



## Defra Group Management Consultancy Framework: Project Engagement Letter

Completed forms and any queries should be directed to Defra Group Commercial at

Engagement details			
Engagement ref #	DPEL_61547_004		
Extension?	N	DPEL Ref.	N/A
Business Area	Marine Management Organisation		
Programme / Project	Blue Belt Programme		
Senior Responsible Officer	[REDACTED]		
Supplier	Deloitte		
Title	Cost, capability and recommendations to bring satellite surveillance monitoring and analysis within the Marine Management Organisation.		
Short description	The MMO and Blue Belt Hub do not currently have the capability to procure or analyse Earth Observation satellite surveillance data, so this work is outsourced to an external contractor. The overarching aim of this tender is to explore the options and feasibility of bringing all or some of this service in-house.		
Engagement start / end date	15/11/2021	11/02/2022	
Funding source	Funding (£80k) confirmed from 21/22 Blue Belt budget allocation (The Foreign, Commonwealth and Development Office directly fund the Programme for 2021/22)		
Expected costs 21/22	£79,138 (ex VAT)		
Expected costs 22/23	£Total Engagement Costs (to be less than approved funds)		
Expected costs 23/24	£Total Engagement Costs (to be less than approved funds)		
Dept. PO reference	TBC – MMO to be invoiced directly		
Lot #	Lot 2		
Version #	1		



## Approval of Project Engagement Letter

By signing and returning this cover note, Marine Management Organisation (MMO) accepts the contents of this Project Engagement Letter as being the services required and agrees for Deloitte to provide the services in accordance with the agreed Supplier Proposal under the overarching contract (Lot 2 - Ref 28595), with Defra Group and confirms the availability of funding to support recharge for the services.

Signatures		
Supplier	Business Area	Defra Group Commercial
For and on behalf of Deloitte LLP  Partner	For and on behalf of MMO  Head of Blue Belt Programme	Defra Group Commercial  Consultancy Category Lead
4/11/2021	8/11/2021	8/11/2021
Supplier engages with Business Area to complete. Once agreed, Supplier signs front page and sends to Business Area	Business Area signs front page and sends to DgC	On approval, DgC signs and returns copy to Business Area and Supplier

Supplier contact: telephone:

Business Area contact: Head of Blue Belt Programme, MMO

Telephone: Mobile:

## 1. Background

Satellite Earth Observation data, especially synthetic aperture radar (SAR), can provide a means for the UK Overseas Territories (UKOTs) to detect illegal fishing in their waters. The images need to be correlated with Automatic Identification System (AIS) data and other intelligence to be effective but satellite imagery is proving to be a robust and continually improving tool for maritime surveillance.

The primary purpose is to provide surveillance for large marine areas in the Overseas Territories and to identify illegal fishing vessels but there may also be wider application to monitor other human activity in the marine environment (pollution, traffic management, construction etc) and to support environmental survey work. This may apply in the UKOTs and within English waters to support the broader MMO priorities.

1) The MMO wish to assess whether satellite surveillance services can be brought in house. This includes the procurement of the commercial satellite data (which may be raw or processed) and the processing and analysis of the data to try and identify illegal fishing vessels.

2) The MMO will need to fulfil the role currently provided by an external supplier. This includes:

- Tasking, procurement and storage of SAR imagery
- Processing of raw data where necessary
- Analysis and correlation of SAR imagery against AIS (and other data sources) to detect dark vessels
- Detection of vessels with a minimum size of 10m (currently this only applies to vessels operating in the BIOT but if other UKOTs join the Blue Belt programme it may increase)
- Establish confidence levels and margins of error for detections (imagery or analysis are unlikely to provide absolute identification of a fishing vessel or fishing activity)
- Procurement and analysis of other Earth Observation data (optical, VIIRs etc) against AIS and other data to support the detection and management of IUU

3) The contract awarded under this Tender will last for up to 6 months

## 2. Statement of services

### Objectives and outcomes to be achieved

#### Key Objectives (KOs)

1) Provide a comprehensive report and proof-of-concept workflows (to illustrate the in-house options) which will help the MMO understand the practicalities of bringing satellite surveillance procurement and analysis in-house, and the various options for approaching this. The supplier must also consider 'hybrid' options, for example utilising existing systems and platforms available

via delivery partners but employing imagery analysis specialists, which would negate the need for developing all aspects of the process in-house. Outline the advantages and disadvantages of bringing this service fully or partly in house and provide a recommended course of action.

2) Provide an overview of the commercial, open source and Governmental data and services currently available, documenting their advantages and disadvantages with a particular focus on their suitability for the required application. As a secondary focus the overview should include a high level of comparison of the pros and cons of different platforms/sensors and services which could support other applications in the marine environment such as coastal construction, aggregate dredging, and marine pollution monitoring

3) Provide timeframes to implement an in-house system.

4) Provide an overarching estimate of resources (including staff time) for establishing, running and maintaining an in-house system. Also provide a breakdown of the number of staff and their respective skills, experience and expertise required to run and maintain an in-house solution. Include technical specifications of hardware required and provide a cost/ benefit analysis of physical versus cloud-based data storage solutions. In addition, provide an approximate cost break down for:

- acquiring SAR data from different sources, and a model for how that arrangement may work (for example, one-off purchases, subscriptions etc.)
- acquiring a vessel detection tool kit (if off the shelf is available) or estimates for developing a bespoke tool kit for automatically identifying contacts of interest from SAR imagery and correlating those detections with AIS
- the analysis process, to include an estimate of how much automation vs manual analysis is required

5) Provide a review of the requirements to integrate any such system into the existing Defra IT infrastructure and explain how this arrangement would be

## Scope

The proof-of-concept workflow should include a worked example of the proposed method in both rapid response and long-term surveillance scenarios, subject to 3<sup>rd</sup> party data and/or software suppliers making trial datasets and licenses available. Real data should be from sample locations and dates IUU has previously been detected by the existing service. This will enable outputs to be compared to see how the proposed method performs relative to the existing service.

The final report must include:

1) A comprehensive list of available Earth Observation satellite data sources and providers (commercial SAR data, Governmental data sources and other open source information) including data acquisition, processing and analysis time.

o Provide details and cost-benefit analysis for data procurement options e.g. tasking vs. pay per image including considerations around tasking and archiving, with a particular focus on speed of acquisition for near real-time data analysis.





o Provide an overview of all available data sources to give the MMO the knowledge to evaluate suitability of data from different platforms for this purpose e.g. TerraSAR-X, RadarSat-2, ICEYE, NovaSAR , and provide a cost/ benefit analysis of each

2) Comparative evaluation of available vessel detection tool boxes/ software packages (commercial/open source), pros and cons, outputs, system requirements and the skill set needed to operate them. Investigate the feasibility of adopting an 'off the shelf' solution, including utilising existing Government tools, systems and infrastructure, and explore bespoke options if required. Explore whether a single tool can be used for all available EO data analysis both commercial satellite data (our main focus) and open access satellite imagery.

3) Description of the vessel detection algorithms required and whether different algorithms are needed for either different image resolutions and beam modes -DVWF (Detection of Vessels, Wide Swath, Far incidence), XF (Extra-Fine), etc or to look for vessels of different sizes?

4) Details describing an effective analysis process including storage, interface, where does the tool sit and the library of imagery data sit (i.e. on local MMO machines, in the cloud), scripting, technical support and future proofing. Identify how the system would interface with Defra IT requirements and highlight any challenges associated with this. Include estimates for set up and ongoing costs, as well as detailing the staff expertise/ manpower required to service and maintain the system.

5) A review of whether the Defra licence with the Atos Mundi DIAS provides advantages in the near real-time analysis needed for vessel detection using Sentinel 1 data. Identify any other opportunities for collaboration within Defra or wider Government that may yield efficiencies in development, maintenance and application.

6) Complete an evaluation of skill sets within the team. Provide an overview of the training or recruitment that would be required for MMO staff to effectively operate an in-house system, based on the recommendations made under point 3. Where pre-processing is required, provide recommendations on methods and training.

7) Costs, as described in the key objectives

8) Options and recommendations for bringing a service in-house including 'hybrid' solutions (note it is recognised that an option may be to continue to use external providers for this service)

### Assumptions and dependencies

The supplier will have sufficient time and capacity to develop and understanding of the context to deliver the work in a short timeframe.

[REDACTED]

Joint Maritime Security Centre (JMSC) systems and capabilities will need to be factored into the report, and it's assumed they will engage- resources, security considerations and other factors may, however, make this challenging

The supplier will make every effort to source free trial data and software licenses to support proof of concepts. We assume that any costs associated with data and software licenses will be agreed in advance with the MMO Project Lead and the cost will be met by MMO. No costs for Data and licenses are included within the fixed price of this DPEL

This Project Engagement Letter is based on the following assumptions and dependencies:

- There will be dependencies across the business, including interdependencies between work and delivery areas and processes across the agency
- This transformation has to be delivered whilst business as usual cycles continue and that business is not disrupted whilst being transformed.

In accordance with clause 10.13 of the Call Off Contract, the Customer provides its approval for the Supplier to take information offsite and work offsite.

The Customer or Business Area will notify the Supplier prior to the commencement of the Services of any internal policies, security policies, ICT policies, or other policies, codes or procedures that it requires the Supplier to comply with (and where applicable update the Supplier to the changes in any such policies).

The Customer and/or Business Area will not supply the Supplier with any Personal Data unless otherwise agreed in writing between the Parties.

Supplier is not responsible for Delays that are outside of its reasonable control.

Any and all enhancements and/or modifications to the Supplier's background IPR will be retained as Supplier Background IPR.

In line with good industry practice, the Supplier's Services will be performed for the sole benefit of the Customer and the Business Area and should only be used for the purpose described in the Project Engagement Letter. Except as otherwise expressly agreed, no one other than the Customer and/or the Business Area may rely on the Deliverables and/or information derived from them and the Supplier accepts no responsibility to anyone else to whom the Deliverables are shown or into whose hands they may come.

#### Processing Data

The Customer will not supply the Supplier with any Personal Data unless otherwise agreed in writing between the Parties.

#### Other

1. In accordance with 10.13 of the Call Off Contract, the Customer provides its approval for the Supplier to take information offsite and work offsite.
2. The Customer will notify the Supplier prior to the commencement of the Services of any internal policies, security policies, ICT policies, or other policies, codes or procedures that it requires the Supplier to comply with (and where applicable update the Supplier to the changes in any such policies).
3. The Supplier will render their Services remotely for the majority of time, but there may be occasional requirement to visit the Natural England offices if agreed between the Parties.
4. The Customer will obtain appropriate legal, technical or other specialist advice (including financial advice that is not in scope).
5. Any timetable will be dependent on the parties fulfilling their respective responsibilities
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## Risk management

Nominated supplier unable to deliver necessary skills for project completion.

*Ensure DPEL accurately reflects requirements and challenge supplier at discussion phase.*

*Source appropriate sub-contractors.*

Project timelines slip that impact on delivery within FY21/22 (Blue Belt project currently only has secured funding to 31/03/22).



*Clear deliverables and associated deadlines included in DPEL. Monthly or bi-monthly supplier meetings (shorter if necessary) to include progress reports and supplier to advise of any potential for non-delivery.*

Supplier may utilise subcontractors to deliver the report, which, given the timeframes involved in delivering this work, could present a problem in terms of sourcing, briefing and procuring their services.

*Highlight this risk to supplier at the earliest opportunity. Supplier to demonstrate how they propose to resource and deliver the work, including how they propose to overcome possible constraints/ challenges around using sub-contractors in the limited available time, if applicable.*

A lot of Blue Belt staff time will be required to brief the supplier in order to ensure the context and requirements are understood. The Blue Belt team is stretched for resource, with a lot of new work and the end of the financial year approaching. As such, team members may have limited time to spend with the supplier, and therefore there is a risk requirements are misunderstood.

*Make supplier aware of this early, and book time in with the team at an early stage*

The outcome is that the current set up of outsourcing is the most cost-effective solution, meaning the status quo remains. Questions could therefore be raised as to whether it was a good use of money to run the contract.

*The current commercial arrangement is very costly, and so it is proportionate to assess what, if any, of the analytical services can be procured in house*

Funding for Blue Belt has typically been in short funding rounds (1-3 years), whereas the timescales required to develop and implement changes of this nature are likely to be greater than this. As such, the MMO may not be able to fully commit to the report recommendations.

*Other programmes, Government departments and indeed UK Operations are likely to have an interest in the outcome of the report, and knowing the requirements can influence broader considerations around MMO Global Marine Strategic objectives.*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## Deliverables

See outcomes above





Deliverable	Success Criteria	Milestone / Date	Owner (who in the delivery team?)
<b>Project Stage A</b>			
<b>Project Stage B</b> (additional stages can be added)			
<b>Internal Capability Development Outcomes</b>			
<b>Social Value Outcomes</b>			

#### Limitations on scope and change control

Unless instructions to the Supplier are later amended in writing, the work undertaken will be restricted to that set out above. In providing the services detailed above, the Supplier will be acting in reliance on information provided by the Business Area.

The Project Engagement Letter is the agreed contract of work between the Defra Group Business Area and the Supplier and can be varied under the change control process. Any changes to timescales, scope and costs will require approval by DgC.

In the event that additional or follow on support is required, this will be managed as an extension to this Project Engagement Letter and require a Variation and/or new Project Engagement Letter to be agreed between the Parties.

The Customer shall provide the Supplier with all information that is necessary for the performance of the Services and such information will be accurate, complete and not misleading. The Customer agrees that the Supplier shall not be treated as being on notice of information given to it in the course of previous engagements and so all information that is relevant to the Services must be given directly to the Supplier team even if the same information has been given to the Supplier previously in the course of a different contract or engagement. The Customer will notify the Supplier promptly if any of the information or data it has provided becomes inaccurate or if any of its requirements change or if it becomes aware of any conflict or ambiguity in respect of the agreed requirements or any circumstances or events which may affect the provision of the Services within the anticipated timescales.

The Supplier will not audit, test, or verify the information provided to it in the course of the Services. The Customer agrees that the Supplier shall be entitled to rely on all information provided to it and on the Customer's decisions and approvals in connection with the Services and to assume that all such information from whatever sources is true, complete and not misleading. The Supplier will not be responsible for the consequences of any information provided to it in the course of the Services not being complete, accurate or current.





Department  
for Environment  
Food & Rural Affairs

Delays caused by circumstances outside the Supplier's control will be subject to change control and will not incur any penalty or loss to the Supplier. The Customer will promptly inform the Supplier of any circumstances or events which are likely to affect the provision of the Services within the anticipated timescales.

The Supplier assumes that the project timeline is indicative only and will be subject to change. Any timetable will be dependent on the Parties fulfilling their respective responsibilities.

### 3. Delivery team

Name	Role (link to stage/s resource will work on)	Grade	Daily rate	# of days	Cost
	Quality Assurance and Direction	Director		1	
	Delivery Lead	Managing Consultant		1	
	SAR Processing SME	Senior Consultant		1	

<b>Total resource</b>	<b>44/50</b>
<b>Total days*</b> <b>Engagement Length**</b>	<b>(Break for Christmas 13 Dec – 4 Jan)</b>
*Total days worked across all resources **Total working days in engagement	

### Business Area's team

**Project Lead – [REDACTED] – Head of Compliance & Enforcement (Innovation)**

**Secondary Project Lead – [REDACTED] – Marine Technology Senior Innovation Lead**

Day to day points of contact, to include briefings, answering queries, providing technical guidance and support, setting and reviewing objectives/milestones and evaluation.

**Reviewer – [REDACTED] - Head of Compliance & Enforcement**

As [REDACTED] and his team would be the operational end users of any system, some input will be required either directly from [REDACTED] or other representatives from the team will provide technical input over the course of the programme.

**Reviewer- [REDACTED] – Head of Marine Management**

#### Reviewers/ Technical Specialists

[REDACTED] - Earth Observation Evidence Specialist, JNCC,

[REDACTED] - Senior Earth Observation Evidence Specialist, JNCC

[REDACTED] - Co Team Leader Ecosystems Analysis, JNCC

**Programme Management Support – Blue Belt PMO (TBC)**

**Commercial Management Support – [REDACTED] – MMO Contract and Supplier Relationship Manager**

#### 4. Fees

Defra Group will reimburse the Supplier for approved work done according to the table below. The total fees for the scope of work detailed in this Engagement Letter will be [REDACTED], inclusive of expenses [REDACTED] and excluding VAT.

Stage	Cost	Due (link to milestone dates)
<b>A</b>		<b>DD/MM/YY</b>
<p>Interim report outlining key findings of investigation to include;</p> <ul style="list-style-type: none"> <li>- Review of available data sources, including capabilities, costs, subscription charges and pros/ cons</li> <li>- Summary of any off-the-shelf analytical solutions, including systems available within Government</li> <li>- Review of options, costs and specifications around IT system requirements, including hardware, data storage and compatibility with Defra IT architecture</li> <li>- Review existing Governmental systems/ solutions that may already be in place, and highlight opportunities/ challenges of a hybrid in-house option</li> <li>- Provide preliminary recommendations, which will form the basis of more detailed recommendations in final report</li> </ul>	[REDACTED]	10/12/21
<b>B (additional stages can be added)</b>		
<p>Completion and acceptance of final report to include;</p> <ul style="list-style-type: none"> <li>- Detailed cost/ benefit analysis of all options, including identification of most viable solutions</li> <li>- Detailed workflows for viable in-house/ hybrid solutions, including full breakdown of costs, maintenance requirements, staff requirements (manpower and expertise), analysis, outputs, timelines and opportunities/ limitations</li> <li>- Strategy and timelines for integrating viable solutions into Blue Belt BAU</li> <li>- Detailed breakdown of specific data/ systems analysis requirements</li> <li>- Horizon scan for emerging capabilities and opportunities for internal/ external collaboration</li> <li>- Any other output as detailed at Section 2 (Objectives and Outcomes) but not covered as part of interim or final report delivery.</li> </ul>	[REDACTED]	11/2/22
<b>Expenses</b>		
Should be minimal, but a small component of the project cost could be set aside for incidental T&S expenses	[REDACTED]	
<b>Grand total</b>	£79,138	

**Expenses statement**

Defra Group overarching contract rates include expenses for any travel to/from any UK location defined by the Business Area as the base office for the work. Only expenses for travel at the Business Area's request from this base can be charged. If appropriate, define permissible expenses to be charged.

**Payment**

The Supplier should invoice fees monthly in arrears. Defra Group will reimburse fees monthly on confirmation of approval of work delivered by the Business Area. The Supplier will keep an accurate record of time spent by staff in providing the services and provide this information and supporting narrative, if requested.

**5. Governance and reporting**

As part of the contract, the Supplier and Business Area agree to provide reporting on the following:

- Completion of the time tracker on a monthly basis, to track days worked by our consultants;

**Key Performance Indicators**

KPI	KPI Requirement	Description	Reporting Frequency	Who Measures	Method of Measurement	Performance Target
1	Kick off meeting	Supplier to arrange kick off meeting with project team to discuss all aspects of project delivery	Once, with written summary provided by supplier after meeting	Project Team	<i>Review of meeting note</i>	Within one week of contract commencing
2	Weekly progress meeting	Weekly meeting with project team to discuss progress, seek input/ guidance and raise concerns/risks	Weekly	Supplier	<i>Maintaining a schedule and record of meetings</i>	<p>Unless cancelled by project team, participation from supplier representative at all meetings</p> <p>Supplier to maintain notes, actions and decisions on back of each meeting for project team to approve</p>
3	Biweekly (possibly reduced to monthly) directional meetings	More in depth meeting to discuss direction of project and for supplier to present findings to date/ options, enabling project team to influence direction and prioritisation of work	Biweekly (possibly reduced to monthly)	Supplier	<i>As above</i>	As above



4	Interim report	See Scope and Key Objectives for detail on required content.	Once, but recommend starting early with this and adopting an iterative approach.	Project team	<i>Review and evaluation of report - recommend developing this from an early stage so content and scope can be adjusted in accordance with directional meetings</i>	Submission of interim report by 31 <sup>st</sup> January 2022
5	Delivery of proof of concept work flows	See Key Objective 5 for details	First iteration to be completed as part of interim report. Final version, incorporating input from interim report review, to be submitted as part of final report.	Supplier	<i>Review of proof of concept work flows by project team.</i>	31 <sup>st</sup> January 2022, with any revisions completed by 31 <sup>st</sup> March 2022
6	Meeting to discuss content of final report	On back of project team reviewing interim report, wash up meeting to set direction for content of final report	Once	Supplier	<i>Meeting notes provided by supplier</i>	7 <sup>th</sup> February 2022
7	Final report	See Scope and Key Objectives for detail on required content.	Once, but recommend starting early with this and adopting an iterative approach	Project team	<i>Acceptance following review of a final written report</i>	21/3/22

<b>8</b>	Debrief/ lessons learned	Supplier to arrange a wash up session to capture lessons learned	Once	Supplier	<i>Supplier to provide written summary of lessons learned exercise</i>	31/3/22
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## Feedback and satisfaction

Business Area and Supplier to agree regular reporting intervals for the duration of the engagement.

Defra Group reserves the right to hold review meetings during the assignment, discussing what went well, opportunities for improvement on future assignments and similar. This will incorporate any 'Show and Tell' documentation or transferable products that have been produced.

A post-engagement quality review of the engagement will be arranged where the Business Area rates the services provided.

## Non-disclosure agreements

The supplier may be sighted on intelligence, personal data and covert surveillance methodologies. If this is not covered in standing NDA, this should be added

## 6. Exit management

**The agreed actions and deliverables by the Supplier for when the contract ends are as follows:**

See above KPIs
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## Notice period

The nature of these engagements require that Defra Group have the ability to terminate an engagement with notice. Defra Group's termination rights for this engagement are marked below.

The minimum notice period for termination is 5 working days regardless of engagement duration.



1. Business Area identifies a potential need for delivery support, initiates a conversation with DgC, confirms which approvals are required for an engagement to occur, e.g. Consultancy Governance Board if over £100k or DgC Corporate Services Delivery Board if under £100k.
2. Request Form completed by Business Area and submitted to DgC at:  
[REDACTED]
3. The form is reviewed by the DgC team around which resource route is most appropriate (e.g. Lots 1/2/3) and may request additional information/edits from the Business Area if required.
4. Lot / Supplier is selected and briefed on the request by DgC, then introduced to the requesting Business Area for further discussion and confirmation of work to be delivered
5. A Project Engagement Letter is completed by the Business Area with input from the Supplier (with supporting proposals as appropriate) and then finally agreed between the two parties, including evidence of all required approvals either being in place or being progressed (e.g. PO) and forwarded to the DgC for review by the Consultancy Governance Board (CGB). Approval states are:

Approval state	Definition	Permissions
Full approval	<ul style="list-style-type: none"> <li>▪ DPEL agreed</li> <li>▪ DPEL signed: Supplier, Dept and CO</li> <li>▪ Purchase Order number</li> </ul>	<ul style="list-style-type: none"> <li>▪ Work can start</li> <li>▪ Supplier can invoice for work</li> </ul>





