

CALL FOR TENDER FOR THE IMPLEMENTATION OF ELECTRONIC MONITORING ON BOARD THE VESSELS OF THE DANISH PELAGIC PRODUCER ORGANISATION (DPPO)

The DPPO's pelagic fleet is the first in Europe to introduce fully documented fishing on all vessels. The DPPO plans to install CCTV and associated sensors on all its vessels.

The DPPO's pelagic fleet is one of the world's most modern and advanced. Danish pelagic fishers land annually over 400,000 tonnes of healthy, sustainably caught herring, mackerel and other species to supply millions of consumers worldwide. These consumers will now be given the additional assurance that the fish is caught and handled responsibly and in full compliance with rules and regulations in Denmark and the EU.

From 2023, all vessels in the DPPO will be connected to a closed data system operated and owned by the DPPO with the assistance of independent third parties. The transparent system will record and store all relevant fisheries related data from the vessels, including video from CCTV surveillance. All data and information from the fishing operations will be made available directly to the Danish Fisheries Agency and other relevant public and private partners.

The DPPO is thus issuing a call for tender for a contractor to develop, install and service the REM system according to the Terms of Reference specified in this document. The tender must be submitted to senior advisor at DPPO Lise Laustsen at ll@pelagisk.dk by 20th of December 2022.

Terms of reference

1. Contracting Authority

The Danish Pelagic Producers Organisation (DPPO)

Axeltorv 3

1609 Copenhagen V

CVR 78321210

<https://www.dppo.dk/>

2. Objectives

The short-term objective of this industry-driven initiatives is to engage in a project with the Danish Fisheries Agency with the aim of validating compliance with the EU landing obligation via EM systems onboard DPPO vessels. The aim of the tender is to provide a functional system based on the specifications in the Terms of Reference and that allows the Danish Fisheries Agency to control compliance with the EU landing obligation.

The long-term objective of this project is also to make data and video from fishing operations available to private partners such as the processing industry to assure consumers about the credibility and transparency of the pelagic fleet and for scientists to use the data for stock assessments etc.

3. System specifications

The EM system must collect camera and sensor data onboard the vessels and store it until it can be uploaded to servers on land or to a cloud-based solution. The data must be displayed to partners through a secure connection on an online viewing platform from where the data can be analysed. It is important that the DPPO has full ownership of the data, so partners can view datasets and analyse it online without having to download it.

The system will not be integrated with the existing logbooks, but the logbook number of each trip must serve as a reference number linked to the data from the EM system. The Danish Fisheries Agency is currently developing a new logbook system. When this new system is implemented the possibility of integrating the EM system and the logbook will be evaluated.

The system must be flexible so as to handle the long-term objectives of cooperation with several partners. The systems must be able to adjust to the data requirements of new partners and handle more sensor and camera input and from other sources such as sonar and engine. Furthermore, the online platform must be able to handle access to different datasets for different partners.

Specifications of the fleet and fishery can be found in the appendix II.

Alternative ways to meet the specifications of the system are welcomed by the DPPO. A description of alternatives must be specified in the tender.

4. Tasks for the contractor

The tasks for the contractor are to:

- Develop a VMP for all DPPO vessels
- Install an EM system on all DPPO vessels
- Develop an online viewing platform
- Establish a system for transferring data to land servers/cloud storage
- Manage and maintain data servers or cloud storage
- Support and repair the EM system and viewing platform

5. Deliverables

5.1. VMP

The contractor must contact vessels owners / operators and plan visits regarding VMPs and installation of the EM system. The DPPO will provide the contractor with contact information to the vessels. The vessel owners will provide the contractor with a general layout of the vessel and a description of the catch handling process onboard. The contractor will prepare a VMP for each vessel based on the layout and the general description of the cameras needed and sensor input in the terms of reference. The VMP must be approved by the Danish fisheries authorities. If needed the contractor must adjust the VMP before final approval by the authorities. The contractor must install the REM system specified in the VMP. A VMP must be developed for each gear type. All DPPO vessels use pelagic trawl and only a few are equipped for purse seine and rarely use it. It will be up to the vessels to decide if they need an additional VMP for purse seine. The vessel list provided in appendix II specifies gear types of the individual DPPO vessels. The tender must include VMPs for all DPPO member vessels. If a new vessel joins DPPO, the cost of additional VMPs must be stated in a pricelist.

A VMP must include:

- General vessel information, including gear type
- Description of the catch handling process
- List of contacts including support contacts
- EM system components and specifications
- Vessel Owner/Operator Responsibilities
- User manual in Danish
- Troubleshooting guide
- System operations and maintenance

5.2. Cameras and sensors

The contractor is responsible for planning and installing the EM system on the vessels and bear the cost exclusive cameras and cables connecting the cameras and control box. The installation plan must be approved by the vessel owner/operator before installation is begun. If possible, the cameras already on board the vessel must be used in the REM system. The contractor will determine if the onboard cameras can be included in the EM system. If not, the contractor must specify where additional cameras must be installed on the vessel. The vessel owners must install the cameras themselves according to specification of the contractor. The vessels should have the option of purchasing installation of equipment from the contractor according to a pricelist specified by the contractor in the tender. The vessel will bear the cost of the cameras, cables and installation needed whereas the tender must include cost of the remaining system.

There will be a 100 % trip coverage by the EM system. An important aspect of the system will be to keep the data to a minimum in order to allow for easy transfer of data to land and data storage. The cameras will thus not operate during the entire trip; they will only start recording when sensor activity indicates a net is about to be hauled, and end recording when the catch is in the RSW tanks. Sensor data must be recorded throughout the trip.

Only a subset of the specified camera and sensor data must be made available for the Danish Fisheries Agency and another subset for DPPO. This will be specified in the description of the cameras and sensors below. DPPO must have data for 100 % of the trips but it does not have to be made available through the online platform and can be sent or otherwise be made available for the organisation.

The data must be marked by the logbook number in the EM system.

Pelagic trawl – cameras

All hardware components must operate reliably in their installed location onboard fishing vessels e.g., sufficiently water/dust resistant, vibration resistant and operating at relevant temperature ranges.

Placement of cameras

Cameras must start when the net is being hauled and stop when the catch has been pumped into the RSW tanks.

- Stern view focused on water surface and net retrieval
 - Purpose of camera is to provide an overview of the net in the water.
 - Available for the Danish Fisheries Agency

- Water separator/dewatering box
 - Purpose of camera is to verify that fish is being pumped on board and indicate if the pump is full or operating at lower efficiency.
 - The quality of the footage must allow for species recognition as the DPPO is planning research projects with the aim of estimating catch composition by means of AI.
 - Available for the Danish Fisheries Agency and DPPO

- Unloading pipe
 - Purpose of camera is to verify that no fish are unloaded at sea.
 - Camera must be turned on only when the tank pump is active and turned off when tank pump is inactive.
 - Available for the Danish Fisheries Agency
- Sampling station (optional for vessels)
 - Purpose of the camera is to verify that sampling for estimation of catch composition takes place and to include data on length and weight.
 - The vessel owner/ operator will decide if the camera should be installed.
 - Available for vessels only

Pelagic trawl – sensors

Geofencing must be built in the EM system in order to prevent activation of sensors and thereby cameras when the vessels are docked.

- Pump activity including pump rate
 - Purpose of recording pump activity is to indicate that fish are brought on board.
 - Purpose of recording pump rate is for use in a DPPO project that aims to investigate whether the rate and length of time of the pumping activity can be used to estimate the amount of fish taken on board. The expectation is that this will only be the case for a few of the fisheries that DPPO members take part in.
 - Pump activity must be available for the Danish Fisheries Agency and DPPO, Pump rate only for DPPO
- Trawl net sensor
 - Purpose of the sensor is to indicate fishing activity and evaluate the usefulness of the data
 - Cost of including the net sensor must be specified separately
 - Available for the Danish Fisheries Agency
- Winch activity
 - To indicate the start and end of fishing activity.
 - Available for the Danish Fisheries Agency
- Tank temperature
 - To provide a temperature log for the storage of the fish.

- Available for the Danish Fisheries Agency

- GPS / VMS
 - To provide the positions for the fishing activities.
 - Available for the Danish Fisheries Agency

Purse seine - cameras and sensor

The EM system set-up will be basically the same for purse seines. However, there will be a need to make sure that the stern view camera captures the visible buoy marking the limit for the point of retrieval in order to validate the correct use of the exemption for landing obligation regarding herring and mackerel specified in Commission delegated regulation (EU) 2020/2014 article 10. The installation of more cameras to evaluate the purse seine fishery will depend on the set-up on the individual vessel and will be determined by the contractor.

If extra cameras are placed on the vessel, the EM system must be set up so they are only activated when the purse seine is used so as to minimize the data volume.

5.3. Control box

The contractor must provide for each vessel a system control box that also acts as a storage until the vessels are able to upload the data to land. The operators on the vessel must be able to see recordings from cameras and sensors.

The vessel operator must be able to make comments to the camera and sensor data.

5.4. Data transfer and storage

Data from the trips must be downloaded by means of a secure method from the vessel when in the harbour to a server / cloud service from where it can be uploaded on request to the online viewing platform. The data transfer method from the vessel must be described by the contractor in the tender. There is no need for live streaming of the fishing activities to land.

The data must be stored and be accessible through the online platform for one year. After then the data must be delivered to the DPPO in a readily accessible format for later possible analysis and use in research.

5.5. Viewing platform

The Danish Fisheries Agency must be able to request viewing data from specific trips by using the logbook number as a reference. The vessel from which the data is requested by the Danish Fisheries Agency must be notified of the request. As the system handles sensitive data and film it must handle authentication and administration of rights. It is expected that 5-10 % of trips will be reviewed by the Danish Fisheries Agency.

It must be possible for the individual vessels to access and download their own data from either the control box or the online platform.

The online viewing platform must include the following options:

- To show film in slow motion and fast forward.
- To pause the film.
- To write notes to points of interest in the film.
- To export video clips, sensor data and notes in a generally available format.
- Once the Danish Fisheries Agency has reviewed the data from a trip, it must be deleted from the platform.

The viewing platform must include a user manual for the Danish Fisheries Agency, either in English or Danish. The tasks for the contractor regarding the EM system must also include support and repair of system errors and malfunctions for the viewing platform and the users of the viewing platform. A user license for the Danish Fisheries Agency must be included in the tender and costs of additional licenses must be specified.

5.6. Privacy requirements

The video footage and sensor data from the vessels are considered sensitive data and must be handled as such. The contractor will provide a solution where the data is transferred securely and only be viewed by partners. The method must be described in the tender.

5.7. Support

The contractor will be responsible for repairing the EM system errors and malfunctions and must provide technical support to the vessel operator and users of the viewing platform. The technical support must be available twenty four hours a day for seven days a week. In the VMP there must be a troubleshooting and malfunctioning guide, and the vessel operator must be able to contact the provider if the EM system is not functioning correctly. The contractor can provide the vessels with spare parts in order for the ship's crew to carry out repairs.

In the tender, the contractor must specify a timeframe for on-site technical service if the EM system malfunctions and must specify how any breach in this timeframe will be handled.

6. Annual cost of running the REM programme

In the tender, the contractor must specify the annual cost of running the EM system including storage of data. It must be specified which services are included in the annual cost. The cost of a new VMP for pelagic trawl, purse seine or another gear, new cameras and other spare parts for the EM system must also be specified.

7. Minimum technical specifications

See Appendix I

8. Submission of proposals

The tender must be submitted to Lise Laustsen at ll@pelagisk.dk by 20th of December 2023. Questions about the tender can be addressed to Lise Laustsen at ll@pelagisk.dk throughout the tender period.

The award decision does not mean that a legally binding contract has been entered into. A legally binding contract will be drawn up between the winning contractor and the DPPO as soon as possible after the award decision has been announced.

It must be stated in the tender if subcontractors are used by the contractor to deliver on parts of the EM system, support or other functions.

The tenderer is responsible for all costs for submitting the tender, as well as any other costs of any kind, relating to the procurement. The tenderer is thus not entitled to compensation for taking part in the procurement, regardless of the outcome.

9. Specification of costs

The tender must include separate specifications of cost of initiating the project in 2022 and the cost of finalizing the project in 2023. DPPO has a budget for initialising the EM project in 2023 for 300.000 kr. The annual cost of running the system including support, servers/cloud service and maintenance must also be specified separately. The cost of including the trawl net sensor must also be specified separately.

10. Selection of proposals

The selection of the contractor will be based on the ability to deliver a cost-effective EM system that meets the specifications in this document. The timeframe for support and on-site repair will also be an important factor in the evaluation of the tenders as well as the user-friendliness of the EM systems.

11. Duration of the contract

The project implementation of the EM system must be initiated in 2022 and finished in 2023. There is no end date to having EM on the DPPO vessels, so service and support of the system will be needed beyond 2023.