

Glossary



This glossary has been produced under the auspices of the ICES [Working Group on Technology Integration for Fishery-Dependent Data \(WGTIFD\)](#) to define common and emerging terms used within the context of electronic monitoring and related technologies applied in fisheries management to improve fisheries-dependent data collection and enhance sustainability. The glossary also introduces context specific interpretations of terms defined elsewhere in literature.

Archival positional data system - A positional information system that collects and archives geo-spatial data (time-based locations) on the vessel or gear to which it is fixed, which is then transmitted or downloaded once the vessel or gear returns to port or enters an area of signal transmission (i.e. store and forward)
See also: Transmitted positional data system

Artificial intelligence (AI) ^[1,2] - The use of transformative machine-based systems capable of performing and enhancing tasks that usually require human-like intelligence such as object detection, object tracking, segmentation, and classifications

Burn-in trip – A fishing trip of a vessel scheduled for review or inspection by a regulator to demonstrate the EM system is functioning properly and meets the requirements of the programme/ VMP. Such a trip may be required upon installation, initial application for access to the fishery, annual renewals or after certain EM system modifications
See also: Vessel Monitoring Plan

Companion software - Software designed to complement, enhance, or

interact with EM hardware and/or software

See also: EM review software

Computer vision (CV) ^[2] - “A form of AI used to understand and recognise images and videos, and to analyse the elements of the content within them”

Electronic monitoring (EM) - The use of imagery, positional data systems, and/or sensors fixed to a fishing vessel to independently monitor fishing operations, effort, and/or catch

Aliases: Remote Electronic Monitoring

See also: Fully-documented fisheries

Electronic reporting - The use of smart phones, computers, and/or tablets to record, transmit, receive, and store data

EM service provider - Any organisation that is certified and/or permitted by a regulatory body, or arranged for by the fishing industry or third party, which is engaged in the collection, handling, review, and/or storage of EM data

Electronic technologies (ET) - Any electronic tool that is used to support fisheries-dependent data collection, both onshore and at-sea, including; electronic reporting, electronic monitoring, positional data systems, drones, electronic measuring devices, and others

EM review software - The software used to review, annotate, and/or audit EM data
See also: Companion software

Fishery-dependent data - Data collected as part of commercial fisheries during the course of normal operations, either voluntarily or as a part of licence conditions

See also: Fishery-independent data

Fishery-independent data - Data collected independently of the commercial fisheries from research conducted outside of a fishery, usually using scientific survey information following a sampling design
See also: Fishery-dependent data

Fully-documented fisheries (FDF) - The concept of a fishery with full transparency and documentation of every catch, usually by applying EM and sometimes including traceability from catch to consumption. It is often used to describe EM programs for marketing purposes

Human-annotated data - Data with annotations/ labels created by humans that can be used for the purpose of training and/or testing AI models. For the purposes of AI, this refers to observed data and is often treated as the ground-truth data
See also: Machine-annotated data

Imagery - The use of one or more cameras to collect still-images or video

Installation coverage - The quantity of vessels equipped with EM, relative to all vessels in the wider fleet segment (shared structural characteristics) or métier (shared activity characteristics). Usually calculated as the proportion of vessels with EM

Interoperable raw EM data - Raw EM data that has been transformed to an agreed upon standardised, non-proprietary, and device-independent format
See also: Raw EM data

Live view - The capability to remotely access an EM system and view live data and imagery as it is being recorded/ generated onboard the vessel
See also: Remote access

Machine-annotated data - Data with annotations/ labels that has been

enriched by AI models and/or algorithm predictions

Example: software automatically adding predicted length and species classifications of fish within an image

See also: Human-annotated data

Machine learning (ML) ^[2] - “A type of AI that has the capacity to learn without following explicit instructions. Machine learning systems use algorithms and statistical models to identify patterns in data and make predictions based on those patterns. There are several methods for training machine learning models, including; supervised learning, unsupervised learning, and reinforcement learning”

Monitoring, control & surveillance (MCS) ^[3] - *Monitoring:* “the continuous requirement for the measurement of fishing effort characteristics and resource yield”;
Control: “the regulatory conditions under which the exploitation of the resources may be conducted”;
Surveillance: “the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities”

Processed EM data - Data derived from the review, annotation, and/or analysis of raw or interoperable raw EM data
See also: Interoperable raw EM data, Raw EM data

Processing time - Refers to the time it takes to capture and store data or complete a task or procedure. The below definitions apply to computational processing time as opposed to the processing time of actions performed by humans

Real-time: characterised by immediate processing often within milliseconds or a few seconds

Near-real time: data processing that is slightly delayed compared to true real-time, but still relatively quick ranging from a few seconds to a few hours

Delayed: data processing that is done with higher latency, often in hours or even days for less time-critical tasks

Raw EM data - Data that is generated by EM systems, including imagery and/or sensor and associated metadata (i.e. trip sail date, vessel information) at first point of recording

Aliases: EM records^[4]

See also: Interoperable raw EM data, Processed EM data

Remote access - The capability to remotely access an EM system installed on board a vessel. This could be used for purposes such as system reconfiguration, system updates, and/or live view

See also: Live view

Request for proposal (RFP) - A formal process used to solicit bids from potential suppliers, providers and/or contractors for a specific project, product and/or service

Aliases: Call for tender (CFT)

Review rate - The quantity of data reviewed, relative to all data, when a sampling strategy for EM review is used as opposed to the full review of all data. Usually calculated as the proportion of fishing effort (trips, activities) or raw EM data that has been reviewed

Aliases: Review coverage, Analysis Rate^[4]

Sensor - Digital or analogue device used to detect/measure and respond to input/ changes from the environment (i.e. vessel speed or course, hydraulic pressure) that are associated with the operation of the vessel or equipment on board

Synthetic data^[2] - Data generated artificially as opposed to original/ real world data. Such data can be used to augment an original dataset to benefit the application of AI/ML systems

Transmitted positional data system - A positional information systems that collects and transmits geo-spatial data from the vessel or gear to which it is fixed

Examples: Global Navigational Satellite System (GNSS), Global Positioning System (GPS), Automatic Identification System (AIS), Vessel Monitoring System (VMS)

See also: Archival positional data system

Vessel monitoring plan (VMP) - An agreed, vessel specific, operating manual for how EM is installed, configured, used and maintained on board. Usually includes the programme's purpose, specifications of the specific vessel, installation, and programme, and roles and requirements of all parties involved

See also: Burn-in trip

References:

[1] Cambridge University Press, *Artificial intelligence*. In *Cambridge Dictionary*. Accessed 19th August 2025, from <https://dictionary.cambridge.org/dictionary/english/artificial-intelligence>

[2] The Scottish AI Alliance, *AI Jargon Buster – Your Essential AI Glossary*. Accessed 19th August 2025, from [AI Jargon Buster - Your Essential AI Glossary — Scottish AI Playbook](#)

[3] Cochrane, K. L. (Ed.). (2002). *A fishery manager's guidebook: management measures and their application* (Vol. 424). Food & Agriculture Org. Chapter 8 Fishery Monitoring, Control and Surveillance, p175. <https://www.fao.org/4/Y3427E/y3427e0a.htm>

[4] Murua, H. et al (2025). *Report of the Electronic Monitoring Minimum Standards Harmonization Workshop*. WCPFC-SC21-2025/ST-WP-12, p275. <https://meetings.wcpfc.int/node/26577>