

ETN Data policy

(Last updated May 2025)

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.

To achieve this vision, ETN focuses on five general principles, translated into specific actions:

1) *Collaborate, communicate and disseminate knowledge*

- a. Develop ways and opportunities for the aquatic animal tracking community within Europe 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 telemetry Research Infrastructure at strategic locations across Europe, in all aquatic realms.

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.

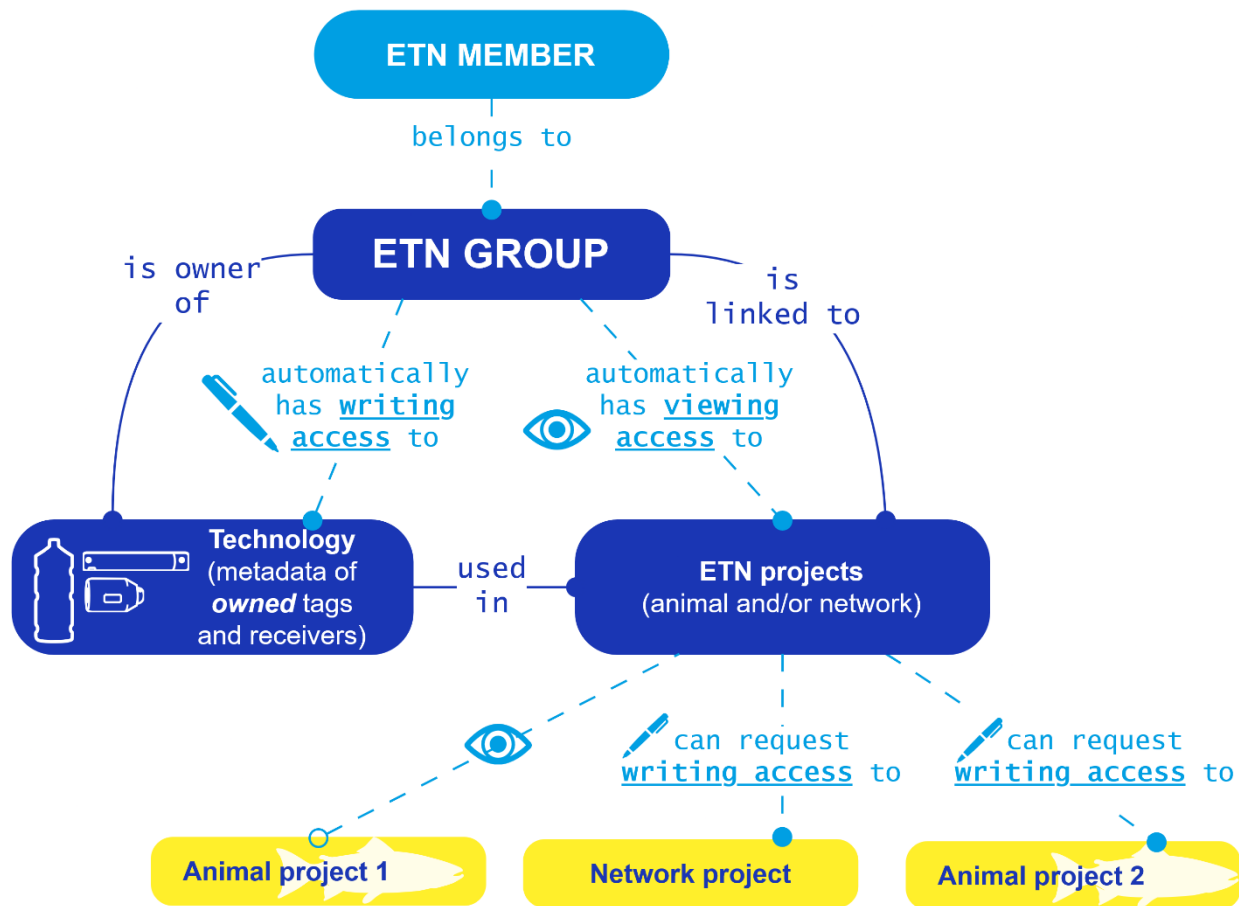
5) *Care for a sustainable future*

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.

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 Coregroup”**: 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.
- **“ETN Virtual Research Environment” or “ETN VRE”**: a series of [virtual tools and applications](#) (e.g. [ETN R package](#), [ETN Data Explorer](#), [ETN Dataset Catalogue](#)) that allow members to access, download and/or visualize ETN Data.
- **“OTN”**: the [Ocean Tracking Network](#).
- **“Node”**: an intercompatible data system that is part of the OTN network of networks.
- **“Primary Database”**: The ETN Database, OTN Node or other compatible telemetry database to which a Project’s Collaborators are reporting data directly. Understood by all collaborating databases and Nodes to be the one true source of accurate data for that (Animal or Network) Project.
- **“Data Under Temporary Embargo”**: data which Tracking Collaborators have imported to the ETN Data Platform on the condition that access to data is restricted in accordance with this policy (See [Data Access Rights Summary](#) and [Section 6.2](#)).
- **“Public Data”**: all ETN Data that is not Under Temporary Embargo.
- **“Tracking Collaborator”**: parties who oversee the deployment of tags in aquatic organisms and import data to the ETN to an Animal Project.
- **“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.
- **“Animal Project”**: (meta)data of tags and animals in the framework of a project/study.
- **“Network Project”**: (meta)data of receivers and their corresponding deployments.
- **“Tag Owner”**: the owner of a tag that is linked to a specific serial number.
- **“Receiver Owner”**: the owner of a receiver that is linked to a specific serial number.

3. ETN member groups and access rights



1 Relationship between a member (in light blue), a group (in dark blue) and a project (in yellow)

Tags and Receivers

- Tags and receivers are assigned to a group and one group only, to indicate ownership of the tag/receiver, as in, the owner of this tag is VLIZ.
- 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.
- Every ETN member that is part of that group has **writing** access to the metadata of tags and receivers, so they can modify, delete and add new tags and receivers.
- Metadata for tags and receivers 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 the metadata of tags and receivers.

Animals and deployments

- Animals and deployments are assigned (by a Data Manager) to a project (according to the ETN project template). And at the same time a project is linked to one or multiple groups.
- Every member of a group linked to that project has **viewing** access to the (meta)data of animals (animal project) and deployments (network project). Only members specified by the Tracking Collaborator and/or the Deployment Collaborator have **writing** access to the (meta)data of the project.
 - o For Network Projects, every member with **viewing** access (all members of the group) can view all the detections of the receiver. That is:
 - Animal detections (from animal projects with and without embargo)
 - Unmatched detections: detections from tags that don't have animals in ETN.
 - Detections from sentinel tags: tags that are moored to measure temperature, for example.
 - Detections from the internal tag (i.e., sink tag) of the receiver.

Members with **writing** access (specific members of the group) can edit/create/delete the deployments and add detections files to that project.

Other members from ETN can view only the detections of their own animals and the detections of public animal projects.

- o For Animal Projects, if the project **is** under temporary embargo, only the ETN members that are members of the group have access to the (meta)data. An ETN member with **viewing** access (all members of the group) can view the animal metadata and where the animals have been detected. Every member with **writing** access (specific members of the group) can add/update/delete animals.

If your Animal Project **is not** under embargo, then all members of ETN can view the metadata of your animals (species, tagging location, length, etc.) and their detections.

4. Data Access Rights Summary

- **Data that is automatically public:** metadata of receivers and tags, metadata of deployments and its recovery events, project level metadata regarding Animal and Network Projects (title, abstract, contacts, etc.), all metadata and detections of Animal Projects without embargo.
- **Data that can be embargoed:** all Animal Project data, including metadata related to tagging (location, capture datetime, etc.), animal morphology (scientific name, length, etc.) and animal detections.

In exceptional cases, a deployment embargo can be requested, with the ETN Coregroup reviewing requests.

- **Data available to Deployment Collaborators:** detections of tags released by any project (also from those that do not belong to the receiver owner) including animal metadata, unknown tag detections collected by their receivers, detections of built-in receiver tags, detections of known non-animal (sentinel) tags collected by their receivers.
- **Data available to Tracking Collaborators:** all detections, from any Network Project, which have been matched to their tagged animals.

5. Data Ownership

- Data ownership is shared: the Tag Owner retains access to detection locations of their tagged animals, while the Receiver Owner retains access to all detections recorded by their receivers, regardless of tag ownership.
- Tag Owners and Receiver Owners can decide, at any moment, to withdraw (all or part of) their data from the ETN Database.

6. Data Import, Usage, and Access

6.1 Public Data

Data Import

1. Data import is done by the member through the ETN Data Platform, via the import forms (for a single receiver, tag, animal or deployment) or via the csv metadata template (for importing multiple receivers, tags, animals or deployments at once).
2. Deployment Collaborators and Tracking 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.
3. Deployment Collaborators and Tracking 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. 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.
5. On uploading metadata to a public Animal Project or as soon as the embargo period has ended all animal metadata will be public, including:
- Scientific name.
 - Release and capture location.

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

Data Usage

1. All 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 Explorer](#) to everyone, and via the ETN data platform and [ETN R package](#) to registered members.
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.

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

Embargo Conditions

- Tracking Collaborators can require that access to the data they import to ETN is initially restricted to members approved by these Tracking Collaborators.
- A request for embargo is possible for Animal Project data and can be specified when creating an animal project via the ETN Project Template. Embargo period is set for 2 years after the

reported project end date for projects with duration of 4 years, if the battery lifetime of the tag extends the project end date, then embargo is set to 2 years after the expiry day of the tag.

- Tracking 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 Coregroup reviewing requests.
- If the Tracking Collaborator fails to respond after 3 consecutive reminders of this notification, embargo will be lifted 3 months after the last notification.

Data Access

- Registered members that will access the ETN Data Platform to manage data under embargo agree to the latest version of the ETN Data Policy.
- Tracking Collaborators can specify which ETN members can be granted access to the data.
- Any ETN member who wishes to access Data Under Temporary Embargo other than their own must request permission to the Tracking Collaborator who submitted the Data Under Temporary Embargo (contact information is available at the ETN Dataset Catalogue), and consent from the Tracking 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 Animal Project data without embargo registered under an open licence (CC0, CC BY, CCNC or CCSA), automatically once the project is finalized or earlier by request of the Tracking Collaborator or Deployment Collaborator. DOI creation can be requested by the Tracking Collaborator or 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. A [Frictionless Data Package](#) that includes separated CSVs for metadata (animals, tags, deployments, receivers) and detections, as well as a [datapackage.json](#) describing the fields and relations for the CSVs.
2. A [DarwinCore \(Occurrence Core\)](#) standard dataset with detections aggregated to the first detection per hour, to reduce the size of the high-frequency data, following recommendations from INBO, VLIZ, OTN and others.
3. Cloud optimized formats: Parquet.

7.2 Data exchange with biodiversity repositories

Public Data from Animal 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 Animal Projects registered under an open licence 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 in 2 ways: 1) as aggregated Darwin Core Archive standard dataset via EMODnet biology and 2) as unaggregated cloud-optimized parquet files.

7.4 Data exchange with the Ocean Tracking Network

The Ocean Tracking Network is a global aquatic animal tracking, data management, and partnership platform headquartered at Dalhousie University in Canada. ETN actively exchanges project data with OTN, contributing to its global animal movement data repository.

OTN Animal and Network Project data from European-based projects gets reported to ETN every time an [OTN Data Push](#) takes place, if the OTN Tracking Collaborators and/or Deployment Collaborators agree to do so. OTN projects reported to ETN can be searched in the [ETN Dataset Catalogue](#) under the “OTN” Special Collection.

All ETN Animal and Network Project data get periodically reported to OTN. OTN will compare and perform matching on tag records and detections between ETN and other [OTN-compatible Nodes](#). This ensures maximum connectivity across the different regional tracking data systems and eliminates duplication of effort for Tracking Collaborators and Deployment Collaborators, on having to report to multiple Tracking Networks.

The OTN Node with which the Tracking Collaborator is associated will be referred to as its Primary Database (in this case ETN).

- The data citation policy that applies to the use of the cross-matched detections will be that of its Primary Database.
- The Project embargo conditions will be that of the Primary Database ([See 6.2 Data Under Temporary Embargo](#)).

- The publication status of all aspects of the Project being shared between Databases will be determined by the Project's Primary Database and respected by all other Node databases.

Project-level and other public metadata that have been shared and made available to OTN may be aggregated into global metadata catalogues (by OTN) to improve discoverability. Only public project metadata that is actively being served by ETN will be used in these aggregations and will only be harvested via the ETN's public data endpoints.

8. Responsibilities of parties

8.1 Tracking Collaborators and Deployment Collaborators agree to:

1. Be the owner of, or have permission from the owner of, data they upload to ETN.
2. Not upload data that were obtained illegally or that are unrelated to aquatic telemetry.

8.2 Members of ETN Data agree to:

1. Read, understand and comply to this Data Policy;
2. 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 Tagging 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.