Home Office

Home Office

1. Contract Reference	C6709	
2. Date		
3. Buyer	Andy Nunney Senior Commercial Manager Digital, Data & Technology Commercial Directorate Peel, 4th Floor NE Quarter 2 Marsham Street, London. SW1P 4DF T: 07796 191211 E. andy.nunney@homeoffice.gov.uk www.gov.uk/home-office	
4. Supplier	Oxford Wave Research Ltd [redacted]	
5. The Contract	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 Unless the context otherwise requires, capitalised expressions used in this Order Form have the same meanings as in Conditions. In the event of any conflict between this Order Form and the Conditions, this Order Form shall prevail. 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.	
6. Deliverables	**Goods**	None
	Services	[redacted]

Home Office

7. Specification	The specification of the Deliverables is as set out in **Annex 2**
8. Start Date	**3rd June 2024** [redacted]
9. Expiry Date	The Expiry Date shall be **30th September 2024** unless it is otherwise extended or terminated in accordance with the terms and conditions of the Contract.
10. Extension Period	The Buyer may extend the Contract for one period of up to **6** 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.
11. Charges	**See Annex 3** The Charges for each sprint will be invoiced following the end of each sprint, the costs associated with licences will be invoice alongside sprint 1.
12. Payment	All invoices must be sent, quoting a valid purchase order number (PO Number), to: Home Office Shared Service Centre HO Box 5015 Newport, Gwent NP20 9BB United Kingdom Tel: 08450 100125 HOSupplierinvoices@homeoffice.gov.uk 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. 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. If you have a query regarding an outstanding payment(s) please contact our Accounts Payable section either by email to HOSupplierinvoices@homeoffice.gov.uk or by telephone 08450 100125 between 09:00-17:00 Monday to Friday.

13. Buyer Authorised Representative(s)	For general liaison your contact will continue to be [redacted] Child Abuse Image Database: Project Manager National Data Systems Portfolio Police and Public Protection Technology, Digital, Data and Technology Home Office [redacted]
14. Address for notices	Buyer: [redacted] Commercial Directorate Peel 4th Floor 2 Marsham Street London SW1P 4DF [redacted] Supplier: [redacted] Oxford Wave Research Ltd [redacted]
15. Key Personnel	Buyer: [redacted] Child Abuse Image Database: Project Manager National Data Systems Portfolio Police and Public Protection Technology, Digital, Data and Technology Supplier: [redacted] Oxford Wave Research Ltd [redacted]

16. Procedures and Policies	The Buyer will require the Supplier to ensure that any person employed in the delivery of the Deliverables has obtained Security Clearance (SC) and NPPV Level 3. 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.

Signed for and on behalf of the **Supplier**	Signed for and on behalf of the **Buyer**
Name: Position:	Name: Andy Nunney Position: Senior Commercial Manager
Date:	Date:
Signature:	Signature:

Annex 1 – Authorised Processing Template – Not Used

Contract:	**[XXXX]**
Date:	
Description Of Authorised Processing	**Details**
Subject matter of the processing	
Duration of the processing	
Nature and purposes of the processing	
Type of Personal Data	
Categories of Data Subject	

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

	of personal data and privacy; (iii) all applicable Law about the processing of personal data and privacy;
"Data Protection Impact Assessment"	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 2 of annex 2. 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 point 8 & 9 of the order form 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 Commence 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-policynote-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 byelaw 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.

4.2 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 and in accordance with the instructions issued by the Buyer Staff Vetting Procedures;

(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)

Table 1: OWR Existing Background IP

OWR will continue to own the IP in the table beyond the end of the project

Name	Description
VOCALISE Speaker Recognition Software including all software components	Voice model extraction and comparison engine, including existing sessions (utility functionality for voice activity detection (VAD), extracting and comparing speaker models)
VOCALISE-multi Speaker Recognition Software including all software components	Voice model extraction and comparison of multi-speaker audio files
VOCALISE-profiler / xVOCprof Speaker Profiling Software including all software components	Speaker profiling engine using VOCALISE voice models
MADCAT Audio fingerprinting software including all software components	Audio fingerprint extraction, and comparison engine.
Clustering codebase	Algorithms for linking voice models within and across audio files.

Bio-Metrics Performance metrics measurement software including all software components	Biometric Performance assessment tools
TEAPOT Speech to text software (TEAPOT stands for Translation, Extraction, and Analysis of Polylanguage Offline Transcriptions)	A fully offline speech recognition system with multilingual transcription and translation to English (speech-to-text), key word and trigger word spotting, gisting with long and short summaries.
Adaptation of WHISPER (OpenAI) models for different types of speech demographics	Custom adaptations of WHISPER speech transcription models created by OWR for better performance with different types of speech demographics

Table 2: Other Background IP (Note – relates to any open-source data/tools used during PoC)
No IP transfer will occur for IP listed in this table.

Name	**Description**
VOXCELEB Speaker Recognition Database	A large scale audio visual dataset of human speech (Oxford University) https://www.robots.ox.ac.uk/~vgg/data/voxceleb/
KidLucid Database	A fully annotated corpus of spontaneous speech dialogues for children engaged in a collaborative task (University College London) https://www.phon.ucl.ac.uk/project/kidLUCID/index.php
MUSAN database	MUSAN: A Music, Speech, and Noise Corpus (https://www.openslr.org/17/)
PYANNOTE toolkit	Multimedia processing open-source toolkit that includes speaker diarisation and overlap detection
WHISPER from OpenAI	Speech transcription, and translation libraries and models MIT License (https://github.com/openai/whisper/blob/main/LICENSE)
Llama from Meta	Large Language model for text summarisation capabilities License: https://ai.meta.com/llama/license/

Table 3: Foreground IP

IP listed in the below table will be transferred to Home Office during the course of the Contract

Name	Description
Reports, Presentations, and documentation	Any reports (including and CAID related statistical data/analysis), presentations, and documentation created as part of this Contract.
Voice Models for project database	Voice models for the speakers in the various test databases created as part of this Contract
Custom DNN models (VOCALISE 'sessions')	Mathematical models (Deep Neural Network) that have been trained specifically for this project.
PoC software	The software (including a graphical user interface) that combines the various components of speaker recognition, audio clustering, audio fingerprinting, and audio segmentation (as described in Table 1) using the methodologies developed during the Contract to create the Proof of Concept system to demonstrate the proposed voice matching approach.
VSTM – Voice Segment Time Markers	Timing markers indicating possible voice segments within files that contain speech within the CAID database
Testing software for speech to text	Testing software and scripts used to call the TEAPOT system, use the VSTM markers, obtain English language files, and provide transcripts and keywords for iLab manager review

10.1 Each Party keeps ownership of its own Background IPRs. The Supplier grants the Buyer a non-exclusive and royalty-free licence to:

a) use its Background IPR as listed in the Table 1 during the term of this Contract for the purpose of carrying out this Contract;

b) use its Background IPR as listed in the Table 1 after the term of this Contract strictly for the purpose of using the Foreground IP listed in Table 3 created as part of this Contract.

The Supplier may, in agreement with the Buyer, charge a License fee to use its existing IPR. Such a charge will be agreed using the Variation process as at section 24 of this contract.

10.2 Any Foreground IPR as listed in Table 3 created under the Contract is owned by the Buyer. The Buyer gives the Supplier a licence to use any Home Office Existing IPRs for the purpose of fulfilling its obligations under the Contract.

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

17.1 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

18.1 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

19.1 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

21.1 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

22.1 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 1

Speech-to-Text Transcription

(TEAPOT Unit Test Requirements)

Statement of work

Version 1.0

March 2024

CAID Project Team
Chris Saunders

Handling Instructions

This document has a classification of OFFICIAL – SENSITIVE under the Government Security Classification scheme. The intended audience for this document is:

- Members of the CAID Project Team.
- Individuals within police forces and other Law Enforcement Agencies (LEAs) involved in the implementation or use of CAID in LEAs used for investigation of crimes involving child sexual exploitation.
- The Supplier will be sent these requirements (at point of TDA approval and selection of the Supplier).

This document should not be disclosed to anyone outside this intended audience without the permission of the CAID Project Manager.

When this document has been superseded, or is no longer required by the recipient, it must be deleted from any storage media and any printed copies disposed of through waste disposal processes suitable for sensitive information.

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Version Control

Version number	Date issued	Author	Notes
DRAFT	09/10/2023	Chris Saunders	Initial draft, for internal review.
0.1	30/10/2023	Chris Saunders	For Supplier review.
0.2	13/11/2023	Chris Saunders	Updated following Supplier comments and clarification from Home Office Security Team.
0.3	24/11/2023	Chris Saunders	Updates following V0.2 comments (internal).
0.4	15/03/2024	Chris Saunders	Updates following V0.3 comments (internal).
1.0	18/03/2024	Chris Saunders	Updates following Project Authority Review

References

Reference	Date issued	Title/Link
Ref 1	12/09/2023	Translation, Extraction, and Analysis of Poly-language Offline Transcriptions (TEAPOT) \\poise.homeoffice.local\data\TMS\SiteGroup\NPIA\PCD\Shared Data\03-WIP\CAID\18 Transformation\Transformation Projects\W3 - Voice Matching Algorithm\18 Oxford Wave (Voice Matching) PoC\TEAPOT-STT-Proposal-2023.pdf

1. Sign-Off

This Speech-To-Text testing statement of work has been signed off as follows:

Project Role	Individual	Sign-off date
Senior Product Manager	James Traynor	
Strategy & Transformation Workstream Lead	Tracy Dresch	
Programme Manager	Simon Humberstone	
CAID Planning, Finance & Transformation Manager	Peter Thompson	
CAID Chief Architect	Alastair Whiteford	

2. Acronyms

Acronym	Meaning
AI	Artificial Intelligence
API	Application Programming Interface
ASCII	American Standard Code for Information Interchange
CAID	Child Abuse Image Database
COTS	Commercial Off The Shelf
GPU	Graphical Processing Unit
IIoC	Indecent Images of Children
ILABM	Innovation Laboratory Manager
IT	Information Technology
LEAs	Law Enforcement Agencies
LLM	Large Language Model
NGOs	Non-Government Organisations
SoW	Statement of Work
TBC	To Be Confirmed
TEAPOT	Translation, Extraction, and Analysis of Poly-language Offline Transcriptions
VAD	Voice Activity Detection
VSTM	Voice Segment Time Marks
WER	Word Error Rate

3. CAID Background

This Statement of Work (SoW) relates to the Child Abuse Image Database (CAID). The CAID system provides image classification and other investigative functionality to national law enforcement agencies, relevant directorates within the Home Office and other Non-Government Organisations (NGOs). It is internationally recognised as a leading system of its kind, and it provides a basis for international co-operation in tackling child abuse through the sharing of information.

CAID is a first of its kind system to support law enforcement in the combat against child sexual abuse and the dissemination of child abuse material. It contains unique, Indecent Images of Children (IIoC) accessible by UK law enforcement specialist officers in support of the improved safeguarding of child victims. CAID also assists in bringing offenders to justice.

CAID continues to innovate by introducing artificial intelligence (AI) capabilities to support officers in their investigations. In particular, CAID is looking at Commercial Off The Shelf (COTS) and Open-Source Speech-to-Text (STT) products that could bring about improved operational effectiveness and provide end to end solutions. The overall aim is to develop additional AI capabilities as an aid to victim support and offender prosecution.

The expected outcome of this SoW is the ability of the Home Office to assess the accuracy of the Translation, Extraction and Analysis of Poly-language Offline Transcriptions (TEAPOT) software (Ref 1). This will be achieved by adopting a "unit testing" approach that will allow Home Office to evaluate the speech service against 13,199 videos in the CAID dataset, across Categories A, B and C, that have previously been identified by the Supplier as containing usable speech (2 secs or more).

4. Purpose

Following a test against a small sample (10) of CAID videos performed in August 2023, the outcome of which showed that the TEAPOT software may provide CAID with a viable STT solution, we now wish to test that same software against a larger sample of CAID videos.

TEAPOT is a state-of-the-art software designed to provide users with a straightforward way to transcribe and translate audio files into written text. Based on Open AI's[1] Whisper technology, TEAPOT uses advanced machine learning techniques to understand the context and nuances of the spoken language. It is reported that the TEAPOT STT system has the ability to process foreign languages without the need for determining what languages are spoken in each file and that it can process up to 98 different languages (Ref 1).

[1] Open AI is a USA based private, non-profit AI research laboratory, founded in 2015.

If suitable, the TEAPOT system could be made compatible with and incorporated into the voice detection, matching and clustering tools already built on behalf of CAID, by Oxford Wave Research Ltd. (the Supplier) as part of the W3 Voice Matching CAID Transformation project.

This document details the tasks that need to be completed in order to assess the TEAPOT software[2] against a live CAID video dataset. Tests will be conducted in the CAID Innovation Laboratory (ILab).

5. Objectives

There is a CAID requirement to assess software tools that can provide a multilingual transcription (i.e., STT) of voice segments extracted from CAID videos. The STT software provided by the Supplier (Oxford Wave Research Ltd.), may provide a solution fulfilling this requirement. If so, it may also be suitable for further development and, potentially, full integration into the existing voice detection, matching and clustering software (VOCALISE) already demonstrated during CAID PoC trials. Eventually, both the voice detection, matching and clustering and the STT service could be combined into a single deployed solution[3] and fully integrated into the CAID system. ***This SoW specifically relates to the work required to assess the STT software as a standalone unit test***.

During the Voice Detection and Matching PoC completed in August 2023, the Voice Activity Detection (VAD) software (VOCALISE) determined where, in each CAID video, useable speech occurred and provided the backend matching software with that indexing information. We shall use these same Voice Segment Time Marks (VSTM) to re-locate, in each CAID video, these useable speech segments and pass to the STT software to test the transcription accuracy. Currently, the STT software does not have that functionality and so some preliminary work will be required to facilitate the input and usage of that indexing information within the STT software.

To that end, the high-level objectives are to:

OB1 Prepare the STT software in readiness for unit testing with CAID video data[4]. The main objective here is to allow the Voice Segment Time Markers (obtained from the last Innovation Laboratory visit) to be used as input to the STT software. Given that the STT will be deployed as a modular unit within the speech detection and matching platform, a sensible approach could be to unit test the STT software as part of that combined platform. NOTE: Home Office ***do not require an end-to-end system test of the combined speech detection and matching (VOCALISE) and STT software at this stage*** – we only require a

[2] Hereafter referred to as the 'STT software'.

[3] Further development will be necessary to achieve a production-ready, combined, voice matching and STT tool. This is currently out of scope for this Statement of Work (SoW).

[4] Some work has already been performed (Ref 1) on the development of a purely offline version of the STT application that makes full use of the GPUs present on the CAID (ILab) server, including confirmation that the server GPUs were being correctly tasked.

standalone/unit test of the STT software. If this STT unit testing can be achieved with this ultimate goal in mind and if this does not delay unit testing of the STT software by any appreciable amount, then this would be of benefit in realising the long-term goal of the CAID Voice/STT project.

OB2 Successfully complete testing of the STT software using CAID production data as input, from Categories A, B and C (only), in the CAID Innovation Laboratory.

OB3 Assess the STT performance, in terms of the accuracy of the transcription against English speech. The evaluation should be conducted holistically, incorporating an assessment of the overall meaning of the transcription and its accuracy in relation to the spoken word (see Section 5.2.3). Results should be dip-sampled by the Innovation Laboratory Manager (ILABM) to validate findings[5].

OB4 Compile and deliver a report on the method and results of the STT unit testing.

5.1 CAID Dataset

For these tests, CAID video data containing useable speech from Categories 1-3 only (i.e., Cats A, B and C) will be used. The size of this dataset amounts to 13,199 CAID video files that have been found, during the last ILab visit (August 2023), to contain at least 2 seconds of net useable speech.

In order to expedite the testing of the STT software in a timely fashion, we shall use results from the previous work on the Voice Detection and Matching project. Specifically, the Supplier shall use the outputs of the VAD phase of that work, which generated Voice Segment Time Markers detailing where useable speech occurs in CAID videos. Using these markers enables us to extract speech segments from the Test Data without performing an exhaustive and time-consuming search. This will speed up the testing process.

Video/audio data from Categories A, B and C which have 2 seconds or greater of useable speech will be processed. This is made up from the following:

- Cat A: 7,724 videos
- Cat B: 2,075 videos
- Cat C: 3,400 videos

Totalling 13,199 videos to be processed (transcribed) by the STT software.

[5] Although the STT software can perform automatic translation of foreign language speech into English text, CAID does not currently have the capability to perform an accurate assessment of foreign language translation and so accuracy tests will be restricted to the transcription of English speech only. Any foreign language to English translations, however, will be retained within the CAID lab for later assessment.

The written transcripts for a sample of these results, as well as their video ID tags (equivalent to the CAID hash tag) and speech time markers shall then be passed to the ILABM for dip-sampling, according to the segment lengths detailed below.

Dip sampling must consist of 75 audio segments (25 audio segments from each category, A, B and C), that will be selected under guidance from the Supplier, from the 13,199 CAID videos processed, conforming to the following[6]:

- 5 x 5 sec (i.e., greater than 2 sec[7] and less than or equal to 5 sec)
- 5 x 15 sec (i.e., greater than 5 sec and less or equal to than 15 sec)
- 5 x 30 sec (i.e., greater than 15 secs and less or equal to than 30 secs)
- 5 x 60 sec (i.e., greater than 30 secs and less or equal to than 60 secs)
- 5 x 90 sec (i.e., greater than 60 secs and less or equal to than 90 secs)

A total of 75 CAID videos shall, therefore, be used for dip-sampling. The ILABM will report the results of the transcription of these 75 audio segments (see Section 8.).

5.2 Task Activities to Fulfil Objectives (Sprints)

5.2.1 OB1

To accomplish OB1 of this SoW requires that the STT software Supplier develops the STT software so that it can use VSTM produced by the VOCALISE voice detection software. This will be completed at the Supplier's offices, prior to entry into the Innovation Laboratory.

VSTM markers have been produced as part of previous activities for the Voice Detection and Matching project, in August 2023. Using these voice activity markers as inputs to the STT software will speed up the process of re-locating where 'useable' speech occurs within the CAID video dataset[8].

Activities required to successfully meet OB1 are as follows:

- The CAID Team to define the CAID video dataset to be used in the unit testing[9] of the STT software (See Section 5.1).

[6] Work from previous trials determined that the average length of useable speech across all categories (1-7) is 1 minute and 27 seconds and so this split should be achievable, across categories A, B and C. However, if these data samples cannot be readily obtained from Cat A, B and C, then they must be obtained from Cat 7 videos (containing useable speech). All relevant files are to be processed in their entirety and sections of speech corresponding to the durations above should be sought within them.

[7] 2 seconds is the minimum about of speech that can be analysed by the software.

[8] To expedite a short test period in the Innovation Laboratory, it will be efficient to utilise the previously defined VSTM; we wish to avoid another exhaustive search for the markers during the STT testing.

[9] Hereafter referred to as the 'Test Data'.

- The Supplier to develop and test (at the Supplier's offices) the STT software to enable VSTM markers from the VOCALISE software to be used to find relevant speech segments within the Test Data.
- The Supplier to complete standalone testing of the VOCALISE/STT software after completing the development of VSTM input above.

5.2.2 OB2

OB2 relates to the in-lab preparation of the STT software with the Test Data. This objective will be completed in the Innovation Laboratory by the Supplier, the ILab IT Manager (I15) and the ILABM.

- The Supplier, with the assistance of I15 and the ILABM will prepare the Test Data (See Section 5.1) used for the voice segments extraction.

- The Supplier will ensure that the STT software executes without error in the Innovation Laboratory.

  Given that the Supplier will be restricted from viewing any CAID transcripts extracted from illegal material during the STT software preparation phase (even if they contain 'benign' content), it will be very difficult for the Supplier to evaluate whether the STT software is running as expected (beyond checking that the software does not crash) during initial setup. This is not sufficient; checks also need to be made regarding the tool's ability to accurately transcribe speech.

  As an alternative, it is suggested that the Supplier validate the STT software install in the Innovation Laboratory using a non-CAID dataset. This dataset should be transmitted to the Innovation Laboratory on the same external disk transfer media as the STT software, such that the complete transfer media can be sanitised by the Innovation Laboratory IT Manager (I15), prior to install on the Innovation Laboratory CAID server.

- Once the Supplier has successfully installed the STT software and validated against the small (benign) dataset, the Supplier will execute tests against the CAID Test Data and capture all relevant statistics in preparation for final reporting (see section 5.2.4). Results of the STT software against the benign data (for validation purposes) must also be included, as confirmation that the software has been installed correctly.

NOTE: 'Relevant statistics' also includes the information gathered by the ILABM, regarding the overall meaning of the transcript (i.e., the transcript summary, produced by the STT software) and its comparison with the spoken words (see Section 8).

5.2.3 OB3

OB3 will be achieved from within the CAID Innovation Laboratory. The STT software performance will be assessed for transcriptional accuracy (spoken English into automatically generated text) and the speed of transcription. This will require that the Innovation Laboratory Manager (ILABM) dip sample a pre-selected sample of the output results (See Section 5.1).

- The Supplier will perform the STT unit testing against the Test Dataset defined in Section 5.1.
- The ILABM will manually assess the accuracy of the transcription (i.e., compare the actual spoken word against the STT-generated written transcript). The ILABM will keep and pass to the Supplier, a record of the accuracy scores produced by the STT software (to be used by the Supplier in their final report). Dip sampling (by the ILABM) can occur as soon as textual results become available for each sample analysed in the dataset.
- The Supplier will assess the dip-sampling results obtained by the ILABM in their entirety (for later reporting at the Supplier's offices). Dip sampling results to be performed by the ILABM will consist of the accuracy of the transcription only (i.e., confirmation that the transcript produced by the STT software is accurate compared to what was actually spoken).

5.2.4 OB4

Reporting will be completed at the Supplier's offices. The Supplier will:

- Compile the results obtained during the STT software unit test. In particular, the Supplier will gather the results of the dip-sampling (provided by the ILABM) regarding the accuracies achieved (on a scale of 1 to 10) for each speech segment in the Test Data.
- Compile the final report (deliverable), including:
  - Experimental Method
  - Dataset Used (Categorised and annotated according to Section 5.1).
  - Assumptions/Limitations
  - Results
  - Summary

6. Scope

This section provides a brief statement of what the Home Office expects to accomplish as a result of this scope of work. It highlights what is and is not included in the scope of this SoW.

In summary, this SoW aims to evaluate the STT software that has been developed by the Supplier, for the purposes of transcribing and translating speech detected in CAID videos.

The Supplier will be responsible for the testing of the STT software and for providing the results obtained for each CAID speech segment analysed.

A voice segment in a CAID video will be transcribed by the STT software into a human-readable, plain text file[10].

6.1 In Scope

The Supplier must:

- Perform Unit Testing of the STT software in the CAID Innovation Laboratory.
- Provide the ILABM with the unique IDs and the start/end times within the CAID video, where speech occurs (i.e., the VSTM). Only English language speech references will be passed to the ILABM.
- The Supplier will select those speech segment detailed in Section 5.1 and the transcripts of each of those speech segments (in written text) and pass that information to the ILABM for dip-sampling. Assessment of the STT software should begin as soon as results become available, in order to achieve the desired objective within the allocated timescale.
- Provide, as a minimum, in the final written report:
  - The number of CAID videos analysed in each category.
  - Each speech segment length (in seconds) analysed, per category.
  - The start/end times of each speech segment.
  - The unique ID of the video from which each speech segment originated (not the CAID Hash value).
  - The spoken language detected, for each speech segment analysed by the STT software.
  - The time taken, in seconds, to transcribe the spoken word segment into readable text (including output file generation), for each speech segment, per category.

[10] A 'human readable' plain text file refers to an ASCII text file (a character encoding standard) – text files of this form can be generated by Windows Notepad, Windows WordPad or Microsoft Word (others are available).

- Provide a final report detailing the test method, dataset used, results (including the minimum information specified above) and conclusions of the unit testing of the STT software.

6.2 Out of Scope

- The tests described in this document relate, specifically, to the assessment of the accuracy and the speed of the STT software only. There is no intention by the Home Office to select or deploy the STT software into CAID at this stage. Any potential future development or deployment by the Home Office of the STT software, including maintenance and model upgrades, is outside of the scope of this SoW and will require a separate agreement, if appropriate.

- Any integration of software within the existing CAID architecture – this statement of work refers to the Unit Test of the STT software only, using an offline, standalone instance of the software loaded and executed from a CAID server.

- Input data – CAID video imagery will be used for these tests. Due to the limitations regarding the curation of CAID ground truth data, a manual dip-sampling approach will be employed to validate a subset of the results. This will not limit the quantity of data that is actually processed by the STT tool (that quantity must be achieved and is further detailed in Section 5.1). Pre-prepared and pre-labelled CAID ground truth data will not, therefore, be available as part of the evaluation process and is therefore out of scope.

- Due to the inability to provide relevant multi-lingual (human) translator services in a reasonable timescale, validation of the STT foreign language to English translation results will not be possible. Dip sampling will, therefore, be restricted to English spoken words to English text only. NOTE: Any foreign language to English translations/transcriptions that occur as part of this unit testing must be archived by the ILABM for later multi-language validation,

- No audio file format conversion will be performed; any audio file that cannot readily be processed by the STT software will be ignored during testing.

7. Constraints

- No foreign language to English transcription will be analysed during these tests[11]. A transcription from a foreign language to English necessitates that

[11] It is not known, prior to analysis, what spoken language a speech segment contains, so all useable speech segments from the Test Data will be processed during these tests, regardless of the spoken language. As a result, only segments containing English spoken words will be dip sampled and validated.

a multi-lingual translator be available to perform the validation. Given that this resource will not be available in time for this unit test, we cannot evaluate the multi-lingual transcription service provided by the STT software.[12]

- Resource time and effort to validate the STT transcriptions against the CAID videos is required. One Innovation Laboratory Manger (ILABM) will be required (within the CAID Innovation Laboratory Environment) to perform the validation. This will be agreed and confirmed with the CAID ILABM prior to commencement of these trials.
- The ILABM will perform the manual process of validating the results against the processed CAID video dataset (see Section 5.1)[13]. The ILABM will work in ad-hoc time blocks according to the relevant Law Enforcement policy related to officer wellbeing and according to his availability.
- The ILABM is the only person permitted to listen to the audio clips or read any of the STT translations/transcripts.
- The ILABM should be available for the duration of the time set out in the project schedule. If a contiguous block of time cannot be allocated for this validation period, the tasks will be conducted using a staged approach[14].

8. Measurement & Validation

Test outputs should be measured using a simple holistic measurement scale. The ILABM will rate the overall meaning of the transcription in terms of its accuracy compared with the ground truth (reference) speech, obtained by the ILABM physically listening to the relevant CAID video. A scale of 1 (not at all representative of the ground truth) to 10 (completely representative of the ground truth) will be used by the ILABM to score the accuracy of the transcription.

Given that the main purpose of this tool will be to accurately transcribe what has been said by speakers across CAID video, this metric is more meaningful and is easily achieved. In addition, it is a metric that the ILABM can readily attain, during dip-sampling, thereby reducing the time overhead imposed by these trials.

The ILABM will be provided with 75 CAID transcripts (across the short, medium and long timespan defined in Section 5.1) and the unique ID of the video files from which

[12] However, the output transcription from any foreign CAID videos that have been processed during this testing must be stored within the Innovation Laboratory and made available for further analysis in the future.

[13] Suppliers will not be permitted to listen to CAID audio or read the output translation/transcription.

[14] The Innovation Laboratory Manager, using the unique identification of each video and the written (textual) transcription provided by the TEAPOT software, can execute the dip-sampling validation without the Supplier being present.

they originate[15]. The ILABM will listen to the recording and compare what was spoken against the output transcript for that speech segment, determined by the STT software. The ILABM will score the output transcripts against the spoken word (as defined above), for each speech segment in the dip-sampled dataset. This information will then be passed back to the Supplier for inclusion in the final report.

9. Project Delivery

9.1 Project Delivery

The project will adopt an agile mindset to show early value to the project team through periodic delivery during the testing of the STT software against the deliverables.

Delivery will be restricted to a written report detailing the data, method, results and conclusions of the testing. The results of the dip-sampling conducted by the ILABM, will be required as part of the final written report (written by the Supplier).

9.2 The Process

The Home Office will work with the project team to establish if the testing has met the definition of done for each agreed deliverable. They will make informed decisions through consultation with the Project Manager, Technical Architect and the Senior Product Manager. If the Definition of Done does not meet the required standard, the deliverable will be rejected by the Home Office Delivery Lead and the Supplier will be informed of the reasons for rejection, enabling corrective action to occur, if required. Rejection may not always result in rework, depending on the criticality of the project and the available time to do so, within the overall CAID Programme timescales. Failure to deliver at an acceptable level or within the agreed timescales, as defined herein, may result in non-payment.

Where the activities performed during the unit testing have not met the agreed requirements, the Home Office Delivery Lead shall provide a consolidated set of review comments to the Supplier within 10 working days. The Home Office Delivery Lead will notify the Supplier of any corrective action that is required to meet the requirements and the Supplier and Home Office will agree on a reasonable time to undertake corrective actions.

On acceptance based on the deliverables below, the Home Office Delivery Lead will notify the Supplier that an invoice can be raised in accordance with the contract.

The activities/tasks for the project are described below. The work has been decomposed into two phases of work (STT/VOCALISE pre-lab optimisation and in-lab

[15] Relevant time markers will also be provided, by the Supplier, to the ILABM, to be used as indices into each video, where the relevant speech occurs.

unit testing). These phases must be operated in a serial fashion. There is no scope for parallel tasks to be performed during these trials.

9.3 Timescales

Project Delivery Timescales	Duration
STT integration with the VOCALISE platform and pre-lab optimisation.	4 weeks[16]
STT Unit Testing – In CAID Innovation Laboratory, including software installation, in-lab optimisation/set-up, testing with CAID video data and final analysis and reporting.	9 weeks[17]

9.4 Environment Used for Unit Testing and Review

The Supplier will be required to perform the unit testing of the STT software within the CAID Innovation Laboratory by prior arrangement. There will be no requirement for the Supplier to physically hear any CAID audio or read any CAID output translation/transcription. The Supplier will be required to execute the software against the Test Data, capture the outputs and pass a sub-set of them (the 'dip-sample') to the ILABM, with the relevant dip-sampled file identifiers and time markers for manual validation.

The Supplier will be required to meet (virtually) at least every 2 weeks (day and time TBC) with the Home Office CAID Team. All relevant Supplier team members should be available to answer queries, both technical and non-technical from the CAID Team as part of the regular weekly meeting period.

9.5 Deliverables

The Supplier will be responsible for performing all the tasks shown below. Any additional tasks required, but not defined in this SoW should be identified by the

[16] TBC by Supplier

[17] TBC by Supplier

Supplier or the Home Office and agreed by both parties, in writing, prior to commencement under this contract.

Phase	Description	Definition of Done
1	***Preparatory work (Supplier's offices).*** 1a) The CAID Team to define subset of the CAID dataset used for this study. 1b) The Supplier to develop and evaluate (at the Supplier's offices) the STT software to enable VSTM markers from the VOCALISE software to be used to locate relevant speech segments within the CAID dataset. 1c) The Supplier to complete standalone testing of the STT software after completing the development of VSTM time markers. 1d) The Supplier to transfer all relevant software and validation dataset to external media for transport to the Innovation Laboratory.	Completed (See Section 5.1). Supplier to confirm, in writing, at the fortnightly sprint reviews and at the end of sprint review with the Home Office CAID Team, that the integration and pre-laboratory optimisation has been completed (including the identification, selection and copying, to the same external media as the STT software, the benign dataset that will be used to validate the STT software installation in the CAID Lab, prior to unit testing with CAID data).

Phase	Description	Definition of Done
2	**Unit test of the STT software (CAID Innovation Laboratory).** 2a) The Supplier will prepare a subset of the current CAID video dataset (See Section 5.1) used for the voice segments extraction. 2b) The Supplier will ensure that the STT software executes without error in the Innovation Laboratory and that the STT software accepts VSTM and can process CAID videos to extract relevant speech, using the input VSTM. 2c) The Supplier will execute tests against the supplied Test Data and capture all relevant statistics in preparation for final reporting (see section 5.1). 2d) Supplier will prepare and deliver a final report, detailing the method, results and conclusions of the unit testing.	Reporting at regular fortnightly meetings and end of sprint reviews. Supplier to confirm tests complete and dip-sampling initiated, during sprint reviews. ILABM to confirm dip-sampling completed (via Home Office internal meetings). Final report detailing the experimental findings. Home Office to agree and sign off the final report defines the completion of all tasks.

The deliverables will be agreed by all parties. The CAID Team will confirm, in writing, that all deliverables have been delivered to an acceptable standard.

The Home Office reserves the right for any Home Office staff to attend the weekly meetings and end of trial review, as well as the regular fortnightly progress meetings, but the assigned Technical Lead and Project Manager will always aim to attend if available, on a pre-agreed day/time. The Supplier must always have at least 2 people hosting the regular progress meetings as well as the end of trial review; one technical who can answer technical questions regarding the progress and one project/commercial person who can support any questions posed by the Home Office on non-technical issues (e.g., budgetary, timeline and other non-technical questions).

9.6 Intellectual Property

As defined in the contract.

10. Exit Criteria

The acceptance, or otherwise of the deliverables is the responsibility of the Home Office Authority. The exit criteria will be determined by the ability of the Home Office to have collected sufficient data to assess the accuracy and the usefulness of the STT software. Once each phase of work has been completed (see Section 9.3), the Home Office will either sign off on the approval (based on the Definition of Done criteria outlined above) or reply to the Supplier, in writing, advising what tasks must still be completed. Failure to complete the scope to achieve the Definition of Done within a further, mutually agreed timescale may result in termination of the contract.

Any dispute over project deliverables between the Authority and the Supplier will be dealt with in accordance with Dispute resolution process.

Appendix 2

OxfordWaveResearch

Appendix to Estimate HO20231219-2 Amended: Response to Speech-To-Text Transcription (Teapot Unit Test Requirements) SoW

Date: 12 April 2024

Confidential

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1 Introduction

Oxford Wave Research Ltd has prepared this costing proposal in response to the final SoW from the Home Office ***"Speech-to-Text Transcription (TEAPOT Unit Test Requirements) Statement of work Version 1.0" dated 18 March 2024",*** hereafter referred to as the 'SoW'. The aim of this project is to assess the accuracy of the 'Translation, Extraction and Analysis of Poly-language Offline Transcriptions (TEAPOT) software' using a "unit testing" approach coupled with human dip-sampling to help evaluate the speech service against 13,199 videos in the CAID dataset, across Categories A, B and C.

*This proposal supersedes **"Appendix to Estimate HO20231219: Response to Speech-To-Text Transcription (Teapot Unit Test Requirements) SoW"** sent in response to the previously sent **draft** SoW **"Speech-to-Text Transcription (TEAPOT Unit Test Requirements) Statement of work Version 0.2"** dated 13 November 2023,*

2 Sponsor Requirements and Specified Tasks

In this section, we summarise the Sponsor requirements and specified tasks for reference.

A high-level summary of the Sponsor requirements as stated in the SoW (Section 5) is provided below:

1. OB1 Prepare the STT (speech to text) software in readiness for unit testing with CAID video data using voice segment markers obtained from the OWR's last CAID Innovation Laboratory visit.

2. OB2: Execute the STT software using CAID production data as input, on the datasets specified in the SoW in the CAID Innovation Laboratory.

3. OB3: Assess the STT performance (for English speech) with a holistically conducted evaluation, incorporating an assessment of the overall meaning of the transcription and its accuracy in relation to the spoken words. This assessment will be performed as dip-sampling specified in the SoW.

Further, the Home Office has defined the following tasks including preparatory work and unit test of the STT software at the CAID Innovation Laboratory. These tasks are listed below for reference.

Preparatory Work

1a) The CAID Team to define a subset of the CAID dataset used for this study.

1b) The Supplier to develop and evaluate (at the Supplier's offices) the STT software to enable VSTM (Voice Segment Time Marks) markers from the VOCALISE software to be used to locate relevant speech segments within the CAID dataset.

1c) The Supplier to complete standalone testing of the STT software after completing the development of VSTM time markers.

1d) The Supplier to transfer all relevant software and validation dataset to external media for transport to the CAID Innovation Laboratory.

Unit test of the STT software (CAID Innovation Laboratory)

2a) The Supplier will prepare a subset of the current CAID video dataset (See Section 5.2) used for the voice segments extraction.

2b) The Supplier will ensure that the STT software executes without error in the CAID Innovation Laboratory and that the STT software accepts VSTM and can process CAID videos to extract relevant speech, using the input VSTM.

2c) The Supplier will execute tests against the supplied Test Data and capture all relevant statistics in preparation for final reporting.

2d) Supplier will prepare and deliver a final report, detailing the method, results and conclusions of the unit testing.

3 Assumptions

In the preparation of this costing, the following assumptions have been made. Sponsor to advise if any amendments or changes are required.

1. At least one GPU Server (1 x 4 x GPU) is made available at the CAID Innovation Laboratory for processing during the in-lab portion of this work.
2. The outputs of the data-processing by OWR in the last phase of work at the CAID Innovation Laboratory are still available for use in this project.
3. The I-Lab Manager would be available during the dip-sampling phase (end of Sprint 2 and Sprint 3).
4. The open source models intended to be used for this work, which will include OpenAI's WHISPER (https://openai.com/research/whisper), have commercial use licenses and are acceptable to the Sponsor. If any other models are found necessary, the Sponsor will be consulted to ascertain if they are acceptable.
5. Costings have been calculated in terms of estimated consultancy person-days which include concurrent execution. Sprint durations have been expressed in weeks with the total project duration anticipated to be approximately 3 months.

4 Summary of tasks and time estimates

To respond fully to the SoW requirements, we estimate a schedule of work that includes a pre-lab phase at OWR with both engineering and R&D tasks, an in-lab phase dealing with benign data with engineering, R&D and execution tasks, an in-lab phase dealing with real CAID data, and final post-lab phase at OWR involving statistical analysis and report writing.

The development effort is detailed in the form of four Sprints and is estimated to complete in 3 months from start to completion.

This effort comprises of four distinct Sprints as detailed below.

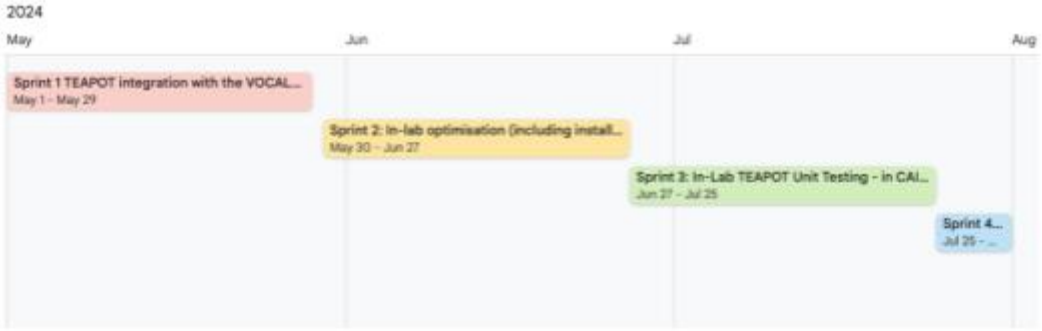
Sprint 1: Pre-Lab: TEAPOT integration with the VOCALISE platform and pre-lab optimisation - *estimated duration 4 weeks*

Sprint 2: In-lab optimisation (including installation and set-up in the CAID Innovation Laboratory) - *estimated duration 4 weeks*

Sprint 3: In-Lab TEAPOT Unit Testing - in CAID Innovation Laboratory testing with CAID video data - *estimated duration 4 weeks*

Sprint 4: OWR Office - Analysis and Reporting - *estimated duration 1 week*

An illustrative Gantt chart is provided below. Note that the timelines and dates are merely indicative and can be amended in consultation with the Sponsor.



4.1 Sprints and Time Estimates

In this section we provide details for the tasks involved in the 4 sprints listed below.

Sprint 1: Pre-Lab: TEAPOT integration with the VOCALISE platform and pre-lab optimisation

Sprint 2: In-lab optimisation (including installation and set-up in the CAID Innovation Laboratory)

Sprint 3: In-Lab TEAPOT Unit Testing - in CAID Innovation Laboratory testing with CAID video

Sprint 4: OWR Office -Analysis and Reporting

4.1.1 Sprint 1: TEAPOT integration with the VOCALISE platform and pre-lab optimisation

This Sprint comprises the following tasks. Engineering and R&D tasks are marked out separately.

Task 1.1 R&D: improving TEAPOT transcription performance; testing of different STT pipelines, models, and settings, and assessment of transcription accuracy in order to select the best configuration for use in the CAID Innovation Laboratory.

Task 1.2 R&D: improving language ID performance; testing of TEAPOT's language ID component to inform the best segment size on which to perform language ID in the CAID Innovation Laboratory.

Task 1.3 R&D: connecting TEAPOT with VSTM output; assessing the best way to use the VSTM process, which outputs regions in a file likely to contain speech, to extract the most confident regions of the TEAPOT transcription.

Task 1.4 R&D: design of Likert scoring system; determining the best Likert scale and accompanying question to use within the scoring interface.

Task 1.5 R&D: benign dataset preparation; collection, preparation, and benchmark testing of a suitable benign dataset for performance checking in the CAID Innovation Laboratory.

Task 1.6 Engineering: Speech-To-Text optimisation; improvement of core Speech-To-Text pipeline processing speed.

Task 1.7 Engineering: Metrics extraction; decide on a selection of performance and timing metrics and how to extract them.

Task 1.8 Engineering: Output and scoring design; development and formatting of textual output format and scoring interface.

Number of consultancy days required to complete tasks in this sprint: 25

Deliverable: Confirmation from OWR during fortnightly sprint reviews and end of sprint review with the Home Office CAID Team, that the integration and pre-lab optimisation has been completed including the identification, selection and copying, to the same external media as the STT software, the benign dataset that will be used to validate the STT software installation in the CAID Lab, prior to unit testing with CAID data.

This Sprint is estimated at approximately 4 weeks in duration.

4.1.2 Sprint 2: In-lab optimisation (including installation and set-up CAID Innovation Laboratory)

Task 2.1 Engineering: Core pipeline installation: Install and test run the core Speech-To-Text pipeline

Task 2.3 Engineering and R&D: Core QA: quality assessment of Speech-To-Text output against the benign dataset

Task 2.4 Engineering: Metrics QA: quality assessment of performance metrics output

Task 2.5 Engineering: GPU optimisation: test pipeline with multi-GPU timing optimisations

Task 2.6 Engineering: Performance improvements: iterate on benign data to improve output on the I-Lab system.

Task 2.7 R&D: Scoring mechanism improvements: collaborate with I-Lab Manager on scoring mechanism

Number of consultancy days required to complete tasks in this sprint: 19

Deliverable: Confirmation from OWR during fortnightly sprint reviews and end of sprint review with the Home Office CAID Team, that the installation of the speech to text pipeline and text processing pipeline is successful, expected results are being obtained with benign data for transcription and the scoring mechanism has been agreed upon with the I-Lab Manager

This Sprint is estimated at approximately 4 weeks in duration.

4.1.3 Sprint 3: TEAPOT Unit Testing - in CAID Innovation Laboratory testing with CAID video data

Task 3.1 Execution: Connect TEAPOT and VSTMs: link TEAPOT to VSTMs created in the previous phase.

Task 3.2 Execution: regular monitoring of TEAPOT in I-Lab

Task 3.3 Engineering: Provision of output for I-Lab Manager: updating scoring mechanism for I-Lab Manager

Number of consultancy days required to complete tasks in this sprint: 15

Deliverable: OWR to confirm tests complete and dip-sampling initiated, during fortnightly sprint reviews and end of sprint review with the Home Office CAID. I-Lab Manager to confirm dip-sampling completed (via Home Office internal meetings).

This Sprint is estimated at approximately 4 weeks in duration.

4.1.4 Sprint 4: Analysis and Reporting

Task 4.1 Performance statistics: compilation of performance and timing statistics

Task 4.2 Output scores: compilation of I-Lab Manager ratings and notes

Task 4.3 Reflective report: full write-up of report

Number of consultancy days required to complete tasks in this sprint: 5

Deliverable: Final report detailing the experimental findings. Home Office to agree and sign off the final report to indicate the completion of all tasks.

This Sprint is estimated at approximately 1 week in duration.

5 Deliverables

The deliverables corresponding to the different sprints are provided below:

Deliverables:

Sprint 1: Confirmation from OWR during fortnightly sprint reviews and end of sprint review with the Home Office CAID Team, that the integration and pre-lab optimisation has been completed (including the identification, selection and copying, to the same external media as the STT software, the benign dataset that will be used to validate the STT software installation in the CAID Lab, prior to unit testing with CAID data).

Sprint 2: Confirmation from OWR during fortnightly sprint reviews and end of sprint review with the Home Office CAID Team, that the installation of the STT software has been completed, and expected results are being obtained with benign data , and the scoring mechanism has been agreed upon with the I-Lab Manager.

Sprint 3: Confirmation from OWR during fortnightly sprint reviews and end of sprint review with the Home Office CAID Team, that testing is complete and dip-sampling has been initiated I-Lab Manager to confirm dip-sampling completed (via Home Office internal meetings).

Sprint 4: Final report detailing the experimental findings. Home Office to agree and sign off the final report to indicate the completion of all tasks.

6 Costing Estimate

The approximate total costings (ex VAT) for the tasks and software licensing is £80,400.

A full quote ***'Estimate HO20231219-2 Amended: Response to Speech-To-Text Transcription (Teapot Unit Test Requirements) SoW'*** dated 12th April 2024 is also provided along with this proposal. Invoices will be submitted to the Sponsor at the completion of each Sprint.

Note:

This does not include the costs of obtaining any third-party licenses (if required by the Sponsor) or procuring any additional databases as part of this development.

7 Oxford Wave Research and Project Key Staff Profiles

Oxford Wave Research (OWR) is a dedicated research and development company, based in Oxford, United Kingdom, specialising in audio and speech processing, voice biometrics and pattern-recognition- related product development. The OWR R&D team have contributed to major government projects, nationally and internationally. OWR has been particularly successful in bringing practical applications of state-of- the-art academic research to developing commercial products in biometric performance measurement (Bio-Metrics), speaker recognition (VOCALISE), speaker diarisation (CLEAVER) as well as audio processing (MADCAT, Spectrumview, etc.). Some of their law enforcement customers and collaborators include the Met Police, UK Ministry of Defence, as well as the German federal police (Bundeskriminalamt) and the Netherlands Forensic Institute (NFI). The OWR founders previously headed the team that conceptualised and developed a speaker diarisation product, currently in use in major forensic audio laboratories in the UK that won the Home Office Scientific Development Branch (HOSDB) equipment technology innovation award in 2010. In 2015, the OWR team that developed MADCAT (an audio and video fingerprinting and deduplication tool) which was recognised 'for making this a safer world' as a finalist for the Security Innovation Award at the prestigious Security and Policing Event in the UK. Between 2015-2017, Oxford Wave Research has been awarded Phase 1 and Phase 2 contracts under the SBRI Digital Forensics call funded by the Home Office for developing their MADCAT audio fingerprinting technology to detect illegal material in audio and video recordings.

Key members of the OWR team include:

1. Dr Anil Alexander's (PhD, Founder and CEO) (PhD, Founder and CEO) has led the development of many voice and audio processing solutions for law enforcement, military and other agencies, in the UK and around the world. He has been particularly successful in bringing practical award-winning applications of state-of- the-art academic research to commercial product development. Dr Alexander has a PhD (2005) in forensic automatic speaker recognition focussed on quantifying the strength of voice evidence in mismatched recording conditions from the Swiss Federal Institute of Technology, Lausanne (EPFL). He has also served as an expert in forensic audio and speaker recognition cases. Dr Alexander is currently an external PhD co-supervisor at the University of Cambridge in the areas of voice similarity and voice spoofing by humans and machines. He is also an affiliate member of the NIST-OSAC Speaker Recognition Subcommittee, where he contributes to developing standards and guidelines for forensic speaker recognition. He has also previously chaired the Research Committee of IAFPA. He was an invited speaker in 2023 at the historical and prestigious Royal Society speaking on voice recognition as part of their 'Science in the interests of Justice' programme.

2. **Oscar Forth** (Founder and CTO) has led the development of several projects including speaker diarisation, speaker recognition, speech recognition, audio capture and analysis on mobile devices, microphone arrays and acoustic weapon signature identification. He is the driving force behind software product development at OWR and has a number of software products successfully deployed to law enforcement agencies as well as high performance PC and audio-based mobile applications.

3. **Dr Finnian Kelly** (PhD, Principal Research Scientist) leads our R&D team, who explore and refine new solutions to real-world problems in automatic speaker recognition, speech and speaker analysis, and audio processing. Finnian also delivers bespoke technical training courses and consultations on forensic automatic speaker recognition to law enforcement, government, and academic institutions internationally. Prior to joining Oxford Wave Research in 2016 as a Senior Research Scientist, Finnian was with the Sigmedia Research Group at Trinity College Dublin, where he completed his PhD in 2013, and the Center for Robust Speech Systems (CRSS) at The University of Texas at Dallas. Finnian is an active affiliate member of the NIST-OSAC Speaker Recognition Subcommittee, and is currently the chair of the Research Committee of IAFPA.

4. **Thomas Coy** Tom works with OWR's R&D team, most recently focusing on the development of calibration tools and performance assessment of OWR voice biometrics solutions. Tom has worked in diverse roles including Expert in Emerging Biometrics at the National Crime Agency, where he helped establish best practices for the newly-formed Voice Analytics department, and Editor at Turtle Canyon Media, where he provided offline post-production audio and video editing for short films. Tom obtained an undergraduate degree in German and Linguistics from Exeter College, Oxford. Thereafter Tom studied for an MA in Film Studies at King's College London and more recently an MSc in Forensic Speech Science at the University of York. Tom's MSc dissertation tested the performance of Long-Term Formant Distribution-based SemiAutomatic Speaker Recognition systems, comparing systems which extracted formants using traditional Linear Predictive Coding methods with systems employing a recently developed formant estimation tool, called DeepFormants, which

uses a Deep Neural Network. As such, Tom has extensive experience in audio-visual editing and enhancement, (semi-)automatic speaker recognition system development, forensic phonetics and data analysis.

4. **Dr Ekrem Malkoç** (PhD, Technical Sales Manager) has a PhD in forensic linguistics from Ankara University (Turkey), MSc and MA degrees in Criminalistics and European Criminology from the Ankara University and Katholieke University of Leuven (Belgium) respectively, and a bachelor's degree in Electrical and Electronics Engineering. Ekrem started his career in Turkish Gendarmerie Forensics Department (JKDB) as an assistant speech, audio and image analysis expert. Focusing more on linguistics and phonetics in the later years, he did his PhD in Ankara University Linguistics department. Ekrem has been an active member of the European Network of Forensic Science Institutes' (ENFSI) Forensic Speech and Audio Analysis Working Group and also served in its Steering Committee. During his MA in European Criminology, Ekrem focused on the accreditation of forensic science laboratories and after completing his studies, he became the assistant quality manager at the Turkish Gendarmerie's Forensics Department and led the quality module of an EU Project at the end of which JKDB became the first Turkish ISO/IEC 17025 accredited forensic science laboratory. Ekrem has retired from Turkish Gendarmerie in 2015 as a Colonel after having served as the Manager of two regional Gendarmerie Forensic Laboratories.

8 Validity

This estimate is valid for 30 days from the date of this document.

9 Contact Details

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