

ETN Data policy

Underwater Acoustics Annex

(Last updated September 2026)

1. What is the European Tracking Network (ETN)?

The [European Tracking Network \(ETN\)](#) is a grassroots collaborative international network of scientists in Europe that share expertise, infrastructure and knowledge related to aquatic animal tracking. The ETN network uses telemetry research infrastructure to gain insights on how to better understand, protect and manage aquatic animals in support of European policy priorities, breakthrough science and cutting-edge technological innovation. ETN aims to be a sustainable, efficient, and integrated pan-European biotelemetry network embedded in the international context.

Within this framework, the Passive Acoustic Monitoring (PAM) detections of soniferous marine species have also been incorporated under the context 'Underwater Acoustics'. The addition of these data into an existing database structure aims to reinforce the five general principles of the ETN in a complementary discipline.

The five general principles are, translated into specific actions, here specified for passive acoustic monitoring:

1) *Collaborate, communicate and disseminate knowledge*

- a. Develop ways and opportunities for researchers working with passive aquatic animal monitoring data to come together, develop ideas, train peers, and collaborate;
- b. Build bridges between science, policy, industry and society on a European and global scale;
- c. Communicate in an open and inclusive way, and disseminate the knowledge gathered to our diverse stakeholders.

2) *Implement a Research Infrastructure*

Initiate and implement a research infrastructure at strategic locations across European waters and focus on harmonizing collected data.

3) *Strive towards equipment compatibility*

Improve, promote, and coordinate the usefulness and inter-operability of currently available technology and foster technological advancements.

4) *Support FAIR and Open data*

Centralise and store data in the ETN database. The ETN Data Platform allows for efficient data preservation and curation, assures data access through tools and services adopting FAIR data principles.

5) *Care for a sustainable future*

We work toward a future in which we strive to become more sustainable, improve upon animal welfare standards, and care for our ETN members. ETN members adhere to these principles and do what is within their capabilities to stimulate and strengthen this grassroots collaboration. ETN and its members actively work towards the [UN Sustainable Development Goals](#) and respect [UN Human Rights](#). Violations from individuals or the institutes

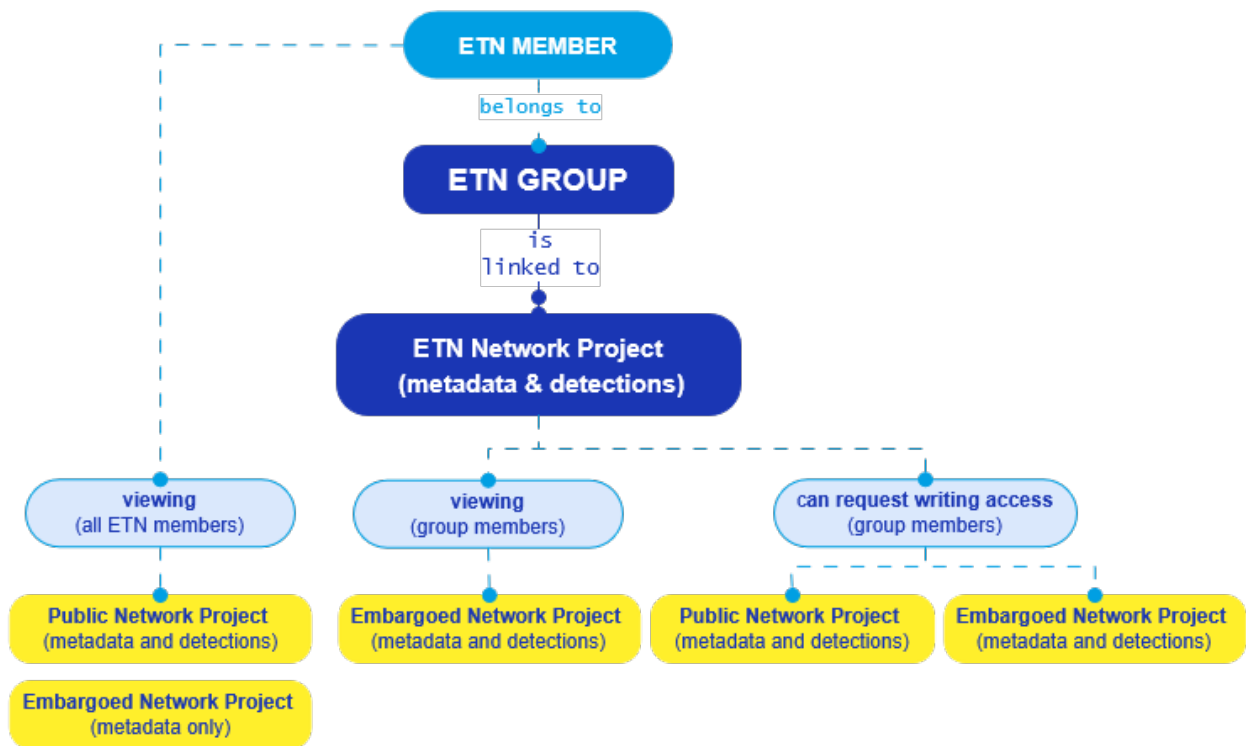
they are working for may lead to access restrictions/removal of data.

2. Definitions and Acronyms

- **ETN:** the European Tracking Network.
- **ETN website:** [website of the ETN](#) with information about telemetry projects in Europe, [species tracked](#), [events](#), [step-by-step instructions](#), and information about [Open Protocols and compatibility](#).
- **ETN Core Group:** steering committee of ETN. See [Who We Are](#).
- **ETN Database:** stores information uploaded to the ETN Data Platform.
- **ETN Data Platform:** [data management tool](#) (<https://www.lifewatch.be/etn/>) for importing, accessing, managing, and downloading the information contained in the ETN Database.
- **ETN Data:** Data stored in the ETN Database, either open access or under temporary embargo.
- **ETN DMT:** ETN Data Management Team, its employees and infrastructure. ETN DMT is comprised of data managers, software developers and IT personnel.
- **ETN member:** individual that has registered to the ETN Data Platform and has access to the ETN Database.
- **Data Under Temporary Embargo:** data which Deployment Collaborators have imported to the ETN Data Platform on the condition that access to data is restricted in accordance with this policy (See [4.Data Access Rights Summary](#) and [6.2 Data Under Temporary Embargo](#)).
- **Public Data:** all ETN Data that is not Under Temporary Embargo.
- **Deployment Collaborator:** parties who deploy and maintain receivers and deployments, retrieve data from receivers and import data into the ETN to a Network Project.
- **Deployment:** the mooring of a receiver at a certain location, from the time of deployment to the time of download.
- **Station:** exact location of a deployment.
- **Network Project:** (meta)data of receivers and their corresponding deployments.
- **PAM:** Passive Acoustic Monitoring.
- **Receiver:** an instrument generally composed of a hydrophone and on-board sound card, which passively receives and records either broadband acoustic data or comes equipped with a built-in detection algorithm to identify acoustic telemetry tags. Usually a C-POD or F-POD.
- **C-POD or F-POD:** a proprietary acoustic recorder dedicated to detecting odontocete echolocation clicks, specializing in classifying clicks from harbour porpoises. C-POD and F-POD are registered under 'Receiver'.
- **Receiver Owner:** the owner of a receiver that is linked to a specific serial number.

3. ETN member groups and access rights

Each ETN member is assigned by a Data Manager to one or multiple groups. Groups in ETN usually correspond to institutes or universities, but can also be created for research groups, departments, or for data sharing within a multi-institutional project. This can be specified in the ETN Project Template.



1 Relationship between a member, a group and Network Projects.

3.1 Receivers

- Receivers can be owned by one group or left unspecified, in which case the owner will be marked as UNKNOWN.
- Every ETN member that is part of that group has **writing** access to the metadata of receivers, so they can modify, delete and add new receiver metadata. Receivers with UNKNOWN owners can only be viewed by ETN members.
- Metadata refers to manufacturer, model, serial number, and any other field included in the manufacturer's specification sheets.
- Any other member of ETN (not assigned to that group) has **viewing** access to metadata of receivers.

3.2 Deployments and Detections

- Each deployment is assigned to a network project and links a specific receiver and station to the relevant deployment periods.
- All ETN members have **viewing access** to the metadata of deployments belonging to Network Projects, including station name, deployment dates, coordinates, etc.
- **Write access** is restricted to members designated by the Deployment Collaborator, as defined in

the ETN Project Template. These members can add, update and delete deployment metadata and upload detection files to the Network Project.

- For **Public** Network Projects, meaning **not under embargo**, all ETN members can view both deployment metadata and associated detections.
- For Network Projects under a **temporary embargo**, all ETN members can view the Network Project deployment metadata while only members of the ETN group(s) linked to the project have **view** and **write** access to deployment metadata and detections.

4. Data Access Rights Summary

- **Data that is automatically public:** metadata of receivers, metadata of deployments and its recovery events, metadata of Network Projects (title, abstract, contacts, etc.), all metadata and detections of Public Network Projects.
- **Data that can be embargoed:** detection data of Network Projects (train analysis per minute)
In exceptional cases, a deployment embargo can be requested, with the ETN Core group reviewing requests.

5. Data Ownership

Data belongs to Deployment Collaborator of the Network Project.

6. Data Import, Usage, and Access

6.1 Public Data

6.1.1 Data Import

1. Metadata import is done by the member through the ETN Data Platform. Single entries of receivers of deployments can be done via the corresponding tabs 'Receivers' or 'Deployments'. Bulk upload of metadata receivers and deployments can be done via tab 'Data' - import metadata. CSV metadata templates are provided on ETN Data Platform or can be generated and completed in ETN format from the [VALKYRIE](#) software.
2. Deployment Collaborators are responsible for ensuring that data are imported in accordance with predefined ETN standards, described in detail in the [Metadata Import](#) tool in the ETN Data Platform, to which the [VALKYRIE](#) software adheres.
3. Deployment Collaborators are responsible for correcting errors and inaccuracies, or making updates when possible (or necessary), utilizing the tools available in the ETN Data Platform. If that is not possible, they shall inform ETN (info@europeantrackingnetwork.org) as soon as possible after becoming aware of such issues.
4. Upload of detections is done by Deployment Collaborators with writing access through the ETN Data Platform. Detection upload can be done under the tab 'Data' Upload detections and ETN accepts detections produced by cpod.exe and fpod.exe software (TrainDuration.txt and DetEnv.txt, per quality) or produced by the VALKYRIE software (detections.csv).
5. Upon uploading metadata to a Network Project, all deployment metadata will be made public, including:
 - Receiver manufacturer and model.

- Deployment geolocation.
- Deployment date.
- Network Project metadata.

All open deployments (without recovery date) will be visualized on a map on the ETN Data Platform. After the import of a detection file to a deployment, the following fields will also be made public:

- Download datetime.
- Detection file name.
- Recover datetime.
- Valid data until date time.

Exceptions can be made upon request from the Deployment Collaborator for identified ecological or economic sensitivities with the ETN Core group reviewing requests.

6.1.2 Data Usage

1. All Network project-level metadata (title, abstract, contacts, etc.) will be incorporated into an [IMIS](#) (Integrated Marine Information System) metadata record, that is available and searchable to everyone through the [ETN Dataset Catalogue](#).
2. Public Data is available via the ETN Data Platform. Detection data and their associated metadata can also be accessed and downloaded using the [pod_data Github repository](#), which provides an R script with guidelines for data extraction and uses the [LWDataexplorer](#) R package. Detection data can also be visualised on the [Lifewatch Data Explorer](#). Note that LWDataexplorer is focused on detection data with associated metadata. Metadata of deployments without detections cannot be accessed via this package and are available on the ETN Data Platform.
3. ETN members can define under which license to publish their data. ETN recommends Creative Commons Attribution International license ([CC BY 4.0](#)). This license lets others distribute, remix, tweak, and build upon the original Data Owner's work, even commercially, as long as they credit the Data Owner for the original creation.

6.1.3 Data Access

By accessing the ETN Data Platform or using ETN Data, all members agree to:

1. The latest version of the ETN Data Policy;
2. Inform ETN of publications, data products (e.g., tables, graphs, maps, etc.), and commercial applications resulting from use of the ETN data;
3. Give proper attribution for all data used in a publication to all contributing data providers, using their project citations and/or project DOIs (see [7.1 DOI Minting](#)), or otherwise via mutual agreement as established in the [ETN Citation Guidelines](#);
4. Acknowledge that neither ETN nor the data provider is liable for inaccuracies in the data;
5. Assume responsibility for investigating and understanding any limitations of the data;
6. Report all problems with respect to data to info@europeantrackingnetwork.org.

6.2 Data Under Temporary Embargo

6.2.1 Embargo Conditions

1. Deployment Collaborators can require that access to the data they import to ETN is initially restricted to members approved by these Deployment Collaborators.
2. A request for embargo is possible for Network Project data and can be specified when creating a Network project via the ETN Project Template. Embargo period is set for 2 years after the reported project end date.
3. Deployment Collaborators will be notified 2 weeks prior to the embargo end date, at which time they can request an extension (one year increment) with the ETN Core group reviewing requests.
4. If the Deployment Collaborator fails to respond after 3 consecutive reminders of this notification, embargo will be lifted 3 months after the last notification.

6.2.2 Data Import, usage and access

1. Registered members that will access the ETN Data Platform to manage data under embargo agree to the latest version of the ETN Data Policy.
2. Deployment Collaborators can specify which ETN members can be granted access to the data.
3. Embargoed data can be accessed through the **same mechanisms as [public data](#)**, including the ETN Data Platform, the pod_data GitHub repository and the LifeWatch Data Explorer, when signed in. However, access to embargoed detection data and associated metadata is **restricted to ETN members assigned to the relevant Network Project**. Once the embargo is lifted, the data become publicly accessible through the standard data-access mechanisms.
4. Any ETN member who wishes to access Data Under Temporary Embargo other than their own must request permission to the Deployment Collaborator who submitted the Data Under Temporary Embargo (contact information is available at the ETN Dataset Catalogue), and consent from the Deployment Collaborator must be provided to the ETN DMT (via email: info@europeantrackingnetwork.org). Once consent is received, access shall be provided on the terms established by the Tracking Collaborator.

7.Data Dissemination

7.1 DOI Minting

A Digital Object Identifier (DOI) will be assigned to Network Project data without embargo registered under an open license (CC0, CCBY, CCNC or CCSA), automatically once the project is finalized or earlier by request of the Deployment Collaborator. DOI creation can be requested by the Deployment Collaborator for data registered under another license.

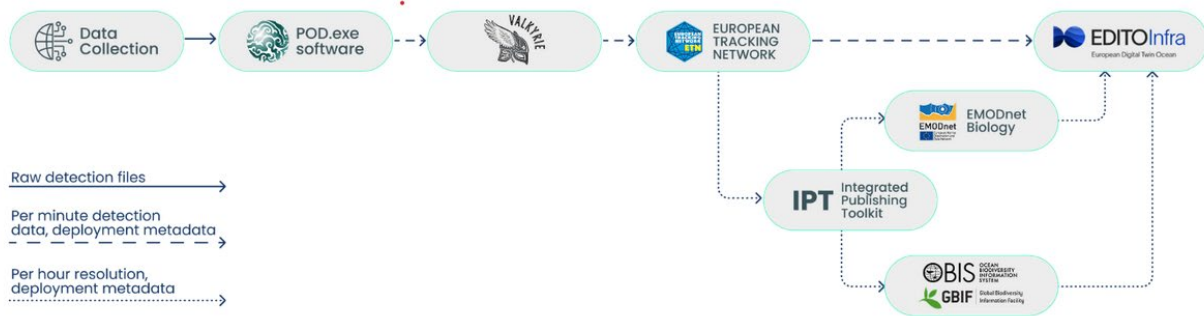
ETN provides DOI minting to make research outputs and resources discoverable and citable for the long term. DOIs increase the discoverability of research, ensure accessibility to (meta)data, and facilitate accurate citation and acknowledgement.

Data will be made available as:

1. Minute resolution: a CSV file containing the detection data for each Network Project. Data extraction is done via the pod_data Github repository.

- Hourly resolution: data aggregated to hourly resolution and provided in Darwin Core Archive (DwC-A) structure, enabling reuse and ingestion by Emodnet Biology.

7.2 Data exchange with biodiversity repositories



2. Data pipeline for connection to European portals.

Public Data from network Projects registered under an open licence (CC0, CCBY, CCNC or CCSA) will be routinely reported to international biodiversity data repositories, as DarwinCore (aggregated data), including (and primarily) the Ocean Biogeographic Information System (OBIS), the Global Biodiversity Information Facility (GBIF) and the European Marine Observation and Data Network (EMODnet), in cases where data are compatible.

7.3 ETN data contribution to Digital Twins

ETN will collaborate with relevant evolving global and European Digital Twins by creating essential data flows of Public Data from Underwater Acoustics Projects registered under an open license to these models. This contribution is vital as Digital Twins enable real-time simulations and predictive analytics, offering a comprehensive view of complex systems. By sharing data, we support enhanced decision-making, resource management, and sustainable solutions, which are crucial for addressing global and local challenges.

ETN Data will flow to DTs as unaggregated cloud-optimized parquet files with minute resolution data. This is currently being developed (September 2026).

8. Responsibilities of parties

8.1 Deployment Collaborators agree to:

- Own the data they upload to ETN or have the necessary permission from the data owner to upload and share them.
- Not upload data that have been obtained illegally or that are unrelated to the detection and classification of marine mammals.

8.2 Members of ETN Data agree to:

- Read, understand and comply to this Data Policy;
- Provide proper notification and attribution to all data providers and/or ETN if ETN Data is

- being used as part of a publication, product, or commercial application;
3. If an ETN member cannot state certain conclusions but for the detection data from receivers other than their own, both parties must agree on a suitable level of attribution, including but not limited to, co-authorship and acknowledgement mentions;
 4. Follow [ETN Citation Guidelines](#);
 5. Investigate and understand the limitations the ETN Data;
 6. Understand and acknowledge that data is provided as-is with no guarantee of accuracy and may be updated to reflect new understanding of the study parameters or to correct errors in reporting;
 7. Understand that ETN may report aggregate information about all data in ETN, for example the total number of deployed receivers over time, the number of active deployments, or the count of animals per scientific name.

8.3 ETN DMT agrees to:

1. Query public and non-public data to identify errors, quality control issues, or causes of site performance problems.
2. Uphold any embargo period granted to a project and notify and attempt to obtain explicit approval of the Deployment Collaborators before the embargo period of a project ends in accordance with this Policy.
3. Ensure data-related infrastructure is secure by performing data back-ups, maintenance checks and software upgrades.
4. In the very unlikely event that ETN ceases to exist or terminates its data storage activities, ETN shall attempt to transfer the data to a similar organisation with an equivalent data policy and data sharing agreements, if possible. If not possible, ETN will organise transfer of all files to each Data Owner.