Department
for Environment
Food & Rural Affairs

Conditions of Contracts Services

Provision of International Maritime Surveillance Services for the Marine Management Organisation to Identify Inshore and Offshore Threats to the Marine Environment.

July 2024

C25515

SECTION 1 - FORM OF CONTRACT

PARTIES:

(1) **MARINE MANAGEMENT ORGANISATION** of Lancaster House, Hampshire Court, Newcastle upon Tyne, NE4 7YH (the “Authority");

AND

(2) **OceanMind Limited** - (registered in England and Wales under number 10827294) whose registered office is Electron Building Fermi Avenue, Harwell, Didcot, Oxfordshire, OX11 0QR (the “Contractor”)

(each a “Party” and together the “Parties”)

WHEREAS

a) Following a competitive tender process, the Authority wishes to appoint the Contractor to provide the certain services and the Contractor agrees to provide those services in accordance with these terms and conditions.

b) The Authority will enter into the Contract on the basis that it requires the Services for the Initial Contract Period. However, in entering into the Contract, both Parties acknowledge that circumstances may prevent the Authority from fulfilling the funding requirements of the Contract for the Initial Contract Period. In these circumstances, the Parties undertake to discuss the future scope of the Contract before the end of the relevant Project Year.

NOW IT IS HEREBY AGREED as follows:

1. TERMS OF CONTRACT

1.1 The “Contract” comprises the following:

Section 1: Form of Contract

Section 2: Terms and Conditions

Schedule 1: Specification

Schedule 2: Prices

Schedule 3: Change Control

Schedule 4: Commercially Sensitive Information

Schedule 5: Processing, Personal Data and Data Subjects

Schedule 6: Non-Disclosure Agreement

Schedule 7: Contractor and Third-Party Software

Schedule 8: Security Requirements, Policy and Plan

Schedule 9: Work Order

1.2 The Contract starts on **01 August 2024** (the "Commencement Date") and ends on **31 July 2026** (the "End Date") unless it is terminated early or extended in accordance with the Contract. Framework call-offs entered into can exceed the framework period and the term will be specified for each individual call-off contract.

1.3 The Contract value is set at a maximum of **£1,500,000** for initial contract period 01 August 2024 to 31 July 2026 unless contract value is varied in accordance with Section F6 Variation.

1.4 The Authority may extend the term of the Contract for **2 x 12 Months** ("Extension"). The terms of the Contract will apply throughout the period of any Extension

1.5 Execution of the Contract is carried out in accordance with EU Directive 99/93 (Community framework for electronic signatures) and the Electronic Communications Act 2000. The Contract is formed on the date on which both Parties communicate acceptance of its terms on the Authority's electronic contract management system ("Atamis").

Signed for and on behalf of the [redacted]	Signed for and on behalf of the **Authority**
[redacted] 736D93216FF144C...	[redacted] E98D8A7B59614C9...
Full Name: [redacted]	Full Name: [redacted]
Job Title/Role: [redacted]	Job Title/Role: Senior Category Officer
Date Signed: 31 July 2024	Date Signed: 31 July 2024

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SECTION 2
TERMS AND CONDITIONS

CONTENTS

A GENERAL PROVISIONS

A1 Definitions and Interpretation

Unless the context otherwise requires the following terms shall have the meanings given to them below:

“Affected Party” means the Party seeking to claim relief in respect of a Force Majeure Event.

“Affiliate” means in relation to a body corporate, any other entity which directly or indirectly Controls is Controlled by, or is under direct or indirect common Control with, that body corporate from time to time.

“Approval” and “Approved” means the prior written consent of the Authority.

“Atamis” has the meaning given in paragraph 1.4 of the Form of Contract.

“Authorised Representative” means the Authority representative named in the CCN as authorised to approve agreed Variations.

“Authority Data” means:

(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, and which are: (i) supplied to the Contractor by or on behalf of the Authority; or (ii) which the Contractor is required to generate, process, store or transmit pursuant to the Contract; or

(b) any Personal Data for which the Authority is the Controller.

"Authority Premises" means any premises owned, occupied or controlled by the Authority or any other Crown Body which are made available for use by the Contractor or its Sub-Contractors for provision of the Services.

"Authority Software" means software which is owned by or licensed to the Authority (other than under or pursuant to the Contract) and which is or will be used by the Contractor for the purposes of providing the Services.

"Authority System" means the Authority's computing environment (consisting of hardware, software and/or telecommunications networks or equipment) used by the Authority or the Contractor in connection with the Contract which is owned by or licensed to the Authority by a third party and which interfaces with the Contractor System or which is necessary for the Authority to receive the Services.

"BPSS" means the HMG Baseline Personnel Security Standard for Government employees.

"CCN" means a change control notice in the form set out in Schedule 3.

"Commencement Date" means the date set out in paragraph 1.2 of the Form of Contract.

"Commercially Sensitive Information" means the information listed in Schedule 4 comprising the information of a commercially sensitive nature relating to:

(a) the Price;

(b) details of the Contractor's Intellectual Property Rights; and

(c) the Contractor's business and investment plans

which the Contractor has indicated to the Authority that, if disclosed by the Authority, would cause the Contractor significant commercial disadvantage or material financial loss.

"Confidential Information" means any information which has been designated as confidential by either Party in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) including information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person or trade secrets or Intellectual Property Rights of either Party and all Personal Data. Confidential Information shall not include information which:

(a) was public knowledge at the time of disclosure otherwise than by breach of clause E4;

(b) was in the possession of the receiving Party, without restriction as to its disclosure, before receiving it from the disclosing Party;

(c) is received from a third party (who lawfully acquired it) without restriction as to its disclosure; or

(d) is independently developed without access to the Confidential Information.

“Contract” has the meaning given in paragraph 1.1 of the Form of Contract.

“Contract Period” means the period from the Commencement Date to:

(a) the End Date; or

(b) following an Extension, the end date of the Extension

or such earlier date of termination or partial termination of the Contract in accordance with the Law or the Contract.

“Contracting Authority” means any contracting authority (other than the Authority) as defined in regulation 3 of the Regulations.

“Contractor Software” means software which is proprietary to the Contractor, including software which is or will be used by the Contractor for the purposes of providing the Services and which is set out in Schedule 7.

“Contractor System” means the information and communications technology system used by the Contractor in performing the Services including the Software, the Contractor Equipment and related cabling (but excluding the Authority System).

“Control” means that a person possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of the other person (whether through the ownership of voting shares, by contract or otherwise) and “Controls” and “Controlled" shall be interpreted accordingly.

“Controller” has the meaning given in the GDPR.

“Copyright” means as it is defined in s.1 of Part 1 Chapter 1 of the Copyright, Designs and Patents Act 1988.

“Crown” means the government of the United Kingdom (including the Northern Ireland Executive Committee and Northern Ireland Departments, the Scottish Executive and the National Assembly for Wales), including, but not limited to, government ministers, government departments, government offices and government agencies and “Crown Body” is an emanation of the foregoing.

“Data Loss Event” means any event that results, or may result, in unauthorised access to Personal Data held by the Contractor 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 Protection Impact Assessment” means an assessment by the Controller of the impact of the envisaged processing on the protection of Personal Data.

“Data Protection Legislation” means (i) the GDPR, the LED and any applicable national implementing Laws as amended from time to time (ii) the DPA 2018 to the extent that it relates to processing of personal data and privacy; and (iii) all applicable Law about the processing of personal data and privacy.

“Data Protection Officer” has the meaning given in the GDPR.

“Data Subject” has the meaning given in the GDPR.

“Data Subject Request” means 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.

“Database Rights” means as rights in databases are defined in s.3A of Part 1 Chapter 1 of the Copyright, Designs and Patents Act 1988.

“Default” means any breach of the obligations of the relevant Party (including abandonment of the Contract in breach of its terms, repudiatory breach or breach of a fundamental term) or any other default, act, omission, negligence or statement of the relevant Party or the Staff in connection with the subject-matter of the Contract and in respect of which such Party is liable to the other.

“DOTAS” means the Disclosure of Tax Avoidance Schemes rules which require a promotor of tax schemes to tell HMRC of any specified notifiable arrangements or proposals and to provide prescribed information on those arrangements or proposals within set time limits as contained in Part 7 of the Finance Act 2004 and in secondary legislation made under vires contained in Part 7 of the Finance Act and as extended to NICs by the National Insurance (Application of Part 7 of the Finance Act 2004) regulations 2012, SI 2012/1868 made under section 132A of the Social Security Administration Act 1992.

“DPA 2018” means the Data Protection Act 2018.

“EIR” means the Environmental Information Regulations 2004 (SI 2004/3391) and any guidance and/or codes of practice issued by the Information Commissioner or relevant government department in relation to such regulations.

“End Date” means the date set out in paragraph 1.2 of the Form of Contract.

“Equipment” means the Contractor’s equipment, consumables, plant, materials and such other items supplied and used by the Contractor in the delivery of the Services.

“Extension” has the meaning given in paragraph 1.3 of the Form of Contract.

“FOIA” means the Freedom of Information Act 2000 and any subordinate legislation made under that Act from time to time 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” means any event outside the reasonable control of either Party affecting its performance of its obligations under the Contract arising from acts, events, omissions, happenings or non-happenings beyond its reasonable control and which are not attributable to any wilful act, neglect or failure to take reasonable preventative action by that Party, including acts of God, riots, war or armed conflict, acts of terrorism, acts of government, local government or regulatory bodies, for flood, storm or earthquake, or disaster but excluding any industrial dispute relating to the Contractor or the Staff or any other failure in the Contractor’s supply chain.

“Form of Contract” means Section 1 of the Contract.

"GDPR" means the General Data Protection Regulation (Regulation (EU) 2016/679).

"General Anti-Abuse Rule" means:

(a) the legislation in Part 5 of the Finance Act 2013; and

(b) any future legislation introduced into parliament to counteract tax advantages arising from abusive arrangements to avoid NICs;

"Good Industry Practice" means standards, practices, methods and procedures conforming to the Law and 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 in a similar type of undertaking under the same or similar circumstances.

"Halifax Abuse Principle" means the principle explained in the CJEU Case C-255/02 Halifax and others.

"HMRC" means HM Revenue & Customs.

"ICT Environment" means the Authority System and the Contractor System.

"Information" has the meaning given under section 84 of the FOIA.

"Initial Contract Period" means the period from the Commencement Date to the End Date.

"Intellectual Property Rights" means patents, utility models, inventions, trademarks, service marks, logos, design rights (whether registrable or otherwise), applications for any of the foregoing, copyright, database rights, domain names, plant variety rights, Know-How, trade or business names, moral rights and other similar rights or obligations whether registrable or not in any country (including but not limited to the United Kingdom) and the right to sue for passing off.

"ITEPA" means the Income Tax (Earnings and Pensions) Act 2003.

"Joint Controllers" means where two or more Controllers jointly determine the purposes and means of processing.

"Key Personnel" mean those persons named in the Specification as key personnel.

"Know-How" means all information not in the public domain held in any form (including without limitation that comprised in or derived from drawings, data formulae, patterns, specifications, notes, samples, chemical compounds, biological materials, computer software, component lists, instructions, manuals, brochures, catalogues and process descriptions and scientific approaches and methods).

"Law" means any law, statute, subordinate legislation within the meaning of section 21(1) of the Interpretation Act 1978, bye-law, enforceable right within the meaning of section 2 of the European Communities Act 1972, regulation, order, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements of any Regulatory Body with which the relevant Party is bound to comply.

"LED" means Law Enforcement Directive (Directive (EU) 2016/680).

“Malicious Software” means any software program or code intended to destroy, interfere with, corrupt, or cause undesired effects on program files, data or other information, executable code or application software macros, whether or not its operation is immediate or delayed, and whether the malicious software is introduced wilfully, negligently or without knowledge of its existence.

“Material Breach” means a breach (including an anticipatory breach) that is serious in the widest sense of having a serious effect on the benefit which the Authority would otherwise derive from:

(a) a substantial portion of the Contract; or

(b) any of the obligations set out in clauses A6, D1, E1, E2, E3, E4, E7, E8 or E10.

“Month” means calendar month.

“NICs” means National Insurance Contributions.

“Occasion of Tax Non-Compliance” means:

(a) any tax return of the Contractor submitted to a Relevant Tax Authority on or after 1 October 2012 which is found on or after 1 April 2013 to be incorrect as a result of:

i) a Relevant Tax Authority successfully challenging the Contractor under the General Anti-Abuse Rule or the Halifax Abuse principle or under any tax rules or legislation that have an effect equivalent or similar to the General Anti-Abuse Rule or the Halifax Abuse Principle;

ii) the failure of an avoidance scheme which the Contractor was involved in, and which was, or should have been, notified to the Relevant Tax Authority under the DOTAS or any equivalent or similar regime; and/or

(b) any tax return of the Contractor submitted to a Relevant Tax Authority on or after 1 October 2012 gives rise on or after 1 April 2013 to a criminal conviction in any jurisdiction for tax related offences which is not spent at the Commencement Date or to a civil penalty for fraud or evasion.

“Personal Data” has the meaning given in the GDPR.

“Personal Data Breach” has the meaning given in the GDPR.

“Premises” means the location where the Services are to be supplied as set out in the Specification.

“Price” means the price (excluding any applicable VAT) payable to the Contractor by the Authority under the Contract, as set out in Schedule 2 for the full and proper performance by the Contractor of its obligations under the Contract.

“Processor” has the meaning given in the GDPR.

“Prohibited Act” means:

(a) to directly or indirectly offer, promise or give any person working for or engaged by the Authority a financial or other advantage to:

i) induce that person to perform improperly a relevant function or activity; or

ii) reward that person for improper performance of a relevant function or activity;

(b) to directly or indirectly request, agree to receive or accept any financial or other advantage as an inducement or a reward for improper performance of a relevant function or activity in connection with the Contract;

(c) an offence:

i) under the Bribery Act 2010 (or any legislation repealed or revoked by such Act;

ii) under legislation or common law concerning fraudulent acts; or

iii) the defrauding, attempting to defraud or conspiring to defraud the Authority;

(d) any activity, practice or conduct which would constitute one of the offences listed under (c) above if such activity, practice or conduct has been carried out in the UK.

“Project” means a reference to the services as detailed in the agreed Work order signed by the Contractor and the Authority.

“Protective Measures” means appropriate technical and organisational measures which may include: pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the such measures adopted by it including those outlined in Schedule 8.

“Property” means the property, other than real property, issued or made available to the Contractor by the Authority in connection with the Contract.

“Purchase Order” means the document in which the Authority specifies the Services which are to be supplied by the Contractor under the Contract.

“Quality Standards” means the quality standards published by BSI British Standards, the National Standards Body of the United Kingdom, the International Organisation for Standardization or other reputable or equivalent body (and their successor bodies) that a skilled and experienced operator in the same type of industry or business sector as the Contractor would reasonably and ordinarily be expected to comply with, and as may be further detailed in Schedule 1.

“Receipt” means the physical or electronic arrival of the invoice at the address specified in clause A4.4 or at any other address given by the Authority to the Contractor for the submission of invoices from time to time.

“Regulations” means the Public Contract Regulations 2015 (SI 2015/102).

“Regulatory Body” means a government department and regulatory, statutory and other entities, committees, ombudsmen and bodies which, whether under statute, rules, regulations, codes of practice or otherwise, are entitled to regulate, investigate, or influence the matters dealt with in the Contract or any other affairs of the Authority.

"Relevant Conviction" means a conviction that is relevant to the nature of the Services or as listed by the Authority and/or relevant to the work of the Authority.

“Relevant Requirements” means all applicable Law relating to bribery, corruption and fraud, including the Bribery Act 2010 and any guidance issued by the Secretary of State for Justice pursuant to section 9 of the Bribery Act 2010.

“Relevant Tax Authority” means HMRC or, if applicable, a tax authority in the jurisdiction in which the Contractor is established.

“Replacement Contractor” means any third party supplier appointed by the Authority to supply any services which are substantially similar to any of the Services in substitution for any of the Services following the expiry, termination or partial termination of the Contract.

“Request for Information” means a request for information under the FOIA or the EIR.

“Results” means any guidance, specifications, reports, studies, instructions, toolkits, plans, data, drawings, databases, patents, patterns, models, designs or other material which is:

a) prepared by or for the Contractor for use in relation to the performance of its obligations under the Contract; or

b) the result of any work done by the Contractor, the Staff or any Sub-Contractor in relation to the provision of the Services.

“Returning Employees” means those persons agreed by the Parties to be employed by the Contractor (and/or any Sub-Contractor) wholly or mainly in the supply of the Services immediately before the end of the Contract Period.

“Security Policy Framework” means the HMG Security Policy Framework (available from the Cabinet Office’s Government Security Secretariat) as updated from time to time.

“Services” means the services set out in Schedule 1 including any modified or alternative services.

“Specification” means the description of the Services to be supplied under the Contract as set out in Schedule 1 including, where appropriate, the Key Personnel, the Premises and the Quality Standards.

“SSCBA” means the Social Security Contributions and Benefits Act 1992.
“Staff” means all persons employed by the Contractor to perform its obligations under the Contract together with the Contractor’s servants, agents, suppliers and Sub-Contractors used in the performance of its obligations under the Contract.

“Sub–Contract” means a contract between 2 or more suppliers, at any stage of remoteness from the Authority in a sub-contracting chain, made wholly or substantially for

the purpose of performing (or contributing to the performance of) the whole or any part of the Contract and “Sub-Contractor” shall be construed accordingly.

“Sub-processor” means any third party appointed to process Personal Data on behalf of the Contractor related to this Contract.

“Tender” means the document submitted by the Contractor to the Authority in response to the Authority’s invitation to suppliers for formal offers to supply the Services.

“TFEU” means the Treaty on the Functioning of the European Union.

“Third Party IP Claim” has the meaning given to it in clause E8.7 (Intellectual Property Rights).

“Third Party Software” means software which is proprietary to any third party which is or will be used by the Contractor to provide the Services including the software and which is specified as such in Schedule 7.

“Treaties” means the Treaty on European Union and the TFEU.

“TUPE” means the Transfer of Undertakings (Protection of Employment) Regulations 2006.

“TUPE Information” means the information set out in clause B17.1.

“Valid Invoice” means an invoice containing the information set out in clause C2.5.

“Variation” means a variation to the Specification, the Price or any of the terms or conditions of the Contract.

“VAT” means value added tax charged or regulated in accordance with the provisions of the Value Added Tax Act 1994.

"Work Order" means an agreed work order signed by the Contractor and the Authority setting out details of the Services the Contractor is to deliver. Work Orders will follow the form and process set out in the Specification and Schedule 9 (Work Order) of this Contract;

“Working Day” means a day (other than a Saturday or Sunday) on which banks are open for general business in the City of London.

In the Contract, unless the context implies otherwise:

(a) the singular includes the plural and vice versa;

(b) words importing the masculine include the feminine and the neuter;

(c) reference to a clause is a reference to the whole of that clause unless stated otherwise;

(d) references to a person include an individual, company, body corporate, corporation, unincorporated association, firm, partnership or other legal entity or central Government body;

(e) the words “other”, “in particular”, “for example”, “including” and similar words shall not limit the generality of the preceding words and shall be construed as if they were immediately followed by the words “without limitation”;

(f) headings are included for ease of reference only and shall not affect the interpretation or construction of the Contract;

(g) a reference to any Law includes a reference to that Law as amended, extended, consolidated or re-enacted from time to time; and

(h) references to the Contract are references to the Contract as amended from time to time.

A2 The Authority’s Obligations

A2.1 Save as otherwise expressly provided, the obligations of the Authority under the Contract are obligations of the Authority in its capacity as a contracting counterparty and nothing in the Contract shall operate as an obligation upon, or in any other way fetter or constrain the Authority in any other capacity, and the exercise by the Authority of its duties and powers in any other capacity shall not lead to any liability (howsoever arising) on the part of the Authority to the Contractor.

A3 Contractor’s Status

A3.1 The Contractor shall be an independent contractor and nothing in the Contract shall create a contract of employment, a relationship of agency or partnership or a joint venture between the Parties and accordingly neither Party shall be authorised to act in the name of, or on behalf of, or otherwise bind the other Party save as expressly permitted by the terms of the Contract.

A3.2 The Contractor shall not (and shall ensure that any other person engaged in relation to the Contract shall not) say or do anything that might lead any other person to believe that the Contractor is acting as the agent or employee of the Authority.

A4 Notices and Communications

A4.1 Subject to clause A4.3, where the Contract states that a notice or communication between the Parties must be “written” or “in writing” it is not valid unless it is made by letter (sent by hand, first class post, recorded delivery or special delivery) or by email or by communication via Atamis.

A4.2 If it is not returned as undelivered a notice served:

(a) in a letter is deemed to have been received 2 Working Days after the day it was sent; and

(b) in an email or by communication via Atamis is deemed to have been received 4 hours after the time it was sent provided it was sent on a Working Day

or when the other Party acknowledges receipt, whichever is the earlier.

A4.3 Notices pursuant to clauses G3 (Force Majeure), I2 (Dispute Resolution) or to terminate the Contract or any part of the Services are valid only if served in a letter by hand, recorded delivery or special delivery.

A4.4 Notices shall be sent to the addresses set out below or at such other address as the relevant Party may give notice to the other Party for the purpose of service of notices under the Contract:

(a) For the Authority: **Marine Management Organisation**

Contact Name: [redacted]

Address: Marine Management Organisation,
Lutra House
Off Seedlee Road
Walton Summit
Preston
Lancashire
PR5 8BX; and

Email: [redacted]arinemanagement.org.uk

(b) For Contractor: **OceanMind Limited**

Contact Name: [redacted]

Address: Electron Building
Fermi Avenue
Harwell
Didcot
Oxfordshire
OX11 0QR

Email: [redacted]eanMind.Global

A5 Mistakes in Information

A5.1 The Contractor is responsible for the accuracy of all drawings, documentation and information supplied to the Authority by the Contractor in connection with the Services and shall pay the Authority any extra costs occasioned by any discrepancies, errors or omissions therein.

A6 Conflicts of Interest

A6.1 The Contractor shall take appropriate steps to ensure that neither the Contractor nor any Staff is placed in a position where, in the reasonable opinion of the Authority, there is or may be an actual conflict, or a potential conflict, between the

pecuniary or personal interests of the Contractor and the duties owed to the Authority under the provisions of the Contract. The Contractor will notify the Authority without delay giving full particulars of any such conflict of interest which may arise.

A6.2 The Authority may terminate the Contract immediately by notice and/or take or require the Contractor to take such other steps it deems necessary if, in the Authority's reasonable opinion, there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Contractor and the duties owed to the Authority under the provisions of the Contract. The actions of the Authority pursuant to this clause A6 shall not prejudice or affect any right of action or remedy which shall have accrued or shall thereafter accrue to the Authority.

B. THE SERVICES

B1 Specification

B1.1 In consideration of the Contractor supplying the Services the Contractor shall be paid the Price.

B2 Provision and Removal of Equipment

B2.1 The Contractor shall provide all the Equipment and resource necessary for the supply of the Services.

B2.2 The Contractor shall not deliver any Equipment to nor begin any work on the Premises without obtaining Approval.

B2.3 All Equipment brought onto the Premises shall be at the Contractor's own risk and the Authority shall have no liability for any loss of or damage to any Equipment unless the Contractor is able to demonstrate that such loss or damage was caused or contributed to by the Authority's Default. The Contractor shall provide for the haulage or carriage thereof to the Premises and the removal of Equipment when no longer required at its sole cost.

B2.4 Unless otherwise agreed, Equipment brought onto the Premises will remain the property of the Contractor.

B2.5 If the cost of any Equipment is reimbursed to the Contractor such Equipment shall be the property of the Authority and shall on request be delivered to the Authority as directed by the Authority. The Contractor will keep a full and accurate inventory of such Equipment and will deliver that inventory to the Authority on request and on completion of the Services.

B2.6 The Contractor shall maintain all Equipment in a safe, serviceable and clean condition.

B2.7 The Contractor shall, at the Authority's written request, at its own expense and as soon as reasonably practicable:

(a) remove immediately from the Premises Equipment which is, in the Authority's opinion, hazardous, noxious or not supplied in accordance with the Contract; and

(b) replace such item with a suitable substitute item of Equipment.

B2.8 Within 20 Working Days following the end of the Contract Period, the Contractor shall remove the Equipment together with any other materials used by the Contractor to supply the Services and shall leave the Premises in a clean, safe and tidy condition. The Contractor shall make good any damage to those Premises and any fixtures and fitting in the Premises which is caused by the Contractor or Staff.

B3 Delivery

B3.1 The Contractor shall at all times comply with the Quality Standards and, where applicable, shall maintain accreditation with the relevant Quality Standards authorisation body. To the extent that the standard of the Service has not been specified in the Contract, the Contractor shall agree the relevant standard of the Services with the Authority prior to the supply of the Services and, in any event, the Contractor shall perform its obligations under the Contract in accordance with the Law and Good Industry Practice.

B3.2 The Contractor shall ensure that all Staff supplying the Services do so with all due skill, care and diligence and shall possess such qualifications, skills and experience as are necessary for the proper supply of the Services. The Contractor shall ensure that those Staff are properly managed and supervised.

B3.3 If the Specification includes installation of equipment the Contractor shall notify the Authority in writing when it has completed installation. Following receipt of such notice, the Authority shall inspect the installation and shall, by giving notice to the Contractor:

(a) accept the installation; or

(b) reject the installation and inform the Contractor why, in the Authority's reasonable opinion, the installation does not satisfy the Specification.

B3.4 If the Authority rejects the installation pursuant to clause B10.3(b), the Contractor shall immediately rectify or remedy any defects and if, in the Authority's reasonable opinion, the installation does not, within 2 Working Days or such other period agreed by the Parties, satisfy the Specification, the Authority may terminate the Contract with immediate effect by notice.

B3.5 The installation shall be complete when the Contractor receives a notice issued by the Authority in accordance with clause B10.3(a). Notwithstanding acceptance of any installation in accordance with clause B10.3(a), the Contractor shall remain solely responsible for ensuring that the Services and the installation conform to the Specification. No rights of estoppel or waiver shall arise as a result of the acceptance by the Authority of the installation.

B3.6 During the Contract Period, the Contractor shall:

(a) at all times have all licences, approvals and consents necessary to enable the Contractor and Staff to carry out the installation;

(b) provide all tools and equipment (or procure the provision of all tools and equipment) necessary for completion of the installation; and

(c) not, in delivering the Services, in any manner endanger the safety or convenience of the public.

B4 Key Personnel

B4.1 The Contractor acknowledges that the Key Personnel are essential to the proper provision of the Services.

B4.2 The Key Personnel shall not be released from supplying the Services without the agreement of the Authority, except by reason of long-term sickness, maternity leave, paternity leave or termination of employment or other similar extenuating circumstances.

B4.3 Any replacements to the Key Personnel shall be subject to Approval. Such replacements shall be of at least equal status, experience and skills to the Key Personnel being replaced and be suitable for the responsibilities of that person in relation to the Services.

B4.4 The Authority shall not unreasonably withhold its agreement under clauses B11.2 or B11.3. Such agreement shall be conditional on appropriate arrangements being made by the Contractor to minimise any adverse effect on the Services which could be caused by a change in Key Personnel.

B4.5 The Authority may, by notice to the Contractor, ask it to remove any Staff whose presence is, in the Authority's reasonable opinion, undesirable. The Contractor shall comply with any such request immediately.

B5 Contractor's Staff

B5.1 The Authority may, by notice to the Contractor, refuse to admit onto, or withdraw permission to remain on, the Authority's Premises:

(a) any member of the Staff; or

(b) any person employed or engaged by any member of the Staff,

whose admission or continued presence would, in the Authority's reasonable opinion, be undesirable.

B5.2 At the Authority's written request, the Contractor shall provide a list of the names and addresses of all persons who may require admission in to the Authority's Premises, specifying the capacities in which they are concerned with the Contract and giving such other particulars as the Authority may reasonably request.

B5.3 The decision of the Authority as to whether any person is to be refused access to the Authority's Premises and as to whether the Contractor has failed to comply with clause B5.2 shall be final.

B5.4 The Contractor shall ensure that all Staff who have access to the Authority's Premises, the Authority System or the Authority Data have been cleared in accordance with the BPSS.

B6 Inspection of Premises

B6.1 Save as the Authority may otherwise direct, the Contractor is deemed to have inspected the Premises before submitting its Tender and to have complete due diligence in relation to all matters connected with the performance of its obligations under the Contract.

B7 Licence to Occupy Premises

B7.1 Any land or Premises made available from time to time to the Contractor by the Authority in connection with the Contract shall be on a non-exclusive licence basis free of charge and shall be used by the Contractor solely for the purpose of performing its obligations under the Contract. The Contractor shall have the use of such land or Premises as licensee and shall vacate the same on termination of the Contract.

B7.2 The Contractor shall limit access to the land or Premises to such Staff as is necessary for it to perform its obligations under the Contract and the Contractor shall co-operate (and ensure that its Staff co-operate) with such other persons working concurrently on such land or Premises as the Authority may reasonably request.

B7.3 Should the Contractor require modifications to the Authority's Premises, such modifications shall be subject to Approval and shall be carried out by the Authority at the Contractor's expense. The Authority shall undertake approved modification work without undue delay.

B7.4 The Contractor shall (and shall ensure that any Staff on the Authority's Premises shall) observe and comply with such rules, regulations and requirements (including those relating to security arrangements) as may be in force from time to time for the conduct of personnel when on the Authority's Premises as determined by the Authority.

B7.5 The Contract does not create a tenancy of any nature whatsoever in favour of the Contractor or its Staff and no such tenancy has or shall come into being and, notwithstanding any rights granted pursuant to the Contract, the Authority retains the right at any time to use the Premises owned or occupied by it in any manner it sees fit.

B8 Property

B8.1 All Property is and shall remain the property of the Authority and the Contractor irrevocably licenses the Authority and its agents to enter any Premises of the Contractor during normal business hours on reasonable notice to recover any such Property. The Contractor shall not in any circumstances have a lien or any other interest on the Property and the Contractor shall at all times possess the Property as fiduciary agent and bailee of the Authority. The Contractor shall take all

reasonable steps to ensure that the title of the Authority to the Property and the exclusion of any such lien or other interest are brought to the notice of all Sub-Contractors and other appropriate persons and shall, at the Authority's request, store the Property separately and ensure that it is clearly identifiable as belonging to the Authority.

B8.2 The Property shall be deemed to be in good condition when received by or on behalf of the Contractor unless the Contractor notifies the Authority otherwise within 5 Working Days of receipt.

B8.3 The Contractor shall maintain the Property in good order and condition (excluding fair wear and tear) and shall use the Property solely in connection with the Contract and for no other purpose without Approval.

B8.4 The Contractor shall ensure the security of all the Property whilst in its possession, either on the Premises or elsewhere during the supply of the Services, in accordance with the Authority's reasonable security requirements as required from time to time.

B8.5 The Contractor shall be liable for all loss of or damage to the Property, unless such loss or damage was caused by the Authority's negligence. The Contractor shall inform the Authority immediately of becoming aware of any defects appearing in, or losses or damage occurring to, the Property.

B9 Offers of Employment

B9.1 Except in respect of any transfer of Staff under TUPE, for the Contract Period and for 12 Months thereafter the Contractor shall not employ or offer employment to any of the Authority's staff who have been associated with the Services and/or the Contract without Approval.

B10 Employment Provisions

B10.1 Not later than 12 Months prior to the end of the Contract Period, the Contractor shall fully and accurately disclose to the Authority all information that the Authority may reasonably request in relation to the Staff including the following:

(a) the total number of Staff whose employment/engagement shall terminate at the end of the Contract Period, save for any operation of Law;

(b) the age, gender, salary or other remuneration, future pay settlements and redundancy and pensions entitlement of the Staff referred to in clause B10.1 (a);

(c) the terms and conditions of employment/engagement of the Staff referred to in clause B10.1 (a), their job titles and qualifications;

(d) details of any current disciplinary or grievance proceedings ongoing or circumstances likely to give rise to such proceedings and details of any claims current or threatened; and

(e) details of all collective agreements with a brief summary of the current state of negotiations with any such bodies and with details of any current industrial disputes and claims for recognition by any trade union.

B10.2 At intervals determined by the Authority (which shall not be more frequent than once every 30 days) the Contractor shall give the Authority updated TUPE Information.

B10.3 Each time the Contractor supplies TUPE Information to the Authority it shall warrant its completeness and accuracy and the Authority may assign the benefit of this warranty to any Replacement Contractor.

B10.4 The Authority may use TUPE Information it receives from the Contractor for the purposes of TUPE and/or any retendering process in order to ensure an effective handover of all work in progress at the end of the Contract Period. The Contractor shall provide the Replacement Contractor with such assistance as it shall reasonably request.

B10.5 If TUPE applies to the transfer of the Services on termination of the Contract, the Contractor shall indemnify and keep indemnified the Authority, the Crown and any Replacement Contractor against all actions, suits, claims, demands, losses, charges, damages, costs and expenses and other liabilities which the Authority or the Crown or any Replacement Contractor may suffer or incur as a result of or in connection with:

(a) the provision of TUPE Information;

(b) any claim or demand by any Returning Employee (whether in contract, tort, under statute, pursuant to EU Law or otherwise) in each case arising directly or indirectly from any act, fault or omission of the Contractor or any Sub-Contractor in respect of any Returning Employee on or before the end of the Contract Period;

(c) any failure by the Contractor or any Sub-Contractor to comply with its obligations under regulations 13 or 14 of TUPE or any award of compensation under regulation 15 of TUPE save where such failure arises from the failure of the Authority or a Replacement Contractor to comply with its duties under regulation 13 of TUPE;

(d) any claim (including any individual employee entitlement under or consequent on such a claim) by any trade union or other body or person representing any Returning Employees arising from or connected with any failure by the Contractor or any Sub-Contractor to comply with any legal obligation to such trade union, body or person; and

(e) any claim by any person who is transferred by the Contractor to the Authority and/or a Replacement Contractor whose name is not included in the list of Returning Employees.

B10.6 If the Contractor becomes aware that TUPE Information it provided has become inaccurate or misleading, it shall notify the Authority and provide the Authority with up to date TUPE Information.

B10.7 This clause B10 applies during the Contract Period and indefinitely thereafter.

B10.8 The Contractor undertakes to the Authority that, during the 12 Months prior to the end of the Contract Period the Contractor shall not (and shall procure that any Sub-Contractor shall not) without Approval (such Approval not to be unreasonably withheld or delayed):

(a) amend or vary (or purport to amend or vary) the terms and conditions of employment or engagement (including, for the avoidance of doubt, pay) of any Staff (other than where such amendment or variation has previously been agreed between the Contractor and the Staff in the normal course of business and where any such amendment or variation is not in any way related to the transfer of the Services);

(b) terminate or give notice to terminate the employment or engagement of any Staff (other than in circumstances in which the termination is for reasons of misconduct or lack of capability);

(c) transfer away, remove, reduce or vary the involvement of any other Staff from or in the provision of the Services (other than where such transfer or removal: (i) was planned as part of the individual's career development; (ii) takes place in the normal course of business; and (iii) will not have any adverse impact upon the delivery of the Services by the Contractor, (provided that any such transfer, removal, reduction or variation is not in any way related to the transfer of the Services); or

(d) recruit or bring in any new or additional individuals to provide the Services who were not already involved in providing the Services prior to the relevant period.

C PAYMENT

C1 Price

C1.1 In consideration of the Contractor's performance of its obligations under the Contract, the Authority shall pay the Price in accordance with clause C2.

C2 Payment and VAT

C2.1 The Contractor shall submit invoices to the Authority on the dates set out in Schedule 2.

C2.2 The Authority shall, in addition to the Price and following Receipt of a Valid Invoice, pay the Contractor a sum equal to the VAT chargeable on the value of the Services supplied in accordance with the Contract.

C2.3 The Contractor shall add VAT to the Price at the prevailing rate as applicable and shall show the amount of VAT payable separately on all invoices as an extra charge. If the Contractor fails to show VAT on an invoice, the Authority will not, at any later date, be liable to pay the Contractor any additional VAT.

C2.4 All Contractor invoices shall be expressed in sterling or such other currency as shall be permitted by the Authority in writing.

C2.5 Valid Invoices shall include:

(a) the Contractor's full name, address and title of the Contract;

(b) the Purchase Order number

and, if requested by the Authority:

(c) timesheets for Staff engaged in providing the Services signed and dated by the Authority's representative on the Premises on the day;

(d) the name of the individuals to whom the timesheet relates and hourly rates for each;

(e) identification of which individuals are Contractor's staff and which are Sub-Contractors;

(f) the address of the Premises and the date on which work was undertaken;

(g) the time spent working on the Premises by the individuals concerned;

(h) details of the type of work undertaken by the individuals concerned;

(i) details of plant or materials operated and on standby;

(j) separate identification of time spent travelling and/or meal or rest breaks; and

(k) where appropriate, details of journeys made and distances travelled.

C2.6 The Authority shall not pay Contractor time spent on meal or rest breaks and the Contractor shall ensure that all workers take adequate meal or rest breaks.

C2.7 The Authority shall not pay for plant which is not in use during a meal or rest break.

C2.8 Meal and rest breaks will include breaks both in or outside an individual's workplace along with any time taken in travelling to or from the break location and/or any facilities for cleaning/changing/washing in preparation for or return from a meal or rest break.

C2.9 Timesheets must include a minimum of 30 minutes break for each shift of 8 hours, a minimum of 45 minutes break in a shift of between 8 and 12 hours and a minimum of one-hour break will be taken within a shift in excess of 12 hours and the Contractor's rates and Contract Price must include such breaks.

C2.10 The Authority shall not pay the Contractor's overhead costs unless specifically agreed in writing by the Authority and overhead costs shall include, without limitation; facilities, utilities, insurance, tax, head office overheads, indirect staff costs and other costs not specifically and directly ascribable solely to the provision of the Services.

C2.11 If Schedule 2 expressly provides that the Authority may be charged for plant which is on standby then in circumstances where plant was waiting to be transferred between Premises or where the Authority has instructed that the plant is retained on

the Premises then a standby charge of 60% of agreed rates may be made in respect of such relevant periods if supported by timesheets.

C2.12 The Authority shall pay only for the time spent by Staff working on the Premises.

C2.13 The Authority shall not pay a stand-by rate if plant is on standby because no work was being carried out on the Premises at that time or no operator or other relevant staff were available (unless the standby is because the Contractor is awaiting licensing of the Premises on the Authority's instructions).

C2.14 The Authority shall not pay for plant or equipment which is stood down during any notice period pursuant to clauses H1, H2 and/or H3 and the Contractor shall mitigate such costs as far as is reasonably possible, for example, by reutilising Staff, plant, materials and services on other contracts.

C2.15 The Contractor may claim expenses only if they are clearly identified, supported by original receipts and Approved.

C2.16 If the Authority pays the Contractor prior to the submission of a Valid Invoice this payment shall be on account of and deductible from the next payment to be made.

C2.17 If any overpayment has been made or the payment or any part is not supported by a Valid Invoice the Authority may recover this payment against future invoices raised or directly from the Contractor. All payments made by the Authority to the Contractor shall be on an interim basis pending final resolution of an account with the Contractor in accordance with the terms of this clause C2.

C2.18 The Authority shall pay all sums due to the Contractor within 30 days of Receipt of a Valid Invoice. Valid Invoices should be submitted for payment to the MMO contract manger and to the following address:

Finance.MMO@marinemanagement.org.uk (the Authority's preferred option); or Marine Management Organisation, Finance Team, Lancaster House, Hampshire Court, Monarch Road, Newcastle Upon Tyne, NE4 7YH.

C2.19 If a payment of an undisputed amount is not made by the Authority by the due date, then the Authority shall pay the Contractor interest at the interest rate specified in the Late Payment of Commercial Debts (Interest) Act 1998.

C2.20 The Contractor shall ensure that a provision is included in all Sub-Contracts which requires payment to be made of all sums due to Sub-Contractors within 30 days from the receipt of a valid invoice.

C2.21 The Contractor shall indemnify the Authority on a continuing basis against any liability, including any interest, penalties or costs incurred, which is levied, demanded or assessed on the Authority at any time in respect of the Contractor's failure to account for or to pay any VAT relating to payments made to the Contractor under the Contract. Any amounts due under this clause C2.21 shall be paid by the Contractor to the Authority not less than 5 Working Days before the date upon which the tax or other liability is payable by the Authority.

C2.22 The Contractor shall not suspend the Services unless the Contractor is entitled to terminate the Contract under clause H2.3 for failure to pay undisputed sums of money.

C2.23 The Authority shall not pay an invoice which is not Valid Invoice.

C3 Recovery of Sums Due

C3.1 If under the Contract any sum of money is recoverable from or payable by the Contractor to the Authority (including any sum which the Contractor is liable to pay to the Authority in respect of any breach of the Contract), the Authority may unilaterally deduct that sum from any sum then due, or which at any later time may become due to the Contractor from the Authority under the Contract or under any other agreement with the Authority or the Crown.

C3.2 Any overpayment by either Party, whether of the Price or of VAT or otherwise, shall be a sum of money recoverable by the Party who made the overpayment from the Party in receipt of the overpayment.

C3.3 The Contractor shall make all payments due to the Authority without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise unless the Contractor has a valid court order requiring an amount equal to such deduction to be paid by the Authority to the Contractor.

C3.4 All payments due shall be made within a reasonable time unless otherwise specified in the Contract, in cleared funds, to such bank or building society account as the recipient Party may from time to time direct.

C4 Price during Extension

C4.1 Subject to Schedule 2 and clause F6, the Price shall apply for the Initial Contract Period and until the end date of any Extension or such earlier date of termination or partial termination of the Contract in accordance with the Law or the Contract.

D. STATUTORY OBLIGATIONS

D1 Prevention of Fraud and Bribery

D1.1 The Contractor represents and warrants that neither it, nor to the best of its knowledge any Staff, have at any time prior to the Commencement Date:

(a) committed a Prohibited Act or been formally notified that it is subject to an investigation or prosecution which relates to an alleged Prohibited Act; and/or

(b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act.

D1.2 The Contractor shall not during the Contract Period:

(a) commit a Prohibited Act; and/or

(b) do or suffer anything to be done which would cause the Authority or any of its employees, consultants, contractors, sub-contractors or agents to contravene any of the Relevant Requirements or otherwise incur any liability in relation to the Relevant Requirements.

D1.3 The Contractor shall, during the Contract Period:

(a) establish, maintain and enforce, and require that its Sub-Contractors establish, maintain and enforce, policies and procedures which are adequate to ensure compliance with the Relevant Requirements and prevent the occurrence of a Prohibited Act; and

(b) keep appropriate records of its compliance with its obligations under clause D1.3(a) and make such records available to the Authority on request.

D1.4 The Contractor shall immediately notify the Authority in writing if it becomes aware of any breach of clauses D1.1 and/or D1.2, or has reason to believe that it has or any of the Staff have:

(a) been subject to an investigation or prosecution which relates to an alleged Prohibited Act;

(b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act; and/or

(c) received a request or demand for any undue financial or other advantage of any kind in connection with the performance of the Contract or otherwise suspects that any person directly or indirectly connected with the Contract has committed or attempted to commit a Prohibited Act.

D1.5 If the Contractor notifies the Authority pursuant to clause D1.4, the Contractor shall respond promptly to the Authority's enquiries, co-operate with any investigation, and allow the Authority to audit any books, records and/or any other relevant documentation.

D1.6 If the Contractor is in Default under clauses D1.1 and/or D1.2, the Authority may by notice:

(a) require the Contractor to remove from performance of the Contract any Staff whose acts or omissions have caused the Default; or

(b) immediately terminate the Contract.

D1.7 Any notice served by the Authority under clause D1.6 shall specify the nature of the Prohibited Act, the identity of the party who the Authority believes has committed the Prohibited Act and the action that the Authority has taken (including, where relevant, the date on which the Contract shall terminate).

D2 Discrimination

D2.1 The Contractor shall:

(a) perform its obligations under the Contract in accordance with:

i) all applicable equality Law (whether in relation to race, sex, gender reassignment, age, disability, sexual orientation, religion or belief, pregnancy maternity or otherwise);

ii) the Authority's equality and diversity policy as given to the Contractor from time to time;

iii) any other requirements and instructions which the Authority reasonably imposes in connection with any equality obligations imposed on the Authority at any time under applicable equality Law; and

(b) take all necessary steps and inform the Authority of the steps taken to prevent unlawful discrimination designated as such by any court or tribunal, or the Equality and Human Rights Commission (or any successor organisation).

D3 Rights of Third Parties

D3.1 The provisions of clauses B10.5 and E8.3 confer benefits on persons named in such provisions (together "Third Party Provisions") other than the Parties (each person a "Third Party Beneficiary") and are intended to be enforceable by Third Party Beneficiaries by virtue of the Contracts (Rights of Third Parties) Act 1999 ("CRTPA").

D3.2 Subject to clause D3.1, a person who is not a Party has no right under the CRTPA to enforce any provisions of the Contract, but this does not affect any right or remedy of any person which exists or is available otherwise than pursuant to the CRTPA and does not apply to the Crown.

D3.3 No Third-Party Beneficiary may enforce or take steps to enforce any Third-Party Provision without Approval.

D3.4 Any amendments to the Contract may be made by the Parties without the consent of any Third-Party Beneficiary.

D4 Health and Safety

D4.1 The Contractor shall perform its obligations under the Contract in accordance with:

(a) all applicable Law regarding health and safety; and

(b) the Authority's health and safety policy while at the Authority's Premises.

D4.2 Each Party shall notify the other as soon as practicable of any health and safety incidents or material health and safety hazards at the Authority's Premises of which it becomes aware and which relate to or arise in connection with the performance of

the Contract. The Contractor shall instruct Staff to adopt any necessary associated safety measures in order to manage any such material health and safety hazards.

D5 Environmental Requirements

D5.1 The Contractor shall in the performance of the Contract have due regard to the Authority's environmental, sustainable and ethical procurement policies ("Environmental Policies") which require the Authority through its procurement and management of suppliers:

(a) conserve energy, water, wood, paper and other resources and reduce waste;

(b) phase out the use of ozone depleting substances;

(c) minimise the release of greenhouse gases, volatile organic compounds and other substances damaging to health and the environment;

(d) minimise the use of products harmful to health and the environment such as hazardous substances and solvents, replacing them with more benign substances where feasible and, where such substances are necessary, to ensure that they are stored in properly labelled containers, used and disposed of in compliance with legal and regulatory requirements and any instructions from the Authority;

(e) reduce fuel emissions wherever possible;

(f) maximise the use of recovered materials and, if recycled materials are not suitable or not readily available, to maximise the use of materials taken from renewable sources; and

(g) promote the design of products that are capable of reuse or remanufacture or easily separable into recyclable parts consisting of one material (e.g. steel, plastic, textile).

D5.2 The Contractor shall ensure that any equipment and materials used in the provision of the Services do not contain:

(a) ozone depleting substances such as hydrochlorofluorocarbons (HCFCs), halons, carbon tetrachloride, 111 trichoroethane, bromochloromethane or any other damaging substances; and/or

(b) HFCs and other gaseous and non-gaseous substances with a high global warming potential;

unless given written permission by the Authority to do so.

D5.3 The Contractor shall conserve energy and water; reduce carbon emissions and other greenhouse gases; minimise the use of substances damaging or hazardous to health and the environment and reduce waste by, for example, using resources more efficiently and reusing, recycling and composting and respecting biodiversity.

D5.4 If required by the Authority the Contractor shall provide the Authority with information about its compliance with its obligations under clause D5.3.

D5.5 The Contractor shall ensure that its Staff are aware of the Authority's Environmental Policies.

D5.6 The Contractor shall:

(a) identify any risks arising from climate change and variable weather such as higher temperatures, droughts, flooding, sea and river level rises, coastal and riparian erosion, water scarcity, and loss of water quality which may disrupt and/or affect the supply of the Services; and

(b) if such risks have been identified, enhance the resilience of its organisation to enable it to adapt and deal with the effects of such extreme events, including by having the necessary awareness-raising, evaluation, preventive, preparatory, recovery measures and support systems in place in order to minimise any disruption to the supply of the Services.

D6 Timber and Wood Derived Products (Not Applicable)

D6.1 For the purposes of clauses D6.1 to D6.8 the following terms shall have the following meanings:

(a) "Timber" means any product that contains wood or wood fibre, with the exception of "recycled" materials (see below). Such products range from solid wood to those where the manufacturing processes obscure the wood element, for example, paper. Timber and wood-derived products supplied or used in performance of the Services that have been recycled or reclaimed are referred to as "recycled" timber, which is defined below. Timber and wood-derived products supplied or used in performance of the Services that are not recycled are referred to as "virgin" timber when the distinction needs to be made for clarity. Short-rotation coppice is exempt from the requirements for timber and wood-derived products and falls under agricultural regulation and supervision rather than forestry;

(b) "Legal and Sustainable" means production and process methods, also referred to as timber production standards, and in the context of social criteria, contract performance conditions (only), as defined by the document titled "UK Government timber procurement policy: Definition of Legal and Sustainable for timber procurement" (available at www.gov.uk/government/publications/timber-definition-of-legal-and-sustainable or CPET). The edition current on the day the Contract is awarded shall apply;

(c) "FLEGT" means Forest Law Enforcement, Governance and Trade, and is a reference to the EU scheme to address the problem of illegally logged timber;

(d) "FLEGT-licensed" means production and process methods, also referred to as timber production standards, and in the context of social criteria, contract performance conditions only, as defined by a bilateral Voluntary Partnership Agreement ("VPA") between the European Union and a timber-producing country under the FLEGT scheme, where both Parties have agreed to establish a system under which timber that has been produced in accordance with the relevant laws of the producing country, and other criteria stipulated by the VPA, are licensed for export by the producing country government;

(e) “Recycled” means recovered wood that prior to being supplied to the Authority had an end use as a standalone object or as part of a structure. The term "recycled" is used to cover the following categories: pre-consumer recycled wood and wood fibre or industrial by products but excluding sawmill co-products (sawmill co-products are deemed to fall within the category of virgin timber), post-consumer recycled wood and wood fibre, and drift wood. It also covers reclaimed timber which was abandoned or confiscated at least ten years previously. Documentary evidence and independent verification also apply to recycled materials, but will focus on the use to which the timber was previously put rather than the forest source;

(f) “Short-rotation coppice” means a specific management regime whereby the poles of trees are cut everyone to two years and which is aimed at producing biomass for energy. It is exempt from the UK government timber procurement policy requirements and falls under agricultural regulation and supervision rather than forestry. The exemption only refers to short-rotation coppice, and not 'conventional' coppice which is forest management and therefore subject to the timber policy; and

(g) “CPET” means the UK Government’s Central Point of Expertise on Timber.

D6.2 All Timber supplied or used by the Contractor in providing the Services (including all Timber supplied or used by Sub-Contractors) shall comply with Schedule 1 and shall originate from a forest source where management of the forest has full regard for:

(a) identification, documentation and respect of legal, customary and traditional tenure and use rights related to the forest;

(b) mechanisms for resolving grievances and disputes including those relating to tenure and use rights, to forest management practices and to work conditions; and

(c) safeguarding the basic labour rights and health and safety of forest workers

(the “Social Criteria”).

D6.3 If requested by the Authority and not already provided in its Tender, the Contractor shall give the Authority evidence that the Timber supplied or used in providing the Services complies with the requirements of Schedule 1 and with the requirements of the Social Criteria.

D6.4 The Authority may at any time during the Contract Period and for 6 years after final delivery under the Contract require the Contractor to produce the evidence required for the Authority's inspection within 14 days of the Authority's written request.

D6.5 The Contractor shall maintain records of all Timber delivered to and accepted by the Authority for 6 years from final delivery under the Contract.

D6.6 The Authority shall decide whether the evidence submitted to it demonstrates legality and sustainability, or FLEGT-licence or equivalent, and is adequate to satisfy the Authority that the Timber complies with Schedule 1 and complies with the requirements of the Social Criteria. If the Authority is not satisfied, the Contractor shall commission and meet the costs of an "independent verification"

and resulting report that will: (a) verify the forest source of the timber or wood; and (b) assess whether the source meets the relevant criteria.

D6.7 In the Contract "Independent Verification" means that an evaluation is undertaken and reported by an individual or body whose organisation, systems and procedures conform to ISO Guide 65:1996 (EN 45011:1998) General requirements for bodies operating product certification systems (as amended form time to time) or equivalent, and who is accredited to audit against forest management standards by a body whose organisation, systems and procedures conform to ISO 17011: 2004 General Requirements for Providing Assessment and Accreditation of Conformity Assessment Bodies (as amended from time to time) or equivalent.

D6.8 The Authority may reject Timber that does not comply with Schedule 1 or with the Social Criteria. If the Authority rejects any Timber the Contractor shall supply alternative Timber which does comply at no additional cost to the Authority and without causing delay to delivery of the Services.

E PROTECTION OF INFORMATION

E1 Authority Data

E1.1 The Contractor shall not delete or remove any proprietary notices contained within or relating to the Authority Data.

E1.2 The Contractor shall not store, copy, disclose, or use the Authority Data except as necessary for the performance by the Contractor of its obligations under this Contract or as otherwise expressly authorised in writing by the Authority.

E1.3 To the extent that Authority Data is held and/or processed by the Contractor, the Contractor shall supply Authority Data to the Authority as requested by the Authority in the format specified in the Specification.

E1.4 The Contractor shall preserve the integrity of Authority Data and prevent the corruption or loss of Authority Data.

E1.5 The Contractor shall perform secure back-ups of all Authority Data and shall ensure that up-to-date back-ups are stored securely off-site. The Contractor shall ensure that such back-ups are made available to the Authority immediately upon request.

E1.6 The Contractor shall ensure that any system on which the Contractor holds any Authority Data, including back-up data, is a secure system that complies with the Security Policy Framework.

E1.7 If Authority Data is corrupted, lost or sufficiently degraded as a result of the Contractor's Default so as to be unusable, the Authority may:

(a) require the Contractor (at the Contractor's expense) to restore or procure the restoration of Authority Data and the Contractor shall do so promptly; and/or

(b) itself restore or procure the restoration of Authority Data and shall be repaid by the Contractor any reasonable expenses incurred in doing so.

E1.8 If at any time the Contractor suspects or has reason to believe that Authority Data has or may become corrupted, lost or sufficiently degraded in any way for any reason, then the Contractor shall notify the Authority immediately and inform the Authority of the remedial action the Contractor proposes to take.

E2 Data Protection

E2.1 The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Controller and the Contractor is the Processor unless otherwise specified in Schedule 5. The only processing that the Contractor is authorised to do is listed in Schedule 5 by the Authority and may not be determined by the Contractor.

E2.2 The Contractor shall notify the Authority immediately if it considers that any of the Authority's instructions infringe the Data Protection Legislation.

E2.3 The Contractor shall provide all reasonable assistance to the Authority in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the discretion of the Authority, include:

(a) a systematic description of the envisaged processing operations and the purpose of the processing;

(b) an assessment of the necessity and proportionality of the processing operations in relation to the Services;

(c) an assessment of the risks to the rights and freedoms of Data Subjects; and

(d) the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.

E2.4 The Contractor shall, in relation to any Personal Data processed in connection with its obligations under this Contract:

(a) process that Personal Data only in accordance with Schedule 5 unless the Contractor is required to do otherwise by Law. If it is so required, the Contractor shall promptly notify the Authority before processing the Personal Data unless prohibited by Law;

(b) ensure that it has in place Protective Measures which are appropriate to protect against a Data Loss Event, which the Authority may reasonably reject (but failure to reject shall not amount to approval by the Authority of the adequacy of the Protective Measures), having taken account of the:

(i) nature of the data to be protected;

(ii) harm that might result from a Data Loss Event;

(iii) state of technological development; and

(iv) cost of implementing any measures;

(c) ensure that:

(i) the Staff do not process Personal Data except in accordance with this Contract (and in particular Schedule 5);

(ii) it takes all reasonable steps to ensure the reliability and integrity of any Staff who have access to the Personal Data and ensure that they:

(A) are aware of and comply with the Contractor's duties under this clause;

(B) are subject to appropriate confidentiality undertakings with the Contractor or any Sub-processor;

(C) are informed of the confidential nature of the Personal Data and do not publish, disclose or divulge any of the Personal Data to any third party unless directed in writing to do so by the Authority or as otherwise permitted by this Contract; and

(D) have undergone adequate training in the use, care, protection and handling of Personal Data; and

(d) not transfer Personal Data outside of the European Union unless the prior written consent of the Authority has been obtained and the following conditions are fulfilled:

(i) the Authority or the Contractor has provided appropriate safeguards in relation to the transfer (whether in accordance with the GDPR Article 46 or LED Article 37) as determined by the Authority;

(ii) the Data Subject has enforceable rights and effective legal remedies;

(iii) the Contractor complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the Authority in meeting its obligations); and

(iv) the Contractor complies with any reasonable instructions notified to it in advance by the Authority with respect to the processing of the Personal Data;

(e) at the written direction of the Authority, delete or return Personal Data (and any copies of it) to the Authority on termination of the Contract unless the Contractor is required by Law to retain the Personal Data.

E2.5 Subject to clause E2.6 the Contractor shall notify the Authority immediately if, in relation to any Personal Data processed in connection with its obligations under this Contract, it:

(a) receives a Data Subject Request (or purported Data Subject 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;

(e) receives a request from any third party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law; or

(f) becomes aware of a Data Loss Event.

E2.6 The Contractor's obligation to notify under clause E2.5 shall include the provision of further information to the Authority in phases, as details become available.

E2.7 Taking into account the nature of the processing, the Contractor shall provide the Authority with full assistance in relation to either Party's obligations under Data Protection Legislation in relation to any Personal Data processed in connection with its obligations under this Contract and any complaint, communication or request made under Clause E2.5 (and insofar as possible within the timescales reasonably required by the Authority) including by promptly providing:

(a) the Authority with full details and copies of the complaint, communication or request;

(b) such assistance as is reasonably requested by the Authority to enable the Authority to comply with a Data Subject Request within the relevant timescales set out in the Data Protection Legislation;

(c) the Authority, at its request, with any Personal Data it holds in relation to a Data Subject;

(d) assistance as requested by the Authority following any Data Loss Event;

(e) assistance as requested by the Authority with respect to any request from the Information Commissioner's Office, or any consultation by the Authority with the Information Commissioner's Office.

E2.8 The Contractor shall maintain complete and accurate records and information to demonstrate its compliance with this clause. This requirement does not apply where the Contractor employs fewer than 250 staff, unless:

(a) the Authority determines that the processing is not occasional;

(b) the Authority determines the processing 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; or

(c) the Authority determines that the processing is likely to result in a risk to the rights and freedoms of Data Subjects.

E2.9 The Contractor shall allow for audits of its Personal Data processing activity by the Authority or the Authority's designated auditor.

E2.10 Each Party shall designate its own Data Protection Officer if required by the Data Protection Legislation.

E2.11 Before allowing any Sub-processor to process any Personal Data related to this Contract, the Contractor must:

(a) notify the Authority in writing of the intended Sub-processor and processing;

(b) obtain the written consent of the Authority;

(c) enter into a written agreement with the Sub-processor which give effect to the terms set out in this clause E2 such that they apply to the Sub-processor; and

(d) provide the Authority with such information regarding the Sub-processor as the Authority may reasonably require.

E2.12 The Contractor shall remain fully liable for all acts or omissions of any of its Sub-processors.

E2.13 The Authority may, at any time on not less than 30 Working Days' notice, revise this clause by replacing it with any applicable controller to processor standard clauses or similar terms forming part of an applicable certification scheme (which shall apply when incorporated by attachment to this Contract).

E2.14 The Parties agree to take account of any non-mandatory guidance issued by the Information Commissioner's Office. The Authority may on not less than 30 Working Days' notice to the Contractor amend this Contract to ensure that it complies with any guidance issued by the Information Commissioner's Officer.

E2.15 This clause E2 shall apply during the Contract Period and indefinitely after its expiry.

E2.16 Where the Parties include two or more Joint Controllers as identified in Schedule 5, in accordance with GDPR Article 26 those Parties shall enter into a Joint Controller Agreement based on the terms outlined in Schedule 5 in replacement of Clauses E2.1 to E2.14 for the Personal Data in respect of which they are Joint Controllers.

E3 Official Secrets Acts and Finance Act

E3.1 The Contractor shall comply with the provisions of:

(a) the Official Secrets Acts 1911 to 1989; and

(b) section 182 of the Finance Act 1989.

E4 Confidential Information

E4.1 Except to the extent set out in this clause E4 or if disclosure or publication is expressly permitted elsewhere in the Contract each Party shall treat all Confidential Information belonging to the other Party as confidential and shall not disclose any Confidential Information belonging to the other Party to any other person without the other party's consent, except to such persons and to such extent as may be necessary for the performance of the Party's obligations under the Contract.

E4.2 The Contractor hereby gives its consent for the Authority to publish the whole Contract (but with any information which is Confidential Information belonging to the Authority redacted) including from time to time agreed changes to the Contract, to the general public.

E4.3 If required by the Authority, the Contractor shall ensure that Staff, professional advisors and consultants sign a non-disclosure agreement prior to commencing any work in connection with the Contract in substantially the form attached in Schedule 6 and, if applicable, incorporating the requirements of clause E2.11. The Contractor shall maintain a list of the non-disclosure agreements completed in accordance with this clause E4.3.

E4.4 If requested by the Authority, the Contractor shall give the Authority a copy of the list and, subsequently upon request by the Authority, copies of such of the listed non-disclosure agreements as required by the Authority. The Contractor shall ensure that its Staff, professional advisors and consultants are aware of the Contractor's confidentiality obligations under the Contract.

E4.5 The Contractor may only disclose the Authority's Confidential Information to the Staff who are directly involved in the provision of the Services and who need to know the information and shall ensure that such Staff are aware of and shall comply with these obligations as to confidentiality.

E4.6 The Contractor shall not, and shall procure that the Staff do not, use any of the Authority's Confidential Information received otherwise than for the purposes of this Contract.

E4.7 Clause E4.1 shall not apply to the extent that:

(a) such disclosure is a requirement of Law placed upon the Party making the disclosure, including any requirements for disclosure under the FOIA or the EIR;

(b) such information was in the possession of the Party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;

(c) such information was obtained from a third party without obligation of confidentiality;

(d) such information was already in the public domain at the time of disclosure otherwise than by a breach of the Contract; or

(e) it is independently developed without access to the other Party's Confidential Information.

E4.8 Nothing in clause E4.1 shall prevent the Authority disclosing any Confidential Information obtained from the Contractor:

(a) for the purpose of the examination and certification of the Authority's accounts;

(b) for the purpose of any examination pursuant to section 6(1) of the National Audit Act 1983 of the economy, efficiency and effectiveness with which the Authority has used its resources;

(c) to any Crown Body or any Contracting Authority and the Contractor hereby acknowledges that all government departments or Contracting Authorities receiving such Confidential Information may further disclose the Confidential Information to other government departments or other Contracting Authorities on the basis that the information is confidential and is not to be disclosed to a third party which is not part of any government department or any Contracting Authority;

(d) to any consultant, contractor or other person engaged by the Authority

provided that in disclosing information under clauses E4.8 (c) and (d) the Authority discloses only the information which is necessary for the purpose concerned and requests that the information is treated in confidence and that a confidentiality undertaking is given where appropriate.

E4.9 Nothing in clauses E4.1 to E4.6 shall prevent either Party from using any techniques, ideas or Know-How gained during the performance of its obligations under the Contract in the course of its normal business, to the extent that this does not result in a disclosure of the other Party's Confidential Information or an infringement of the other Party's Intellectual Property Rights.

E4.10 The Authority shall use all reasonable endeavours to ensure that any government department, Contracting Authority, employee, third party or Sub-Contractor to whom the Contractor's Confidential Information is disclosed pursuant to clause E4.6 is made aware of the Authority's obligations of confidentiality.

E4.11 If the Contractor does not comply with clauses E4.1 to E4.6 the Authority may terminate the Contract immediately on written notice to the Contractor.

E4.12 In order to ensure that no unauthorised person gains access to any Confidential Information or any data obtained in the supply of the Services, the Contractor shall maintain adequate security arrangements that meet the requirements of professional standards and best practice.

E4.13 The Contractor will immediately notify the Authority of any breach of security in relation to Confidential Information and all data obtained in the supply of the Services and will keep a record of such breaches. The Contractor will use its best endeavours to recover such Confidential Information or data however it may be recorded. The Contractor will co-operate with the Authority in any investigation as a result of any breach of security in relation to Confidential Information or data.

E4.14 The Contractor shall, at its own expense, alter any security systems at any time during the Contract Period at the Authority's request if the Authority reasonably believes the Contractor has failed to comply with clause E4.12.

E5 Freedom of Information

E5.1 The Contractor acknowledges that the Authority is subject to the requirements of the FOIA and the EIR.

E5.2 The Contractor shall transfer to the Authority all Requests for Information that it receives as soon as practicable and in any event within 2 Working Days of receipt:

(a) give the Authority a copy of all Information in connection with the Contract in its possession or control in the form that the Authority requires within 5 Working Days (or such other period as the Authority may specify) of the Authority's request;

(b) provide all necessary assistance as reasonably requested by the Authority to enable the Authority to comply with its obligations under the FOIA and EIR;

(c) not respond to directly to a Request for Information unless authorised to do so in writing by the Authority.

E5.3 The Authority shall determine in its absolute discretion and notwithstanding any other provision in the Contract or any other agreement whether the Commercially Sensitive Information and any other Information is exempt from disclosure in accordance with the provisions of the FOIA and/or the EIR.

E6 Publicity, Media and Official Enquiries

E6.1 Without prejudice to the Authority's obligations under the FOIA, the EIR or any obligations under the Regulations, or any policy requirements as to transparency, neither Party shall make any press announcement or publicise the Contract or any part thereof in any way, except with the written consent of the other Party.

E6.2 The Contractor shall use its reasonable endeavours to ensure that its Staff, professional advisors and consultants comply with clause E6.1.

E7 Security

E7.1 The Authority shall be responsible for maintaining the security of the Authority's Premises in accordance with its standard security requirements. The Contractor shall comply with all security requirements of the Authority while on the Authority's Premises and shall ensure that all Staff comply with such requirements.

E7.2 The Authority shall give the Contractor upon request copies of its written security procedures.

E7.3 The Contractor shall, as an enduring obligation during the Contract Period, use the latest versions of anti-virus definitions available from an industry accepted anti-virus software vendor to check for and delete Malicious Software from the ICT Environment.

E7.4 Notwithstanding clause E7.3, if Malicious Software is found, the Parties shall co-operate to reduce the effect of the Malicious Software and, particularly if Malicious Software causes loss of operational efficiency or loss or corruption of the Authority Data, assist each other to mitigate any losses and to restore the provision of Services to their desired operating efficiency.

E7.5 Any cost arising out of the actions of the Parties taken in compliance with clause

E7.4 shall be borne by the Parties as follows:

(a) by the Contractor where the Malicious Software originates from the Contractor Software, the Third-Party Software or the Authority Data (whilst the Authority Data was under the control of the Contractor); and

(b) by the Authority if the Malicious Software originates from the Authority Software or Authority Data (whilst the Authority Data was under the control of the Authority).

E8 Intellectual Property Rights

E8.1 All Intellectual Property Rights in:

(a) the Results; or

(b) any guidance, specifications, reports, studies, instructions, toolkits, plans, data, drawings, databases, patents, patterns, models, designs or other material which is furnished to or made available to the Contractor by or on behalf of the Authority (together with the Results, the "IP Materials")

shall vest in the Authority (save for Copyright and Database Rights which shall vest in His Majesty the King) and the Contractor shall not, and shall ensure that the Staff shall not, use or disclose any IP Materials without Approval save to the extent necessary for performance by the Contractor of its obligations under the Contract.

E8.2 The Contractor hereby assigns:

(a) to the Authority, with full title guarantee, all Intellectual Property Rights (save for Copyright and Database Rights) which may subsist in the IP Materials prepared in accordance with clauses E8.1(a) and (b). This assignment shall take effect on the date of the Contract or (in the case of rights arising after the date of the Contract) as a present assignment of future rights that will take effect immediately on the coming into existence of the Intellectual Property Rights produced by the Contractor; and

(b) to His Majesty the King, with full title guarantee, all Copyright and Database Rights which may subsist in the IP Materials prepared in accordance with clauses E8.1 (a) and (b),

and shall execute all documents and do all acts as are necessary to execute these assignments.

E8.3 The Contractor shall:

(a) waive or procure a waiver of any moral rights held by it or any third party in copyright material arising as a result of the Contract or the performance of its obligations under the Contract;

(b) ensure that the third party owner of any Intellectual Property Rights that are or which may be used to perform the Services grants to the Authority a non-exclusive licence or, if itself a licensee of those rights, shall grant to the Authority an authorised sub-licence, to use, reproduce, modify, develop and maintain the Intellectual Property Rights in the same. Such licence or sub-licence shall be non-exclusive, perpetual, royalty-free, worldwide and irrevocable and shall include the right for the Authority to sub-license, transfer, novate or assign to other Contracting

Authorities, the Crown, the Replacement Contractor or to any other third party supplying goods and/or services to the Authority ("Indemnified Persons");

(c) not infringe any Intellectual Property Rights of any third party in supplying the Services; and

(d) during and after the Contract Period, indemnify and keep indemnified the Authority and the Indemnified Persons from and against all actions, suits, claims, demands, losses, charges, damages, costs and expenses and other liabilities which the Authority or Indemnified Persons may suffer or incur as a result of or in connection with any breach of this clause E8.3, except to the extent that any such claim results directly from:

i) items or materials based upon designs supplied by the Authority; or

ii) the use of data supplied by the Authority which is not required to be verified by the Contractor under any provision of the Contract.

E8.4 The Authority shall notify the Contractor in writing of any claim or demand brought against the Authority for infringement or alleged infringement of any Intellectual Property Right in materials supplied and/or licensed by the Contractor to the Authority.

E8.5 The Contractor shall at its own expense conduct all negotiations and any litigation arising in connection with any claim, demand or action by any third party for infringement or alleged infringement of any third party Intellectual Property Rights (whether by the Authority, the Contractor or Indemnified Person) arising from the performance of the Contractor's obligations under the Contract ("Third Party IP Claim"), provided that the Contractor shall at all times:

(a) consult the Authority on all material issues which arise during the conduct of such litigation and negotiations;

(b) take due and proper account of the interests of the Authority; and

(c) not settle or compromise any claim without Approval (not to be unreasonably withheld or delayed).

E8.6 The Authority shall at the request of the Contractor afford to the Contractor all reasonable assistance for the purpose of contesting any Third Party IP Claim and the Contractor shall indemnify the Authority for all costs and expenses (including, but not limited to, legal costs and disbursements) incurred in doing so. The Contractor shall not be required to indemnify the Authority under this clause E8.6 in relation to any costs and expenses to the extent that such arise directly from the matters referred to in clauses E8.3(d) i) and ii).

E8.7 The Authority shall not, without the Contractor's consent, make any admissions which may be prejudicial to the defence or settlement of any Third Party IP Claim.

E8.8 If any Third Party IP Claim is made or in the reasonable opinion of the Contractor is likely to be made, the Contractor shall notify the Authority and any relevant Indemnified Person, at its own expense and subject to Approval (not to be

unreasonably withheld or delayed), shall (without prejudice to the rights of the Authority under clauses E8.3(b) and G2.1(g)) use its best endeavours to:

(a) modify any or all of the Services without reducing the performance or functionality of the same, or substitute alternative services of equivalent performance and functionality, so as to avoid the infringement or the alleged infringement; or

(b) procure a licence to use the Intellectual Property Rights and supply the Services which are the subject of the alleged infringement, on terms which are acceptable to the Authority

and if the Contractor is unable to comply with clauses E8.8(a) or (b) within 20 Working Days of receipt by the Authority of the Contractor's notification the Authority may terminate the Contract immediately by notice to the Contractor.

E8.9 The Contractor grants to the Authority and, if requested by the Authority, to a Replacement Contractor, a royalty-free, irrevocable, worldwide, non-exclusive licence (with a right to sub-license) to use any Intellectual Property Rights that the Contractor owned or developed prior to the Commencement Date and which the Authority (or the Replacement Contractor) reasonably requires in order for the Authority to exercise its rights under, and receive the benefit of, the Contract (including, without limitation, the Services).

E9 Audit

E9.1 The Contractor shall keep and maintain until 6 years after the end of the Contract Period, or as long a period as may be agreed between the Parties, full and accurate records of the Contract including the Services supplied under it, all expenditure reimbursed by the Authority, and all payments made by the Authority. The Contractor shall on request afford the Authority or the Authority's representatives such access to those records and processes as may be requested by the Authority in connection with the Contract.

E9.2 The Contractor agrees to make available to the Authority, free of charge, whenever requested, copies of audit reports obtained by the Contractor in relation to the Services.

E9.3 The Contractor shall permit duly authorised representatives of the Authority and/or the National Audit Office to examine the Contractor's records and documents relating to the Contract and to provide such copies and oral or written explanations as may reasonably be required.

E9.4 The Contractor (and its agents) shall permit the Comptroller and Auditor General (and his appointed representatives) access free of charge during normal business hours on reasonable notice to all such documents (including computerised documents and data) and other information as the Comptroller and Auditor General may reasonably require for the purposes of his financial audit of the Authority and for carrying out examinations into the economy, efficiency and effectiveness with which the Authority has used its resources. The Contractor shall provide such explanations as are reasonably required for these purposes.

E10 Tax Compliance

E10.1 If, during the Contract Period, an Occasion of Tax Non-Compliance occurs, the Contractor shall:

(a) notify the Authority in writing of such fact within 5 Working Days of its occurrence; and

(b) promptly give the Authority:

i) details of the steps it is taking to address the Occasion of Tax Non-Compliance and to prevent the same from recurring, together with any mitigating factors it considers relevant; and

ii) such other information in relation to the Occasion of Tax Non-Compliance as the Authority may reasonably require.

E10.2 If the Contractor or any Staff are liable to be taxed in the UK or to pay NICs in respect of consideration received under the Contract, the Contractor shall:

(a) at all times comply with ITEPA and all other statutes and regulations relating to income tax, and SSCBA and all other statutes and regulations relating to NICS, in respect of that consideration; and

(b) indemnify the Authority against any income tax, NICs and social security contributions and any other liability, deduction, contribution, assessment or claim arising from or made in connection with the provision of the Services by the Contractor or any Staff.

F. CONTROL OF THE CONTRACT

F1 Failure to meet Requirements

F1.1 If the Authority informs the Contractor in writing that the Authority reasonably believes that any part of the Services do not meet the requirements of the Contract or differs in any way from those requirements, and this is not as a result of a default by the Authority, the Contractor shall at its own expense re-schedule and carry out the Services in accordance with the requirements of the Contract within such reasonable time as may be specified by the Authority.

F2 Monitoring of Contract Performance

F2.1 The Contractor shall immediately inform the Authority if any of the Services are not being or are unable to be performed, the reasons for non-performance, any corrective action and the date by which that action will be completed.

F2.2 At or around 6 Months from the Commencement Date and each anniversary of the Commencement Date thereafter (each being a "Review Date"), the Authority shall carry out a review of the performance of the Contractor (“Checkpoint Review”). Without prejudice to the generality of the foregoing, the Authority may in respect of the period under review consider such items as (but not limited to): the Contractor’s

delivery of the Services; the Contractor's contribution to innovation in the Authority; whether the Services provide the Authority with best value for money; consideration of any changes which may need to be made to the Services; a review of future requirements in relation to the Services and progress against key milestones.

F2.3 The Contractor shall provide at its own cost any assistance reasonably required by the Authority to perform such Checkpoint Review including the provision of data and information.

F2.4 The Authority may produce a report (a "Checkpoint Review Report") of the results of each Checkpoint Review stating any areas of exceptional performance and areas for improvement in the provision of the Services and where there is any shortfall in any aspect of performance reviewed as against the Authority's expectations and the Contractor's obligations under this Contract.

F2.5 The Authority shall give the Contractor a copy of the Checkpoint Review Report (if applicable). The Authority shall consider any Contractor comments and may produce a revised Checkpoint Review Report.

F2.6 The Contractor shall, within 10 Working Days of receipt of the Checkpoint Review Report (revised as appropriate) provide the Authority with a plan to address resolution of any shortcomings and implementation of improvements identified by the Checkpoint Review Report.

F2.7 Actions required to resolve shortcomings and implement improvements (either as a consequence of the Contractor's failure to meet its obligations under this Contract identified by the Checkpoint Review Report, or those which result from the Contractor's failure to meet the Authority's expectations notified to the Contractor or of which the Contractor ought reasonably to have been aware) shall be implemented at no extra charge to the Authority.

F3 Remedies for inadequate performance

F3.1 If the Authority reasonably believes the Contractor has committed a Material Breach it may, without prejudice to its rights under clause H2 (Termination on Default), do any of the following:

(a) without terminating the Contract, itself supply or procure the supply of all or part of the Services until such time as the Contractor has demonstrated to the Authority's reasonable satisfaction that the Contractor will be able to supply the Services in accordance with the Specification;

(b) without terminating the whole of the Contract, terminate the Contract in respect of part of the Services only (whereupon a corresponding reduction in the Price shall be made) and thereafter itself supply or procure a third party to supply such part of the Services;

(c) withhold or reduce payments to the Contractor in such amount as the Authority reasonably deems appropriate in each particular case; and/or

(d) terminate the Contract in accordance with clause H2.

F3.2 Without prejudice to its right under clause C3 (Recovery of Sums Due), the Authority may charge the Contractor for any costs reasonably incurred and any reasonable administration costs in respect of the supply of any part of the Services by the Authority or a third party to the extent that such costs exceed the payment which would otherwise have been payable to the Contractor for such part of the Services.

F3.3 If the Authority reasonably believes the Contractor has failed to supply all or any part of the Services in accordance with the Contract, professional or industry practice which could reasonably be expected of a competent and suitably qualified person, or any legislative or regulatory requirement, the Authority may give the Contractor notice specifying the way in which its performance falls short of the requirements of the Contract or is otherwise unsatisfactory.

F3.4 If the Contractor has been notified of a failure in accordance with clause F3.3 the Authority may:

(a) direct the Contractor to identify and remedy the failure within such time as may be specified by the Authority and to apply all such additional resources as are necessary to remedy that failure at no additional charge to the Authority within the specified timescale; and/or

(b) withhold or reduce payments to the Contractor in such amount as the Authority deems appropriate in each particular case until such failure has been remedied to the satisfaction of the Authority.

F3.5 If the Contractor has been notified of a failure in accordance with clause F3.3, it shall:

(a) use all reasonable endeavours to immediately minimise the impact of such failure to the Authority and to prevent such failure from recurring; and

(b) immediately give the Authority such information as the Authority may request regarding what measures are being taken to comply with the obligations in this clause F3.5 and the progress of those measures until resolved to the satisfaction of the Authority.

F3.6 If, having been notified of any failure, the Contractor fails to remedy it in accordance with clause F3.5 within the time specified by the Authority, the Authority may treat the continuing failure as a Material Breach and may terminate the Contract immediately on notice to the Contractor.

F4 Transfer and Sub-Contracting

F4.1 Except where clauses F4.6 and F4.7 both apply, the Contractor shall not transfer, charge, assign, sub-contract or in any other way dispose of the Contract or any part of it without Approval. All such documents shall be evidenced in writing and shown to the Authority on request. Sub-contracting any part of the Contract shall not relieve the Contractor of any of its obligations or duties under the Contract.

F4.2 The Contractor shall be responsible for the acts and/or omissions of its Sub-Contractors as though they are its own. If it is appropriate, the Contractor shall

provide each Sub-Contractor with a copy of the Contract and obtain written confirmation from them that they will provide the Services fully in accordance with the Contract.

F4.3 The Contractor shall ensure that its Sub-Contractors and suppliers retain all records relating to the Services for at least 6 years from the date of their creation and make them available to the Authority on request in accordance with the provisions of clause E9 (Audit). If any Sub-Contractor or supplier does not allow the Authority access to the records then the Authority shall have no obligation to pay any claim or invoice made by the Contractor on the basis of such documents or work carried out by the Sub-Contractor or supplier.

F4.4 If the Authority has consented to the award of a Sub-Contract, the Contractor shall ensure that:

(a) the Sub-Contract contains a right for the Contractor to terminate the Sub-Contract if the relevant Sub-Contractor does not comply in the performance of its contract with legal obligations in environmental, social or labour law;

(b) the Sub-Contractor includes a provision having the same effect as set out in clause F4.4 (a) in any Sub-Contract which it awards; and

(c) copies of each Sub-Contract shall, at the request of the Authority, be sent by the Contractor to the Authority immediately.

F4.5 If the Authority believes there are:

(a) compulsory grounds for excluding a Sub-Contractor pursuant to regulation 57 of the Regulations, the Contractor shall replace or not appoint the Sub-Contractor; or

(b) non-compulsory grounds for excluding a Sub-Contractor pursuant to regulation 57 of the Regulations, the Authority may require the Contractor to replace or not appoint the Sub-Contractor and the Contractor shall comply with such requirement.

F4.6 Notwithstanding clause F4.1, the Contractor may assign to a third party (the "Assignee") the right to receive payment of the Price or any part thereof due to the Contractor (including any interest which the Authority incurs under clause C2 (Payment and VAT)). Any assignment under this clause F4.6 shall be subject to:

(a) reduction of any sums in respect of which the Authority exercises its right of recovery under clause C3 (Recovery of Sums Due);

(b) all related rights of the Authority under the Contract in relation to the recovery of sums due but unpaid; and

(c) the Authority receiving notification under both clauses F4.7 and F4.8.

F4.7 If the Contractor assigns the right to receive the Price under clause F4.6, the Contractor or the Assignee shall notify the Authority in writing of the assignment and the date upon which the assignment becomes effective.

F4.8 The Contractor shall ensure that the Assignee notifies the Authority of the Assignee's contact information and bank account details to which the Authority shall make payment.

F4.9 The provisions of clause C2 shall continue to apply in all other respects after the assignment and shall not be amended without Approval.

F4.10 Subject to clause F4.11, the Authority may assign, novate or otherwise dispose of its rights and obligations under the Contract or any part thereof to:

(a) any Contracting Authority;

(b) any other body established or authorised by the Crown or under statute in order substantially to perform any of the functions that had previously been performed by the Authority; or

(c) any private sector body which substantially performs the functions of the Authority

provided that any such assignment, novation or other disposal shall not increase the burden of the Contractor's obligations under the Contract.

F4.11 Any change in the legal status of the Authority such that it ceases to be a Contracting Authority shall not, subject to clause F4.12, affect the validity of the Contract and the Contract shall bind and inure to the benefit of any successor body to the Authority.

F4.12 If the rights and obligations under the Contract are assigned, novated or otherwise disposed of pursuant to clause F4.10 to a body which is not a Contracting Authority or if there is a change in the legal status of the Authority such that it ceases to be a Contracting Authority (in the remainder of this clause both such bodies being referred to as the "Transferee"):

(a) the rights of termination of the Authority in clauses H1 and H2 shall be available to the Contractor in respect of the Transferee; and

(b) the Transferee shall only be able to assign, novate or otherwise dispose of its rights and obligations under the Contract or any part thereof with the prior consent in writing of the Contractor.

F4.13 The Authority may disclose to any Transferee any Confidential Information of the Contractor which relates to the performance of the Contractor's obligations under the Contract. In such circumstances the Authority shall authorise the Transferee to use such Confidential Information only for purposes relating to the performance of the Contractor's obligations under the Contract and for no other purpose and shall take all reasonable steps to ensure that the Transferee gives a confidentiality undertaking in relation to such Confidential Information.

F4.14 Each Party shall at its own cost and expense carry out, or use all reasonable endeavours to ensure the carrying out of, whatever further actions (including the execution of further documents) the other Party reasonably requires from time to time for the purpose of giving that other Party the full benefit of the provisions of the Contract.

F5 Waiver

F5.1 The failure of either Party to insist upon strict performance of any provision of the Contract, or the failure of either Party to exercise, or any delay in exercising, any right or remedy shall not constitute a waiver of that right or remedy and shall not cause a diminution of the obligations established by the Contract.

F5.2 No waiver shall be effective unless it is expressly stated to be a waiver and communicated to the other Party in writing in accordance with clause A4 (Notices and Communications).

F5.3 A waiver of any right or remedy arising from a breach of the Contract shall not constitute a waiver of any right or remedy arising from any other or subsequent breach of the Contract.

F6 Variation

F6.1 If, after the Commencement Date, the Authority's requirements change, the Authority may request a Variation subject to the terms of this clause 6.

F6.2 The Authority may request a Variation by notifying the Contractor in writing of the Variation and giving the Contractor sufficient information to assess the extent of the Variation and consider whether any change to the Price is required in order to implement the Variation within a reasonable time limit specified by the Authority. If the Contractor accepts the Variation it shall confirm it in writing.

F6.3 If the Contractor is unable to accept the Variation or where the Parties are unable to agree a change to the Price, the Authority may:

(a) allow the Contractor to fulfil its obligations under the Contract without the Variation to the Specification; or

(b) terminate the Contract immediately except where the Contractor has already delivered all or part of the Services or where the Contractor can show evidence of substantial work being carried out to fulfil the requirements of the Specification; and in such case the Parties shall attempt to agree upon a resolution to the matter. If a resolution cannot be reached, the matter shall be dealt with under the Dispute Resolution procedure detailed in clause I2 (Dispute Resolution).

F6.4 No Variation will take effect unless and until it is recorded in a validly executed CCN. Execution of a CNN is made via electronic signature as described in clause 1.5 of Section 1 of the Contract.

F6.5 A CCN takes effect on the date on which both Parties communicate acceptance of the CCN via Atamis. On the date it communicates acceptance of the CCN in this way the Contractor is deemed to warrant and represent that the CCN has been executed by a duly authorised representative of the Contractor in addition to the warranties and representations set out in clause G2.

F6.6 The provisions of clauses F6.4 and F6.5 may be varied in an emergency if it is not practicable to obtain the Authorised Representative's approval within the time

necessary to make the Variation in order to address the emergency. In an emergency, Variations may be approved by a different representative of the Authority. However, the Authorised Representative shall have the right to review such a Variation and require a CCN to be entered into on a retrospective basis which may itself vary the emergency Variation.

F7 Severability

F7.1 If any provision of the Contract which is not of a fundamental nature is held invalid, illegal or unenforceable for any reason by any court of competent jurisdiction, such provision shall be severed and the remainder of the provisions of the Contract shall continue in full force and effect as if the Contract had been executed with the invalid, illegal or unenforceable provision eliminated.

F8 Remedies Cumulative

F8.1 Except as expressly provided in the Contract all remedies available to either Party for breach of the Contract are cumulative and may be exercised concurrently or separately, and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies.

F9 Entire Agreement

F9.1 The Contract constitutes the entire agreement between the Parties in respect of the matters dealt with therein. The Contract supersedes all prior negotiations between the Parties and all representations and undertakings made by one Party to the other, whether written or oral, except that this clause shall not exclude liability in respect of any fraudulent misrepresentation.

F10 Counterparts

F10.1 The Contract may be executed in counterparts, each of which when executed and delivered shall constitute an original but all counterparts together shall constitute one and the same instrument.

G LIABILITIES

G1 Liability, Indemnity and Insurance

G1.1 Neither Party limits its liability for:

(a) death or personal injury caused by its negligence;

(b) fraud or fraudulent misrepresentation;

(c) any breach of any obligations implied by section 2 of the Supply of Goods and Services Act 1982;

(c) any breach of clauses D1, E1, E2 and E4;

(d) Schedule 8; or

(e) any liability to the extent it cannot be limited or excluded by Law.

G1.2 Subject to clauses G1.3 and G1.4, the Contractor shall indemnify the Authority and keep the Authority indemnified fully against all claims, proceedings, demands, charges, actions, damages, costs, breach of statutory duty, expenses and any other liabilities which may arise out of the supply, or the late or purported supply, of the Services or the performance or non-performance by the Contractor of its obligations under the Contract or the presence of the Contractor or any Staff on the Premises, including in respect of any death or personal injury, loss of or damage to property, financial loss arising from any advice given or omitted to be given by the Contractor, or any other loss which is caused directly by any act or omission of the Contractor.

G1.3 Subject to clause G1.1 the Contractor's aggregate liability in respect of the Contract shall not exceed five million (£5,000,000) British Pounds Sterling.

G1.4 The Contractor shall not be responsible for any injury, loss, damage, cost or expense if and to the extent that it is caused by the negligence or wilful misconduct of the Authority or by breach by the Authority of its obligations under the Contract.

G1.5 The Authority may recover from the Contractor the following losses incurred by the Authority to the extent they arise as a result of a Default by the Contractor:

(a) any additional operational and/or administrative costs and expenses incurred by the Authority, including costs relating to time spent by or on behalf of the Authority in dealing with the consequences of the Default;

(b) any wasted expenditure or charges;

(c) the additional costs of procuring a Replacement Contractor for the remainder of the Contract Period and or replacement deliverables which shall include any incremental costs associated with the Replacement Contractor and/or replacement deliverables above those which would have been payable under the Contract;

(d) any compensation or interest paid to a third party by the Authority; and

(e) any fine or penalty incurred by the Authority pursuant to Law and any costs incurred by the Authority in defending any proceedings which result in such fine or penalty.

G1.6 Subject to clauses G1.1 and G1.5, neither Party shall be liable to the other for any:

(a) loss of profits, turnover, business opportunities or damage to goodwill (in each case whether direct or indirect); or

(b) indirect, special or consequential loss.

G1.7 Unless otherwise specified by the Authority, the Contractor shall, with effect from the Commencement Date for such period as necessary to enable the Contractor to comply with its obligations herein, take out and maintain with a reputable insurance company a policy or policies of insurance providing an adequate level of cover in respect of all risks which may be incurred by the Contractor, arising out of the Contractor's performance of its obligations under the Contract, including death or

personal injury, loss of or damage to property or any other loss. Such policies shall include cover in respect of any financial loss arising from any advice given or omitted to be given by the Contractor. Such insurance shall be maintained for the duration of the Contract Period and for a minimum of 6 years following the end of the Contract.

G1.8 The Contractor shall hold employer's liability insurance in respect of Staff and such insurance shall be in accordance with any legal requirement from time to time in force.

G1.9 The Contractor shall give the Authority, on request, copies of all insurance policies referred to in this clause or a broker's verification of insurance to demonstrate that the appropriate cover is in place, together with receipts or other evidence of payment of the latest premiums due under those policies.

G1.10 If the Contractor does not give effect to and maintain the insurances required by the provisions of the Contract, the Authority may make alternative arrangements to protect its interests and may recover the costs of such arrangements from the Contractor.

G1.11 The provisions of any insurance or the amount of cover shall not relieve the Contractor of any liabilities under the Contract.

G1.12 The Contractor shall not take any action or fail to take any reasonable action, or (to the extent that it is reasonably within its power) permit anything to occur in relation to the Contractor, which would entitle any insurer to refuse to pay any claim under any insurance policy in which the Contractor is an insured, a co-insured or additional insured person.

G2 Warranties and Representations

G2.1 The Contractor warrants and represents on the Commencement Date and for the Contract Period that:

(a) it has full capacity and authority and all necessary consents to enter into and perform the Contract and that the Contract is executed by a duly authorised representative of the Contractor;

(b) in entering the Contract it has not committed any fraud;

(c) as at the Commencement Date, all information contained in the Tender or other offer made by the Contractor to the Authority remains true, accurate and not misleading, save as may have been specifically disclosed in writing to the Authority prior to execution of the Contract and in addition, that it will advise the Authority of any fact, matter or circumstance of which it may become aware which would render such information to be false or misleading;

(d) no claim is being asserted and no litigation, arbitration or administrative proceeding is presently in progress or, to the best of its knowledge and belief, pending or threatened against it or any of its assets which will or might have an adverse effect on its ability to perform its obligations under the Contract;

(e) it is not subject to any contractual obligation, compliance with which is likely to have a material adverse effect on its ability to perform its obligations under the Contract;

(f) no proceedings or other steps have been taken and not discharged (nor, to the best of its knowledge, are threatened) for the winding up of the Contractor or for its dissolution or for the appointment of a receiver, administrative receiver, liquidator, manager, administrator or similar officer in relation to any of the Contractor's assets or revenue;

(g) it owns, or has obtained or is able to obtain valid licences for, all Intellectual Property Rights that are necessary for the performance of its obligations under the Contract;

(h) any person engaged by the Contractor shall be engaged on terms which do not entitle them to any Intellectual Property Right in any IP Materials;

(i) in the 3 years (or period of existence where the Contractor has not been in existence for 3 years) prior to the date of the Contract:

i) it has conducted all financial accounting and reporting activities in compliance in all material respects with the generally accepted accounting principles that apply to it in any country where it files accounts;

ii) it has been in full compliance with all applicable securities and tax laws and regulations in the jurisdiction in which it is established; and

iii) it has not done or omitted to do anything which could have a material adverse effect on its assets, financial condition or position as an ongoing business concern or its ability to fulfil its obligations under the Contract;

(j) it has and will continue to hold all necessary (if any) regulatory approvals from the Regulatory Bodies necessary to perform its obligations under the Contract; and

(k) it has notified the Authority in writing of any Occasions of Tax Non-Compliance and any litigation in which it is involved that is in connection with any Occasion of Tax Non-Compliance.

G3 Force Majeure

G3.1 Subject to the remaining provisions of this clause G3, a Party may claim relief under this clause G3 from liability for failure to meet its obligations under the Contract for as long as and only to the extent that the performance of those obligations is directly affected by a Force Majeure Event. Any failure or delay by the Contractor in performing its obligations under the Contract which results from a failure or delay by an agent, Sub-Contractor or supplier shall be regarded as due to a Force Majeure Event only if that agent, Sub-Contractor or supplier is itself impeded by a Force Majeure Event from complying with an obligation to the Contractor.

G3.2 The Affected Party shall as soon as reasonably practicable issue a Force Majeure Notice, which shall include details of the Force Majeure Event, its effect on the obligations of the Affected Party and any action the Affected Party proposes to take to mitigate its effect.

G3.3 If the Contractor is the Affected Party, it shall not be entitled to claim relief under this clause G3 to the extent that consequences of the relevant Force Majeure Event:

(a) are capable of being mitigated by any of the Services, but the Contractor has failed to do so; and/or

(b) should have been foreseen and prevented or avoided by a prudent provider of services similar to the Services, operating to the standards required by the Contract.

G3.4 Subject to clause G3.5, as soon as practicable after the Affected Party issues the Force Majeure Notice, and at regular intervals thereafter, the Parties shall consult in good faith and use reasonable endeavours to agree any steps to be taken and an appropriate timetable in which those steps should be taken, to enable continued provision of the Services affected by the Force Majeure Event.

G3.5 The Parties shall at all times following the occurrence of a Force Majeure Event and during its subsistence use their respective reasonable endeavours to prevent and mitigate the effects of the Force Majeure Event. Where the Contractor is the Affected Party, it shall take all steps in accordance with Good Industry Practice to overcome or minimise the consequences of the Force Majeure Event.

G3.6 If, as a result of a Force Majeure Event:

(a) an Affected Party fails to perform its obligations in accordance with the Contract, then during the continuance of the Force Majeure Event:

i) the other Party shall not be entitled to exercise its rights to terminate the Contract in whole or in part as a result of such failure pursuant to clause H2.1 or H2.3; and

ii) neither Party shall be liable for any Default arising as a result of such failure;

(b) the Contractor fails to perform its obligations in accordance with the Contract it shall be entitled to receive payment of the Price (or a proportional payment of it) only to the extent that the Services (or part of the Services) continue to be performed in accordance with the terms of the Contract during the occurrence of the Force Majeure Event.

G3.7 The Affected Party shall notify the other Party as soon as practicable after the Force Majeure Event ceases or no longer causes the Affected Party to be unable to comply with its obligations under the Contract.

G3.8 Relief from liability for the Affected Party under this clause G3 shall end as soon as the Force Majeure Event no longer causes the Affected Party to be unable to comply with its obligations under the Contract and shall not be dependent on the serving of notice under clause G3.7.

H DEFAULT, DISRUPTION AND TERMINATION

H1 Termination on Insolvency and Change of Control

H1.1 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is a company and in respect of the Contractor:

(a) a proposal is made for a voluntary arrangement within Part I of the Insolvency Act 1986 or of any other composition scheme or arrangement with, or assignment for the benefit of, its creditors;

(b) a shareholders' meeting is convened for the purpose of considering a resolution that it be wound up or a resolution for its winding-up is passed (other than as part of, and exclusively for the purpose of, a bona fide reconstruction or amalgamation);

(c) a petition is presented for its winding up (which is not dismissed within 14 days of its service) or an application is made for the appointment of a provisional liquidator or a creditors' meeting is convened pursuant to section 98 of the Insolvency Act 1986;

(d) a receiver, administrative receiver or similar officer is appointed over the whole or any part of its business or assets;

(e) an application order is made either for the appointment of an administrator or for an administration order, an administrator is appointed, or notice of intention to appoint an administrator is given;

(f) it is or becomes insolvent within the meaning of section 123 of the Insolvency Act 1986;

(g) being a "small company" within the meaning of section 247(3) of the Companies Act 1985, a moratorium comes into force pursuant to Schedule A1 of the Insolvency Act 1986; or

(h) any event similar to those listed in H1.1(a)-(g) occurs under the law of any other jurisdiction.

H1.2 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is an individual and:

(a) an application for an interim order is made pursuant to sections 252-253 of the Insolvency Act 1986 or a proposal is made for any composition scheme or arrangement with, or assignment for the benefit of, the Contractor's creditors;

(b) a petition is presented and not dismissed within 14 days or order made for the Contractor's bankruptcy;

(c) a receiver, or similar officer is appointed over the whole or any part of the Contractor's assets or a person becomes entitled to appoint a receiver, or similar officer over the whole or any part of his assets;

(d) the Contractor is unable to pay his debts or has no reasonable prospect of doing so, in either case within the meaning of section 268 of the Insolvency Act 1986;

(e) a creditor or encumbrancer attaches or takes possession of, or a distress, execution, sequestration or other such process is levied or enforced on or sued against, the whole or any part of the Contractor's assets and such attachment or process is not discharged within 14 days;

(f) he dies or is adjudged incapable of managing his affairs within the meaning of Part VII of the Mental Capacity Act 2005;

(g) he suspends or ceases, or threatens to suspend or cease, to carry on all or a substantial part of his business; or

(h) any event similar to those listed in clauses H1.2(a) to (g) occurs under the law of any other jurisdiction.

H1.3 The Contractor shall notify the Authority immediately in writing of any proposal or negotiations which will or may result in a merger, take-over, change of control, change of name or status including where the Contractor undergoes a change of control within the meaning of section 1124 of the Corporation Taxes Act 2010 ("Change of Control"). The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor within 6 Months of:

(a) being notified that a Change of Control has occurred; or

(b) where no notification has been made, the date that the Authority becomes aware of the Change of Control,

but shall not be permitted to terminate where Approval was granted prior to the Change of Control.

H1.4 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is a partnership and:

(a) a proposal is made for a voluntary arrangement within Article 4 of the Insolvent Partnerships Order 1994 or a proposal is made for any other composition, scheme or arrangement with, or assignment for the benefit of, its creditors; or

(b) it is for any reason dissolved; or

(c) a petition is presented for its winding up or for the making of any administration order, or an application is made for the appointment of a provisional liquidator; or

(d) a receiver, or similar officer is appointed over the whole or any part of its assets; or

(e) the partnership is deemed unable to pay its debts within the meaning of section 222 or 223 of the Insolvency Act 1986 as applied and modified by the Insolvent Partnerships Order 1994; or

(f) any of the following occurs in relation to any of its partners:

(i) an application for an interim order is made pursuant to sections 252-253 of the Insolvency Act 1986 or a proposal is made for any composition scheme or arrangement with, or assignment for the benefit of, his creditors;

(ii) a petition is presented for his bankruptcy; or

(iii) a receiver, or similar officer is appointed over the whole or any part of his assets;

(g) any event similar to those listed in clauses H1.4(a) to (f) occurs under the law of any other jurisdiction.

H1.5 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is a limited liability partnership and:

(a) a proposal is made for a voluntary arrangement within Part I of the Insolvency Act 1986 or a proposal is made for any other composition, scheme or arrangement with, or assignment for the benefit of, its creditors;

(b) it is for any reason dissolved;

(c) an application is made either for the appointment of an administrator or for an administration order, an administrator is appointed, or notice of intention to appoint an administrator is given within Part II of the Insolvency Act 1986;

(d) any step is taken with a view to it being determined that it be wound up (other than as part of, and exclusively for the purpose of, a bona fide reconstruction or amalgamation) within Part IV of the Insolvency Act 1986;

(e) a petition is presented for its winding up (which is not dismissed within 14 days of its service) or an application is made for the appointment of a provisional liquidator within Part IV of the Insolvency Act 1986;

(f) a receiver, or similar officer is appointed over the whole or any part of its assets; or

(g) it is or becomes unable to pay its debts within the meaning of section 123 of the Insolvency Act 1986;

(h) a moratorium comes into force pursuant to Schedule A1 of the Insolvency Act 1986; or

(i) any event similar to those listed in clauses H1.5 (a) to (h) occurs under the law of any other jurisdiction.

H1.6 References to the Insolvency Act 1986 in clause H1.5(a) shall be construed as being references to that Act as applied under the Limited Liability Partnerships Act 2000 subordinate legislation.

H2 Termination on Default

H2.1 The Authority may terminate the Contract with immediate effect by notice if the Contractor commits a Default and:

(a) the Contractor has not remedied the Default to the satisfaction of the Authority within 25 Working Days or such other period as may be specified by the Authority, after issue of a notice specifying the Default and requesting it to be remedied;

(b) the Default is not, in the opinion of the Authority, capable of remedy; or

(c) the Default is a Material Breach.

H2.2 If, through any Default of the Contractor, data transmitted or processed in connection with the Contract is either lost or sufficiently degraded as to be unusable, the Contractor shall be liable for the cost of reconstitution of that data and shall reimburse the Authority in respect of any charge levied for its transmission and any other costs charged in connection with such Default.

H2.3 If the Authority fails to pay the Contractor undisputed sums of money when due, the Contractor shall give notice to the Authority of its failure to pay. If the Authority fails to pay such undisputed sums within 90 Working Days of the date of such notice, the Contractor may terminate the Contract in writing with immediate effect, save that such right of termination shall not apply where the failure to pay is due to the Authority exercising its rights under clause C3.1 (Recovery of Sums Due) or to a Force Majeure Event.

H3 Termination on Notice

H3.1 The Authority may terminate the Contract at any time by giving 30 days' notice to the Contractor.

H4 Other Termination Grounds

H4.1 The Authority may terminate the Contract on written notice to the Contractor if:

(a) the Contract has been subject to a substantial modification which requires a new procurement procedure pursuant to regulation 72(9) of the Regulations;

(b) the Contractor was, at the time the Contract was awarded, in one of the situations specified in regulation 57(1) of the Regulations, including as a result of the application of regulation 57 (2), and should therefore have been excluded from the procurement procedure which resulted in its award of the Contract;

(c) the Contract should not have been awarded to the Contractor in view of a serious infringement of the obligations under the Treaties and the Regulations that has been declared by the Court of Justice of the European Union in a procedure under Article 258 of the TFEU; or

(d) the Contractor has not, in performing the Services, complied with its legal obligations in respect of environmental, social or labour law.

H5 Consequences of Expiry or Termination

H5.1 If the Authority terminates the Contract under clauses H2 or H4 and makes other arrangements for the supply of the Services the Authority may recover from the

Contractor the cost reasonably incurred of making those other arrangements and any additional expenditure incurred by the Authority throughout the remainder of the Contract Period.

H5.2 If Contract is terminated under clauses H2 or H4 the Authority shall make no further payments to the Contractor (for Services supplied by the Contractor prior to termination and in accordance with the Contract but where the payment has yet to be made by the Authority), until the Authority has established the final cost of making the other arrangements envisaged under this clause.

H5.3 If the Authority terminates the Contract under clause H3 the Authority shall make no further payments to the Contractor except for Services supplied by the Contractor prior to termination and in accordance with the Contract but where the payment has yet to be made by the Authority.

H5.4 Save as otherwise expressly provided in the Contract:

(a) termination or expiry of the Contract shall be without prejudice to any rights, remedies or obligations accrued under the Contract prior to termination or expiration and nothing in the Contract shall prejudice the right of either Party to recover any amount outstanding at such termination or expiry; and

(b) termination of the Contract shall not affect the continuing rights, remedies or obligations of the Authority or the Contractor under clauses C2 (Payment and VAT), C3 (Recovery of Sums Due), D1 (Prevention of Fraud and Bribery), E2 (Data Protection), E3 (Official Secrets Acts 1911 to 1989, Section 182 of the Finance Act 1989), E4 (Confidential Information), E5 (Freedom of Information), E8 (Intellectual Property Rights), E9 (Audit), F9 (Remedies Cumulative), G1 (Liability, Indemnity and Insurance), H5 (Consequences of Expiry or Termination), H7 (Recovery upon Termination) and I1 (Governing Law and Jurisdiction).

H6 Disruption

H6.1 The Contractor shall take reasonable care to ensure that in the performance of its obligations under the Contract it does not disrupt the operations of the Authority, its employees or any other contractor employed by the Authority.

H6.2 The Contractor shall immediately inform the Authority of any actual or potential industrial action, whether such action be by its own employees or others, which affects or might affect its ability at any time to perform its obligations under the Contract.

H6.3 If there is industrial action by the Staff, the Contractor shall seek Approval to its proposals to continue to perform its obligations under the Contract.

H6.4 If the Contractor's proposals referred to in clause H6.3 are considered insufficient or unacceptable by the Authority acting reasonably, then the Contract may be terminated with immediate effect by the Authority by notice.

H6.5 If the Contractor is unable to deliver the Services owing to disruption of the Authority's normal business, the Contractor may request a reasonable allowance of

time, and, in addition, the Authority will reimburse any additional expense reasonably incurred by the Contractor as a direct result of such disruption.

H7 Recovery upon Termination

H7.1 On termination of the Contract for any reason, the Contractor shall at its cost:

(a) immediately return to the Authority all Confidential Information, Personal Data and IP Materials in its possession or in the possession or under the control of any permitted suppliers or Sub-Contractors, which was obtained or produced in the course of providing the Services;

(b) immediately deliver to the Authority all Property (including materials, documents, information and access keys) provided to the Contractor in good working order;

(c) immediately vacate any Authority Premises occupied by the Contractor;

(d) assist and co-operate with the Authority to ensure an orderly transition of the provision of the Services to the Replacement Contractor and/or the completion of any work in progress; and

(e) promptly provide all information concerning the provision of the Services which may reasonably be requested by the Authority for the purposes of adequately understanding the manner in which the Services have been provided and/or for the purpose of allowing the Authority and/or the Replacement Contractor to conduct due diligence.

H7.2 If the Contractor does not comply with clauses H7.1(a) and (b), the Authority may recover possession thereof and the Contractor grants a licence to the Authority or its appointed agents to enter (for the purposes of such recovery) any premises of the Contractor or its permitted suppliers or Sub-Contractors where any such items may be held.

H8 Retendering and Handover

H8.1 Within 21 days of being requested by the Authority, the Contractor shall provide, and thereafter keep updated, in a fully indexed and catalogued format, all the information necessary to enable the Authority to issue tender documents for the future provision of the Services.

H8.2 The Authority shall take all necessary precautions to ensure that the information referred to in clause H8.1 is given only to potential providers who have qualified to tender for the future provision of the Services.

H8.3 The Authority shall require that all potential providers treat the information in confidence; that they do not communicate it except to such persons within their organisation and to such extent as may be necessary for the purpose of preparing a response to an invitation to tender issued by the Authority; and that they shall not use it for any other purpose.

H8.4 The Contractor shall indemnify the Authority against any claim made against the Authority at any time by any person in respect of any liability incurred by the

Authority arising from any deficiency or inaccuracy in information which the Contractor is required to provide under clause H8.1.

H8.5 The Contractor shall allow access to the Premises in the presence of the Authorised Representative, to any person representing any potential provider whom the Authority has selected to tender for the future provision of the Services.

H8.6 If access is required to the Contractor's Premises for the purposes of clause H8.5, the Authority shall give the Contractor 7 days' notice of a proposed visit together with a list showing the names of all persons who will be visiting. Their attendance shall be subject to compliance with the Contractor's security procedures, subject to such compliance not being in conflict with the objectives of the visit.

H8.7 The Contractor shall co-operate fully with the Authority during any handover at the end of the Contract. This co-operation shall include allowing full access to, and providing copies of, all documents, reports, summaries and any other information necessary in order to achieve an effective transition without disruption to routine operational requirements.

H8.8 Within 10 Working Days of being requested by the Authority, the Contractor shall transfer to the Authority, or any person designated by the Authority, free of charge, all computerised filing, recording, documentation, planning and drawing held on software and utilised in the provision of the Services. The transfer shall be made in a fully indexed and catalogued disk format, to operate on a proprietary software package identical to that used by the Authority.

H9 Exit Management

H9.1 Upon termination the Contractor shall render reasonable assistance to the Authority to the extent necessary to effect an orderly assumption by a Replacement Contractor in accordance with the procedure set out in clause H10.

H10 Exit Procedures

H10.1 Where the Authority requires a continuation of all or any of the Services on expiry or termination of this Contract, either by performing them itself or by engaging a third party to perform them, the Contractor shall co-operate fully with the Authority and any such third party and shall take all reasonable steps to ensure the timely and effective transfer of the Services without disruption to routine operational requirements.

H10.2 The following commercial approach shall apply to the transfer of the Services if the Contractor:

(a) does not have to use resources in addition to those normally used to deliver the Services prior to termination or expiry, there shall be no change to the Price; or

(b) reasonably incurs additional costs, the Parties shall agree a Variation to the Price based on the Contractor's rates either set out in Schedule 2 or forming the basis for the Price.

H10.3 When requested to do so by the Authority, the Contractor shall deliver to the Authority details of all licences for software used in the provision of the Services including the software licence agreements.

H10.4 Within one Month of receiving the software licence information described above, the Authority shall notify the Contractor of the licences it wishes to be transferred, and the Contractor shall provide for the approval of the Authority a plan for licence transfer.

H11 Knowledge Retention

H11.1 The Contractor shall co-operate fully with the Authority in order to enable an efficient and detailed knowledge transfer from the Contractor to the Authority on the completion or earlier termination of the Contract and in addition, to minimise any disruption to routine operational requirements. To facilitate this transfer, the Contractor shall provide the Authority free of charge with full access to its Staff, and in addition, copies of all documents, reports, summaries and any other information requested by the Authority. The Contractor shall comply with the Authority's request for information no later than 15 Working Days from the date that that request was made.

I DISPUTES AND LAW

I1 Governing Law and Jurisdiction

I1.1 Subject to the provisions of clause I2 the Contract, including any matters arising out of or in connection with it, shall be governed by and interpreted in accordance with English Law and shall be subject to the jurisdiction of the Courts of England and Wales. The submission to such jurisdiction shall not limit the right of the Authority to take proceedings against the Contractor in any other court of competent jurisdiction, and the taking of proceedings in any other court of competent jurisdiction shall not preclude the taking of proceedings in any other jurisdiction whether concurrently or not.

I2 Dispute Resolution

I2.1 The Parties shall attempt in good faith to negotiate a settlement to any dispute between them arising out of or in connection with the Contract within 20 Working Days of either Party notifying the other of the dispute and such efforts shall involve the escalation of the dispute to the finance director of the Contractor and the commercial director of the Authority.

I2.2 Nothing in this dispute resolution procedure shall prevent the Parties from seeking from any court of competent jurisdiction an interim order restraining the other Party from doing any act or compelling the other Party to do any act.

I2.3 If the dispute cannot be resolved by the Parties pursuant to clause I2.1 either Party may refer it to mediation pursuant to the procedure set out in clause I2.5.

I2.4 The obligations of the Parties under the Contract shall not cease, or be suspended or delayed by the reference of a dispute to mediation (or arbitration) and the

Contractor and the Staff shall comply fully with the requirements of the Contract at all times.

I2.5 The procedure for mediation and consequential provisions relating to mediation are as follows:

(a) a neutral adviser or mediator (the "Mediator") shall be chosen by agreement between the Parties or, if they are unable to agree upon a Mediator within 10 Working Days after a request by one Party to the other or if the Mediator agreed upon is unable or unwilling to act, either Party shall within 10 Working Days from the date of the proposal to appoint a Mediator or within 10 Working Days of notice to either Party that he is unable or unwilling to act, apply to the Centre for Effective Dispute Resolution to appoint a Mediator;

(b) the Parties shall within 10 Working Days of the appointment of the Mediator meet with him in order to agree a programme for the exchange of all relevant information and the structure to be adopted for negotiations. If appropriate, the Parties may at any stage seek assistance from the Centre for Effective Dispute Resolution to provide guidance on a suitable procedure;

(c) unless otherwise agreed, all negotiations connected with the dispute and any settlement agreement relating to it shall be conducted in confidence and without prejudice to the rights of the Parties in any future proceedings;

(d) if the Parties reach agreement on the resolution of the dispute, the agreement shall be recorded in writing and shall be binding on the Parties once it is signed by their duly authorised representatives;

(e) failing agreement, either of the Parties may invite the Mediator to provide a non-binding but informative written opinion. Such an opinion shall be provided on a without prejudice basis and shall not be used in evidence in any proceedings relating to the Contract without the prior written consent of both Parties; and

(f) if the Parties fail to reach agreement within 60 Working Days of the Mediator being appointed, or such longer period as may be agreed by the Parties, then any dispute or difference between them may be referred to the Courts unless the dispute is referred to arbitration pursuant to the procedures set out in clause I2.6.

I2.6 Subject to clause I2.2, the Parties shall not institute court proceedings until the procedures set out in clauses I2.1 and I2.3 have been completed save that:

(a) The Authority may at any time before court proceedings are commenced, serve a notice on the Contractor requiring the dispute to be referred to and resolved by arbitration in accordance with clause I2.7;

(b) if the Contractor intends to commence court proceedings, it shall serve notice on the Authority of its intentions and the Authority shall have 21 days following receipt of such notice to serve a reply on the Contractor requiring the dispute to be referred to and resolved by arbitration in accordance with clause I2.7; and

(c) the Contractor may request by notice to the Authority that any dispute be referred and resolved by arbitration in accordance with clause I2.7, to which the Authority may consent as it sees fit.

I2.7 If any arbitration proceedings are commenced pursuant to clause I2.6,

(a) the arbitration shall be governed by the provisions of the Arbitration Act 1996 and the Authority shall give a notice of arbitration to the Contractor (the "Arbitration Notice") stating:

(i) that the dispute is referred to arbitration; and

(ii) providing details of the issues to be resolved;

(b) the London Court of International Arbitration ("LCIA") procedural rules in force at the date that the dispute was referred to arbitration in accordance with I2.7(b) shall be applied and are deemed to be incorporated by reference to the Contract and the decision of the arbitrator shall be binding on the Parties in the absence of any material failure to comply with such rules;

(c) the tribunal shall consist of a sole arbitrator to be agreed by the Parties;

(d) if the Parties fail to agree the appointment of the arbitrator within 10 days of the Arbitration Notice being issued by the Authority under clause I2.7(a) or if the person appointed is unable or unwilling to act, the arbitrator shall be appointed by the LCIA;

(e) the arbitration proceedings shall take place in London and in the English language; and

(f) the arbitration proceedings shall be governed by, and interpreted in accordance with, English Law.

SCHEDULE 1 - SPECIFICATION

This Section sets out the Marine Management Organisation's (MMO) requirements.

Provision of International Maritime Surveillance Services for the Marine Management Organisation to Identify Inshore and Offshore Threats to the Marine Environment.

Glossary of Acronyms

Acronym	Definition
AIG	Ascension Island Government
AIS	Automatic Identification System
AoI	Area of Interest
BBP	Blue Belt Programme
BBOS	Blue Belt Ocean Shield
BIOT	British Indian Ocean Territory
Cefas	Centre for Environment, Fisheries and Aquaculture Science
C&E	Compliance and Enforcement
EEZ	Exclusive Economic Zone
EFZ	Exclusive Fisheries Zone
EO	Electro-Optical
FCDO	Foreign, Commonwealth and Development Office
GDP	Gross Domestic Product
GIS	Geographic Information Systems
ILRBE	Intelligence Led Risk Based Enforcement
IMO	International Maritime Organisation
IRCS	International Radio Call Sign
IUU	Illegal, Unreported and Unregulated
JMSC	Joint Maritime Security Centre
JNCC	Joint Nature Conservation Committee
KO	Key Objective
MMO	Marine Management Organisation
MPA	Marine Protected Area
MPZ	Marine Protection Zone
MMSI	Maritime Mobile Service Identities
Nm	Nautical Mile
OCPP	Ocean Country Partnership Programme
ODA	Overseas Development Assistance
PHIA	Professional Head of Intelligence Assessment
RF	Radio Frequency
RFMO	Regional Fisheries Management Organisation
SAR	Satellite Aperture Radar
SGSSI	South Georgia and the South Sandwich Islands
TCI	Turks and Caicos Islands
TCIG	Turks and Caicos Island Government
TdC	Tristan da Cunha

TdCG	Tristan da Cunha Government
UK-OTs	UK Overseas Territories
UNCLOS	United National Convention on the Law of the Sea
VIIRS	Visible Infrared Imaging Radiometer Suite
VMS	Vessel Monitoring System
WO	Work Order

Background

Since 2017, the Marine Management Organisation (MMO) has supported and assisted international partners through the provision of remote sensing-based surveillance of their respective maritime zones. The surveillance is primarily used to monitor for Illegal, Unreported & Unregulated fishing (IUU), but is occasionally used for other applications such as Marine Protected Area (MPA) monitoring, marine pollution monitoring and merchant vessel traffic movements. The level of coverage required is essentially global; the MMO work in a wide range of geographies and may require domestic coverage going forward, with a focus over the UK Overseas Territories (UK-OTs) and partner countries' maritime zones.

With the current contract for the provision of these services ending on 31st July 2024, the MMO requires a call off, turnkey service, whereby the Contractor must undertake all aspects of data acquisition, processing, storage and analysis, to replace it. The Contractor will provide the MMO with outputs in which vessel detection within the acquisitions and subsequent Automatic Identification System (AIS) correlation has been undertaken in accordance with a pre-agreed set of defined parameters (see Key Objectives, KOs, below).

Marine Management Organisation (MMO)

The MMO is an executive non-departmental public body with statutory responsibility within English waters. Established under the Marine & Coastal Access Act (2009), the MMO aims to support sustainable development in the marine area, and to promote the UK government's vision for clean, healthy, safe, productive and biologically diverse oceans and seas. The organisation has a broad domestic remit, which includes fisheries control and enforcement, marine spatial planning and marine licensing.

In addition to its domestic remit, the MMO provides technical assistance in an international context to UK Overseas Territories (UK-OTs) and other governments. The technical assistance helps to support other governments and UKOTs to effectively manage, monitor and protect their marine environment in a sustainable way.

The MMO have a dedicated Global Marine Team to deliver the international remit, which includes of a team of 14 involved primarily in delivering the Compliance and Enforcement (C&E) aspects across the international programmes. Within the C&E component, there is a sub-team of eight analysts and senior analysts who focus on surveillance and monitoring. The analytical team undertake AIS analysis daily, and the MMO has access to comprehensive AIS coverage through systems provided by the Joint Maritime Security Centre (JMSC). The focus of the service being procured is therefore in respect of capabilities that detect activity that is not visible on AIS (hereafter referred to as 'dark activity'). However, if there are capacity constraints within the MMO it may be necessary

for the Contractor undertake some interpretative analysis of AIS, particularly in retrospective context.

The C&E component of the Global Marine Team have been using the outputs of satellite-based surveillance for over six years and are familiar with the strengths, limitations and constraints of capabilities such as Synthetic Aperture Radar (SAR), Electro-Optical (EO) and Radio-Frequency (RF) detection in an applied practical sense. The MMO does not, however, currently have sufficient infrastructure, Earth observation expertise or capacity to completely undertake this aspect of the surveillance in-house. The Contractor must therefore be able to provide a turnkey, output-orientated service to the MMO.

Illegal, Unreported and Unregulated (IUU) Fishing

The term “IUU fishing” covers the different ways a fishing activity fails to comply with conditions or relevant legal requirements. The concept was developed by the Fisheries and Agricultural Organisation of the United Nations and is an internationally recognised term. IUU fishing covers a range of illicit activities, including foreign vessels fishing in another country’s territorial waters, violation of international conservation laws or tracking requirements, and failure to report catches to proper authorities. The global loss to IUU fishing has been estimated to be between US$10-23 billion annually.

Although the surveillance is not exclusively used to monitor for IUU activity, this is the primary application of the surveillance across both programmes.

Blue Belt Programme (BBP) & Blue Belt Ocean Shield (BBOS)

The Blue Belt Programme - GOV.UK (www.gov.uk)

There are 14 UK-OTs, which are internally self-governing territories that have constitutional links to the UK. The Governments of the UK-OTs are constitutionally responsible for the management and protection of their maritime environments.

The BBP is a UK Government programme that provides assistance to the UK-OTs with the protection and sustainable management of their maritime environments. BBOS is a sub-programme of the BBP. BBOS is a maritime domain awareness project, which works to assess and understand the activities that take place within the marine zones of the UK-OTs.

The programmes are funded by the Foreign, Commonwealth and Development Office (FCDO), co-delivered by the MMO and Centre for Fisheries and Aquaculture Science (Cefas). The following UK-OTs are currently involved:

- Ascension Island
- Anguilla
- Bermuda – currently engaged in BBOS

- British Antarctic Territory
- British Indian Ocean Territory (BIOT)
- Pitcairn Islands
- St Helena
- South Georgia and the South Sandwich Islands (SGSSI)
- Tristan da Cunha (TdC)
- Turks and Caicos Islands (TCI)

Additional UK-OTs may join the programme in the future.

The UK-OTs involved in the BBP and BBOS range from isolated oceanic islands in the tropics and the Antarctic, to archipelagic island groups in the Caribbean. The combined UK-OT maritime environment is in excess of 5 million km^2 and is internationally recognised for its biodiversity and ecological importance. The nature of the protection afforded to the UK-OTs ranges from the designation of no-take MPAs covering almost the entire Exclusive Economic Zone (EEZ), such as in Ascension Island, to a Marine Protection Zone (MPZ) in Tristan da Cunha that allows tightly controlled local fishing activity while protecting a large proportion of the zone and key habitats within it.

It is estimated that the UK-OTs contain 90% of the UK's biodiversity and, due to their isolated locations, often have high numbers of endemic species[1]. The oceans surrounding the UK-OTs contain a wealth of natural capital, which their governments and communities rely on. Natural capital is the stock of natural assets, such as fish stocks or geological resources, that humans derive services from and make human life possible.

Under articles set out in the UN Convention on the Law of the Sea (UNCLOS), the UK-OTs have declared Exclusive Economic Zones (EEZ) or other designations such as a Maritime Zone in the case of South Georgia and the South Sandwich Islands (SGSSI). In all cases these designations comprise the maritime area out to a 200nm limit, or median line with another State. The coastal State has the rights to exploit natural resources, particularly fish stocks within this area. Areas beyond the 200nm limits of coastal States are termed "High Seas" and are not under the jurisdiction of a State and are managed using different mechanisms.

The maritime environment of the UK-OTs faces multiple threats, with the two principal ones being:

1. IUU fishing
2. Pollution events caused by commercial merchant vessel traffic

The UK-OTs involved in the programme generally have limited capacity and resource to carry out surveillance of activities in their EEZs and take enforcement action should illegal activity be detected. The capacity does vary, however, with two of the UK-OTs, BIOT and SGSSI, having dedicated offshore fisheries patrol vessels, for example.

[1] The Environment of the UK Overseas Territories. DEFRA 2012. `

The first iteration of the BBP ran from 2016 to 2020 and was extended until March 2021. The programme was extended again to March 2025, and is likely to be extended further beyond this.

Ocean Country Partnership Programme (OCPP)

Ocean Country Partnership Programme (OCPP) - GOV.UK (www.gov.uk)

The OCPP is funded through official development assistance (ODA) as part of the UK's £500 million Blue Planet Fund. Through the OCPP, the UK government partners with ODA-eligible countries to deliver tangible and positive impacts on the livelihoods of coastal communities that depend on healthy marine ecosystems.

The programme was launched in 2021, and the current round of funding runs until March 2026, with future iterations of the programme possible beyond this. In conjunction with the other UK Government delivery partners (Joint Nature Conservation Committee, JNCC, and Cefas), the MMO provides support and assistance to partner countries through bilateral relationships. There are currently eleven partner countries involved in the programme, of which the MMO is providing support and assistance to the following;

- Belize
- Ghana
- Senegal
- Mozambique
- Madagascar
- Sri Lanka
- Maldives
- Vanuatu
- Solomon Islands

Under OCPP, partner countries can obtain support and assistance in respect the following thematic areas,

- Sustainable seafood
- Marine biodiversity
- Marine pollution
- Climate change

From a surveillance perspective, the majority of the assistance provided falls under the sustainable seafood theme, with IUU fishing representing a significant threat to the environment, economy, society and culture in many partner countries. OCPP countries face a broad spectrum of IUU threats, ranging from small, inshore vessels to industrial scale, offshore fleets. Partner countries typically have very limited resources, and sometimes limited understanding as to the scale and extent of IUU activity within their EEZ.

In addition to IUU fishing surveillance, under OCPP remote sensing has also been used to develop an understanding of vessel traffic patterns, and of human activities in and around MPAs.

Future Programmes & Development of Capability

The current round of funding for BBP/BBOS runs until 31st March 2025. It is likely that further rounds of funding will become available, but this cannot be confirmed at this stage. Similarly, funding for OCPP remains in place until 31st March 2026, and there may be future iterations of programme beyond this, but again this cannot be confirmed at this stage. The MMO may also become involved in additional international programmes over the lifespan of the contract, so the Contractor must be able to adapt and respond to changing requirements in this context.

As the extent of future geographic scope remains uncertain, the Contractor must be able to provide global-level maritime coverage to enable coverage of any future requirements. There are also likely to be requests to support domestic operational activity.

Although the MMO has some internal expertise, it is seeking to develop more in-house capability in respect of remote sensing and Earth observation. The Contractor must therefore be capable of providing training to MMO staff if required. In addition, the MMO intends to develop in-house processes and systems in the background in parallel with the service the Contractor will provide. The Contractor should therefore expect to provide data in alternative formats to those required for the surveillance outputs to facilitate this if required.

Surveillance Requirements

Challenges

Although the geographies and socioeconomics of UK-OTs and OCPP partner countries vary greatly, there is significant commonality in the nature of the IUU threats they face, along with practical challenges associated with identifying and addressing them.

The primary challenge relates to the spatial scales of the maritime areas involved, which are often several 100,000 square kilometres for an individual country or UK-OT. This, often coupled with spatially dynamic IUU threats, remoteness, limited infrastructure and challenging environmental conditions ranging from polar to equatorial climates render conventional surface and aerial patrol methodologies unviable in isolation.

The IUU threats can broadly be considered inshore (0-12 nautical miles, nm) and offshore (>12nm), with, in general though not exclusively, smaller vessels operating inshore and larger vessels operating offshore.

Remote sensing-based surveillance capabilities offer spatial coverage orders of magnitude greater than conventional patrol assets. Satellite-based technologies provide assurance of compliance and intelligence in respect of IUU activity over spatial scales that cannot

readily achieved by other surveillance methods, particularly in offshore areas. Where patrol assets are available, remote sensing has emerged as a key source of intelligence that drives decision-making in respect of tasking and operational activity.

As summarised in Table 1, there is a wide range of potential IUU vessel types, each with different considerations in respect of detectability. With a few exceptions, the IUU threats encountered in both programmes are spatially and temporally dynamic. Typically, the fleets are targeting tuna or other pelagic species and are therefore moving in response to dynamic oceanographic features. In other instances, there are discrete bathymetric features that represent a higher risk, allowing for more targeted tasking.

Table 1 - Overarching summary of IUU vessel profiles and associated considerations in respect of detectability using remote sensing capabilities.

Vessel Type	Typical Size	Profile
Refrigerated cargo vessels	100-150m	• Steel construction with large freezer capabilities on board • Likely to utilise on board electronic navigation equipment • Operate predominantly offshore 12-200nm and beyond
Purse seiner	~60-120m	• Steel construction • Likely to utilise onboard electronic navigation equipment • Operate predominantly offshore 12-200nm and beyond
Long-liner/trawler	~40-60m	• Steel construction • Likely to utilise onboard electronic navigation equipment • Operate predominantly, though not exclusively, offshore 12-200nm and beyond
Multi-use fishing vessels	~8-20m	• Primarily wood/fibreglass construction • May use onboard electronic navigation equipment, but unlikely • Operate both inshore and offshore 0-200nm
Panga/ small inshore vessels	<8m	• Primarily wood/fibreglass construction • Unlikely to use electronic navigation equipment • Operate inshore 0-12nm

Current Approach - Intelligence, Risk and Retrospective Analysis

Given the challenges international partners face described above, it is essential that any resources, including remote sensing capabilities, are deployed as efficiently and as effectively as possible. Across both programmes, the MMO adopt an Intelligence-Led, Risk-Based Enforcement (ILRBE) approach. The ILRBE approach combines enforcement risk and intelligence to ensure that the enforcement capacity and resources are targeted in space and time to where they are most needed and have maximum impact.

Intelligence

The MMO assists international partners in gathering, managing and analysing intelligence, which is then used by the international partners to task their assets. Intelligence is information that has been assessed for its value, veracity and the dependency of its source. Comparison of multiple sources to establish the value of a single piece of information is often required. The nature of intelligence means the quantity and quality of

what is received varies significantly. This makes its use in tasking assets more dynamic than using enforcement risk, which is more pre-planned in nature.

The MMO seeks to increase the use of intelligence-led tasking, ideally through a 'tipping-and-cuing' model, whereby risk-based tasking provides intelligence that drives more specific intelligence-led tasking to further investigate contacts of interest. The MMO also receives third-party intelligence from, for example, surface patrol assets, and similarly the outputs from the surveillance now provide a key intelligence source to inform patrol asset tasking. The outputs from intelligence-led tasking are inherently time-critical, and turnaround times for developing and disseminating the outputs are a key factor.

Risk

Enforcement risk is assessed qualitatively using a combination of the likelihood of an illegal activity occurring, and the impact should it do so. The process involves collating all available information about a threat, reviewing existing patterns and trends, and drawing upon experience to identify where and when any such illegal activity may take place. A scoring matrix is used, which is then used to guide the deployment of resources.

The majority of the MMO's current surveillance work is deployed on risk basis, and this is likely to remain the case going forward. The MMO will share risk profiles with the Contractor and an indicative annual surveillance plan, which will enable the pre-planning of surveillance 'blocks' over the highest risk areas and time periods in advance. The threats and associated risks are, however, changeable and the tasking may need to be refined and amended in response to spatially or temporally dynamic fleet behaviour.

Retrospective Analysis

In some instances, particularly when new UK-OTs or countries join a programme, there is little overarching maritime domain awareness, very little available intelligence and a poor understanding of the relative levels of IUU risk. In order to form the basis of an initial risk assessment, a retrospective review of existing available data is normally undertaken in order to give an objective assessment of the scale, extent and distribution of potential IUU within the EEZ. Typically, retrospective analysis involves a three-year review of AIS, open-source Earth observation data and archived commercial Earth observation data.

Work Orders (WOs)

The contract will be offered on a call-off basis and individual pieces of work will be commissioned through individual Work Orders (Schedule 9 -Work Orders). Ordinarily a Work Order will stipulate the technical requirements, the required outputs, and the cost for the respective individual piece of work. The Contractor is responsible for drafting the Work Order, with input from the MMO to confirm requirements. Once the Work Order is drafted and signed off by the MMO, it is sent to Defra Group Commercial for upload onto Atamis, where the Contractor confirms and accepts it.

The time-critical nature of intelligence-led Work Order (Table 2) means they will likely require an alternative model for approval and delivery. The Contractor will need to work with the MMO to develop a mutually acceptable process for this.

Reflecting the ILRBE approach, the MMO surveillance services are provided on a risk-based, intelligence-led or retrospective basis (Table 2), and this is an ongoing requirement.

Table 2 – Summary of Work Order types that will be required through the contract

Work Order Type	**Characteristics**
Risk-based	Assess levels of compliance – where, when and to what extent is IUU fishing taking place? MMO undertakes assessment of risk on basis of likelihood and impact of illegal activity. MMO would provide indicative tasking schedule defining spatially or temporally discrete high-risk areas or time periods across the year. Capabilities tasked in a pre-planned way to target highest risk areas or time periods, with input, recommendations and advice from the Contractor as to the most appropriate surveillance solution of the given operation Typically, operations last 1-2 weeks for an initial assessment, the results of which may mean an extension to 1-3 months, or possibly >6 months Work would be expected to start within two weeks of notification If relevant intelligence is obtained through risk-based tasking by the Contractor, it needs to be passed on to the MMO as soon as practicable to enable the MMO to disseminate to relevant partner governments Results of surveillance is consolidated between years for inter-annual analysis, thereby refining understanding of risk
Intelligence-led	Capabilities are tasked by the Contractor in response to intelligence received by the MMO, which may be from a remote sensing asset, a patrol asset or anywhere else Intelligence products are provided to conventional patrol assets to support live tasking via the MMO Time critical, outputs need to be as near to real-time as practicable, balancing operational value and cost Largely unpredictable, generally more likely in high-risk time periods, but there are also instances of intelligence of non-compliance outside of these periods
Retrospective Analysis	Developing an understanding of the risks and threats based on historical data, typically previous three years by drawing out patterns and trends in visible (AIS) and dark (not on AIS) activity Not time critical Used to develop further work in country or assist that country with an evidence basis for policy decisions

Procurement Requirements

1. The MMO wish to procure remote sensing-based surveillance services via a contract. with one Contractor or consortium with one lead Contractor as point of contact. Under the contract, the MMO will offer no guarantees of any minimum level of work over the contract duration. Tasks under the contract will be called off on an *ad hoc* basis through individual work orders.

2. The contract awarded under this Tender will last for two (2) years. There will an option to extend for a one (1) year, and a further option to extend for an additional one (1) year beyond this, giving a total maximum duration of four (4) years, subject to available funding.

3. The satellite surveillance services will primarily be used to assist partner countries and UK-OTs with surveillance for human activity in and around their maritime domains. The majority of surveillance will relate to the detection of IUU fishing, though other applications, such as, for example, dredging, tourism activities and marine pollution, may also be required.

4. Although the services will predominantly be used to assist the MMO with this international work, the capabilities may also be deployed to support domestic operational activity. The majority of the international surveillance will be in and around the EEZs of partner countries or UK-OTs and their adjacent High Seas (typically within ~100-400nm of the boundary), though coverage may be required across the High Seas as well as small, spatially discrete inshore areas. As such, the Contractor must have access to a suite of commercial capabilities able to cover a wide range of spatial scales in the maritime domain on a global scale.

5. The MMO require the Contractor to provide a turnkey solution, with the Contractor responsible for all aspects of procuring, processing, analysing, storing and reporting on the data.

6. The Contractor must be able to access a range of commercial remote sensing capabilities including, but not restricted to SAR, EO and RF detection. For each work order, the Contractor will be provided with a tasking request stating the area of interest, a descriptor of the target vessel or activity and the Contractor will be required to advise the MMO on the most appropriate remote sensing solution to address the respective challenge.

7. In addition to accessing commercial remote sensing capabilities, the Contractor must also be able to ingest, integrate and analyse open-source data (e.g. Sentinel 1, Sentinel-2, Visible Infrared Imaging Radiometer Suite (VIIRS)) and other capabilities UK Government has access to, such as NovaSAR.

8. In addition to the Contractor being required to provide technical advice and support to the MMO in identifying the most appropriate remote sensing-based solution for individual

surveillance operations, the Contractor must provide technical support around interpretating the outputs of the surveillance. When outputs are provided to the MMO, the Contractor will provide the outputs in accordance with a pre-agreed confidence rating (see 'Outputs and Reporting' below).

9. The MMO is also ideally seeking the capability to establish vessel identifiers where possible (e.g. RF based detections), enabling the MMO to use and store unique identifiers obtained for repeat vessel detections.

10. The requirements for the outputs of the surveillance are described in detail in the KOs below. The MMO will require output reporting within stipulated turnaround times (see KO5 below), both as the surveillance is being undertaken, and also in a consolidated format at the end of each Work Order. Ideally the Contractor will provide access to a web-based portal from which the MMO can view outputs as they are developed. The portal will allow the MMO to extract and export data for further spatial analysis (in Geographic Information System, GIS, software) and enable access to historical archived data.

11. During the course of the agreed contract period, any reports or data provided to the MMO by the successful bidder may be shared with the relevant administrations in the UK-OTs or partner countries to which they relate. The MMO may also share data or reports with other States or relevant organisations with which the MMO is engaged with. All reports and data procured over the course of work orders will also be made available to be shared with other relevant UK government departments in the interests of intelligence gathering and a collaborative approach to maritime surveillance upon request.

12. Work Orders under the contract will be raised for the tasks set out below. There is a high likelihood of multiple work orders being raised and in operation simultaneously. Similarly, there may be periods where there are no live work orders running, and the Contractor should account for this in terms of resourcing.
    a. *Short-term intelligence led tasking* – standalone acquisitions or short periods (1-2 weeks) of surveillance in a single area of interest. The minimum required and target turnaround times to acquire the imagery and provide the outputs is stipulated in Table 3 (KO5).
    b. *Long/Medium-term risk-based tasking* – typically 1-3 months (occasionally longer) period of surveillance in a single area of interest starting within no more than two working-weeks of notification of the requirement. An indicative annual schedule of tasking will be provided by the MMO (see Table 4, KO6).
    c. *Retrospective analysis* **–** review of archived open-source (e.g. Sentinel-1, Sentinel-2) and, ideally, commercial archived Earth observation data to identify patterns and trends in vessel activity in an Area of Interest (AoI). There may also be a requirement of the Contractor to provide an analysis of archived AIS data. Unlike the intelligence-led and risk-based work orders where the outputs will be predominantly data-orientated, the Contractor may be required to provide interpretative, narrative-based reports for retrospective work orders.

Key Objectives (KOs)

1) Tasking & acquisition – the Contractor must be able to task, receive, process and host acquisitions from a range of commercial remote sensing capabilities including, but not restricted to, SAR, EO and RF data sources on a global scale.

2) Analysis (vessel detection) - the Contractor must undertake vessel detection within acquisitions and provide details of relevant detections (see Table 4 in KO6 for details).

3) Analysis (AIS correlation) – the Contractor must be able to correlate detected vessels against AIS and report contacts in the acquisitions that are not visible on AIS.

4) The Contractor must provide a turnkey service, with the Contractor responsible for procuring and maintaining all physical infrastructure, data storage and software.

5) The table below summarises the minimum acceptable (threshold) turnaround times suppliers must achieve, and the target which suppliers should aim to achieve in order to score higher.

Table 3: Table summarising threshold and target turnaround times for different Work Order types.

Work Order Type	Description	Threshold	Target
Intelligence-led surveillance	Intelligence-led tasking is typically required in response to a time-critical piece of intelligence, with a view that a patrol asset will be in a position to respond to the outputs. Tasking is likely to be somewhat unpredictable and individual taskings will be spatially and temporally discrete and focussed.	Acquisitions **collected within 24 hours** from receipt of tasking request from the MMO. Ability to provide **preliminary results on detections within 12 hours**, and, if necessary, **follow up analysis within 24 hours** of acquisition.	Acquisitions **collected in <24** hrs and **ideally <6 hrs** from receipt of tasking request from the MMO, with options to adjust depending on circumstances in order optimise balance between coverage, resolution using costs provided in a pre-agreed rate card. **Preliminary and, ideally, full results provided in <12hrs** of acquisition, or as soon as practicable.

Risk-based surveillance	Risk-based surveillance involves more protracted, persistent periods of surveillance. Risk-based outputs are generally less time-critical, though if useful intelligence in individual is gathered through individual acquisitions, the Contractor will be required to provide these in accordance with the following criteria. Upon conclusion of a Work Order, the MMO may request a consolidated package of data with summary information.	Arrange a period of surveillance in a single area of interest starting **within two working weeks of notification** from the MMO. Once surveillance is live, **preliminary report on detections within one working day** of acquisition. Further analysis, if required, to be provided within a further working day. Upon conclusion of the work order, provision of summary data if requested within pre-agreed timelines stipulated in work order	Arrange a period of surveillance in a single area of interest starting **< two working weeks of notification.** For individual detections, as per intelligence-led tasking target.
Retrospective	Retrospective review of open-source /archived commercial Earth observation and AIS.	N/A - Agreed and stipulated on each individual work order, but not time critical	N/A - Agreed and stipulated on each individual work order, but not time critical

1) Table 4 below summarises the minimum acceptable (threshold) technical criteria suppliers must achieve, and the target which suppliers should aim to achieve in order to score higher.

Table 4: Table summarising minimum acceptable and target technical criteria.

Tasking Type	Factor	Description	Minimum Acceptable (Threshold)	Target
Large vessel (>20m) – imagery based remote sensing (SAR, EO or other relevant technologies).	Detection thresholds & spatial coverage	Surveillance targeting larger vessels (>20m) will typically, though not exclusively, be deployed offshore (>12nm or beyond EEZ), and require larger areas of coverage	**20m vessel detection threshold**. Suppliers must specify constellations available and their respective specifications in respect of detection thresholds and levels of coverage.	Lowest practicable detection threshold, noting trade-offs between levels of coverage, resolution and cost - Contractor to provide a rate card for different options.
Small vessel (<20m)-imagery-based remote sensing (SAR, EO or	Detection thresholds & spatial coverage	Surveillance targeting smaller vessels (<20m) will typically, though not exclusively, be deployed inshore (<12nm), though there	**5m vessel detection threshold.** Suppliers must specify constellations available and their	Lowest practicable detection threshold, noting trade-offs between levels of coverage, resolution and cost - Contractor to

Tasking Type	Factor	Description	Minimum Acceptable (Threshold)	Target
other relevant technologies)		are situations where surveillance will be required offshore for relatively small contacts. Vessels in the smaller vessel classes (<20m) are likely to be of wood of fibreglass construction with limited superstructure.	respective specifications in respect of detection thresholds and levels of coverage.	provide a rate card for different options.
RF based remote sensing	Spectrum of coverage	Many classes of target vessels, particularly the larger (>20m) class, are likely to use a variety of electronic equipment.	Access **to X-band and S-band** RF-detection capabilities Suppliers must specify constellations available and their respective specifications in respect of detection thresholds and levels of coverage.	Access to additional relevant data sources beyond threshold requirements. Ability to establish vessel identifiers, enabling the MMO to use and store unique identifiers obtained for repeat vessel detections. Suppliers must specify constellations available and their respective specifications in respect of detection thresholds and levels of coverage.
All	Persistence and temporal coverage	The levels of temporal coverage will vary between work orders and the MMO require flexibility to increase or decrease this depending on operational requirements and budgetary considerations	Be capable of providing coverage over any given AoI **at least twice per week**.	Provide coverage over an AoI on a **daily** (accessing a range of orbital capabilities) and/or **continuous** (utilising geostationary capabilities)
All	Presentation of outputs	The mechanism by which the Contractor provides the outputs of the surveillance. The technical	Information reported by email in accordance with requirements described in 'Outputs and Reporting' and in line with turnaround times described in	Contractor will provide access to a web-based platform/ interface, with access for a **minimum of 20 users**, ideally more.

Tasking Type	Factor	Description	Minimum Acceptable (Threshold)	Target
		description of outputs required (fields, formats, parameters etc) are described in 'Outputs and Reporting' below.	Table 3. The Contractor must also develop a shared detection log, which must also be updated within these timelines. The Contractor must have in-house Earth observation expertise to provide additional advice and interpretation around the outputs if required (verbal or written).	Contractor will provide a rate card for costs of adding additional users. Any platform-based solutions must enable export of data in accordance with the formats described in 'Outputs and Reporting'. The Contractor must demonstrate contingency arrangements in the event the of the online platform being unavailable and provide technical support. The Contractor has demonstrable in house dedicated internal IUU expertise, and experience of deploying remote sensing capabilities in this context.
All	Integration of open-source Earth observation data	Ingestion and analysis of relevant open-source data	Supplement work orders with open-source data such as Sentinel-1 and Sentinel-2	If the Contractor provides a platform-based solution to present outputs, routinely present open-source data on an ongoing basis. Capability to ingest, host, process, analyse and present NovaSAR data.
Risk-based	Adaptive tasking	For risk-based tasking, surveillance will be undertaken in pre-arranged blocks of weeks to months, targeting high risk areas in and around the EEZ. Often the distribution of the	Tasking schedule can be amended with **5 working days'** notice	Tasking schedule can be amended with **<5 working days' notice**

Tasking Type	Factor	Description	Minimum Acceptable (Threshold)	Target
		threats can change, and so the tasking schedule may need to be amended.		
All	Automation of AIS analysis	The MMO conducts daily AIS analysis using existing HMG platforms. However, if the Contractor offers a platform-based solution that has in-built AIS analytical tools to detect vessel behaviours, this would be advantageous.	Not essential criteria	Platform-based solution with in-built AIS analytical tools that identify particular behaviours such as AIS being turned off, unusual movement patterns or suspected vessel interactions.
All	Environmental data	Access to key oceanographic and meteorological data that would add value to data analysis, including sea surface temperature, sea state and wind speed/direction.	Not essential criteria	Access to meteorological and oceanographic data layers in a platform-based solution.
Retrospective	Data availability	Retrospective analysis work orders involve reviewing historical data to identify patterns and trends in visible (AIS) and dark vessel activity. The Contractor must be capable of both; 1. Importing, processing and detecting vessels within historic remote sensing derived data and correlate these detections with AIS. The data-based outputs would then be provided to the MMO to review, analyse and identify relevant patterns and trends. 2. The Contractor would undertake a full interpretive analysis (as opposed to the	Access to AIS from the **three years** prior to the beginning of each Work Order. Access to open-source data (e.g. Sentinel-1, Sentinel-2 and any others) from the three years prior to the beginning of each Work Order. Contractor must have capacity and capability to undertake full interpretive analysis if required	Access to a **back-catalogue of commercial data** from a wide range of providers for from the **three years** prior to the beginning of each Work Order, or ideally a complete archive.

Tasking Type	Factor	Description	Minimum Acceptable (Threshold)	Target
		MMO analysing the outputs themselves), with Contractor providing an associated report detailing key findings, the patterns and trends and recommendations using the outputs described above in 1.		

7) The Contractor must provide outputs in accordance with the criteria stipulated Table 4 and as per the 'Outputs and Reporting' section below. The Contractor must present the outputs with an objective assessment confidence of both detection and AIS correlation, either using the methodology proposed to in 'Outputs and Reporting' or using an equivalent approach that reads across.

8) The Contractor must have sufficient technical in-house Earth observation expertise and capacity to provide ad hoc technical advice, support and guidance in respect of acquisition selection, analysis and interpretation of outputs. The Contractor will be required to make recommendations on the type, coverage and limitations of the acquisitions or capabilities it can provide in advance of confirming a Work Order from the MMO.

9) The MMO may develop work orders requesting the Contractor to provide training on detection interpretation and guidance on analysis of Earth observation data, and the Contractor must be capable of providing this. If required and upon request, the Contractor will supply the data in alternative formats to those defined in section 'Outputs and Reporting' to facilitate development of the MMO's internal analytical capability.

10) The Contractor must make any Earth observation data procured over the duration of the contract available or accessible to any UK Government department or international partner government upon request.

11) The Contractor must provide information which can be used to conduct investigations and which may be submitted as evidence in court. The successful suppliers may be asked to identify (a) suitable individual/s (expert witness/es) to provide witness statements and (b) produce exhibits such as raw data and charts in line with MMO requirements. Expert witnesses may also be required to provide evidence at court. The Contractor must plan accordingly for this.

Methodology

Prospective suppliers are required to provide responses to all questions in Appendix B (E01-E07). Questions E03-E06 are scenario-based (Annex 1), suppliers are expected to propose their approach, methodology and costs to addressing these scenarios. Details of these scenarios and what suppliers should include in their responses is covered in Annex 1 and Appendix B (Questions E03, E04, E05 and E06) of this ITT.

As this is a call-off contract, methodology and quotations will be sought against a specification produced for each activity and approval given prior to any work commencing.

Outputs and Reporting

Ideally the outputs will be provided through the supplier's web-based portal as they become available post processing and analysis, with an option to access and export data (through an API) for further analysis either through the system itself or via the Contractor. The exported outputs must align with the formatting requirements described in Table 5. If possible, the original acquisition should be made available upon request, either via download through the portal or provided by a suitable alternative means.

In the absence of a portal based-solution, suppliers must provide all the same data types as listed in Table 4 above through an email report within the turnaround times stipulated in Table 3 under KO5. The Contractor must develop a shareable log of detections that is updated on an ongoing basis, or access to a system that enables the MMO to extract the surveillance output data autonomously.

Table 5 - Summary of data formats required for intelligence-led and risk-based surveillance outputs

Data type	Examples (not exhaustive)	Required format
Numerical datasets	Date/time of detection Vessel length Latitude/longitude Confidence assessment scores (vessel detection and AIS correlation)	CSV
Image-based outputs	Thumbnail of detection Chart indicating position of detection relative to relevant boundaries	GeoTIFF and JPEG
GIS products	Geographic footprint of acquisitions Locations of vessel detections	KML, SHP or JSON

Irrespective of whether or not the solution provided by suppliers is portal-based, the Contractor must provide a consolidated dataset to the MMO within 10 working days of Work Order completion.

The MMO requires, as a minimum, the following data or information, though the final data fields and parameters will be agreed between the MMO at the outset of the contract. Suppliers should provide illustrative outputs and may suggest alternative data fields that would add value to interpretative analysis.

Vessel detection characteristics

- Estimated length
- Location (longitude & latitude)
- Date and time (international date time format)
- Vessel detection confidence (see below)
- Delineation between correlated and uncorrelated detections (AIS), with associated confidence assessment (see below)
- Detection thumbnail
- Chart indicating illustrative position of detection relative to AoI and/or EEZ
- Vessel details for AIS correlated detections (Name, vessel type, International Maritime Organisation (IMO) number, Maritime Mobile Service Identity (MMSI), International Radio Call Sign (IRCS), Regional Fisheries Management Organisation (RFMO) licence active, IUU list presence)
- Detection event unique identifier
- Detection collection frame /swath ID
- Collection type and mode (for example, SAR – Radarsat-2, DVWF mode)

Acquisition

- Date & time (International date time format)
- Asset/constellation from which acquisition was obtained
- Acquisition parameters
- Individual acquisition areas (km^2)
- Where relevant, meteorological conditions, such as cloud cover or sea state
- GIS file of acquisition footprint (KML, shapefiles)

For any given detection, the Contractor must provide an assessment of both the confidence of a vessel detection within the acquisition and also the associated confidence of the correlation with AIS. The Contractor will be required to present the confidence assessments in accordance with the Professional Head of Intelligence Assessment (PHIA) yardstick or present an alternative methodology that reads-across to allow for objective and consistent interpretation of detections within the acquisitions. The Contractor will engage with the MMO to determine the characteristics and parameters that underpin this assessment.

Table 6 – Professional Heads of Intelligence Assessment (PHIA) Probability Yardstick

Probability range	**Judgement terms**
≤ ≈ 5%	Remote chance

Probability range	Judgement terms
≈ 10% to ≈ 20%	Highly unlikely
≈ 25% to ≈ 35%	Unlikely
≈ 40% to <50%	Realistic possibility
≈ 55% to ≈ 75%	Likely or probably
≈ 80% to ≈ 90%	Highly likely
≥ ≈ 95%	Almost certain

Although the MMO predominantly require data-based outputs, the Contractor must be able to provide *ad hoc* interpretive technical support for outputs, as defined under KO8. The Contractor may also be asked to provide visual outputs under particular work orders (e.g. heatmaps, GIS products) or further interpretive analysis. As such, the Contractor must have sufficient in-house technical expertise to be able to provide verbal or written interpretation of the outputs to the MMO if required. For intelligence-led work orders, this level of support may be required immediately (within one working day of output delivery) after each acquisition. For risk-based work orders, the Contractor will ideally provide an update immediately, or, if not, within two working days.

During months when Work Order(s) are in place the Contractor will be required to submit summary data in an agreed format that summarises the satellite surveillance that has been conducted. The purpose of this is for collating summary data for onward reporting to the UK-OT governments under the BBP.

Retrospective WOs

The retrospective work orders involve reviewing historical AIS, open-source Earth observation data (e.g. Sentinel-1, Sentinel-2) and archived commercial Earth observation data to identify spatial and temporal patterns and trends in activity. This, in turn, is generally used to inform an assessment of the level of risk.

Depending on the circumstances, the MMO will require either;

- Data-based outputs similar to those for the intelligence/risk-based work orders to facilitate the MMO undertaking its own interpretative analysis, or
- In addition to above, the Contractor to undertake an analysis of the data, and provide an interpretive analysis of the outputs, including explanatory narratives,

identification of key patterns and trends, and visual outputs such as charts, heatmaps, tables and graphs. The Contractor will also be required to present key findings and may be requested to provide recommendations on next steps (e.g. priority areas for risk-based surveillance). The Contractor will be required to submit a written report in PDF format upon completion of the Work Order, along with any relevant underpinning data sets.

For retrospective WOs, the reporting requirements will be bespoke to the activity under the Work Order. The reporting will be agreed with the Contractor during the development of the Work Order and will also require the Contractor to provide a consolidated data set in a CSV format reflecting the requirements described above intelligence-led and risk-based work orders.

End of Contract Requirements

At the end of the contract the Contractor will provide the MMO with a Final Contract Report that draws together the outcomes and lessons learned from each activity under the Contract. This will be submitted within one month of the end of the contract.

The Contractor must be able to make any Earth observation data procured over the duration of the contract available or accessible to any UK Government department upon request. The Contractor will also provide any additional datasets that have been developed over the course of the surveillance operations over the life of the contract. This will include data such as vessels detected, AIS identifiers and ownership linkage.

The Contractor will be held accountable to the standards set out in Appendix C - Proposed Governance and Contract Management Arrangement (including key performance indicators).

Administrative Issues

All outputs and associated materials will remain property of the MMO and are not for public dissemination with the express consent of the MMO. This is covered further in the Intellectual Property Rights section of the Contract Terms & Conditions.

Given the nature of the project, the MMO anticipates that payment of invoices associated with this contract should be made upon full and satisfactory completion of each individual activity. Should the work be extended by mutual agreement beyond the end of the contract, MMO will accept monthly invoices for activities carried out. Payment will always be made in arrears.

Annex 1

The scenarios provided below are hypothetical but realistic examples of the four types of surveillance for which work orders will be raised under the contract. With reference to Appendix B, suppliers must refer to these scenarios and address the points raised in questions E03-E06 in the context of these scenarios.

Scenario 1: Ascension Island – Intelligence-Led Surveillance

Background & Context

Ascension Island lies in the south Atlantic (7° 56′ S, 14° 25′ W). The 200nm Exclusive Fishing Zone (EFZ; 442,000km^2), which was established in 1978, has recently been declared an EEZ. The Ascension EEZ became an MPA in August 2019 with all commercial fishing prohibited from 50nm from Ascension to the 200nm limit.

The MMO assists Ascension Island Government (AIG) with surveillance of the MPA, starting from a baseline level of routine in-house analysis of AIS. The focus of this surveillance is to detect IUU fishing within the MPA. The MMO is required to assist AIG with time critical near real-time satellite imagery in response to intelligence received.

There are three major seamount complexes located within the MPA that are significant hotspots for biodiversity, including associated large populations of sharks, which are key features that the MPA intends to protect.

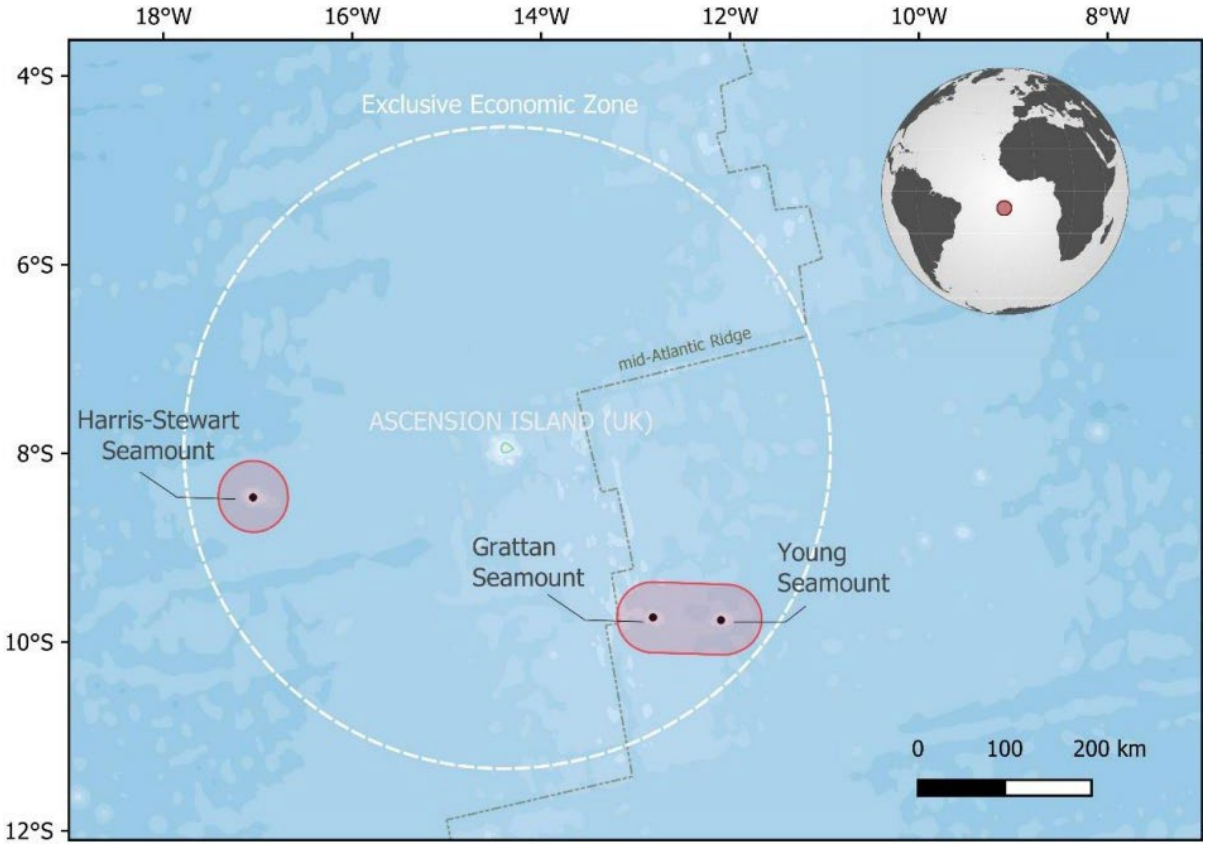


Figure 1: Location of the three major seamount complexes within the Ascension Islands EEZ. Image source – Ascension Island Government

All three seamounts are located in the 50-200nm zone of the MPA; therefore, all fishing activity over them is prohibited.

This scenario uses the Harris-Stewart seamount, located 60nm from the western boundary of the MPA (see Figure 1). Harris-Stewart's location makes it isolated and relatively accessible from the surrounding High Seas, reducing the likelihood of detection of any IUU should it occur. There is no seasonality to the risk and it remains constant throughout the year.

The primary enforcement concern is a "*lone wolf scenario*", where an individual large oceanic longline vessel (40-60m in length of steel construction) deliberately and opportunistically targets the shark populations at the Harris-Stewart seamount. The scenario assumes the vessel does this independently, so no fleet-wide activity can be used as a proxy indicator.

The MMO's baseline surveillance would detect this activity if:

- The activity took place with the vessels AIS turned on, which is highly unlikely
- The vessels turned the AIS off as it entered the MPA, in these circumstances the MMO's baseline surveillance would detect the activity and would be able to address the issue independently

This means that one of the possible ways this activity would be detected would be a sighting by a passing merchant or recreational vessel. The scenario assumes the presence of a patrol vessel, but the requirements would equally apply without one. While this scenario is based on Ascension it is applicable to any UK-OT or partner country the MMO assists.

Intelligence on dark vessel sightings is periodically received by the MMO and/ or UK-OT/partner country governments.

Such events require a time critical response and rapid acquisition and reporting of satellite imagery to a) confirm a vessels presence in the first instance, and b) then coordinate an operational response such as interdiction by a UK-OT patrol vessel or on-going tracking and identification of the vessel.

These events are unpredictable and the MMO must manage the costs of intelligence led requests over the course of a financial year taking the following into account:

- The cost of each individual tasking request
- The cumulative costs of making multiple requests over the financial year and retained budget to continue to react to intelligence

- That the cost benefit of making a request is proportionate to speed of the acquisition, reporting and operational response

Scenario 1

A sailing vessel on trans-oceanic passage through the MPA reports to AIG customs officials on arrival at Ascension the following intelligence on the 6th June:

- Vessel sighting - 5th June at 10:31Z – "*looked like a fishing vessel*" in close proximity to the Harris-Stewart seamount
- Position - 8° 28' 0"S, 16° 58' 0"W
- The vessel "*looked like it was deploying large orange buoys around 50-100cm in diameter into the water*"
- The vessel was "*large at around 50m in length"* and clearly of steel construction and appeared to have "*normal maritime communications and navigation equipment on the wheelhouse roof*"
- The vessel did not show up on the yacht's AIS receiver so was dark on AIS
- The vessel did not show any clear or obvious vessel identification markings such as the name, IRCS or port of registry
- There was no radio contact between the vessel and the yacht

MMO surveillance checks confirm no vessel was visible on AIS at the reported location/time of the sighting report.

In this scenario an intelligence-led request would be intended to do the following:

- Confirm the current and continued presence of the vessel
- Track or obtain intelligence on an updated vessel position for possible interdiction by a patrol vessel
- Obtain intelligence that may assist with the identification of the vessel (which is dark on AIS). The intention is not necessarily to derive a vessel name from remote sensing, for example, but to obtain possible unique identifying features such as information from radio-frequency emissions or vessel-specific characteristics such as hull super-structure or colour. In this scenario, any capability to develop such a data set for year-by-year comparison should be included

On receipt of the intelligence the MMO will require the Contractor to acquire data **within 24hrs and ideally <6hrs** following notification (Table 3, KO5)**.** The results of the imagery must be to be reported to the MMO in the required format **within 24hrs** of acquisition, but ideally as soon as practicable (Table 3, KO5).

The MMO will then continue to raise an acquisition request every 24hrs for a period of up to 2 weeks to assess whether contact is remaining in the vicinity of Harris-Stewart seamount. For each request, the acquisition and reporting requirements will remain the same.

In this scenario the initial AoI for the imagery will be a 5km^2 area around the sighting location. The AoI provided each 24hr period, however, is highly likely to change in location and size to continue to track the vessels movements based on:

- The results of the previous acquisitions
- Confirmation of continued presence of the vessel within the initial or subsequent AoIs
- Allowing for tasking of a patrol vessel to the AoI
- The movement (or suspected movement) of the vessel

Clear skies are forecast for the next three days following the receipt of the intelligence report, but the long-range forecast indicates cloud cover may develop beyond that.

Scenario 2: Long/Medium-Term Risk Based Surveillance over Tristan da Cunha

Background & Context

Tristan da Cunha (TdC) lies in the southern Atlantic Ocean at 37°15 S 12°30 W. The archipelago consists of four principal islands: Tristan da Cunha, Nightingale, Inaccessible in the north and Gough Island to the south. It has a 200nm Exclusive Fishing Zone (EFZ), which was established in 1983 and covers an area of 754,000km^2.

In 2020 the Tristan da Cunha Government (TdCG) declared a Marine Protection Zone (MPZ). The MPZ incorporates zones of full protection where all fishing and other extractive activities are prohibited, and sustainable fishing zones that allow fishing activity essential to the Tristan economy to take place.

The key IUU threat at Tristan da Cunha is foreign flagged vessels fishing in the surrounding high seas incurring at the 200nm limit into the MPA itself.

The fleet fishing in the surrounding High Seas are targeting oceanic pelagic tuna species using longlines. Longline vessels involved in the fishery will generally be 40-60m in length and of steel construction. Pelagic longlining is prohibited with the entire Tristan da Cunha MPZ.

Longline fishing vessels generally do not return to port to land fish but tranship with another vessel on the high seas. The “carrier vessel” that will receive the transhipped fish will be larger than the fishing vessel, approximately 100-150m in length and of steel construction. Transhipment activity is also prohibited within the MPZ but is permitted on the High Seas within certain conditions.

The tuna species are highly migratory and exhibit large seasonal migrations, which are reflected in the movement of the fishing activity. Fishing activity for tuna species is dependent upon complex oceanographic conditions making them extremely dynamic. This means specific risk periods and geographic areas vary both intra- and interannually but are likely follow broad seasonal patterns.

The Contractor will be provided with an indicative outline of the likely overarching requirement for a risk-based round of surveillance by the MMO at the beginning of the financial year, but the exact timing around the initiation of the surveillance will be determined by emerging risk driven by fleet distribution and behaviour. For Tristan da Cunha, the MMO will notify the Contractor when internal AIS monitoring detects the movement of the fleet towards the Tristan da Cunha MPZ.

During high-risk periods the MMO will be looking undertake remote sensing-based surveillance for the purposes of:

- Obtaining additional intelligence on the target tuna fleet such as:
    - Information relating to scale and extent of any dark activity in, such as number of dark fishing vessels or carrier vessels, both inside the MPZ and in the surrounding High Seas
    - Vessel identification - the identification of dark vessels is not intended to derive a vessel name from remote sensing but to obtain possible unique features that could assist with establishing a data set to know if dark vessels have been detected during surveillance conducted in previous years. For example, this could include colour or makings derived from EO imagery, or electronic signatures/fingerprinting from radio-frequency detections. In this scenario, any capability to develop such a data set for year-by-year comparison should be included
- Ensuring that there is no IUU fishing taking place within the UK-OT's MPZ to provide assurances on compliance to UK-OT Governments and MPA stakeholders

Scenario 2

The fishery that poses an enforcement risk to the MPZ exhibits a reasonably predictable seasonal pattern of movement which results in vessels fishing in close proximity to the MPA in January to February, as per the annual surveillance plan provided to the Contractor by the MMO at the start of the financial year.

On 1st November, the MMO's baseline AIS surveillance detects the westerly movement of the fleet towards the Tristan da Cunha MPZ. The MMO expects the fleet to be distributed over an AoI covering an estimated 400nm to the west of the southern boundary of the MPZ in approximately 1 week.

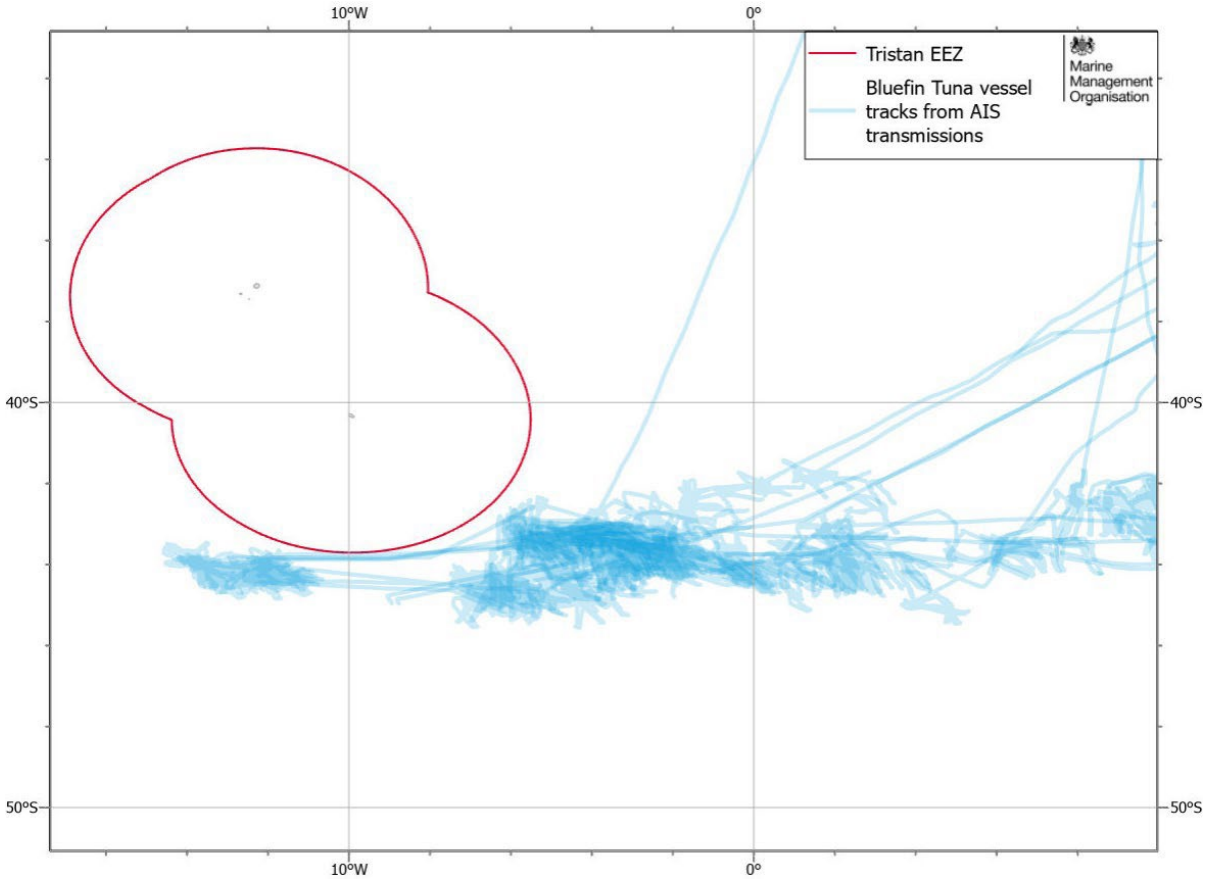


Figure 2: Chart illustrating distribution of southern bluefin tuna fleet relative to the Tristan da Cunha MPZ

The risk-based surveillance operation will have two phases;

1. A one-week initial assessment to identify whether there are any dark vessels operating in the vicinity of the visible fleet, and, if so, the number/ vessel characteristics
2. If dark activity is detected in 1., a further two-month monitoring phase to provide assurance there is no dark fishing activity within the MPZ

The MMO will ask the Contractor to make recommendations to fulfil the following operational requirements:

- The satellite imagery covering the distribution of the fishing fleet – covering an AoI extending from the southern boundary of the MCZ to a distance of 400nm to the west over the activity visible on AIS (Figure 2)
- The surveillance must be able to start within two weeks of the notification of the supplier (in this example, 1st November, so to start 15th November)
- Provide acquisitions over the AoI to enable an assessment of any dark vessels within the AoI to give an initial intelligence picture of the fishing fleet for a duration of **7 days** (22nd November). The aim of this stage of the surveillance is to assess how many dark vessels are active within the AoI, so the Contractor should consider how many acquisitions would be required to provide this assessment.

- Ensure an on-going picture of activity is maintained by provisional results of dark vessels detections within **one working day** post-acquisition, and any further detailed analysis of detections (if required) within a **further working day**
- To start or continue to collect remote sensing vessel identification intelligence on dark vessel identity, i.e. markings from EO imagery of "finger printing" from RF acquisitions

The initial surveillance phase has identified five dark vessels fitting the profile of tuna longliners operating in the High Seas area adjacent to the MPZ boundary. In response, the MMO tasks the Contractor to provide a **two-month** block of surveillance of the high-risk areas in and around the MPZ. The aim of the second phase is to provide an ongoing assessment of compliance with the MPZ over the tuna season, in the context of there being known dark vessels operating in close proximity to the MPZ boundary.

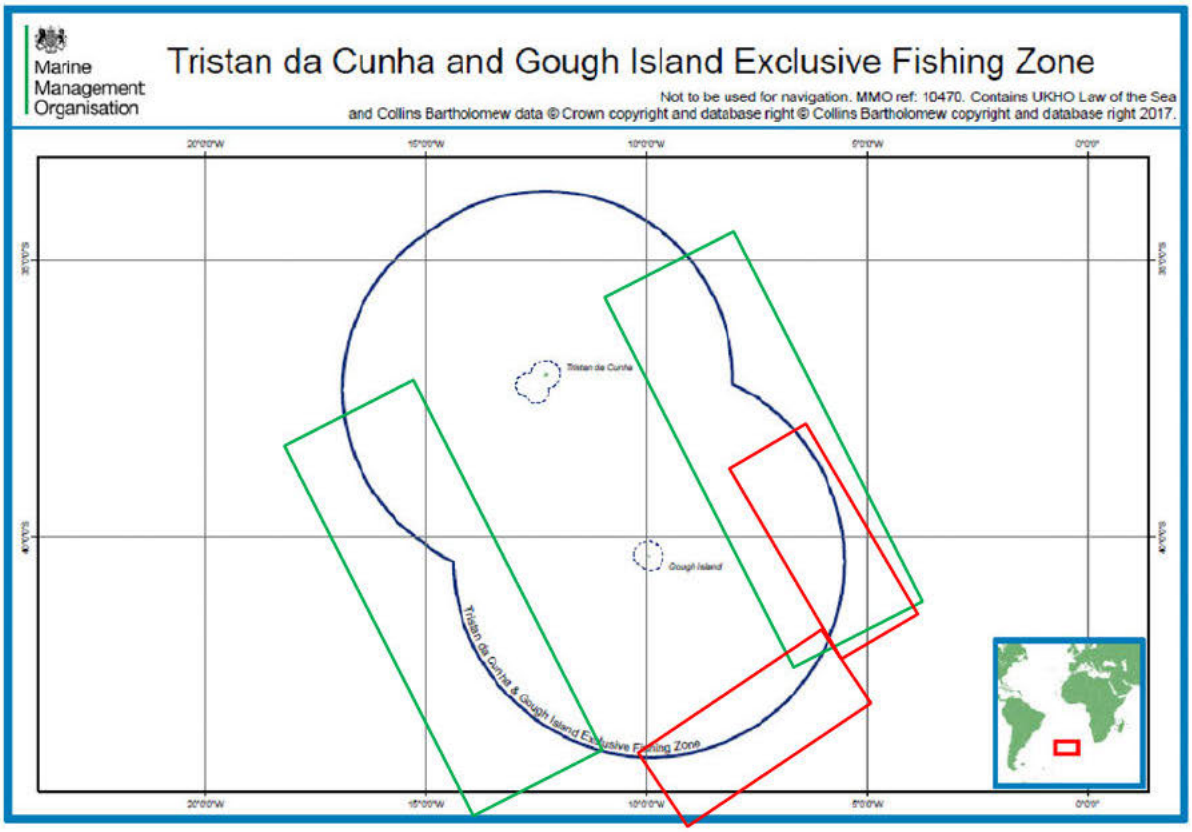


Figure 3: Illustrative AoIs for first (red) and second (green) periods surveillance over the Tristan da Cunha MPZ during the second phase of the operation.

- The first month will focus on two red AoI's* in Figure 3. The entirety of the red AoIs must be covered with minimum of two acquisitions per week over the first month.
- After one month, the fleet then move and the coverage is then required over the two green AoIs* in Figure 3 for the second month. Similarly, the entirety of the green AoIs must be covered with minimum of two acquisitions per week for the second month.

** Note - the red and green AoIs in Figure 3 are illustrative for the purposes of the example, and the Contractor does not need to be overly precise when considering these for*

the scenario. They are, however, intended to be representative of the scale and general location over which surveillance would be required, and so the Contractor should take this into account when submitting a response.

Scenario 3 – Risk based tasking (inshore) assistance – Turks & Caicos Islands

Background & Context

Turks & Caicos Islands (TCI) lie in the Caribbean Sea and is an archipelago of 22 islands distributed over two major island groups. The two major groups consist of eight main islands and cays between, with a complex patchwork of numerous shallow banks and coral reefs (cays) between. The TCI islands are contiguous with the wider Bahamian archipelago.

TCI's EEZ is 154,058km^2 and boundaries those of the Dominican Republic and the Bahamas. TCI allows domestic fishing within its EEZ but does not grant access to foreign flagged vessels, including those from the neighbouring States.

The IUU fishing threat in TCI is posed by small vessels from the surrounding States incurring into the EEZ. These vessels target the shallow banks and reefs for a wide variety of species. SCUBA equipment is used in the fishing activity, which can involve the use of poisonous substances, so the target areas are shallow to allow for this.

The vessels that engage in this activity are small, generally under 10m, and are dark on AIS. These vessels are typically used as mother vessels with an associated fleet of up to 10 small vessels (under 8m, sometimes <5m) that access the banks and reefs, locally referred to as "*panga*" vessels.

This picture is complicated by the large number of similar sized pleasure craft that also visit the same locations, including a portion that will be dark on AIS. Distinguishing between this legal activity and possible IUU fishing amongst the dark vessel detections is important for efficient patrol planning.

The TCI Government (TCIG) have inshore patrol capability to identify this IUU fishing activity and take enforcement action. This is challenging given the size of the EEZ and the multiple target areas within it.

Scenario 3

The MMO is providing assistance to TCIG with better targeting their patrol and enforcement capacity and assets. Combining high-risk bathymetry and TCIG's enforcement officer's local knowledge, three AoIs at risk of IUU fishing have been identified within the EEZ (Figure 4).

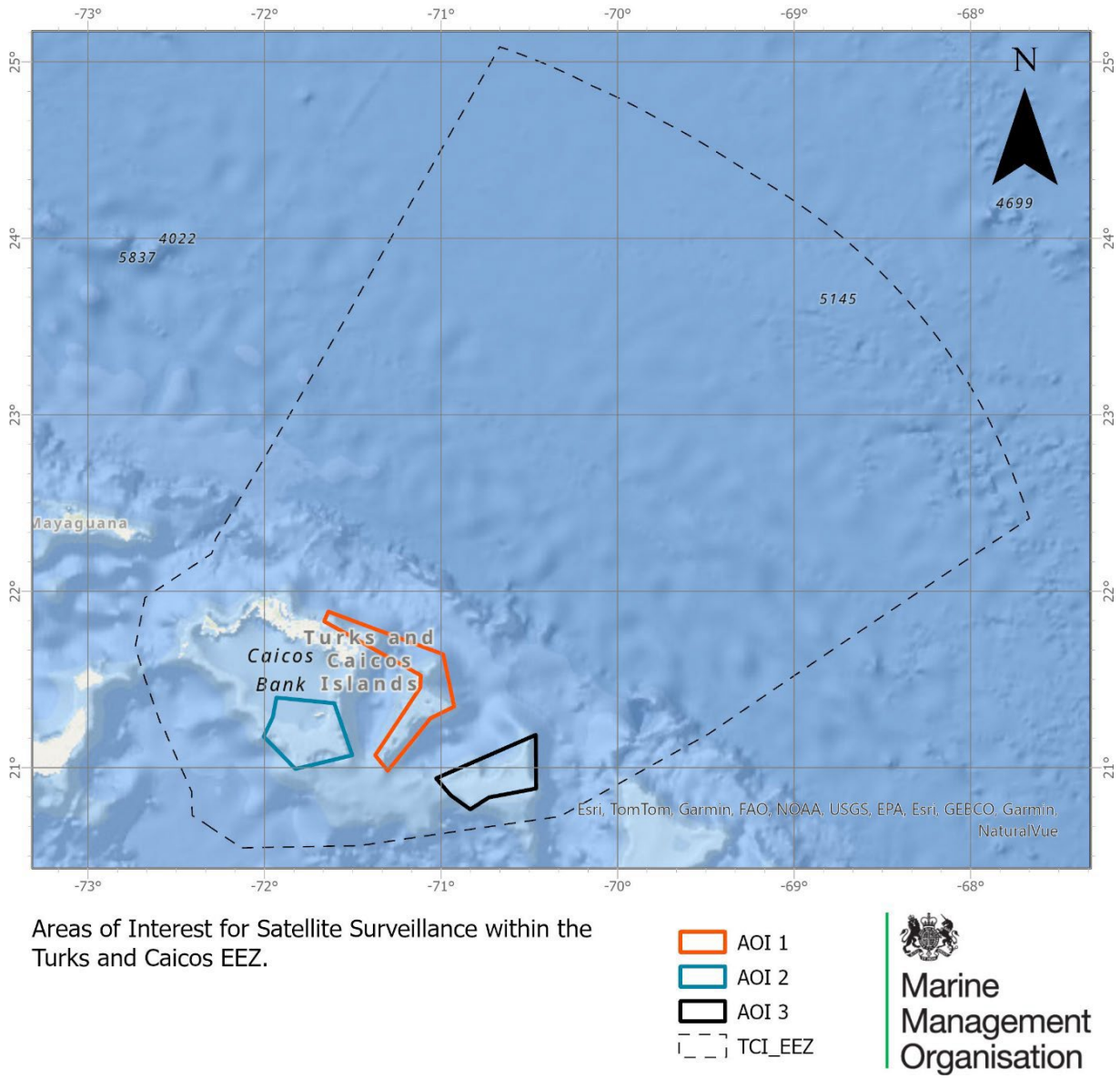


Figure 4: Areas of interest at risk of IUU fishing within the TCI EEZ

The MMO intend to assist TCIG by providing an on-going assessment of the location and extent of possible IUU fishing activity in each AoI. This will then be used by TCIG to target patrol activity at AoI at the highest risk of IUU fishing. The expectation is not identification of or action against individual vessels, but to develop an understanding of “patterns of life” in each AoI which is used to target prioritised patrol areas. Intelligence from the surveillance will be used by TCIG to decide which AoI to prioritise.

The patrols are 8-10hrs in duration and are will only be targeted at an individual AoI on an individual day. TCIG is able to achieve 1-2 patrols per week and, due to logistical constraints, they have to be pre-planned a few days in advance, as opposed to reactively reacting to received intelligence. That being said, any intelligence generated from the risk-based surveillance is passed to the patrol vessels, meaning there is value in providing outputs as soon as practicable, though this is not the primary focus of the operation.

The MMO and TCIG meet for a planning session on a weekly basis where MMO staff brief TCIG on the intelligence picture in order to assist TCIG with patrol planning.

The MMO will ask the Contractor to make recommendations to fulfil the following operational requirements:

- Conduct regular surveillance of each AoI provided for a period of **3 months** for on-going support of TCIGs patrol vessel, noting the requirement to detect small vessels
- Report dark vessel detections that may represent IUU fishing in each AoI within **24hrs.** The MMO will then collate the data to inform patrol vessel activities over the weekly planning cycle. The number of individual IUU fishing vessel detections within each AoI will be a key piece of information.

Scenario 4 – Retrospective Activity Review

Background & Context

This scenario covers work orders where bespoke historical analysis is required. This type of work is generally carried out to do either of the following:

- Establish an initial assessment of IUU fishing risk in a territory or country that is new to a programme or,
- Assist a government with developing an evidence basis to make policy decision such as the location of MPAs

This scenario uses a hypothetical West African country joining the OCPP and is an indicative example of the work that may be required. The country lies around 6ºN latitude with neighbouring countries on the Eastern and Western boundary and an EEZ extending out to 200nm (Fig 5).

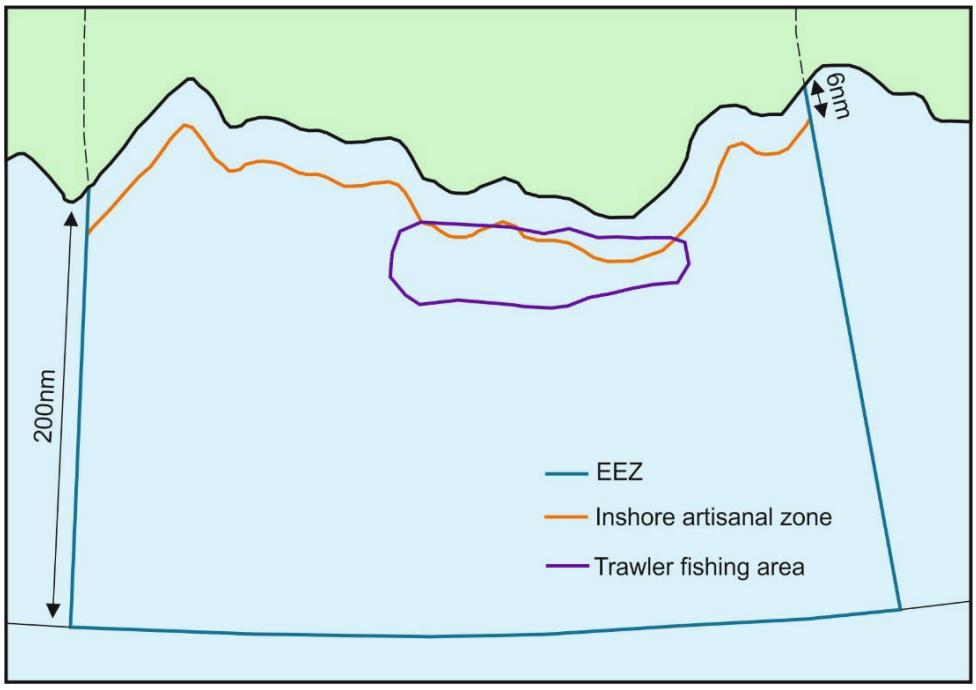


Figure 5: Illustrative chart of hypothetical West African country for Scenario 4. Not drawn to scale.

The country has a diverse range of marine habitats with industrial and artisanal fisheries. These fisheries are highly important for the country, generating employment in coastal regions, providing an important protein source, and contributing to the county's economy. However, the country's government have had limited capacity for control and surveillance of their EEZ, and do not have a significant understanding of potential IUU fishing threats within their marine area.

Fishing fleets can be broadly categorised as:

- *Artisanal fleet*: The artisanal fleet is formed of wooden canoes up to around 15m in length, and account for 70% of the overall fishery production in the country. They fish for small pelagic species, within the inshore zone reserved for the artisanal fishery located between 0 to 6nm from the coast (orange boundary, Fig 5). This activity originates from artisanal landing beaches interspersed along the coast, with about 200 in total. Generally, these vessels embark on single day fishing trips, although some do multiple day trips. All of the artisanal vessels are flagged to the country, but they do not have AIS or Vessel Monitoring System (VMS) on board.

- *Industrial trawl fleet*: The industrial trawl fleet is formed of steel and fibreglass structured vessels, with an average length of 30m. These vessels hold foreign flags but are licensed to fish within the country's EEZ. They fish for demersal species which are typically found between 4 and 12nm from the coast fishing over a shallow bank (purple boundary, Fig 5), noting industrial trawlers are not permitted to fish within the inshore (0-6nm) artisanal zone. The area of the bank within the 0-6m therefore represents a high-risk are for illegal fishing from industrial trawlers. Industrial trawlers must have AIS and VMS on board as a condition of their license, but transmissions and reporting are unreliable.

- *Tuna fleet*: The tuna fleet is formed of primarily purse seine vessels, although there are also longliner vessels. They have an average length of 50m and primarily fish for yellowfin, skipjack and bigeye tuna species. Like the trawler fleet, these vessels are foreign flagged but licensed to fish within the county's EEZ, beyond the 6nm inshore artisanal zone. The tuna fleets are spatially and temporally dynamic and can be distributed anywhere within the EEZ, noting they are not permitted to fish within the 0-6nm inshore artisanal zone. Purse seiners and long liners must also have AIS and VMS on board as a condition of their license, but transmission and reporting can be unreliable.

Additionally, two years ago the Government introduced a closed season each year for the month of September. During this time, only artisanal vessels can fish, and only within the inshore artisanal zone.

The primary IUU threats are therefore:

- Licensed industrial trawlers fishing within the inshore zone, which is reserved for only artisanal fishing.
- Foreign flagged, unlicensed artisanal vessels fishing within the country's EEZ from neighbouring countries, including the inshore zone.

- Foreign flagged, unlicensed industrial trawlers fishing within the county's EEZ, potentially including the inshore zone.
- Unlicensed and licensed industrial trawl and tuna vessels fishing within the EEZ during the September closed season.

Scenario 4

As part of the initial engagement of the new country, the OCPP is assisting the country government with developing an assessment of the IUU fishing enforcement risks in the territory. The Contractor is asked to undertake a 3-year review of AIS data, open-source Earth observation data and potentially any archived Earth observation data available through their respective data providers. Due to limited internal capacity, the MMO is unable to undertake the interpretive analysis and is outsourcing this to the Contractor. As such, the Contractor is required not just to extract the data and develop the outputs, but also provide an interpretative analysis of the data, identifying patterns and trends in activity distribution across the EEZ between the data sources.

The deliverable under the Work Order will be a written report that MMO will use to inform subsequent assistance it provides to the country government. The Contractor is requested to review all available sources of data from the previous three years to develop an understanding of the scale and extent of fishing activity across the EEZ over the three-year period. The Contractor is also required to draw out key patterns and trends that would inform an IUU risk assessment, including identifying spatial or temporal patterns and trends in activity that would correspond to indicating the highest risk areas or time periods.

The Contractor is required to produce a written report that provides the MMO with an assessment of:

- Key high level patterns and trends in AIS across all vessel activity (for example vessel types, identification of primary shipping routes, seasonality in activity, etc.)
- A more detailed overview of fishing activity from AIS (overarching spatial and temporal patterns and trends, composition of fleet by flag, fishing vessel types etc…).
- The spatial and temporal trends in fishing activity across all data sources with an assessment of the scale and extent of dark activity, both inshore and offshore.
- Recommended times and areas that should be targeted for future surveillance
- Recommended types of Earth observation data that should be used in future to target the vessels engaged in IUU

APPENDIX A
MMO'S TRAVEL AND SUBSISTENCE POLICY

All Travel and Subsistence should be in line with Defra's Travel and Subsistence Policy. Claims should always be supported by valid receipts for audit purposes and must not exceed any of the stated rates below. Should the stated rated be exceeded, Defra reserve the right to reimburse only up to the stated rate.

Rail Travel

All Journeys – Standard class rail unless a clear business case demonstrating value for money can be presented. This includes international rail journeys by Eurostar and other international and overseas rail operators.

Mileage Allowance

Mileage Allowance	First 10,000 business miles in the tax year	Each subsequent mile
Private cars and vans – no public transport rate*	45p	25p
Private cars and vans – public transport rate	25p	25p
Private motorcycles	24p	24p
Passenger supplement	5p	5p
Equipment supplement**	3p	3p
Bicycle	20p	20p

*The rate where 'no public transport alternative' for car and van travel can only be claimed where the use of a private vehicle for the journey is essential e.g. on grounds of disability or where there is no practical public transport alternative. If the use of the vehicle is not essential the 'public transport rate' should be claimed.

** A supplementary mileage payment may be claimed when a private vehicle is used on official business and the claimant is accompanied by one or more passengers or needs to carry heavy and/or bulky official equipment. Under HMRC rules the equipment supplement is taxable.

UK Subsistence

Location	Rate
London (Bed and Breakfast)	£160
All other uk locations	£100

APPENDIX B

MANDATORY TECHNICAL AND FINANCIAL REQUIREMENTS

Submissions will be assessed using the following scoring criteria;

Very good 100
Addresses all the Authority's requirements with all the relevant supporting information set out in the Bidder Pack. There are no weaknesses and therefore the tender response gives the Authority complete confidence that all the requirements will be met to a high standard.

Good 70
Addresses all the Authority's requirements with all the relevant supporting information set out in the Bidder Pack. The response contains minor weaknesses and therefore the tender response gives the Authority confidence that all the requirements will be met to a good standard.

Moderate 50
Addresses most of the requirements with most of the relevant supporting information set out in the Bidder Pack. The response contains moderate weaknesses and therefore the tender response gives the Authority confidence that most of the requirements will be met to a suitable standard.

Weak 20
Substantially addresses the requirements but not all and provides supporting information that is of limited or no relevance or a methodology containing significant weaknesses and therefore raises concerns for the Authority that the requirements may not all be met.

Unacceptable 0
No response or provides a response that gives the Authority no confidence that the requirement will be met.

Tenderers should note that if a score of fifty (50) or less is awarded to any response to Questions E02, E03, E04, E05 or E06, the MMO will reject the tender. A score of twenty (20) or less on questions E01 or E07 will also result in the tender being rejected. Minima for E08 is 20 a score of 0 will be marked as a fail and the tender will be rejected.

Suppliers will be required to complete three envelopes on Atamis as part of any submission;

- Qualification
- Technical
- Commercial

In respect of scoring, submissions will be assessed on the basis of technical (65%), commercial (35%). Please note technical question E08 'Social Values' is weighted at 15% to give an overall tender weighting of 10%, in-line with Government target.

THIS IS FOR INFORMATION ONLY ALL RESPONSES ARE TO BE PROVIDED IN THE AUTHORITYS E-SOURCING SYSTEM ATAMIS

TECHNICAL RESPONSE (Overall weighting 65%)

Question E01 – Risk management and mitigation – (Weighting: 8.5%)

Please provide a risk assessment for delivering against the aims and objectives listed in the Tender Specification as well as details of the mitigation measures you will adopt to ensure the aims and objectives are realised. This should include:

- An assessment of perceived risks to the project which could affect the Tenderer's ability to deliver the required project, which include technical, personnel, subcontractor, stakeholder, timetable and commercial risks.
- A draft risk log with mitigation measures: for each risk, detail how it may affect the delivery of the project, the unmitigated level of risk (high, medium or low), the mitigation measures to be put in place and the resulting final level of risk. The risk owner should also be identified.
- A high-level Business Continuity Strategy which demonstrates ability to deal with any disruptions swiftly.

Please upload your response as an attachment of no more than 4 sides of A4, minimum font size 10 with the filename "Your Company Name_E01".

Question E02 – Supplier expertise (Weighting: 21%)

Please set out how you would meet the procurement requirements and address the key objectives in order to provide the MMO with a remote sensing-based surveillance service.

This should include:

- A detailed breakdown of the remote sensing assets/constellations and data sources available to the supplier (KO1, KO4), specifically clarifying how they address threshold and/or target criteria in Table 4 (KO6).
- An explanation of the vessel detection methodology, and how you will approach the associated confidence assessment (KO2, KO7)
- An explanation of the AIS correlation methodology, and how you will approach the associated confidence assessment (KO3, KO7)
- A detailed description of how the supplier will meet the threshold and target timeline criteria for intelligence-led and risk-based work orders (KO5). Include all steps from receipt of a Work Order request from the MMO to tasking, acquiring, processing and analysing the acquisitions, and delivery of final outputs (KO5, KO7). In respect of intelligence-led work orders, explicitly confirm all feasible timeline options available for all steps from acquisition, processing, analysis and delivery of outputs following notification of a request from the MMO within target (total <6, 6, 12, 24 hours) and threshold (<48 hours, comprising of 24 hours for tasking and a further 24 hours for delivery of final results post-acquisition) criteria (KO5). Include general considerations around the benefits, limitations and constraints when selecting a suitable timeline options.

- A description of the format in which the outputs will be presented, clarifying whether the outputs will be provided through the supplier's web-based portal (KO6, KO7), preferably illustrated with generalised examples.
- A summary of internal Earth observation expertise, and an explanation of how you would meet the training requirements (KO8, 9)
- A description of how you would provide input, guidance and recommendations to the MMO in respect of acquisition selection, and a summary of the process involved in acquisition tasking from the supplier's perspective once a Work Order has been accepted (KO8)
- Any further information you would like to add to support KO10, and how expertise and data will be provided to support investigations and formal submissions as part of a prosecution process (KO11)

Your response should include the approach you will take to meeting all the key objectives as laid out in the Tender Specification.

Please upload your response as an attachment of no more than **10** sides of A4, minimum font size 10 with the filename "Your Company Name_E02".

Question E03 –Intelligence-led surveillance (Weighting: 17%)

This question relates to the Scenario 1 given in Annex 1 (Ascension Island).

Please describe your recommended approach to this scenario, noting there are three objectives;

1. Confirm whether the vessel remains within the initial 5km^2 AoI around Harris-Stewart seamount as soon as practicable upon receipt of the intelligence report
2. Beyond the initial detection, continue to monitor the position of the vessel on a daily basis over a two-week period, with a view to informing the tasking of the patrol vessel en route to intercept it
3. Obtain any information that could be used to identify the vessel now or in the future

Please provide:

- Details on which types of remote sensing capabilities you would recommend to address this scenario, including your recommended approach to the sequencing, periodicity and resolution (KO5, KO6, KO8).
- Clarification on which specific remote sensing assets and/or constellation that you have access to. Explain how you would use them to address each phase of the operation in this scenario in order to meet the three objectives above and confirm their respective resolutions and levels of coverage (KO6).
- In respect of initial acquisitions to confirm the continued presence of the vessel (objective 1 above), please provide timeline options up to and including the quickest practicable turnaround time you can provide from the point of being notified by the MMO of the request. In addition, please complete provide a rate card stipulating the cost of providing a standalone acquisition for each of the following remote sensing

capabilities within the respective target (green) and threshold (orange) timelines (from point of acquisition to delivery of final outputs). If you are unable to meet any of the target criteria, please state 'N/A' (KO5). The rate card must be submitted as part of the commercial envelope alongside the workbook with a single cost (as opposed to a range of cost) for each category. Do not include any commercial information in the technical response.

	Electro-optical (EO)	Synthetic Aperture Radar (SAR)	Radio-Frequency (RF)
<6 hrs			
6-12 hrs			
12-24 hrs			
24-36 hrs			
36-48 hrs (including acquisition within 24 hours, and final results provided within a further 24 hours)			

- Explain how the supplier would fulfil the requirement to relocate and change the AoI to meet the MMO's requirements. Include considerations around spatial and temporal coverage and explain your recommended approach to adaptively tasking over the two-week period following the initial acquisition(s) to validate continued vessel presence (KO5, KO6).
- In accordance with the criteria stipulated in Table 4 KO6 and 'Reporting & Outputs', please explain how the outputs of the surveillance would be provided and include illustrative examples (KO6, KO7), which may be included as part of the additional attachment if preferable.
- Briefly explain how the vessel detection and correlation would be undertaken in the context of the scenario and demonstrate how the respective confidence assessments would be presented (KO2, KO3, KO7).
- Please explain what identifying information (physical e.g. colour, shape, superstructure or electronic) could be obtained from the acquisitions, and please include illustrative examples if possible. Identify any information that could be garnered that may go towards confirm fishing activity (e.g. identification of the orange fishing marker buoys, KO6), and clarify how you meet the criteria stipulated in KO11 in the context of the scenario.

Please upload your response as an attachment of no more than **6** sides of A4, minimum font size 10 with the filename "Your Company Name_E03". In addition to the 6-page limit for the response, suppliers may provide illustrative example reports as separate attachments with the filename "Your Company Name_Sample Report Format _E03" and be of no more than an additional **2** sides of A4.

Please provide a total cost for the delivery of this standalone surveillance operation in the commercial workbook based on your recommended approach (see 'Financial Response' below). In the workbook, please include all costs, including but not restricted to data costs, staff time and overheads, including any cost implications of covering weekends, unsociable hours and bank holidays should be they be included. Please also submit the rate card alongside the commercial workbook as part of the commercial response. **Do not provide any costs as part of the technical response** – costs must only be included in commercial submission envelope/commercial workbook and do not include any commercial information within the technical envelope.

Question E04 – Risk-Based Tasking (Offshore) (Weighting: 13%)

This question relates to Scenario 2 given in Annex 1 (Tristan da Cunha). Please describe your recommended approach to this scenario, noting there are two objectives;

1. A one-week initial assessment to identify whether there are any dark vessels operating in the vicinity of the visible fleet on the High Seas adjacent to the MPZ, and, if so, the number
2. When dark activity is detected in 1., a further two-month monitoring phase to provide assurance there is no dark fishing activity within the MPZ, with the AoIs changing after one month.

Please provide;

- Details on which types of remote sensing capabilities you would recommend to address this scenario, including your recommended approach to the sequencing, periodicity and resolution of acquisitions to look for dark activity. Please also advise on the levels of temporal and spatial coverage you would recommend for this operation (KO5, KO6, KO8).
- Clarification on which specific remote sensing assets and/or constellation, that you have access to that you would use to address each phase of the operation in this scenario in order to meet the two objectives above, and their respective resolutions and levels of coverage (KO6).
- Clarify how much notice would be required to establish an ongoing surveillance operation of this nature, noting the threshold criteria of two weeks is used for the purposes of the scenario- suppliers should advise if they can deliver the work with < two weeks notice (KO5, KO6).
- Demonstrate how the outputs of the surveillance would be reported whilst the surveillance operation remains live, including the timelines for reporting post-acquisition (threshold = one working day post-acquisition for preliminary results, a further working day for final results) (KO6, KO7). Please include illustrative examples and ensure alignment with criteria in Table 4 KO6 and the 'Outputs and Reporting' section above.
- Demonstrate how the summary results would be presented upon conclusion of the Work Order. Please include illustrative examples (KO7).
- Clarify the capability and flexibility the supplier has to move the AoI and in what timeframes and any cost implications (KO5, KO6)

Please upload your response as an attachment of no more than **5** sides of A4, minimum font size 10 with the filename "Your Company Name_E04". In addition to the 5-page limit for the response, suppliers may provide example reports as separate attachments with the filename "Your Company Name_Sample Report Format _E04" and be of no more than an additional **2** sides of A4.

Please provide a total cost for the delivery of this standalone surveillance operation in the commercial workbook (see 'Financial Response' below). In the workbook, please include all costs, including but not restricted to data costs, staff time and overheads. **Do not provide any costs as part of the technical response** – costs must only be included in commercial submission envelope/commercial workbook and do not include any commercial information within the technical envelope.

Question E05 – Risk-based tasking (Inshore) (Weighting: 8.5%)

This question relates to Scenario 3 given in Annex 1 (Turks & Caicos), with the objectives of this surveillance operation being;

1. Assess the total number of dark vessel detections representing an IUU risk within each AoI in line with the weekly planning cycle. *Note - the MMO will make the ultimate assessment of relative IUU risk based on the reported dark vessel detection characteristics/parameters but will require technical support from the supplier to assist with this interpretation along with the outputs from the surveillance.*
2. The outputs of the surveillance will be used to build a timeseries to refine understanding of spatial and temporal variation in risk.

Please explain your recommended approach to delivering the surveillance for this scenario, including:

- Details on which types of remote sensing capabilities you would recommend to address this scenario, including your recommended approach to the sequencing, periodicity and resolution of acquisitions to look for dark IUU fishing activity. Please also advise on the levels of temporal and spatial coverage you would recommend for this operation (KO5, KO6, KO8).

- Clarification on which specific remote sensing assets and/or constellations, that you have access to that you would use to address each phase of the operation in this scenario in order to meet the two objectives above and their respective resolutions and levels of coverage (KO6).
- Demonstrate how the outputs of the surveillance would be reported whilst the surveillance operation remains live, including the timelines for reporting post-acquisition (threshold = one working day post-acquisition for preliminary results, a further working day for final results) (KO6, KO7). Please include illustrative examples and ensure alignment with criteria in Table 4 KO6 and the 'Outputs and Reporting' section above.

- Demonstrate how the summary data would be presented upon conclusion of the work order in accordance with KO7. Please include illustrative examples.
- Describe how the supplier would support the MMO to delineate between potential fishing and non-fishing (yachts, pleasure craft etc…) dark detections, either through tools available in a portal-based system or by provision of technical expertise (KO6, KO8). Include any system-based tools or available internal expertise that
- would assist with identifying patterns and trends in the spatial/temporal distribution of detections, through, for example, the provision of consolidated datasets or visualisation tools (KO6).

Please upload your response as an attachment of no more than **5** sides of A4, minimum font size 10 with the filename "Your Company Name_E05". In addition to the 5-page limit for the response, suppliers may provide example reports as separate attachments with the filename "Your Company Name_Sample Report Format _E05" and be of no more than an additional **2** sides of A4.

Please provide a total cost for the delivery of this standalone surveillance operation in the commercial workbook (see 'Financial Response' below). In the workbook, please include all costs, including but not restricted to data costs, staff time and overheads. **Do not provide any costs as part of the technical response** – costs must only be included in commercial submission envelope/commercial workbook and do not include any commercial information within the technical envelope.

Question E06 – Retrospective analysis – (Weighting: 8.5%)

This question relates to scenario 4 given in Annex 1 (hypothetical West African country).

The aim of the Work Order is to identify the estimated scale, extent and distribution of visible fishing activity from AIS and the suspected IUU and/or dark vessel activity.

In answering this question, the supplier should provide;

- A summary of the supplier's general approach to undertaking the analysis and how you would approach deducing the relative IUU risk, noting the different types of vessel threats, and spatial/temporal restrictions in the scenario. The supplier will be expected to provide an assessment of both visible (AIS) and dark (not on AIS) fishing activity patterns (KO6, KO8).
- Details of the internal Earth observation and, if possible, fisheries expertise the supplier has access to in order to undertake the analysis and produce technical recommendations around spatial and temporal IUU risks (KO8)
- Details of the specific open-source and archived commercial remote sensing data the supplier would include in the analysis (KO6)
- Details of the AIS data sources the supplier proposes to use for the analysis (KO6)

- An explanation of how the supplier would process the open-source, free-to-user satellite imagery or archived commercial data to cross-reference detections with AIS to detect dark vessels (KO2, KO3)
- Examples of outputs the supplier would provide as part of the analysis, including visual (e.g. heatmaps, charts, graphs) and data (summary tables, underlying detection data) orientated outputs (KO7), which may be included as part an additional attachment if preferable.
- The proposed structure of a final report. Suppliers may include a supplementary attachment to provide a truncated example of the report in addition to the page limit below if preferable (KO7).

Please upload your response as an attachment of no more than **5** sides of A4, minimum font size 10 with the filename "Your Company Name_E06", along with an option illustrative sample report. In addition to the 5-page limit for the response, suppliers may provide example reports as separate attachments with the filename "Your Company Name_Sample Report Format _E04" and be of no more than an additional **4** sides of A4.

Please provide a total cost for the delivery of this standalone retrospective analysis in the commercial workbook (see 'Financial Response' below). In the workbook, please include all costs, including but not restricted to data costs, staff time and overheads. **Do not provide any costs as part of the technical response** – costs must only be included in commercial submission envelope/commercial workbook and do not include any commercial information within the technical envelope.

Question E07 – Project Planning and Management (Weighting: 8.5%)

Please provide full details of the relevant expertise and experience of the proposed team who will be delivering the project This should include demonstrable evidence of their relevant skills and expertise to deliver the different aims and objectives of the project.

Please provide detailed proposals for work planning, monitoring and reporting progress. As part of this, please identify the team who will be delivering the project (including any consortia partners or subcontractors) and individual(s) who will have overall management responsibility for the project and nominate a representative for day-to-day contact with the MMO Project Lead. Please also detail the processes which will be put into place for engaging with and managing any sub-contractors and for resolving any issues arising.

Tenderers responses can use the scenarios to provide context but should consider the overall work package.

Your response should include:

- A description of the overall capabilities of the project team assigned by the tenderer and how they are relevant to the full range of aims and objectives outlined in this specification.

- A description of the key individuals involved in this project, along with an abridged CV (no longer than two side of an A4) which should include relevant knowledge, field(s) of expertise and previous relevant experience.
- An organogram showing clear reporting lines and accountability structure, including between the main contractor and subcontractors or consortia partners if relevant.
- A detailed project plan including all principal tasks and milestones that allows for clear accountability and tracking of spend. The proposal should identify appropriate milestones corresponding to the requirements set out in this specification.
- Provide strategies for ensuring flexibility and delivering the programme of work on time and to budget (including in relation to the use of subcontractors). Including dealing with surveillance of multiple work orders simultaneously.
- Suitable working arrangements to help deliver a successful programme of work. Define the level of support required from the MMO and indicate how this should be managed.
- Provision of regular progress reports.
- A Communications Strategy especially when dealing with regular reporting of scenarios to support patrolling and on identification of significant, high confidence information suggesting non-compliance. This should include details of how communications will be handled including urgent reporting of non-compliance, communications with any subcontractors and other key stakeholders to ensure successful delivery of the project and proposals for weekly updates/regular meetings for example.

i) Please upload your response as an attachment of no more than **5** sides of A4 minimum font size 10 with the filename “Your Company Name_E07”.

ii) Descriptions of individual team members/abridged CVs and organogram should be combined into one separate document and uploaded as a separate attachment with the filename “Your Company Name_CVs_E07”.

iii) The Summary of Staff Time Workbook should also be completed an uploaded with the filename: “Your Company Name_Staff Time Workbook_E07”.

Question E08 - SOCIAL VALUE (Overall weighting: 15%)

In October 2022, the MMO published its 2030 Strategic Plan for healthy, productive seas and coasts. MMO2030 detailed the values of the organisation to be accountable, innovative, engaging, and inclusive with a desire to make the MMO a “top place to work” and to be considered an employer of choice with development opportunities.

MMO are an organisation with an open, diverse and inclusive culture, respected for our commitment to diversity and inclusion and for our colleague care and support in health, safety and wellbeing. As a public body these values are also very important to us in our key strategic commercial relationships and, like all Government Departments, MMO are committed to tackling the scourge of modern slavery.

In line with Theme 2 (Tackling Economic Inequality) of the governments Social Value model, please describe the commitment your organisation makes to creating new jobs and new skills in the areas in which you operate (7.5%).

In line with Theme 3 (Fighting Climate Change) of the governments Social Value model, please describe the commitment your organisation makes to influence environmental protection and improvement through the delivery of the contract (7.5%).

Evaluation Criteria:

Higher marks will be awarded to Tenderers who can demonstrate;

I. Evidence of historic activity, with tangible outputs, that support the above referenced themes of the governments Social Value model.

II. Adherence to relevant industry legislation, industry best practice and independent accreditation e.g. completion of the Modern Slavery Assessment tool and an associated action plan.

III. How you will influence staff, suppliers, customers and communities through the delivery of the contract to support the Policy Outcome, e.g. engagement, co-design/creation, training and education, partnering/collaborating, volunteering.

IV. How you will evidence the activity in III above to the authority.

V. A timed project plan and process, including how you will implement your commitment and by when. Also, how you will monitor, measure and report on your commitments/the impact of your proposals.

FINANCIAL RESPONSE (overall weighting 35%)

Please provide detailed breakdown of costs for questions E03-E06 by completing the Commercial Workbook (Appendix E) and uploading the completed document with the filename: “Your Company Name_F01”.

The requirements for the Commercial workbook are to provide total costs against five different data acquisition timelines for delivering surveillance for each scenario (Scenario 1-4), including costs for the data (acquisitions, AIS or any other data source) and all costs for analysis, staff time and reporting.

Each different data acquisition timeline has a separate weighting against total cost entered for Scenario 1-4 and are as follows:

Data acquisition timeline	Relative Weighting
Response in less than 6 hours	30%
Response between 6 and 12 hours	30%
Response between 12 and 24 hours	15%
Response between 24 and 36 hours	15%
Response between 36 and 48 hours	10%

The sum of the scores produced for each relative weighting will be added together and will form a percentage of the total commercial score available. For example, a total score of 85% will achieve a total commercial score of 85% of 35 = 29.75.

APPENDIX C

PROPOSED GOVERNANCE AND CONTRACT MANAGEMENT ARRANGEMENT (INCLUDING KPIs)

1. Governance and Contract Management

1.1 The quality of the service provided will be regularly monitored by the Authority against the elements outlined in Section 1 and Section 2 below.

1.2 The Contractor shall participate in quarterly and annual review meetings with the Authority to review the quality and performance of the services provided. The Contractor shall be appropriately represented at the review meetings which will usually be conducted via teleconference or held face to face in where this can coincide with other meetings.

1.3 The Contractor will appoint a nominated person of appropriate grade to be the Contractor's Authorised Representative to manage the provision of the service and to liaise with the Authority as required. At any meeting it will be assumed the Contractor's Authorised Representative will be authorised to make critical decisions.

1.4 The Contractor will be responsible for agreeing dates and drafting the agenda for and producing a note of the review meetings.

2. Efficiencies and Continuous Improvement in Service Lifetime

2.1 During the Contract, the Contractor will develop, maintain, and improve efficiency, quality and where possible provide a reduction in charges to enhance the overall delivery of the Contract.

2.2 The Joint Contractor have an ongoing obligation throughout the Contract to identify new and potential improvements to the Services which will include, but are not limited to:

- New and evolving relevant technologies which could improve the Services;
- New or potential improvement which enhances the quality, responsiveness, procedures, methods and/or Authority support services; and
- Changes in business processes and ways of working that would enable the Services to be delivered at lower costs and /or at greater benefits to the Authority.

2.3 Where such improved efficiency is achieved the Contractor shall propose a reduction in the level of charges and effect such reductions by agreement with the Authority.

3. Performance Management

3.1 Key PerformanceI ndicators (KPIs) are essential in order to align Contractor performance with the requirements of the Authority and to do so in a fair and practical way. KPIs have to be realistic and achievable; they also have to be met otherwise indicating that the service is failing to deliver. Without the use of service credits in such a situation, this service failure places strain on the relationship as delivery fall short of agreed levels. As a result, the only recourse would be to terminate and seek alternative supply.

3.2 The proposed KPIs are set out in Section 1 and Section 2.

4. SECTION 4: PERFORMANCE MANAGEMENT FRAMEWORK

4.1 Overview of the PMF

4.1.1 As part of the Authority's continuous drive to improve the performance of all Contractors, this PMF will be used to monitor, measure and control all aspects of the Supplier's performance of Contract responsibilities.

4.1.2 The PMF purpose is to set out the obligations on the Contractor, to outline how the Contractor's performance will be evaluated and to detail the sanctions for performance failure.

4.1.3 The Authority may define any reasonable performance management indicators for the Contractor under the following categories:

- Contract Management
- Delivery and Support
- Quality of Service

4.1.4 The above categories are consistent with all Contract awards allowing the Authority to monitor Contractor' performance at both individual level and at the enterprise level with the individual Contractor.

4.2 Management of the PMF

4.2.1 Key Performance Indicators (KPIs) shall be monitored on a regular basis and shall form part of the Contract performance review. Performance of KPI's will be reported by the Contractor to the Authority on monthly basis. The Contractor shall detail performance against KPIs in Monthly Reports and at quarterly Contract Meetings with the Authority; who will review this and make comments if any.

4.2.2 The Contractor shall maintain their own management reports, including a Risk and Issues Log.

4.2.3 Any performance issues highlighted in these reports will be addressed by the Contractor, who shall be required to provide an improvement plan ("Remediation Plan") to address all issues highlighted within a week of the Authority request.

4.2.4 Performance failure by the Joint Contractor may result in administrative costs to the Authority[2]. Where the Contractor fails to meet the KPIs then the service credit regime shall apply.

4.2.5 Key Performance Indicators (KPIs) are essential in order to align the Joint Contractor' performance with the requirements of the Authority and to do so in a fair and practical way. KPIs have to be realistic and achievable; they also have to be met otherwise indicating that the service is failing to deliver. Without the use of service credits in such a situation, this service failure places strain on the relationship as delivery falls short of agreed levels. As a result, the only recourse would be to terminate and seek alternative supply.

4.2.6 The Authority reserves the right to amend the existing KPIs detailed in Section 5 or add any new KPIs. Any changes to the KPIs shall be confirmed by way of a Contract Change Note

[2] Upon Clarification: Lost income to the Authority in this case is in reference to a monetised cost of the Authority's staff time taken to rectify any failures in Service delivery from the Contractor.

Section 5: Key Performance Indicators (KPIs)

Metric	KPI	What is required to make this measurable	KPI Measurement	KPI Rating		
Delivery	**KPI 1 – Project Deadlines**	Upon completion of a Work Order, deliverables will be presented by the Contractor(s) to the Authority at the agreed date and quality as outlined in the deliverables (see also KPI 7 – Reporting).	Quality final deliverables are presented to the Authority on the day and or time (if appropriate) that has been agreed by both parties. The Authority's project officer deems the deliverable to be of sufficient quality.	Deliverables sent to the Authority greater than 5 (five) working days after the agreed deadline.	Deliverables sent to the Authority greater than 1 (one) working day after the agreed deadline.	Meets expectations - All deliverables sent to the Authority on time
Contract Management	**KPI 2 – Invoices**	Invoices to be received within five (5) working days of the end of each month. Invoices and associated deliverables should be clearly linked. Note partial payment for milestones is not permissible: only completed milestones and deliverables are chargeable.	Invoices quote the correct PO, Contract number, the Authority Contact, and qualitative description of the work being done. Invoices must be clearly itemised: specific milestones and deliverables should be explicitly listed. Associated reports should be clearly and explicitly linked to invoices to help financial tracking.	Invoices received by the Authority which contains inaccuracies and/or greater than 10 (ten) working days after the agreed deadline.	Invoices received by the Authority greater than 5 (five) working days after the end of the month, and/or contains some inaccuracies.	Meets expectations - All invoices received by the Authority on time and accurately reflect agreed work

Quality of Service	**KPI 3 – Quality of Deliverable: Error Free**	Deliverables are accurate and free of errors.	Deliverables reviewed by the Authority for accuracy.	A significant error is a failure to inform in writing of a change in satellite imagery or AIS provider – the consequence of which is a reduced quality of results or confidence in them. A significant error is identified that results in reduced surveillance capability over a prolonged time period or a reduction in confidence in information provided A significant error is identified that results in published documents or National Statistics being amended by Defra. Or an error is identified that results in Government incurring financial damages or significant reputational harm.	An error is identified that does not result in published documents or National Statistics being amended	Meets Expectations – No errors within deliverables
Contract Management	**KPI 4 – Annual risk Assessment**	High quality, detailed and up to date project risk assessments in place.	Initial submission 1 month from commencement and kept to date throughout the project. Evidence should be provided that risks are proactively managed.	Risk Assessment is not kept up to date and known risks are not communicated on the Risk Assessment	Risk Assessment is kept up to date but communication on the Risk Assessment is incomplete	Risk assessment is kept up to date and remains appropriate for use

Quality of Service	**KPI 5 – Quality of Deliverable: Model QA**	A credible QA development plan is in place with time bound deliverables to implement Defra Quality Assurance Guidelines for Models. QA logs are implemented and accurately maintained for all models.	A credible and time bound plan to implement Defra QA Guidelines for Models is in place and adhered to. The guidelines are implemented within the lifetime of the Contract. QA logs are accurately maintained and annually updated.	Lack of a model QA development plan, a significant inaccuracy in the QA log or significant failure to maintain the model at the required standard, failure to implement the Defra QA Standards for Models within the lifetime of the project	Lack of a model QA development plan, a significant inaccuracy in the QA log or a failure to maintain the model to the required standard	Meets expectations
Reporting	**KPI 6 – Reporting**	Reports received within the given timescales and contain all relevant information	Reporting timescale for intelligence-led, risk-based and retrospective work orders align aligns with pre-agreed criteria for each individual Work Order.Target and threshold criteria are stipulated in Key Objective 3 (Table 3) and in Reporting & Outputs section of tender specficiation, though requirements will be work-order specific. Content is correct and in line with specification or agreed specific operation requirements.	Reports not submitted on time and does not contain required content	Some reports slightly delayed and/or redrafting to include all required content.	Reports meet required deadlines and content

Providing a quality service	**KPI 7 – coverage**	Remote sensing data is available on a global scale, meeting the spatial/ temporal coverage required for effective surveillance, with data that is at the appropriate scale/ resolution (see criteria in Table 4, KO6)	The Contractor can provide the required resolution, persistence and levels of coverage required to deliver the surveillance operations. The Contractor is able to access a range of remote sensing capabilities.	Contractor unable provide adequate coverage, persistence or resolution of data.	Some gaps in coverage, persistence and resolution of data sources available	All requirements met
Outputs	**KPI 8 - outputs**	Detection of vessels within acquisitions and subsequent correlation with AIS is accurate and consistent, applying the pre-agreed confidence assessment methodology.	Vessel detection and correlation is undertaken within the work-order specific timeframes and is presented in line with pre-agreed reporting requirements, including integration of the confidence assessments.	Contractor unable to effectively undertake vessel detection, AIS correlation and/or confidence assessments	Results are sometimes ambiguous or inconsistent	All requirements met
Support	**KPI 9 - support**	Technical advice and support is readily available, and the Contractor is able to provide timely and accurate support. This includes supporting the MMO with planning surveillance operations and assisting with the interpretation of the outputs if required	Contractor able to provide verbal or written technical advice/support within one working day of output delivery	Contractor unable to provide adequate technical support	Contractor provides some support, but aspects are inconsistent, inaccurate or not timely.	All requirements met

E01 Risk Management and Mitigation

TENDERER'S RESPONSE

Delivering Aims and Objectives: mitigating risk including Technical, Personnel, Subcontractor, Stakeholder, Timetable & Commercial Risks

Over the last six years, OceanMind (OM) in partnership with Marine Management Organisation (MMO) have used a successful Intelligence Led - Risk Based Enforcement (ILRBE) approach for early identification and management of risks, using a continuous improvement methodology. We have gained deep experience of the MMO program specific requirements, historical and current threats facing Island nations including but not limited to: Illegal, Unreported, and Unregulated (IUU) Fishing; Climate Change; Foreign Fishing Fleets; Overfishing, as well as the challenges facing the local Island teams in terms of capacity to monitor and manage these threats. OM has real world expertise in assessment and effective mitigation measures taken to reduce risk levels to ensure the key aims and objectives of the MMO program are realised.

OM was designed with common goals to the MMO. Our team is highly skilled, and mission driven. We are proactive on program pricing risk, demonstrated through robust supplier management and negotiation on service levels with discounted pricing agreements secured from satellite and other data providers, to provide our Most Economically Advantageous Tender. The OM team is highly experienced and cares about the outcome, therefore we are intrinsically motivated to deliver effectively, mitigating risks that could otherwise derail the projects. This reduces the overall program risk profile significantly.

To date we have successfully delivered for MMO program: ~84 Work Orders, 64 intelligence and patrol support reports, 9 integrated marine management reports and 11 optical imagery risk assessment reports. (with 1 year of imagery over Ascension for BBP to 3 years of imagery over Senegal for OCPP).

Proven methodology for assessing, scoring, and mitigating risks

Figure 1 – OM Risk Management Process

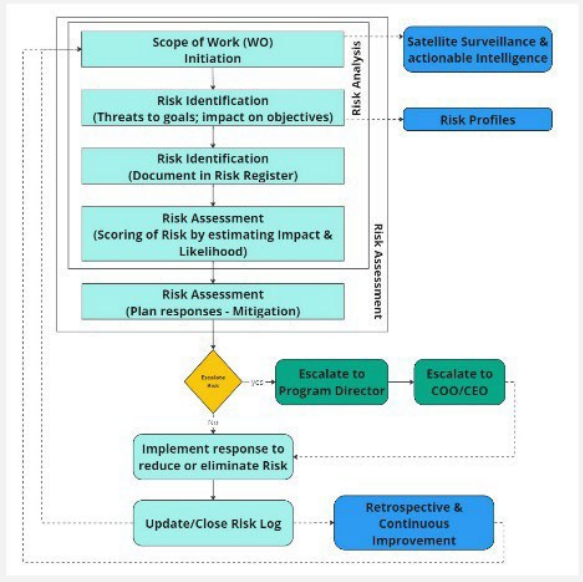


Figure 1 provides a summary of the OceanMind risk management process which we adopt as part of all our projects to ensure the early identification and handling of risks. This workflow has been shaped throughout our partnership to ensure it is fit for purpose and tailored to suit the needs of the MMO program.

Our project governance structure provides clear risk owners and an escalation route for high impact risks. Our insight as incumbent aids early identification of risks, with mitigation measures in place and actions ready for swift resolution to minimise project disruptions. We have a high focus on early detection and mitigation of risks associated with satellite data coverage and availability, bringing in alternate data suppliers to ensure risk of coverage is minimised. We capture, evaluate, and record all risks during regular scheduled project meetings with MMO and internal OM project team, identifying impacts to inform mitigation and actions. Our comprehensive risk register is a fundamental tool which underpins successful project delivery.

We assign risk criteria based on Impact and Likelihood and use a risk scoring matrix which allows us to quickly make an accurate assessment of project impact, see Table 1- risk scoring matrix. The escalation of identified risks ensures proper project governance and appropriate mitigation is put in place. Team morning briefs and project management meetings ensure risks, impacts and dependencies are tightly controlled. Regular risk reviews with MMO ensure continuous improvement of the risk process is incorporated at every stage.

Table 1 – Risk Scoring Matrix

	Impact (1-3)	Likelihood (1-3)	Risk Calculated Score
Key/ Critical	**3**: Significant project delay or additional cost.	**3**: Highly likely to happen	High **(6 - 9)**
Intermediate	**2**: Moderate project delay or additional cost.	**2**: Likely to happen	Intermediate **(3 - 5)**
Minor	**1**: Minor project delay or additional cost.	**1**: May happen	Minor **(1 - 2)**

For the MMO program tender response we have combined the Risk Assessment with Mitigation actions in place into below Key Risk Log. It is not a full list of all risks but covers the highest assessed risks we perceive which could affect our ability to deliver the MMO program across technical, personnel, sub-contractor, stakeholder, timetable, commercial and business continuity risks. We have specified risk owners and mitigation actions which reduce the risk score for successful delivery of the MMO program aims and key objectives of a) Securing clean, productive, and biological diverse seas and oceans; b) Protecting and improving the global environment helping to create a more prosperous marine environment; c) Most Economically Advantageous to the authority and d) Fulfil the 11 x Key Objectives listed MMO tender specification.

Assessment of Risks	Initial Impact (1 - 3)	Initial L/hood (1 - 3)	Initial Risk Score:	Risk Owner	Risk Mitigation: Proactively addresses risks before they occur, aiming to minimize their impact	Post Mitigate Impact (1 - 3)	Post Mitigate L/hood (1 - 3)	Post Mitigate Risk Score:	MMO Aims A, B, C & 11 Key Objectives specified
Technical Risk: Capability to provide global coverage using multiple data sources to identify IUU fishing and support prosecution cases	3	2	6	DIR I&C-PT	1. OM skilled in use of wide range of systems to facilitate global data coverage for analysis (AIS Spire subscription with Exact Earth backup, OM workflow tool, Skylight, multiple satellite providers) 2. Alternate supplier arrangements in place *e.g. AIS data: Spire with backup of Exact Earth and OrbCom. SAR data: MDA with backup of Capella Space; RF data: Unseen Labs with backup of MDA RF contacts	1	1	1	MMO Aims A, B; KO1; KO2; KO3; KO4; KO5; KO6; KO7; KO8; K10; K11
Ability to detect dark vessels (DVD) where AIS is switched off (indicator of higher risk of IUU fishing)	2	2	4	DIR I&C-PT	1. OM has automated alerts which detect when vessels go dark & can report & monitor these dark vessel target patterns 2. Access to selection satellite imagery for DVD, imagery can be requested short turnaround or directly accessed to confirm dark. 3. Wide variety of imagery sources as above to mitigate for satellite or environmental factors impacting acquisition of imagery.	1	2	2	Per above
Tasking windows impacted by environmental factors like cloud cover & icebergs	2	2	4	DIR I&C-PT	1. Use of alternative imagery not impacted by environmental factors (SAR, RF better for cloud coverage) 2. NOAA iceberg identification, patterns of movement & multiple data sources to ground truth what is there	1	2	2	Per above
Personnel Risk: Permanent staff absence-unable to meet near term committed deliverables	2	3	6	COO-RG	1. Regular programme level interlock planning agreed prioritised plan with advance resource requirements 2. OM internal knowledge transfer sessions and Standard Operating Procedures ensure all analyst skilled in MMO work 3. Pipeline of vetted candidates in place to join OM, work demand dependent	1	2	2	MMO Aims A, B, C; 6-year track record of delivery on MMO WOs on time and within budget.
Multiple Work Orders received simultaneously, resource availability	2	2	4	COO-RG	1.Regular programme level interlock planning agreed prioritised plan with advance resource requirements 2. OM staff re-allocated from other work to support MMO	2	1	2	Per above: KO1; KO2; KO3; KO4; KO5; KO6; KO7; KO8
Insufficient support for live tasking over key holiday (Xmas/ Easter) high demand/ risk IUU fishing	2	3	6	COO-RG	1.OM have a holiday period rota in place to ensure sufficient resources available to handle live tasking & patrol support over high-risk periods. Escalation callout plan in place.	2	1	2	Per above
Subcontractor Risk: Capability data suppliers to meet the technical criteria at agreed price levels	3	2	6	DIR I&C-PT	1. Price cards agreed with key suppliers for technical specification & delivery to meet MMO program requirements 2. Due diligence vetting process for supply chain 3. Alternate supplier arrangements in place as note above*	2	1	2	KO4; KO6 1-10 in place; Environment data: can identify areas of sargassum
Work Order Approval Process is slow resulting in delayed start to the	2	2	4	COO-RG	1.Email pre-approval process with MMO team to trigger start prior to Atamis approval to minimise delays 2. Call up order process with Satellite subcontractors for reduced turnaround time for starting at short notice	1	1	1	6-year track record of delivery on MMO WOs

monitoring due to delays to procure data on time					3. Proven supplier mgmt. & issue process, minimises delays.				on time and within budget.
AIS, SAR, or RF supplier data degradation of service impacts deliverables	3	1	3	DIR I&C-PT	1.Alternate supplier arrangements in place *e.g. AIS data: Spire with backup of Exact Earth and OrbCom. SAR data: MDA with backup of Capella Space; RF data: Unseen Labs with backup of MDA RF contacts 2.SLAs, where applicable, with suppliers	2	1	2	KO1; KO2; KO3; KO4; KO5
Stakeholder Risk: Communication breakdown between OceanMind and MMO program team	3	2	6	COO-RG	1. Regular programme level interlock planning agreed prioritised plan with advance resource requirements 2. Weekly operational sync in place with MMO Team 3. OM built right skilled team who share common driver to deliver MMO work- shared passion, motivation to be proactive; common understanding of the challenges	1	1	1	Per above
Training in house MMO team could lead to reduced need for suppliers' expertise in future, impacting motivation	2	2	4	COO-RG	1.Alignment OM & MMO senior team on evolution of MMOs in house support function. 2. OM working under NDA with MDA to offer potential system solution in future.	1	1	1	KO9
Timetable Risk: Multiple changing requirements from MMO - overwhelms OM & data supplier capability to deliver to plan	3	2	6	DIR PGMT KDS	1. Regular programme level interlock planning agreed prioritised plan with advance resource requirements 2. Weekly OM Project Lead operational working team meetings in place with MMO Team 3. Timely reaction to any issues, due to strong understanding of work, priorities and relationship built between all teams	2	1	2	KO4; KO5
Delays or issues with data supplier delivery	3	1	3	DIR PGMT KDS	1.SLAs, where applicable, with suppliers 2. Contracts in place with data suppliers, including call up sheets with MDA, which improve turnaround times 3. Ability to replace suppliers- alternate supplier arrangements in place as noted above*	2	1	2	KO1; KO2; KO3; KO4; KO5; KO7
Commercial Risk: Achieving value for money and pricing for duration of MMO program with commercial satellite data sub-contractors	3	2	6	COO-RG	Significant discounted rates for MMO program of work negotiated by OceanMind with commercial data suppliers: 1. MDA: holding prices at current contract level via OM 2. Unseen Labs: reduced price offered via OM 3. Potential new supplier Capella Space offering 52% discount on commercial rates via OM for this contract term	2	1	2	MMO Aims C- Most Economically Advantageous for the authority
Management of cashflow (MMO contracts do not commit minimum monthly spend).	3	2	6	CEO-NW	1. Regular programme level interlock planning agreed prioritised plan and fast resolution of any issues 2. Continuous improvement process changes introduced: a. Reduced cycle time of upfront work order solution options and costs process, use of call up sheets with data providers b. Agreed pre-approval signoff fast turnaround work orders 3. Effective communication supports quick resolution of any payment issues and keeping to agreed plan of work.	1	2	2	All these actions minimise risk to work order delays & provide more reliable cashflow on MMO program

Business Continuity Risk: DoS level or advanced cyber-attack. Unable to deliver against the project aims and objectives	3	1	3	CEO-NW	1. Use of Microsoft Azure cloud platform to ensure availability of services via multiple geographies and prevent DDoS attack 2. Layered network security for firewalls, VPN, two factor authentication, segmented networks, intrusion detection 3. Replicated resilient data design in place	1	1	1	KO1; KO2; KO3; KO4; KO6; KO7
Full or partial technical failure leading to loss of service	3	1	3	CEO-NW	1.Disaster recovery plan, available on request, provides full detail of steps taken in cases of full or partial technical failure to ensure expedient service restoration.	1	1	1	KO1; KO2; KO3; KO4; KO6; KO7

Business Continuity Strategy (BCS):

The purpose of this BCS is to resolve any service delivery affecting disruptions swiftly. This summary identifies the top risks and actions.

The BCS is managed by the Crisis Management Team (CMT) comprising the CEO, COO, Financial Controller (FC), Director: Intelligence & Compliance (I&C), and Director: Strategic Partnerships (SP). When a service disrupting event arises, the CMT convenes to determine the impact, action plan, and owner. There are detailed business continuity/disaster recovery (BCDR) plans for complex scenarios, in particular for failures of the technology that underpins contract delivery. BCDR plans include detailed step-by-step instructions for restoring services, internal and external communications plans, responsibilities and contact information, and the actions and expenses log.

OceanMind's data storage and analysis platform is built on the Microsoft Azure Cloud Platform leveraging the built-in security and resilience to prevent issues arising and disaster recovery capabilities including multi-zone replication, snapshot backups, and serverless compute to simplify restoration after an event.

Some supporting services run in the Satellite Applications Catapult data centre in Harwell. The associated BCDR plan details actions to take if these are affected.

OceanMind's productivity tools (email, report writing, document sharing, etc.) are hosted on Microsoft 365, with built in business continuity features.

Service Disrupting Event	Key Actions	Owner
Unexpected loss of availability of allocated trained staff to deliver Service.	Transfer trained staff from other contracts to focus on MMO deliverables. Follow communications plan from BCDR plan to inform the Authority on a regular basis.	Director: I&C
Loss of availability of cloud services required to deliver Service.	Raise Microsoft support ticket to enable disaster recovery support. Follow steps in the BCDR plan.	CEO
Loss of availability of services in Catapult data centre.	Liaise with Catapult CMT. Follow steps in the BCDR plan.	CEO
Failure of a supplier to deliver a particular data source.	Each data source has an alternative supplier. Contact backup supplier to replace service. Follow steps in the BCDR plan.	COO
Delays or disruption to income affecting cashflow.	Request earlier payment from other customers, seek bridge financing, delay payments if no other option. Follow communications plan from BCDR plan to inform the Authority.	FC
Loss of email or other productivity tools required to deliver Service.	Raise Microsoft support ticket to enable service restoration. Seek assistance from Uniq IT (outsourced IT support) using contact details in the BCDR. Contact customers by telephone.	Director: SP

E02 Supplier Expertise

OceanMind have been proudly supporting the Marine Management Organisation (MMO) for 6 years with the provision of International Maritime Surveillance Services including intelligence, technical advice, guidance, and recommendations protect the UK Overseas Territories (OTs) and Ocean Country Partnership Programme (OCPP) pristine marine environments. During this time, we have successfully delivered 84 Work Orders (WO's) (including extensions), comprised of 64 intelligence gathering and patrol support WOs, 9 integrated marine management reports, and 11 optical imagery risk assessments analysing over 300 million km^2 of satellite imagery. Our team of analysts have worked hard to ensure the responses have been swift and are targeted to identify threats, risks, and the priorities of the Blue Belt Programme (BBP), Blue Belt Ocean Shield (BBOS) and OCPP. Furthermore, OceanMind have also participated in joint efforts between Marine Management Organisation (MMO) and INTERPOL to pursue offenders that were detected operating in the areas of surveillance.

Our commitment to marine environmental protection using technology and innovation sets us apart from others. Our expert team of fisheries enforcement, technical and imagery analysis specialists provide tailored support with outcomes that focus on impact. As the incumbent, we have tailored our approach and processes to match the needs of the MMO and are able to continue delivery, ensuring no break in quality or service.

Remote sensing assets/constellations and data sources available to the supplier

OceanMind have longstanding partnerships with, and access to, a broad suite of remote sensing assets/constellations and data sources that we use to provide a high quality, cost-effective turnkey service (KO4) to the Blue Belt Programme. These include Synthetic Aperture Radar (SAR), Electro-Optical (EO) imagery, Radio Frequency (RF) and Visible Infrared Imaging Radiometer Suite (VIIRS) data collected across the globe, alongside Automatic Identification System (AIS) and Vessel Monitoring System (VMS), analysis of which results in a high rate of detection of the presence of 'dark' (non-transmitting) vessels (vessel detections, KO2) in the Area of Interest (AoI). Our strong partnerships enable us to obtain highly competitive rates which for the primary data sources are discounted and pricing agreed for the full four year period, as evidenced in this bid.

Working to tight timescales to meet intelligence needs is made possible through our strong working relationships and effective communication channels with data providers and the BBP, BBOS AND OCPP, enabling the free flow of feedback and process refinements to maximise efficiency and quality of intelligence. Prior to tasking and acquisition, we use project planning to ensure a responsive data acquisition plan. We utilise the knowledge we have developed as the incumbent to identify likely AoIs for the MMO and understand image availability at the earliest opportunity. The OceanMind team combine historical analysis, oceanographic models, vessel tracking data (such as AIS) and VIIRS data to obtain an overview of vessel activity to further inform the data acquisition plan and meet tasking needs. When tasking, we discuss target areas with the relevant MMO teams, request all possible imagery footprints from providers, choose the most appropriate and check them with the MMO, and confirm the request with the provider. To maintain a high level of service, OceanMind monitors incoming data against requests and immediately highlights any discrepancies, ensuring providers quickly replace any missing data. Monitoring activities include tracking how much data has been used and ensuring coverage targets are met.

Having done so for over six years, we have robust systems for the procurement and maintenance of all physical infrastructure, data storage and software for the tasking, receipt, processing, and hosting of acquisitions from all remote sensing sources (KO1). This includes strong security measures to protect data and confidentiality; these are constantly monitored and updated frequently.

The suite of remote sensing data sources used by OceanMind hold a wide range of capabilities which meet the threshold and target criteria in Table 4 of KO6.

- **20m vessel detection threshold:**
  - Commercial Detection of Vessels Wide-Far (DVWF) SAR imagery from MDA's RADARSAT 2 constellation, capable of detecting vessels of 20 m and above. Images are approximately 450 x 500 km in size. We also have access to commercial Extra-Fine (XF), capable of detecting vessels of 6.3 m and images are approximately 125 x 125 km.
  - Commercial EO imagery from Digital Globe with a 0.5 m resolution. Images are approximately between 15 – 25 km x 5 – 180 km.
  - The higher the resolution the smaller the area covered by imagery and higher the cost. Therefore, where target vessels are known to be over 20 m in length, lower resolution imagery will be recommended.
- **5m vessel detection threshold:**
  - Commercial Ultra-Fine (UF) SAR imagery from MDA's RADARSAT 2 constellation, capable of detecting vessels of 3 m and above. Images are approximately 20 x 20 km.
  - Commercial EO imagery from Digital Globe with a 0.5 m resolution. Images are approximately between 15 – 25 km x 5 – 180 km.
  - Commercial Very High Resolution (VHR) SAR imagery from Capella Space's constellation capable of

collecting 5 x 20 km images with a resolution of 1.2 m (smaller images available with higher resolutions).

- **Access to X-band and S-band RF-detection capabilities**: Commercial RF data from Unseen Labs' constellation which detects both X-band and S-band frequencies. They are expected to add L-band to their capabilities within the next year. Acquisitions cover between 200,000 – 400,000 km^2 each and include geolocation coordinates, accuracy (high – within 5 km; medium – within 15 km; and low – within 30 km) and the unique electromagnetic signature (waveform) of the emitter, enabling tracking and potential subsequent correlation of waveforms.
- **Capable of providing coverage over any given AoI at least twice per week**: The wide range of data providers and constellations used by OceanMind has enabled us to provide coverage over any chosen AoI more than twice a week; often daily where the WO has required. The analytical team is skilled at choosing and scheduling imagery to cover the highest risk areas and periods.
- **Information reporting:** OceanMind reports findings in accordance with requirements described in 'Outputs and Reporting' and in line with turnaround times described in Table 3. This includes reporting key information via email on the required days, keeping up to date and sharing a detection log with the MMO with access for multiple users, and meeting weekly with the MMO to disseminate information. OceanMind's team have in-house Earth observation and extensive IUU expertise that has been successfully deployed in support of the MMO over the past 6 years to provide additional advice and interpretation around the outputs if required (verbal or written). OceanMind provides access to a SharePoint web-based platform with capacity for any number of users (with no additional cost) through which the required data from Outputs and Reporting can be exported. SharePoint is hosted by Microsoft and is subject to their 99.9% uptime SLA and rapid support service facilitated by OceanMind's internal technical team. The team also have contingency measures in place to share reporting and data via email, meetings, or phone if needed.
- **Supplement work orders with open-source data such as Sentinel-1 and Sentinel-2**: OceanMind regularly supplements work orders with data from the European Space Agency's (ESA) Sentinel-1 and Sentinel-2 constellations, and has established robust processes for the identification, access, processing, and analysis of imagery from these sources. Our analysts have significant experience using these sensors and fully understand their capabilities and limitations. Sentinel-1 provides 20 m resolution imagery on a 12-day repeat cycle with a swath width of 250 km, and Sentinel-2 provides variable resolutions depending on the area and ranging from 10/20/60 m resolution imagery on a repeat cycle of 5 days with a tile size up to 110 km^2, enabling frequent coverage of AoIs under their orbits.
- **Adaptive tasking:** It is because of our significant experience of working with the MMO to support the UK OTs that we are able to respond in a timely and focused manner. We have proven our ability to change location and acquire images within the agreed timeframes responding quickly to the needs of the BBP, BBOS AND OCPP teams. Changes to the location of the satellite imagery can be actioned with a maximum of 5 working day lead time; however, we have protocols to complete this with shorter turn arounds (down to **3 hours** for Capella Space). OceanMind's data providers are on standby to support with short lead time requests.
- **Automation of AIS analysis:** OceanMind's bespoke tools include the automated analysis of AIS by algorithms capable of identifying AIS switch offs, suspected fishing or vessel interactions, and unusual movement by vessels. These behaviours produce alerts in our system which are quickly analysed by the I&C team and, where risks are identified, they are communicated to the partner. OceanMind's machine learning algorithms are designed to analyse vessel tracking data and automatically identify human activity on the ocean. Our proprietary algorithms are world-leading and well beyond the current state-of-the-art in the known literature, and the only known vessel behaviour analysis algorithms to combine a range of time- and context- dependent multi-pass machine learning techniques. This approach allows us to not only achieve higher accuracy for vessel and gear identification, but also allows for a high granularity of classification enabling us to break down fishing activities into different stages, such as setting gear, soaking gear, and retrieving gear. OceanMind can share through our SharePoint platform outputs relating to any AIS-based alert generated by our algorithms.
- **Environmental data:** OceanMind utilises open-access weather, sea state and other oceanographic and meteorological data made available by NASA Earth Observations (NEO) collected by the NASA satellite constellations. The team use these to assess potential impact on detections, vessel behaviour and data streams. Information about these is integrated into the organisation's tools to enable streamlined analysis. Such data can also be used to model fishing behaviour and assess future trends. An example is the use of chlorophyll concentration change to map the potential distribution of highly migratory pelagic species such as albacore tuna, as applied by our experts during OceanMind's 5-year remote monitoring review of the Pitcairn Islands.
- **Access to a back-catalogue of commercial data:** OceanMind's system has immediate access to AIS data from 01 January 2018 to the present, providing over six years of historical track and identity information for vessels. AIS data prior to this date can be loaded from cold storage and used with advance notice. In addition, the team are able to access all historical Sentinel SAR and EO data from the ESA and have access to an extensive back catalogue of high-resolution Digital Globe EO imagery. OceanMind can analyse and interpret any of this data on behalf of the Authority.

Vessel detection methodology and confidence assessment

Vessel detection for SAR imagery, RF detection, and VIIRS data is undertaken by the satellite data supplier using high quality commercial algorithms. (KO2) Vessel detection in EO imagery is currently undertaken by OceanMind's analysts using QGIS tools. We are currently developing automated vessel detection algorithms for EO imagery.

OceanMind algorithms process vessel detections to correlate with AIS positions (KO3). The algorithm produces a list of candidate vessels based on vessel speed and AIS position before and after the SAR detection. The confidence score resulting from initial algorithm processing is considered (see discussion of confidence below).

The analyst will use their skills and experience to interpret the appearance and metrics of uncorrelated detections; such detections may be of risk to the AoI as they may represent 'dark' (non-transmitting) vessels conducting unauthorised activities. The appearance of the detection is assessed for whether it fits the shape of a vessel, and whether the estimated length and width match the expected appearance of risk targets. This process is significantly aided by the experience of the analyst, together with cross-comparison of uncorrelated vessel profiles with historical detection thumbnails that have been positively correlated with vessels transmitting on AIS.

To enable an accurate level of confidence to be determined, several factors need to be considered. OceanMind has developed this process over many years using our understanding of environmental factors and the variety of vessel sizes and types in the UK OTs and OCPPs. It is our unique experience and knowledge, and our ability to cross check and correlate with detections from other sensors and tracking data, which enable us to make appropriate sensor and resolution mode selections and conduct high quality analysis. We assess the impacts of weather, tidal changes, and wave action, and consider the circumstances of the detection itself, factoring in the heading, profile, and incidence angle (the angle of the detection from the sensor). For SAR imagery obtained from MDA and Capella Space, this is further complimented by their well-refined algorithms which attach a level of confidence to the detections they supply for further scrutiny. (KO2 and KO6)

Upon completion of the analysis, confidence is reported to the MMO using the terms below:

Uncorrelated detection: This type of detection is not correlated with any vessels transmitting on AIS. These detections are assessed for confidence:

- High confidence: The detection strongly suggests the presence of a vessel. The profile and size align with a vessel of the expected type operating in an area and/or the detection can be verified using other remote sensing data.
- Low confidence: The detection suggests the possible presence of a vessel; either the size or profile cannot be clearly determined, but the detection is not likely to be caused by weather conditions, terrestrial objects (islands, rocks, corals, etc.) or other human constructions (oil rigs, huts, etc.)
- Likely False Detection: The detection profile does not align with that of a vessel and is more likely a result of weather conditions, terrestrial objects (islands, rocks, corals, etc.) or other human constructions (oil rigs, huts, etc.).

Our use of multiple sources of information and evidence to attach a level of confidence to a detection has been proven successful and enables OceanMind to continue to provide the MMO with actionable evidence-based intelligence, insights, and recommendations. (KO7) We use the Professional Head of Intelligence Assessment (PHIA) yardstick to describe risk and confidence (Table 1), ensuring objective and consistent interpretation of detections, and we engage with the MMO regularly on the parameters and characteristics of these assessments. All detections are logged and those which fit the reporting requirements for the AoI are reported to the MMO. Other detections are summarised for situational awareness and shared in detail during final reporting (less than 10 days after work order completion).

Table 1 | Professional Heads of Intelligence Assessment (PHIA) Probability Yardstick

Probability range	Judgement terms
≤ ≈ 5%	Remote chance
≈ 10% to ≈ 20%	Highly unlikely
≈ 25% to ≈ 35%	Unlikely
≈ 40% to <50%	Realistic possibility
≈ 55% to ≈ 75%	Likely or probably
≈ 80% to ≈ 90%	Highly likely
≥ ≈ 95%	Almost certain

AIS correlation methodology and confidence assessment

OceanMind uses a two-stage approach to AIS correlation: our state-of-the-art algorithms use time and distance parameters to provide analysts with AIS candidates for correlation; analysts then review the candidates and compare the size and profile of the detection and candidate for a match. Confidence in the correlation candidate is included in reporting. Our expert team have extensive experience working with different AIS transponders (Class A and Class B) and understand their limitations with regards to detectability, tampering and spoofing. Uncorrelated detections are reported as described in the sections above. (KO3 and KO7)

All AIS identities of relevance (such as correlated fishing vessels) are shared with full identity and licencing information (name, vessel and gear type, International Maritime Organisation [IMO] number, Maritime Mobile Service Identity [MMSI], International Radio Call Sign [IRCS], active Regional Fisheries Management Organisation [RFMO] licences)

and IUU list presence. Where high-risk identities arise more than once, this is noted in the shared logs to monitor continued presence and increased risk.

Our system currently includes all AIS transmissions from 1st January 2018 through to the current time (live ingestion) for immediate access and analysis. We hold archived AIS data from 2009 through to 2018 available in long-term storage to load into the live system on-demand as partner's requirements dictate. It takes 4 weeks elapsed time to load one years' worth of data.

Understanding that no one data provider can supply all class A and class B detections, our comparative analysis shows that we have the best AIS supplier on the market. Our current AIS provider 'Spire' combines terrestrial and satellite AIS collection with a unique and innovative dynamic AIS service, which uses satellite-enabled AIS receivers on vessels. This allows an increase of visibility of up to 200%, detecting over 600K transmitters and 250K active vessels per day. In recent years, Spire have increased the number of satellites at its disposal – currently they have 100 LEMUR satellites - combined with long term funding and plans to launch more satellites over the coming years to continually improve the coverage, capability, and performance. In addition, OceanMind has access to the ExactEarth Shipview platform on which we can cross check any missing AIS data. OceanMind also has good relationships with Orbcomm, and we regularly review our provision of AIS data. Depending on the level of detail and the cost benefit, should a better alternative arise, we are able to source additional data or change suppliers.

How the supplier will meet the threshold and target timeline criteria for intelligence-led and risk-based work orders (KO5)

OceanMind's team is highly experienced at delivering intelligence-led and risk-based surveillance and retrospective work orders having done so for 6 years for the MMO and many other partners, providing ad-hoc technical advice, support, and guidance in respect of acquisition selection, analysis, and interpretation of outputs as well as making recommendations on the type, coverage, and limitations of the acquisitions or capabilities. (KO8)

Receipt of work order request:

Intelligence-led surveillance
To meet the relevant turnaround needs, focus is placed on commercial imagery with fast collection and delivery times (times below indicate period between receipt of tasking request to delivery to the MMO) which can be adjusted for coverage and resolution during the work order:

- *<6 / 6 hours:* Very high-resolution SAR from Capella Space (recommended to only seek this option where turnaround time is required to be very short, due to cost implications); and AIS data.
- *12 hours:* UF/XF/DVWF Near Real Time (NRT) SAR from MDA; and AIS data.
- *24 hours:* UF/XF/DVWF NRT SAR from MDA; and AIS data.
- *48 hours (24 tasking + 24 delivery): UF/*XF/DVWF SAR from MDA; RF data from Unseen Labs; and AIS data.

For all timescales, OceanMind checks the availability of high-resolution Digital Globe and Sentinel-2 EO imagery over any risk detections which arise during processing, to gather as much information as possible about uncorrelated detections for patrol support. Due to the effect of cloud cover on EO imagery in most AoIs, they are used as secondary sources.

Risk-based surveillance
For such work orders, OceanMind balances a plan for a set number of regular remote sensing images over the period of interest with the setting aside of some images for *ad hoc* tasking; this enables us to be responsive where scheduled data identifies risk. This approach is lower cost than intelligence-led surveillance but provides some of the same adaptability. For these work orders, the following data is considered:

- UF/XF/DVWF SAR from MDA - resolution chosen depending on AoI needs and risk characteristics needs.
- Sentinel-1 SAR processed through MDA - useful additional, low-cost imagery which comes through as and when the ESA Sentinel satellites capture relevant swaths over the AoI.
- RF data from UnseenLabs – large acquisition areas and high confidence in detections.
- Digital Globe high-resolution EO imagery - only used in the set plan as, although acquisitions can be speculatively tasked, the turnaround time is variable.
- Sentinel-2 EO – availability is checked over the AoI and where coverage is available, imagery is planned for use to corroborate risk detections observed in SAR imagery.
- AIS data – where the MMO wish to have AIS analysis support on a work order, this is provided.

Retrospective
When the work order request is received, OceanMind reviews all available historical data against the work order objectives and budget, combining data sources to build the best possible picture of historical activity. This includes:

- Digital Globe high-resolution EO imagery – due to the smaller area covered by high-resolution images, where available, the images sought are focused on high-risk areas and periods.
- Sentinel-1 SAR – able to process this using bespoke systems, OceanMind seeks as much of this imagery as possible due to its low cost and high coverage.
- Sentinel-2 EO – OceanMind uses this imagery to corroborate findings in Sentinel-1 SAR; coverage is usually

restricted to nearshore areas, so it provides less consistent coverage.

- Suomi NPP VIIRS – with near-global, daily coverage, this data provides a good picture of nighttime activity by medium scale and larger fleets in an AoI.
- AIS data – we use our finely-tuned algorithms to review the tracks of all vessels operating on AIS in the AoI, highlighting risk behaviour by individual vessels as well as producing spatial and temporal heatmaps and graphics of fleet activities and risk areas for strategic assessment.

Tasking:

Intelligence-led surveillance: Our team remains on standby and maintains close communication with the MMO and patrol teams, actioning tasking requests as the highest priority and communicating them to the data providers in the pre-agreed format with specific times and locations. This includes working closely with the patrol team to ensure imagery is planned for areas within their patrol range. We seek confirmation from the data provider that the request has been received and is being actioned.

Risk-based surveillance: In the week prior to surveillance, the team obtain the preferred tasking areas from the MMO and all tasking options from the data provider. We then use our expertise to select the most appropriate acquisitions and share the plan with the MMO for alterations or confirmation. Once the MMO confirms the selections, the request is placed with the data provider for delivery on the relevant dates. We seek confirmation from the data provider that the request has been received and is being actioned.

Retrospective: Tasking is not required for retrospective reviews.

Acquiring:
Once tasked, data providers acquire imagery as requested and supply it to OceanMind's systems which automatically receive and ingest the data. We conduct regular checks to ensure the system is working as expected, supported by our expert Technology and Data Science Teams. On rare occasions, tasked images may fail to be acquired due to satellite-related issues or weather conditions. Where this occurs, we quickly identify alternatives and communicate in a timely manner with the MMO and the data provider to find a resolution.

Processing and analysing acquisitions
Commercially sourced data is stored on a secure server from which OceanMind's system automatically downloads and delivers initial correlation suggestions. This process significantly reduces the work required from analysts to process imagery. Analysts access the processed data within a bespoke Workflow Tool platform and conduct a rigorous review of all detections and where relevant, AIS activity, to identify risks.

Our tools provide analysts with a comprehensive list of all transmitters in a given area and period, providing them with good situational awareness and enabling them to assess all transmitting vessels and buoys for risk. Every identity is cross-referenced for accuracy against internal and internationally recognised databases (IHS Maritime, IMO and RFMOs) and where required, updated in our system. (KO7)

Intelligence-led surveillance: Once *ad hoc* imagery has been tasked, we know when data will become available in our system and ensure the team are available to begin analysis immediately, any day of the week.

Risk-based surveillance: Such work orders usually involve reporting only on days when data is available, to maximise cost efficiencies. An analyst and senior analyst are assigned to receive and process the data as soon as it is ingested.

Retrospective: For such work orders, data is processed in bulk by OceanMind's system and then interpretive analysis is conducted by experienced analysts. Detections, acquisition areas and AIS activity are mapped out using geospatial software and temporal graphics to identify trends in risk. Every transmitter on AIS is assessed, and those displaying risk are reported. Analysis is reported in the form of explanatory narratives, identification of key patterns and trends, and visual outputs.

For all work order types, when imagery comes in, the data is carefully reviewed for high-risk uncorrelated detections which may represent 'dark' vessels and any risk behaviour on AIS which may indicate IUU fishing by vessels or buoys. Detailed logs are kept of risk detections, imagery collected (type, source, identifier, area covered, summaries of detection types), any risk identities on AIS and any other data relevant to the work order.

OceanMind analysts undertake further analysis using the intelligence cycle as a guide (Table 2). This ensures a consistent approach when interrogating additional data. This expertise, coupled with our advanced technological tools, ensures we can provide the best possible, expert driven advice and recommendations. (KO8)

Table 2 | Intelligence cycle for the AIS analysis and reporting

Step	Intel Cycle	Action	Data sources
1	**Planning**	Defining the AoI, Vessel of Interest list and data needs	OceanMind tools, partners or public imagery and databases
2	**Collection**	Gathering remote sensing data, defining machine learning alerts and parameters for AIS collection	OceanMind tools and algorithms
3	**Processing**	Processing imagery, running machine learning	Remote sensing data, Spire AIS,

		and collection tool	OceanMind tools and algorithms
4	**Analysis & Production**	Analysing detections, tracks and alerts, and any requests from the partner	Remote sensing data, Spire AIS, OceanMind tools and algorithms
		Reporting any risks of non-compliance and further requests to the partner	OceanMind analysts
5	**Dissemination**	Report is sent and results are discussed with the partner	OceanMind analysts & partners

Recommendations to the authority are intelligence driven and therefore context specific. They focus on concrete, realistic actions, and how to best continue monitoring efforts and facilitate the best advice depending on the maritime and aerial patrol capabilities of the AoI. During surveillance periods, weekly catchups are scheduled with the MMO to disseminate results. Catchups include the making, re-iterating and further discussion of fisheries and technical recommendations in the context of the intelligence OceanMind has gathered.

Delivery of final outputs:
Intelligence-led surveillance: All identified risks are reported via email immediately and directly to the MMO and the patrol team using the pre-agreed format within the necessary timeframe. Data logs and acquisition footprints are all shared with the MMO via SharePoint at the same time the report is emailed.

Risk-based surveillance: A preliminary report on detections and AIS behaviour is provided within 1 working day of acquisition using the pre-agreed format. Data logs are all shared with the MMO via SharePoint at the same time the report is emailed. (KO6)

For intelligence-led and risk-based surveillance, weekly briefs are held with the MMO to download findings. Most of these WOs also include a Final Contract Report at the end of the monitoring period which draws together the outcomes and lessons learned. These provide the methodology, findings, conclusions, and recommendations for next steps. Full logs of underpinning datasets are also shared, making Earth observation data (such as vessels detected, AIS identifiers and ownership linkage) procured over the duration of the contract available (within the bounds of data provider contracts).

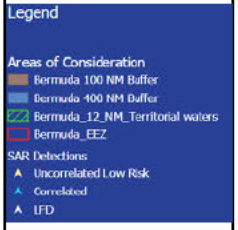
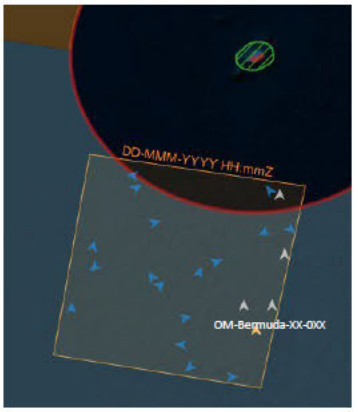
Retrospective: These work orders produce a written report in PDF format report which provides an executive summary, methodology, temporal and spatial analysis, compliance review, remote sensing analysis, conclusions, and recommendations. Full logs of underpinning datasets are also shared. Key findings are presented to the MMO along with recommendations on next steps.

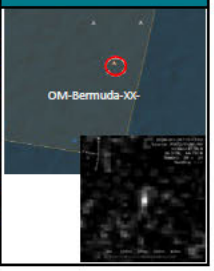
Every report produced by the OceanMind team for any WO undergoes a rigorous process of Quality Assurance (QA) by a senior member of the team. (Outputs and Reporting)

Format in which the outputs will be presented

OceanMind can provide results of surveillance in several formats as agreed with the authority through a web-based portal (SharePoint) as they become available, with the option to access and export data for further analysis by any number of users. (KO6 and KO7) Reports and acquisition information are provided by email and an example report extract is shown in Table 3.

Table 3 | Example of the summary results section of a report presented to the MMO via email to disseminate gathered intelligence regarding SAR detections and recommendations.

Bermuda	OM – Recommendation OMXX-Bermuda-0XX	Legend	Swath Location
SAR General description: One (1) single-swath in DVWF-Mode was acquired on ddMMMyy at HH:mmZ over the southern buffer zone. A total of **22 detections,** of which 17 were correlated with cargo and merchant vessels. ▪ **One (1) uncorrelated low-risk** detection was observed outside the EEZ. Details are reported below. ▪ Four (4) likely false detections. **EO General Description:** No EO imagery was available over the detections 24 hours +/- detection times. **Weather conditions** in the area: Date: ddMMMYY; Waves: 3.29m; Wind: 15 kts N direction			
SAR swath area (km²)		**Total swath area (km²) in work order**	
DVWF ddMMMyy – 230,892 km²		14,075,324 km²	

Rec. No.	Swath ID	Location	Lat. Lon.	Date/time (Z)	Size (m)	Distance inside EEZ (NM)	Risk	Conf.	Description & correlation	Image & Thumbnail
OM-Bermuda-XX-0XX	[Swath ID]	Southern 400 NM buffer	XX.XX - XXX.XX	ddMMMyy HH:mm	20	-154	Low	Low	A dark vessel detection with the size and profile potentially aligning with a small fishing vessel. Located within a shipping lane, with no associated fishing AIS transmissions in the vicinity.	

Our reporting formats have been created in collaboration with BBP, BBOS and OCPP teams to guarantee swift delivery of key information. This includes information listed in the sections above as well as relevant acquisition information which includes, but is not limited to, the date and time, the asset and constellation from which the data was sourced, acquisition parameters, acquisition areas individually and cumulatively for the work order (km^2), and meteorological conditions including cloud cover (where relevant). (KO6 and KO8)

Daily reporting emails provide image-based outputs which detail risk detections, including recommendation number, frame/swath ID, sensor type and mode, date/time of detection, estimated vessel length, latitude/longitude, correlation information, confidence assessment, description and recommendation, detection thumbnails (JPEG) and a chart indicating position of detection relative to relevant boundaries. This is accompanied by numerical datasets of up to date .csv logs of vessel detections (including the aforementioned details), correlated fishing vessels, and acquisition information (type, source, identity, date/time, area covered, and summaries of detection types), and the geographic footprint of acquisitions (kml or shp). At the same time, consolidated numerical and GIS products are shared with the MMO on the pre-agreed SharePoint site, available to all authorised users at any time (always within the 10-working day window). OceanMind will continue to make data available in a format which suits the needs of the Authority.

Internal Earth observation expertise and how the training requirement would be met (KO9)

As the incumbent, OceanMind has provided valuable technical advice and support to the MMO for over 6 years and has a proven track record of supplying technical advice and guidance which can look further than IUU fishing threats and risks. Our Earth observation and analysis experts have significant experience working with Earth observation and vessel tracking systems data (AIS, Vessel Monitoring System [VMS] and more) and have created unique reporting methods which provide the key information to the MMO for all relevant threats, risks, and scenarios.

Each sensor has a defined set of capabilities and limitations (Table 4), all of which are fully understood by our analyst team. Understanding these in detail, how to mitigate for them and how to use them to the best of their capabilities is critical for the success of the BBP, BBOS and OCPP satellite surveillance work. Our understanding of these has been relevant throughout the course of our partnership. For example, OceanMind uses the open-source data sets provided by the NOAA for historic data analysis, particularly for weather, climate records and oceanographic data. We also use data from the US National Ice Centre to map changing ice extents in South Georgia and the South Sandwich Islands.

The OceanMind team frequently provide *ad hoc* interpretive technical support to the MMO for visual outputs such as heatmaps and other GIS products, and other interpretive analysis based on our extensive in-house technical expertise and experience in the provision of verbal and written interpretation. This includes immediate or quick turnaround support. (KO8)

OceanMind's I&C team have extensive experience in creation, delivery, and support for capacity building of government staff on detection interpretation and guidance on analysis of Earth observation data, having delivered such in Thailand, Cambodia, Philippines, Palau, Costa Rica, and to Commonwealth Countries. Training is tailored to the recipient's needs and objectives. A recommended training route for the MMO is for a set of focused trainings according to data source (SAR, EO, RF, VIIRS, vessel tracking data) which explore how each sensor works, associated strengths and limitations, how the data is processed and communicated from the data provider, how to assess data quality, what the data means and how to analyse and interpret it. Sessions would also cover the intelligence cycle and how to produce conclusions and recommendations from data gathered over an AoI. Comprehensive training materials would be provided alongside to support those involved in the training and for dissemination to others in the MMO. (KO9) Training would include online service support to enable the integration of OceanMind tools into MMO systems to ensure capacity building is cost-effective and sustainable. If required and upon request, OceanMind can supply the data in alternative formats to those defined in this bid to facilitate development of the MMO's internal analytical capability. (KO9)

Table 4 | Sensor capabilities, limitations, and associated challenges (KO8)

Sensor	Capabilities	Limitations	Challenges
Visible Infrared Imaging Radiometer Suite (VIIRS)	Identification of vessels which use deck or fishing lights	Lack of visibility in rough weather conditions	Vessels may not be detected
	Capable of obtaining detections at night	Moonlight phases	Reflections of the moonlight may result in false detections.
	Daily, near-global coverage	Magnetic field of the planet interacts with the sensor in the South Atlantic	Vessels cannot be detected in the Central and South Atlantic[1].
	Picks up possible dark fishing fleets	Low resolution	Vessels in close proximity may not be identified as multiple objects.
	Capable of finding high impact targets, such as fishing vessels of medium-scale and above	Threshold for minimum light emissions from a vessel	Vessels may not be detected.
Synthetic Aperture Radar (SAR)	Automated identification of likely vessel detections	Black and white images	The vessel type and activity can never be determined with certainty as features cannot be clearly identified or may not be detected due to a lower density.
	Able to provide large (>100km^2) swaths	Higher resolution reduces the extent	Covering large areas results in low probabilities to detect small vessels
	Able to pick up a wide range of vessel sizes and types, depending on image resolution	Dependent on density of the object	Wooden/fibreglass vessels are sometimes not detected. Objects such as icebergs can be confused with vessels
	Highly responsive tasking from providers, including options for <6 hours turnaround	Energy intensity	Only three swaths' can be acquired at any one time, before the satellite needs to recharge
Electro-optical (EO)	Highest resolution imagery capable of showing vessel activities, such as active fishing	Lack of visibility in poor weather conditions	Objects may not be detected
	Highest resolution imagery capable of providing vessel details which can support identity matching, such as through deck colour or gear type	Similar colours of the vessels deck and surrounding ocean may blur detections	Objects may not be detected
	Speculative tasking available over all OTs and OCPP country waters	High demand	High prices for tasking
	Subscription access to a catalogue of historical imagery	Resource intensive, regarding the time to analyse a whole image	Higher demand for data analysis and the challenge to develop an algorithm capable of detecting vessels in a cost-effective way
Radio Frequency (RF)	Able to detect X and S-band frequencies from vessels using technology such as navigational radar	Cannot detect a vessel if systems on X and S-band are switched off	Unable to corroborate detections unless other remote sensing data or assets on the ground are available
	Waveform technology provides unique identity to each detected frequency, enabling detection tracking over time	A vessel can have multiple waveforms, or a waveform will change if the piece of technology is replaced	Can make it impossible to track a particular vessel through RF detections
	Waveform technology can enable correlation with AIS data	Lack of access to RF detections outside of AoI	Vessels do not turn on AIS until outside the AoI
	Each acquisition covers a large area (>100 km^2)	Newly developed technology	High prices for tasking

[1] OceanMind is working with Skylight who are developing a filtering process to provide access to detections inside the anomaly area.

How input, guidance and recommendations would be provided to the MMO in respect of acquisition selection, and the process involved in acquisition tasking (KO8)

Our I&C team contains a wealth of in-house Earth observation expertise, enabling us to provide tailored, cost-effective recommendations to the MMO in respect of acquisition selection. We carefully consider the work order objectives, risk parameters, AoI vulnerabilities, effective combinations of Earth observation data, cost and historical trends when making recommendations.

Once a work order has been accepted, OceanMind's senior team ensures they have full clarity on the request, then assesses the AoI, vessel tracking and remote sensing needs, taking into account the cost implications of shorter turnaround times.

The team puts together the best combination of available data sources based on MMO needs for turnaround, and the constraints of cost, coverage area and image resolution in the context of the work order needs. Once a data plan has been confirmed, OceanMind contacts data providers to obtain quotes (based on the contracted rates) and confirm timelines and tasking areas (it is important to ensure imagery will be able to cover the necessary areas of the AoI), then confirms the pre-agreed rate card and deliverables with the MMO.

OceanMind tasks imagery directly to data providers based on the work order needs. (KO4 and KO8)

For further details, please refer to the section: How the supplier will meet the threshold and target timeline criteria for intelligence-led and risk-based work orders.

Further information about how KO10 would be supported, and how expertise and data will be provided to support investigations and formal submissions as part of a prosecution process

Any Earth observation data procured over the duration of the contract can be made available or accessible to any UK Government department or international partner government upon request, in so far as OceanMind's contracts with data providers' permit. Where contracts have restrictions, exceptions can be negotiated on a case-by-case basis. (KO10)

The analyst team are available before, during and after intelligence gathering to offer additional analysis and support. This includes the provision of exhibits for use in court under the direction of the BBP, BBOS and OCPP programme and the OceanMind in-house team of experts; we can provide comprehensive intelligence and information in a format that supports investigations and formal submissions as part of a prosecution process. We have global experience of doing so, which has led to successful investigations and court proceedings in Thailand and Costa Rica. We customise our reporting to meet the needs of the MMO and the situation, keeping the intelligence cycle at its heart in order to ensure quality and consistency for all work orders. We can also provide expert witnesses in court, including testimony from technical experts from data acquisition partners or our analysis team. We gave expert witness for the Uthaiwan INTERPOL case prosecuted in Thailand. We understand the significant amount of government resource required to reach prosecution and we will be available to support as needed. (KO11)

The OceanMind team has gained significant expertise from subject matter experts with in-depth experience in OTs and OCPP countries. Knowledge transfers and training have come from fisheries scientists, patrol teams, observers, and fisheries enforcement professionals. The experts who make up the I&C team are highly experienced in Earth observation and monitoring, control, and surveillance, particularly over OT and OCPP AoIs. Together, this team is available to provide the support, guidance and advice needed to assist with the continued protection of these important, pristine marine environments.

Future Platform Based Option (commercially sensitive: available by separate contract negotiation)

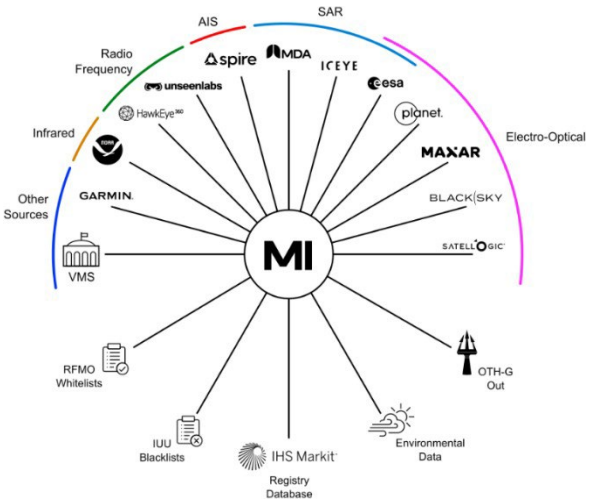
OceanMind and MDA space have built a strong relationship over the past decade enabling the exploitation of earth observation data. For the Marine Monitoring Organisation, OceanMind would be pleased to offer by separate contract negotiation, an option of MDA's Maritime Insights (MI) platform enhanced with OceanMind analytics and algorithms integrated into the MI platform. MI is a cloud-based subscription service that offers fisheries and other intelligence users the ability to fuse high tempo multi-source maritime surveillance data to deliver new levels of maritime situational awareness by providing a unique capability for monitoring, analysing, and sharing maritime information.

MI supports multiple sources of relevant maritime surveillance data including Synthetic Aperture Radar (SAR) imagery, electro-optical (EO) imagery, Radio Frequency (RF) Data, Automated Identification System (AIS) and Customer Supplied Vessel Monitoring System (VMS) data. MI provides a rich set of analytics that enable users to easily extract insights from the vast amount of vessels and behaviours detected each day so they can take action to address the key vessels of interest. OceanMind currently supports various international MDA activities using the MI platform, and many of OceanMind's analytics and algorithms can be integrated into the MI platform in the future.

A broad variety of data sources allows users to increase the frequency of sensing of the areas of interest required to effectively monitor and control the proper usage of the marine environment.

Key features of MI's platform service include:

- Portal and API Access
- AIS / SAR / Optical / RF / IR / VMS detection monitoring
- Vessel Correlation and Track Fusion, with advanced track prediction
- AIS Interruption and Spoofing Detection
- Rendezvous Detection
- Vessel Classification (Imaging mode dependent)
- Geofencing
- Fishing Behaviour Detection
- Area Monitoring

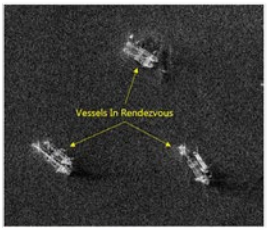


Powerful Filtering

- Search Database For VOIs Based On: AIS, VMS, Registry, Detections, Proximity, and Events
- Save And Combine Filters
- Create Automated Subscriptions/Alerts From Saved Filters

Exploit AIS/VMS

- Search Global AIS/VMS
- Positional Anomaly Det.
- Self-Reporting Interruption
- Detect Other Forms Of Spoofing
- Detect Behaviors (STS, Fishing)



Exploit SAR Imagery

- Detect Vessels in STS
- Classify Vessel
- Estimate Velocity
- Disambiguate Heading

Monitor Port Activity

- Track Port Visits
- Detect and Classify Vessels Using Multi-Source Optical And SAR

MDA's MI provides a large set of filtering and analytics capabilities, that when augmented by OceanMind's subject matter expertise and analysis provides a robust and comprehensive view of the activity in our oceans.

Maritime Insights provides an intuitive user interface, allowing users to obtain time critical and actionable insights to address key challenges facing virtually every maritime nation. Hosted on the AWS cloud, MI is available 24x7 globally, anywhere there is reliable internet access to support large groups of users. AWS provides operational excellence, security, and performance efficiency in a resilient infrastructure upon which MI operates.
Additionally, detection data from all sources, including track information and events triggered from the analytics suite, can be retrieved via API to customer systems for further analysis or exported directly from MI's user interface. The API supports a JSON interface, while the UI export currently supports KML and CSV data formats. Image-based outputs are retrieved via the API through a metadata request, where a URL is provided for the image which can then be retrieved in a .PNG format.

E03 – Intelligence-led surveillance

Intelligence-Led Surveillance over Ascension Island

OceanMind's longstanding relationship as the provider of Earth observation expertise and actionable intelligence to the Marine Management Organisation (MMO), that means we are operationally ready to support protection of the Areas of Interest (AoI) under the Blue Belt Programme (BBP), Blue Belt Ocean Shield (BBOS) and Ocean Country Partnership Programme (OCPP). As we will demonstrate, we use a variety of sources to collect imagery suitable to deliver short term risk-based tasking support. Utilising our existing and increasing knowledge base of 'dark' vessel identification, tracking, and monitoring trends and risks in the Ascension AoI, we can continue to provide valuable intelligence to the MMO. Relevant shapefiles are already ingested into the OceanMind system, and the team have maintained historic logs of detections and behaviour, so analysis and support can continue uninterrupted (KO8). We have built excellent working relationships with providers to expedite imagery procurement and keep costs affordable. These longstanding partnerships with MDA and Capella Space for Synthetic Aperture Radar (SAR), Maxar for high resolution electro-optical (EO) and Unseen Labs for Radio Frequency (RF) allow us to provide flexible planning and tasking in response to the developing intelligence situation (KO1). We have formalised and tested processes with our data suppliers to ensure efficient and accurate tasking on behalf of the MMO.

Remote sensing capabilities

A broad suite of remote sensing tools is available through OceanMind (Figure 1). In particular, SAR, RF, EO and Visible Infrared Imaging Radiometer Suite (VIIRS), analysis of which results in a high expectation of detection of the presence of 'dark' or non-transmitting vessels in the AoI. Our expert team is able to draw on our many years' experience advising and supporting governments across the globe ensuring the best possible Earth observation data sources are recommended to meet the MMO and the Ascension government objectives (KO8). Each sensor has its own capabilities and limitations which are fully understood by OceanMind analysts.

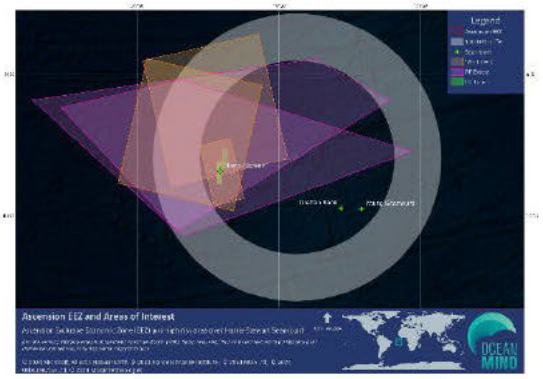


Figure 1| Example Earth observation extents over the Ascension AoI.

Synthetic Aperture Radar (SAR)

SAR imagery is provided both flexibly and cost-effectively from the provider platform (from Capella Space and MDA, RADARSAT-2). Acquisitions are scheduled directly with the provider; specific area tasking is an ideal tool for areas where EO imagery alone is less effective due to sea conditions or cloud cover. SAR imagery is available in different modes, depending upon the nature of the potential threat and size of AoI. SAR is particularly effective where vessels are comprised of metal, making it highly suitable for seeking out longline tuna vessels and associated carriers (KO2). In the Ascension AoI and the context of this Scenario for the 1st objective, SAR imagery would be sourced from Capella, Capella Console provides the ability to tasking according to the situation (<6hrs following notification) (KO5). Tasking request for an acquisition at the next possible collection opportunity, with the priority of 'Urgent' imagery of the Spot Single Look Complex (SLC) resolution (0.5 m) covering the area of 5 km^2 products could be tasked out for the next available pass over the initial 5km^2 (Table 1) (KO2, KO6). In the context of this Scenario for the 2nd objective, two SAR mode options from MDA are most suitable and cost effective (Table 2) (KO2, KO6).

Table 1| Different Capella Space SAR modes relevant to the Ascension Scenario, objective 1

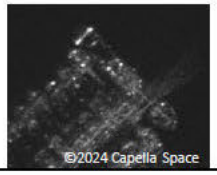
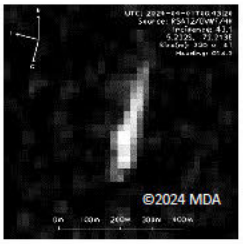
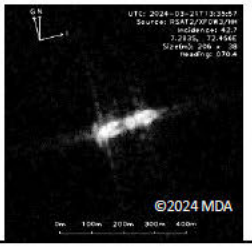
Capella Space			
SAR Type	**Spot SLC**	**Site SLC**	**Strip SLC**
Approximate extent (km)	5 x 5	5 x 10	5 x 20
Resolution (m)	0.5	1.0	1.2
Uses and limitations	**Highly specified** areas i.e. Ports or seamounts HRAs, where known vessels of interest of **any size above 1 m** are confidently expected to be operating.		
Example detection	 Example of 7 fishing vessels with length of 25 m rafted together.		

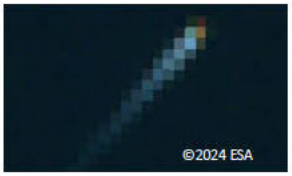
Table 2| Different MDA SAR modes relevant to the Ascension Scenario, objective 2

MDA		
	Detection Vessels Wide Far (DVWF)	**Extra Fine (XF)**
Approximate extent (km)	450 x 500	125 x 125
Resolution (m)	20	6.3
Uses and limitations	Suitable for larger, remote areas such as MPAs, EEZs or offshore buffer zones, where dark vessels are likely to be above 20 m in length. Risk detections are more challenging to identify when the area experiences periods of rough weather.	Suitable for areas of limited spatial extent where dark vessels are likely to be larger than 6m in length. The resolution of XF imagery can enable corroboration of risk detections observed in DVWF. Suitable for other monitoring purposes e.g. vessels under 10m.
Example detection		

Electro-optical (EO)

EO sensors create a coloured image which allows for further confirmation of targets. The use of EO is highly dependent on the resolution available, and acquisition is reliant on availability within the satellite's duty cycle. EO image quality is also strongly affected by cloud coverage. Due to the high analysis resource requirement and limitations of EO data, these services are generally used as a validation tool for SAR imagery (which is more flexible) to gather more detail about a target such as deck features, or for detection of targets unsuited to SAR due to size or construction. High resolution EO imagery can be tasked over high-risk areas; a process which has a 7-day lead time to be cost effective. For this scenario we will recommend two EO sources; an overview of these is shown in Table 3 (KO2, KO6).

Table 3| Different EO modes relevant to the Ascension Scenario

Satellite	European Space Agency (ESA) Sentinel – 2 (EO)	Digital Globe Constellation (EO)
Approximate extent (km)	110 x 110	(15 – 25) x (5 – 180)
Resolution (m)	10 - 30	0.3
Use and limitations	Lower resolution, lower cost option; can support with verification of dark vessel detections of medium to large scale. Ideal for vessels above 20 m. Cost effective support for SAR analysis. Tasking is dictated by supplier.	High resolution allows higher confidence in vessel identification and activity. Speculative tasking available. Requires subscription. More resource intensive and image availability is not fully predictable.
Example detection		

Radio Frequency (RF) Detection

RF is a remote sensing technique which detects radio emissions from equipment used on vessels (Table 4). RF acquisitions can be gathered at any time of day and in any weather. OceanMind partners with UnseenLabs to obtain RF data from their satellites capable of picking up the X and S-band frequencies used by navigational radar. Detections are categorised by the provider according to accuracy: high (within 5 km of the target), medium (within 15 km of the target), or low (within 30 km of the target) (KO2, KO6). Of particular note is the fingerprinting of RF detection 'waveforms' which UnseenLabs provides. Each radar unit has unique characteristics that are observable within its radio signature. UnseenLabs assigns a unique identifier to each radio emitting source; this enables OceanMind and

the MMO to track waveforms over time and provides the potential to subsequently correlate detections. We will recommend the use of RF detection to supplement SAR imagery in this scenario.

Table 4 | RF satellite information relevant to the Ascension Scenario.

Satellite	UnseenLabs RF
Approximate extent (km)	200,000 – 400,000
Use and limitations	Very large acquisition area and high confidence in detections [1]. Waveform identifier enables tracking, but a single vessel can have multiple waveforms. Unaffected by cloud cover and other environmental factors. High cost per acquisition.

Visible Infrared Imaging Radiometer Suite (VIIRS)

VIIRS sensors gather observations of night-time light emissions at sea which could be coming from vessels and represents another low-cost opportunity to detect fishing vessels which are not transmitting on AIS, particularly when used in conjunction with other data sources. The sensor is affected by environmental factors (particularly cloud cover) and depends entirely on the strength of the light emissions, making it best used in contexts where medium and large-scale vessels are known to operate (Table 5) (KO2, KO6). However, VIIRS suffers from the South Atlantic Anomaly which is a fluctuation in the Earth's magnetic field resulting in higher levels of ionizing radiation, reducing its effectiveness over the Ascension AoI. To counter this, OceanMind works with Skylight who are developing an algorithm to counteract the South Atlantic Anomaly to increase the availability of VIIRS data over Ascension AoI. We will recommend the use of VIIRS data to supplement other data sources in this scenario.

Table 5 | VIIRS satellite information relevant to the Ascension Scenario

Satellite	NOAA Suomi NPP (VIIRS)
Approximate extent	Global coverage
Resolution (m)	350 – 750
Use and limitations	Used to provide additional data for high-risk areas and periods. Detections are low confidence due to the variable reliability of light sensing and low resolution. Impacted by cloud coverage, moonlight and the magnetic field for the South Atlantic

Detection classification

This team comprises of fisheries enforcement experts and fisheries scientists, following the process outlined below for "dark vessels". This process is near impossible without the in-depth knowledge of an experienced fisheries analyst to place the satellite observations into the fisheries context. Uncorrelated detections are assigned a confidence level based on likely vessel type and profile and an assessment of ocean state and weather conditions.
Possible remote sensing vessel detections would be classified into the following categories (KO2, KO3):

- Correlated Detections: This refers to the identification of a vessel that is transmitting signals through a known tracking system, such as AIS.
- AIS Uncorrelated Detections: Detections not correlating with any vessels on AIS in the vicinity.
  Based on the detection profile and environmental factors at the time the image was captured, vessel detections were categorized as follows:
  - Small: Less than 20 meters in length
  - Medium: Between 20 and 60 meters in length
  - Large: Between 60 and 100 meters in length
  - Cargo/Carrier: Between 100 and 160 meters in length
  - Merchant: Over 160 meters in length
- Likely False Detections (LFD): Under specific conditions, certain objects, or features, such as large wave crests, marine debris, exposed reefs, or small islands/sandbars, may trigger a detection in the SAR analysis algorithm, incorrectly suggesting them as vessels.

[1] *During our time providing intelligence derived from RF data, OceanMind has identified the possibility of false positives in the SGSSI and BAT region. It is believed this is caused by icebergs and therefore in regions like the Ascension, confidence in RF detections is high.*

Selection of remote sensing assets to address Ascension scenario

1. Initial rapid assessment

The main risk to the Ascension MPA come from large scale fishing vessels and carriers (40 m and above) as the weather offshore impacts fishing by smaller vessels. A combination of SAR, EO, RF and VIIRS would be most effective for this initial assessment of the risk area; they would cover sufficient area (Harris-Stewart seamount and the surround 100 NM) and provide a strong picture of the presence and number of likely 'dark' (non-transmitting) vessels (Figure 2). While SAR is more flexible for tasking and weather conditions, EO imagery allows OceanMind to determine vessel types and activities, and VIIRS provides corroborating data about the spread of the fleet.

Initial results can be provided within 3 hours post-acquisition (with any further detailed analysis, if required, within a further working day) from the following data sources (KO5, KO6, KO8):

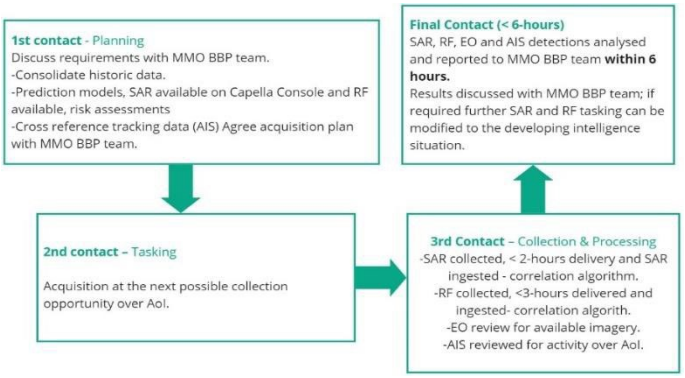


Figure 2|Acquisition of Remote Sensing data and Timescales

SAR: A single Spot SLC SAR imagery from Capella, Capella Console with a resolution of 0.5 m would be tasked over the Harris-Stewart seamount and delivered under 6 hours. Due to the swath size of these images (and the anticipation of open-source imagery also being available) a total of four images would be sought, each tasked to maximize coverage surrounding the seamount during the initial assessment. These would provide 20 km^2 coverage of the AoI surrounding the seamount. Two XF SAR images (6.3 m resolution) from MDA with Near Real Time (delivered between 6-12 hours) would also be tasked for some overlapping coverage, which would help in the identification of persistence over time. Where possible (using Spot SLC SAR imagery, 0.5 m) profiles of any potential detections will be created based of the detections shape, likely structures onboard, and size, would be recorded and cross-check against profiles of the fleet operating in the area (KO5, KO6, KO8).

RF: One RF acquisition would be tasked over the seamount; their large acquisition size enables a single image to cover a large portion of the target area. OceanMind would recommend that both coincide with targeted SAR acquisitions to increase confidence in 'dark' detections and assign waveforms to SAR profiles (KO5, KO6, KO8).

EO: Digital Globe EO images (0.3 m resolution) and Sentinel-2 EO images (20 m) would be reviewed for 'dark' vessels over the seamount in a 72 hour window (24 hours prior, day of sighting and 24 hour post sighting) to maximise the potential to corroborate risk detections. Where possible (using high resolution images, 0.3 m) profiles of any potential detections will be created based of the detections shape, likely structures onboard, size and colouring, which would be recorded and cross-check against profiles of the fleet operating in the area (KO5, KO6, KO8).

AIS: All AIS transmissions 48 hours prior to sighting would be reviewed over the seamount inside the Ascension MPA and 100 NM buffer zone. Any fishing vessels or gear markers entering the MPA or AIS transmission being turned off in proximity to the MPA boundary would be investigated further.

To help further define the data needs for the Scenario's second objective, these results would be collated at the end of the rapid assessment into a summary report and supported by an assessment of VIIRS data which would be reviewed in a similar manner as the EO images to capture any other possible 'dark' activity to verify no additional incursions. The low resolution and confidence attached to VIIRS detections makes it more effective when used to look at broader activity, rather than daily intelligence assessments.

The detection database already held by OceanMind from multiple years of monitoring would be continued using the data from the initial assessment. The summary report would assess any trends or persistence which can be identified from this initial data and highlight anything of note from past monitoring. The summary would place particular focus on understanding the likely number of 'dark' vessels and any identity data (such as fingerprint 'waveforms' and EO detection markings) and would make recommendations for subsequent monitoring (KO7, KO8).

2. Short-term intelligence gathering

This monitoring period would build on the data gathered during the initial assessment, including continuing to update the database of results and monitoring any persistence in identities. Acquisitions would focus on the relevant AoI (shifting as the monitoring progresses through the two week period) and aim to track the presence of the 'dark' vessel (likely tuna longliner) identified in the initial assessment, as well as detecting more potential 'dark' vessel s that may appear in the MPA. Tasking would cover the entirety of each AoI, ensuring that acquisitions cover close to the MPA boundary inside and outside to identify likely non-compliance by vessel incursions into the MPA. Initial planning would aim to spread imagery across each week, maximising the area and period covered. Combination of remote sensing of data would be acquired within every 24 hours of the two week period (KO5, KO6, KO8).

SAR: DVWF SAR (MDA, resolution 20 m) would be tasked over all AoIs. In week one, five swaths are anticipated to cover the majority of the AoI, so ten acquisitions per week would be tasked; in week two, to assure 500% coverage over the western MPA and Harris-Stewart seamount. In both weeks, these would be supplemented by one *ad hoc* floating XF SAR image (6.3 m resolution), would be made available each week to corroborate high-risk detections identified in DVWF (KO5, KO6, KO8). Capella SAR would also remain on standby to be acquired in support of incursion detections over the MPA.

EO: In week one, four Maxar EO images (0.3 m resolution) (two per AoI), and in the two weeks eight such images, would be speculatively tasked over the AoI each week, overlapping with scheduled SAR acquisition areas to maximise the potential to corroborate risk detections (KO5, KO6, KO8). Available Sentinel-2 EO imagery (20 m resolution) would also be used for corroboration throughout.

RF: Two RF acquisitions would be tasked over the AoIs each week throughout the analysis period; the acquisition size enables a single RF image to cover AoI for the week. OceanMind would recommend that both coincide with DVWF acquisitions to increase confidence in 'dark' detections and assign waveforms to SAR profiles. However, a discussion would be had with the MMO as to whether a preference was for RF to cover days or times when no SAR or EO is scheduled, thereby providing more consistent coverage. USL novel basic fingerprinting capability for RF detections, the calculation of a 'unique waveform' from the specific electromagnetic emissions from the vessel's equipment , would be used within this monitoring. This waveform capability would allow MMO to build a database of vessels identities, which may allow for the future correlation of independent observations and insights into vessel behaviour over time (KO2, KO5, KO6, KO8).

AIS: Daily AIS Analysis to identify any further high-risk indicators and Vessels of Interest within Ascension MPA and 100 NM buffer zone would be conducted. Fishing vessels operating within the AoI would be cross-checked for RFMO licence (ICCAT) and any fishing gear would be cross-checked for vessel associations, this would enable retention of vessel details for subsequent identification of dark vessels through correlation with observations (KO11).

Notice requirements for ongoing surveillance

The minimum period required for OceanMind to plan and task a work order is 2 – 3 working days. Early liaison and our excellent relationship with our data providers allow us to put them on 'standby' for requests during discussions with the MMO, which provides us with the ability to change location or imagery resolution requests swiftly. This, and the provision of available detail, ensures we can obtain satellite imagery within the required lead time prior to starting surveillance. This is complimented with the knowledge we have developed as the incumbent to identify likely geographical AoIs to understand image availability at the earliest opportunity.

Earth observation imagery tasking has different lead times. Those listed below are the minimum for each supplier (KO5, KO6):

- MDA Near Real Time (NRT) imagery (DVWF and XF): < 48 hours
- UnseenLabs RF imagery: < 48 hours
- Maxar EO imagery: 7 days
- Spire AIS:< 6 hours

Faster turnaround times are achievable for SAR imagery from Capella Space; this is not deemed necessary for the 2nd objective scenario due to the nature of the surveillance and therefore has not been included.

Movement of the AoI

Our team of analysts have significant experience working with the MMO to ensure the responses are swift and targeted to identify threats, risks and priorities for the the BBP, BBOS and OCPP AoIs. We have proven our ability to change location and acquire images within the agreed timeframes, responding quickly to the needs of MMO teams. Changes to the location of the satellite imagery can be actioned within 48 hours lead time maximum (depending on the supplier, Capella would allow for daily changes of AoI) (KO6, KO8). There are no costs associated with such changes, unless changes are to shorten delivery times where costs will depend on the new target time. OceanMind's suppliers are on standby to support with short lead time requests, and we will continue with these suppliers to ensure there is no interruption to our excellent and timely service. We have formal processes agreed with our suppliers to ensure changes are managed efficiently.

Reporting of surveillance outputs during monitoring

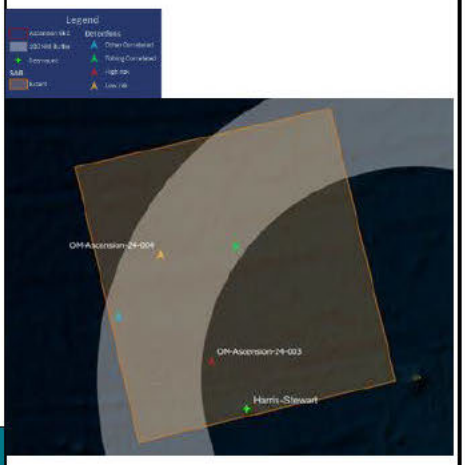
Once the imagery is acquired, analysis and reporting are achieved within one working day for initial results (see example in Table 6) (KO11) and any further detailed analysis of detections, if required, is provided within a further working day. OceanMind's approach to managing this Scenario would centre on use of the intelligence cycle, which provides transparency, robustness, and consistency throughout the process. We also use our cutting -edge technological tools to ensure consistent and cost-efficient analysis, and our specialist subject matter expertise to make tailored recommendations.

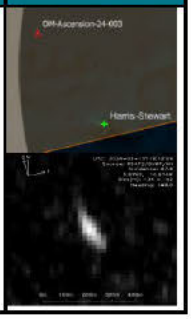
Daily reports include (K06, K07, KO8):

- A reporting email providing key intelligence and image-based outputs, including a thumbnail of detections and a chart indicating the position of detections relative to relevant boundaries (JPEGs). This will include recommendations for the next day's intelligence to maximise acquisition of the target.
- Numerical datasets are shared via SharePoint in csv format; these include the date/time of detections, vessel length, latitude, longitude, confidence and risk assessments and other sensor specific information such as RF fingerprint waveforms. This data combined with the thumbnails of detections enable the MMO to geolocate detections.
- Acquisition footprints shared via SharePoint in shapefile and/or KML format. Other formats can be provided if required.

Weekly briefs are held with the MMO programme team to exchange key intelligence and information and discuss tasking. These calls enable OceanMind to deliver high quality, adaptive monitoring which best meets the needs of the BBP, BBOS and OCPP.

Table 6 | Example of the daily results in Ascension monitoring report presented to the MMO.

Ascension	OM – Recommendation OM-Ascension-XX-XXX	Swath Location
SAR General Description: One (1) DVWF-mode SAR was acquired on XXApr20XX at 19:46Z over the western area of the Ascension AoI. **A total of 4 detections were observed:** • **One (1) uncorrelated high-risk detection, 57** NM northwest of Harris-Stewart seamount. • **One (1) uncorrelated low-risk detection,** 68 NM northwest of Ascension MPA boundary. • **One (1) correlated detection; was correlated with fishing vessels:** ▪ [VESSEL NAME] (MMSI: XXXXXXXXX, type: Longline, Flag: Korea, ICCAT authorized) • **One (1) correlated detection**; was correlated with merchant vessel. **EO General Description**: No EO images were available 48 hours around the detections. **Environmental conditions** on XXApr20XX: Waves: approximately 4.9 m / Wind: SE at approximately 20 kts		
Total swath area (km²) *for work order*	**Total swath area (km²) *for work order***	
SAR XXJun20XX – 238,081 km²	**SAR – 928,777 km²**	

Rec. No.	Location	Lat Lon	Date/time (Z)	Size (m)	Risk	Conf.	Description and potential correlated SAR or AIS	Image
OM-Ascension-XX-XXX	Harris-Stewart seamount	-XX.09 -XXX.12	XXJun20XX 19:46	83	High	High	Size and profile potentially aligning with a large-scale fishing vessel 57 NM from Harris-Stewart seamount; detection is distorted and likely to be smaller than estimated size. It is recommended to keep monitoring the area and correlate the detection with other data sources if possible.	

Reporting of summary results after monitoring

Within 10 working days of the conclusion of the designated monitoring period, OceanMind will provide summary results of AoI intelligence gathering and analysis in an agreed report format. An example report has been provided in a separate annex document as **OceanMind_Sample Report Format_E03**. Summary results based on surveillance outcomes are included in this report. In this Scenario, the summary report would review persistence over time by identities (detections showing similarities of profile in SAR and EO, and repeating RF waveforms) and the spatial and temporal patterns exhibited by these (K07, KO8).

The report takes the analysis outputs and combines them with the team's knowledge of fisheries and fisheries non-compliance. An assessment of the threat posed by the reported detections is undertaken by our fisheries enforcement experts to ensure the recommendations respond to the threat in a proportionate and achievable way (KO11).

All detections and correlations of relevance are provided as a consolidated dataset within the same timeframe. These include all relevant vessel detection characteristics and acquisition details as listed in E02 and the Specification of Requirements, Outputs and Reporting.

E04 – Long/Medium Term Risk Based Surveillance

Long/Medium-Term Risk Based Surveillance over Tristan da Cunha

OceanMind's longstanding relationship as the provider of Earth observation expertise and actionable intelligence to the Marine Management Organisation (MMO), that means we are operationally ready to support protection of the Areas of Interest (AoI) under the Blue Belt Programme (BBP), Blue Belt Ocean Shield (BBOS) and Ocean Country Partnership Programme (OCPP). As we will demonstrate, we use a variety of sources to collect imagery suitable to deliver medium to long term risk-based tasking support. Utilising our existing and increasing knowledgebase of 'dark' vessel identification, tracking and monitoring trends and risks in the Tristan da Cunha (TdC) AoI, we can continue to provide valuable intelligence to the MMO. Relevant shapefiles are already ingested into the OceanMind system, and the team have maintained historic logs of detections and behaviour, so analysis and support can continue uninterrupted (KO8). We have built excellent working relationships with providers to expedite imagery procurement and keep costs affordable. These longstanding partnerships with MDA and Capella Space for Synthetic Aperture Radar (SAR), Digital Globe for high resolution electro-optical (EO), and Unseen Labs for Radio Frequency (RF) allow us to provide flexible planning and tasking in response to the developing intelligence situation. We have formalised and tested processes with our data suppliers to ensure efficient and accurate tasking on behalf of the MMO.

Remote sensing capabilities

A broad suite of remote sensing tools is available through OceanMind (Figure 1). In particular, Synthetic Aperture Radar (SAR), Radio Frequency (RF), Electro-Optical (EO) and Visible Infrared Imaging Radiometer Suite (VIIRS), analysis of which results in a high expectation of detection of the presence of 'dark' or non-transmitting vessels in the AoI. Our expert team is able to draw on our many years' experience advising and supporting governments across the globe ensuring the best possible Earth observation data sources are recommended to meet the MMO and the TdC government objectives (KO8). Each sensor has its own capabilities and limitations which are fully understood by OceanMind analysts.

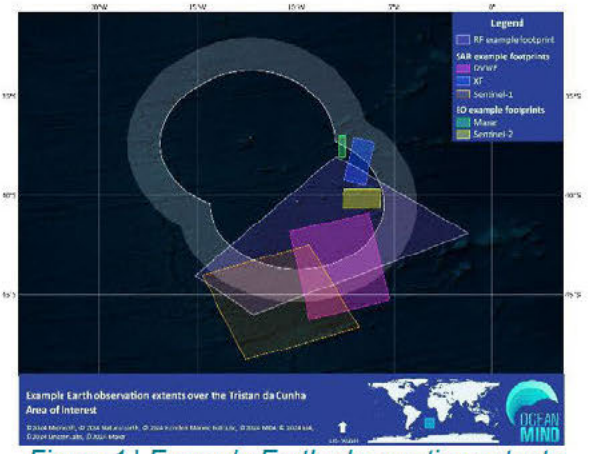
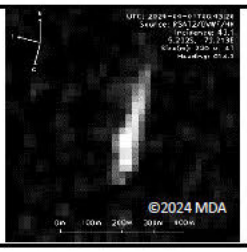
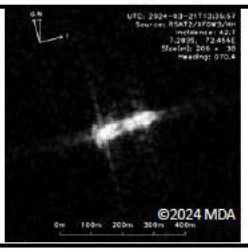


Figure 1 | Example Earth observation extents over the TdC AoI

Synthetic Aperture Radar (SAR)

SAR imagery is provided both flexibly and cost-effectively from the provider platform (from MDA, RADARSAT-2). Acquisitions are scheduled directly with the provider; specific area tasking is an ideal tool for areas where EO imagery alone is less effective due to sea conditions or cloud cover. SAR imagery is available in different modes, depending upon the nature of the potential threat and size of AoI. SAR is particularly effective where vessels are made of metal, making it highly suitable for seeking out longline tuna vessels and associated carriers. In the TdC AoI and in the context of this scenario, two SAR mode options from MDA are most suitable and cost effective (Table 1)(KO6).

Table 1 | Different SAR modes relevant to the TdC Scenario

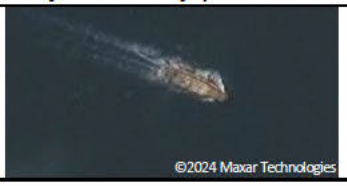
Satellite	MDA RADARSAT-2	
Modes	**Detection Vessels Wide Far (DVWF)**	**Extra Fine (XF)**
Approximate extent (km)	450 x 500	125 x 125
Resolution (m)	20	6.3
Uses and limitations	Suitable for larger, remote areas such as EEZs or offshore buffer zones, where dark vessels are likely to be above 20 m in length. Risk detections are more challenging to identify when the area experiences periods of rough weather.	Suitable for areas of limited spatial extent where dark vessels are likely to be larger than 6m in length. The resolution of XF imagery can enable corroboration of risk detections observed in DVWF. Suitable for other monitoring purposes e.g. oil leaks.
Example detection		

SAR imagery could also be sourced from Capella Space, another data provider with which OceanMind has a strong partnership. However, in the context of the TdC Scenario, Capella Space data is less appropriate due to the smaller coverage per image and the very high resolution of their imagery which adds cost and is unnecessary in this context (KO6). Additional open-source SAR is available (Sentinel-1) which has similar resolution to DVWF SAR and is therefore suitable for use in detecting the larger vessels around the TdC AoI. However, the provider dictates the tasking schedule and rendering the imagery viable only for supplementing targeted imagery.

Electro-optical (EO)

EO sensors create a coloured image which allows for further confirmation of targets. The use of EO is highly dependent on the resolution available and acquisition is reliant on availability within the satellite's duty cycle. EO image quality is also strongly affected by cloud coverage. Due to the high analyst resource requirement and limitations of EO data, these services are generally used as a validation tool for SAR imagery (which is more flexible) to gather more detail about a target such as deck features, or for detection of targets unsuited to SAR due to size or construction. High resolution EO imagery can be tasked over high-risk areas; a process which has a 7-day lead time to be cost effective. For this scenario we will recommend two EO sources; an overview of these is shown in Table 2(KO6).

Table 2 | Different EO modes relevant to the TdC Scenario

Satellite	European Space Agency (ESA) Sentinel – 2 (EO)	Digital Globe Constellation (EO)
Approximate extent (km)	111 x 111	(15 – 25) x (5 – 180)
Resolution (m)	10 - 30	0.3
Use and limitations	Lower resolution, lower cost option; can support with verification of dark vessel detections of medium to large scale. Ideal for vessels above 20 m. Cost effective support for SAR analysis. Tasking is dictated by supplier.	High resolution allows higher confidence in vessel identification and activity. Tasked on a speculative basis. Requires subscription. More resource intensive and image availability is not fully predictable.
Example detection		

Radio Frequency (RF) Detection

RF is a remote sensing technique which detects radio emissions from equipment used on vessels (Table 3). RF acquisitions can be gathered at any time of day and in any weather. OceanMind partners with UnseenLabs to obtain RF data from their satellites capable of picking up the X and S-band frequencies used by navigational radar. Detections are categorised by the provider according to accuracy: high (within 5 km of the target), medium (within 15 km of the target), or low (within 30 km of the target) (KO6). Of particular note is the fingerprinting of RF detection 'waveforms' which UnseenLabs provides. Each radar unit has unique characteristics that are observable within its radio signature. UnseenLabs assigns a unique identifier to each radio emitting source; this enables OceanMind and the MMO to track waveforms over time and provides the potential to subsequently correlate detections. We will recommend the use of RF detection to complement SAR imagery in this scenario.

Table 3 | RF satellite information relevant to the TdC Scenario

Satellite	UnseenLabs RF
Approximate extent (km)	200,000 – 400,000
Use and limitations	Very large acquisition area and high confidence in detections[1]. Waveform identifier enables tracking, but a single vessel can have multiple waveforms. Unaffected by cloud cover and other environmental factors. High cost per acquisition.

[1] *During our time providing intelligence derived from RF data, OceanMind has identified the possibility of false positives in the SGSSI and BAT region. It is believed this is caused by icebergs and therefore in regions like the TdC, confidence in RF detections is high.*

Visible Infrared Imaging Radiometer Suite (VIIRS)

VIIRS sensors gather observations of night-time light emissions at sea which could be coming from vessels and represents another low-cost opportunity to detect fishing vessels which are not transmitting on AIS, particularly when used in conjunction with other data sources. The sensor is affected by environmental factors (particularly cloud cover) and depends entirely on the strength of the light emissions, making it best used in contexts where medium and large-scale vessels are known to operate. VIIRS data is available from the Suomi-NPP satellite operated by the United States National Oceanic and Atmospheric Administration (NOAA) (Table 4)(KO6). We will recommend the use of VIIRS data to supplement other data sources in this scenario.

Table 4 | VIIRS satellite information relevant to the TdC Scenario

Satellite	NOAA Suomi NPP (VIIRS)
Approximate extent	Global coverage
Resolution (m)	350 – 750
Use and limitations	Used to provide additional data for high-risk areas and periods. Detections are low confidence due to the variable reliability of light sensing and low resolution. Impacted by cloud coverage, moonlight and the magnetic field for the South Atlantic

Selection of remote sensing assets to address scenario

Surveillance would be able to start well within two weeks of the notification to OceanMind, typically within 7 days.

1. One-week initial assessment

The main risks to TdC come from large scale fishing vessels and carriers (40 m and above) as the weather offshore impacts fishing by smaller vessels. A combination of SAR, EO, RF and VIIRS would be most effective for this initial assessment of the risk area; they would cover sufficient area (the 400 nm area stipulated in this scenario) and provide a strong picture of the presence and number of likely 'dark' (non-transmitting) vessels. While SAR is more flexible for tasking and weather conditions, EO imagery allows OceanMind to determine vessel types and activities and VIIRS provides corroborating data about the spread of the fleet.

Daily initial results will be provided within one working day post-acquisition or < 6 hours if acquired at the start of a working day (with any further detailed analysis, if required, within a further working day or within the same day if acquired by the start of that day) from the following data sources (KO5, KO6, KO8):

SAR: DVWF SAR imagery from MDA with a resolution of 20 m would be tasked over the AoI. Due to the swath size of these images (and the anticipation of Sentinel-1 imagery also being available) a total of six images would be sought, each tasked on a different day during the initial assessment week. These would provide 100% coverage of the AoI and some overlapping coverage, which would help in the identification of persistence over time. Two *ad hoc* XF SAR images (6.3 m resolution) would be held for use over high-risk detections; any which are not used would be carried over to the two-month monitoring. Any available Sentinel-1 SAR (20 m resolution) over the AoI would also be checked (Sentinel-1 coverage of TdC is good), with particular focus on corroborating any high-risk detections observed in DVWF imagery (KO5, KO6, KO8).

EO: Four Digital Globe EO images (0.3 m resolution) would be speculatively tasked over the AoI, overlapping with scheduled SAR acquisition areas and periods to maximise the potential to corroborate risk detections. Available Sentinel-2 EO imagery (20 m resolution) would be used to corroborate any high-risk detections observed in DVWF imagery (KO5, KO6, KO8).

RF: Two RF acquisitions would be tasked over the AoI; their large acquisition size enables a single observation to cover a large portion of the target area. OceanMind would recommend that both coincide with DVWF acquisitions to increase confidence in 'dark' detections and assign waveforms to SAR profiles. However, a discussion would be had with the MMO as to whether a preference was for RF to cover days or times when no DVWF SAR is scheduled, thereby providing coverage across each of the seven days (KO5, KO6, KO8).

To help further define the data needs for the Scenario's second objective, these results would be collated at the end of the week into a summary report and supported by an assessment of VIIRS data which would be reviewed for the whole week to capture any other possible 'dark' activity. The low resolution and confidence attached to VIIRS detections makes it more effective when used to look at broader activity, rather than daily intelligence assessments.

The detection database already held by OceanMind from multiple years of monitoring for the MMO would be continued using the data from the initial assessment. The summary report would assess any trends or persistence which can be identified from this initial data and highlight anything of note from past monitoring. The summary would place particular focus on understanding the likely number of 'dark' vessels and any identity data (such as fingerprint 'waveforms' and EO detection markings) and would make recommendations for subsequent monitoring (KO7, KO8).

2. Two-month monitoring

This monitoring period would build on the data gathered during the initial assessment, including continuing to update the database of results and monitoring any persistence in identities. Acquisitions would focus on the relevant AoIs (shifting as the monitoring moves into month two) and aim to track the presence of the five 'dark' vessels (likely tuna longliners) identified in the initial assessment, as well as detecting more potential 'dark' vessels that may appear in the AoIs. Tasking would cover the entirety of each AoI, ensuring that acquisitions cover close to the MPZ boundary inside and outside to identify likely noncompliance by 'vessels crossing into the MPZ. Initial planning would aim to spread imagery across each week, maximising the area and period covered.

SAR: DVWF SAR (MDA, resolution 20 m) would be tasked over all AoIs. In month one, a single swath is anticipated to cover the majority of a single AoI, so two acquisitions per AoI (four per week) would be tasked; in month two, three acquisitions per AoI (six per week) to assure 100% coverage of the AoIs. In both months, these would be supplemented by one *ad hoc* floating XF SAR image (6.3 m resolution) and in month two, two such images, would be made available each week to corroborate high-risk detections identified in DVWF (KO5, KO6, KO8). Capella SAR would also remain on standby to be acquired in support of incursion detections over the MPZ.

EO: In month one, four Maxar EO images (0.3 m resolution) (two per AoI), and in month two six such images, would be speculatively tasked over the AoIs each week (three per AoI), overlapping with scheduled SAR acquisition areas to maximise the potential to corroborate risk detections (KO5, KO6, KO8). Available Sentinel-2 EO imagery (20 m resolution) would also be used for corroboration throughout.

RF: Two RF acquisitions would be tasked over the AoIs each week throughout the analysis period; the acquisition size enables a single RF image to cover both AoIs in month one and a single AoI in month two. OceanMind would recommend that both coincide with DVWF acquisitions to increase confidence in 'dark' detections and assign waveforms to SAR profiles. However, a discussion would be had with the MMO as to whether a preference was for RF to cover days or times when no SAR or EO is scheduled, thereby providing more consistent coverage (KO5, KO6, KO8).

Notice requirements for ongoing surveillance

The minimum period required for OceanMind to plan and task a work order is 2 – 3 working days. Early liaison and our excellent relationship with our data providers allow us to put them on 'standby' for requests during discussions with the MMO, which provides us with the ability to change location or imagery resolution requests swiftly. This, and the provision of available detail, ensures we can obtain satellite imagery within the required lead time prior to starting surveillance. This is complimented with the knowledge we have developed as the incumbent to identify likely geographical AoIs to understand image availability at the earliest opportunity.

Earth observation imagery tasking has different lead times. (KO6, KO5) For MDA Near Real Time (NRT) imagery (DVWF and XF) lead times are < 48 hours. For UnseenLabs RF imagery they are 48 hours. For Digital Globe EO imagery lead times are 7 days.

Faster turnaround times are achievable for SAR imagery from Capella Space, but not deemed appropriate for this Scenario due to the nature of the surveillance and therefore has not been included.

Movement of the AoI

Our team of analysts have significant experience working with the MMO to ensure the responses are swift and targeted to identify threats, risks and priorities for the BBP, BBOS and OCPP AoIs. We have proven our ability to change location and acquire images within the agreed timeframes, responding quickly to the needs of MMO teams. Changes to the location of the satellite imagery can be actioned with 5-working day lead time maximum (depending on the supplier) (KO6, KO8). There are no costs associated with such changes, unless changes are to shorten delivery times where costs will depend on the new target time. OceanMind's suppliers are on standby to support with short lead time requests, and we will continue with these suppliers to ensure there is no interruption to our excellent and timely service. We have formal processes agreed with our suppliers to ensure changes are managed efficiently.

Reporting of surveillance outputs during monitoring

Once the imagery is acquired, analysis and reporting are achieved within one working day for provisional results, and any further detailed analysis of detections, if required, is provided within a further working day (see example in Table 5)(KO7, KO8). OceanMind's approach to managing this Scenario would centre on use of the intelligence cycle, which provides transparency, robustness, and consistency throughout the process. We also use our cutting-edge technological tools to ensure consistent and cost-efficient analysis, and our specialist subject matter expertise to make tailored recommendations.

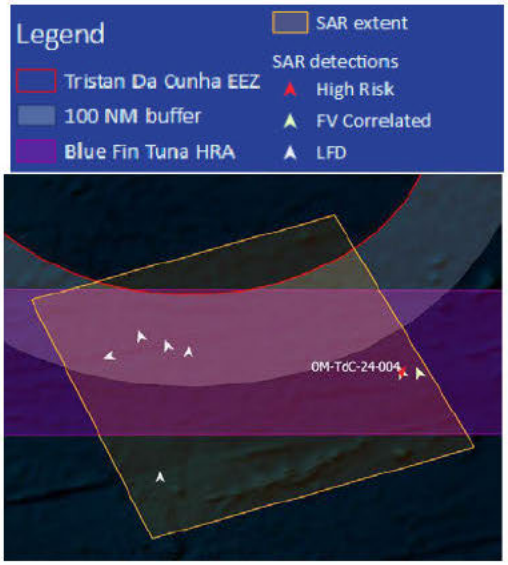
Daily reports include (KO7, KO8):

- A reporting email providing key intelligence and image-based outputs, including a thumbnail of detections and a chart indicating the position of detections relative to relevant boundaries (JPEGs). This will include recommendations for subsequent intelligence to maximise threat detection and target monitoring.

- Numerical datasets are shared via SharePoint in csv format; these include the date/time of detections, vessel length, latitude, longitude, confidence and risk assessments and other sensor specific information such as RF fingerprint waveforms. This data combined with the thumbnails of detections enable the MMO to geolocate detections.
- Acquisition footprints shared via SharePoint in shapefile and/or KML format. Other formats can be provided if required.

Weekly briefs are held with the MMO team to exchange key intelligence and discuss tasking. These calls enable OceanMind to deliver high quality, adaptive monitoring which best meets the needs of the BBP, BBOS and OCPP.

Table 5 | Example of the daily results in a TdC monitoring report presented to the MMO.

Ascension	OM – Recommendation OM-TdC-XX-XXX	Swath Location
SAR General Description: One (1) DVWF-mode SAR was acquired on XXApr20XX at 19:46Z over the southern area of the TdC AoI. **A total of 8 detections were observed:** • **One (1) uncorrelated high-risk detection,** inside the Blue Fin Tuna HRA. • **Two (2) correlated detections; all were correlated with fishing vessels:** ○ [VESSEL NAME] (MMSI: XXXXXXXXX, type: Longline, Flag: Korea, ICCAT authorized) ○ [VESSEL NAME] (MMSI: XXXXXXXXX, type: Longline, Flag: Japan, ICCAT authorized) • **Five (5) Likely False Detections.** **EO General Description**: No EO images were available 48 hours around the detections. **Environmental conditions** on XXApr20XX: Waves: approximately 4.9 m / Wind: SE at approximately 20 kts		

Total swath area (km²) *for work order*	Total swath area (km²) *for work order*
SAR XXApr20XX – 238,081 km²	**SAR – 928,777 km²**

Rec. No.	Location	Lat Lon	Date/time (Z)	Size (m)	Risk	Conf.	Description and potential correlated SAR or AIS	Image
OM-TdC-XX-XXX	BFT HRA	-XX.09 -XXX.12	XXApr20XX 19:46	83	High	High	Size and profile potentially aligning with a large-scale fishing vessel inside the Blue Fin HRA; detection is distorted and likely to be smaller than estimated size. Detection was approximately 0.6 NM from the location of [VESSEL NAME] and possibly part of the same fleet. It is recommended to keep monitoring the area and correlate the detection with other data sources if possible.	

Reporting of summary results after monitoring

Within 10 working days of the conclusion of the designated monitoring period, OceanMind will provide summary results of AoI intelligence gathering and analysis in an agreed report format. An example report has been provided in a separate annex document as OceanMind_Sample Report Format_E04. Summary results based on surveillance outcomes are included in this report. In this Scenario, the summary report would review persistence over time by identities (detections showing similarities of profile in SAR and EO, and repeating waveforms) and the spatial and temporal patterns exhibited by these (KO7, KO8).

The report takes the analysis outputs and combines them with the team's knowledge of fisheries and fisheries non-compliance. An assessment of the threat posed by the reported detections is undertaken by our fisheries enforcement experts to ensure the recommendations respond to the threat in a proportionate and achievable way.

All detections and correlations of relevance are provided as a consolidated dataset within the same timeframe. These include all relevant vessel detection characteristics and acquisition details as listed in E02 and the Specification of Requirements, Outputs and Reporting.

E05 Risk Based Tasking (Inshore)

Risk Based Tasking over Turks & Caicos Islands

OceanMind's longstanding relationship as the provider of Earth observation expertise and actionable intelligence to the Marine Management Organisation (MMO), that means we are operationally ready to support protection of the Areas of Interest (AoI) under the Blue Belt Programme (BBP), Blue Belt Ocean Shield (BBOS) and Ocean Country Partnership Programme (OCPP). As we will demonstrate, we use a variety of sources to collect imagery suitable to deliver medium term risk-based tasking support. Utilising our existing and increasing knowledge base of 'dark' vessel identification, tracking and monitoring trends and risks in the Turks & Caicos Islands (TCI) AoI, we can continue to provide valuable intelligence to the MMO. Relevant shapefiles are already ingested into the OceanMind system, and the team have maintained historic logs of detections and behaviour, so analysis and support can continue uninterrupted (KO8). We have built excellent working relationships with providers to expedite imagery procurement and keep costs affordable. These longstanding partnerships with MDA and Capella Space for Synthetic Aperture Radar (SAR), Digital Globe for high resolution electro-optical (EO), and Unseen Labs for Radio Frequency (RF) allow us to provide flexible planning and tasking in response to the developing intelligence situation (KO1). We have formalised and tested processes with our data suppliers to ensure efficient and accurate tasking on behalf of the MMO.

Remote Sensing capabilities

A broad suite of remote sensing tools is available through OceanMind (Figure 1). In particular, SAR, EO and RF, analysis of which results in a high expectation of detection of the presence of 'dark' or non-transmitting vessels in the AoI. Our expert team is able to draw on our many years' experience advising and supporting governments across the globe ensuring the best possible Earth observation data sources are recommended to meet the MMO and the TCI government objectives (including patrol activities) (KO8). Each sensor has its own capabilities and limitations which are fully understood by OceanMind analysts.

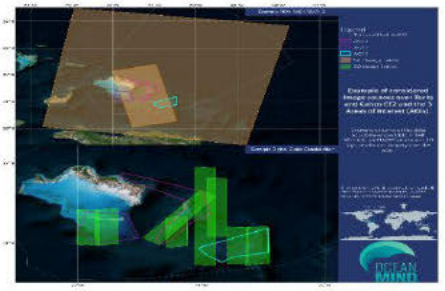


***Figure 1**| Example Earth observation extents over the TCI AoI*

Electro-*Optical (EO)*

EO sensors create a coloured image which allows for further confirmation of targets. The use of EO is highly dependent on the resolution available and acquisition is reliant on availability within the satellite's duty cycle. EO image quality is also strongly affected by cloud coverage. Due to the high analyst resource requirement and limitations of EO data, these services are generally used as a validation tool for SAR imagery (which is more flexible) to gather more detail about a target such as deck features, or for detection of targets unsuited to SAR due to size or construction. High resolution EO imagery can be tasked over high-risk areas; a process which has a 7-day lead time to be cost effective. For this scenario we will recommend two EO sources; an overview of these is shown in Table 1 (KO5, KO6).

In this scenario, EO surveillance would support intelligence gathering and identify likely 'dark' small vessel presence and IUU risks within three AoI's in the TCI Exclusive Economic Zone (EEZ). Digital Globe high resolution EO imagery from all satellites available in the constellation, (where cloud cover <15%), with preference given to WV01 panchromatic, delivered as 50 cm resolution product would provide 10% coverage over the patrolled AoI weekly. The actual weekly percentage coverage may fluctuate during the monitoring period due to cloud cover and environmental conditions (KO5, KO6).

Table 1| Different EO modes relevant to the TCI Scenario

Satellite	European Space Agency (ESA) Sentinel – 2 (EO)	Digital Globe Constellation (EO)
Approximate extent (km)	111 x 111	(15 – 25) x (5 – 180)
Resolution (m)	10 - 30	0.3
Use and limitations	Lower resolution, lower cost option; can support with verification of dark vessel detections of medium to large scale. Ideal for vessels above 20 m. Cost effective support for SAR analysis. Tasking is dictated by supplier.	High resolution allows higher confidence in vessel identification and activity. Tasked on a speculative basis. Requires subscription. More resource intensive and image availability is not fully predictable.
Example detection		

Synthetic Aperture Radar (SAR)

Sourced from our two SAR suppliers MDA and Capella, SAR imagery is both flexible and cost-effective. Based on the patrol needs, SAR tasking is an ideal tool for areas where electro-optical imagery alone is less effective due to rough sea conditions and/or frequent cloud cover. SAR imagery is available in variable modes, depending upon the nature of the potential threat and scale of area under consideration. Both suppliers have multiple modes available, including high resolution imagery allowing for the ability to detect small 1m+ vessels constructed from materials like wood or fibreglass. Options available from each supplier over the TCI AoIs suitable for this scenario are captured in Table 2 and Table 3 (KO5, KO6). Our partner, MDA, have developed a pattern recognition algorithm. The algorithm focuses on relevant detections and filters out the majority of false positive returns resulting from wave action or objects such as icebergs or reefs. These cutting-edge technologies have a proven track record of detecting "dark vessels" on behalf of the MMO. Tasking and scheduling Extra Fine (XF) over an AoI allows OceanMind to detect the presence of "dark vessels" of >6.3 m in length with a larger footprint. A coverage of between 50-100% per week over each AoI ensures that persistent vessels will be detected in consecutive images (KO6).

Recognising that patrol planning is typically completed days in advance, should the patrol vessel require immediate remote sensing support, our SAR imagery would be sourced from Capella who provide urgent very high resolution (Spot SLC 0.5m) tasking in under 3 hours to collection (conditions permitting) (KO5, KO6).

Table 2| Different MDA SAR modes relevant to the TCI Scenario

SAR Mode	Extra Fine (XF)	Ultra Fine (UF)
Approximated extent [km]	125 x 125	50 x 50
Resolution [m]	6.3	3
Example areas of use and potential vessel detection	Areas of **limited spatial extent** where **dark vessels** are likely to be **larger than 6m** in length. Suitable for other monitoring purposes i.e. **vessels under 10m.**	**Highly specified areas** i.e. seamounts or HRA's, where known vessels of interest of **any size above 3 m** are confidently expected to be operating.

Table 3| Different Capella SAR modes relevant to the TCI Scenario

SAR Mode	Spot SLC	Site SLC	Strip SLC
Approximated extent [km]	5 x 5	5 x 10	5 x 20
Resolution [m]	0.5	1.0	1.2
Example areas of use and potential vessel detection	**Highly specified** areas i.e. Ports or small-scale HRAs, where known vessels of interest of **any size above 1 m** are confidently expected to be operating.		

Radio Frequency (RF) Detection

RF is a remote sensing technique which detects radio emissions from equipment used on vessels (Table 4). RF acquisitions can be gathered at any time of day and in any weather. OceanMind partners with UnseenLabs to obtain RF data from their satellites capable of picking up the X and S-band frequencies used by navigational radar. Detections are categorised by the provider according to accuracy: high (within 5 km of the target), medium (within 15 km of the target), or low (within 30 km of the target) (KO5, KO6). Of particular note is the fingerprinting of RF detection 'waveforms' which UnseenLabs provides. Each radar unit has unique characteristics that are observable within its radio signature. UnseenLabs assigns a unique identifier to each radio emitting source; this enables OceanMind and the MMO to track waveforms over time and provides the potential to subsequently correlate detections. OceanMind's existing knowledge in the area enables understanding that vessels between 10-15 m called motherships operate in TCI AoIs, these vessels have been reported by TCIG to MMO to be equipped with communications equipment and radar technology that could be identified using RF detection (KO5, KO6).

Table 4| RF satellite information relevant to the TCI Scenario

Satellite	UnseenLabs RF
Approximate extent (km)	200,000 – 400,000
Use and limitations	Very large acquisition area and high confidence in detections. Waveform identifier enables tracking, but a single vessel can have multiple waveforms. Unaffected by cloud cover and other environmental factors. High cost per acquisition.

Selection of remote sensing assets to address scenario

The main risks to the TCI come from small scale fishing vessels (10 m and under). A combination of EO, SAR and RF would be most effective for this initial assessment of the risk areas and provide a strong picture of the presence and number of likely 'dark' (non-transmitting) vessels. While SAR is more flexible for tasking and weather conditions, EO imagery allows OceanMind to determine vessel types and activities and RF provides corroborating data about 'dark' vessels being in the AoI.

Operational readiness to start surveillance within 7 days of agreeing the work order is detailed in Figure 2 (KO5). Our first action is to liaise with the MMO team to ascertain the intelligence objectives, perceived threat and risks to inform the correct choice of satellite imagery. We then use project planning to ensure a responsive data acquisition plan is in place which outlines timeframes and milestones. Early liaison and our excellent relationship with our suppliers allow us to put them on 'standby' for the request, imagery is held in archive ready for quick drawdown upon order confirmation. This, and the early provision of available detail, ensures we can obtain satellite imagery within the required timeframe. This is complimented with the knowledge we have developed as incumbent to identify likely geographical AoIs, in this case the 3 TCI AoIs outlined within the scenario, to understand image availability at the earliest opportunity. Combined, this ensures we can start within 7 days of the work order being agreed and provide a flexible service which responds to the developing intelligence picture (KO5).

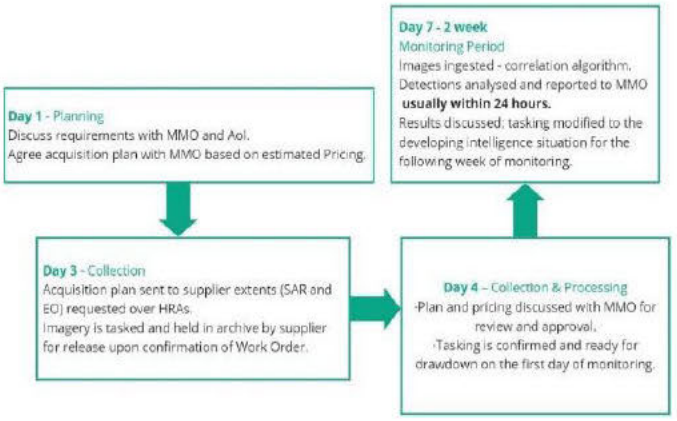
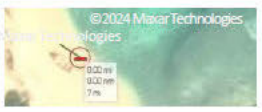


Figure 2| Acquisition of Remote Sensing data and Timescales.

Our expert team draws on multiple years' experience advising and supporting governments including MMO for TCIG. This has enabled our team to define vessel profiles and activities which are key to differentiating between fishing and non-fishing vessels. This includes understanding what materials the potential fishing vessels are constructed from and specific vessel structures (steel, fibreglass and wood), where these vessels operate (shallow reefs and banks), how these vessels operated (scuba, freediving), and what communications are being utilised by these vessels (dinghies communicating information back to the mothership via satellite phone and GPS units). Having this knowledge our team has been able to create vessel profiles of known fishing and non-fishing vessels inside TCI, Table 5 (KO5, KO6).

Table 5|Examples of EO vessel profiles created by OceanMind expert team

Type	Size (m)	Image	Type	Size (m)	Image
Houseboat / Fish processing platform	14 - 20		Dinghy	up to 3.5	
Mothership	12 – 15		Unknown	3	
Panga	4 – 7		Pleasure craft	10 -16	

OceanMind would further categorise EO uncorrelated detections by classifying detection under the following sections (KO5, KO6):

1. Confidence:
   - High confidence: The detection strongly suggests the presence of a vessel. The profile and size align with a vessel of the expected type operating in an area and/or the detection can be verified using other remote sensing data.
   - Low confidence: The detection suggests the possible presence of a vessel; either the size or profile cannot be clearly determined, but the detection is not likely to be caused by weather conditions, terrestrial objects (islands, rocks, corals, etc.) or other human constructions (oil rigs, huts, etc.).
   - Likely False Detection: The detection profile does not align with that of a vessel and is more likely a result of weather conditions, terrestrial objects (islands, rocks, corals, etc.) or other human constructions (oil rigs, huts, etc.).
2. Risk:
   - High risk: Detection with a target vessel profile (panga, mothership or dinghy) or that of a vessel likely associated with fishing e.g. fish processing platform or medium-scale fishing vessel. All detections of type Unknown are considered high risk.
   - Low risk: Detection with profile of a vessel unlikely to be related to fishing e.g. cargo, pleasure, passenger.

Intelligence Led Risk Based Enforcement (ILRBE) approach that would be used during this surveillance period over each of the AoIs and provide the patrol vessel required support for planning and deployment weekly, through a combination of SAR, EO and RF. The data sources would effectively provide a strong picture of the presence and number of likely 'dark' (non-transmitting) vessels. While SAR is more flexible for tasking and weather conditions, EO imagery allows OceanMind to determine vessel types and activities. Daily initial results will be provided within one working day post-acquisition or < 6 hours if acquired at the start of a working day (with any further detailed analysis, if required, within a further working day or within the same day if acquired by the start of that day) from the following data sources (KO5, KO6, KO8):

SAR: Four XF SAR images (6.3 m resolution) would be made available each month (one per week) to allow for effective planning and identification of high-risk detections, to assist the patrol vessel planning and AoI identification. Alongside XF SAR, two STRIP SLC *ad hoc* SAR images (1.2 m resolution) would be made available each month to corroborate high-risk detections and live patrols (KO6, KO8).

EO: Two EO images, with a coverage of up to 450 km^2, over the patrolled AoI (0.3 m resolution), would be speculatively tasked over an AoI each week, overlapping with scheduled SAR acquisition areas to maximise the potential to corroborate risk detections.

RF: Two RF acquisitions would be tasked per month; their large acquisition size enables a single image to cover a large portion of the target areas (KO6, KO8). OceanMind would recommend that both coincide with targeted SAR acquisitions to increase confidence in 'dark' detections and assign waveforms to SAR profiles.

Reporting of monitoring outputs

Results during monitoring

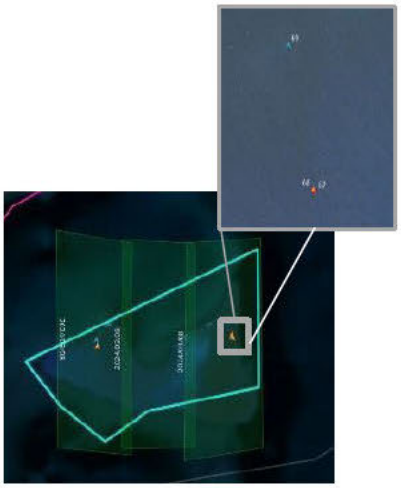
Once the imagery is acquired, analysis and reporting are achieved within one working day for provisional results, and any further detailed analysis of detections, if required, is provided within a further working day (see example in Table 6) (KO7, KO8). OceanMind's approach to managing this Scenario would centre on use of the intelligence cycle, which provides transparency, robustness, and consistency throughout the process. We also use our cutting-edge technological tools to ensure consistent and cost-efficient analysis, and our specialist subject matter expertise to make tailored recommendations.

Daily reports include (KO7, KO8):

- A reporting email providing key intelligence and image-based outputs, including a thumbnail of detections and a chart indicating the position of detections relative to relevant boundaries (JPEGs). This will include recommendations for subsequent intelligence to maximise threat detection and target monitoring.
- Numerical datasets are shared via SharePoint in csv format; these include the date/time of detections, vessel length, latitude, longitude, confidence and risk assessments and other sensor specific information such as detection length (m). This data combined with the thumbnails of detections enable the MMO to geolocate detections.
- Acquisition footprints shared via SharePoint in shapefile and/or KML format. Other formats can be provided if required.

Weekly briefs are held with the MMO team to exchange key intelligence and discuss tasking. These calls enable OceanMind to deliver high quality, adaptive monitoring which best meets the needs of the BBP, BBOS and OCPP.

Table 6 Example email format of intelligence gathering results for high risk, high confidence detection and recommendations.

Turks and Caicos	Swath Location
EO General Description: Three (3) high resolution EO Images were acquired over AoI 3 on xxMar2024: **There were 2 high risk detections in the images which have been reported below.** Environmental conditions: • Waves: Approximately 1.13-1.20 m • Wind: E at approximately 15-19 kts • Clear, slight-poor conditions some wavelets **Recommendations:** 1. It is recommended that the patrol vessel should investigate further and intercept if possible. 2. It is recommended to continue monitoring the detections for further possible IUU activities in AoI 3.	

EO swath area (km²)	Total swath area (km²) *for work order*
AoI 3: 1,523 km²	**AoI 3: 6,224 km²**

Det. No.	Location	Lat	Lon	Size (m)	Vessel Type	Activity	Conf	Description and potential correlated to AIS	Image
1	AoI 3	20.995	-070.526	21	Mothership	Anchored	High	Vessel is on anchor in the AoI and has Dinghy's secured to the stern of the vessel.	
2	AoI 3	20.995	-070.526	6	Dinghy	Anchored	High	Vessel appears to be secured to Detection 1 (Mothership).	

Results after monitoring

Within 10 working days of the conclusion of the designated monitoring period, OceanMind will provide summary results of AoI intelligence gathering and analysis in an agreed report format. An example report has been provided in a separate annex document as ***OceanMind_Sample Report Format_E05*** *(KO8, KO7)*. Summary results based on surveillance outcomes are included in this report. In this Scenario, the summary report would review persistence over time by identities (detections showing similarities of profile in SAR and EO, and repeating waveforms) and the spatial and temporal patterns exhibited by these, consolidating the datasets in map and table form *(KO7, KO8)*. The report takes the analysis outputs and combines them with the team's knowledge of fisheries and fisheries non-compliance. An assessment of the threat posed by the reported detections is undertaken by our fisheries enforcement experts to ensure the recommendations respond to the threat in a proportionate and achievable way. All detections and correlations of relevance are provided as a consolidated dataset within the same timeframe. These include all relevant vessel detection characteristics and acquisition details as listed in E02 and the Specification of Requirements, Outputs and Reporting *(KO8, KO7)*.

E06 Retrospective Analysis

Ability to utilise multiple data sources and provide expert interpretation to increase maritime domain awareness

OceanMind's longstanding relationship as the provider of Earth observation expertise and actionable intelligence to the Marine Management Organisation (MMO), means we are operationally ready to support protection of the Areas of Interest (AoI) under the Blue Belt Programme (BBP), Blue Belt Ocean Shield (BBOS) and Ocean Country Partnership Programme (OCPP). As we will demonstrate, we use a variety of sources to collect imagery suitable to deliver retrospective analysis risk-based assessments. Utilising our in-depth knowledge of 'dark' vessel identification, tracking, and monitoring trends and risks in areas from Ghana off the African West coast to Sri Lanka in the Indian Ocean, we can continue to provide valuable intelligence to the MMO. Relevant shapefiles are already ingested into the OceanMind system, and the team have maintained historic logs of detections and behaviour, so analysis and support can continue uninterrupted (KO8). We have built excellent working relationships with providers to expedite imagery procurement and keep costs affordable. We have formalised and tested processes with our data suppliers to ensure efficient and accurate tasking on behalf of the MMO. This resulted in a more targeted Intelligence Led Risk Based Enforcement (ILRBE) approach being adopted and a subsequent reduction in Illegal, Unreported and Unregulated (IUU) activity in AoIs we monitor. We were also able to provide insights into the spatial and temporal trends in the differing IUU risks to advise regarding the scale of potential non-compliant activity linked to significant political sensitivities in a confidential and impartial manner.

A detailed description of your approach to managing this scenario

Using the intelligence cycle ensures steps of the analysis provide diligence, credibility and room for feedback and improvement. By staying in close contact with the MMO during the cycle, we can identify the needs with a partner-led approach and communicate objectives, concerns, and actions. During the planning and direction phase, OceanMind consolidates the needs from the partner and develops a solution which is most fitting to those. In the given scenario, this could include (KO6, KO8):

- Automatic Identification System (AIS) analysis: including vessel type identification, Regional Fisheries Management Organisation (RFMO) authorisations, spatial and temporal risk assessments, and the analysis of trends and vessels or fleets of interest.
- Remote sensing: including acquisition overview for publicly available data sources, possible capabilities to enhance the outputs and access to commercial archive imagery.
- Additional enquiries: which may be beneficial to the identified AoI. This could include environmental assessments, Marine Protected Area (MPA) or habitat integrity.

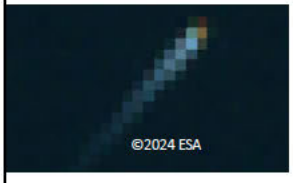
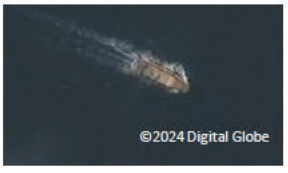
The data collection would depend on the chosen options and ensure that the provided services are satisfactory to the partner, while being cost effective and efficient. The OceanMind analyst team will use their expert knowledge gained working with the MMO team for 6 years to focus imagery where it matters, which is critically important when free-to-user imagery is considered. The specific recommendations for this scenario follow in the sections below.

The combination of the machine learning algorithm from OceanMind on vessel behaviour alerts and Sentinel-1 for Synthetic Aperture Radar (SAR) allows efficient processing and analysis production following a risk-based approach. During the analysis, our expertise in historical risk assessments and remote sensing reviews, including other territories of interest for MMO will help the assessment and produce outputs which follow these previous assessments and the feedback received from them. The long experience of the analysts in evaluating satellite imagery will ensure provision of accurate and actionable intelligence which is relevant to the MMO. With further dissemination we can ensure improvements and that our partners are satisfied with the provided intelligence reports. OceanMind will be available at any point to discuss our findings to provide expertise and insights.

Remote sensing capabilities

A broad suite of remote sensing tools with historical archives is available through OceanMind (Table 1). In particular, SAR, Electro-Optical (EO) and Visible Infrared Imaging Radiometer Suite (VIIRS), analysis of which results in a high expectation of detection of the presence of 'dark' or non-transmitting vessels in the AoI. Our expert team is able to draw on our many years' experience advising and supporting governments across the globe ensuring the best possible Earth observation data sources are recommended to meet the MMO and the West African Country (WAC) government objectives. Each sensor has its own capabilities and limitations which are fully understood by OceanMind analysts (KO6, KO8). Our team brings all available historical data from each sensor to bear when constructing a retrospective review.

Table 1| Technical specifications of open-source and OceanMind subscriptions available satellite applications

Satellite	ESA – Sentinel 1 (SAR)	ESA – Sentinel 2 (EO)	Digital Globe Constellation (EO)	Suomi NPP (VIIRS)
Description	Four operational modes. Predominantly uses 400 km swaths with a spatial resolution of 20 to 25 m	The electro optical imagery provides multi- and single band imagery	High resolution allows higher confidence in vessel identification and activity.	Dependent on light emissions. Daily global coverage. 'VIIRS Boat Detection' service publicly available two months after acquisition.
Capability	Sufficient for large vessels of steel construction and can be used to detect environmental impacts (e.g., oil spills).	Sufficient to detect medium and large-scale vessels. Used to assess vessel activity or environmental impacts (e.g., seagrass habitat assessments) Additional tool for validation of SAR detections with a visual identification.	Capable of showing vessel activities, such as active fishing. Provide vessel details which can support identity matching, such as through deck colour or gear type.	Capable of showing 'dark' activity distribution and vessel aggregations over long time periods; this is useful when determining trends of 'dark' activity around AoIs. Outputs can inform the selection of free to user imagery for further analysis.
Limitations	The sensor would be unlikely to detect the small vessels of wooden/fibre glass construction. The sensor will not detect vessel types or activity.	Impacted by cloud coverage. Low resolution can confuse small vessels with wave crests or small clouds. Resource intensive to analyse images. Analysis to be conducted on sample images	Requires subscription. More resource intensive and image availability is not fully predictable.	Reliability on light and the resolution low confidence in detections. Impacted by cloud coverage, moonlight and the magnetic field in the south Atlantic which limits usability and coverage in some regions.
Number of Satellites	2	2	7	1
Repeat cycle [days]	12	5	daily	daily
Approximated extent [km]	100 x 250	110 x 110	(15 – 25) x (5 – 180)	Global coverage
Resolution [m]	20-25	10 - 30	0.3 -0.5	350 – 750
Example Images				

In addition to the satellite applications detailed above in Table 1, OceanMind utilises open-access data made available by NASA Earth Observations (NEO) collected by the NASA satellites constellation (KO6). The large variety of surface products available regarding Earth atmosphere and oceans can provide useful data sets for modelling future trends in likely fishing effort. An example of the type and use of such data is chlorophyll concentration change to map potential distribution of highly migratory pelagic species such as albacore tuna.

Synthetic Aperture Radar (SAR)

SAR Imagery would be sourced from the Copernicus Open Access Hub and processed using specialized in-house vessel detection software proven over the past 6 years delivering 'dark' vessel insights to the MMO. In context of the WAC scenario, to assess 'dark' vessel occurrence within the WAC EEZ, a comprehensive set of Sentinel-1 SAR images would be acquired, providing a monthly coverage equivalent to approximately 200% of the AoI. The possible vessel detections would be classified into the following categories (KO2, KO3):

- Correlated Detections: This refers to the identification of a vessel that is transmitting signals through a known tracking system, such as AIS.
- AIS Uncorrelated Detections: Detections not correlating with any vessels on AIS in the vicinity.
  Based on the detection profile and environmental factors at the time the image was captured, vessel detections were categorized as follows:
  - Small: Less than 20 meters in length
  - Medium: Between 20 and 60 meters in length
  - Large: Between 60 and 100 meters in length
  - Cargo/Carrier: Between 100 and 160 meters in length
  - Merchant: Over 160 meters in length
- Likely False Detections (LFD): Under specific conditions, certain objects, or features, such as large wave crests, marine debris, exposed reefs, or small islands/sandbars, may trigger a detection in the SAR analysis algorithm, incorrectly suggesting them as vessels.

These classifications assist in differentiating between high-confidence detections, which exhibit size and profiles strongly suggestive of a vessel, and low-confidence detections, which show weaker alignment with typical vessel characteristics. Risks are associated based on the likelihood of the detection being an industrial fishing vessel. To remove artisanal pirogues and merchant vessels, a detection had to be larger than 20 m and smaller than 100 m (size classes Medium and Large) to be categorized as a high risk (KO6).

Electro-optical (EO)

EO sensors create a coloured image which allows for further confirmation of targets. The application of EO is highly dependent on the resolution available, and acquisition is reliant on availability within the satellite's duty cycle. EO image quality is also strongly affected by cloud coverage. Due to the high analyst resource requirement and limitations of EO data, these services are generally used as a validation tool for SAR imagery (which is more flexible) to gather more detail about a target such as deck features, or for detection of targets unsuited to SAR due to size or construction. In context of the WAC scenario, high-resolution EO images (of 0.5m resolution), available from OceanMind's Digital Globe subscription service, with <30% cloud cover available over the WAC inshore zone and EEZ boundary with neighbouring countries. These images will be used to identify potential vessel type and activity and thus further understand the level of potential IUU fishing activities (KO6). Conclusions about the vessel type and activity can be drawn from the vessel profile, distinguishing features, and size. Positive identification of a detection was affected by environmental factors such as weather conditions (including sea surface turbidity, cloud cover, wave height and light at the time of capture). Detections are categorized as follows (KO2, KO3):

Size and Profile

- *Pirogue:* Artisanal fleet, vessels vary in size between 6 to 30 meters in length but are always a distinct long wooden canoe profile.
- *Fishing vessel*: Size and profile of a fishing vessel often with fishing gear visible.
  - Small - Scale Fishing Vessel: Less than 25 meters in length (without the distinct pirogue profile)
  - Medium - Scale Fishing Vessel: Between 26 and 59 meters in length
  - Large - Scale Fishing Vessel: Between 60 and 99 meters in length
- *Fish carrier:* Between 60 meters and 125 meters in length with cranes, holds, and hatches visible on deck.
- *Merchant:* Variable in size, up to 300 meters in length, containers visible on deck, goods carrying vessels, including cargo and hazardous cargo, tankers etc.
- *Other:* Variable in size, profile aligns with offshore supply vessels, pleasure crafts (speed boats and sailing vessels), tugs and military type vessels.
- *Unknown:* Image is not clear enough to determine the vessel structure with confidence, vessel type cannot be confirmed.

Details of the AIS data sources the supplier proposes to use for the analysis

Our system currently includes all AIS transmissions from 1st January 2018 through to the current time (live ingestion) for immediate access and analysis. We hold archived AIS data from 2009 through to 2018 available in long-term storage to load into the live system on-demand as partner's requirements dictate. It takes 4 weeks elapsed time to load one years' worth of data.

Understanding that no one data provider can supply all class A and class B detections, our comparative analysis shows that we have the best AIS supplier on the market. Our current AIS provider 'Spire' combines terrestrial and satellite AIS collection with a unique and innovative dynamic AIS service, which uses satellite-enabled AIS receivers on vessels. This allows an increase of visibility of up to 200%, detecting over 600K transmitters and 250K active vessels per day. In recent years, Spire have increased the number of satellites at its disposal – currently they have 100 LEMUR satellites - combined with long term funding and plans to launch more satellites over the coming years to continually improve the coverage, capability, and performance. In addition, OceanMind has access to the ExactEarth Shipview platform on which we can cross check any missing AIS data. OceanMind also has good relationships with Orbcomm, and we regularly review our provision of AIS data. Depending on the level of detail and the cost benefit, should a better alternative arise, we are able to source additional data or change suppliers. (KO6).

We are aware that the MMO team also has access to AIS data and so have not included multiple sources in this tender response, however, we are happy to include additional suppliers as required by the MMO in the future (KO8).

Additional available information

OceanMind's machine learning algorithm also enables us to monitor the activity of specific vessels of interest in a resource effective way. Specific events, such as transhipments, can be easily identified and reported. Vessel identities and RFMO lists are already ingested into the OceanMind system. This allows for automatic cross checking of detected vessels with authorisations to ensure they are legally allowed to fish in the RFMO area (vessels fishing illegally on the high seas are at much higher risk of incursion into the WAC EEZ). We also have access to the IHS Markit Maritime and Trade information including ship and port data and the Lloyds register of ships which helps us to build a comprehensive picture of vessel information, movements, port calls and compliance with applicable conservation management measures (KO6, KO8).

Other potential threats to an AoI can be analysed, including the impact of climate change on ice extents, oil spills or vessel interactions with wrecks or marine life. This would be of particular interest where pollution and habitat loss threats are present. In addition to fisheries analysis, OceanMind has specific solutions to cost effectively support monitoring of undersea cultural heritage and potentially polluting wrecks in the same sea space.

Details of the fisheries expertise the supplier has that will enable it to produce the analysis

OceanMind's approach to managing this Scenario would centre on use of the intelligence cycle, which provides transparency, robustness, and consistency throughout the process. We also use our cutting-edge technological tools to ensure consistent and cost-efficient analysis, and our fisheries and IUU subject matter expertise to make tailored recommendations. Our analyst team includes many combined years' worth of maritime enforcement, marine science, fisheries observer, and marine policy expertise, with extensive on-the-water experience that is irreplaceable in understanding vessel behaviour at sea. OceanMind has 6 years' experience using satellite surveillance and providing fisheries and IUU recommendations in the UK OTs in partnership with the MMO team. This allows us to provide knowledgeable insights and the production of Intelligence Led Risk Based analysis and increase maritime domain awareness (KO8).

The OceanMind Tech Team provide solutions which are unique to the context in which the organisation is working. This allows for continuous improvement through the creation of new and innovative methods of reporting remote sensing data and track analysis. Our team includes one of the world's leading machine learning experts in this field and a remote sensing specialist.

Our expertise and experience providing historical assessments has been recognised by the scientific community and allowed us to contribute to peer reviewed publications. This impressive combination of technology, tools and knowledge has resulted in OceanMind winning the Seafood Champion award for Innovation on the monitoring, control and surveillance of fishing activity around the world.

Scenario recommendations and report contents.

IUU fishing poses a significant threat to marine resources and undermines sustainable fisheries management. The WAC fishing industry, situated along its extensive coastline, plays a vital role in the nation's economy and livelihoods. A notable concern within WAC's fisheries landscape is the presence of IUU fishing, a threat that emerges from both foreign and domestic vessels. This activity is often associated with industrial trawlers, encompassing pelagic and demersal types, as well as longline vessels, which may operate under domestic or foreign flags. There is a potential threat that these industrial vessels may breach the spatial boundaries set by their licenses, encroaching upon the designated areas of artisanal fisheries. This not only threatens the sustainability of WAC's fisheries, but can lead to conflicts between artisanal, domestic fisheries and industrial fishing vessels.

This retrospective assessment, using a combination of satellite imagery and vessel AIS transmission analysis, aims to

gather intelligence and identify potential IUU activity within the WAC's 6 nautical mile (NM) inshore zone, possible incursions into the WAC EEZ and non-compliance of the closed fisheries season that was introduced for the month of September 2 years ago (with the exception of the local artisanal vessels allowed to operate in the inshore zone). The assessment primarily focuses on 'dark' vessels (those not transmitting on AIS) inside the AoI. These would be identified using two remote sensing sources: SAR and EO. The following coverage would be carried out for this analysis:

- Sentinel-1 (SAR): coverage for approximately 200% per month of the WAC EEZ. This would allow for identification of vessel types, especially the medium to large-sized, are commonly associated with industrial (trawl and tuna) fishing operations and can potentially engage in IUU fishing practices. This would allow for the identification of spatial and temporal (Figure 1) trends of vessel detections and suspected IUU within the 3-year analysis (KO6, KO7, KO8).
- Digital Globe (EO): To complement the findings of the Sentinel-1 SAR analysis, a comprehensive analysis of selected high-resolution EO images would be conducted, focusing on the WAC 6 NM inshore zone. The location of EO detections is shown in Figure 2. These frames would be selected to conduct secondary analysis of the high-risk Sentinel-1 detections (KO6, KO7, KO8). This analysis can detect incursions by foreign artisanal vessels.

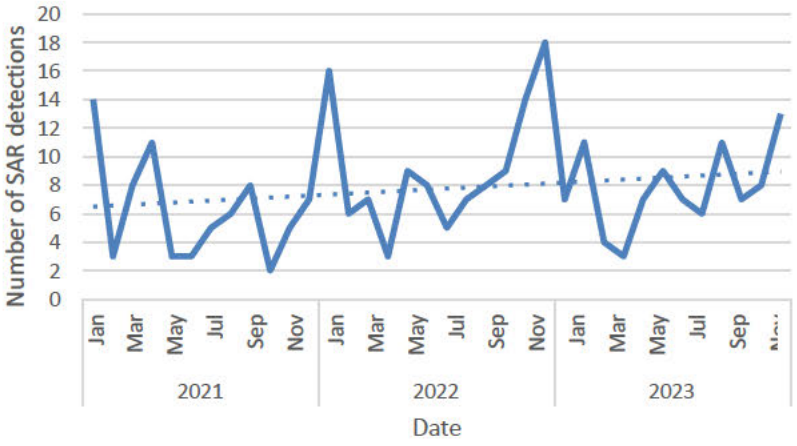


Figure 1| Number of SAR detections over the WAC 6NM Inshore AoI in 2021, 2022 and 2023, excluding the Likely False Detections (LFDs).

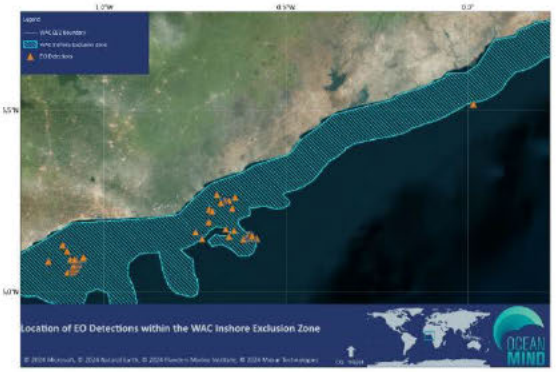


Figure 2| Location of EO detection within the WAC Inshore Exclusion Zone

- AIS review: Like the remote sensing analysis, the historical AIS review will demonstrate the relevance of maritime operations to WAC's economy, in particular fishing activity. Table 2 shows the number of fishing vessels transmitting on AIS within the WAC's EEZ from 2021 to 2023. It is likely that most of the fishing vessels transmitting on AIS were not from WAC, as 308 fishing vessels only transmitted for one year (114 transmitted in at least two of the years) and 358 did not have a WAC MMSI (KO6, KO7, KO8).

Table 2| Total unique identities of category "Fishing" transmitting on AIS inside the WAC EEZ in 2021, 2022 and 2023

Year	Number of Fishing Vessels
2021	242
2022	207
2023	255
Total	**422**

The analysis of 3 years of AIS data over the AoI will produce an assessment on fleets' presence, shipping routes, patterns and trends (including fleets' seasonality) of all fleets transmitting on AIS. In a more detailed scale, fishing fleets' and fishing support fleets (carrier and bunkers) activity will be analysed to define fleets' composition (including flag state association and fishing types), spatial and temporal patterns and trends, overall activity and compliance review. The different types of remote sensing capabilities available would allow for the characterisation of the different potential 'dark' fleets and its areas of operation, including analysis of spatial and temporal trends, and scale of 'dark' activity. The combination of tracking data and remote sensing analysis will provide a comprehensive overview of the activities, threats present and risks' distribution in the AoI. This strategic assessment will highlight areas of high-risk for future surveillance and recommendations of the most suitable remote sensing technologies to be used for future IUU monitoring (KO6, KO7, KO8). Patterns and trends will be articulated using heatmaps to illustrate spatiotemporal trends, tables for temporal trends, and charts for compositional trends.

The analysis, report writing, and quality assessment will take approximately 3 months in total, however, updates of threats or observations of interest will be reported to the MMO team on the weekly meetings as the analysis progresses. Our team of experts will be on hand throughout to support and assist the MMO and WAC as required. An example report that demonstrates all of the required outputs (KO2, KO3, KO6, KO7, KO8) has been provided in a separate annex document as **OceanMind_Sample Report Format_E06**. In addition to the written report, OceanMind can provide GIS compatible shapefiles, Kml or Csv files to the MMO for AoI's future tasking, and tracks of vessels of interest for future reference (KO7).

E07 Project Planning and Management

A description of the overall capabilities of the project team assigned by the tenderer and how they are relevant to the full range of aims and objectives outlined in this specification

Work of the form requested by the Authority is OceanMind's core activity and our organisation has been designed to deliver these requirements effectively and efficiently. Unlike satellite data suppliers, or general-purpose Geographical Information System (GIS) organisations, OceanMind has been designed to specifically support this type of work. As the incumbent, over the last 6 years our highly skilled Intelligence and Compliance (I&C) team along with bespoke robust project management processes designed for the Marine Management Organisation (MMO) for the support of the Blue Belt Programme (BBP), Blue Belt Ocean Shield (BBOS) and Ocean Country Partnership Programme (OCPP) have successfully delivered 84 Work Orders (WOs); 64 intelligence and patrol support reports, 9 integrated marine management reports and 11 optical imagery risk assessment reports.

Our analyst team is made up of highly qualified experts who have worldwide experience as fisheries scientists, fisheries control observers, investigators of maritime incidents, and who are remote sensing and GIS experts. Our highly skilled team is further complimented by 1 ex-warranted fisheries enforcement officer with experience of investigating potential non-compliance, evidence gathering, investigations and prosecutions. OceanMind also has a highly experienced and innovative tech team who keep the service running to allow for the provision of Risk Based Intelligence Led Risk Based Enforcement (ILRBE) reporting.

The OceanMind analysts, fisheries experts, enforcement professionals and policy specialists make up the I&C team who deliver high quality, timely actionable intelligence and evidenced based recommendations to our partners around the globe. The I&C team have been proudly providing this service to the MMO for 6 years and therefore have significant experience and expertise to deliver the aims and objectives of this project.

The I&C team is complimented by OceanMind's strong leadership team who have extensive Project Management experience. [redacted], COO is Project Management Profession (PMP) and Kaizen certified and Program Director, [redacted] has over ten years of Project Management expertise. Programme Management has been specifically designed for the MMO Programme of work which provides dedicated support and process management to the core team for all MMO Work Orders (WOs). The team includes Project Lead, [redacted], who together with [redacted], [redacted] Programme Director and [redacted] Director, [redacted] and [redacted] meet on a weekly basis to monitor and manage risks, issues, progress tracking, resourcing and cost management.

[redacted] will be the data to day contact for the project and [redacted] has overall management responsibility. The MMO Programme will receive ongoing support from the Program and Technical Directors, the Finance and Business Operations teams who all understand the MMO internal workings and have tailored processes in place to ensure efficient and successful delivery.

In line with the instructions to Bidders abridged CVs and organogram for the team are provided in supporting document **OceanMind_CVs_E07**.

Flexibility to ensure delivery

OceanMind uses several tools, relationships and processes which contribute to our ability to provide a flexible, timely and tailored service. Chief amongst this is our in-house flexible project management methodologies developed to support the delivery of satellite surveillance. Over the last six years, as the incumbent, we have gained insights and implemented continuous improvement to our project planning and management processes that will enable continued delivery of a high-level service. Our approach allows for constant collaboration and retrospectives, which is vital with the team members, external suppliers and MMO stakeholders. This ranges from interlocked forecast planning of new work to timely identification of risks and mitigation measures, as well as continuous improvement of processes and ongoing training. All this leads to refined best practices with work supported by a team who know the BBP, BBOS and OCPP Programmes specific threats and needs. We understand how MMO teams work and the optimum ways to support our MMO partners to deliver tailored expertise to the solutions proposed to make a real difference in the delivery of this overall program of work.

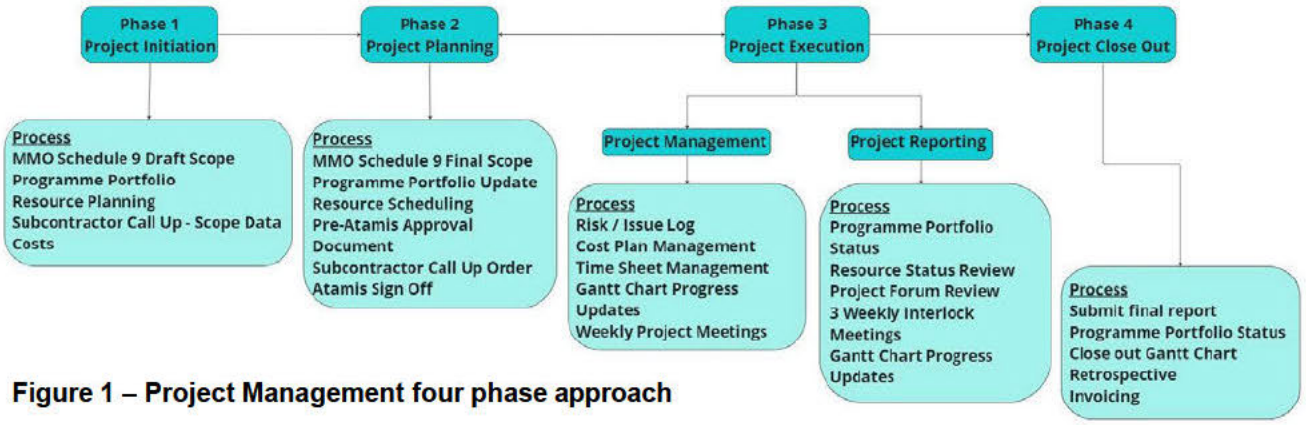


Figure 1 – Project Management four phase approach

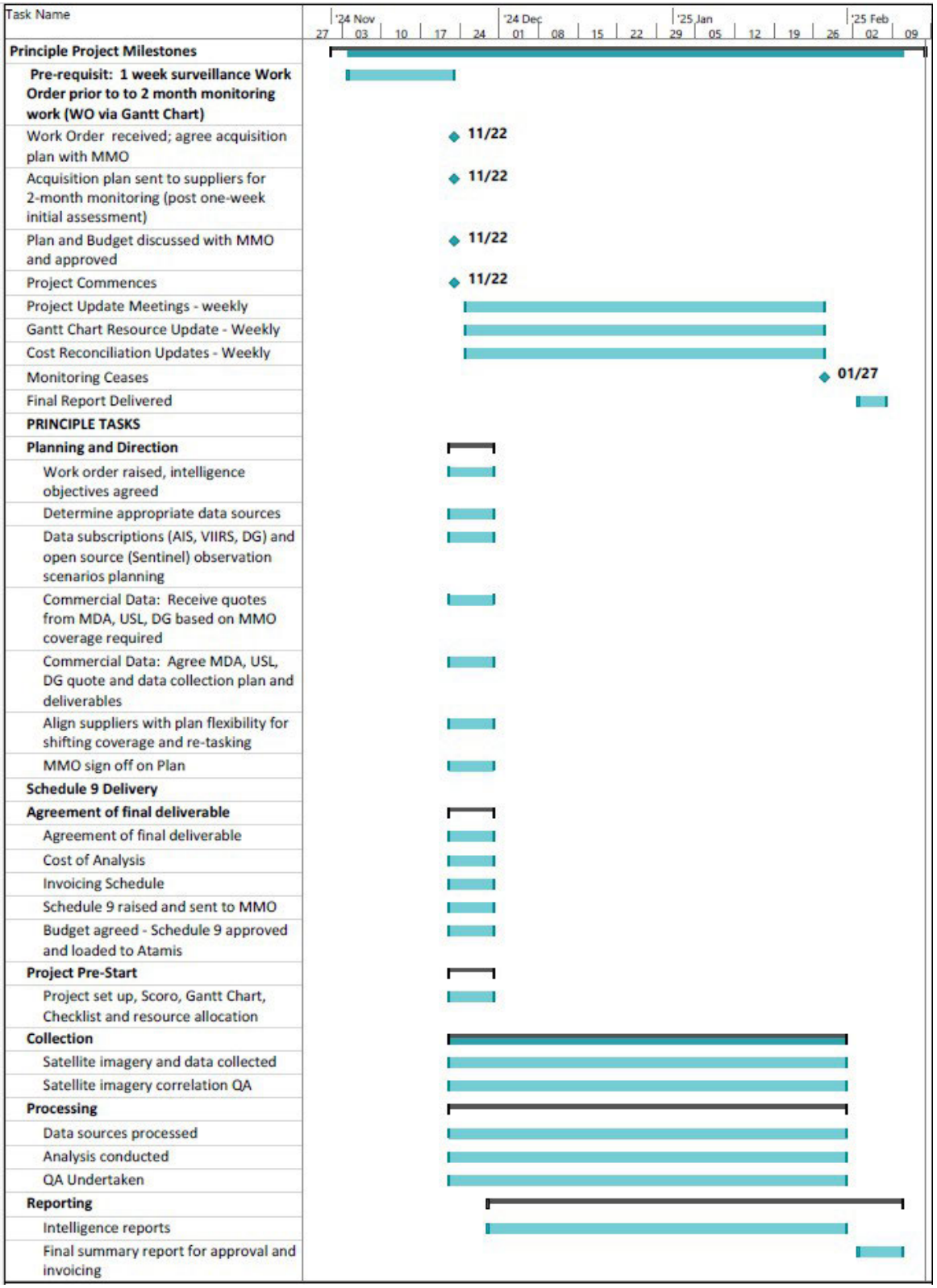
Robust and repeatable project management methodologies are instrumental to project success, and governance of project delivery is done via the Progamme Management support tier levels. There are three support levels (phase 1 to 3) that are scaled to fit the size and complexity of each project. The Tier levels recognize the size, complexity, risk and duration of a project and take this into account when assessing the amount of Project / Programme management support required. The processes are tailored to meet the needs of each project from inception to final delivery using a four phased approach (Figure 1). In Phase 4, lessons learned are gathered to help refine and support ongoing and further projects.

Project preparation (Phase 1) and planning (Phase 2) includes early data acquisition and subcontractor placement. Speculative tasking requirements have been built during the long-term relationship with the MMO which provides increased flexibility. This is coupled with our subcontractor's deep understanding of the MMO Programme needs and internal process that provide swift turn around if changes are made such as a new Area of Interest (AoI). During project execution (Phase 3), our expertise and continuous engagement with MMO helps provide additional flexibility with our subcontractors data provision to better support ongoing work.

Detailed Project Plan

To demonstrate how we plan Word Orders (WOs) we have drafted a project plan (Figure 2) using Microsoft Project based on EO04, Long/Medium Term Risk Based Surveillance over Tristan da Cunha. We have applied our previous knowledge of WOs and the preparation required to ensure the process runs smoothly. The creation of detailed plans helps the OceanMind teams to understand the milestones, deliverables and timelines and prepare as necessary to prevent project delivery delay. The organisation involved in each step is noted so we can prepare our partners and inform the MMO of our requirements to deliver.

Figure 2. Project Plans – Gannt Chart



Key:

OceanMind	OM
Marine Management Organisation	MMO
Satellite Imagery Supplier	MDA/
AIS Supplier	Spire
Electro-optical (EO) Supplier	DG

Budget and subcontractor management

Our partners on the project will continue to be Spire, MDA Space, Unseenlabs and Digital Globe, and we have secured a new Synthetic Aperture Radar (SAR) data supplier, Capella Space, who will support this project through the processing and provision of very high-resolution SAR images. We also continue to explore new data sources (both commercial and open source). We have partnered with these providers for many years due to the high quality of service

and support supplied. Gantt charts are used to ensure the data acquisition plans are in place and agreed with our subcontractors at the earliest opportunity. Fixed call-up contracts are in place with the subcontractors to ensure efficient and timely acquisition of the necessary data.

All projects are set up in Scoro, a system used by OceanMind that accurately and effectively records analyst time against projects to track effort, budget and ensure deliverables are met. The Project Lead builds out the project budget based on each individual work order, resource requirements and the data and technical needs. This is then monitored on a daily basis and reviewed on a weekly basis to ensure the projects are on track and aligned with the work detailed in the Gantt chart.

In addition to project team and budget management, there is subcontractor oversight; the project lead (Senior Intelligence and Compliance Analyst) meets regularly with the subcontractors to track performance, identify any potential future WOs and to review cost, schedule and resource status. An organisation-wide resource plan is managed by the I&C Technical & Program Directors, together with the Senior Analysts on a biweekly basis to ensure internal resourcing needs across the projects and organisation are forecast and planned in advance. Every alternate week, the same team including the COO meet to review progress during the Project Forum Review, which allows for quick decision making on quick short turn around projects to make resourcing available when needed.

Any issues and or risks relating to budget and resources are immediately escalated to the Programme Director, for risk and issue management, who liaises with OceanMind Finance and Business Operations to mitigate any budget or subcontractor risks.

Multiple International Maritime Surveillance Services (IMSS) Work Orders

OceanMind and the MMO have developed a strong relationship and workable processes to manage the successful delivery of multiple WOs. We hold internal biweekly resource meetings essential for planning as these meetings provide us with visibility on upcoming projects/WOs. Newly introduced is the 3 weekly Interlock Meetings held with the MMO team to discuss future projects that can be scoped and resourced prior to the WOs being signed off. This approach allows us to plan and resource multiple WOs simultaneously regardless of size and duration. The benefit of this approach is that we are able to communicate project status and understand our resourcing capabilities to deliver in a flexible and managed way providing comfort to the MMO.

Suitable working arrangements to help deliver a successful programme of work. Define the level of support required from the Authority and indicate how this should be managed

The OceanMind and the MMO team have settled into an efficient and effective rhythm of updates, meetings and support provision. We will continue to meet weekly with the MMO project leads to focus on current project progress and planning and 3 weekly management interlock calls to discuss findings, recommendations and seek direction from the MMO team. We have a good working relationship with the MMO and will not hesitate to contact the team outside of these meetings if the query is urgent or to expedite process to set in motion or deliver against the WOs. It is desirable for the MMO to be able to provide OceanMind with as much detail on future work or a new territory as early as possible, to secure the right resources and ensure our subcontractors are ready to deliver in a timely manner. As incumbent we already have a significant amount of insight and information available and can continue to support the MMO without disruption, as well as provide training packages to the MMO teams who are looking to build out increased in-house capacity and capability.

Provision of regular progress reports

Our weekly meetings with the MMO present a great opportunity to provide progress reports, discuss recommendations for next steps and seek feedback from the MMO team. In addition, we provide regular intelligence reports in line with each WO which provides intelligence and maritime situational awareness updates on a regular basis depending on the frequency outlined in the work order.

A Communications Strategy especially when dealing with regular reporting of scenarios to support patrolling

The OceanMind team of analysts and fisheries enforcement experts have been providing patrol support to inform an ILRBE approach to the deployment and direction of the patrol vessel in the territories. To facilitate this, we have an agreement with two SAR imagery suppliers to obtain imagery within 6 hours. This is facilitated by the provision of the anticipated patrol route sent to OceanMind from the patrol vessel leader via the MMO. Our pre-patrol image tasking helps to identify High Risk Areas (HRAs) that might influence the patrol planning. These are sent to the MMO team via email.

During the patrol activities we email results of the SAR high-risk detections, or a nil report if none identified, to the already established email distribution list and the patrol vessel directly. This can be as often as daily during the patrol and this work is prioritised by our analysts. Additionally, we are able to report high density of activity seen on the Automatic Identification System (AIS) data and add further HRAs or risks to the EEZ boundary directly to the patrol vessel, copying in MMO.

Identification of significant, high confidence information suggesting non-compliance, urgent reporting of non-compliance

Non-compliance that requires urgent reporting is either communicated to the MMO via a phone call or an email to the established distribution list dependent on the urgency and risk of the detection. Our email distribution lists have been created based on direction from MMO throughout the project to ensure they include the correct points of contact. We have several in place which enable fast dissemination of the right information directly to those who need to act on it.

When reviewing vessel tracking data, our algorithms detecting vessel activity near real time highlights events of interest and our analysts' worldwide expertise investigating vessel activity helps detect and report potential non-compliant activity swiftly to MMO. It is also our team's expertise analysing 'dark' detections which provides awareness on the hig-risk targets that need to be acted upon. To enable an accurate level of confidence to be determined, several factors need to be considered. The OceanMind I&C team has developed this process over a number of years using their understanding of the environmental factors in the territories of interest. These include weather, tidal changes, icebergs, wave action and the ability to cross check and correlate with detections from other sensors or tracking data.

The circumstances of the detection itself must also be considered to make a compliance assessment and our expert analysts factor in the detection heading, profile and the incidence angle (the angle of the detection from the sensor). This is further complimented by our SAR imagery suppliers unique algorithms, which attach a level of confidence to the detections and supplies our analysts with additional information for further scrutiny. Upon completion of the analysis, this is reported to the MMO using the terms below:

Uncorrelated detection: This type of detection is not correlated with any vessels transmitting on AIS. These contacts are assessed for confidence and three confidence levels are given for these uncorrelation detections:

> High confidence: The detection profile strongly suggests the presence of a vessel. The profile and size align with a vessel, which aligns with the expected types operating in an area and/or the detection can be verified using different remote sensing techniques.
>
> Low confidence: The detection profile suggests the possible presence of a vessel where either the size or profile cannot be clearly determined, but it is not likely to be a weather conditions, terrestrial objects (islands, rocks, corals, etc.) or other human constructions (oil rigs, huts, etc.).
>
> Likely False Detection: The detection profile does not suggest the presence of a vessel and it is more likely a result of weather conditions, terrestrial objects (islands, rocks, corals, etc.) or other human constructions (oil rigs, huts, etc.).

The use of multiple sources of information and evidence to define a level of confidence to a detection has been proven to be a successful approach to the analysis and subsequent reporting to the MMO. This multi layered approach to intelligence analysis combined with the significant experience of our fisheries enforcement experts allows OceanMind to report potential non-compliance and an associated level of confidence.

This should include details of how communications will be handled including, communications with any subcontractors and other key stakeholders to ensure successful delivery of the project

As part of the project set-up, the Programme Management process implements the Communications Strategy. This document contains a description of the means and frequency of communication between parties both internal and external to the project. It contains stakeholder information required to facilitate engagement through the establishment of lines of communication. Individuals who will be responsible for each aspect of the communication process, including any corporate or programme management input are allocated where required.

Communications methods listed in the document are based on the level of stakeholder engagement required which is agreed during project set up. These methods include reports, memorandum's, emails and digital meetings at subscribed intervals as identified in the Gantt charts used to layout reporting milestones of each work order. Our core project team work closely with MMO on stakeholder communications to ensure a joined-up approach and consistent messaging. All communications are planned with MMO Communications Team in line with joint objectives and are reviewed and authorised within the MMO before distribution. Inbound enquiries with regards to messaging are referred to MMO for review.

Proposal for weekly updates/regular meetings

The OceanMind team will continue with weekly meetings which have proven to be useful and help set direction for OceanMind. They provide an opportunity for the analysts to ask questions or seek feedback from the authority.

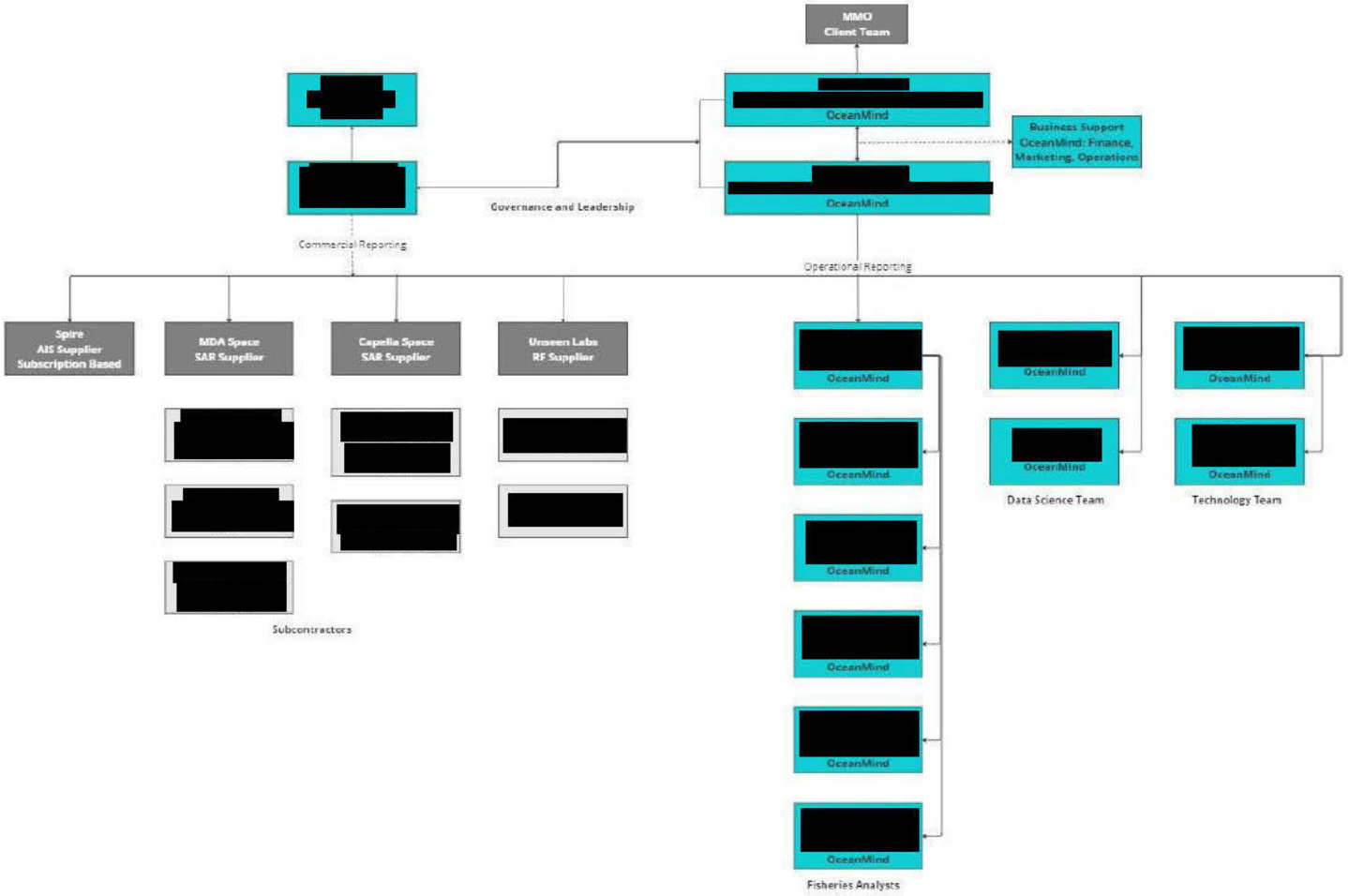
Importantly, the 3 weekly Program Interlock meetings will continue to discuss a forward look for potential work to facilitate planning resource, suppliers, subcontractors and managing budget. This is not to the exclusion of ad hoc communication where there is the need to seek further clarity or if the MMO needs to reach out to the analyst team to benefit from their expert knowledge and seek advice.

Instruction for Summary of Staff Time Involved			
Name of Staff	**Grade of Staff**	**Work Task**	**Number of Days**
[redacted]	[redacted]	E03 Risk Owner	
[redacted]	[redacted]	E03 Tech Project Owner & Risk Management	
[redacted]	[redacted]	E03 Programme Owner & Risk Management	
[redacted]	[redacted]	E03 Project Lead, Quality Assurance, MMO POC	
[redacted]	[redacted]	E03 Analysis and Quality Assurance	
[redacted]	[redacted]	E03 Technical support, data ingestion and system functionality	
[redacted]	[redacted]	E04 Risk Owner	
[redacted]	[redacted]	E04 Tech Project Owner & Risk Management	
[redacted]	[redacted]	E04 Programme Owner & Risk Management	
[redacted]	[redacted]	E04 Project Lead, Quality Assurance, MMO POC	
[redacted]	[redacted]	E04 Analysis and Quality Assurance	
[redacted]	[redacted]	E04 Tech support, data ingestion and system functionality	
[redacted]	[redacted]	E05 Risk Owner	
[redacted]	[redacted]	E05 Tech Project Owner & Risk Management	
[redacted]	[redacted]	E05 Programme Owner & Risk Management	
[redacted]	[redacted]	E05 Project Lead, Quality Assurance, MMO POC	
[redacted]	[redacted]	E05 Analysis and Quality Assurance	
[redacted]	[redacted]	E05 Tech support, data ingestion and system functionality	
[redacted]	[redacted]	E06 Risk Owner	
[redacted]	[redacted]	E06 Tech Project Owner & Risk Management	
[redacted]	[redacted]	E06 Programme Owner & Risk Management	
[redacted]	[redacted]	E06 Project Lead, Quality Assurance, MMO POC	
[redacted]	[redacted]	E06 Analysis and Quality Assurance	
[redacted]	[redacted]	E06 Tech support, data ingestion and system functionality	

E07 Project Planning and Management – CVs and Organogram

Organogram

To successfully deliver the contract and the Work Orders we have built the team shown in the following Organogram.



This section provides the abridged CVs of the key individuals involved in the project and shown in the Organogram. If you require more detail on the wider team, CVs are available on request

Leadership Team

[redacted]eanMind

[redacted] is the architect of the technological and business solutions of OceanMind, responsible for achieving OceanMind's mission to power enforcement and compliance to protect the ocean's ability to provide for human wellbeing, at scale, for the overall design of the global scale intelligent vessel behaviour analytical solution, and for OceanMind's business model and strategic execution.

Relevant Skills for this Project

With over 25 years of experience in technology design and leadership, [redacted] excels in applying advanced technology to address complex business, social, and environmental challenges. [redacted] has won awards from Microsoft, Morgan Stanley, GLG, DRK Foundation, and more for his innovative solutions. For the past decade, [redacted] has been face-to-face with many issues hidden within supply chains today, including child labour, worker abuse, overfishing, habitat destruction, displacement of coastal communities, marine pollution, and worse.

As a serial entrepreneur and a technology leader in startups and billion-dollar companies, [redacted] intrinsically understands how business needs underpin investment in technology and innovation, having experience across all business functions and many market sectors.

Over the past decade, as a founder of OceanMind, [redacted] has been responsible for business strategy, product and technology design, as well as day-to- day business operations. [redacted] designed the satellite surveillance services product set that underpins OceanMind's capabilities and directs the technology team that develops and supports it.

Previous Experience relevant to this Project

OceanMind	2017 – Present
Satellite Applications Catapult	2015 – 2018
Satellite Applications Catapult	2013 – 2015
VoiceVault	2008 – 2013
Citrix Systems R&D Ltd	2006 – 2008

, OceanMind

has been leading global based teams on large scale strategic technology and operational change programs for over 20 years. Her expertise is in solving complex problems by building teams with the right mix of ideas and operational delivery skills to achieve change that lasts and makes a real difference to the bottom line. She is a strong advocate of 'Technology for Good' and switched into the not-for-profit sector to join OceanMind on its mission to "power marine enforcement and compliance to protect the ocean's ability to provide for human wellbeing."

brings a wealth of leadership and delivery expertise gained through experience leading cutting edge technology programs at scale. She has led organisational change programs, including Board member of AT&T EMEA Women Network, actively engaging and supporting the next cohort of females into technology careers.

Relevant Skills for this Project

Stepping into the role of Chief Operating Officer at OceanMind, has spent a significant part of her time engaged with the MMO programme. She is using her business leadership background to improve supplier engagement and negotiate discounted rates from the satellite data providers. She promotes the key work the MMO are doing and shares stories and results of this with the satellite providers, promoting the need to support 'tech for good' and not treat it as another commercial enterprise.

Being Project Management Professional (PMP) certified (2001-2023) along with Masters in Program Management from Stevens Institute of Technology and various Six Sigma and Kaizen certifications, she is honing the project delivery within MMO programme by introducing Programme Planning Interlock sessions to ensure forecast of upcoming work areas is agreed to enable resourcing of all teams and management of requests into suppliers to flow more efficiently. She is active in risk mitigation, believing that the best way to ensure successful project delivery is to plan for it.

As an advocate of what Technology and People can achieve together, is bringing this strategic view into what could be possible to support the future needs of MMO programme. She is working on opportunities with partners to develop systems that can bring the expertise of OceanMind in the IUU fishing and enforcement space.

Previous Experience relevant to this Project

OceanMind	2021 - Present
Tech London Advocates	2019 - 2020
AT&T	2003 - 2018
AT&T	1999 - 2002
IBM Global Network Services	1996 - 1998

[redacted] **Intelligence & Compliance, OceanMind**

[redacted] (I&C) team, providing overall leadership, technical and maritime expertise. [redacted] works predominantly at a strategic level, focused on ensuring the I&C team delivers against its objectives and targets, in line with the organisation's mission. [redacted] the I&C strategy and framework, for what the department needs to achieve under the overarching organisational goals.

[redacted] has a deep understanding of satellite datasets used for maritime surveillance and their applications at strategic, operational or tactical levels. Under the MMO Programme, [redacted] is the [redacted] responsible for ensuring that subject matter experts and adequate technologies are planned and available to deliver on the contract.

Relevant Skills for this Project

[redacted] has extensive background in MCS roles and fisheries research in several fisheries and fishing grounds, working at-sea for about 8 years along inshore and offshore commercial fleets for governments, RFMOs and academia. [redacted] holds considerable experience at a number of leading institutions including ICCAT, NAFO and NEAFC and has trained Fisheries Observers for the North Atlantic Fisheries Organization regulatory area.

[redacted] has been part of the MMO Programme of Work for OceanMind since 2018. Initially as lead analyst, [redacted] generated intelligence analysis and advance information reports from complex data sources, accumulating significant satellite surveillance expertise for the territories outlined in this project. [redacted] designed OceanMind's intelligence gathering architecture (including technology suitability, data requirements and analytical processes) as well as develops and provides training to analysts and partners through experience in fisheries compliance and analysis.

[redacted] progressed to Senior A[redacted] and MMO [redacted] and delivered on the MMO Programme for three years. After that, [redacted] moved to I&C [redacted] and was the MMO [redacted] owner and risk manager for the last four years, including providing direction and guidance to the entering MMO Project Director.

Previous Experience relevant to this Project

[redacted]	OceanMind	2023 - Present
[redacted]	OceanMind	2022 - 2023
[redacted]	OceanMind	2019 - 2022
[redacted]	OceanMind	2017 - 2018
[redacted]	Various	2008 - 2016
[redacted]	NAFC	2013 - 2015

[redacted], **Intelligence & Compliance, OceanMind**

[redacted] leads business development and programme management across all key strategic partnerships and large grant funded projects. [redacted] has complete knowledge and experience across the organisation's business processes and works closely with CSuite, Finance and Business Operations, jointly leading the Intelligence and Compliance Team alongside Technical Director of Intelligence and [redacted]

[redacted] Management with overall responsibility for the delivery and support of the MMO Programme of Work. Risk owner and advisor to the I&C Senior Analysts providing leadership and project support when required and ensuring resourcing and recruitment is in place to support the contract.

Relevant Skills for this Project

[redacted] has been a part of the MMO Programme of Work for OceanMind since 2020. Starting as the PMO Project Coordinator, was instrumental in designing and implementing project management methodologies across the organization including bespoke processes designed to meet the specific needs of the MMO, leading weekly internal project meetings together with the Project Lead. [redacted] has established excellent relationships with external stakeholders, specifically the subcontractors providing satellite data services for the MMO projects, is involved in all contract negotiations and is responsible for tracking and monitoring of risks across the programme of work. [redacted] works closely with the project lead managing MMO project budgets, timesheets and has a firm understanding of all administrative and financial processes for the MMO Programme of Work.

Previous Experience relevant to this Project

[redacted]	OceanMind	2024 - Present
[redacted]	OceanMind	2023 - 2024
[redacted]	OceanMind	2020 - 2023
[redacted]	Virtual@Work	2018 – 2020
[redacted]	The Blue Bottle Group	2009 – 2014
[redacted]	AST Technologies	2004 – 2005
[redacted]	SwitchIT	2001 – 2004
[redacted]	Dimension Data	1996 – 2001

Intelligence & Compliance Analysts

[redacted] **& Compliance Analyst, OceanMind**

[redacted] is OceanMind's Senior Fisheries Analyst and will be providing monitoring support and supervision to the primary analyst team and carrying out quality assurance and analysis for this MMO programme of work. [redacted] will deputise for [redacted] to ensure continuity of delivery if [redacted] is unavailable.

Relevant Skills for this Project

[redacted] joined OceanMind (OM) as a Fisheries analyst in May of 2018, over the last 6 years [redacted] has become a specialist in remote sensing techniques and has experience in monitoring all British Overseas Territories as well as Ocean Country Partnership Programme territories. [redacted] has successfully led multiple projects for OceanMind, with skills in fisheries intelligence and Monitoring, Control and Surveillance (MCS), as well as skills in data analysis. This includes the analysis and utilization of remote sensing (Synthetic Aperture Radar - SAR, Electro-Optical - EO, Visible Infrared Imaging Radiometer Suite -VIIRS, Radio Frequency (RF) and Automatic Information System - AIS) and Geographic Information System (GIS) capabilities. [redacted] [redacted] for the current MMO Programme of Work and has attended the Blue Belt Symposium as well as Overseas Territory conferences.

Her project portfolio is diverse, working with governments and NGO partners in intelligence gathering and patrol support for fisheries, the implementation, and the deployment of Port State Measures Agreement (PSMA) within government and seafood industry, and intelligence gathering and patrol support over heritage and protected sites. She has a wide experience producing multi-year (historical) strategic risk and threat assessments for vast maritime areas in multiple regions (Pacific, Indian, Atlantic and Antarctic) with a focus on IUU Fishing threats and collision risk analysis.

Experience in leading projects and setting expectations to ensure project deliverables are met in a timely manner and at the highest quality outcomes.

Previous Experience relevant to this Project

[redacted]	OceanMind	2023 - Present
[redacted]	OceanMind	2022 - 2023
[redacted]	OceanMind	2018 - 2022
[redacted]	Dragonet Solutions	2017 - 2018
[redacted]	OLSPS	2015 - 2017

[redacted] **& Compliance Analyst, OceanMind**

[redacted] is a highly experienced Senior Analyst who has worked with OceanMind for over four years across the entire range of the organisation's projects. Her prior background in social science and research into the impact of IUU fishing and organised crime on small-scale fishers have provided her with a unique perspective and strong experience in the field, onto which she has built in-depth experience of fisheries monitoring, remote sensing and vessel tracking. [redacted] also heads up OceanMind's work on human rights at sea and manages a large proportion of the organisation's Spanish-speaking projects due to her language skills.

Relevant Skills for this Project

[redacted] has extensive experience in planning, delivering, managing and disseminating strategic risk assessments, intelligence gathering, patrol support, collision assessments and other MCS-related projects across the world for governments, industry, civil society organisations and NGOs. Her work with SAR, EO, VIIRS, RF, AIS and VMS data has spanned a wide range of UK OTs (BIOT, Ascension, Tristan da Cunha, Bermuda, SGSSI, BAT, Pitcairn Islands,

and Turks and Caicos Islands) and OCPP countries (Maldives, South Africa, Sri Lanka and Vanuatu). She has also conducted in-depth work with government stakeholders across the Eastern Tropical Pacific Marine Protected Area, including assisting with national maritime MCS strategies and delivering two, multi-year, regional strategic assessments for all four Eastern Tropical Pacific Marine Corridor countries.

Alongside her expertise in imagery and vessel track analysis, [redacted] has ten years' experience in project and programme management and is skilled at managing and supporting analysts, quality assuring outputs to the highest standard, and managing relationships with suppliers and partners. She collaborates closely with other members of the senior team to ensure work is planned and delivered efficiently and effectively for partners, and ensures she is frequently identifying areas for improvement and integration of feedback.

Previous Experience relevant to this Project

[redacted]	OceanMind	2023 - present
	OceanMind	2022 - 2023
	OceanMind	2020 - 2022
	Royal Botanic Gardens, Kew	2017 - 2018
	Sand Dams Worldwide	2015 - 2017

[redacted] **and Compliance Analyst, OceanMind**

[redacted] had been a [redacted] with MRAG across multiple programmes for over three years and utilized his experience in co-ordinating fishery observer programmes. He was previously [redacted] for the CCAMLR krill programmes, which included recruitment, training and development of materials as well as managing observers at sea. He has also worked with logistical planning of the ICCAT and IOTC regional transshipment, ICCAT Bluefin tuna observer programmes and other observer programmes related to CCAMLR. [redacted] graduated from Greenwich University after studying Fisheries management and Aquaculture and has worked internationally on commercial RAS farms for the five years previous from Malawi to Palau.

Relevant Skills for this Project

[redacted] joined OceanMind (OM) as an Expert analyst in May of 2023, having worked previously with OM as a [redacted] British Indian Ocan territory, [redacted] had received and disseminated delivered intelligence from OM to the BIOT Patrol vessel and effectively intercepted the detections resulting in multiple boarding and inspections. [redacted] also aided in reporting previous detections by other SFPO's to the IOTC compliance committee for considering on inclusion on the IUU list in his previous role as a senior consultant at MRAG. [redacted] now utilises his experience in delivering daily intelligence reports, historical and current risk assessments, patrol support, research outputs and desk-based reviews which assess, detect and document suspicious activities globally.

[redacted] technical background and experience in overseas territories and different fisheries and gear permit him a very unique angle on disseminating evidence of activity at sea. Pairing this with his ability to analyse large raw data sets and machine-learning processed data to produce visuals, assessments, and insights which translate into actionable recommendations.

Previous Experience relevant to this Project

[redacted]	OceanMind	2023 - Present
	MRAG	2022 - 2023
	MRAG	2020 - 2022
	MRAG	2022 - 2023
	MRAG	2020 - 2020
	MRAG	2020 - 2023
	MRAG	2020 - 2023

[redacted] and Compliance Analyst, OceanMind

[redacted] has worked for over a decade in data analysis, accident investigation, and digital forensics, with a focus on geospatial information, data analysis and remote sensing. From investigating major accidents to leading teams in digital forensics, [redacted] has managed complex investigations from start to finish. He is skilled in recovering data, analysing spatial information, and creating detailed easy to read reports. [redacted] is also skilled at training others, collaborating with international groups and explaining technical concepts in accessible language.

Aside from his investigative work, [redacted] has also been a guest presenter in data analysis at Cranfield University. At the Ministry for Primary Industries, he led a team in digital forensics. He has helped set up laboratories and developed software focusing on data analysis, process improvement and geospatial analysis.

Relevant Skills for this Project

[redacted] joined OceanMind in March 2024 as an Expert Intelligence and Compliance Analyst, he brings skills in geospatial analysis, the maritime industry and data analysis. His broad skill set and experience working with fisheries data make him an asset to the OceanMind team. Since starting he has built software solutions to document process and improve quality assurance processes. He is currently project lead on two MMO projects and is actively involved in many other projects.

Previous Experience relevant to this Project

OceanMind	2024-Present
Avenca	2023 - 2024
Ministry for Primary Industries	2021 - 2023
Transport Accident Investigation Commission	2016 - 2021
Marine Accident Investigation Branch	2010 - 2016

[redacted] and Compliance Analyst

[redacted] has over 10 years of experience in the fisheries sector. Before joining OceanMind, he held the position of [redacted] in a prominent_fishing company in the Philippines and Papua New Guinea. He led third-party certification processes for standards such as MSC, Friends of the Sea, RFVS, as well as overseeing food safety, quality, sustainability, and environmental standards. This experience equipped him with extensive knowledge of various food safety and fisheries requirements.

Relevant Skills for this Project

In June 2020, [redacted] joined OceanMind as a Fisheries Analyst. In this role, he has participated in intelligence gathering and, patrol support, across a broad geographic area, including Philippines, Palau, Ascension, South Georgia and the South Sandwich Islands, Mozambique and Turks and Caicos, Tristan da Cunha among others. He is experienced in conducting vessel track analysis, satellite imagery analysis, advance request to enter port analysis, and traceability assessments for partner private companies and government agencies. Throughout these projects, [redacted] utilized OceanMind's suite of tools to interrogate and cross-reference various remote sensing data sources.

Previous Experience relevant to this Project

OceanMind	2020 - Present
RD Fishing Industry, Inc.	2018 – 2020
RD Fishing (PNG), LTD.	2015 – 2018
Charoen Pokphand Foods Philippines Corp.	2012 – 2015

[redacted] and Compliance Analyst

[redacted] has over 10 years of experience in the fisheries and marine science sector. Prior to joining OceanMind in early 2024, [redacted] has held multidisciplinary positions in both government and academia. Underpinning his view of an ecosystem approach to fisheries management, [redacted] earned a MSc *Cum Laude* in Ichthyology & Fisheries Science from Rhodes University, South Africa, with research focused on understanding the role of the environment plays on fisheries dynamics. Further research in climate change and ocean acidifications included an extensive foundation in remote sensing techniques, engaging with governments and regional fisheries management organizations, and leading and delivering on marine science related projects.

Relevant Skills for this Project

In February 2024, [redacted] joined OceanMind as a Fisheries Analyst. In this role, he has participated in intelligence gathering and patrol support, across a broad geographic area, including South Georgia and the South Sandwich Islands, Tristan Da Cunha, Bermuda, British Indian Ocean Territory and Madagascar. [redacted] has prior experience in the acquisition and analysis of Electro-optical imagery and continues to add this experience and expertise to OceanMinds' projects. Throughout these projects, [redacted] utilized OceanMind's suite of tools to interrogate and cross-reference various remote sensing data sources (AIS, RF, SAR, EO) to provide intelligence reports and recommendations to partner organisations.

Previous Experience relevant to this Project

[redacted]	OceanMind	2024 – Present
[redacted]	A.G.A Group	2023 - 2024
[redacted]	South African Association of Marine and Biological Research	2022 - 2023
[redacted] Member	South African Department of Forestry, Fisheries and Environment (DFFE)	2017 – 2021

Data Scientists

[redacted] Scientist, OceanMind

Relevant Skills for this Project

We have a highly skilled team of data scientists who support the Blue Belt programme through innovation and development. [redacted] has developed and implemented OceanMind's machine learning capabilities which are used routinely in our projects to analyse vessel behaviour and infer fishing activity, crew activity, transshipment locations, port calls etc

Previous Experience relevant to this Project

[redacted] has been undertaking research and development of time domain pattern matchers for nearly 40 years, mostly in the commercial world. He has significant, in-depth, knowledge of how pattern matchers work and how they are applied to solve problems.

[redacted]	OceanMind	2019-present
[redacted]	Satellite Applications Catapult	2016 – 2019
[redacted]	Various financial organisations	2015 – 2019
[redacted]	VoiceVault	2008 – 2014
[redacted]	Fluency Voice Technology	2003 – 2008
[redacted]	Vocalis plc	1993 – 2003
[redacted]	Logica Cambridge	1986 – 1993
[redacted]	AT&T Bell Laboratories, Murray Hill, NJ, USA	1985 - 1986
[redacted]	University of Cambridge	1982 - 1985

[redacted] Scientist, OceanMind

[redacted] has recently completed a PhD focused on the implementation of machine learning methods to analyse data from particle detectors. He now works as a part of the data science team at OceanMind developing and implementing algorithms for estimating pollution from vessels worldwide as well as assisting on the ongoing improvement of the full suite of algorithms designed to infer fishing activity, crew activity, transshipment locations, port calls etc.

Relevant Skills for this Project

[redacted] has experience researching machine learning methods in the context of particle physics. This research required in depth knowledge of various modelling and statistical analysis techniques to validate and verify results from various tested models. His technical knowledge includes various machine learning libraries like Tensorflow and scikitlearn as well as coding experience in Python and C++. This knowledge is now being applied to his work at OceanMind, where he can provide assistance to this project through constant improvement and development of the various modelling approaches used.

Previous Experience relevant to this Project

[redacted]	OceanMind	2023 - present
[redacted]	University of Succes	2018 – 2023

Technology Specialists

[redacted] **Software Engineer**

The Tech Team comprises of several highly skilled and experienced engineers who are on standby to support the Blue Belt programme. [redacted] is responsible for determining and managing any engineering works required to provide and maintain our systems for the duration of the project.

Relevant Skills for this Project

[redacted] has worked as a software engineer for over last 13 years. In this time, she has successfully led and delivered on numerous projects working on all parts of the development lifecycle from design to delivery. She has extensive knowledge of Azure cloud services, C# and has worked with JavaScript for several years too. She has been supporting OceanMind's engineering needs for the last 5 years. [redacted] and her team will provide day-to-day technical support which will maintain OceanMinds suite of analysis tools and ensure work is delivered on time and to the highest standard. She will also provide dynamic support to innovative remote sensing analysis techniques which meet specific technical requirements or needs of a customer as they arise during the life of the project.

Previous Experience relevant to this Project

[redacted]	OceanMind	2023 - Present
	OceanMind	2019 - 2023
	Zafire	2010 – 2018

[redacted] **Software Engineer**

[redacted] is an experienced Software Engineer at OceanMind responsible for developing and supporting a range of technical solutions to be used by both external customers and internal colleagues.

Relevant Skills for this Project

[redacted] has worked as a Software Engineer for over 7 years, she has been part of the OceanMind Tech Team for the last 2 years. During this time she has been a key contributor to the development of multiple software products using C# and Azure Cloud services. She has extensive experience creating logical and efficient solutions to technical problems and delivering continuous improvements to existing products. [redacted] has a depth of experience with the full development lifecycle from design through to post-delivery user support.

Previous Experience relevant to this Project

[redacted]	OceanMind	2023 - Present
	OceanMind	2022 – 2023
	Peppermint Technology Ltd	2018 – 2022
	SGS Ashby Ltd	2017 - 2018

Subcontractors

MDA Space

[redacted] **Solutions Lead, MDA Space**

[redacted] is the [redacted] Production team at MDA Space with 20+ years of experience in the geospatial sector and client training, including previous experience as [redacted] at the Algonquin College of Applied Arts and Technology. [redacted] is responsible for development of value-added outputs, coordination with clients, and the team of analysist that generate information products from SAR imagery in Radar Production at the Gatineau Satellite Station reception facility. In her 21 years with MDA Space this had included a variety of SAR derived value-added products and services, and the processing and quality assurance of SAR data from RADARSAT-1 and RADARST-2 as well as work with other SAR and EO sensors such as Sentinel-1 and ICEYE. She has two BA Degrees: in Geography and in Environmental Studies from [redacted].

Relevant Skills for this Project

[redacted] has a strong skillset in the analysis and production of techniques and applications of SAR, with a focus on Maritime Security using SAR for vessel detection and characterization, as well as land-based change detection products with near-real time delivery requirements. Some of the relevant projects that she has supported include EMSA Service provider contract for maritime near-real time products, and illegal oil detection service in Nigeria.

[redacted] has years of experience in training, including as a professor at the Algonquin College of Applied Arts and Technology. She has also provided on-site and remote training services to several of our global clients including technology transfer programs in Nigeria, Colombia, Taiwan, Azerbaijan, and Malaysia. Her efforts have focused on hands-on training to develop SAR based analysis and information products.

Previous Experience relevant to this Project

[redacted]	MDA Space Radar Production, Geointelligence	2002 - Present
[redacted]	Algonquin College of Applied Arts & Tech	1998 - 2011

[redacted] **Europe Middle East, Africa region (EMEA), MDA Space**

Part of MDA Space's Geointelligence business development team, [redacted] is [redacted] with over 25 years of experience in the geospatial market. [redacted] is responsible for managing the [redacted] accounts in Europe, the Middle East, Africa region including all RADARSAT-2 network station partners in the EMEA region. Other [redacted] responsibilities in the EMEA region include RADARSAT-2 data distribution and communication with radar sensor suppliers outside of MDA Space's owned and operated RADARSAT-2 and future CHORUS satellites.

Relevant Skills for this Project

[redacted] has experience in many aspects of geospatial industry and internal MDA Space processes which enable her to provide timely support to MDA Space clients with pricing, contracts and finding solutions for RADARSAT-2, future CHORUS satellite and other SAR sensors such as Sentinel-1 and Iceye. [redacted] has Bachelor degree in International Commerce and Master degree in Economics from the University of [redacted].

Previous Experience relevant to this Project

[redacted]	MDA Space	1995 – Present

[redacted] **Manager, MDA Space**

Part of MDA Space's Geointelligence Operations team, [redacted] has over 25 years of experience with MDA Space specializing in maritime surveillance projects for emergency response, oil detection and vessel detection. [redacted] is accountable for all aspects of Programme Management: pursuit, project design, budget, procurements, schedule, scope, team, risk management, QA/QC, deliveries, customer management, and customer satisfaction. [redacted] has an undergraduate degree from [redacted] University in Geography '96 and post-grad certificates from the University of [redacted] in Intercultural Communications '07 and in Project Management '10. [redacted] earned her Project Management Professional Designation (PMP) in 2015.

Relevant Skills for this Project

Oversees management of MDA Space's Oil Tracker Programme which provides satellite derived information for offshore oil activities, including emergency oil spill response, routine monitoring, and historical seep studies. Clients are Oil Companies and Oil Spill Response Agencies.

Provides management for provision of satellite derived information products, in near-real-time, for emergency response due to oil spills, flooding and extreme weather events. Clients are National Environmental Agencies and Major Oil Companies.

Oversees management of MDA Space's Vessel Detection Programme which provides SAR, RF and optical based ship detection correlated with AIS data to identify ships of interest (dark targets); which may be displayed within MDA Space's Maritime Insights portal. Applications are for the identification of illegal, unreported and unregulated fishing (I.U.U.), security and defence activities. Clients are Oil Companies, NGOs, Government Organizations, and private companies.

Previous Experience relevant to this Project

[redacted]	MDA Space	1994 – Present

Unseenlabs

[redacted] **Middle East and Africa, Unseenlabs**

[redacted] is responsible for:

- Ensuring each customer's projects management of all Unseenlabs' team from responding actively and meeting with the requirements to data delivery satisfaction.
- Helping provide the best RF solutions in support of all Unseenlabs' teams.

Relevant Skills for this Project

After nearly 3 years as sales manager at Unseenlabs and having drawn from her experiences in the Defense and security sectors, she will be able to promote the advantages of remote sensing in ISR capability for MDA, especially as commercial RF data is becoming more and more known and used for diverse applications like borders security, illegal fishing or oil trafficking.

[redacted] **Operations, Unseenlabs**

[redacted]

- all production, satellite planning and analytics' operations of the RF data at Unseenlabs,

Relevant Skills for this Project

Before joining UNSEENLABS as head of operations 2 years ago, [redacted] was an [redacted] in the French navy for 22 years, mostly assigned in the air fleet within the carrier group. He was involved in the Electronic Warfare of the French aircraft fighter Rafale and in cruise missiles planning operations. Assigned in some military units within in the French Navy intelligence center and joint intelligence HQ, he specialised in [redacted] and served as [redacted] for the National Space SIGINT capacity for the French navy.

Previous Experience relevant to this Project

[redacted]	Unseenlabs	2021 - Present
[redacted]	French Navy	1999 - 2021

Capella Space

[redacted] **Detection Analytics, Capella Space**

[redacted] has extensive experience in earth observation, geospatial data, and software development, including:

- Define Capella's analytics offerings and bring vessel classification and aircraft classification analytic products to market.
- Strong technical software development background in multi-source analytics and data fusion
- Deep engagement with Capella's analytic partner program to foster community and solutioning throughout the industry.

[redacted] has extensive experience in the use of space-based earth observation for maritime surveillance, including:

- Developing maritime solutions combining optical, SAR, AIS, RF, and mobile phone data.
- Long-term relationships in geospatial-intelligence, maritime, and earth observation communities.

Relevant Skills for this Project

Product Management

- Focused on developing products for maritime markets such as dark vessels, illegal fishing and port monitoring.
- Responsible for promoting and selecting product features that align with key market needs.
- Develop go-to-market strategy and coordinate objectives with sales and marketing.
- Define and write product requirements.

Subject Matter Expert (SME) and Technical Resource

- Strong understanding of Synthetic Aperture Radar (SAR) capabilities and Capella product offerings.
- Deep technical experience with Capella's API, tasking system, and archive.
- Extensive background in a variety of maritime-relevant sensors, including optical imagery, radio frequency, mobile phone location data, AIS, as well as SAR.

Partner Collaboration

- Foster community and collaboration through the Capella Analytic Partner Program, providing guidance to partners desiring to better utilize SAR data within their platforms, solutions, and services.
- Identify and communicate product and capability needs from partners back to the Capella product team.

Project Management

- Manage timelines and objectives for data science teams creating object detection analytics on Capella imagery.
- Coordinate engagement with customers on proof-of-concept exercises.

Previous Experience relevant to this Project

[redacted]

Capella Space	2019 – Present
BlackSky	2017 – 2019
Unisys	2016 – 2017
Leidos	2015 - 2016

[redacted] **Development / Subject Matter Expert, Capella Space**

[redacted] has extensive experience in the use of space-based Satellite Imagery for Maritime Surveillance, including:

- Engaging with new customers of Capella data for maritime use cases.
- Deep engagement with Government of Canada on 'Dark Vessel Detection' program while at MDA.
- Long term relationship with OceanMind, integrated use of RADARSAT-2 data while at MDA.

Relevant Skills for this Project

Maritime Surveillance Engagement

- Primarily focused on Maritime Surveillance pursuits, direct interaction with Navy, Coast Guard, Environment, Transport Agencies and Non-Governmental Organizations (NGOs) around the world

Subject Matter Expert (SME) / Solutions Manager

- Develop Synthetic Aperture Radar (SAR) product offerings to create leading edge solutions in vessel detection.
- Provide Subject Matter Expert support for Maritime Business Development initiatives.
- Became a vetted SME by the International MCS Network in 2020 for space-based Maritime Surveillance.

Business Development

- Champion space-based Maritime Surveillance product offerings.
- Consult with Line of Business (Maritime, Defence and Security) for strategy, planning and product development.

Project Management

- Responsible for developing and implementing technical solutions using standard best practices.
- Cover all aspects of process, including stakeholder engagement, customer interaction, fiscal and schedule responsibilities.

Previous Experience relevant to this Project

[redacted]

Capella Space	2023 – Present
MDA Space	2018 – 2023
MDA Space	2011 – 2018
MDA Space	2009 - 2011

E08 Social Value

OceanMind is a non-profit organisation with charitable Objects to tackle climate and nature justice and to protect the lives and livelihoods of those who rely on the ocean to survive.

OceanMind's Articles of Association[1] require all business activities to have a material positive impact on society and the environment taken as a whole. Our primary focus is on restoring the health of the ocean globally and to deliver healthy, productive seas and coasts, aligned with the first of our three strategic themes[2], "Livelihoods and Biodiversity". OceanMind's values are integrity, respect, unity, expertise, and positivity, and we place people at the heart of everything that we do. We are a learning organisation working at the forefront of new technology and practice, growing people is fundamental to our work. As an organisation we consider ourselves to be in service to others, as our work enables organisations like the Marine Management Organisation (MMO) to fulfil their aligned objectives. We have an open, diverse and inclusive culture and are deeply committed to our colleagues' health, safety and wellbeing.

As part of our work helping marine law enforcement authorities around the world tackle illegal, unreported, and unregulated fishing, we also identify risks of labour abuse in seafood supply chains, and as such we are well versed in the intricacies of modern slavery. In the past we have supported the Royal Thai Government with the capture and prosecution of the Uthaiwan[3] wanted for illegal fishing and suspected slavery, and supported INTERPOL as part of an international coalition to capture two other vessels under-then Purple Notices wanted for illegal fishing and suspected slavery. In the case of the [redacted], 20 crew members were suspected of being trafficked and were freed. In the case of the MV NIKA, 10 crew members were suspected of being trafficked and were freed. OceanMind and the MMO cooperated closely on the MV NIKA case[5] as the vessel was first detected in the waters of the South Georgia South Sandwich Islands.

OceanMind has completed the Modern Slavery Assessment Tool and created an improvement plan to publish a modern slavery statement, including improved processes for responding to a report of suspected instances of modern slavery that follow good practice, and KPIs that link back to the modern slavery statement. The results are available on the Cabinet Office web site.

Theme 2: Tackling Economic Inequality - Create new businesses, new jobs and new skills

Method Statement

OceanMind is a UK-based non-profit VCSE with 18 employees building advanced technology and analytical skills to protect people and planet, and as such is an organisation of the nature that the Social Value Model is designed to support and nurture.

A cornerstone of OceanMind's model is that we hire diverse talent with a variety of expertise and provide training and experience in many aspects of marine law enforcement and supply chain due diligence as well as modern AI and cloud computing methods, then transition them on into impactful roles in industry. In line with this model, we have trained and transitioned onward 17 alumni over the past 5 years.

Entrepreneurship, growth and business creation

The maritime surveillance and intelligence industry is relatively small and dominated by large organisations typically focused on the defence sector, including satellite companies and large VCSEs. This is due to the fact that the marine environment sector is of limited economic size yet the necessary remote sensing solutions are expensive (making and launching satellites is a multi-billion pound endeavour), hence Prime suppliers tend to also target defence funding, which suffers from greater diversity and inclusion issues than the mainstream.

OceanMind represents the entrepreneurial VCSE side of the maritime surveillance supply chain, having invented next-generation algorithms of a quality designed for law enforcement purposes, and having developed a cost-effective Fisheries Intelligence as a Service model that serves government marine environment authorities around the world. OceanMind was created for the express purpose of supporting organisations like the MMO with international maritime surveillance services to identify inshore and offshore threats to the marine environment, and as such the solution is extremely efficient, effective, and cost advantageous.

[1] https://find-and-update.company-information.service.gov.uk/company/10827294/filing-history/QTcxV1oyUFRhZGlxemtjeA/document?format=pdf&download=0
[2] https://www.oceanmind.global/s/OceanMind-Strategy-202402.pdf
[3] https://www.interpol.int/en/News-and-Events/News/2019/Fisheries-crime-INTERPOL-supports-Thai-maritime-operations
[4] https://www.bbc.com/future/article/20190213-the-dramatic-hunt-for-the-fish-pirates-exploiting-our-seas
[5] https://www.interpol.int/News-and-Events/News/2019/INTERPOL-supports-apprehension-of-vessel-suspected-of-illegal-fishing

As a result, OceanMind has a detailed understanding of the international maritime surveillance sector, the various actors, and inter-organisational dynamics. We proactively undertake engagement opportunities to seek potential new suppliers, including tracking market insights and attending industry events.

To remain competitive and at the forefront of the sector, OceanMind regularly identifies opportunities for supplier diversification, seeking new innovations and approaches. For example, in this response we have introduced new SME suppliers bringing technology innovations such as Unseen Labs and Capella Space, as well as having adopted new best practices by learning from peers in the enforcement community, and we collaborate with universities researching next generation techniques, such as Oxford University, Exeter University and Bristol University. In these cases, we help identify opportunities to create new business from academic research. We have also brought new innovations from existing suppliers MDA corporation and MAXAR technologies.

Working with our supply chain we routinely co-design service delivery to ensure the most optimal and cost effective approach for clients, we undertake collaborative performance management to share ownership in customer success, we ensure all commercial arrangements are fair and equitable, we identify opportunities to promote and enable diversity and inclusion, we share knowledge to help create opportunities for partner entrepreneurs and innovators, and we share success with partners small and large, so that we can grow together.

Employment

OceanMind recognises that there is a lack of diversity and shortage of skills in the fields of AI and big data analytics, as well as challenges recruiting fisheries analyst candidates from diverse backgrounds and locations. To overcome these, OceanMind works with universities to identify upcoming candidates and is a member of student recruitment networks. OceanMind has also attended career fairs and helped educate students on opportunities to pursue highly skilled roles in the third sector. As a fully remote organisation with no specific geographical ties, OceanMind also works with global employer of record Velocity Global to provide access to candidates anywhere in the world, having at one time, as a small VCSE, skilled colleagues in 6 countries. Noting the lack of representation of women in STEM subjects, OceanMind's software engineering team is all female. We follow ACAS recruitment best practices to ensure equality and accessibility, without discrimination, to employment and workforce related opportunities, and promote them so as to be fully accessible.

OceanMind subscribes to the five foundational principles of quality work set out in the Good Work Plan, those being satisfaction, fair pay, participation and progression, well-being, safety and security, and voice and autonomy, in order to attract good candidates from all backgrounds, minimise turnover of staff and improve productivity.

Education and training

Further to the above recognition of the lack of diversity and shortage of skills in key areas of competence relating to the contract, and in addition to engagements with universities and career fairs, we also support existing staff with ongoing training and career development throughout their tenure with OceanMind. We provide training on technical skills, including modern law enforcement investigation and intelligence development, through our internal "OceanMind University" programme, training on soft skills such as effective line management or health and wellbeing support through third party training providers, and training on supporting skills such as financial management, budgeting, and interviewing.

We have previously, where supervisory resources permitted, offered internships at OceanMind in both the technology and intelligence analyst teams. While as a small VCSE this may not be routine, we remain committed to offering internships and apprenticeships where resourcing allows for the requisite oversight and duty of care.

Influence Through Delivery

OceanMind will hold an annual "Tackling Economic Inequality" workshop with its suppliers to identify opportunities under the contract and through broader partnerships and collaborations to create new jobs and new skills in the areas in which we operate. The workshop will be a virtual interactive convening to ensure the widest possible inclusion of partner organisations, with the agenda being formed around discussion of the Policy Outcome. Opportunities identified and actions taken to further the Policy Outcome will be documented and shared with the Authority. Progress on actions will be reviewed at the subsequent workshop and shared with the Authority.

OceanMind will also present at any MMO events as we have done in the past to disseminate learnings and best practices to a wider audience, including members of the OT administrations and ocean country partners. OceanMind will also continue to champion and amplify the programme's successes through social media outreach and news articles.

Project Plan and Process

Tackling economic inequality is a process of continuous improvement without a start or an end, it is an ongoing "business as usual" activity for OceanMind. Throughout the duration of the contract, OceanMind commits to: attending industry events, horizon scan for new innovations and potential suppliers, seek peer learning opportunities, include our suppliers in service design exercises, maintaining open dialogue with universities, follow ACAS fair and equitable recruitment guidelines, apply the Good Work Plan principles, identify opportunities for internships and apprenticeships, and provide

continuous learning to our colleagues through OceanMind University.

In order to demonstrate progress against the Policy Outcomes to the Authority, OceanMind will provide either quarterly or on-demand the following KPIs:

- Number of jobs contributing to delivery of the contract, measured using our project management software, Scoro.
- Number of new jobs attributable to delivery of the contract, measured using our project management software, Scoro.
- Number of colleagues trained on new technologies and practices relevant to delivery of the contract, measured using our HR management software, Breathe HR.
- Number of trained colleagues transitioned to industry, measured using our HR management software, Breathe HR.
- Number of internships or apprenticeships provided, measured using our HR management software, Breathe HR.
- An aggregate Employee Net Promoter Score representing satisfaction with their employment and likelihood of retention, measured using our HR management software, Breathe HR.
- Modern slavery statement KPIs, measured in line with our modern slavery statement.

Theme 3: Fighting Climate Change - Effective stewardship of the environment

Method Statement

OceanMind's first strategic theme aligned with our Articles of Association is "Livelihoods and Biodiversity". OceanMind powers marine regulators globally with advanced technology and best practice training to enable effective enforcement of marine and fisheries regulations, including for highly protected marine areas (HPMAs) and large scale remote marine protected areas (MPAs). Our work directly enables effective stewardship of the environment by supporting those authorities responsible for marine ecosystems. Where marine ecosystems are properly protected and regulations enforced, ocean health recovers, providing a wide range of ecosystem services to humanity including climate mitigation and climate adaptation.

OceanMind's second strategic theme aligned with our Articles of Association is "Climate Change and Emissions Reduction". As a co-founder of Climate TRACE[6], the world's largest free and open database of human-caused greenhouse gas emissions featuring over 352 million assets worldwide with 7 years of emissions history, OceanMind leads the publishing of maritime emissions through Climate TRACE's web portal. By publishing up to date GHG emissions for the majority of the global shipping fleet responsible for international trade who are responsible for almost 3% of global emissions, OceanMind enables shipping decarbonisation initiatives. We work with several major shipping companies and international ports, including the Port of Rotterdam and the Port of Singapore, to support emissions reduction initiatives through improved vessel logistics, speed reduction programmes, and mapping of anchorages and extra-port journeys.

As a UK organisation launched from the Innovate UK Catapult Programme, OceanMind is a flagship capability helping to place the UK at the forefront of environmental and climate protection globally through our international projects and partnerships.

Additional environmental benefits

As a consequence of contract award, OceanMind will be able to retain and train staff who will then go on to deliver projects for other countries to the same level of quality and skill as enabled by this contract, resulting in the protection of biodiversity and livelihoods across hundreds of thousands of square kilometres of ocean outside of UK jurisdiction.

Similarly, this contract will enable OceanMind to retain and train technology staff in relevant AI and big data analytics techniques, resulting in these skills being applied to improving emissions estimates for the broader maritime sector, enabling decarbonisation of maritime industries outside of the shipping sector. Our work reducing GHG emissions from shipping in and around ports also directly reduces harmful particulate emissions thereby improving air quality for local communities.

In addition, the vast majority of OceanMind's data analysis performed in the delivery of the contract will be carried out in a secure environment on the Microsoft Azure Cloud Platform. Microsoft has committed to being carbon negative by 2030, and to have removed all historical emissions including those for their customers' use of Microsoft infrastructure by 2050[7]. By selecting Microsoft as our cloud platform provider in support of this contract, we will ensure that the majority of our IT related emissions (the largest source of emissions for OceanMind) are net negative by 2030.

Influence environmental protection and improvement

OceanMind is a global influencer on environmental protection and improvement for the marine environment, regularly

[6] https://climatetrace.org

[7] https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/

speaking at conferences, publishing thought leadership, and conducting awareness raising campaigns. For the last two years running, OceanMind has spoken on environmental protection and improvement at Innovation Zero, the UK's flagship net zero event, as well as at international gatherings such as IMPAC5, the UN Ocean Conference, World Ocean Summit, the Chagos MPA workshop, International Sustainability Week, Change NOW, and many more. OceanMind has also spoken at symposiums and workshops convened by the MMO relating to the contract to raise general awareness of the world-class environmental protection delivered by the Blue Belt Programme and Ocean Country Partnership Programme, and to learn from and educate broader partners and supply chain in the Programmes.

In order to influence staff, suppliers, customers, communities and/or any other appropriate stakeholders through the delivery of the contract to support environmental protection and improvement, OceanMind will continue to publish thought leadership and educational articles relating to increasing environmental protection and improvement in supply chains, and speak on this topic at conferences and events throughout the duration of the contract.

Influence Through Delivery

OceanMind will hold an annual "Fighting Climate Change" workshop with its suppliers to identify opportunities under the contract and through broader partnerships and collaborations to influence environmental protection and improvement. The workshop will be a virtual interactive convening to ensure the widest possible inclusion of partner organisations, with the agenda being formed around discussion of the Policy Outcome. Opportunities identified and actions taken to further the Policy Outcome will be documented and shared with the Authority. Progress on actions will be reviewed at the subsequent workshop and shared with the Authority.

Project Plan and Process

As with Tackling Economic Inequality, Fighting Climate Change is a process of continuous improvement without a start or an end, and is an ongoing "business as usual" activity for OceanMind. Throughout the duration of the contract, OceanMind commits to: publishing thought leadership and educational articles relating to increasing environmental protection and improvement in supply chains, speaking on this topic at conferences and events – in particular any relevant such events organised by the MMO, encourage staff and suppliers to use skills learnt in relation to the contract to support opportunities for environmental protection and improvement, and to conduct campaigns aimed at raising awareness in the general public for the importance of environmental protection and improvement.

Due to the digital nature of the contract, OceanMind commits to no direct use of water in the performance of the contract. OceanMind also commits to not send any waste to landfill in relation to the performance of the contract.

In order to demonstrate progress against the Policy Outcomes to the Authority, OceanMind will provide either quarterly or on-demand the following KPIs:

- Number of staff using skills or training relevant to the contract for other environmental protection opportunities, measured using our project management software, Scoro.
- Number of articles relating to environmental protection and improvement published, measured using LinkedIn activity statistics.
- Number of events at which environmental protection and improvement is presented, measured manually by each speaker.

In addition, OceanMind will report annually or on-demand the greenhouse gas emissions arising from data centre use in relation to performance of the contract, measured by Microsoft's emissions reporting platform in metric tonnes of carbon dioxide equivalents (MTCDE).

SCHEDULE 2 - PRICING

1. The value of this contract is not more than the fixed sum of:
£ 1,500,000 (for 2 years) (exclusive of VAT).

2. The value set out above is the maximum that the Contractor may charge as a total of all Orders.

3. The Contractor acknowledges and agrees that any prices submitted in relation to any Order shall be equal to or lower than the Tender Prices.

4. The Contractor acknowledges and agrees that, subject to paragraph 3 of this Schedule 2, the Contract Prices cannot be increased during the Contract Period.

5. In the event that the Contract is varied, the amount in paragraph 1 shall be adjusted by such reasonable sum as may be agreed, in writing, between the Authority and the Contractor.

6. Given the nature of the project, payment of invoices associated with each Order will only be made upon full and satisfactory completion of each individual activity. Should work be extended by mutual agreement, the Authority will accept monthly invoices for activities carried out. Payment will always be made in arrears.

7. The Contractor shall provide the Authority with an invoice of eligible costs only.

8. Within 30 days of receiving an invoice satisfactory to the Authority, the Authority shall pay to the Contractor the amount of the eligible costs which the Authority reasonably considers to have been properly incurred by the Contractor in the carrying out of the Project during the relevant period.

9. The Authority is liable to the Contractor only for their respective payments in accordance with each Order.

10. Any overpayment to the Contractor made by the Authority, whether of Project price or of VAT, shall be a sum of money recoverable by the Authority.

TENDERER'S RESPONSE

- COST (Commercial Workbook)

Ascension Island Scenario 1 tab requests cost for collating data sources to validate initial detection under five different data acquisition timelines. Therefore, please submit five cost option totals for scenarios 1-4 where the scenario 1 timeline response is either; <6hrs, 6-12hrs, 12-24hrs, 24-36hrs and 36-48hrs.

If you are unable to meet any of the target criteria for data acquisition timelines then please state "N/A".

Bid submission against Scenario 1 response <6hrs + remainder of two-week surveillance operation. Plus Scenarios 2, 3 & 4.

	Cost (exc VAT) £
Ascension Island – Short-Term Intelligence Led Surveillance (Scenario 1/Question E03)	[redacted]
Medium-Term Risk Based Surveillance over Tristan da Cunha (Scenario 2 /Question E04)	[redacted]
Risk based tasking (inshore) assistance - Turks & Caicos Islands (Scenario 3 /Question E05)	[redacted]
Historic Imagery and Activity Review (Scenario 4 /Question E06)	[redacted]
GRAND TOTAL (Scenario 1 + 2 +3 + 4)	***284852.53***

Bid submission against Scenario 1 response 6 - 12 hrs + remainder of two-week surveillance operation. Plus Scenarios 2, 3 & 4.

	Cost (exc VAT) £
Ascension Island – Short-Term Intelligence Led Surveillance (Scenario 1/Question E03)	[redacted]
Medium-Term Risk Based Surveillance over Tristan da Cunha (Scenario 2 /Question E04)	[redacted]
Risk based tasking (inshore) assistance - Turks & Caicos Islands (Scenario 3 /Question E05)	[redacted]
Historic Imagery and Activity Review (Scenario 4 /Question E06)	[redacted]
GRAND TOTAL (Scenario 1 + 2 +3 + 4)	***284852.53***

Bid submission against Scenario 1 response 12-24 hrs + remainder of two-week surveillance operation. Plus Scenarios 2, 3 & 4.

	Cost (exc VAT) £
Ascension Island – Short-Term Intelligence Led Surveillance (Scenario 1/Question E03)	[redacted]
Medium-Term Risk Based Surveillance over Tristan da Cunha (Scenario 2 /Question E04)	[redacted]
Risk based tasking (inshore) assistance - Turks & Caicos Islands (Scenario 3 /Question E05)	[redacted]
Historic Imagery and Activity Review (Scenario 4 /Question E06)	[redacted]
GRAND TOTAL (Scenario 1 + 2 +3 + 4)	***284702.53***

Bid submission against Scenario 1 response 24-36 hrs + remainder of two-week surveillance operation. Plus Scenarios 2, 3 & 4.

	Cost (exc VAT) £
Ascension Island – Short-Term Intelligence Led Surveillance (Scenario 1/Question E03)	[redacted]
Medium-Term Risk Based Surveillance over Tristan da Cunha (Scenario 2 /Question E04)	[redacted]
Risk based tasking (inshore) assistance - Turks & Caicos Islands (Scenario 3 /Question E05)	[redacted]
Historic Imagery and Activity Review (Scenario 4 /Question E06)	[redacted]
GRAND TOTAL (Scenario 1 + 2 +3 + 4)	***284548.24***

Bid submission against Scenario 1 response 36-48hrs + remainder of two-week surveillance operation. Plus Scenarios 2, 3 & 4.

	Cost (exc VAT) £
Ascension Island – Short-Term Intelligence Led Surveillance (Scenario 1/Question E03)	[redacted]
Medium-Term Risk Based Surveillance over Tristan da Cunha (Scenario 2 /Question E04)	[redacted]
Risk based tasking (inshore) assistance - Turks & Caicos Islands (Scenario 3 /Question E05)	[redacted]
Historic Imagery and Activity Review (Scenario 4 /Question E06)	[redacted]
GRAND TOTAL (Scenario 1 + 2 +3 + 4)	***284548.24***

Ascension Island Scenario 1

Please provide costs for data sources to validate initial detection (objective 1, E03)

Requirements		Electro-optical (EO)	Synthetic Aperture Radar (SAR)	Radio-Frequency (RF)	Cost Totals (exc VAT)
Ascension Island – Short-Term Intelligence Led Surveillance (Scenario 1/Question E03)	<6 hrs	From open source dataset and subscritption, no charge will be incurred.	[redacted]	[redacted]	[redacted]
	6-12 hrs	From open source dataset and subscritption, no charge will be incurred.	[redacted]	[redacted]	[redacted]
	12-24 hrs	From open source dataset and subscritption, no charge will be incurred.	[redacted]	[redacted]	[redacted]
	24-36 hrs	From open source dataset and subscritption, no charge will be incurred.	[redacted]	[redacted]	[redacted]
	36-48 hrs (including acquisition within 24 hours, and final results provided within a further 24 hours)	From open source dataset and subscritption, no charge will be incurred.	[redacted]	[redacted]	[redacted]

Total Costs (exc VAT) are calculated with the analysis and delivery cost per requirement of each data source.

Please provide costs to deliver the remainder of the surveillance operation (i.e. continual monitoring over a two week period to support patrol asset tasking; objectives 2 & 3, E03)

Requirements		Cost (Exc VAT) £
Ascension Island – Short-Term Intelligence Led Surveillance (Scenario 1/Question E03)	Acquisition of remote sensing data on a weekly basis, detailing data type, levels of coverage/persistence this would provide RF coverage over AoI: two images per week for two weeks SAR RADARSAT-2 (DVWF mode, 12 to 24 hour delivery) over AoI: five images per week for two weeks SARRADARSAT-2 (XF mode12 to 24 hour delivery) over AoI: 1 images per week for two weeks	[redacted]
	Acquisition of Automatic Information System (AIS) data	[redacted]
	Staff time (List by name/role) [redacted]	[redacted]
	Other costs:Acquisition of other data to support surveillance (IHS Database, Electro-Optical: Sentinel 2 and correlation for all weeks).	[redacted]
	Total Cost (exc VAT):	[redacted]

Medium Term Risk Base Scenario 2

Please provide costs for the one-week initial assessment to validate presence of da vessels in vicinity of visible fleet (objective 1, EO4)

	Requirements	Costs (exc VAT) £
Medium-Term Risk Based Surveillance over Tristan da Cunha (Scenario 2 /Question E04)	Acquisition of remote sensing data on a weekly basis, detailing data type, levels of coverage/persistence this would provide DVWF SAR mode coverage over locations specified - 6 images in 1 week. XF SAR mode coverage over locations specified - 2 floating images available during the week. RF coverage over locations specified - 2 acquisition in 1 week. EO coverage over locations specified - 4 images in 1 week.	[redacted]
	Acquisition of Automatic Information System (AIS) data	[redacted]
	Staff time *(List by name/ role)* [redacted]	[redacted]
	Other costs: *(Itemise)* Acquisition of other data to support surveillance (IHS Database, Electro-Optical: Sentinel 2 and correlation for all weeks).	[redacted]
	Total Cost (exc VAT):	[redacted]

Please provide costs for two-month monitoring phase (objective 2, E04)

	Requirements	Costs (exc VAT) £
Medium-Term Risk Based Surveillance over Tristan da Cunha (Scenario 2 /Question E04)	Acquisition of remote sensing data on a weekly basis, detailing data type, levels of coverage/persistence this would provide DVWF SAR mode coverage over locations specified - 16 images in 1st month (4 per week) and 24 images in 2nd month (6 per week). XF SAR mode coverage over locations specified - 1 floating image in 1st month, 2 floating images in 2nd month. RF coverage over locations specified - 8 acquisition per month (2 per week). EO coverage over locations specified - 4 images in the 1st month, 6 images in the 2nd month.	[redacted]
	Acquisition of Automatic Information System (AIS) data	[redacted]
	Staff time *(List by name/ role)* [redacted]	[redacted]
	Other costs: *(Itemise)* Acquisition of other data to support surveillance (IHS Database, Electro-Optical: Sentinel 2 and correlation for all weeks).	[redacted]
	Total Cost (exc VAT):	[redacted]

Total cost of objective 1 & 2 in Scenario 2 /Question E04 (exc VAT)	[redacted]

Risk Based Tasking Scenario 3

Requirements		Costs (exc VAT) £
Risk based tasking (inshore) assistance - Turks & Caicos Islands (Scenario 3 /Question E05)	Acquisition of remote sensing data on a weekly basis, detailing data type, levels of coverage/persistence this would provide EO high resolution Imagery; up to two images for an AoI that will be patrolled per week (24 images over 12 weeks). Capella STRIP SAR mode coverage over locations specified above 2 images per month available. MDA XF SAR mode coverage over locations specified above 2 images per month available. RF data coverage over locations specified above 2 images per month available.	[redacted]
	Acquisition of Automatic Information System (AIS) data	[redacted]
	Staff time *(List by name/ role)* [redacted]	[redacted]
	Other costs: *(Itemise)* No charge will be incurred	***0.00***
	Total Cost (exc VAT):	[redacted]

Historic Imagery – Scenario 4

Requirements		Costs (exc VAT) £
Risk based tasking (inshore) assistance - Turks & Caicos Islands (Scenario 3 /Question E05)	Acquisition of remote sensing data on a weekly basis, detailing data type, levels of coverage/persistence this would provide EO high resolution Imagery; up to two images for an AoI that will be patrolled per week (24 images over 12 weeks). Capella STRIP SAR mode coverage over locations specified above 2 images per month available. MDA XF SAR mode coverage over locations specified above 2 images per month available. RF data coverage over locations specified above 2 images per month available.	[redacted]
	Acquisition of Automatic Information System (AIS) data	[redacted]
	Staff time *(List by name/ role)* [redacted]	[redacted]
	Other costs: *(Itemise)* No charge will be incurred	[redacted]
	Total Cost (exc VAT):	[redacted]

Staff Costs

Name	Role/ Grade	Day Rate (exc VAT) £
[redacted]	[redacted] Officer	No charge
[redacted]	[redacted] Officer	No charge
[redacted]	[redacted] & Compliance	[redacted]
[redacted]	[redacted] & Compliance	[redacted]
[redacted]	[redacted] Compliance	[redacted]
[redacted]	[redacted] Management Delivery	[redacted]
[redacted]	[redacted] Software Engineer	[redacted]

SCHEDULE 3 - CHANGE CONTROL

Contract Change Note	
CCN Number	
Contract Reference Number and Title	
Variation Title	
Number of Pages	

WHEREAS the Contractor and the Authority entered into a Contract for the supply of [project name] dated [dd/mm/yyyy] (the "Original Contract") and now wish to amend the Original Contract

IT IS AGREED as follows

1. The Original Contract shall be amended as set out in this Change Control Notice:

Contract Change Details		
Change Requestor/Originator	[x]	
Summary of Change	[x]	
Reason for Change	[x]	
Revised Contract Value	Original contract value	[£x]
	Previous contract change values	[£x]
	Contract Change Note [x] value	[£x]
	New revised contract value	[£x]
Revised Payment Schedule	[x]	
Revised Specification	[x]	
Revised Contract Period	[x]	
Change in Contract Manager	[x]	
Other Changes	[x]	

2. Save as amended all other terms of the Original Contract shall remain effective.

3. Execution of the Contract is carried out in accordance with EU Directive 99/93(Community framework for electronic signatures) and the Electronic Communications Act 2000. The Contract is formed on the date on which both Parties communicate acceptance of its terms on the Authority's electronic contract management system ("Atamis").

Signed for and on behalf the **Contractor**	Signed for and on behalf the **Authority**

SCHEDULE 4 - COMMERCIALLY SENSITIVE INFORMATION

1.1 Without prejudice to the Authority's general obligation of confidentiality, the Parties acknowledge that the Authority may have to disclose Information in or relating to the Contract following a Request for Information pursuant to clause E5 (Freedom of Information).

1.2 In this Schedule the Parties have sought to identify the Contractor's Confidential Information that is genuinely commercially sensitive and the disclosure of which would be contrary to the public interest.

1.3 Where possible the Parties have sought to identify when any relevant Information will cease to fall into the category of Information to which this Schedule applies.

1.4 Without prejudice to the Authority's obligation to disclose Information in accordance with the FOIA and the EIR, the Authority will, acting reasonably but in its sole discretion, seek to apply the commercial interests exemption set out in s.43 of the FOIA to the Information listed below.

Commercially Sensitive Information		
CONTRACTOR'S COMMERCIALLY SENSITIVE INFORMATION	DATE	DURATION OF CONFIDENTIALITY
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

SCHEDULE 5 - PROCESSING, PERSONAL DATA AND DATA SUBJECTS

1. This Schedule shall be completed by the Authority, who may take account of the view of the Contractor, however the final decision as to the content of this Schedule shall be with the Authority at its absolute discretion.

2. The contact details of the Authority Data Protection Officer are:

   [redacted]arinemanagement.org.uk

3. The contact details of the Contractor Data Protection Officer are:

   [redacted]ceanmind.global
   Harwell Innovation Centre, Building 173 Curie Avenue, Harwell, Didcot, OX11 0QG

4. The Contractor shall comply with any further written instructions with respect to processing by the Authority.

5. Any such further instructions shall be incorporated into this Schedule.

Data Processing Descriptor	Narrative
Identity of the Controller and Processor	The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Controller and the Contractor is the Processor in accordance with Clause E2.1.
Subject matter of the processing	Contact details of individuals are gathered and held in a contacts/circulation list to support communications activities.
Duration of the processing	Personal contact details are held in a circulation list which is updated as new information is provided. This will continue for the duration of the contract.
Nature and purposes of the processing	The contacts/circulation list is held and maintained for the purposes of disseminating information about meetings, and topical & technical subject matter.
Type of Personal Data	Name, country of residence, email, telephone, technical subject areas of interest, a description of what the contact information can be used for.
Categories of Data Subject	Data related to vessels in ownership of an individual – including the following: Data related to a vessel's identity, location (date, time, latitude and longitude). Data related to individuals who own a vessel – including names and addresses. Intelligence submitted by a third party that relates to an individual.
Plan for return and destruction of the data once the	The dataset is maintained and updated. Individuals are

processing is complete UNLESS requirement under union or member state law to preserve that type of data	removed when requested.

SCHEDULE 6 - NON-DISCLOSURE AGREEMENT

THIS NON-DISCLOSURE AGREEMENT is made the [insert day] day of [insert date] (the “Commencement Date”

BETWEEN:

[Insert full name of contractor] of [insert full address but if registered company please insert the following - (registered in England and Wales under number [insert company number]) whose registered office is situated at [ ] (the “Contractor”);

and

[Insert name and address of the Staff member, professional advisor or consultant of the Contractor] (the "Disclosee").

(each a “Party” and together the “Parties”).

WHEREAS:

(a) The Contractor has contracted with the Secretary of State for Environment, Food and Rural Affairs (the “Authority") to provide services to the Authority in an agreement dated [insert date] (the “Contract").

(b) The Contract places an obligation of confidentiality on the Contractor. The Disclosee is an [insert employee, professional advisor or consultant] of the Contractor engaged in the provision of services to the Authority in support of or in connection with the services to be provided by the Contractor under the Contract.

(c) The Disclosee may therefore, have communicated to it, certain Confidential Information belonging to the Authority which is proprietary and must be held in confidence. Accordingly, the Contract requires the Contractor to ensure that the Disclosee enters into a non-disclosure agreement with the Contractor on the terms set out herein.

(d) Any Confidential Information disclosed by the Authority or the Contractor to the Disclosee, whether contained in original or copy documents, will at all times remain the property of the Authority together with all notes, memoranda and drawings that have been made as a result of access to such Confidential Information.

NOW IT IS AGREED as follows:

Definition and Interpretation

1. In this Agreement:

a) “Confidential Information” means: any information which has been designated as confidential by the Authority in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) whether commercial, financial, technical or otherwise including (without limitation) information belonging to or in respect of the Authority which relates to research, development, trade secrets, formulae, processes, designs, specifications, the Authority data, internal management, information technology and infrastructure and requirements, price lists and lists of, and information about,

customers and employees, all materials and information belonging to third parties in respect of which the Disclosee owes obligations of confidence; information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person, intellectual property rights or know-how of the Authority and all personal data within the meaning of the General Data Protection Regulation (Regulation (EU) 2016/679), whether or not that information is marked or designated as confidential or proprietary; whether arising prior to, on or after the Commencement Date;

b) "Law" means any applicable Act of Parliament, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, exercise of the royal prerogative, enforceable community right within the meaning of Section 2 of the European Communities Act 1972, regulatory policy, guidance or industry code, judgment of a relevant court of law, or directives or requirements of any regulatory body of which the Contractor is bound to comply.

2. In construing this Agreement, the general words introduced or followed by the word include(s) or including or in particular shall not be given a restrictive meaning because they are followed or preceded (as the case may be) by particular examples intended to fall within the meaning of the general words.

3. Unless the context requires otherwise, the singular shall include the plural and vice versa, and the masculine shall include the feminine and vice versa.

4. Reference to any legislative and statutory requirement or similar instrument shall be deemed to include reference to any subsequent amendment to them.

5. References to any person shall, as the context may require, be construed as a reference to any individual, firm, company, corporation, government department, agency, or any association or partnership (whether or not having a separate legal personality).

CONFIDENTIALITY

6. The Disclosee undertakes to: keep confidential all Confidential Information and safeguard it accordingly; and that any Confidential Information supplied will not be used by it for any purpose other than in connection with the Contractor's delivery of the services under the Contract without the prior written permission of the Authority.

7. The Disclosee will take all necessary precautions to ensure that the Confidential Information is held in confidence and will provide proper and secure storage for all information and any papers, drawings or other materials which relate to or are compiled from such information.

8. The Disclosee shall, with respect to any Confidential Information it receives directly from or on behalf of the Authority or from the Contractor, comply, with all instructions and/or guidelines produced and supplied by or on behalf of the Authority from time to time for the handling and storage of Confidential Information, generally or for specific items.

9. The Disclosee will not disclose any Confidential Information or any part thereof to any third party.

10. Where the Disclosee is an employee, breach of the obligations set out herein in this Agreement shall be a cause of disciplinary proceedings, and the Contractor shall institute and enforce such disciplinary proceedings as against the Disclosee in relation to such breach.

11. Where the Disclosee is a professional advisor or consultant, breach of the obligation set out herein shall entitle the Contractor to terminate the contract of engagement with the Disclosee immediately, and the Contractor shall enforce such right of termination as against the Disclosee in relation to such breach.

12. All Confidential Information in tangible form received hereunder together with all copies thereof shall be destroyed or returned immediately to the Contractor or where so required by the Authority and notified to the Disclosee, to the Authority, upon request or upon completion of the task for the purposes of which such Confidential Information was released.

13. The Confidential Information will not be used by the Disclosee for any purpose or in any way other than under this Agreement.

14. The following circumstances shall not constitute a breach of the obligations of confidentiality contained in this Agreement:

14.1 Disclosure of Confidential Information by the Disclosee when required to do so by Law or pursuant to the rules or any order having the force of Law of any court, of competent jurisdiction;

14.2 Disclosure of Confidential Information by the Disclosee where and to the extent that the Confidential Information has, except as a result of breach of confidentiality, become publicly available or generally known to the public at the time of such disclosure;

14.3 Disclosure of Confidential Information by the Disclosee where and to the extent that the Confidential Information is already lawfully in the possession of a recipient or lawfully known to it prior to such disclosure;

14.4 Possession of Confidential Information by the Disclosee where it has been acquired from a third party who is not in breach of any obligation of confidence in providing that Confidential Information;

provided that, in no event shall information relating to the affairs of any identifiable person be disclosed or released from the obligations herein without the prior written consent of the Authority.

15. The Disclosee shall: notify the Contractor and the Authority promptly of the date and circumstances of the loss or unauthorised disclosure, if any, of the Confidential Information or any part of the Confidential Information and in addition, the action being taken to rectify that loss or unauthorised disclosure.

16. The obligations contained in this Agreement shall continue until notified in writing by the Authority or the Confidential Information becomes public knowledge (other than by breach of the terms of this Agreement).

17. No licence of any intellectual property rights (including but not limited to patent rights, copyrights, trademarks and rights in proprietary information and/or know-how and whether registrable or unregistrable) is granted hereby, beyond that necessary to enable use of the Confidential Information for the purpose for which the Confidential Information was released.

18. Nothing in this Agreement shall be construed as compelling any of the Parties to disclose any Confidential Information or to enter into any further contractual relationship with any other party.

19. No representation or warranties are given regarding the accuracy, completeness or freedom from defects of the Confidential Information or with respect to infringement of any rights including intellectual property rights of others.

20. Without affecting any other rights or remedies that the other Parties may have, the Disclosee acknowledges and agrees that damages alone would not be an adequate remedy for any breach of any of the provisions of this Agreement.

GENERAL

21. No failure or delay by any Party to this Agreement in exercising any of its rights hereunder shall operate as a waiver of such rights, nor shall any single or partial exercise preclude any further exercise of such rights. Any waiver by a Party of any breach or non-compliance with any term of this Agreement shall not constitute a waiver of any subsequent breach of non-compliance with the same or any other term of this Agreement.

22. No Party may assign this Agreement or any of its rights and obligations hereunder without the prior written consent of the Authority.

23. Any notice under this Agreement shall be in writing and shall be delivered by post, fax or e-mail to the address of the Party in question set out at the beginning of this Agreement or such other address (or e-mail address or fax number) as the Parties may notify one another from time to time.

24. No term of this Agreement shall be enforceable, by virtue of the Contracts (Rights of Third Parties) Act 1999, by any person who is not a party to this Agreement other than the Authority. The Parties shall only with the prior written consent of the Authority be entitled to vary any of the provisions of this Agreement without notifying or seeking the consent of any third party and the rights conferred by section 2 of the Contracts (Rights of Third Parties) Act 1999 are excluded.

25. This Agreement shall be governed by and shall be interpreted in accordance with the laws of England.

26. The courts of England have exclusive jurisdiction to settle any disputes which may arise out of or in connection with this Agreement and accordingly that any proceedings, suit or action arising out of or in connection therewith shall be brought in such courts.

This Agreement has been entered into on the date first written above.

SIGNED by the authorised signatory for and on behalf of the Contractor:

SIGNED by the Disclosee:

SCHEDULE 7 - CONTRACTOR AND THIRD-PARTY SOFTWARE

CONTRACTOR SOFTWARE

For the purposes of this Schedule 7, "Contractor Software" means software which is proprietary to the Contractor, including software which is or will be used by the Contractor for the purposes of providing the Services. The Contractor Software comprises the following items:

THIRD PARTY SOFTWARE

For the purposes of this Schedule 7, "Third Party Software" means software which is proprietary to any third party which is or will be used by the Contractor for the purposes of providing the Services including the software specified in this Schedule 7. The Third Party Software shall consist of the following items:

Third Party Software	Supplier	Purpose	No. of Licences	Restrictions	No. of copies	Other	To be deposited in escrow?

SCHEDULE 8 - SECURITY REQUIREMENTS, POLICY AND PLAN

INTERPRETATION AND DEFINITION

For the purposes of this Schedule 8, unless the context otherwise requires the following provisions shall have the meanings given to them below:

"Breach of Security" means the occurrence of unauthorised access to or use of the Premises, the Premises, the Services, the Contractor System, or any ICT or data (including Authority Data) used by the Authority or the Contractor in connection with the Contract.

"Contractor Equipment" means the hardware, computer and telecoms devices and equipment supplied by the Contractor or its Sub-Contractor (but not hired, leased or loaned from the Authority) for the provision of the Services;

"Contractor Software" means software which is proprietary to the Contractor, including software which is or will be used by the Contractor for the purposes of providing the Services and which is specified as such in Schedule 7.

"ICT" means Information Communications Technology and includes a diverse set of technological tools and resources used to communicate, and to create, disseminate, store and manage information, including computers, the Internet, broadcasting technologies (radio and television), and telephony.

"Protectively Marked" shall have the meaning as set out in the Security Policy Framework.

"Security Plan" means the Contractor's security plan prepared pursuant to below section 3.

"Software" means Specially Written Software, Contractor Software and Third-Party Software.

"Specially Written Software" means any software created by the Contractor (or by a third party on behalf of the Contractor) specifically for the purposes of this Contract.

"Third Party Software" means software which is proprietary to any third party which is or will be used by the Contractor for the purposes of providing the Services including the software and which is specified as such in Schedule 7.

1. INTRODUCTION

This Schedule 8 covers:

1.1 principles of security for the Contractor System, derived from the Security Policy Framework, including without limitation principles of physical and information security;

1.2 wider aspects of security relating to the Services;

1.3 the creation of the Security Plan;

1.4 audit and testing of the Security Plan; and

1.5 breaches of security.

2. PRINCIPLES OF SECURITY

2.1 The Contractor acknowledges that the Authority places great emphasis on confidentiality, integrity and availability of information and consequently on the security of the Premises and the security for the Contractor System. The Contractor also acknowledges the confidentiality of Authority Data.

2.2 The Contractor shall be responsible for the security of the Contractor System and shall at all times provide a level of security which:

2.2.1 is in accordance with Good Industry Practice and Law;

2.2.2 complies with Security Policy Framework; and

2.2.3 meets any specific security threats to the Contractor System.

2.3 Without limiting paragraph 2.2, the Contractor shall at all times ensure that the level of security employed in the provision of the Services is appropriate to maintain the following at acceptable risk levels (to be defined by the Authority):

2.3.1 loss of integrity of Authority Data;

2.3.2 loss of confidentiality of Authority Data;

2.3.3 unauthorised access to, use of, or interference with Authority Data by any person or organisation;

2.3.4 unauthorised access to network elements, buildings, the Premises, and tools used by the Contractor in the provision of the Services;

2.3.5 use of the Contractor System or Services by any third party in order to gain unauthorised access to any computer resource or Authority Data; and

2.3.6 loss of availability of Authority Data due to any failure or compromise of the Services.

3. SECURITY PLAN

3.1 The Contractor shall develop, implement and maintain a Security Plan to apply during the Contract Period (and after the end of the term as applicable) which will be approved by the Authority, tested, periodically updated and audited in accordance with this Schedule 8.

3.2 A draft Security Plan provided by the Contractor as part of its bid is set out herein.

3.3 Prior to the Commencement Date the Contractor will deliver to the Authority for approval the final Security Plan which will be based on the draft Security Plan set out herein.

3.4 If the Security Plan is approved by the Authority it will be adopted immediately. If the Security Plan is not approved by the Authority the Contractor shall amend it within 10 Working Days of a notice of non-approval from the Authority and re-submit to the Authority for approval. The Parties will use all reasonable endeavours to ensure that the approval

process takes as little time as possible and in any event, no longer than 15 Working Days (or such other period as the Parties may agree in writing) from the date of its first submission to the Authority. If the Authority does not approve the Security Plan following its resubmission, the matter will be resolved in accordance with clause I2 (Dispute Resolution). No approval to be given by the Authority pursuant to this paragraph 3.4 may be unreasonably withheld or delayed. However, any failure to approve the Security Plan on the grounds that it does not comply with the requirements set out in paragraphs 3.1 to 3.4 shall be deemed to be reasonable.

3.5 The Security Plan will set out the security measures to be implemented and maintained by the Contractor in relation to all aspects of the Services and all processes associated with the delivery of the Services and shall at all times comply with and specify security measures and procedures which are sufficient to ensure that the Services comply with:

3.5.1 the provisions of this Schedule 8;

3.5.2 the provisions of Schedule 1 relating to security;

3.5.3 the Information Assurance Standards;

3.5.4 the data protection compliance guidance produced by the Authority;

3.5.5 the minimum set of security measures and standards required where the system will be handling Protectively Marked or sensitive information, as determined by the Security Policy Framework;

3.5.6 any other extant national information security requirements and guidance, as provided by the Authority's IT security officers; and

3.5.7 appropriate ICT standards for technical countermeasures which are included in the Contractor System.

3.6 The references to Quality Standards, guidance and policies set out in this Schedule shall be deemed to be references to such items as developed and updated and to any successor to or replacement for such Quality Standards, guidance and policies, from time to time.

3.7 If there is any inconsistency in the provisions of the above standards, guidance and policies, the Contractor should notify the Authorised Representative of such inconsistency immediately upon becoming aware of the same, and the Authorised Representative shall, as soon as practicable, advise the Contractor which provision the Contractor shall be required to comply with.

3.8 The Security Plan will be structured in accordance with ISO/IEC27002 and ISO/IEC27001 or other equivalent policy or procedure, cross-referencing if necessary to other schedules of the Contract which cover specific areas included within that standard.

3.9 The Security Plan shall not reference any other documents which are not either in the possession of the Authority or otherwise specified in this Schedule 8.

4. AMENDMENT AND REVISION

4.1 The Security Plan will be fully reviewed and updated by the Contractor annually or from time to time to reflect:

4.1.1 emerging changes in Good Industry Practice;

4.1.2 any change or proposed change to the Contractor System, the Services and/or associated processes;

4.1.3 any new perceived or changed threats to the Contractor System;

4.1.4 changes to security policies introduced Government-wide or by the Authority; and/or

4.1.5 a reasonable request by the Authority.

4.2 The Contractor will provide the Authority with the results of such reviews as soon as reasonably practicable after their completion and amend the Security Plan at no additional cost to the Authority.

4.3 Any change or amendment which the Contractor proposes to make to the Security Plan (as a result of an Authority request or change to Schedule 1 or otherwise) shall be subject to a CCN and shall not be implemented until Approved.

5. AUDIT AND TESTING

5.1 The Contractor shall conduct tests of the processes and countermeasures contained in the Security Plan ("Security Tests") on an annual basis or as otherwise agreed by the Parties. The date, timing, content and conduct of such Security Tests shall be agreed in advance with the Authority.

5.2 The Authority shall be entitled to send a representative to witness the conduct of the Security Tests. The Contractor shall provide the Authority with the results of such tests (in an Approved form) as soon as practicable after completion of each Security Test.

5.3 Without prejudice to any other right of audit or access granted to the Authority pursuant to the Contract, the Authority shall be entitled at any time and without giving notice to the Contractor to carry out such tests (including penetration tests) as it may deem necessary in relation to the Security Plan and the Contractor's compliance with and implementation of the Security Plan. The Authority may notify the Contractor of the results of such tests after completion of each such test. Security Tests shall be designed and implemented so as to minimise the impact on the delivery of the Services.

5.4 Where any Security Test carried out pursuant to paragraphs 5.2 or 5.3 reveals any actual or potential security failure or weaknesses, the Contractor shall promptly notify the Authority of any changes to the Security Plan (and the implementation thereof) which the Contractor proposes to make in order to correct such failure or weakness. Subject to Approval in accordance with paragraph 4.3, the Contractor shall implement such changes to the Security Plan in accordance with the timetable agreed with the Authority or, otherwise, as soon as reasonably possible. For the avoidance of doubt, where the change to the Security Plan to address a non-compliance with the Security Policy Framework or security requirements, the change to the Security Plan shall be at no additional cost to the Authority.

For the purposes of this paragraph, a weakness means a vulnerability in security and a potential security failure means a possible breach of the Security Plan or security requirements.

6. BREACH OF SECURITY

6.1 Either Party shall notify the other immediately upon becoming aware of any Breach of Security including, but not limited to an actual, potential or attempted breach, or threat to, the Security Plan.

6.2 Upon becoming aware of any of the circumstances referred to in paragraph 6.1, the Contractor shall immediately take all reasonable steps necessary to:

6.2.1 remedy such breach or protect the Contractor System against any such potential or attempted breach or threat; and

6.2.2 prevent an equivalent breach in the future.

6.3 Such steps shall include any action or changes reasonably required by the Authority. If such action is taken in response to a breach that is determined by the Authority acting reasonably not to be covered by the obligations of the Contractor under the Contract, then the Contractor shall be entitled to refer the matter to the CCN procedure set out in Schedule 3.

6.4 The Contractor shall as soon as reasonably practicable provide to the Authority full details (using such reporting mechanism as may be specified by the Authority from time to time) of such actual, potential or attempted breach and of the steps taken in respect thereof.

APPENDIX 1 - SECURITY POLICY: SECURITY POLICY FRAMEWORK

A copy of the Security Policy Framework may be found at:

https://www.gov.uk/government/publications/security-policy-framework

SCHEDULE 9 – WORK ORDER

FROM

Authority	Marine Management Organisation (MMO) on behalf of the Secretary of State for Environment, Food and Rural Affairs
Address	Lancaster House Hampshire Court Newcastle-Upon-Tyne NE4 7YH
MMO Contact	Name: Position: Tel: Mobile (please note this contact is for this Work Order only)
Contract Reference	C-25515 Provision of International Maritime Surveillance Services for the Marine Management Organisation to Identify Inshore and Offshore Threats to the Marine Environment.
Order Date	

TO

Contractor	OceanMind Limited
For attention of	Name: Organisation: Email: Tel Mobile:
Address	Electron Building, Fermi Avenue, Didcot, Oxfordshire, OX11 0QR

Definitions
For the purposes of the Work Order, unless the context otherwise requires, the following words shall have the meanings given to them below:

"Authority"	means Marine Management Organisation of the Department for Environment, Food and Rural Affairs;
"Contractor"	means the person named as Contractor providing the Services;
"KPIs"	means Key Performance Indicators;
"SOP"	means Single Operating Platform and is the title of the Customer's Purchasing System;

1. OVERVIEW OF REQUIREMENTS
Aim
Type of tasking request:
(1.2) Start Date: Upon approval
(1.3) End Date:
2. PERFORMANCE OF THE SERVICES AND DELIVERABLES
(2.1) Contractors key personnel to be involved in the supply of the Services
(2.2) Deliverables
(2.3) Reporting format required
(2.4) Location(s) at which the Services are to be delivered: Marine Management Organisation, Lutra house, Dodd Way, Walton Summit, Lancashire, PR5 8BX Contacts: 1. Name: Tel: Mobile: Email: 2. Name: Tel: Mobile: Email:
(2.5) Quotation requirements / Order Monitoring Arrangements

3. PRICE AND PAYMENTS

(3.1) Framework Pricing Please note data acquisition will be on a flexible basis (to be discussed at the implementation meeting) The maximum costs to be paid will be based on daily acquisition.
(3.2) Invoicing and Payment The Authority shall pay all sums due to the Contractor within 30 days of receipt of a Valid Invoice. Valid Invoices should be submitted for payment to the following address: Finance.MMO@marinemanagement.org.uk (the Authority's preferred option); or Marine Management Organisation, Finance Team, Lancaster House, Hampshire Court, Monarch Road, Newcastle Upon Tyne, NE4 7YH.

Acceptance of the award of this Work Order will be made by electronic signature carried out in accordance with the 1999 EU Directive 99/93 (Community framework for electronic signatures) and the UK Electronic Communications Act 2000.

Acceptance of the offer comprised in this Work Order must be made **within seven (7) days** from the date of this award and the agreement is formed on the date on which the Contractor communicates acceptance on the Authority's electronic contract management system ("**Atamis**").

No other form of acknowledgement will be accepted. The terms and conditions of contract C-25515 'Provision of International Maritime Surveillance Services for the Marine Management Organisation to Identify Inshore and Offshore Threats to the Marine Environment' shall apply to this Work Order.

Signed for and on behalf the **Contractor**	Signed for and on behalf the **Authority**