analyzed to explore the themes and recurrent trends.

Content analysis will be used to interpret the qualitative findings of the interview as it considered a popular methodology performed on different types of human communications to identify the pattern and themes (Schreier, 2012). Four steps as described by Leedy and Ormrod (2013) will be followed for the content analysis, and these include:

1. Identify body of material that need to be studied,
2. Precisely define the characteristic that the researcher is looking for,
3. Code the concepts, tabulate each characteristic, and
4. inspect the patterns that the material reflects.

All project team member (including the FSA project officer) will have an opportunity to evaluate the interview transcript and will review and discuss the codes assigned to the responses before data analysis. The transcribed interview data will be analysed using conventional thematic analysis via NVivo. All the responses from the interview will first be saved in Microsoft Word, after which a project will be created in NVivo and the Word document transferred to a rich text file which will then be imported into NVivo.

To realise **Objective 7**, Dissemination, a full dissemination and exploitation plan will be agreed with the Agency during the project.

Following completion of the final report, a meeting will be held with the Agency to discuss the key project findings and recommendations arising from the review. In addition to the final report the findings of the project will be disseminated to key stakeholders in the form of a scientific paper (with the approval of the funder) and presentations. Example dissemination activities may include:

1. An executive summary document/press release agreed with the Agency and distributed to key stakeholders.
2. At least one key paper will be submitted on “*A comprehensive critical review of prevention strategies to reduce fraud in different sectors and different countries*” for consideration for publication in a suitable peer-reviewed open access journal.
3. Presenting, or supporting the presentation, of the findings of this work at a future FSA event meeting, and/or at a stakeholder meeting if required.
4. Assisting the FSA in producing documents involved in the publication of the study findings which will include a Q&A document and providing comments on news story.

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B. INNOVATION

Please provide details of any aspect of the proposed work which are considered innovative in design and/or application? E.g. Introduction of new or significant improved products, services, methods, processes, markets and forms of organization

The approach taken by this project will be based on firm established methods for carrying out a critical review of published literature so will not be fundamentally innovative. It will however differ from recent reviews on this topic by trying to clearly identify and highlight what clear evidence there is in the scientific literature on the fraud prevention strategies in different sectors and in different countries, what evidence gaps remain, and recommend how those gaps may be addressed.

3: THE PROJECT PLAN AND DELIVERABLES

A. THE PLAN

Please provide a detailed project plan including, the tasks and sub-tasks required to realise the objectives (detailed in Part 1). The tasks should be numbered in the same way as the objectives and should be clearly linked to each of the objectives. Please also attach a flow chart illustrating the proposed plan.

Project plan:

The following work programme will commence on the 5th of September 2022 in line with the tender specification provided. The project has been structured to focus on evidence review first before commencing the interview.

In order to achieve the aims and objectives of this project we will have divided the work into 3 main tasks which are well aligned with the objectives described in part 1.

Task 1: Carry out a literature review (Component 1) on domestic and international evidence

Task 1.1: Document search and screening [Objective 1]

Task 1.2: Data extraction and data analysis [Objective 2]

Task 1.3: Data synthesis and review completion [Objective 3]

Task 2: Conduct supplementary expert interviews (Component 2) to understand 'what works' or 'what may work' in preventing food fraud.

Task 2.1: Development of interview questions, interview structure [Objective 4]

Task 2.2: Recruitment of participants and interviewing [Objective 5]

Task 2.3: Interview data transcription, consolidation and analysis [Objective 6]

Task 3: Provide recommendations which could be adopted by the NFCU and incorporated into the Unit's key strategies and for any future research required within this area.

Task 3.1: Dissemination [Objective 7]

TASK 1

Objective 1 and Task 1.1: Document search and screening

Timescale: 1 Months (4 weeks)

Staff: BO, SO, MT, NC, JS, CJ will conduct the document search and screening mainly and will be supported by LM and AM for making decision on any conflict

To realise **Objective 1**, the **document search and screening**, the project will follow the following key approaches. It is proposed that the overall review questions will be: **'what works?' or 'what may work?' or 'What innovations are being made?' in preventing food fraud.** To specifically address Task 1 and Task 2 a systematic literature search will be carried out.

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- Searching of key journals
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Objective 1 will produce a database consisting of collated citations and abstracts of (1) all articles identified in the literature search, and (2) screened articles considered of direct relevance to the overall objectives of the project. This database will also provide the criteria used for the selection and non-selection of relevant articles.

Milestones and Deliverables:

M1: Before commencing the literature search, the review question, keywords, scope of search, and eligibility criteria will be agreed with the Agency (Task 1.1).

D1: Database of initial results of literature search - collated citations and abstracts (results of Task 1.1).

See Gantt and Deliverables table for further information.

Objective 2 and Task 1.2: Data extraction and analysis

Timescale: 0.75 Month (3 weeks)

Staff: BO, SO, MT, NC, JS, CJ will conduct the document search and screening mainly and will be supported by LM and AM

To realise **Objective 2, data extraction and analysis**, data from the articles identified, screened, and collated as relevant in Objective 2 will be extracted and analysed by the project team as per the following key approaches.

Data extraction and analysis of relevant literature

For literature articles. Once collected, the relevance of each unique article will be assessed again at the full article level again within Covidence to ensure the relevance of the article. For each article identified in the initial screening as relevant, two of the team will read the entire paper. If considered relevant, an in-depth content analysis of the selected articles will be carried out. Each will extract the key elements of interest from each paper. These will be collated by the PI and used to produce the draft critical review of the literature. The compiled draft critical review will then be reviewed by the entire project team, with the final editing carried out by the PI before submission to the FSA Project Manager.

The reviewers will assess what existing data there is that addresses the following key research questions:

2. What food fraud prevention strategies and initiatives have been implemented in the UK and other countries? What were the aims of these strategies?
 - 1.1: Which strategies/initiatives have worked, and which haven't worked? What factors have made these successful or unsuccessful?
 - 1.1.1: Where available, we ask that any evaluations of strategies/initiatives are reviewed.
 - 1.2: What challenges were faced? How were these overcome?

- 1.3: What lessons learnt/recommendations can be applied to future strategies?

2. What strategies/initiatives have been implemented to prevent and tackle commodity based fraud in other industries?

- 2.1: Which strategies have worked and what factors have contributed to these being successful?
- 2.2: What challenges were faced? How were these overcome?
- 2.3: Which strategies/initiatives haven't worked and why?
- 2.4: Are there transferrable lessons from other sectors which can be applied to food fraud?

3. What conditions need to be in place to enable fraud prevention strategies to be successful?

A template for data extraction will be prepared by the research team based on the PIO (Population, Intervention and Outcome(s)) as an Excel document. This template will be tested prior to implementation. Once implemented, the template will be used by reviewers to collect the data from eligible studies. Study characteristics (e.g., study design, sample size, sampling methods amongst others) and outcome(s) of interest will be described and summarised accordingly.

The uncertainty in this review will be investigated in a qualitative manner following the procedure detailed in the EFSA guidance on uncertainty analysis in scientific assessments (EFSA Scientific Committee, 2018a,b). The sources of the main uncertainties will be identified and for each of these the nature or cause of the uncertainties described.

Objective 2 will produce a database consisting of the key data extracted from articles of direct relevance to the overall objectives of the project.

Objective 3 and Task 1.3: Data synthesis and review completion

Timescale: 0.5 Month (2 weeks)

Staff: All staff, Lead by BO, CJ, AM, LM

To realise **Objective 3, Data synthesis and review completion**, the data extracted and analysed from individual articles in Objective 3 will be synthesised and reviewed by the project team and a formal technical report completed, as per the following key approaches.

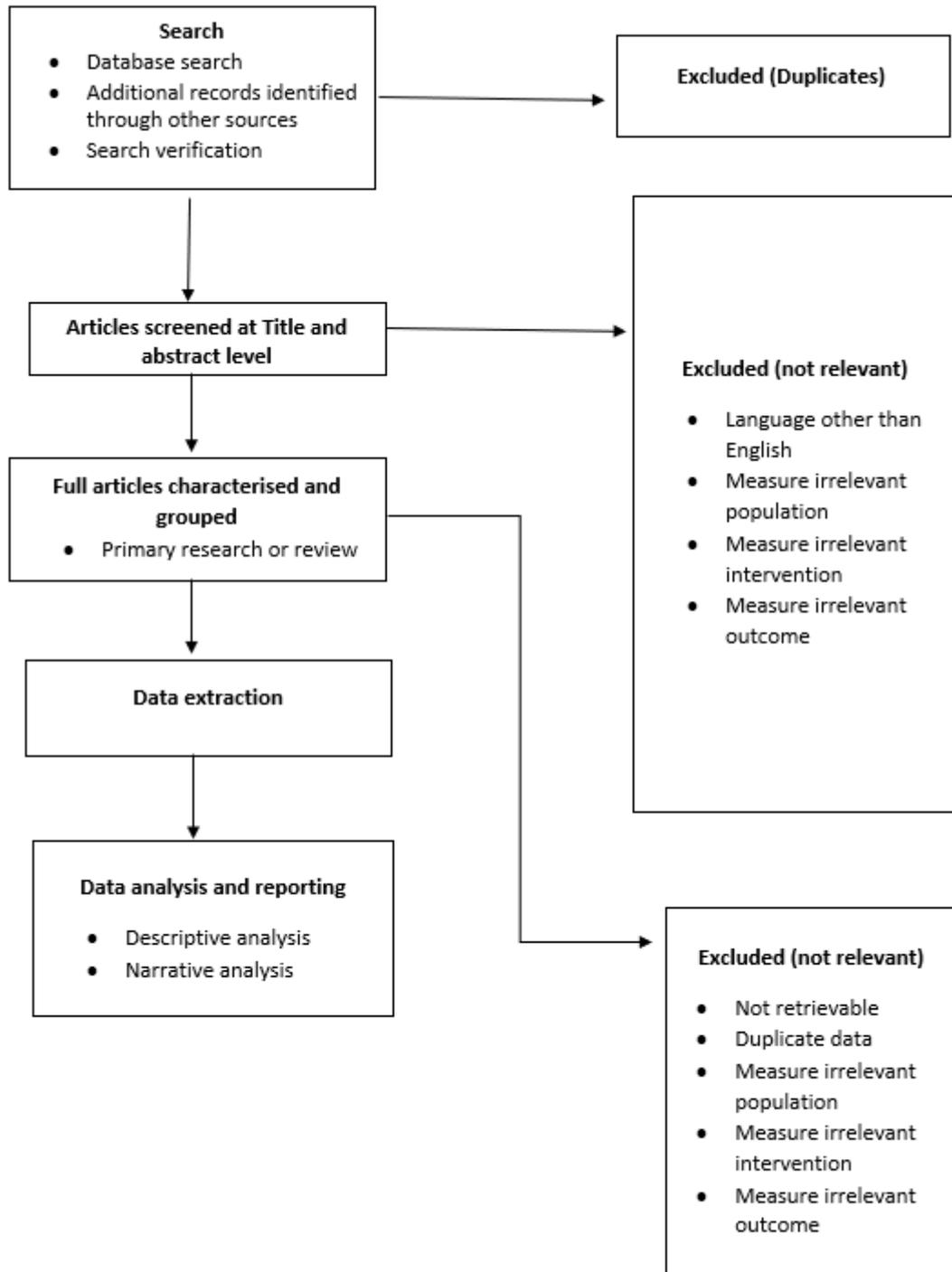
Data synthesis and report completion

To synthesise the data extracted and evaluate its quality a narrative approach will be used. This will be used to; a) develop a synthesis of findings of the studies, b) investigate relationships within and between studies, and c), evaluate the degree of robustness of the synthesis. The findings of the review will be collected in a technical report suitable for publication on the FSA website and structured and formatted in accordance with appropriate guidelines. If required a database of the articles included in the review will also be provided. The database will be in a format suitable for publication on the FSA website. The report will also highlight any information gaps and identify and recommend areas for further work.

A draft final report will be submitted at least 4 weeks before the final report is due to allow time for Agency officials to provide feedback comments.

Objective 3 will produce a report that will include a lay summary, executive summary, introduction (including the background and aims/objectives of the study), methodology, and key findings of the review, discussions, conclusions, what remains unknown, uncertainty around findings, and recommendations for further work. The criteria for selection and non-selection of articles relevant for consideration in the review will also be clearly identified in the report. The report will be suitable for publication on the Food Standards Agency website and structured and formatted in accordance with the relevant guidelines.

A flow chart of the knowledge synthesis process for this review is shown below:



TASK 2

Objective 4 and Task 2.1: Development of interview questions, interview structure

Timescale: 0.5 Month (2 weeks)

Staff: Main staff BO, LM, JS, NC, CJ, AM

To realise **Objective 4, Development of interview questions, interview structure**, we will create an interview protocol based on various topics that will emerge from the evidence review (component 1) that will be conducted prior to the interviews. The overall research aims, and the following research questions will also be put into consideration when developing the interview protocol and questions. Video interviews will be conducted via secure links. After the interview protocol and questions have been agreed ethics approval will be sought from the University of Lincoln ethics department. Interim analysis findings from the review will be used to inform the topic guide questions for the interview and also to identify organization and countries who would be beneficial to gather more in-depth information from.

Objective 5 and Task 2.2: Recruitment of participants and interviewing

Timescale: 1 Month (4 weeks)

Staff: Main staff BO, LM, JS, NC, CJ, AM

To realise **Objective 5, Recruitment of participants and interviewing**, we will use a non-probability purposive sampling technique to selected and recruit participants for the interview component of this project. This technique is a well-known sampling technique for the identification and selection of participants and proven to be the most effective when there are limited resources (Patton, 2002). Based on the expertise and experience of the members of the project team decisions will be made on which organisations/individuals to be interviewed. In the selection of international and domestic participants we will ensure as best as possible representatives from Official Controls the regulators (Environmental Health/Food Crime Units where relevant), industry representative bodies, industry network (such as FIIN [Food Industry Intelligence Network]), policy-makers and experts (such as academic, researchers, consultants) are included. We will aim to conduct a minimum of 15 in-depth semi-structured virtual interviews. Also, we will use the qualitative research methods that will allow us to collect a more in-depth and accurate information directly from the interviewees. We will create an interview protocol based on various topics that will emerge from the evidence review (component 1) that will be conducted prior to the interviews.

We will conduct a semi-structured interview to allow for us to covered different questions areas/topics while still giving the interviewee the opportunity to express the depth of answered.

In preparation for the interview a pilot test as described by Steinar, 2007, will be conducted using a couple of participants (one international and one domestic), this will assist with the refinement of the final interview questions. Once a final agreed version of interview questions is ready participants will be contacted and date and time of interview will be agreed. Participants consent for the interview and for recording of the interview will be confirmed prior to the interview.

All participants will be emailed a document containing the main questions beforehand, this will help the interviewee to prepare for the interview and an opportunity to look up information if needed.

The interviews will be conducted with a least 2 research teams members present and will be recorded to allow for easy transcription. Interviews will be conducted in English language and an iterative approach will be taken during the interview, this will allow the project team to enhance and modify the interview as required. A review meeting will be held together with the FSA after the first 2/3 interview [this meeting will be scheduled for around week commencing 14th of November 2022]. All interviews will be recorded.

Milestones and Deliverables:

M4: Interview protocol/structure and interview questions report (Task 2.1).

M5: Interim meeting 2 to discuss interview progress [scheduled for around week commencing 14th of November 2022]

D2: Interview Question and structure submitted to the FSA (Task 2.1).

D3: Progress on interviews

See Gantt and Deliverables table for further information.

Objective 6 and Task 2.3: Interview data transcription, consolidation and analysis

Timescale: 0.75 Month (3 weeks)

Staff: Main staff BO, LM, JS, NC, CJ, AM

To realise **Objective 6, Interview data transcription, consolidation and analysis**, all interviews will be audio recorded, upon permission, for transcription to ensure data completeness and accuracy (Leedy & Ormrod, 2013). Recording the interview will make it possible to transcribe the interview responses/discussion easily. After the interviews the recorded audio data will be transcribed using Otter.ai (text transcribing software), and then analyzed to explore the themes and recurrent trends.

Content analysis will be used to interpret the qualitative findings of the interview as it considered a popular methodology performed on different types of human communications to identify the pattern and themes (Schreier, 2012). Four steps as described by Leedy and Ormrod (2013) will be followed for the content analysis, and these include:

5. Identify body of material that need to be studied,
6. Precisely define the characteristic that the researcher is looking for,
7. Code the concepts, tabulate each characteristic, and
8. inspect the patterns that the material reflects.

All project team member (including the FSA project officer) will have an opportunity to evaluate the interview transcript and will review and discuss the codes assigned to the responses before data analysis. The transcribed interview data will be analysed using conventional thematic analysis via NVivo. All the responses from the interview will first be saved in Microsoft Word, after which a project will be created in NVivo and the Word document transferred to a rich text file which will then be imported into NVivo.

TASK 3

Objective 7 and Task 3.1: Dissemination

Timescale: 0.75 Month (3 weeks)

Staff: Main staff BO, LM, JS, NC, CJ, AM

To realise **Objective 7**, Dissemination, a full dissemination and exploitation plan will be agreed with the Agency during the project.

Following completion of the final report, a meeting will be held with the Agency to discuss the key project findings and recommendations arising from the review. In addition to the final report the findings of the project will be disseminated to key stakeholders in the form of a scientific paper (with the approval of the funder) and presentations. Example dissemination activities may include:

1. An executive summary document/press release agreed with the Agency and distributed to key stakeholders.
2. At least one key paper will be submitted on “A comprehensive critical review of prevention strategies to reduce fraud in different sectors and different countries” for consideration for publication in a suitable peer-reviewed open access journal.
3. Presenting, or supporting the presentation, of the findings of this work at a future FSA event meeting, and/or at a stakeholder meeting if required.
4. Assisting the FSA in producing documents involved in the publication of the study findings which will include a Q&A document and providing comments on news story.

Milestones and Deliverables:

M6: Project completed (All objectives and tasks complete) [Task 3.1)

D4: Submission of final report

Timeframe: The proposed review will take 16 weeks to complete. The Gantt chart below sets out the work timetable for this proposed project:

Month	Project Month (2022)															
	September				October				November				December			
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Objective 1 – Task 1.1	█	█	█	█												
Objective 2 – Task 1.2				█	█	█	█	█								
Objective 3 – Task 1.3							█	█								
Mid-point interim review									█	█	█	█	█			
Objective 4 – Task 2.1									█	█	█	█	█			
Objective 5 – Task 2.2									█	█	█	█	█			
Review meeting for interviews											█	█	█			
Objective 6 - Task 2.3														█	█	█
Objective 7																█
Milestones	M1			M2			M3		M4					M5		M6
Deliverables				D1			D2		D3					D4		D5

Milestones

M1: Project start / First project meeting

M2: Initial data/literature search and screening completed

M3: Mid-point interim project progress report

M4: Interview protocol/structure and interview questions report and interim meeting 2 to discuss interview progress [scheduled for around week commencing 14th of November 2022]

M5: Draft project report

M6: Project completion (All objectives and tasks complete) and final project report.

Key project outcomes/deliverables

This proposed research will provide evidence for the National Food Crime Unit’s development of food fraud prevention activity to implement against the priority areas within the Unit’s Control Strategy and will work towards the FSA’s strategic objectives that food is safe and what it says it is.

This project will:

1. Enable an understanding of which specific strategies or initiatives works or may not work in preventing food fraud.
2. Provide a review that will be used to inform measurable progress towards developing prevention strategies that will protect consumers, industries and general public from the risks associated with food fraud.
3. Provide findings that will help the agency achieve its main aim of protecting public health from all potential risks which may arise in connection with food fraud and make sure food is safe and what it says it is.
4. Provide a report that will be used to inform key stakeholder what realistic actions are required to reduce the risks associated with food fraud and make a timely positive contribution to the cross-governmental objective of protecting consumers from the risks associated food fraud.

Key outcomes/deliverables will be:

- A full written report in a 1-3-25 style containing informed recommendations on food crime prevention strategies that can be adopted by the NFCU as part of their control strategy, as well as recommendations on future work in this area.
- Full details of the data collected in task 1 and 2 will be provided in a systemised format and a library of references organised using an appropriate reference management system.
- Publication of research findings in peer reviewed open access literature. Prepared manuscript will be submitted to the Agency for approval prior to submission.
- Meetings with FSA officials to discuss the project findings and progress.

B. DELIVERABLES

Please outline the proposed project milestones and deliverables. Please provide a timetable of key dates or significant events for the project (for example fieldwork dates, dates for provision of research materials, draft and final reporting). Deliverables must be linked to the objectives.

For larger or more complex projects please insert as many deliverables /milestones as required.

Each deliverable should be:

- i. no more 100 characters in length
- ii. self-explanatory
- iii. cross referenced with objective numbers i.e. deliverables for Objective 1 01/01, 01/02 Objective 2 02/01, 02/02 etc

Please insert additional rows to the table below as required.

A final deliverable pertaining to a retention fee of 20 % of the total value of the proposed work will automatically be calculated on the financial template.

DELIVERABLE NUMBER OR MILESTONE IN ORDER OF EXPECTED ACHIEVEMENT	TARGET DATE	TITLE OF DELIVERABLE OR MILESTONE
M1	05/09/2022	PROJECT START / FIRST PROJECT MEETING
M2 Deliverable 1 – D1	30/09/2022	INITIAL DATA/LITERATURE SEARCH AND SCREENING COMPLETED
M3 Deliverable 2– D2	04/11/2022	MID-POINT INTERIM PROJECT PROGRESS REPORT
M4 Deliverable 3 – D3	18/11/2022	INTERVIEW PROTOCOL/STRUCTURE AND INTERVIEW QUESTIONS REPORT AND INTERIM MEETING 2 TO DISCUSS

		INTERVIEW PROGRESS [SCHEDULED FOR AROUND WEEK COMMENCING 14TH OF NOVEMBER 2022]
M5 Deliverable 4 – D4	09/12/2022	DRAFT PROJECT REPORT
M6 Deliverable 5 – D5	23/12/2022	PROJECT COMPLETION (ALL OBJECTIVES AND TASKS COMPLETE) AND FINAL PROJECT REPORT.

4: ORGANISATIONAL EXPERIENCE, EXPERTISE and STAFF EFFORT

A. PARTICIPATING ORGANISATIONS' PAST PERFORMANCE

Please provide evidence of up to three similar projects that the project lead applicant and/or members of the project team are currently undertaking or have recently completed. Please include:

- The start date (and if applicable) the end date of the project/(s)
- Name of the client who commissioned the project?
- Details of any collaborative partners and their contribution
- The value
- A brief description of the work carried out.
- How the example(s) demonstrate the relevant skills and/or expertise.
- What skills the team used to ensure the project (s) were successfully delivered.

FSA FS307036: Assessing the impact of heat treatment on antimicrobial resistance genes and their potential uptake by other 'live' bacteria

Date: 2020-2021 (6 months)

Client: Food Standards Agency

Partners: Grimsby Institute, FRPERC; University of Lincoln, NCFM; University of Liverpool

Value: ██████████

Description of work: The aim of this desk-based project was to critically review the scientific literature on the impact of heat treatments (cooking) on AMR genes (ARGs) and their potential uptake by other bacteria. The study involved a structured literature search of appropriate bibliographic databases and sources, ranging from 1990 to the end of 2020. The screening of articles for relevance, prior to data extraction and analysis. The extracted data from articles was synthesised into a formal review report in order to establish what existing data and understanding there is on the impact of heat treatment on AMR genes that may be present in heat-killed foodborne bacteria and their potential uptake by other 'live' bacteria in the human gut and other foods. This critical review confirmed that AMR bacteria are no more heat-resistant than non-AMR bacteria. Therefore, cooking (70°C for 2 mins or equivalent) is sufficient to kill AMR bacteria that may be present in foods. The evidence as to whether intact and functional AMR genes persist after heat treatment was found to be sparse. Only four published articles were identified but these were not comparable. Whilst the published evidence is very limited, the studies identified do provide some evidence that AMR genes may potentially persist in cooked foods following heat treatments. Though detectable, these genes may not be functional. However, if AMR genes are not sufficiently damaged during heat treatment, it is possible that genes could be subsequently taken up by other bacteria, but the occurrence of this transfer is expected to be rare. No articles were found which demonstrate that AMR genes from heat-treated AMR bacteria could be taken up by other 'live' bacteria in the human gut. It was concluded that there is currently a lack of evidence to determine if there is a risk to human health and that uncertainties remain in this research area which may warrant further investigations. Current gaps in knowledge were identified and recommendations for further investigations were highlighted.

How the example demonstrates the relevant skills and/or expertise: This project demonstrates: the ability of the proposers to work together as a team on Agency projects; the ability of the team to review, understand, and interpret scientific literature on AMR and AMR risks and hazards (including the role of ARGs); the ability of the team to apply critical thinking and problem solving to research objectives; the ability to keep to deadlines

and achieve the desired deliverables on time and within budget; experience of using Covidence software to collate and screen articles; the ability of the team to provide a technical report suitable for publication on the FSA website that has been structured and formatted in accordance with the FSA Web Content Accessibility Guidelines.

What skills the team used to ensure the project was successfully delivered: Literature searching and critical review; Teamwork.

FSA SEP-EOI-02: Exploration of the potential for technology to support agency objectives in meat operations

Date: 2016-2017 (9 months)

Client: Food Standards Agency

Partners: Grimsby Institute, FRPERC; University of Lincoln, NCFM

Value: [REDACTED]

Description of work: The aim of this desk-based project was to explore the development a science-based approach to evaluate the effectiveness of automated surveillance and inspection procedures in meat production, focusing primarily on the implications for public health. The study addressed three, fundamental, risk assessment questions: (1) What are the real public health issues associated with meat produced under modern commercial conditions? (2) What current inspection/testing/monitoring techniques can be used to detect the factors controlling meat safety? (3) What alternative techniques could be used or developed?

To accomplish this, it had 4 objectives: (1) To critically review current science and commercially available inspection technologies; (2) To carry out a screening of potential inspection technologies; (3) To carry out a gap analysis and postulation of alternative surveillance protocols; (4) To disseminate the projects key findings and engage with industry (via seminar workshop towards the end of the project).

This work showed that most of the meat animals' conditions of concern to human health that are assessed through current OV inspection practices, could be addressed by existing automated inspection techniques or possibly addressed by existing techniques after further development. The few conditions where no clear solution appeared to be available were (1) the PM detection of contamination with hair, (2) the AM detection of suspect residues in animals, and (3) Endocarditis in pig carcasses. These tasks present large challenges that need to be addressed by further research to develop potential technologies for their detection. A number of key techniques that we considered to be currently sufficiently advanced and the most promising for detection of specific conditions were recommend for further development.

How the example demonstrates the relevant skills and/or expertise: This project demonstrates: the ability of the proposers to work together as a team on Agency projects; the ability of the team to horizon scan, search, collect, and critically review research literature on diverse but related subjects; the ability of the team to apply critical thinking and problem solving to research objectives; interaction and engagement with stakeholders and FBOs; the ability to keep to deadlines and achieve the desired deliverables on time and within budget.

What skills the team used to ensure the project was successfully delivered: Literature searching and critical review; Teamwork; Opinion gathering from meat industry in UK; Building good working relationships with key stakeholders (UK meat processors and stakeholder organisations (BMPA, BPC, and AIMS); Effective communication with stakeholders.

FSA FS514103: Microbial evaluation of poultry and pork mechanically separated meat (MSM), compared to fresh cuts of meat, meat preparations and minced meat products

Date: 2014-2016 (24 months)

Client: Food Standards Agency

Partners: Grimsby Institute, FRPERC; University of Lincoln, NCFM; Leatherhead Food RA

Value: [REDACTED]

Description of work: This project provided data and evidence to inform the Agency of the microbial safety of mechanically separated meat (MSM) from poultry and pork. The outcomes were used to support the Agency's assessment of whether current restrictions on the use of MSM are appropriate and proportionate for the protection of the consumer. The project built on a previous research project carried out by the proposers and commissioned by the Agency entitled "Description of the processes used in the UK to manufacture MSM and former DSM meat products from poultry and pork and an initial assessment of microbiological risk".

How the example demonstrates the relevant skills and/or expertise: This project demonstrates: the ability of the proposers to work together as a team on Agency projects; the ability of the team to apply critical thinking and problem solving to research objectives; to interact and engage with stakeholders and FBOs; the ability to keep to deadlines and achieve the desired deliverables on time and within budget.

What skills the team used to ensure the project was successfully delivered: Literature searching and review; Teamwork; Data gathering from meat industry in UK; Building good working relationships with UK meat processors; Building good working relationships with key UK stakeholder organisations (BMPA, BPC, and AIMS); Effective communication with stakeholders.

OTHER PROJECTS

Projects Relating to Food Fraud and Food Crime that Andrew MacLeod have been involved in:

Several tenders were successfully won and successfully delivered for Food Standards Scotland for delivery of Official Control Verification (OCV) Training and Assessment Programmes. OCV is a new Structured, Scientific and Systematic Approach to statutory Food Controls applied by Food Standards Scotland and Environmental Health Departments in Scotland. It has been recognised as a “paradigm shift” in Official Controls.

In summary, the approach eschews judgement of compliance with Food Law which is a traditional approach lacking evidence of efficacy. Instead OCV focusses on the verification of the causes of foodborne illness within an FBO’s process and establishment and the verification of effective Control Measures (including Validation). OCV is equipped with a battery of scientific Methods and Techniques including for example, Structured Hazard Analysis, Representative Random Sampling, F0 calculation and Statistical Process Control.

The FSS tenders yielded consistently very high feedback using metrics which were the same as those used by the Food Standards Agency

Extension to Food Fraud and Crime

Those tenders included the principal developer and author of OCV who has extended the scope to Food Standards/Food Authenticity/Integrity (including Food Fraud and Crime) and through a separate commission has developed and provided an OCV Food Authenticity and Integrity Verification Course aimed at both Industry and Official Controls personnel which has been accredited by REHIS.

The new course has been delivered by the author to Official Controls personnel achieving very high feedback. The Methods and Techniques from an Official Controls point of view bespoke to Food Fraud such as Structured Vulnerability Assessment, Authentication Algorithms, Traceability Verification Studies and Statistical Process Control for Official Controls has achieved particularly high scoring feedback.

Food Standards Agency Tender for Delivery for the Enforcement Sanctions Course (as Sub contractor to Campden BRI 2014-2018. Authored, developed, and delivered Enforcement Sanctions Training across the UK yielding very high feedback on according to the FSA metrics.

B. NAMED STAFF MEMBERS AND DETAILS OF THEIR SPECIALISM AND EXPERTISE

For each participating organisation on the project team please list:- the names and grades of all staff who will work on the project together with details of their specialism and expertise, their role in the project and details of up to 4 of their most recent, relevant published peer reviewed papers (where applicable). If new staff will be hired to deliver the project, please detail their grade, area/(s) of specialism and their role in the project team.

Lead Applicant

[University of Lincoln]

Named staff members, details of specialism and expertise.

[Principal Investigator's name and details 1st]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



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Participant Organisation 1	TEC Partnership
Named staff members, details of specialism and expertise.	
[Redacted content]	

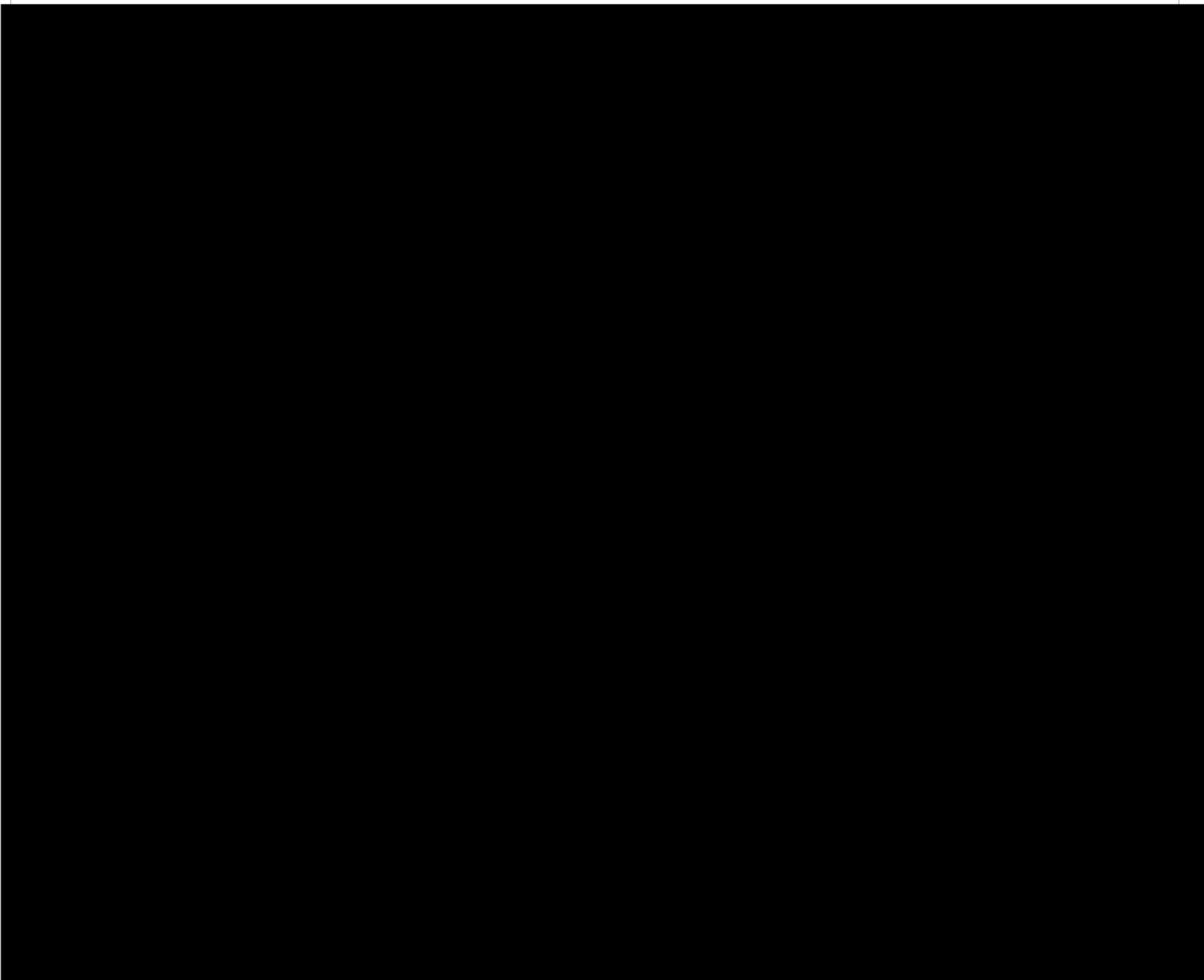
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Participant Organisation 2 The Food Safety Agency
Named staff members, details of specialism and expertise.

[Redacted text block]



A diagram of how key personnel in this project will interact is shown below:



6. RISK MANAGEMENT

In the table provided, please identify all relevant risks in delivering this project on time and to budget. Briefly outline what steps will be taken to minimise these risks and how they will be managed by the project team. Please add more lines as required

Identified risk	Likelihood of risk (high, medium, low)	Impact of Risk (high, medium, low)	Risk management strategy
Achieving Timeframe	Medium	Medium	Based upon significant past experience of similar projects, we have carefully considered the scope of the data collection and assessments required, and the time required to carry them out. Contingency has been built into the project plan for each Objective for delays in accessing or collating data. We have considered past challenges that have led to time overruns and built in a sensible catch-up phase for each objective. A full delivery plan and risk register will be implemented and maintained for this project, which will be overseen by an experienced project manager at Executive Director level. The project team will meet monthly to review progress to date. This will ensure that any variations from the delivery plan are identified, and remedial action is approved and directed in a timely manner.
Insufficient data available	Low	High	Preliminary search have shown that there is enough available data to carry out this research project.
Too much data available	Medium	High	A preliminary search of articles has been conducted and suggests that this is a low risk. If excessive numbers of articles are revealed, a second pass with more specific keyword will be made to reduce to a manageable number of articles.
Data access challenges	Low	High	The Participant Organisations have access to the databases required for this work and access to the key academic journals that are likely to have relevant articles. Loss of access to article abstracting services would have a major impact but this is highly unlikely as it is a central research tool used by the Participant Organisations.

			Contingency has been made in the budget for obtaining any paying for any additional access to articles / chapters / books / reports.
Data quality	Medium	High	In our previous Agency projects, carried out in the past 18 years, we have gathered extensive expertise in assessing and quantifying the quality of the data received. The data evaluation and screening procedures prescribed in the body of the work plan above will apply a weighting to reflect and accommodate the quality of data in each reviewed source.
Budget overruns	Low	Low	The budget has been compiled by an experienced team, who have carried out many projects of this nature over the past decades without overruns. We do not consider it a risk in this project. However, regular monitoring and tracking of expenditure will ensure potential budget over / underspend is identified and addressed at an early stage. This is a fixed price contract, so any budget overrun will be absorbed by the proposers, which mitigates all financial risk to the Agency.
A member of the project team falls ill or leaves	Low	Medium	The main Participant Organisations comprise a pool of experienced staff with relevant experience, sufficient to cover for sickness / if a staff member leaves. Whilst all project team members bring specific expertise to the work, the loss of one individual could be covered by the remaining members of the team. A team approach with several staff capable of covering most areas will significantly reduce impact if one person is unexpectedly unavailable for a short period of time.
Recruitment	Low	Low	Failure to recruit the required qualified staff is not a risk in this work, as the key specified staff are currently available to work on the proposed project. All the team will be in place and are available to work on this project from the 5 th September 2022 onwards.
IP	Low	Low	The aim of the project is to review publicly available information. There are no expected IP issues.
Infrastructure: Loss of research facilities/resources due to emergency e.g. fire	Low	Low	Since the review will be desk-based work it should not be affected by any loss of specific host research facilities/resources. Back-up systems are in place and loss of access due to an IT network failures etc would only be temporary and not have a major impact in a 16-week project.
Disruption caused by COVID-19	Low	Low	We do not consider COVID-19 to be significant risk to this project. A similar review was carried out by the applicants while COVID-19

			restrictions were in place without any significant impact on that similar project. If restrictions are in place, they shouldn't impact on the project progress too much as the project is desk based and the staff are used to working from home and distance working. Regular teleconferences will be used to maintain team working and cohesion.
Other Risks			The PI will create a risk register at the start of the project, which will be reviewed on a monthly basis to monitor identified risks, to ensure any new risks which may impede the progress of the project are added to the register, and to ensure contingency plans are in place for such events.

7. QUALITY MANAGEMENT

A. QUALITY MANAGEMENT

Please provide details of the measures that will be taken to manage and assure the quality of work. You should upload your Quality Assurance policy in the supporting documents section of your application.

This should include information on the quality assurance (QA) systems, , which have been implemented or are planned, and should be appropriate to the work concerned. All QA systems and procedures should be clear and auditable, and may include compliance with internationally accepted quality standards specified in the ITT e.g. ISO 9001 and ISO17025.

Specific to science projects and where relevant, applicants must indicate whether they would comply with the [Joint Code of Practice for Research](#) (JCoPR). If applicants do not already fully comply with the JCoPR please provide a statement to this effect to provide an explanation of how these requirements will be met. The FSA reserves the right to audit projects against the code and other quality standards

The lead principle investigator is responsible for all work carried out in the project; (including work supplied by sub-contractors) and should therefore ensure that the project is carried out in accordance with the Joint Code of Practice

All members of the team and the organisations that they work for are aware of the requirements of the Joint Code of Practice for Research (JCoPR) and are committed to conducting research projects in accordance with good scientific practice. Having had wide experience of research projects all of the research teams and individuals involved in this project are aware of the need to ensure that all work is quality assured. This will be achieved through ensuring that Project goals and process are achieved in line with the proposed timeline; regular project progress reporting; regular supervision in relation to the Project with the supervisory team; feedback from participants within the Project. This project has been designed to comply with the joint code of practice for research.

Regarding the specific requirements of the Code, the lead PI shall endeavour to ensure that the project is carried out in accordance with the Code in the following ways:

QUALITY ISSUE	EVIDENCE
1. Responsibilities	An organisational structure showing line management responsibilities (organogram) for this project are shown in the tender application. We will consistently maintain and update a list of personnel involved with the project.

	<p>We will have in place a documented agreement with our sub-contractor to adhere to JCoPR and evidence of rationale for appointment.</p> <p>We will maintain files documenting the roles & responsibilities for all project staff (including subcontractors) throughout the project.</p>
2. Personnel competence	<p>Brief CV's of all personnel associated with the project (including subcontractors) are contained within the tender application. Full CV's will be documented at the start of the project.</p> <p>We will maintain relevant, up-to-date training records for all project staff (including evidence showing awareness of obligation to comply with the Code's provisions).</p>
3. Project planning	<p>For this project which involves a critical review of literature, and an in-depth interviews elements ethics approval will be required.</p> <p>Records will be maintained of regular research project meetings that will include reviews of project timetables and plans as outlined in section 2 of the tender application.</p> <p>A proposed project plan with milestones and deliverables is contained in the proposal. This will be reviewed monthly by the research project team. Any changes will be formally agreed with the Agency.</p> <p>Ethical approval documentation is required for the in-depth interview element of this particular project.</p>
4. Quality Control	<p>The main Participant Organisations operate documented internal 'fit for purpose' review procedures</p> <p>The main Participant Organisations maintain records of consistently applied internal audits and any relevant findings and corrective actions to be taken will documented at quarterly project review meetings.</p> <p>The main Participant Organisations maintain an approved publication policy with authorisation procedures.</p>
5. Health & safety	<p>No specific documentation will be required for this particular desk-based project.</p>
6. Handling of samples & materials	<p>Not applicable to this particular desk-based project.</p>
7. Facilities & equipment	<p>A desk-based project of this nature only requires suitable computing, internet access, database access, and data storage facilities, which the main Participant Organisations have. Collected data will be stored on secure independent back-up systems.</p>
8. Documentation of procedures & methods	<p>We maintain a robust process for document and version control in all key project documentation.</p> <p>The Participant Organisations and research teams have carried out a number of similar literature survey projects of this nature and have therefore developed standard operating procedures for carrying out such work.</p>
9. Research/work records	<p>In this project the majority of the data will be collected and stored electronically, and the small amount of paper documentation collected will be scanned and held electronically. All raw data, searches and reports will be stored in a consistent file structure on a range of independent back-up systems. All data will be securely stored and regularly backed-up to secure systems.</p> <p>The main Participant Organisations have consistent and documented archiving procedures.</p>
10. Field-based research	<p>Not applicable to this particular project.</p>

The Principal Investigator and Co-Investigators have considerable experience in research and expertise in the managements of the projects of a similar type, size, and timeframe. The project team, consisting of the following members: [REDACTED]

[REDACTED] will formally meet monthly to discuss progress and make key decisions. In addition, regular informal meetings of the project team will take place to review the progress of the project against plan. The project will also be subject to senior management scrutiny at the University of Lincoln via regular project monitoring meetings that take place monthly to review project's progress and finances.

Researchers at the Universities of Lincoln operate within their Universities Code of Research Practice and conduct regular internal audits of projects.

B. ETHICS

Please identify the key ethical issues for this project and how these will be managed. Please respond to any issues raised in the Specification document

Please describe the ethical issues of any involvement of people, human samples, animal research or personal data in this part. In addition, please describe the ethical review and governance arrangements that would apply to the work done.

Applicants are reminded that, where appropriate, the need to obtain clearance for the proposed project from their local ethics committee. This is the responsibility of the project Lead Applicant. However, if a sub-contractor requires such clearance the project Lead Applicant should ensure that all relevant procedures have been followed. If there are no ethical issues please state this

We do not envisage any major ethical issues other than issues generic to in-depth interviews such as privacy and confidentiality, harm, politic and power, fatigue and informed consent. The University of Lincoln's ethic committee will be involved in the scrutiny of the interview plans and questions and will ensure that all ethics issues raised and highlighted has adequately plans in place to manage them. The interviews will not commence until full approval is given by the committee and a go ahead from the FSA.

All participants for the interview phase of this project will receive full briefing regarding what the project is about, and the project aims and objectives and how the data will be used. Participation will be voluntary, and a consent form will be signed before the commencement of any interview. Also all participants will be informed of their right to raise and discuss any concerns they may have prior to the interview or at any stage during the interview. Participants also have the right to pull out of the interview at any stage of the interview should they wish to. All confidential information and participant details will be completely anonymised, and the participants will be informed of this step. As the interview will be conducted via video call the issue of harm in this case nonexistence, however we are conscious that the length of time for the interview is important to avoid exhaustion or fatigue both for the interviewer and interviewee. We will incorporate breaks in between interviews. Also we have well experience staff who have conducted interviews for research projects such as this, so the issue of interviewer drawing the directions of the interview towards an area the interviewee would rather not discuss can be easily managed. Also as there will be 2 interviewers this issue can be easily managed.

The University of Lincoln ethics teams will review and provide guidance where needed through the project phase and they will ensure all ethics issues have plans in place to manage them.

Also within this project team we have a well experience staff ([REDACTED]) who is current the Ethics lead for his school and contributes to ethics governance at the college and university level.

C. DATA PROTECTION

Please identify any specific data protection issues for this project and how these will be managed. Please respond to any specific issues raised in the Specification document.

Please note that the successful Applicant will be expected to comply with the Data Protection Act (DPA) 2018 and ensure that any information collected, processed and transferred on behalf of the FSA, will be held and transferred securely.

In this part please provide details of the practices and systems which are in place for handling data securely including transmission between the field and head office and then to the FSA. Plans for how data will be deposited (i.e. within a community or institutional database/archive) and/or procedures for the destruction of physical and system data should also be included in this part (this is

particularly relevant for survey data and personal data collected from clinical research trials). The project Lead Applicant will be responsible for ensuring that they and any sub-contractor who processes or handles information on behalf of the FSA are conducted securely.

We do not envisage any specific data protection issues with this project. Of course, any commercially sensitive information obtained from any participating stakeholders will remain confidential. The team will process any personal data provided to them in accordance with the EU General Data Protection Regulation (GDPR), which came in to force on the 25th of May 2018, and any associated or subsequent legislation, Code of Practice or Statutory Instrument. The institutions to which the project team are members have established Data Protection Policies and procedures in accordance with current legislation. This policy applies to all staff, including temporary, casual or agency staff and contractors, consultants, research students, and suppliers working for, or on behalf of, either institution. They will take reasonable precautions to keep such personal data secure and to prevent unauthorised disclosure. Good research practice standards will be applied for the collection, management, and storage of all data collected.

D. SUSTAINABILITY

The Food Standards Agency is committed to improving sustainability in the management of operations. Procurement looks to its suppliers to help achieve this goal. You will need to demonstrate your approach to sustainability, in particular how you will apply it to this project taking into account economic, environmental and social aspects. This will be considered as part of our selection process, and you must upload your organisations sustainability policies into the eligibility criteria in Bravo. Please state what(if any) environmental certification you hold or briefly describe your current Environmental Management System (EMS)

With the world facing an unprecedented rise in global temperatures, the University of Lincoln has been developing a range of approaches to environmental sustainability that aim to reduce any negative effect that our operations may have, and to offer solutions to these challenges through our teaching and research.

Over the last decade ongoing work by University staff and students has resulted in a 34 percent reduction in carbon emissions and many of the University's modules now include an element of sustainability teaching and learning. In May 2019 we declared a Climate Emergency to stand with other organisations taking the future of the planet seriously, and we are working with our staff, students, Students' Union, and wider community to set out our ambitions and approach.

Our sustainability strategy includes three key strands, which categorise the multitude of work taking place within our institution to tackle the climate and ecological emergency. These are: Sustainable Campus; Sustainable Culture; and Collaboration for Change.

As a rapidly growing University with over 14,000 students and 1,500 staff, we know that our activities will have an impact on the environment. This is why we're working to reduce the negative impact of our operations, whilst also finding opportunities to make a positive impact.

In 2019/20, the University was directly responsible for 5753 tonnes of carbon emissions, a 34% reduction from our baseline year of 2009/10. The most significant contributor to the University's carbon footprint is the use of energy in our buildings. In 2019/20, this accounted for 48% of our total carbon emissions (CO₂e).

Our Sustainability team, based in the Estates Department, is working hard to reduce energy consumption and utilise our estate as a resource to improve biodiversity and support environmental sustainability projects. This team supports the University to maintain the internationally recognised ISO14001 standard for Environmental Management, the ISO5001 standard for Energy Management, and the EcoCampus Platinum award.

Key achievements in 2019/20:

- Reduction in carbon emissions by 34% from 2009/10 to 2019/20.

- Achievement of ISO14001 certification and EcoCampus Platinum accreditation for environmental management.
- Collaboration with course leaders on 'live sustainability briefs' for students. These are used as living lab examples of environmental management on the University estate.
- Sustainability integrated within governance and decision-making by including a section on 'impact on environmental sustainability' within decision-making papers for the Senior Leadership Team and the University's Board of Governors.
- The Staff Sustainability Advocate network was expanded to include a total of 54 staff members, who have access to engagement resources, a regular newsletter, quarterly meetings, and ongoing support.
- Joined the national Hedgehog Friendly Campus campaign, achieving the Bronze Award in January 2019 and Silver Award in March 2020.
- Carbon Management Fund capital project delivered to achieve energy savings, including lighting upgrades and energy efficiency works to the Library.

The University of Lincoln's environmental management policy and recet report are attached as zip folder on the Bravo portal.

E. DISSEMINATION AND EXPLOITATION

Where applicable please indicate how you intend to disseminate the results of this project, including written and verbal communication routes if appropriate. Applicants are advised to think carefully about how their research aligns with the FSA strategy, what is the impact that their research has on public health/ consumers and decide how the results can best be communicated to the relevant and appropriate people and organisations in as cost-effective manner as possible. Please provide as much detail as possible on what will be delivered. Any costs associated with this must be documented in the Financial Template.

The applicant should describe plans for the dissemination of the results for the project team as a whole and for individual participants. Details should include anticipated numbers of publications in refereed journals, articles in trade journals etc., presentations or demonstrations to the scientific community, trade organisations and internal reports or publications. Plans to make any information and/or reports available on the internet with the FSA's permission are also useful, however, this does not remove the requirement for Tenderers to think how best to target the output to relevant groups.

If a final report is part of the requirement, please make sure, as part of the executive summary, that aims and results are clear to the general audience and that the impact of the research on public health/consumers and it's alignment to FSA priorities is clearly stated.

Please note that permission to publish or to present findings from work supported by the FSA must be sought in advance from the relevant FSA Project Officer. The financial support of the FSA must also be acknowledged.

Please indicate whether any Intellectual Property (IP) may be generated by this project and how this could be exploited. Please be aware the FSA retains all rights to the intellectual property generated by any contract and where appropriate may exploit the IP generated for the benefit of public health.

In this part Applicants should demonstrate the credibility of the partnership for exploitation of the results and explain the partnership's policy in respect of securing patents or granting licenses for the technology (if applicable). It should deal with any possible agreements between the partners to extend their co-operation in the exploitation phase and with relevant agreements with companies, in particular users, external to the partnership

We are aware of the Agency's commitment to openness and transparency. A full dissemination and exploitation plan will be agreed with the FSA Project Officer during the project. The project report will be presented in 1:3:25 format to ensure that the findings of this project is more accessible and useful for the Agency. The final report will be in an accessible format in line with FSA accessibility guidelines (the project team have recently produced an FSA report and are aware of requirements and experienced in producing a final report that meets FSA requirements). In line with the FSA specification requirements and the Government's Transparency Agenda the underpinning data will be included in the final report and separately in a format that can be used for further analysis, whilst ensuring that details of all participants is fully anonymised. As well as the final project report being published by the Agency, we will agree with the Agency

on appropriate methods to further disseminate the findings of this research to a wider audience prior to the end of the project. A full dissemination and exploitation plan will be agreed with the FSA Project Officer during the project. Example dissemination activities may include:

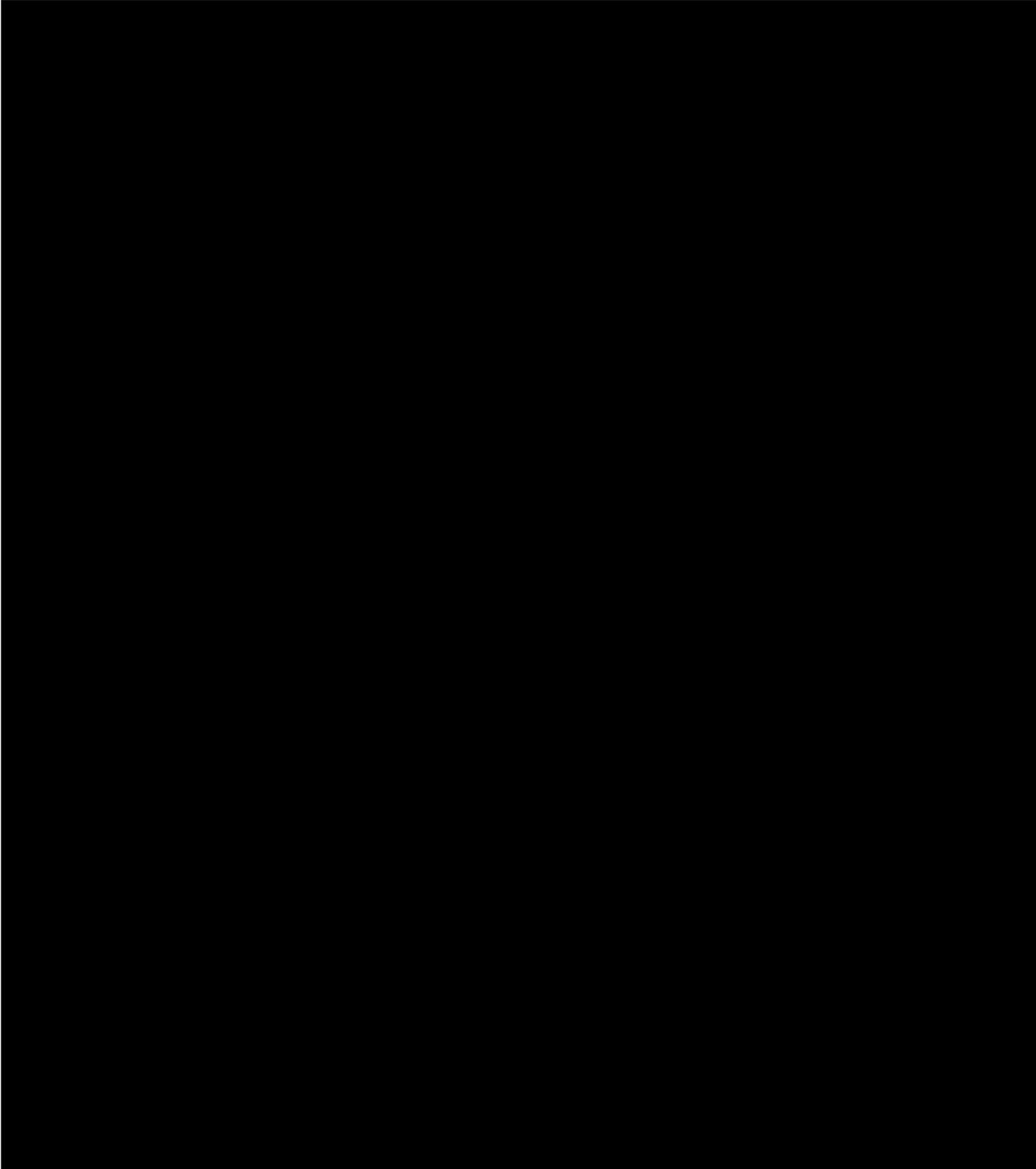
- An executive summary document / press release agreed with the Agency and distributed to key stakeholders.
- Placement of project summaries on the websites of University of Lincoln and TEC Partnership (Grimsby Institute) and The Food Safety Agency which carry articles concerning projects and a source of useful reference data for industry.
- The ultimate findings are expected to be of scientific merit and at least one key paper will be submitted on “a scientific journal for consideration for publication in a suitable open access peer-reviewed journal.
- The presentation of results at any FSA conference, workshop, seminar, or related event, as required.
- Assisting the FSA in producing documents involved in the publication of the study findings which will include a Q&A document and providing comments on any news stories.

The findings of this research will be disseminated bearing these points in mind:

- The findings from throughout this project will be finalised and made public only after agreement of the FSA Project Officer has been obtained.
- Any presentation of findings will include full acknowledgement of the funder (FSA) as providing financial support.

The aim of the project is to review publicly available information. It is not expected that any Intellectual Property (IP) will be generated by this project.

Annex 4 - Charges





Total Project Costs (excluding VAT) **	£ 52,945.57
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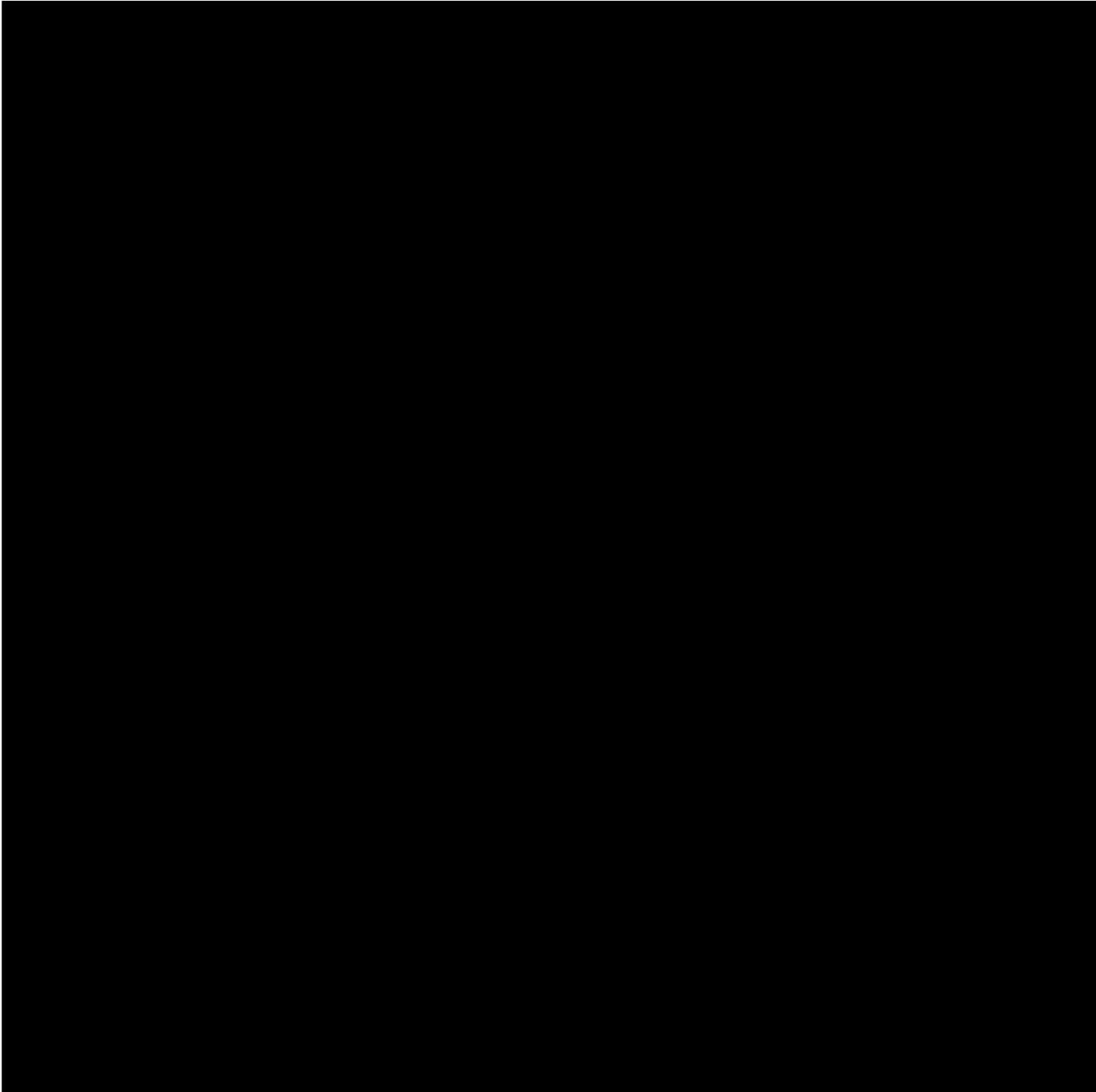
[Redacted content]

Project Costs Summary (Automatically calculated)

[Redacted content]

Total Project Costs	£ 52,945.57
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Staff Costs Table



***Please provide full details below of how you have calculated your total overhead costs**



Consumable/Equipment Costs

Please provide a breakdown of the consumables/equipment items you expect to consume during the project

[Redacted content]

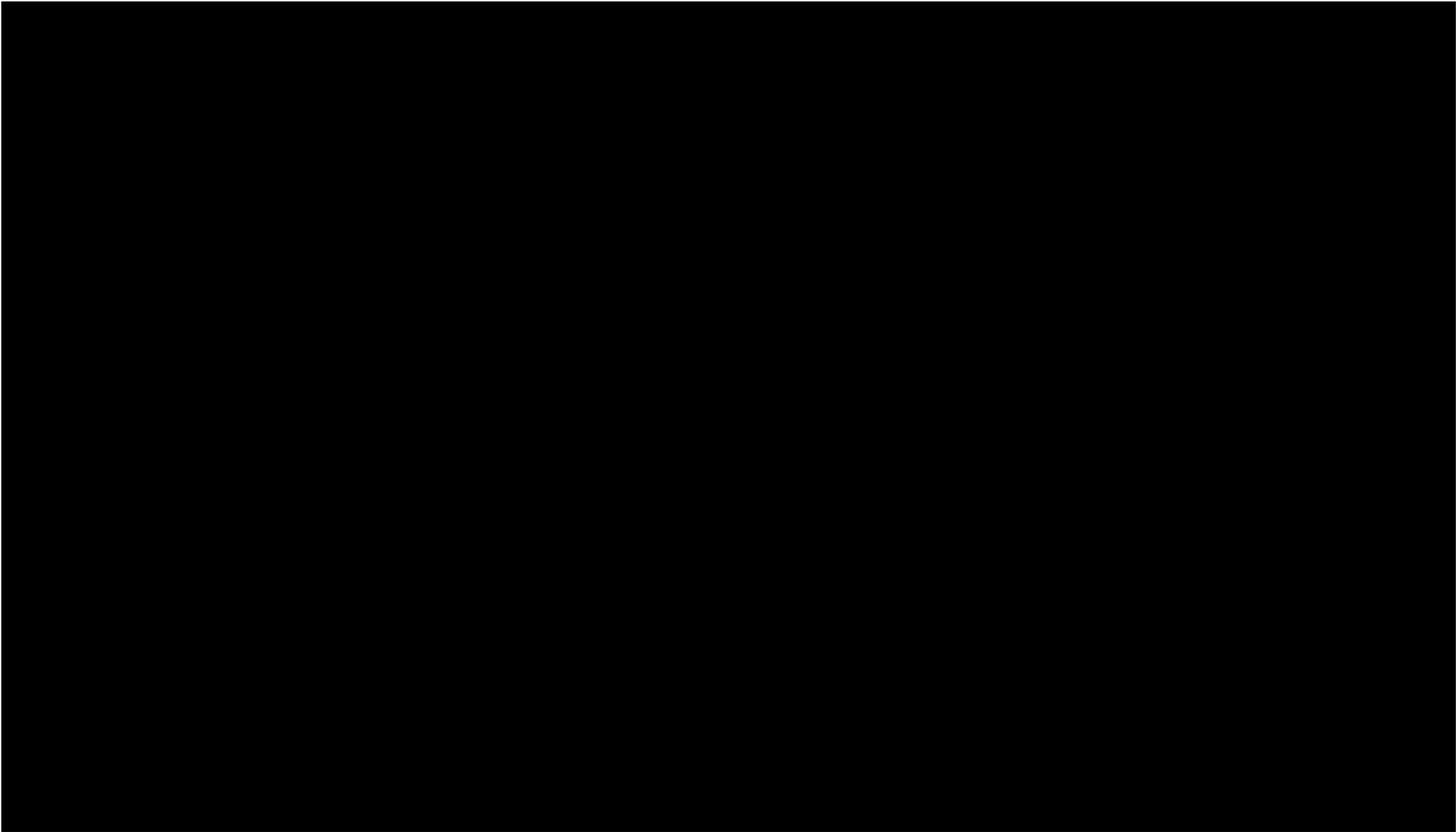
The Pricing Schedule

Please complete a proposed schedule of payments below, **excluding VAT** to be charged by any subcontractors to the project lead applicant. This must add up to the same value as detailed in the Summary of project costs to FSA including participating organisations costs.

Where differing rates of VAT apply against the deliverables please provide details on separate lines.

Please link all deliverables (singly or grouped) to each payment. Please ensure that deliverable numbers are given as well as a brief description e.g. Deliverable 01/02: interim report submitted to the FSA, monthly report, interim report, final report

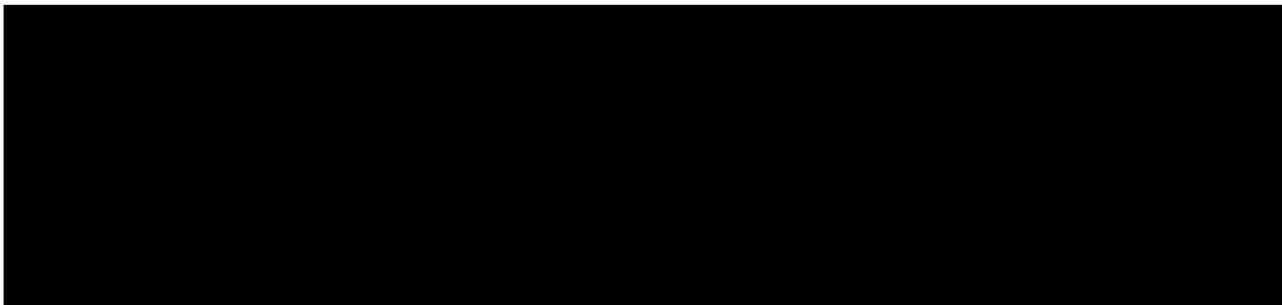
Payment will be made to the Contractor, as per the schedule of payments upon satisfactory completion of the deliverables.



Total	£ 52,945.57
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* Please insert the amount to be invoiced net of any VAT for each deliverable
** Please insert the applicable rate of VAT for each deliverable
*** 20% of the total project budget is withheld and will be paid upon acceptance of a satisfactory final report by the agency.
§The number of weeks after project commencement for the deliverable to be completed

Summary of Payments



Short form Terms

1. Definitions used in the Contract

In this Contract, unless the context otherwise requires, the following words shall have the following meanings:

"Central Government Body"	means a body listed in one of the following sub-categories of the Central Government classification of the Public Sector Classification Guide, as published and amended from time to time by the Office for National Statistics: a) Government Department; b) Non-Departmental Public Body or Assembly Sponsored Public Body (advisory, executive, or tribunal); c) Non-Ministerial Department; or d) Executive Agency;
"Charges"	means the charges for the Deliverables as specified in the Order Form;
"Confidential Information"	means all information, whether written or oral (however recorded), provided by the disclosing Party to the receiving Party and which (i) is known by the receiving Party to be confidential; (ii) is marked as or stated to be confidential; or (iii) ought reasonably to be considered by the receiving Party to be confidential;
"Contract"	means the contract between (i) the Buyer and (ii) the Supplier which is created by the Supplier's counter signing the Order Form and includes the Order Form and Annexes;
"Controller"	has the meaning given to it in the GDPR;
"Buyer"	means the person identified in the letterhead of the Order Form;
"Date of Delivery"	means that date by which the Deliverables must be delivered to the Buyer, as specified in the Order Form;
"Buyer Cause"	any breach of the obligations of the Buyer or any other default, act, omission, negligence or statement of the Buyer, of its employees, servants, agents in connection with or in relation to the subject-matter of the Contract and in respect of which the Buyer is liable to the Supplier;
"Data Protection Legislation"	(i) the GDPR, the LED and any applicable national implementing Laws as amended from time to time (ii) the Data Protection Act 2018 to the extent that it relates to processing

"Data Protection Impact Assessment"	of personal data and privacy; (iii) all applicable Law about the processing of personal data and privacy; an assessment by the Controller of the impact of the envisaged processing on the protection of Personal Data;
"Data Protection Officer"	has the meaning given to it in the GDPR;
"Data Subject"	has the meaning given to it in the GDPR;
"Data Loss Event"	any event that results, or may result, in unauthorised access to Personal Data held by the Supplier under this Contract, and/or actual or potential loss and/or destruction of Personal Data in breach of this Contract, including any Personal Data Breach;
"Data Subject Access Request"	a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data;
"Deliver"	means hand over the Deliverables to the Buyer at the address and on the date specified in the Order Form, which shall include unloading and any other specific arrangements agreed in accordance with Clause []. Delivered and Delivery shall be construed accordingly;
"Existing IPR"	any and all intellectual property rights that are owned by or licensed to either Party and which have been developed independently of the Contract (whether prior to the date of the Contract or otherwise);
"Expiry Date"	means the date for expiry of the Contract as set out in the Order Form;
"FOIA"	means the Freedom of Information Act 2000 together with any guidance and/or codes of practice issued by the Information Commissioner or relevant Government department in relation to such legislation;
"Force Majeure Event"	any event, occurrence, circumstance, matter or cause affecting the performance by either Party of its obligations under the Contract arising from acts, events, omissions, happenings or non-happenings beyond its reasonable control which prevent or materially delay it from performing its obligations under the Contract but excluding: i) any industrial dispute relating to the Supplier, the Supplier Staff (including any subsets of them) or any other failure in the Supplier or the Subcontractor's supply chain; ii) any event, occurrence, circumstance, matter or cause which is attributable to the wilful act, neglect or failure to take reasonable precautions against it by the Party concerned; and iii) any failure of delay caused by a lack of funds;

"GDPR"	the General Data Protection Regulation (Regulation (EU) 2016/679);
"Goods"	means the goods to be supplied by the Supplier to the Buyer under the Contract;
"Good Industry Practice"	standards, practices, methods and procedures conforming to the law and the exercise of the degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person or body engaged within the relevant industry or business sector;
"Government Data"	a) the data, text, drawings, diagrams, images or sounds (together with any database made up of any of these) which are embodied in any electronic, magnetic, optical or tangible media, including any of the Buyer's confidential information, and which: i) are supplied to the Supplier by or on behalf of the Buyer; or ii) the Supplier is required to generate, process, store or transmit pursuant to the Contract; or b) any Personal Data for which the Buyer is the Data Controller;
"Information"	has the meaning given under section 84 of the FOIA;
"Information Commissioner"	the UK's independent authority which deals with ensuring information relating to rights in the public interest and data privacy for individuals is met, whilst promoting openness by public bodies;
"Insolvency Event"	in respect of a person: a) if that person is insolvent; ii) if an order is made or a resolution is passed for the winding up of the person (other than voluntarily for the purpose of solvent amalgamation or reconstruction); iii) if an administrator or administrative receiver is appointed in respect of the whole or any part of the persons assets or business; iv) if the person makes any composition with its creditors or takes or suffers any similar or analogous action to any of the actions detailed in this definition as a result of debt in any jurisdiction;
"Key Personnel"	means any persons specified as such in the Order Form or otherwise notified as such by the Buyer to the Supplier in writing;
"LED"	Law Enforcement Directive (Directive (EU) 2016/680);
"New IPR"	all and intellectual property rights in any materials created or developed by or on behalf of the Supplier pursuant to the Contract but shall not include the Supplier's Existing IPR;
"Order Form"	means the letter from the Buyer to the Supplier printed above these terms and conditions;
"Party"	the Supplier or the Buyer (as appropriate) and "Parties" shall mean both of them;
"Personal Data"	has the meaning given to it in the GDPR;

"Personal Data Breach"	has the meaning given to it in the GDPR;
"Processor"	has the meaning given to it in the GDPR;
"Purchase Order Number"	means the Buyer's unique number relating to the order for Deliverables to be supplied by the Supplier to the Buyer in accordance with the terms of the Contract;
"Regulations"	the Public Contracts Regulations 2015 and/or the Public Contracts (Scotland) Regulations 2015 (as the context requires) as amended from time to time;
"Request for Information"	has the meaning set out in the FOIA or the Environmental Information Regulations 2004 as relevant (where the meaning set out for the term "request" shall apply);
"Services"	means the services to be supplied by the Supplier to the Buyer under the Contract;
"Specification"	means the specification for the Deliverables to be supplied by the Supplier to the Buyer (including as to quantity, description and quality) as specified in the Order Form;
"Staff"	means all directors, officers, employees, agents, consultants and contractors of the Supplier and/or of any sub-contractor of the Supplier engaged in the performance of the Supplier's obligations under the Contract;
"Staff Vetting Procedures"	means vetting procedures that accord with good industry practice or, where applicable, the Buyer's procedures for the vetting of personnel as provided to the Supplier from time to time;
"Subprocessor"	any third Party appointed to process Personal Data on behalf of the Supplier related to the Contract;
"Supplier Staff"	all directors, officers, employees, agents, consultants and contractors of the Supplier and/or of any Subcontractor engaged in the performance of the Supplier's obligations under a Contract;
"Supplier"	means the person named as Supplier in the Order Form;
"Term"	means the period from the start date of the Contract set out in the Order Form to the Expiry Date as such period may be extended in accordance with clause [] or terminated in accordance with the terms and conditions of the Contract;
"US-EU Privacy Shield Register"	a list of companies maintained by the United States of America Department for Commerce that have self-certified their commitment to adhere to the European legislation relating to the processing of personal data to non-EU countries which is available online at: https://www.privacyshield.gov/list ;

"VAT"	means value added tax in accordance with the provisions of the Value Added Tax Act 1994;
"Workers"	any one of the Supplier Staff which the Buyer, in its reasonable opinion, considers is an individual to which Procurement Policy Note 08/15 (Tax Arrangements of Public Appointees) (https://www.gov.uk/government/publications/procurement-policy-note-0815-tax-arrangements-of-appointees) applies in respect of the Deliverables;
"Working Day"	means a day (other than a Saturday or Sunday) on which banks are open for business in the City of London.

2. Understanding the Contract

In the Contract, unless the context otherwise requires:

- 2.1 references to numbered clauses are references to the relevant clause in these terms and conditions;
- 2.2 any obligation on any Party not to do or omit to do anything shall include an obligation not to allow that thing to be done or omitted to be done;
- 2.3 the headings in this Contract are for information only and do not affect the interpretation of the Contract;
- 2.4 references to "writing" include printing, display on a screen and electronic transmission and other modes of representing or reproducing words in a visible form;
- 2.5 the singular includes the plural and vice versa;
- 2.6 a reference to any law includes a reference to that law as amended, extended, consolidated or re-enacted from time to time and to any legislation or bylaw made under that law; and
- 2.7 the word 'including', "for example" and similar words shall be understood as if they were immediately followed by the words "without limitation".

3. How the Contract works

- 3.1 The Order Form is an offer by the Buyer to purchase the Deliverables subject to and in accordance with the terms and conditions of the Contract.
- 3.2 The Supplier is deemed to accept the offer in the Order Form when the Buyer receives a copy of the Order Form signed by the Supplier.
- 3.3 The Supplier warrants and represents that its tender and all statements made and documents submitted as part of the procurement of Deliverables are and remain true and accurate.

4. What needs to be delivered

4.1 All Deliverables

- (a) The Supplier must provide Deliverables: (i) in accordance with the Specification; (ii) to a professional standard; (iii) using reasonable skill and care; (iv) using Good Industry Practice; (v) using its own policies, processes and internal quality control measures as long as they don't conflict with the Contract; (vi) on the dates agreed; and (vii) that comply with all law.
- (b) The Supplier must provide Deliverables with a warranty of at least 90 days (or longer where the Supplier offers a longer warranty period to its Buyers) from Delivery against all obvious defects.

4.2 Goods clauses

- (a) All Goods delivered must be new, or as new if recycled, unused and of recent origin.
- (b) All manufacturer warranties covering the Goods must be assignable to the Buyer on request and for free.
- (c) The Supplier transfers ownership of the Goods on completion of delivery (including off-loading and stacking) or payment for those Goods, whichever is earlier.
- (d) Risk in the Goods transfers to the Buyer on delivery, but remains with the Supplier if the Buyer notices damage following delivery and lets the Supplier know within three Working Days of delivery.
- (e) The Supplier warrants that it has full and unrestricted ownership of the Goods at the time of transfer of ownership.
- (f) The Supplier must deliver the Goods on the date and to the specified location during the Buyer's working hours.
- (g) The Supplier must provide sufficient packaging for the Goods to reach the point of delivery safely and undamaged.
- (h) All deliveries must have a delivery note attached that specifies the order number, type and quantity of Goods.
- (i) The Supplier must provide all tools, information and instructions the Buyer needs to make use of the Goods.
- (j) The Supplier will notify the Buyer of any request that Goods are returned to it or the manufacturer after the discovery of safety issues or defects that might endanger health or hinder performance and shall indemnify the Buyer against the costs arising as a result of any such request.
- (k) The Buyer can cancel any order or part order of Goods which has not been delivered. If the Buyer gives less than 14 days' notice then it will pay the Supplier's reasonable and proven costs already incurred on the cancelled order as long as the Supplier takes all reasonable steps to minimise these costs.
- (l) The Supplier must at its own cost repair, replace, refund or substitute (at the Buyer's option and request) any Goods that the Buyer rejects because they don't conform with clause 4.2. If the Supplier doesn't do this it will pay the Buyer's costs including repair or re-supply by a third party.
- (m) The Buyer will not be liable for any actions, claims, costs and expenses incurred by the Supplier or any third party during delivery of the Goods unless and to the extent that it is caused by negligence or other wrongful act of the Buyer or its servant or agent. If the Buyer suffers or incurs any damage or injury (whether fatal or otherwise) occurring in the course of delivery or

installation then the Supplier shall indemnify from any losses, charges costs or expenses which arise as a result of or in connection with such damage or injury where it is attributable to any act or omission of the Supplier or any of its [sub-suppliers].

4.3 Services clauses

- (a) Late delivery of the Services will be a default of the Contract.
- (b) The Supplier must co-operate with the Buyer and third party suppliers on all aspects connected with the delivery of the Services and ensure that Supplier Staff comply with any reasonable instructions including any security requirements.
- (c) The Buyer must provide the Supplier with reasonable access to its premises at reasonable times for the purpose of supplying the Services
- (d) The Supplier must at its own risk and expense provide all equipment required to deliver the Services. Any equipment provided by the Buyer to the Supplier for supplying the Services remains the property of the Buyer and is to be returned to the Buyer on expiry or termination of the Contract.
- (e) The Supplier must allocate sufficient resources and appropriate expertise to the Contract.
- (f) The Supplier must take all reasonable care to ensure performance does not disrupt the Buyer's operations, employees or other contractors.
- (g) On completion of the Services, the Supplier is responsible for leaving the Buyer's premises in a clean, safe and tidy condition and making good any damage that it has caused to the Buyer's premises or property, other than fair wear and tear.
- (h) The Supplier must ensure all Services, and anything used to deliver the Services, are of good quality [and free from defects].
- (i) The Buyer is entitled to withhold payment for partially or undelivered Services, but doing so does not stop it from using its other rights under the Contract.

5. Pricing and payments

- 5.1 In exchange for the Deliverables, the Supplier shall be entitled to invoice the Buyer for the charges in the Order Form. The Supplier shall raise invoices promptly and in any event within 90 days from when the charges are due.
- 5.2 All Charges:
 - (a) exclude VAT, which is payable on provision of a valid VAT invoice;
 - (b) include all costs connected with the supply of Deliverables.
- 5.3 The Buyer must pay the Supplier the charges within 30 days of receipt by the Buyer of a valid, undisputed invoice, in cleared funds to the Supplier's account stated in the Order Form.
- 5.4 A Supplier invoice is only valid if it:
 - (a) includes all appropriate references including the Purchase Order Number and other details reasonably requested by the Buyer;
 - (b) includes a detailed breakdown of Deliverables which have been delivered (if any).

- 5.5 If there is a dispute between the Parties as to the amount invoiced, the Buyer shall pay the undisputed amount. The Supplier shall not suspend the provision of the Deliverables unless the Supplier is entitled to terminate the Contract for a failure to pay undisputed sums in accordance with clause 11.6. Any disputed amounts shall be resolved through the dispute resolution procedure detailed in clause 33.
- 5.6 The Buyer may retain or set-off payment of any amount owed to it by the Supplier if notice and reasons are provided.
- 5.7 The Supplier must ensure that all subcontractors are paid, in full, within 30 days of receipt of a valid, undisputed invoice. If this doesn't happen, the Buyer can publish the details of the late payment or non-payment.

6. The Buyer's obligations to the Supplier

- 6.1 If Supplier fails to comply with the Contract as a result of a Buyer Cause:
- (a) the Buyer cannot terminate the Contract under clause 11;
 - (b) the Supplier is entitled to reasonable and proven additional expenses and to relief from liability under this Contract;
 - (c) the Supplier is entitled to additional time needed to deliver the Deliverables;
 - (d) the Supplier cannot suspend the ongoing supply of Deliverables.
- 6.2 Clause 6.1 only applies if the Supplier:
- (a) gives notice to the Buyer within 10 Working Days of becoming aware;
 - (b) demonstrates that the failure only happened because of the Buyer Cause;
 - (c) mitigated the impact of the Buyer Cause.

7. Record keeping and reporting

- 7.1 The Supplier must ensure that suitably qualified representatives attend progress meetings with the Buyer and provide progress reports when specified in the Order Form.
- 7.2 The Supplier must keep and maintain full and accurate records and accounts on everything to do with the Contract for seven years after the date of expiry or termination of the Contract.
- 7.3 The Supplier must allow any auditor appointed by the Buyer access to their premises to verify all contract accounts and records of everything to do with the Contract and provide copies for the audit.
- 7.4 The Supplier must provide information to the auditor and reasonable co-operation at their request.
- 7.5 If the Supplier is not providing any of the Deliverables, or is unable to provide them, it must immediately:
- (a) tell the Buyer and give reasons;
 - (b) propose corrective action;
 - (c) provide a deadline for completing the corrective action.

- 7.6 If the Buyer, acting reasonably, is concerned as to the financial stability of the Supplier such that it may impact on the continued performance of the Contract then the Buyer may:
- (a) require that the Supplier provide to the Buyer (for its approval) a plan setting out how the Supplier will ensure continued performance of the Contract and the Supplier will make changes to such plan as reasonably required by the Buyer and once it is agreed then the Supplier shall act in accordance with such plan and report to the Buyer on demand
 - (b) if the Supplier fails to provide a plan or fails to agree any changes which are requested by the Buyer or fails to implement or provide updates on progress with the plan, terminate the Contract immediately for material breach (or on such date as the Buyer notifies).

8. Supplier staff

- 8.1 The Supplier Staff involved in the performance of the Contract must:
- (a) be appropriately trained and qualified;
 - (b) be vetted using Good Industry Practice
 - (c) comply with all conduct requirements when on the Buyer's premises.
- 8.2 Where a Buyer decides one of the Supplier's Staff isn't suitable to work on the Contract, the Supplier must replace them with a suitably qualified alternative.
- 8.3 If requested, the Supplier must replace any person whose acts or omissions have caused the Supplier to breach clause 8.
- 8.4 The Supplier must provide a list of Supplier Staff needing to access the Buyer's premises and say why access is required.
- 8.5 The Supplier indemnifies the Buyer against all claims brought by any person employed by the Supplier caused by an act or omission of the Supplier or any Supplier Staff.
- 8.6 The Supplier shall use those persons nominated in the Order Form (if any) to provide the Deliverables and shall not remove or replace any of them unless:
- (a) requested to do so by the Buyer (not to be unreasonably withheld or delayed);
 - (b) the person concerned resigns, retires or dies or is on maternity or long-term sick leave; or
 - (c) the person's employment or contractual arrangement with the Supplier or any subcontractor is terminated for material breach of contract by the employee.

9. Rights and protection

- 9.1 The Supplier warrants and represents that:
- (a) it has full capacity and authority to enter into and to perform the Contract;
 - (b) the Contract is executed by its authorised representative;
 - (c) it is a legally valid and existing organisation incorporated in the place it was formed;

- (d) there are no known legal or regulatory actions or investigations before any court, administrative body or arbitration tribunal pending or threatened against it or its affiliates that might affect its ability to perform the Contract;
 - (e) it maintains all necessary rights, authorisations, licences and consents to perform its obligations under the Contract;
 - (f) it doesn't have any contractual obligations which are likely to have a material adverse effect on its ability to perform the Contract; and
 - (g) it is not impacted by an Insolvency Event.
- 9.2 The warranties and representations in clause 9.1 are repeated each time the Supplier provides Deliverables under the Contract.
- 9.3 The Supplier indemnifies the Buyer against each of the following:
- (a) wilful misconduct of the Supplier, any of its subcontractor and/or Supplier Staff that impacts the Contract;
 - (b) non-payment by the Supplier of any tax or National Insurance.
- 9.4 If the Supplier becomes aware of a representation or warranty that becomes untrue or misleading, it must immediately notify the Buyer.
- 9.5 All third party warranties and indemnities covering the Deliverables must be assigned for the Buyer's benefit by the Supplier.

10. Intellectual Property Rights (IPRs)

- 10.1 Each Party keeps ownership of its own Existing IPRs. The Supplier gives the Buyer a non-exclusive, perpetual, royalty-free, irrevocable, transferable worldwide licence to use, change and sub-license the Supplier's Existing IPR to enable it and its sub-licensees to both:
- (a) receive and use the Deliverables;
 - (b) use the New IPR.
- 10.2 Any New IPR created under the Contract is owned by the Buyer. The Buyer gives the Supplier a licence to use any Existing IPRs for the purpose of fulfilling its obligations under the Contract and a perpetual, royalty-free, non-exclusive licence to use any New IPRs.
- 10.3 Where a Party acquires ownership of intellectual property rights incorrectly under this Contract it must do everything reasonably necessary to complete a transfer assigning them in writing to the other Party on request and at its own cost.
- 10.4 Neither Party has the right to use the other Party's intellectual property rights, including any use of the other Party's names, logos or trademarks, except as provided in clause 10 or otherwise agreed in writing.
- 10.5 If any claim is made against the Buyer for actual or alleged infringement of a third party's intellectual property arising out of, or in connection with, the supply or use of the Deliverables (an "**IPR Claim**"), then the Supplier indemnifies the Buyer against all losses, damages, costs or expenses (including professional fees and fines) incurred as a result of the IPR Claim.

- 10.6 If an IPR Claim is made or anticipated the Supplier must at its own expense and the Buyer's sole option, either:
- (a) obtain for the Buyer the rights in clauses 10.1 and 10.2 without infringing any third party intellectual property rights;
 - (b) replace or modify the relevant item with substitutes that don't infringe intellectual property rights without adversely affecting the functionality or performance of the Deliverables.

11. Ending the contract

- 11.1 The Contract takes effect on the date of or (if different) the date specified in the Order Form and ends on the earlier of the date of expiry or termination of the Contract or earlier if required by Law.

- 11.2 The Buyer can extend the Contract where set out in the Order Form in accordance with the terms in the Order Form.

11.3 Ending the Contract without a reason

The Buyer has the right to terminate the Contract at any time without reason or liability by giving the Supplier not less than 90 days' written notice and if it's terminated clause 11.5(b) to 11.5(g) applies.

11.4 When the Buyer can end the Contract

- (a) If any of the following events happen, the Buyer has the right to immediately terminate its Contract by issuing a termination notice in writing to the Supplier:
 - (i) there's a Supplier Insolvency Event;
 - (ii) if the Supplier repeatedly breaches the Contract in a way to reasonably justify the opinion that its conduct is inconsistent with it having the intention or ability to give effect to the terms and conditions of the Contract;
 - (iii) if the Supplier is in material breach of any obligation which is capable of remedy, and that breach is not remedied within 30 days of the Supplier receiving notice specifying the breach and requiring it to be remedied;
 - (iv) there's a change of control (within the meaning of section 450 of the Corporation Tax Act 2010) of the Supplier which isn't pre-approved by the Buyer in writing;
 - (v) if the Buyer discovers that the Supplier was in one of the situations in 57(1) or 57(2) of the Regulations at the time the Contract was awarded;
 - (vi) the Court of Justice of the European Union uses Article 258 of the Treaty on the Functioning of the European Union (TFEU) to declare that the Contract should not have been awarded to the Supplier because of a serious breach of the TFEU or the Regulations;
 - (vii) the Supplier or its affiliates embarrass or bring the Buyer into disrepute or diminish the public trust in them.
- (b) If any of the events in 73(1) (a) to (c) of the Regulations (substantial modification, exclusion of the Supplier, procurement infringement) happen, the Buyer has the right to immediately terminate the Contract and clause 11.5(b) to 11.5(g) applies.

11.5 What happens if the Contract ends

Where the Buyer terminates the Contract under clause 11.4(a) all of the following apply:

- (a) the Supplier is responsible for the Buyer's reasonable costs of procuring replacement deliverables for the rest of the term of the Contract;
- (b) the Buyer's payment obligations under the terminated Contract stop immediately;
- (c) accumulated rights of the Parties are not affected;
- (d) the Supplier must promptly delete or return the Government Data except where required to retain copies by law;
- (e) the Supplier must promptly return any of the Buyer's property provided under the Contract;
- (f) the Supplier must, at no cost to the Buyer, give all reasonable assistance to the Buyer and any incoming supplier and co-operate fully in the handover and re-procurement;
- (g) the following clauses survive the termination of the Contract: [3.2.10, 6, 7.2, 9, 11, 14, 15, 16, 17, 18, 34, 35] and any clauses which are expressly or by implication intended to continue.

11.6 When the Supplier can end the Contract

- (a) The Supplier can issue a reminder notice if the Buyer does not pay an undisputed invoice on time. The Supplier can terminate the Contract if the Buyer fails to pay an undisputed invoiced sum due and worth over 10% of the total Contract value or £1,000, whichever is the lower, within 30 days of the date of the reminder notice.
- (b) If a Supplier terminates the Contract under clause 11.6(a):
 - (i) the Buyer must promptly pay all outstanding charges incurred to the Supplier;
 - (ii) the Buyer must pay the Supplier reasonable committed and unavoidable losses as long as the Supplier provides a fully itemised and costed schedule with evidence - the maximum value of this payment is limited to the total sum payable to the Supplier if the Contract had not been terminated;
 - (iii) clauses 11.5(d) to 11.5(g) apply.

11.7 Partially ending and suspending the Contract

- (a) Where the Buyer has the right to terminate the Contract it can terminate or suspend (for any period), all or part of it. If the Buyer suspends the Contract it can provide the Deliverables itself or buy them from a third party.
- (b) The Buyer can only partially terminate or suspend the Contract if the remaining parts of it can still be used to effectively deliver the intended purpose.
- (c) The Parties must agree (in accordance with clause 24) any necessary variation required by clause 11.7, but the Supplier may not either:
 - (i) reject the variation;
 - (ii) increase the Charges, except where the right to partial termination is under clause 11.3.
- (d) The Buyer can still use other rights available, or subsequently available to it if it acts on its rights under clause 11.7.

12. How much you can be held responsible for

- 12.1 Each Party's total aggregate liability under or in connection with the Contract (whether in tort, contract or otherwise) is no more than 125% of the Charges paid or payable to the Supplier.
- 12.2 No Party is liable to the other for:
- (a) any indirect losses;
 - (b) loss of profits, turnover, savings, business opportunities or damage to goodwill (in each case whether direct or indirect).
- 12.3 In spite of clause 12.1, neither Party limits or excludes any of the following:
- (a) its liability for death or personal injury caused by its negligence, or that of its employees, agents or subcontractors;
 - (b) its liability for bribery or fraud or fraudulent misrepresentation by it or its employees;
 - (c) any liability that cannot be excluded or limited by law.
- 12.4 In spite of clause 12.1, the Supplier does not limit or exclude its liability for any indemnity given under clauses 4.2(j), 4.2(m), 8.5, 9.3, 10.5, 13.2, 14.26(e) or 30.2(b).
- 12.5 Each Party must use all reasonable endeavours to mitigate any loss or damage which it suffers under or in connection with the Contract, including any indemnities.
- 12.6 If more than one Supplier is party to the Contract, each Supplier Party is fully responsible for both their own liabilities and the liabilities of the other Suppliers.

13. Obeying the law

- 13.1 The Supplier must, in connection with provision of the Deliverables, use reasonable endeavours to:
- (a) comply and procure that its subcontractors comply with the Supplier Code of Conduct appearing at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779660/20190220-Supplier_Code_of_Conduct.pdf and such other corporate social responsibility requirements as the Buyer may notify to the Supplier from time to time;
 - (b) support the Buyer in fulfilling its Public Sector Equality duty under S149 of the Equality Act 2010;
 - (c) not use nor allow its subcontractors to use modern slavery, child labour or inhumane treatment;
 - (d) meet the applicable Government Buying Standards applicable to Deliverables which can be found online at: <https://www.gov.uk/government/collections/sustainable-procurement-the-government-buying-standards-gbs>
- 13.2 The Supplier indemnifies the Buyer against any costs resulting from any default by the Supplier relating to any applicable law to do with the Contract.
- 13.3 The Supplier must appoint a Compliance Officer who must be responsible for ensuring that the Supplier complies with Law, Clause 13.1 and Clauses 27 to 32

13.4 "Compliance Officer" the person(s) appointed by the Supplier who is responsible for ensuring that the Supplier complies with its legal obligations;

14. Data protection

14.1 The Buyer is the Controller and the Supplier is the Processor for the purposes of the Data Protection Legislation.

14.2 The Supplier must process Personal Data and ensure that Supplier Staff process Personal Data only in accordance with this Contract.

14.3 The Supplier must not remove any ownership or security notices in or relating to the Government Data.

14.4 The Supplier must make accessible back-ups of all Government Data, stored in an agreed off-site location and send the Buyer copies every six Months.

14.5 The Supplier must ensure that any Supplier system holding any Government Data, including back-up data, is a secure system that complies with the security requirements specified [in writing] by the Buyer.

14.6 If at any time the Supplier suspects or has reason to believe that the Government Data provided under the Contract is corrupted, lost or sufficiently degraded, then the Supplier must notify the Buyer and immediately suggest remedial action.

14.7 If the Government Data is corrupted, lost or sufficiently degraded so as to be unusable the Buyer may either or both:

- (a) tell the Supplier to restore or get restored Government Data as soon as practical but no later than five Working Days from the date that the Buyer receives notice, or the Supplier finds out about the issue, whichever is earlier;
- (b) restore the Government Data itself or using a third party.

14.8 The Supplier must pay each Party's reasonable costs of complying with clause 14.7 unless the Buyer is at fault.

14.9 Only the Buyer can decide what processing of Personal Data a Supplier can do under the Contract and must specify it for the Contract using the template in Annex 1 of the Order Form (*Authorised Processing*).

14.10 The Supplier must only process Personal Data if authorised to do so in the Annex to the Order Form (*Authorised Processing*) by the Buyer. Any further written instructions relating to the processing of Personal Data are incorporated into Annex 1 of the Order Form.

14.11 The Supplier must give all reasonable assistance to the Buyer in the preparation of any Data Protection Impact Assessment before starting any processing, including:

- (a) a systematic description of the expected processing and its purpose;
- (b) the necessity and proportionality of the processing operations;
- (c) the risks to the rights and freedoms of Data Subjects;
- (d) the intended measures to address the risks, including safeguards, security measures and mechanisms to protect Personal Data.

- 14.12 The Supplier must notify the Buyer immediately if it thinks the Buyer's instructions breach the Data Protection Legislation.
- 14.13 The Supplier must put in place appropriate Protective Measures to protect against a Data Loss Event which must be approved by the Buyer.
- 14.14 If lawful to notify the Buyer, the Supplier must notify it if the Supplier is required to process Personal Data by Law promptly and before processing it.
- 14.15 The Supplier must take all reasonable steps to ensure the reliability and integrity of any Supplier Staff who have access to the Personal Data and ensure that they:
- (a) are aware of and comply with the Supplier's duties under this clause 11;
 - (b) are subject to appropriate confidentiality undertakings with the Supplier or any Subprocessor;
 - (c) are informed of the confidential nature of the Personal Data and do not provide any of the Personal Data to any third Party unless directed in writing to do so by the Buyer or as otherwise allowed by the Contract;
 - (d) have undergone adequate training in the use, care, protection and handling of Personal Data.
- 14.16 The Supplier must not transfer Personal Data outside of the EU unless all of the following are true:
- (a) it has obtained prior written consent of the Buyer;
 - (b) the Buyer has decided that there are appropriate safeguards (in accordance with Article 46 of the GDPR);
 - (c) the Data Subject has enforceable rights and effective legal remedies when transferred;
 - (d) the Supplier meets its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred;
 - (e) where the Supplier is not bound by Data Protection Legislation it must use its best endeavours to help the Buyer meet its own obligations under Data Protection Legislation; and
 - (f) the Supplier complies with the Buyer's reasonable prior instructions about the processing of the Personal Data.
- 14.17 The Supplier must notify the Buyer immediately if it:
- (a) receives a Data Subject Access Request (or purported Data Subject Access Request);
 - (b) receives a request to rectify, block or erase any Personal Data;
 - (c) receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;
 - (d) receives any communication from the Information Commissioner or any other regulatory authority in connection with Personal Data processed under this Contract;
 - (e) receives a request from any third Party for disclosure of Personal Data where compliance with the request is required or claims to be required by Law;
 - (f) becomes aware of a Data Loss Event.

- 14.18 Any requirement to notify under clause 14.17 includes the provision of further information to the Buyer in stages as details become available.
- 14.19 The Supplier must promptly provide the Buyer with full assistance in relation to any Party's obligations under Data Protection Legislation and any complaint, communication or request made under clause 14.17. This includes giving the Buyer:
- (a) full details and copies of the complaint, communication or request;
 - (b) reasonably requested assistance so that it can comply with a Data Subject Access Request within the relevant timescales in the Data Protection Legislation;
 - (c) any Personal Data it holds in relation to a Data Subject on request;
 - (d) assistance that it requests following any Data Loss Event;
 - (e) assistance that it requests relating to a consultation with, or request from, the Information Commissioner's Office.
- 14.20 The Supplier must maintain full, accurate records and information to show it complies with this clause 14. This requirement does not apply where the Supplier employs fewer than 250 staff, unless either the Buyer determines that the processing:
- (a) is not occasional;
 - (b) includes special categories of data as referred to in Article 9(1) of the GDPR or Personal Data relating to criminal convictions and offences referred to in Article 10 of the GDPR;
 - (c) is likely to result in a risk to the rights and freedoms of Data Subjects.
- 14.21 The Supplier must appoint a Data Protection Officer responsible for observing its obligations in this Schedule and give the Buyer their contact details.
- 14.22 Before allowing any Subprocessor to process any Personal Data, the Supplier must:
- (a) notify the Buyer in writing of the intended Subprocessor and processing;
 - (b) obtain the written consent of the Buyer;
 - (c) enter into a written contract with the Subprocessor so that this clause 14 applies to the Subprocessor;
 - (d) provide the Buyer with any information about the Subprocessor that the Buyer reasonably requires.
- 14.23 The Supplier remains fully liable for all acts or omissions of any Subprocessor.
- 14.24 At any time the Buyer can, with 30 Working Days notice to the Supplier, change this clause 14 to:
- (a) replace it with any applicable standard clauses (between the controller and processor) or similar terms forming part of an applicable certification scheme under GDPR Article 42;
 - (b) ensure it complies with guidance issued by the Information Commissioner's Office.
- 14.25 The Parties agree to take account of any non-mandatory guidance issued by the Information Commissioner's Office.
- 14.26 The Supplier:
- (a) must provide the Buyer with all Government Data in an agreed open format within 10 Working Days of a written request;

- (b) must have documented processes to guarantee prompt availability of Government Data if the Supplier stops trading;
- (c) must securely destroy all Storage Media that has held Government Data at the end of life of that media using Good Industry Practice;
- (d) securely erase all Government Data and any copies it holds when asked to do so by the Buyer unless required by Law to retain it;
- (e) indemnifies the Buyer against any and all Losses incurred if the Supplier breaches clause 14 and any Data Protection Legislation.

15. What you must keep confidential

15.1 Each Party must:

- (a) keep all Confidential Information it receives confidential and secure;
- (b) not disclose, use or exploit the disclosing Party's Confidential Information without the disclosing Party's prior written consent, except for the purposes anticipated under the Contract;
- (c) immediately notify the disclosing Party if it suspects unauthorised access, copying, use or disclosure of the Confidential Information.

15.2 In spite of clause 15.1, a Party may disclose Confidential Information which it receives from the disclosing Party in any of the following instances:

- (a) where disclosure is required by applicable Law or by a court with the relevant jurisdiction if the recipient Party notifies the disclosing Party of the full circumstances, the affected Confidential Information and extent of the disclosure;
- (b) if the recipient Party already had the information without obligation of confidentiality before it was disclosed by the disclosing Party;
- (c) if the information was given to it by a third party without obligation of confidentiality;
- (d) if the information was in the public domain at the time of the disclosure;
- (e) if the information was independently developed without access to the disclosing Party's Confidential Information;
- (f) to its auditors or for the purposes of regulatory requirements;
- (g) on a confidential basis, to its professional advisers on a need-to-know basis;
- (h) to the Serious Fraud Office where the recipient Party has reasonable grounds to believe that the disclosing Party is involved in activity that may be a criminal offence under the Bribery Act 2010.

15.3 The Supplier may disclose Confidential Information on a confidential basis to Supplier Staff on a need-to-know basis to allow the Supplier to meet its obligations under the Contract. The Supplier Staff must enter into a direct confidentiality agreement with the Buyer at its request.

15.4 The Buyer may disclose Confidential Information in any of the following cases:

- (a) on a confidential basis to the employees, agents, consultants and contractors of the Buyer;
- (b) on a confidential basis to any other Central Government Body, any successor body to a Central Government Body or any company that the Buyer transfers or proposes to transfer all or any part of its business to;
- (c) if the Buyer (acting reasonably) considers disclosure necessary or appropriate to carry out its public functions;

- (d) where requested by Parliament;
- (e) under clauses 5.7 and 16.

- 15.5 For the purposes of clauses 15.2 to 15.4 references to disclosure on a confidential basis means disclosure under a confidentiality agreement or arrangement including terms as strict as those required in clause 15.
- 15.6 Information which is exempt from disclosure by clause 16 is not Confidential Information.
- 15.7 The Supplier must not make any press announcement or publicise the Contract or any part of it in any way, without the prior written consent of the Buyer and must take all reasonable steps to ensure that Supplier Staff do not either.

16. When you can share information

- 16.1 The Supplier must tell the Buyer within 48 hours if it receives a Request For Information.
- 16.2 Within the required timescales the Supplier must give the Buyer full co-operation and information needed so the Buyer can:
- (a) comply with any Freedom of Information Act (FOIA) request;
 - (b) comply with any Environmental Information Regulations (EIR) request.
- 16.3 The Buyer may talk to the Supplier to help it decide whether to publish information under clause 16. However, the extent, content and format of the disclosure is the Buyer's decision, which does not need to be reasonable.

17. Invalid parts of the contract

If any part of the Contract is prohibited by Law or judged by a court to be unlawful, void or unenforceable, it must be read as if it was removed from that Contract as much as required and rendered ineffective as far as possible without affecting the rest of the Contract, whether it's valid or enforceable.

18. No other terms apply

The provisions incorporated into the Contract are the entire agreement between the Parties. The Contract replaces all previous statements and agreements whether written or oral. No other provisions apply.

19. Other people's rights in a contract

No third parties may use the Contracts (Rights of Third Parties) Act (CRTPA) to enforce any term of the Contract unless stated (referring to CRTPA) in the Contract. This does not affect third party rights and remedies that exist independently from CRTPA.

20. Circumstances beyond your control

- 20.1 Any Party affected by a Force Majeure Event is excused from performing its obligations under the Contract while the inability to perform continues, if it both:

- (a) provides written notice to the other Party;
- (b) uses all reasonable measures practical to reduce the impact of the Force Majeure Event.

20.2 Either party can partially or fully terminate the Contract if the provision of the Deliverables is materially affected by a Force Majeure Event which lasts for 90 days continuously.

20.3 Where a Party terminates under clause 20.2:

- (a) each party must cover its own losses;
- (b) clause 11.5(b) to 11.5(g) applies.

21. Relationships created by the contract

The Contract does not create a partnership, joint venture or employment relationship. The Supplier must represent themselves accordingly and ensure others do so.

22. Giving up contract rights

A partial or full waiver or relaxation of the terms of the Contract is only valid if it is stated to be a waiver in writing to the other Party.

23. Transferring responsibilities

23.1 The Supplier cannot assign the Contract without the Buyer's written consent.

23.2 The Buyer can assign, novate or transfer its Contract or any part of it to any Crown Body, public or private sector body which performs the functions of the Buyer.

23.3 When the Buyer uses its rights under clause 23.2 the Supplier must enter into a novation agreement in the form that the Buyer specifies.

23.4 The Supplier can terminate the Contract novated under clause 23.2 to a private sector body that is experiencing an Insolvency Event.

23.5 The Supplier remains responsible for all acts and omissions of the Supplier Staff as if they were its own.

23.6 If the Buyer asks the Supplier for details about Subcontractors, the Supplier must provide details of Subcontractors at all levels of the supply chain including:

- (a) their name;
- (b) the scope of their appointment;
- (c) the duration of their appointment.

24. Changing the contract

24.1 Either Party can request a variation to the Contract which is only effective if agreed in writing and signed by both Parties. The Buyer is not required to accept a variation request made by the Supplier.

25. How to communicate about the contract

- 25.1 All notices under the Contract must be in writing and are considered effective on the Working Day of delivery as long as they're delivered before 5:00pm on a Working Day. Otherwise the notice is effective on the next Working Day. An email is effective when sent unless an error message is received.
- 25.2 Notices to the Buyer or Supplier must be sent to their address in the Order Form.
- 25.3 This clause does not apply to the service of legal proceedings or any documents in any legal action, arbitration or dispute resolution.

26. Preventing fraud, bribery and corruption

- 26.1 The Supplier shall not:
- (a) commit any criminal offence referred to in the Regulations 57(1) and 57(2);
 - (b) offer, give, or agree to give anything, to any person (whether working for or engaged by the Buyer or any other public body) an inducement or reward for doing, refraining from doing, or for having done or refrained from doing, any act in relation to the obtaining or execution of the Contract or any other public function or for showing or refraining from showing favour or disfavour to any person in relation to the Contract or any other public function.
- 26.2 The Supplier shall take all reasonable steps (including creating, maintaining and enforcing adequate policies, procedures and records), in accordance with good industry practice, to prevent any matters referred to in clause 26.1 and any fraud by the Staff and the Supplier (including its shareholders, members and directors) in connection with the Contract and shall notify the Buyer immediately if it has reason to suspect that any such matters have occurred or is occurring or is likely to occur.
- 26.3 If the Supplier or the Staff engages in conduct prohibited by clause 26.1 or commits fraud in relation to the Contract or any other contract with the Crown (including the Buyer) the Buyer may:
- (a) terminate the Contract and recover from the Supplier the amount of any loss suffered by the Buyer resulting from the termination, including the cost reasonably incurred by the Buyer of making other arrangements for the supply of the Deliverables and any additional expenditure incurred by the Buyer throughout the remainder of the Contract; or
 - (b) recover in full from the Supplier any other loss sustained by the Buyer in consequence of any breach of this clause.

27. Equality, diversity and human rights

- 27.1 The Supplier must follow all applicable equality law when they perform their obligations under the Contract, including:
- (a) protections against discrimination on the grounds of race, sex, gender reassignment, religion or belief, disability, sexual orientation, pregnancy, maternity, age or otherwise;
 - (b) any other requirements and instructions which the Buyer reasonably imposes related to equality Law.

- 27.2 The Supplier must take all necessary steps, and inform the Buyer of the steps taken, to prevent anything that is considered to be unlawful discrimination by any court or tribunal, or the Equality and Human Rights Commission (or any successor organisation) when working on the Contract.

28. Health and safety

- 28.1 The Supplier must perform its obligations meeting the requirements of:
- (a) all applicable law regarding health and safety;
 - (b) the Buyer's current health and safety policy while at the Buyer's premises, as provided to the Supplier.
- 28.2 The Supplier and the Buyer must as soon as possible notify the other of any health and safety incidents or material hazards they're aware of at the Buyer premises that relate to the performance of the Contract.

29. Environment

- 29.1 When working on Site the Supplier must perform its obligations under the Buyer's current Environmental Policy, which the Buyer must provide.
- 29.2 The Supplier must ensure that Supplier Staff are aware of the Buyer's Environmental Policy.

30. Tax

- 30.1 The Supplier must not breach any tax or social security obligations and must enter into a binding agreement to pay any late contributions due, including where applicable, any interest or any fines. The Buyer cannot terminate the Contract where the Supplier has not paid a minor tax or social security contribution.
- 30.2 Where the Supplier or any Supplier Staff are liable to be taxed or to pay National Insurance contributions in the UK relating to payment received under the Off Contract, the Supplier must both:
- (a) comply with the Income Tax (Earnings and Pensions) Act 2003 and all other statutes and regulations relating to income tax, the Social Security Contributions and Benefits Act 1992 (including IR35) and National Insurance contributions;
 - (b) indemnify the Buyer against any Income Tax, National Insurance and social security contributions and any other liability, deduction, contribution, assessment or claim arising from or made during or after the Contract Period in connection with the provision of the Deliverables by the Supplier or any of the Supplier Staff.
- 30.3 If any of the Supplier Staff are Workers who receive payment relating to the Deliverables, then the Supplier must ensure that its contract with the Worker contains the following requirements:
- (a) the Buyer may, at any time during the term of the Contract, request that the Worker provides information which demonstrates they comply with clause 30.2, or why those requirements do not apply, the Buyer can specify the information the Worker must provide and the deadline for responding;

- (b) the Worker's contract may be terminated at the Buyer's request if the Worker fails to provide the information requested by the Buyer within the time specified by the Buyer;
- (c) the Worker's contract may be terminated at the Buyer's request if the Worker provides information which the Buyer considers isn't good enough to demonstrate how it complies with clause 30.2 or confirms that the Worker is not complying with those requirements;
- (d) the Buyer may supply any information they receive from the Worker to HMRC for revenue collection and management.

31. Conflict of interest

- 31.1 The Supplier must take action to ensure that neither the Supplier nor the Supplier Staff are placed in the position of an actual or potential conflict between the financial or personal duties of the Supplier or the Supplier Staff and the duties owed to the Buyer under the Contract, in the reasonable opinion of the Buyer.
- 31.2 The Supplier must promptly notify and provide details to the Buyer if a conflict of interest happens or is expected to happen.
- 31.3 The Buyer can terminate its Contract immediately by giving notice in writing to the Supplier or take any steps it thinks are necessary where there is or may be an actual or potential conflict of interest.

32. Reporting a breach of the contract

- 32.1 As soon as it is aware of it the Supplier and Supplier Staff must report to the Buyer any actual or suspected breach of law, clause 13.1, or clauses 26 to 31.
- 32.2 The Supplier must not retaliate against any of the Supplier Staff who in good faith reports a breach listed in clause 32.1.

33. Resolving disputes

- 33.1 If there is a dispute between the Parties, their senior representatives who have authority to settle the dispute will, within 28 days of a written request from the other Party, meet in good faith to resolve the dispute.
- 33.2 If the dispute is not resolved at that meeting, the Parties can attempt to settle it by mediation using the Centre for Effective Dispute Resolution (CEDR) Model Mediation Procedure current at the time of the dispute. If the Parties cannot agree on a mediator, the mediator will be nominated by CEDR. If either Party does not wish to use, or continue to use mediation, or mediation does not resolve the dispute, the dispute must be resolved using clauses 33.3 to 33.5.
- 33.3 Unless the Buyer refers the dispute to arbitration using clause 33.4, the Parties irrevocably agree that the courts of England and Wales have the exclusive jurisdiction to:
 - (a) determine the dispute;
 - (b) grant interim remedies;
 - (c) grant any other provisional or protective relief.

- 33.4 The Supplier agrees that the Buyer has the exclusive right to refer any dispute to be finally resolved by arbitration under the London Court of International Arbitration Rules current at the time of the dispute. There will be only one arbitrator. The seat or legal place of the arbitration will be London and the proceedings will be in English.
- 33.5 The Buyer has the right to refer a dispute to arbitration even if the Supplier has started or has attempted to start court proceedings under clause 33.3, unless the Buyer has agreed to the court proceedings or participated in them. Even if court proceedings have started, the Parties must do everything necessary to ensure that the court proceedings are stayed in favour of any arbitration proceedings if they are started under clause 33.4.
- 33.6 The Supplier cannot suspend the performance of the Contract during any dispute.

34. Which law applies

This Contract and any issues arising out of, or connected to it, are governed by English law.

APPENDIX A - VARIATION REQUEST FORM

Contract / Project Title:					
Contract / Project Ref No (FS /FSA No):					
Full Description of Variation Request: A full justification and impact assessment including any supplementary evidence must be provided. Any supporting information should be appended to this form.					
Area (s) Impacted: -					
Price <input type="checkbox"/>	Duration <input type="checkbox"/>	Price & Duration <input type="checkbox"/>	Scope of work <input type="checkbox"/>	Key Personnel <input type="checkbox"/>	Other <input type="checkbox"/>
Requester:					
Signature:					
Team / Organisation					
Date:					
Supplier Contact Details					
Supplier Name :					
Contact Name :					
Contact Address :					
:					
Telephone No :					
Email Address :					
FSA Use Only (Business Area)					
Amount Approved:					
Authorised By:-		<input type="checkbox"/> Cost Centre Manager		<input type="checkbox"/> Investment Board	
Signed :					
Date of Approval:					
Please submit this form to fsa.procurement@food.gov.uk					

Procurement Use Only (confirm contract allows for requested variation)

Variation Request No:

Variation Request Approved by:

Date of Approval:

On full approval of this Request for Variation, Procurement will produce a Variation Form for agreement and approval by both parties to append to the Agreement / Contract.

APPENDIX B VARIATION FORM

PROJECT TITLE:

DATE:

VARIATION No:

BETWEEN:

The Food Standards Agency (hereinafter called “the Client”) & University of Lincoln (hereinafter called “the Supplier”)

1. The Contract is varied as follows:

Contract

x

2. Words and expressions in this Variation shall have the meanings given to them in the Framework.

3. The Contract, including any previous Variations, shall remain effective and unaltered except as amended by this Variation.

SIGNED:

For: The Client

For: The Supplier

By:

By:

Full Name:

Full Name:

Position:

Title:

Date:

Date: