[Year]

Global Dialogue on Seafood Traceability Standard

[DOCUMENT SUBTITLE]

AUTHOR

Contents

Introductory Information

Executive Summary

The Global Dialogue on Seafood Traceability Standard (GDST Standard or the Standard) establishes the foundational requirements for achieving interoperable, digital traceability across seafood supply chains. Developed as a practical, instructional resource for diverse stakeholders—including producers, processors, distributors, technology providers, and regulators involved in seafood supply chains—the Standard defines shared rules for how traceability data should be captured, structured and exchanged.

The Need for Traceability

Reliable and affordable seafood traceability has become a "must-have" for any company seeking to remain competitive in today's global seafood industry. Seafood supply chains are incredibly complex, often spanning multiple countries, involving hundreds of supply chain actors, and operating under diverse regulatory and certification regimes. Ensuring visibility and accountability in these systems is critical not only to core business operations—such as managing supply chains and safeguarding food safety—but also to demonstrating responsibility in areas like environmental and social sustainability, product integrity, and supporting compliance efforts.

Traceability provides the foundation for this visibility by enabling supply chain actors to follow products complex, globalized supply networks. Within this Standard, traceability is defined as the ability to follow a product and its components through all stages of the supply chain, from origin to the final point of distribution.

The Need for Interoperability

As companies adopt digital traceability solutions, the absence of standardized practices risks creating fragmented, incompatible systems that operate in silos. True visibility and efficiency across supply chains requires interoperability—the ability of different digital systems to exchange and interpret data without human intervention.

Interoperability is essential for scalability. No single technology solution can meet the needs of every actor in global seafood supply chains. By aligning around a common standard, stakeholders can ensure their data systems communicate seamlessly, avoid costly duplication, and enable system-level traceability.

Event-Based Traceability as the Foundation

The GDST Standard is grounded in event-based traceability, the leading methodology for tracking products across complex supply chains. Instead of relying on static or summary records, event-based systems capture real-world product movements and transformations as they occur.

- Supply chains are broken into Critical Tracking Events (CTEs)—such as creation, shipping, or receiving—that are common across industries.
- At each CTE, supply chain actors capture Key Data Elements (KDEs)—the "who, what, where, and when" of each event.

This method creates a dynamic product history that provides a detailed, real-time view of product movement from origin to endpoint. Importantly, each actor retains ownership of the data they generate, reducing the need for centralized repositories while enhancing data security and trust. This enables companies to have visibility into their supply chains while allowing them to maintain data access controls to protect business-sensitive information.

Event-based traceability is already widely used in sectors such as food, pharmaceuticals, and apparel. Global standards like GS1's EPCIS and initiatives like the Global Traceability Framework for Beef and Leather (GTFBL) are built on these principles. The GDST applies this proven approach to seafood, defining a consistent set of CTEs and KDEs that together establish the foundation for interoperable traceability.

Standard Requirements

To achieve interoperable, end-to-end traceability in seafood supply chains, two core requirements must be met:

1. **Data Capture** – Organizations must collect standardized information in a consistent way. The Standard defines which Key Data Elements (KDEs) must be captured at each Critical Tracking Event (CTE) to ensure alignment across all actors.

2. **Data Exchange** – Organizations must exchange data using harmonized formats and exchange protocols. The Standard specifies the structures and methods that enable digital systems to communicate effectively and ensure that data can be shared and interpreted across different systems.

Together, these requirements ensure that traceability data is not only collected but also structured in a way that allows it to move seamlessly across systems and borders.

Toward Shared, System-Wide Practices

The GDST Standard is designed to serve as both a technical guide and a practical manual. It provides clear, standardized requirements for data capture and exchange while remaining accessible to diverse stakeholders.

By aligning around this Standard, supply chain actors can:

- Reduce the costs and complexities of data sharing.
- Facilitate compliance with evolving regulatory and market requirements.
- Enable system-wide visibility and accountability.
- Strengthen consumer and buyer trust through verified traceability.

Importantly, this Standard reflects an **aspirational goal state** for the global seafood industry rather than the current baseline. It defines a shared vision for how traceability can and should function across supply chains, while recognizing that reaching this state will require time, resources, and collaboration. Stakeholders are not expected to immediately collect and exchange all relevant data, but rather to progress step by step, building alignment and capacity along the way. In this way, the Standard provides both a long-term vision and a practical roadmap for sector-wide improvement.

Version Control

Document Summary

Document Name	Global Dialogue on Seafood Traceability Standard
Document Version	2.0
Document Date	ADD DATE
Document Description	Guidelines for Standard implementation

Document History

Document Name	Document Version	Release Date	Effective Date
Global Dialogue on Seafood Traceability Standard	2.0	July 2026	July 2027
Global Dialogue on Seafood Traceability Standard	1.2	June 2023	June 2024
Global Dialogue on Seafood Traceability Standard	1.1	March 2022	March 2022
Global Dialogue on Seafood Traceability Standard	1.0	March 2020	March 2020

Mission & Vision

The GDST is a non-profit foundation dedicated to creating and sharing a common language for traceability in the seafood supply chain, using data that is both reliable and affordable.

To achieve this, we work to harness the collective power – and practical insights – of businesses, associations and other stakeholders who share our goal, through partnerships, and a global Dialogue process.

How to Use This Standard

This Standard is designed as a practical reference for a wide range of stakeholders in seafood supply chains. While the technical foundations are consistent, the way in which different groups will use this resource varies:

Supply Chain Actors – Use this Standard to understand what traceability data you are responsible for capturing and when, from catch or harvest through the final stage of distribution. It will guide your data collection practices and inform technology investment decisions, ensuring that both new and existing systems are GDST-capable and able to capture and exchange data interoperably with buyers, suppliers, regulators, and certification bodies.

Technology Providers – Use this Standard to guide system design and interoperability. It outlines the Critical Tracking Events (CTEs) and Key Data Elements (KDEs) that must be captured at each step of the seafood supply chain, along with the data structures, formats, and exchange protocols (e.g., EPCIS 2.0 / GDST 1.2) that enable reliable data exchange across platforms and jurisdictions.

Regulators – Use this Standard as a reference for policy design and digital reporting system requirements. Regulations governing seafood traceability, such as catch documentation, import controls, and food safety laws, should align with event-based principles. Digital systems that receive standardized data directly from industry systems reduce redundancy, improve compliance oversight, and strengthen the integrity of electronic catch documentation.

Certification Standards and Program Owners – Use this Standard to strengthen chain-of-custody and digital audit requirements. While certification programs vary in scope (e.g., sustainability, social responsibility, or legality), the core traceability data needed to verify claims about origin, species, and production practices is consistent. Aligning requirements around event-based traceability reduces duplication for certificate holders

and enhances data reliability. For programs requiring digital submissions or audits, this Standard provides a foundation for system design.

Industry Associations and Other NGOs – Use this Standard to support capacity building, implementation, and alignment with international standards. By promoting consistent data practices and vocabulary across seafood sectors, associations and NGOs can help members reduce complexity, align with international standards, and accelerate progress toward interoperable traceability.

Standard Requirements

Data Collection

Traceability begins with accurate and consistent data collection. In seafood supply chains, where products often cross multiple borders, pass through many hands, and undergo several transformations, the ability to reliably trace an item back through its journey depends on capturing information at each step. Data collection ensures that products can be verified against regulatory and food safety requirements, certification schemes, and consumer expectations for transparency and sustainability.

Within this Standard, data collection is not a one-time activity but a continuous process that aligns with the flow of goods and transformations throughout the supply chain.

Roles and Responsibilities

A foundational principle of this Standard is that each supply chain actor is responsible for collecting and recording the data associated with the CTEs they perform. This ensures accuracy and accountability, as data is captured at the source of activity rather than passed along secondhand.

The examples below illustrate the types of responsibilities commonly associated with different roles in seafood supply chains. In practice, many companies may occupy multiple roles. For example, a large seafood supplier may own both vessels and processing facilities, or a trader may also operate cold storage or export services. In such cases, actors are responsible for recording the data relevant to all of the roles they perform.

- **Fishing vessels** record catch events and provide critical catch information to the entities responsible for recording landing events or receiving landed products.
- **Aquaculture farms and hatcheries** record hatching and harvest events. These actors maintain lot-level identifiers from pond or cage to harvest batch, ensuring that the production data is preserved.
- **Landing sites, collectors, and first buyers** record receiving and shipping events, linking landed or harvested product to transport and purchase records. They ensure that quantities, species, and lot identifiers are verified and associated with the correct source (vessel or farm).

- **Transporters and cold chain operators** document movements and transfers of seafood products—fresh, frozen, or live—ensuring that product movements are captured and maintained through shipping and storage.
- **Processors and factories** record shipping, receiving and transformation events. They assign new lot or batch identifiers to outputs and maintain linkages between inputs and outputs through each transformation step.
- **Traders, exporters, and importers** record shipping, receiving, aggregation, and disaggregation events, ensuring that processing lots are linked to international trade transactions, certificates, and regulatory documentation (e.g., catch certificates, bills of lading).
- **Distributors, wholesalers, and retailers** record internal movements, packaging, and sales events that connect finished seafood products to their upstream batches. They also capture any claims, certifications, or sustainability attributes that must be verified or communicated to end buyers.

By distributing responsibility in this way, no single actor bears the burden of collecting the entire supply chain's data. Instead, each participant contributes their portion, creating a continuous, verifiable chain of digital events that reflects real-world custody and transformation of seafood products from origin to market.

Critical Tracking Events

CTEs form the basic structure of a traceability system—the points at which data must be captured to ensure continuity of information. Most supply chains share a common set of CTEs that are broadly applicable across industries and commodities; these make up the Core CTEs described in the table below.

The Core CTEs define the minimum set of event types that organizations must be able to record and exchange in order to achieve end-to-end traceability. While GDST participation is voluntary, alignment with these CTEs is considered essential for full implementation of the Standard. Those implementing the GDST Standard are encouraged to align their data collection practices with the Core CTEs.

Table 1 - GDST CTEs

CTE Type	CTE Name	CTE Definition	Examples
Core CTEs for All Seafood Products	**Commission**	An event in which a new product instance is created/documented for the first time. These events typically occur in the far upstream steps of a supply chain.	• Catching (wild catch) • Hatching (aquaculture)

	Ship	An event in which product is shipped from one physical location to another. Shipping events can occur internally (between facilities of a single organization) or externally (from one organization to another).	• Shipping of seafood, raw materials, product components, or finished products • Transferring seafood from one vessel to another (transshipment)
	Receive	An event in which shipped product is received by the ship-to facility. Receiving events can occur internally (between facilities of a single organization) or externally (from one organization to another).	• Receiving of seafood, raw materials, product components, or finished products • Transferring seafood from one vessel to another (transshipment)
	Transform	An event that involves irreversible changes to a products physical form (e.g. manufacturing, processing) or packaging (e.g. commingling, re-packing, re-labeling).	• On-vessel processing • Land-based processing • Comingling • Re-packing • Feed processing • Farm stocking • Farm harvesting
	Decommission	An event in which a product instance is removed from a supply chain. These events typically occur when a product is consumed or must be removed from the supply chain due to damage or defects.	• Disposal of seafood, raw materials, product components or finished goods
	Aggregate	An event in which one or more distinct products are physically grouped together. Aggregation is always reversible and usually performed for shipping/storage purposes.	• Loading cases onto a pallet • Grouping individual packages into a master carton
	Disaggregate	An event in which previously aggregated items are separated (e.g. breaking down a pallet into distinct cases).	• Removing cases from a pallet/pallet-breakdown • Removing individual packages from a master carton

Additional, optional events—such as product sampling or inspection—can also be recorded where relevant. These supplementary CTEs are not essential for traceability and thus, not considered necessary for implementation of the GDST Standard. However, these events benefit from standardized data structure and formatting and can be recorded and exchanged using the GDST framework. Supplementary CTEs may be found within GDST Expansion Frameworks.

Key Data Elements

KDEs support the structure formed by CTEs, adding critical detail and context to each event. KDEs define the specific pieces of information that must be collected at each CTE to ensure that CTEs are described consistently and meaningfully.

Like CTEs, most supply chains share a common set of KDEs that are broadly applicable across industries and commodities; these make up the Core KDEs described in the table below.

The Core KDEs define the minimum set of data elements that organizations must be able to record and exchange in order to achieve end-to-end traceability. They form the foundation of traceability by describing what type of event occurred, what product was involved, when the event took place, and where it happened. The Core KDEs are applicable to all seafood products and should be collected at each CTE.

The GDST Standard was designed not only to ensure seafood traceability but also to support seafood compliance. To achieve this, KDEs are defined to support the documentation of legal harvest, production, and trade. The KDEs described in the table below define the minimum data elements that must be collected throughout seafood supply chains to support compliance efforts. Some KDEs are applicable to all seafood products, while others are specific to wild-capture or aquaculture supply chains. The table below clarifies those distinctions.

> *Table 2 includes both Event Data and Master Data KDEs. Certain KDEs apply only to specific CTEs. Appendix C shows which KDEs are captured at each CTE, while Appendix D describes the associated Master Data requirements.*

Again, while GDST participation is voluntary, alignment with these KDEs is considered essential for full implementation of the Standard. Those implementing the GDST Standard are encouraged to align their data collection practices with the KDEs listed in the table below.

Table 2 - GDST KDEs

KDE Type	KDE Name	KDE Definition
Traceability KDEs for All Products	**Product Identification**	A unique code that contains a product identifier assigned to a product to distinguish it from others as it moves through facilities, companies, or supply chains as well as an instance identifier assigned to a specific instance of product such as a batch/lot number, serial number or container number.
	Quantity	Numerical quantity of product associated with a given event.
	Unit of Measurement	Unit of measurement associated with a given product quantity.

	Event Location ID	A unique code or identifier assigned to a location where an event takes place, allowing it to be clearly distinguished from all other locations in the supply chain.
	Event Location Address or Geolocation	Address or GPS coordinates (lat/long or geofence) associated with the physical location where event takes place.
	Event Location Name	Name of the physical location where an event takes place.
	Event Date & Time	Date and time at which an event occurred.
	Business Step	A standardized term that describes the type of activity being performed during a given event.
	Event ID	A unique identifier assigned to a given event, used to distinguish it from other events that occur throughout the supply chain.
KDEs for Wild Caught Seafood	**Vessel Registration**	Standardized number or identifier for distinguishing vessels registered under the same flag nation.
	Unique Vessel Identification	Identifier associated with a vessel for the duration of its existence that cannot be re-used by any other vessel. Identifier is displayed as a permanent physical marking on the craft.
	Vessel Flag	Nation with supervision over safety, fishing operations, and catch reporting.
	Vessel Trip Dates	Calendar start and end dates of a fishing vessel's voyage between the last point the fishing hold was empty and seafood is discharged.
	Gear Type	Equipment used to extract seafood from water for capture.
	Availability of Catch Coordinates	Indicator whether GPS coordinates were collected and are available
	Satellite Vessel Tracking Authority	Authority responsible for the satellite tracking or verification.
	Catch Area	Location where seafood was caught. (FAO major fishing area code, EEZ code, RFMO, Sub-national permit area name)
	Transshipment Location Code	For in-port transshipment, the port where seafood is discharged from a fishing vessel to a transshipment (Port Name - United Nations Code for Trade and Transport Locations (UN/LOCODE)

	Landing Location Code	For in-port landings, the port seafood was first discharged to land (Port Name - United Nations Code for Trade and Transport Locations (UN/LOCODE)
	Production Method	Categorization, on the spectrum of wild-capture to captive-culture, of the general seafood harvest method.
	Fishery Improvement Project	Publicly-listed name of fishery improvement project which the harvest event is subject to.
	Public Vessel Registry Hyperlink	Website address with the public registry that contains the listing of the fishing vessel.
KDEs for Aquaculture Seafood	**Source of Broodstock**	Broodstock from grow-out farms or taken from the wild
	Source of Protein	Source(s) of protein in formulation of feed used (e.g. soy, insects, wild caught fish byproduct, other, etc)
	Farming method	A combination of type of culture, unit, level of intensity, culture species and scale or size of exploitation as defined by the FAO. “Extensive”, “Semi-Intensive”, “Intensive”.
KDEs for All Seafood Products	**Species**	Scientific (latin) name of the seafood.
	Product Form	Commercial short-hand reference of the degree of transformation of seafood from its original living form.
	Product Origin	Country where seafood underwent the last substantial transformation.
	Harvest Certification	Critical information to identify the harvest-level certification(s) that apply to a particular seafood product
	Chain of Custody Certification	Critical information to identify the CoC certification(s) that apply to a particular seafood product
	Existence of Human Welfare Policy	Indicator of human welfare policies in place on a vessel/trip, answering the question "What kind of human welfare, labor, or anti-slavery policy was in place on this vessel/trip?" (Acceptable values include: “none”, “internal”, “3P audit”)
	Human Welfare Policy Standards	Name of internationally recognized standards to which policy on a vessel/trip claims conformity

	Organization	Legal entity that owns the location or facility where the event takes place
	Legal Authorization	A unique identifier issued by a competent authority that grants legal permission to conduct a specific operation. This may include authorizations for harvest (e.g., fishing authorization or farm license), product transfer (e.g., transshipment or landing authorization), commingling (aggregator license), or facility operation (e.g., processor license). Capturing this information verifies that the entity responsible for the event is operating under valid legal authority.
	Location Country	Country code for location (ISO 2 or 3 letter country code list)
	Event Read Point	The geographic or business location at which the event took place.
	Product Ownership	The party who owns the object. If ownership changes during event (e.g. ownership changes with physical possession during distribution), capture source and destination owning parties.
	Information Provider	The original party that provided the event information. This is important as the event may be re-shared downstream.

Additional, optional KDEs may also be recorded when relevant to support other initiatives, such as sustainability, social responsibility, or food safety. These additional KDEs are not essential for traceability and are therefore not considered necessary for implementation of the GDST Standard. However, these KDEs benefit from consistent data structure and formatting and can be recorded and exchanged using the GDST framework.
Additional KDEs are included in relevant GDST Expansion Frameworks.

Integrating CTEs and KDEs

CTEs and KDEs are the building blocks of event-based traceability. Without CTEs, traceability records lack the structure needed to map a product's journey; without KDEs, the events themselves are incomplete and cannot be verified or linked to specific products or claims.

Technical Implementation

Background Information

Foundational Standards

The GDST is built upon globally recognized data standards published by GS1. While the GDST defines *what data must be collected* by industry actors, the EPCIS standard with its companion Core Business Vocabulary (CBV), defines *how that data should be formatted and structured*. The GDST uses both the GS1 EPCIS Standard and GS1 Digital Link

Standard to establish a common practice for data query and sharing between trading partners.

Electronic Product Code Information Services (EPCIS)

EPCIS is GS1's standard for event-based traceability that establishes data interfaces and formats for capturing and sharing physical event data within a supply chain. As an open standard, it provides a common method to record and share what happens to products as they move through the supply chain — answering the questions of **what**, **when**, **where**, **why**, and **how**. Understanding this standard in its entirety is beneficial but not required for implementation of the GDST. The following sections of the EPCIS 2.0 Standard are the most relevant within the context of the GDST:

- Section 7 - Data Definitions, defines the abstract models used to capture and transmit traceability data within EPCIS.
- Section 8 - Service Layer, defines how services should accept and process requests for traceability data.
- Section 10 - JSON / JSON-LD bindings, defines how the core traceability data definitions should be expressed in JSON and JSON-LD format
- Section 12 - REST Bindings, defines the required endpoints and their functionality for an EPCIS based server.

Core Business Vocabulary (CBV)

The Core Business Vocabulary (CBV) is a companion to EPCIS that ensures consistency in how supply chain events are described. It defines a broad set of data attributes and values used within EPCIS systems that allow organizations to represent traceability data in a standardized manner. Aligning structure (via EPCIS) and language (via CBV) ensures event records are clear, predictable, and interoperable across the entire supply chain. Understanding this standard in its entirety is beneficial but not required for implementation of the GDST. The following sections of the CBV Standard are the most relevant within the context of the GDST.

- Section 6 - URIs, defines how URNs are used for identifiers.
- Section 7 - Standard Vocabularies, defines the standard data types used to create traceability data.
- Section 8 - User Vocabularies, defines how data types created by users must operate, such as when generating a GLN for a new location that was purchased or built.

GS1 Digital Link

GS1 Digital Link is a standard that connects GS1 identifiers—such as product or location codes— to web links with useful information, like product details, facility information, company contacts, or even traceability records. The standard defines how GS1 identifiers allows entity and service information to be looked up, retrieved, and used within EPCIS systems. The following sections of the GS1 Digital Link Standard: URI Syntax, 1.6.0 are the most relevant within the context of the GDST:

- Section 5, Examples of GS1 Digital Link URIs, provides guidance on the different types of digital link URIs.
- Section 6, AIDC Issues, supplements the GS1 General Specifications on the use of digital link URIs in data carriers.
- Section 7, Glossary, defines key terms used throughout EPCIS.
- Section 8, Changes, outlines changes to the standard between versions.

Types of Data

Event-based traceability relies on two types of data: event data and master data.

Event Data

Event data refers to the data used to record specific supply chain occurrences. This data varies across events.

Master Data

Master data refers to data that changes less frequently than event data or remains static across supply chain events. Master data is further categorized into static master data and instance lot master data (ILMD).

- Static master data: infrequently changed data that often describes products, parties, locations, or assets.
- ILMD: data that applies to specific instances or lots of product and is assigned to a product identifier when it is created. This data often describes production date, harvest area, product weight, or other batch-level characteristics.

Data Structure, Format & Exchange

Effective digital traceability depends on three foundational elements: the ability to uniquely **identify** products and locations; a consistent **structure and format** for recording data; and reliable mechanisms for **exchanging** data with supply chain partners. This section outlines the protocols for implementing interoperable, digital traceability.

Identification

The GDST expands upon the globally recognized system of identifiers established by GS1. Identifiers are standardized codes that ensure each entity in the supply chain—whether an object, a location, or a party—can be referenced uniquely in event data. Different types of entities use different kinds of identifiers, each encoding information about both the entity and its type. These identifiers are most often expressed in URI (Uniform Resource Identifier) or URN (Uniform Resource Name) format. Identifier types relevant to implementation of the GDST include the following:

- **Product Definition Identifier** – Uniquely identifies a specific product or trade item. A GTIN refers to the static characteristics of the product type, such as its brand, description, dimensions, weight, and packaging configuration, rather than individual product instances. A product definition identifier can be combined with a lot or serial number to create an EPC that identifies individual product instances. Product Definition Identifiers relevant to this Standard include:
    - GS1 GTIN (Global Trade Item Number)
    - GDST Product Definition Identifier
- **Product Identifier**– Combines a product definition identifier (like a GTIN) with batch or lot number.
- **Location Identifier** – Uniquely identifies a physical location, typically something static such as a processing facility or a distribution center. Location Identifiers relevant to this Standard include:
    - GS1 GLN (Global Location Number)
    - GDST Location Identifier
- **Party Identifier** – Uniquely identifies a business or organization, such as the owner of a product or facility. Party Location Identifiers relevant to this Standard include:
    - GS1 PGLN (Party Global Location Number)
    - GDST Party Location Identifier
- **Logistical Unit Identifier** – Uniquely identifies a specific logistics unit, such as a pallet or container, which may contain multiple trade items. Logistical Unit Identifiers relevant to this Standard include:
    - GS1 SSCC (Serial Shipping Container Code)
    - GDST SSCC
    - License Plate

GS1 Identifiers (e.g. GTIN, GLN, etc.) require the use of a GS1 Company Prefix. However, neither EPCIS 2.0 nor this Standard require the use of GS1 Identifiers. EPCIS-compatible identifiers can be created and used according the method described below; these identifiers are referred to as GDST Identifiers.

For Standard users that have a GS1 Company Prefix, it is recommended *that they use GS1 Identifiers. For Standard users that do not have a GS1 Company Prefix, it is* recommended *that they use GDST Identifiers. Standard users may use both types of identifiers if needed.*

GS1 Identifiers

EPCIS 2.0 has introduced the GS1 Digital Link standard as the preferred format for representing identifiers such as a GTIN, GTIN+Lot, GTIN+Serial Number, GLN, or Party GLN. The following are examples of the identifiers in the Digital Link Format:

- **EPC Class (GTIN + LOT)**: https://id.gs1.org/01/00860003130308/10/L 1234567890
- **EPC Instance (GTIN + SERIAL NUMBER):** https://id.gs1.org/01/00860003130308/21/S 1234567890
- **GTIN**: https://id.gs1.org/01/00860003130308
- **GLN**: https://id.gs1.org/416/0860003130308
- **Party GLN**: https://id.gs1.org/417/0860003130308

Standard users that have a GS1 Company Prefix, should use Digital Link URI identifiers. Per the recommendation of EPCIS 2.0, this Standard will REQUIRE that all GS1 Digital Link Identifiers use the canonical resolver domain "https://id.gs1.org," meaning that the part of the URL prior to the first application identifier must be https://id.gs1.org. This only applies when including the identifiers within an EPCIS event of traceability data. When using the identifiers to request data from a trading partner's Digital Link resolver, it is necessary to use the domain of the trading partner. The GDST recommends that Digital Link URI identifiers are used instead of the traditional URN format since the Digital Link URI does not require placing a "." between the company prefix and the item/location reference of the GTIN/GLN/Party GLN.

GDST Identifiers

Using GS1 Identifiers typically requires an organization to become a GS1 member and license a GS1 Company Prefix. This prefix forms the foundation for all GS1 Identifiers registered to that organization. However, GS1 standards allow for the use of non-GS1 identifiers, as long as they are compatible with GS1-based systems. The Global Directory for Standardized Traceability has introduced this type of identifier that does not require a GS1 company prefix to create. These identifiers are commonly referred to as "GDST Identifiers" and the URN registration for these identifiers can be found at: https://www.iana.org/assignments/urn-formal/gdst.

The GDST identifiers may populate an EPCIS event instead of identifiers built with a GS1 prefix (e.g., GTINs, GLNs, PGLNs). They follow the pattern of private or industry-wide URNs for identifiers that are defined in GS1's Core Business Vocabulary (sections 8.2.3, 8.3.3,

8.4.3, etc.). The URN format is a type of Uniform Resource Identifier which is designed to ensure an identifier is globally unique when referenced between more than one system.

When a company is requesting data through their trading partner's Digital Link resolver, the GDST identifiers can fill the same role in the GS1 Digital Link URI syntax as a GTIN or other GS1 Identifier:

- https://resolve.example.org/417/urn:gdst:example.org:party:ABC.12345
- https://resolver.example.org/01/urn:gdst:example.org:product:class:FARM1.white_shrimp

These identifiers are meant to only be constructed using URL compatible characters and they are not case sensitive. This allows them to be easily inserted into a URL without any encoding. This is useful for inserting them into the URL when resolving with the Digital Link Resolver.

Structure and Format

Data Structure

A consistent, standardized event structure is essential for establishing digital traceability across supply chains because it ensures that every actor records and shares information in the same predictable way. The EPCIS 2.0 Standard provides this structure by capturing traceability records through five core event types: Object, Aggregation, Association, Transformation and Transaction. The GDST uses only three of the five event types:

- **Object Event** – Captures what happens to one or more items (identified objects) at a given time and place (e.g. commissioning, receiving, shipping, or moving cases in a warehouse).
- **Aggregation Event** – Records when items are grouped together or separated (e.g., packing products into a carton or breaking down a pallet).
- **Transformation Event** – Captures when inputs are changed into outputs (e.g., processing raw ingredients into finished goods).

Each event type follows a consistent structure built around the **what**, **when**, **where**, **why and how** of the event that illustrates what occurred. This approach ensures event data is machine-readable, interoperable, and meaningful across systems and organizations.

Appendix C illustrates the expected data attributes to be recorded with each event.

EPCIS 2.0 has published schemas for each event type. These schemas define the expected properties, data types, and relationships for various EPCIS event types (e.g., ObjectEvent, AggregationEvent, TransformationEvent), as well as common fields

like eventTime, recordTime, epcList, bizStep, disposition, and readPoint. JSON schemas are available at GS1s public code repository: EPCIS/JSON-Schema at master · gs1/EPCIS. Data will be validated using these schemas.

Data Format

The GDST will use the JSON-LD format from EPCIS 2.0 for communicating traceability data. The standard and additional resources can be found here. Additional information and examples of traceability data in JSON-LD format can be found in the developer documentation.

In addition to the requirements outlined in the EPCIS 2.0 standard, the GDST will have the following requirements:

Requirement	Standard Text	Standard Reference
The @context of a JSON-LD file must reference the officially hosted EPCIS JSON-LD context at https://ref.gs1.org/standards/epcis/epcis-context.jsonld	"Typically, it may reference the standard JSON-LD context resource for EPCIS 2.0, which is published at https://ref.gs1.org/standards/epcis/2.0.0/epcis-context.jsonld."	EPCIS 2.0 Standard – Section 10.1.2
JSON-LD context information must be recorded in the root @context of the body of a JSON-LD file, as recommended by the EPCIS 2.0 standard.	"Even though each individual member object in a JSON-LD document MAY declare its local @context, EPCIS 2.0 capturing applications that use the JSONLD context resource SHOULD specify a consolidated @context for all default and user-defined namespaces at the root level of the EPCISDocument (refers to the payload of POST /capture endpoint) as well as at the root level of the EPCISEvent (refers to POST /event endpoint). This is strongly recommended, in order to simplify document parsing and validation"	EPCIS 2.0 Standard – Section 10.1.3
JSON-LD files must be communicated in the compact format, as recommended by the EPCIS 2.0 standard.	"What is meant by JSON/JSON-LD is that as far as possible, most annotations that are specific to JSONLD are hidden from the body of the data payload by placing them within the JSON-LD context resource and through the use of aliases. This means that if the software consuming EPCIS 2.0 data only expects to treat it as JSON data, it can simply ignore the JSON-	Section 10.1.2 2.4

	LD context resource and use existing JSON processing functions for parsing the body of the data payload. Software that specifically needs EPCIS 2.0 as a JSON-LD or Linked Data format makes use of the JSON-LD context resource (including retrieval of any referenced online context files/resources) to obtain a full JSON-LD document / data structure, which can also be easily translated into other Linked Data formats using available translation tools." – EPCIS 2.0 Standard	

Data Exchange

Key Capabilities

Implementing EPCIS Query Interface

The EPCIS 2.0 Standard defines communication protocols for querying and capturing EPCIS events within and between companies. EPCIS 2.0 offers a communication protocol for the EPCIS Query Interface that follows REST interface principles and is defined concretely with an OpenAPI definition file. Those following the GDST Standard are expected to implement the EPCIS Query Interface as a REST interface as defined by the EPCIS 2.0 standard.

The entire EPCIS Query Interface is extensive. To simplify, this Standard only requires the following components of the EPCIS Query Interface:

The following REST API methods SHALL be implemented:

GET - /events

- Used to request all the events in the repository or a set of events matching the criteria included as query parameters in the requesting URL.

The EPCIS Query Interface must also support the following query parameters in a named query or as parameters in the requesting URL:

Query Parameter	Description
LT_recordTime – ISO DateTime Stamp	This is a date time in the UTC format, following the xsd:dateTimeStamp data type. This will return all events where the recordTime is less than the provided value.
GE_recordTime – ISO DateTime Stamp	This is a date time in the UTC format, following the xsd:dateTimeStamp data type. This will return all events where

	the recordTime is either greater than or equal to the provided value.
LT_eventTime – ISO DateTime Stamp	This is a date time in the UTC format, following the xsd:dateTimeStamp data type. This will return all events where the eventTime is less than the provided value.
GE_eventTime – ISO DateTime Stamp	This is a date time in the UTC format, following the xsd:dateTimeStamp data type. This will return all events where the eventTime is either greater than or equal to the provided value.
MATCH_anyEPC – List of URIs	If this parameter is specified, the result will only include events (i.e. ObjectEvent, AggregationEvent, TransactionEvent, TransformationEvent, AssociationEvent or extension event types that extend one of those event types) that (a) have an epcList field, a childEPCs field, a parentID field, an inputEPCList field, or an outputEPCList field; and where (b) the parentID field or one of the EPCs listed in the epcList, childEPCs, inputEPCList, or outputEPCList field (depending on event type) matches one of URIs specified in this parameter. The meaning of "matches" is as specified in section 8.2.7.1.1 of the EPCIS 2.0 standard.
MATCH_anyEPCClass – List of URIs	If this parameter is specified, the result will only include events (that is, ObjectEvent, AggregationEvent, TransactionEvent, TransformationEvent, AssociationEvent or extension event types that extend one of those event types) that (a) have a quantityList, childQuantityList, inputQuantityList, or outputQuantityList; and where (b) one of the EPC classes listed in any of those fields matches one of the EPC patterns or URIs specified in this parameter. The meaning of "matches" is as specified in section 8.2.7.1.1 of the EPCIS 2.0 standard.
EQ_bizStep – List of URIs	If specified, the result will only include events that (a) have a non-null bizStep field; and where (b) the value of the bizStep field matches one of the specified values. If this parameter is omitted, events are returned regardless of the value of the bizStep field or whether the bizStep field exists at all. NOTE: It is always possible to return a "Query Too Complex" (413) if the filters provided are too broad or will return too many

	results. For example, if only the eventTypes filter parameter is provided, this may be deemed too broad to execute.
EQ_transformationID – List of URIs	If specified, the result will include only events that (a) have a non-null transformationID and where (b) the value of the transformationID matches one of the specified values. If this parameter is omitted, events are returned regardless of the value of the transformationID field or whether the field exists at all. This filter requirement was introduced to improve tracebacks on long running transformations.
EQ_bizLocation – List of URIs	If specified, the result will include only events that (a) have a non-null bizLocation field and where (b) the value of the bizLocation matches one of the specified values. If this parameter is omitted, events are returned regardless of the value of the bizLocation field or whether the field exists at all.

The required search parameters are:

- MATCH_anyEPC and/or MATCH_anyEPCClass
- EQ_bizStep + GE_eventTime + LT_eventTime
- EQ_bizStep + GE_recordTime + LT_recordTime

Examples covering how to query for traceability data can be found in the developer documentation.

Implementing GS1 Digital Link

The GS1 Digital Link Standard can be used to create a "pseudo" DNS server to lookup links about information related to identifiers. Those following the GDST Standard must implement a GS1 Digital Link Resolver as defined in the GS1 Digital Link Standard.

Requirements:

The GS1 Digital Link resolver will support at a minimum the following link types:

Link Type	Description
gs1:epcis	This will return a link that points to the EPCIS Query Interface for the requested EPC.
gs1:masterData	This will return a link that can resolve the GS1 Web Vocab JSON-LD for the requested GTIN/GLN/PGLN

The following application identifiers for URL paths are required:

Application Identifier	Description
01	Product Definition Identifier
414	Location Identifier
417	Party Location Identifier
21	Serial Number
10	Lot Number

Adhering to the 1.1.3 update of the Digital Link standard, the numeric application identifier must be used. The alphabetic identifier is no longer allowed. For example, you must use "01" before the GTIN in the URL and not "gtin."

Resolving Digital Link URI Identifiers through a Digital Link Resolver

To resolve a Digital Link URI Identifier, replace the canonical base URL of the Digital Link URI Identifier with the base URL if the sender's Digital Link Resolver.

Example Resolving a PGLN	
Sender's Digital Link Resolver Base URL	https://resolver.example.org/
Digital Link URI Identifier to Resolver (PGLN)	https://id.gs1.org/417/0860003130308
URL to Resolve Digital Link URI Identifier	https://resolver.example.org/417/0860003130308

GS1 Digital Link URL Structure

While the GS1 Digital Link standard discusses this topic in more detail, this section is meant to give a brief overview of the structure of a GS1 Digital Link URL. These are constructed as follows:

- {Base URL}/{Application Identifier}/{Value 1}/{Application Identifier 2}/{Value 2}
  https://resolver.example.org/01/00860003130308/10/LOT07082021

The Application Identifiers need to be placed in a specific order. For the purposes of Standard, the following Application Identifier pairs should be supported:

Application Identifier/ Pair	Description, Link Type & Example
417	Returns links about a specific Trading Party or Organization
	This Application Identifier (PGLN) can be queried with either the gs1:masterData link type to get a link to the master data or with the gs1:epcis to get the default EPCIS Query Interface for the organization.
	EXAMPLE: https://resolver.example.org/party/0860003130308
414	Returns links about a specific Location
	This Application Identifier (GLN) can be queried with either the gs1:masterData link type to get a link to the master data or with the gs1:epcis to get the default EPCIS Query Interface for the organization.
	EXAMPLE: https://resolver.example.org/gln/urn:gdst:example.org:location:loc:FARM1.0
01/10	Returns links about a specific batch/lot of a trade item. For the purposes of this standard, the links will only be required to return a link to an EPCIS Query Interface.
	This Application Identifier pair (GTIN/Lot) can be queried with the link type gs1:epcis.
	EXAMPLE: https://resolver.example.org/gtin/00860003130308/lot/LOT07082021
01/21	Returns links about an individual instance of a trade item. For the purpose of this standard, the links will only be required to return a link to an EPCIS Query Interface.
	This Application Identifier pair (GTIN/Serial) can be queried with the link type gs1:epcis.
	EXAMPLE: https://resolver.example.org/gtin/00860003130308/ser/ABCD-EFGH-1234-5678

Preparing for Data Exchange

Adding a Trading Party

Before companies start exchanging traceability data, they exchange company info to establish the other party in their respective systems. In addition to data about the company, the trading partners may exchange foundational info about the locations where exchanges of products will occur (e.g., processing plant, distribution center). This exchange can be accomplished simply by each company exchanging a Digital Link Resolver URI, Party Identifier, and optionally, an API Key. This enables companies to

request the master data describing a party or location instead of for an object like demonstrated in the previous flows.

The GDST proposes that the following information is communicated to a trading party to grant them access to request data:

- GS1 Digital Link URI + Party GLN
- API Key

Example (GS1 Identifiers)

URL	Full	https://resolver.trace-solution-example.com/417/0860003130308
	Base	https://resolver.trace-solution-example.com
	Path	/417
	Party Identifier	/0860003130308
API Key		81C6C194-B445-4FFB-907E-CDBC7FF7F36F

Example (GDST Identifiers)

URL	Full	https://resolver.trace-solution-example.com/417/urn:gdst:example.org:party:example_prefix.0
	Base	https://resolver.trace-solution-example.com
	Path	/417
	Party Identifier	/ urn:gdst:example.org:party:example_prefix.0
API Key		81C6C194-B445-4FFB-907E-CDBC7FF7F36F

The example GS1 Digital Link URI shown above contains two parts: the Base URL, and the Party Identifier highlighted in blue.

The Base URL is portion until the first application identifier is found. In the example, the first application identifier is ‘417’ for a Party Identifier. Then the value of ‘0860003130308` following the ‘417’ is the Party Identifier of the Trading Partner.

It is possible to query the GS1 Digital Link Resolver URL + Party Identifier with the link type gs1:masterData to get information about the trading party. It is also possible to query the GS1 Digital Link Resolver URL + Party Identifier with the link type gs1:epcis to get the default EPCIS Query Interface URL of the Trading Party.

Authentication

The two parties exchanging data will need to exchange API Keys that can be used to access each other's EPCIS Query Interface. Each request from the Receiver to the Sender will contain an HTTP Header X-API-Key that will contain the API Key.

X-API-Key 81C6C194-B445-4FFB-907E-CDBC7FF7F36F
https://resolve.example.org/party/0086003130308?linkType=gs1:masterData

Cases for not requiring authentication can include but are not limited to:

- A retailer or brand owner may wish to expose traceability data publicly about their products to consumers. They may choose to share the complete data or a redacted form of the data.
- A brand owner may choose to expose their GS1 Digital Link Resolver to share information about their trade items such as coupons, videos, additional information, or recipes

It is completely up to the Sender to manage, generate, and authenticate API Keys. This Standard only specifies where to put and look for the API Key if authentication is to be used.

Authentication is not required by the EPCIS 2.0 standard but it is expected to occur. At a minimum, implementations following this Standard are required to support X-API-KEY header for authentication. If two solution providers support other security protocols and desire to use that security protocol rather than an API Key, then they can use that security protocol instead. This Standard only mandates that X-API-KEY header authentication is supported.

Data Exchange Workflows

All requests between two parties exchanging traceability data will be done using HTTP request using the REST (REpresentational State Transfer) architecture. Responses must be returned in the EPCIS 2.0 JSON-LD format.

Business To Business Workflows

For the purpose of this workflow, we will designate the party requesting the traceability data as the Receiver and the party transferring the traceability data as the Sender. You can think of the Receiver as the party receiving goods from the Sender and the Sender as the

party selling/transferring the goods to the Receiver. The Receiver will format one of the Product Identifiers as a GS1 Digital Link URI to query the Sender's GS1 Digital Link Resolver in order to discover the location of the EPCIS repository of the sender.

This first workflow illustrates how a Receiver obtains traceability data, a set of EPCIS events and master data, through a request and response exchange with an external system of the Sender. For the purpose of this workflow, we will assume that the Receiver (Buyer) has received a list of Product Identifier(s) through a previous workflow and is now attempting to resolve traceability data and master data for these Product Identifier(s).

Note: An example of this previous workflow might be the Receiver (Buyer) receiving and Advanced Shipment Notification from the Sender (Seller) through their ERP system.

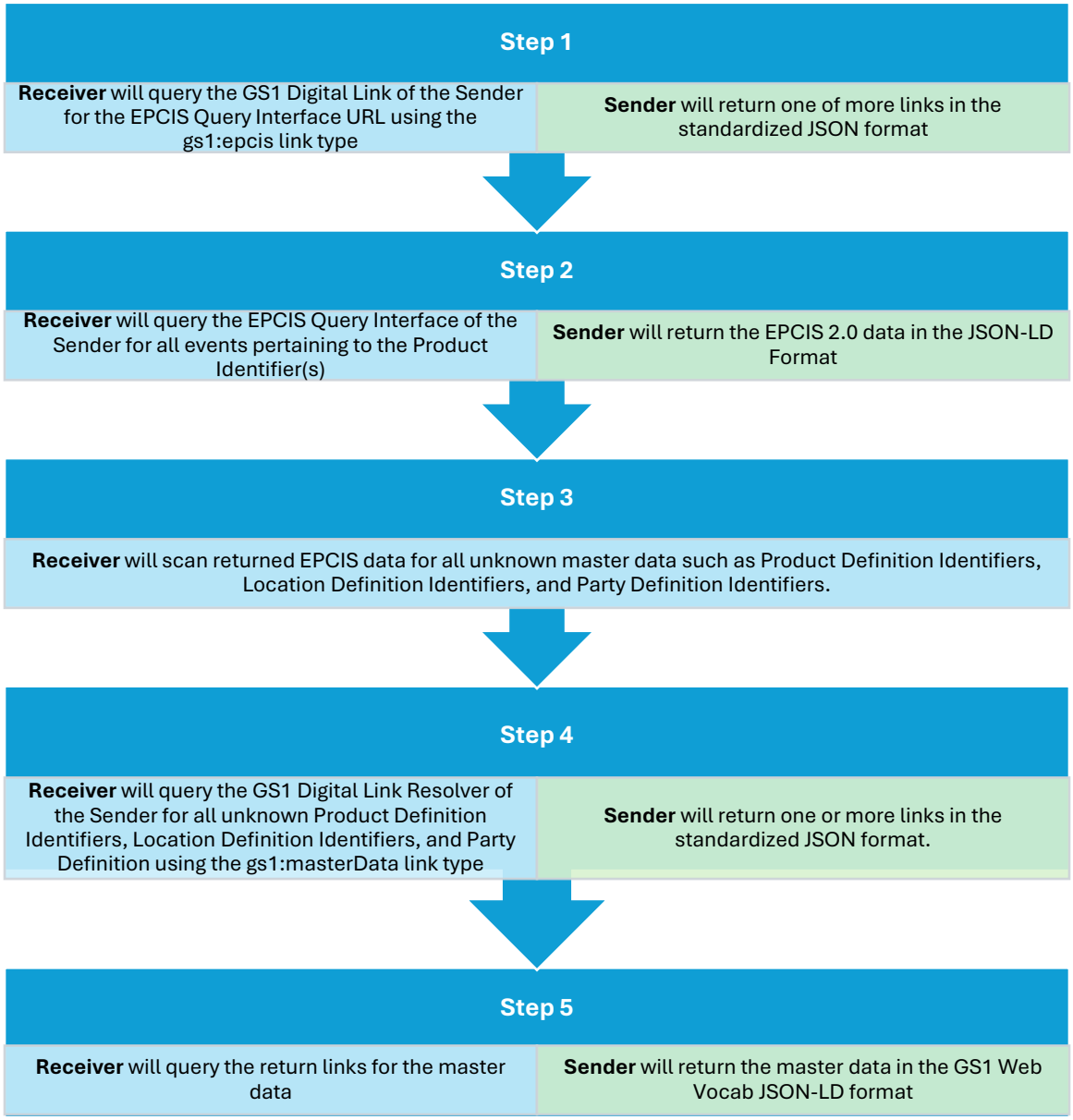

Figure 1 - Business to Business Workflow

Once the Receiver has a list of Product Identifiers that they want to request traceability data for, the following workflow will take place:

1. The Receiver will format one of the Product Identifiers as a GS1 Digital Link URI and query the Sender's GS1 Digital Link Resolver in order to discover the location of the EPCIS repository of the sender. This request will return a link to an EPCIS repository associated with the sender and the Product Identifier. The GS1 Digital Link URI shall be appended with the gs1:epcis link type in order to express to the Sender's resolver that the Receiver wishes to locate an EPCIS repository.

    a. They will use the link type gs1:epcis to signal they are looking for the EPCIS Query Interface that contains the event data for that Product Identifier.
    b. Alternately, the Receiver may request the location of an EPCIS repository with a GS1 Digital Link URI with a Party Identifier identifying the Sender as an entity through use of the GS1 Application Identifier for a Party Identifier, 417.
    c. NOTE – this step of the workflow is only necessary when the Receiver does not know the location of the EPCIS repository of the Sender. Subsequent exchanges can query the EPCIS repository directly without formatting a Product Identifier as a GS1 Digital Link URI Syntax.
2. The Receiver will query the EPCIS Query Interface for each Product Identifier they wish to receive traceability data for. These queries will be returned from the Sender as one or more events formatted in an EPCIS 2.0 Query Document in the JSON-LD format.
3. The Receiver will scan the received EPCIS event data for all distinct Product Definition Identifiers, Location Identifiers and Party Location Identifiers in the event data.
4. The Receiver will then query the Sender's GS1 Digital Link Resolver for each Product Definition Identifiers, Location Identifiers and Party Location Identifiers that is unknown to the Receiver. They can also choose to always query for the master data to ensure it is up to date.
    a. The Receiver will use the link type gs1:masterData when querying the GS1 Digital Link Resolver to express to the Sender that only links or content are returned pertaining to master data.
5. The Receiver will resolve each link and will expect the links to return the master data in the GS1 Web Vocab JSON-LD.

System to System Workflows

Individual organizations often need to transfer traceability data between two internal software systems. This may occur for several reasons, including:

- The organization is a large enterprise operating multiple software systems across different business units.
- The organization captures data through other operational systems—such as warehouse management, production floor, and/or enterprise resource planning (ERP) systems—and consolidates that data in a dedicated traceability solution.
- Data is recorded in a secondary traceability solution on behalf of the organization.
- The organization is transitioning from one traceability solution to another and must transfer historical data.

In these situations, the data transfer process follows a similar but slightly different workflow than a typical business-to-business (B2B) exchange. In this workflow, the organization identifies the relevant time period for which traceability data needs to be migrated and synchronizes that data between systems. For the purpose of this workflow, the *Sender* refers to the originating system where the traceability data is stored and the *Receiver* refers to the destination system to which the data will be transferred.

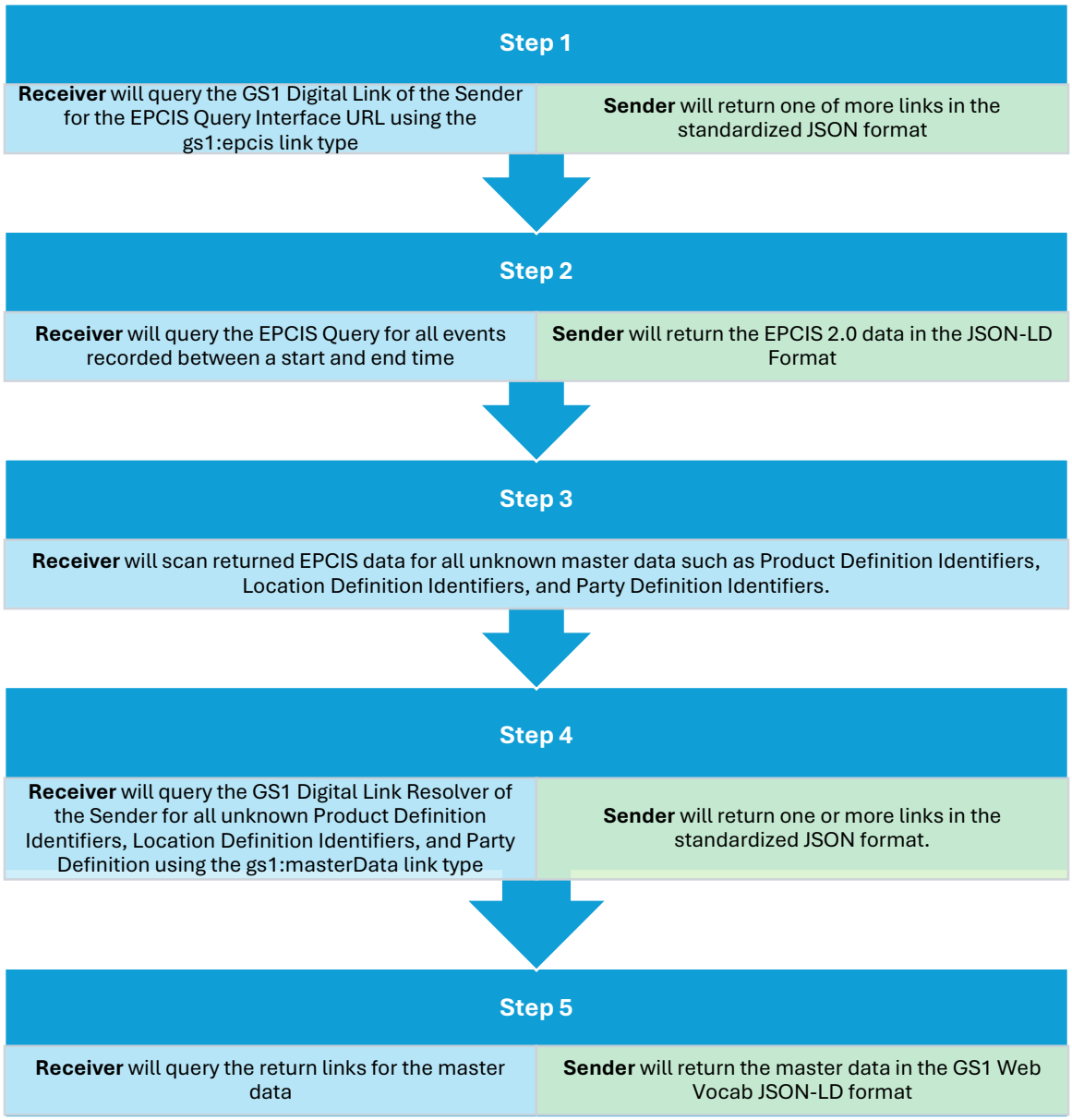

Figure 2 - System to System Workflow

Once the relevant period of time is defined, it will likely need to be broken into smaller portions of time (e.g. one day, one hour) to avoid a query that is too complex to execute.

1. The Receiver will query the Digital Link URL with the link type gs1:epcis to obtain the EPCIS URL of the first system. This can be done by querying the base URL of the GS1 Digital Link with the following Link Type:
    a. {GS1_DIGITAL_LINK_BASE_URL}/417/{Party Identifier}?linkType=gs1:epcis; or,

    b. https://www.example.org/417/urn:gdst:example.org:party:123.0/digital_link ? linkType=gs1:epcis
2. The Receiver will then query the EPCIS API method /queries/SimpleEventQuery for all events that were recorded between the start of the slice of time and the end of the slice of time.
3. The Receiver will scan the received EPCIS event data for all identifiers (e.g. Product Definition Identifier, Location Identifier, Party Identifier, etc.) in the event data.
4. The Receiver will then query the Sender's GS1 Digital Link Resolver for each identifier (e.g. Product Definition Identifier, Location Identifier, Party Identifier, etc.) that is unknown to the Receiver.
    a. The Receiver will use the link type gs1:masterData when querying the GS1 Digital Link Resolver to limit the links returned to those pertaining to master data.
5. The Receiver will resolve each link and will expect the links to return the master data in the GS1 Web Vocab JSON-LD.

Master Data Resolution

Master data SHALL be resolved using the Digital Link Resolver. When an EPCIS Query Document is returned from the EPCIS Query Interface, the following steps must be run in order to ensure master data has been resolved:

1. Scan the EPCIS Query Document for all distinct master data identifiers (e.g. Product Definition Identifier, Location Identifier, Party Identifier, etc.)
2. The Receiver SHOULD filter the list of distinct identities down to only the master data identifiers which are unknown.
    a. The Receiver can choose to always resolve master data identifiers whether they are known to them or not.
3. Query the Digital Link resolver of the party you are requesting traceability information from for each unknown identifier.
4. The party behind the Digital Link Resolver will return the master data associated with the identifiers in the GS1 Web Vocab JSON-LD format.

EPCIS 2.0 no longer allows master data to be included within an EPCIS Query Document using the JSON-LD format. Consequently, all master data must be resolved using the GS1 Digital Link Resolver.

Appendices

Appendix A: URN Registration Information – GDST Identifiers

The GDST Identifiers follow a strict format that abides by the EPCIS 2.0 standard for private industry identifiers. The specifics of the format are outlined in the official URN registration for GDST identifiers at the link below.

EPCIS iana.org/assignments/urn-formal/gdst

Appendix B: JSON Schemas

Data will be validated using the official JSON schemas published by GS1, available at their public code repository here, EPCIS/JSON-Schema at master · gs1/EPCIS.

Appendix C: Technical Data Mapping - Events

This section describes how real-world supply chain activities are represented as EPCIS events and identifies the Key Data Elements (KDEs) that must be captured for each event. By standardizing event representation—from animal birth through product transformation and distribution—organizations can ensure data is recorded in a structured, interoperable format.

The term “product” is used throughout this section. For simplicity, the term “product” will refer to seafood (live or post-harvest), intermediate goods, byproducts, and/or any finished goods represented in traceability events.

Commission

Commission events capture the creation of new traceable products within the supply chain. These events refer to the most upstream event in the first mile of seafood supply chains, marking the point at which a seafood product is first recorded as an identifiable entity within a documented supply chain.

Commissioning should be recorded using an **OBJECT-ADD** event which indicates that a new traceable product(s) has been created in the supply chain. The data captured during commission events varies slightly between wild capture and aquaculture operations. Below are the KDEs that should be recorded with the event for either method.

Catching/Fishing

For wild capture operations, commissioning refers to the event when seafood is caught. Examples include:

- Fish are hauled aboard after soaking on a longline

- Fish are picked out of a gillnet as the net is rolled aboard
- A load of fish in a purse seine is hauled into the hold of a boat

Commission (Fishing/Catching)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS Data		
Event Type	eventType	OBJECT*
Action	action	ADD*
Disposition	disposition	active*
Core Traceability Data		
Business Step	bizStep	commission*
Event ID	eventID	Identifier for the fishing event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification, Quantity, and Unit of Measure	quantityList	The EPC used to identify the seafood caught during the event. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time seafood was caught
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the vessel that caught the seafood
Event Read Point	readPoint	The read point of the location where the catching event took place (geocoordinates)
Data - All Seafood		
Harvest Certification - Certification Type	certificationType	urn:gdst:certType:harvestCert*
Harvest Certification - Certification Agency	certificationAgency	The name of the harvest certification program owner (e.g. MSC)
Harvest Certification - Certification Standard	certificationStandard	The name of the harvest certification standard (e.g. MSC fisheries certification)
Harvest Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. quality class 4)
Harvest Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the catch event

Existence of Human Welfare Policy	humanWelfarePolicy	Indication of wether or not a human welfare policy was in place during the fishing event: specify "internal policy", "3P audit", or "none"
Human Welfare Policy Standards - Certification Type	certificationType	urn:gdst:certType:urn:gdst:certType:humanPolicy
Human Welfare Policy Standards - Certification Agency	certificationAgency	If a 3rd party audit is applicable, the name of the human welfare policy program owner
Human Welfare Policy Standards - Certification Standard	certificationStandard	If a 3rd party audit is applicable, the name of the human welfare policy standard
Human Welfare Policy Standards - Certification Value	certificationValue	If a 3rd party audit is applicable, the value or class of the human welfare policy certification, if applicable (e.g. quality class 4)
Human Welfare Policy Standards - Certification ID	certificationIdentification	If a 3rd party audit is applicable, the ID number for the human welfare policy certificate holder performing the catch event
Legal Authorization	certificationType	urn:gdst:certType:fishingAuth*
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for fishing activity (e.g. National Oceanic and Atmospheric Administration)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g. Federal Fisheries Permit)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Swordfish General Commercial)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. SGC-671)
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the seafood caught
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the fishing event
Production Method	productionMethodForFishAndSeafoodCode	The code specifying how the seafood was cultivated. Reference: https://navigator.gs1.org/gdsn/class-

		details?name=ProductionMethodForFishAndSeafoodCode&version=15
Data - Wild Catch		
Vessel Trip Dates	vesselTripDate	The start and end dates of the fishing trip (the last date that the fishing hold was empty and the date on which seafood is discharged)
Gear Type	fishingGearTypeCode	the code for the gear type(s) used during the fishing event
Availability of Catch Coordinates	gpsAvailability	Indicate "true" for available GPS coordinates or "false" for no available GPS coordinates
Satellite Vessel Tracking Authority	satelliteTrackingAuthority	Country code for nation responsible for satellite tracking or verification of fishing vessel
Catch Area - FAO Major Fishing Area	catchArea	Code for FAO major fishing area where seafood was caught
Catch Area - EEZ	economicZone	Country code for the nation that governs the Exculsive Economic Zone (EEZ) where seafood was caught
Catch Area - RFMO	rfmoArea	Name or abbreviation for the RFMO that governs the fishing area/seafood commodity caught (if applicable)
Catch Area - Subnational Permit Area	subnationalPermitArea	Name of sub-national permit area (if defined by applicable regulatory bodies) for area where seafood are caught
Fishery Improvement Project	fisheryImprovementProject	Publicly listed name of the Fishery Improvement Project (FIP) that the fishing event is subject to

** Indicates that the value is always this value.*

Immature Harvest

For aquaculture operations, commissioning refers to the event in which an immature seafood product (not ready for consumption) has been harvested from a hatchery facility. Typically, these events are performed so that the immature seafood could be restocked into another pond/container/pen/etc. Examples include:

- Fingerling/fry tilapia are harvested from a hatchery operation to be moved to a growout pond
- Immature salmon are harvest from a hatchery so that they can be transferred to net pens

The event template illustrated in the table below assumes that inputs prior to immature harvest are not being documented.

For operators that wish to record inputs, immature harvest can be recorded as a ***TRANSFORMATION EVENT.*** *The event template for mature harvest may be used in these cases.*

Commission (Immature Harvest)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	OBJECT*
Action	action	ADD*
Disposition	disposition	active*
Core Traceability Data		
Business Step	bizStep	commission*
Event ID	eventID	Identifier for the hatch harvest event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement	quantityList	The EPC used to identify the seafood harvested during the event. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time that seafood were harvested
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the factility where the seafood were harvested
Data - All Seafood		
Harvest Certification - Certification Type	certificationType	urn:gdst:certType:harvestCert*
Harvest Certification - Certification Agency	certificationAgency	The name of the harvest certification program owner(e.g. ASC)
Harvest Certification - Certification Standard	certificationStandard	The name of the harvest certification standard (e.g. ASC Farm Standard)
Harvest Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. quality class 4)
Harvest Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the harvest event

Existence of Human Welfare Policy	humanWelfarePolicy	Indication of wether or not a human welfare policy was in place during the harvesting event: specify "internal policy", "3P audit", or "none"
Human Welfare Policy Standards - Certification Type	certificationType	urn:gdst:certType:urn:gdst:certType:humanPolicy
Human Welfare Policy Standards - Certification Agency	certificationAgency	If a 3rd party audit is applicable, the name of the human welfare policy program owner
Human Welfare Policy Standards - Certification Standard	certificationStandard	If a 3rd party audit is applicable, the name of the human welfare policy standard
Human Welfare Policy Standards - Certification Value	certificationValue	If a 3rd party audit is applicable, the value or class of the human welfare policy certification, if applicable (e.g. quality class 4)
Human Welfare Policy Standards - Certification ID	certificationIdentification	If a 3rd party audit is applicable, the ID number for the human welfare policy certificate holder performing the harvest event
Legal Authorization	certificationType	urn:gdst:certType:legalAuth*
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for the facility to operate (Illinois Department of Natural Resources)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g. Aquaculture Permit)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Commercial)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. 83750284)
Event Read Point	readPoint	The read point of the location where the hatching/birthing event took place
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the seafood harvested
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the hatch harvest event
Production Method	productionMethodForFishAndSeafoodCode	The code specifying how the seafood was cultivated.

		Reference: https://navigator.gs1.org/gdsn/class-details?name=ProductionMethodForFishAndSeafoodCode&version=15
Data - Aquaculture		
Source of Broodstock	broodstockSource	Description of broodstock source (values: "domestic" or "wild")

** Indicates that the value is always this value.*

Aggregation

Aggregation events capture the grouping of individual products into a single logistical unit, enabling them to be tracked collectively for downstream activities such as shipping, receiving, storage, or internal movements. The logistical unit is identified with a Serial Shipping Container Code (SSCC), which uniquely identifies transport and storage units such as totes, cartons, pallets, or shipping containers. Aggregation events are always reversible; the products combined into a logistical unit can later be separated or re-identified through a disaggregation event, restoring their individual identity. Examples include:

- Totes of landed tuna aggregated on the vessel or dock for transfer to a cold storage facility (SSCC = tote or container).
- Cases of frozen loins or fillets packed by a processor into cartons or master cases for export (SSCC = carton or case).
- Multiple cases of finished product consolidated onto a single pallet for shipment to a distribution center (SSCC = pallet).

Aggregation events can be carried out for different purposes (e.g. aggregation cases of finished product onto a pallet for easy tracking in cold storage or simplified inventory management). However, they are most often performed immediately before shipping. While a shipping event does not *require* a preceding aggregation event, aggregation *should* be performed when the logistical unit will be used as the basis for recording the shipment and any subsequent movements. In cases where multiple logistical units are created — for example, several pallets per shipment — an aggregation event should be recorded for each.

Aggregation should be recorded using an **AGGREGATION-ADD** event. Below are the KDEs that should be recorded with the event.

Aggregation		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	AGGREGATION*

Action	action	ADD*
Disposition	disposition	active*
Core Traceability Data		
Business Step	bizStep	packing*
Event ID	eventID	Identifier for the aggregation event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement - Input	childEpcList	The EPC(s) of the products that are being aggregated. This field is used when the input products are being traced using instance-level traceability.
	childQuantityList	The EPCs and quantity of the products being aggregated. This field is used when the input products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Product Identification (EPC), Quantity, Unit of Measurement - Otuput	parentId	The SSCC of the logistical unit that the products are aggregated into
Event Date & Time	eventTime	The date and time the products were aggregated
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the factility where the products were aggregated
Data - All Seafood		
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner(e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the aggregation event (e.g. 7492743)
Event Read Point	readPoint	The read point of the location where the products were aggregated
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were aggregated

Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the aggregation event

** Indicates that the value is always this value.*

Shipping & Receiving

Shipping

Shipping events capture the dispatch of product(s) from one physical location to another. For seafood products, these locations can encompass not only land-based locations (e.g. processing facilities, distribution centers, landing sites, farms, etc) but also vessels. Examples include:

- Gilled and gutted fish shipped from a landing site to a primary processor or cold storage facility.
- Frozen loins shipped from a primary processor to a cannery.
- Finished packaged fillets shipped in refrigerated containers from a port facility to overseas buyers.
- Frozen breaded fish sticks shipped from distribution centers to retailers or food service operators.

If products are aggregated into a logistical unit (e.g., a pallet, tote, carton, or shipping container) prior to shipping, the shipping event should be recorded on that logistical unit rather than on the individual product identifiers (EPCs) of the items contained within it. Conversely, if products are not aggregated, the shipping event should reference the individual EPCs or lot identifiers of the products themselves.

Shipping should be recorded using an **OBJECT-OBSERVE** event. Below are the KDEs that should be recorded with the event.

Shipping		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	OBJECT*
Action	action	OBSERVE*
Disposition	disposition	in_transit
Core Traceability Data		
Business Step	bizStep	shipping*
Event ID	eventID	Identifier for the shipping event that distinguishes it from other recorded events (this is usually generated by the capturing application)

Product Identification (EPC), Quantity, Unit of Measurement	epcList	The EPCs of the product(s) or logistical unit(s) being shipped. This field is used when products are being traced using instance-level traceability.
	quantityList	The EPCs and quantity of the products being shipped. This field is used when products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the products were shipped
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the facility from which the products were shipped
Source Location ID	sourceList.location	The unique identifier (GLN or GDST identifier) of the location from which the product(s) were shipped.
Destination Location ID	destinationList.location	The unique identifier (GLN or GDST identifier) of the location where the product(s) will be received.
Data - All Seafood		
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner(e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the shipping event (e.g. 7492743)
Event Read Point	readPoint	The read point of the location from which the products were shipped
Source Product Ownership ID	sourceList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were shipped
Destination Product Ownership ID	destinationList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that will own the product after it is received

Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the shipping event

** Indicates that the value is always this value.*

Receiving

Receiving events capture the receipt of product(s) that has that have been transported from one physical location to another. When products are received at a new facility, certain data elements should be captured to maintain traceability. Examples include:

- Receiving fresh whole fish at a processor.
- Receiving flash-frozen gilled and gutted fish at a cold storage facility.
- Receiving processed fillets at a distributor, importer, exporter, or other downstream facility.

If products were aggregated into a logistical unit (e.g., a pallet, tote, carton, or shipping container) before shipping, the receiving event should be recorded on that same logistical unit prior to disaggregation. Conversely, if the products were not aggregated prior to shipping, then the receiving event should be recorded for the individual product identifiers (e.g., EPCs) as they were represented in the shipping event. The EPCs specified in the shipping event should match those specified in the receiving event.

Receiving should be recorded using an OBJECT-OBSERVE event. Below are the KDEs that should be recorded with the event.

Receiving		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	OBJECT*
Action	action	OBSERVE*
Disposition	disposition	arrived
Core Traceability Data		
Business Step	bizStep	receiving*
Event ID	eventID	Identifier for the receiving event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement	epcList	The EPCs of the product(s) or logistical unit(s) being received. This field is used when products are being traced using instance-level traceability.
	quantityList	The EPCs and quantity of the products being received. This field is used when products are being traced using lot-level

		traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the products were received
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the facility where the products were received
Source Location ID	sourceList.location	The unique identifier (GLN or GDST identifier) of the location from which the product(s) were shipped.
Destination Location ID	destinationList.location	The unique identifier (GLN or GDST identifier) of the location where the product(s) are received.
Data - All Seafood		
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner(e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the receiving event (e.g. 7492743)
Event Read Point	readPoint	The read point of the location from where the products were received
Source Product Ownership ID	sourceList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owned the products that were shipped
Destination Product Ownership ID	destinationList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owns the product after it is received
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the receiving event

* *Indicates that the value is always this value.*

Special Cases for Shipping & Receiving Events in Seafood Supply Chains

While the shipping and receiving events described above capture the vast majority of movements across seafood and other supply chains, certain operations in seafood require additional clarification: specifically, *transshipment* and *landing*. These activities follow the same event structure as standard shipping and receiving, but because the sending or receiving locations may include vessels or landing sites, additional data related to those locations must be captured.

Transshipment

Transshipment events capture the transfer of products from one vessel to another prior to landing. In these events, both the source and destination locations are different vessels. Examples include:

- Tuna are transferred from a fishing vessel to a cargo for transport to port
- King crabs are transferred from a fishing vessel to a transshipment vessel before landing

Transshipment must be represented through *two* events: a shipping event from the originating vessel and a receiving event on the destination vessel. Below are the KDEs that should be recorded with the shipping and receiving event portions of transshipment.

Shipping

Transshipment (Shipping)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	OBJECT*
Action	action	OBSERVE*
Disposition	disposition	in_transit
Core Traceability Data		
Business Step	bizStep	shipping*
Event ID	eventID	Identifier for the transshipment event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement	quantityList	The EPCs and quantity of the products being transshipped. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the products were dispatched from the vessel.
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the vessel from which the seafood was transshipped.
Source Location ID	sourceList.location	The unique identifier (GLN or GDST identifier) of the vessel from which the seafood was transshipped.
Destination Location ID	destinationList.location	The unique identifier (GLN or GDST identifier) of the vessel that will receive the transshipment

Event Read Point	readPoint	The read point of the location where the transshipment event took place (geocoordinates)
Data - All Seafood		
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner(e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the transshipment event (e.g. 7492743)
Human Welfare Policy Standards - Certification Type	certificationType	urn:gdst:certType:urn:gdst:certType:humanPolicy
Human Welfare Policy Standards - Certification Agency	certificationAgency	If a 3rd party audit is applicable, the name of the human welfare policy program owner
Human Welfare Policy Standards - Certification Standard	certificationStandard	If a 3rd party audit is applicable, the name of the human welfare policy standard
Human Welfare Policy Standards - Certification Value	certificationValue	If a 3rd party audit is applicable, the value or class of the human welfare policy certification, if applicable (e.g. quality class 4)
Human Welfare Policy Standards - Certification ID	certificationIdentification	If a 3rd party audit is applicable, the ID number for the human welfare policy certificate holder performing the transshipment event
Legal Authorization	certificationType	urn:gdst:certType:urn:gdst:certType:transshipmentAuth
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for transshipment activity (e.g. National Oceanic and Atmospheric Administration)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g.Transhipment Permit)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Commercial)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. AG1475U)

Event Read Point	readPoint	The read point of the location where the transshipment event took place
Source Product Ownership ID	sourceList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were transshipped
Destination Product Ownership ID	destinationList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that will own the product after it is received
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the transshipment event
Data - Wild Catch		
Port Code (For In-Port Transshipments)	unloadingPort	the code (United Nations Code for Trade and Transport Locations UN/LOCODE) of the port where the seafood was transshipped

** Indicates that the value is always this value.*

Receiving

Transshipment (Receiving)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	OBJECT*
Action	action	OBSERVE*
Disposition	disposition	arrived
Core Traceability Data		
Business Step	bizStep	receiving*
Event ID	eventID	Identifier for the transshipment event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement	quantityList	The EPCs and quantity of the products being transshipped. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the products were received on the vessel
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the vessel that received the transshipment.
Source Location ID	sourceList.location	The unique identifier (GLN or GDST identifier) of the vessel from which the seafood was transshipped.
Destination Location ID	destinationList.location	The unique identifier (GLN or GDST identifier) of the vessel that received the transshipment.
Event Read Point	readPoint	The read point of the location where the transshipment event took place (geocoordinates)
Data - All Seafood Products		
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC

Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner(e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the transshipment event (e.g. 7492743)
Human Welfare Policy Standards - Certification Type	certificationType	urn:gdst:certType:urn:gdst:certType:humanPolicy
Human Welfare Policy Standards - Certification Agency	certificationAgency	If a 3rd party audit is applicable, the name of the human welfare policy program owner
Human Welfare Policy Standards - Certification Standard	certificationStandard	If a 3rd party audit is applicable, the name of the human welfare policy standard
Human Welfare Policy Standards - Certification Value	certificationValue	If a 3rd party audit is applicable, the value or class of the human welfare policy certification, if applicable (e.g. quality class 4)
Human Welfare Policy Standards - Certification ID	certificationIdentification	If a 3rd party audit is applicable, the ID number for the human welfare policy certificate holder performing the transshipment event
Legal Authorization	certificationType	urn:gdst:certType:urn:gdst:certType:transshipmentAuth
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for transshipment activity (e.g. National Oceanic and Atmospheric Administration)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g.Transhipment Permit)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Commercial)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. AG1475U)
Event Read Point	readPoint	The read point of the location where the transshipment event took place
Source Product Ownership ID	sourceList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owned the products that were transshipped
Destination Product Ownership ID	destinationList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owns the product after it is received

Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the transshipment event
Data - Wild Catch		
Port Code (For In-Port Transshipments)	unloadingPort	the code (United Nations Code for Trade and Transport Locations UN/LOCODE) of the port where the seafood was transshipped

** Indicates that the value is always this value.*

Landing

Landing events capture the first movement of seafood products from a vessel to land. In these events, the source location is a vessel and the destination is a landing site (formal or informal). Examples include:

- Landing fresh whole tuna at a designated port
- Landing blue swimming crabs at an informal coastal landing site

These events can be captured by recording a single receiving event. Below are the KDEs that should be recorded with the event.

Landing (Receiving)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	OBJECT*
Action	action	OBSERVE*
Disposition	disposition	arrived
Core Traceability Data		
Business Step	bizStep	receiving*
Event ID	eventID	Identifier for the landing event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement	quantityList	The EPCs and quantity of the seafood being landed. This field is used when products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the seafood was landed
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the location where the seafood was landed
Source Location ID	sourceList.location	The unique identifier (GLN or GDST identifier) of the vessel from which the product(s) were landed.
Destination ID	destinationList.location	The unique identifier (GLN or GDST identifier) of the location where the product(s) are landed.

Data - All Seafood		
Harvest Certification - Certification Type	certificationType	urn:gdst:certType:harvestCert*
Harvest Certification - Certification Agency	certificationAgency	The name of the harvest certification program owner(e.g. MSC)
Harvest Certification - Certification Standard	certificationStandard	The name of the harvest certification standard (e.g. MSC fisheries certification)
Harvest Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. quality class 4)
Harvest Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the landing event
Existence of Human Welfare Policy	humanWelfarePolicy	Indication of wether or not a human welfare policy was in place during the fishing event: specify "internal policy", "3P audit", or "none"
Human Welfare Policy Standards - Certification Type	certificationType	urn:gdst:certType:urn:gdst:certType:humanPolicy
Human Welfare Policy Standards - Certification Agency	certificationAgency	If a 3rd party audit is applicable, the name of the human welfare policy program owner
Human Welfare Policy Standards - Certification Standard	certificationStandard	If a 3rd party audit is applicable, the name of the human welfare policy standard
Human Welfare Policy Standards - Certification Value	certificationValue	If a 3rd party audit is applicable, the value or class of the human welfare policy certification, if applicable (e.g. quality class 4)
Human Welfare Policy Standards - Certification ID	certificationIdentification	If a 3rd party audit is applicable, the ID number for the human welfare policy certificate holder performing the landing event

Legal Authorization	certificationType	urn:gdst:certType:urn:gdst:certType:landingAuth
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for landing activity (e.g. National Oceanic and Atmospheric Administration)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g. Landing Permit)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Commercial)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. la8924)
Event Read Point	readPoint	The read point of the location where the seafod was landed. If the landing event takes place at a non-designated port or an unofficial landing site, the readPoint should capture geocoordinates of the event location.
Source Product Ownership ID	sourceList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owned the products that were landed
Destination Product Ownership ID	destinationList.owning_party	The unique identification (PGLN or GDST identifier) of the entity that owns the product after it is landed
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the receiving event
Data - Wild Catch		
Port Code	unloadingPort	the code (United Nations Code for Trade and Transport Locations UN/LOCODE) of the port where the seafood was landed

** Indicates that the value is always this value.*

Disaggregation

Disaggregation events capture the breaking down of a logistical unit into its individual components, allowing each item to once again be tracked on its own. This process is essential for maintaining traceability when products that were grouped for transport, storage, or internal handling need to be separated for further use. Examples include:

- A distribution center breaks down a pallet of finished goods so that certain cases can be re-packed into new pallets destined for specific customers.
- A processor breaks down a load of raw materials into individually identified totes that are ready for processing.

Disaggregation most often occurs immediately after receiving events because the logistical units used for tracking shipment and receipt usually need to be broken down into their individual component. However, it can also occur outside of transport operations, if products are reorganized within a single facility (e.g. for inventory management purposes). For each logistical unit that is broken down, a disaggregation event should be recorded.

Disaggregation should be recorded using an AGGREGATION-DELETE event. Below are the KDEs that should be recorded with the event.

Disaggregation		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	AGGREGATION*
Action	action	DELETE*
Disposition	disposition	inactive*
Core Traceability Data		
Business Step	bizStep	unpacking*
Event ID	eventID	Identifier for the aggregation event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement - Input	parentId	The SSCC of the logistical unit that is being disaggregated.
Product Identification (EPC), Quantity, Unit of Measurement - Output	childEpcList	The EPCs and quantity of the products that were disaggregated. This field is used when the input products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)

	childQuantityList	The EPC(s) of the products that were disaggregated. This field is used when the input products are being traced using instance-level traceability.
Event Date & Time	eventTime	The date and time the products were disaggregated
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the factility where the products were disaggregated
Data - All Seafood		
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner(e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the disaggregation event (e.g. 7492743)
Event Read Point	readPoint	The read point of the location where the products were disaggregated
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were disaggregated
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the disaggregation event

** Indicates that the value is always this value.*

Transformation

Transformation events capture the critical stages in seafood supply chains where inputs (e.g., fresh fish, frozen blocks, intermediate processed products) are converted, combined, separated, and/or reconfigured into new outputs (e.g., fillets, loins, portions, packaged products). These events represent any process that changes a product's physical form, composition, or packaging in a way that affects its traceability. Transformation events ensure that the genealogy of products is preserved through all conversions, maintaining the link between source inputs and resulting outputs. Transformations in seafood supply chains can generally be categorized as follows:

- **Physical Transformations:** Where one product form is physically converted into another through handling, processing, or preservation steps. Examples include:
    - Primary Processing: Converting whole fish into head-off, gutted, or filleted forms.
    - Secondary Processing: Cutting fillets into loins or portions; trimming; skinning; or deboning.
    - Preservation: Freezing, smoking, cooking salting, drying, or canning.
    - Reconstitution: Thawing and combining previously frozen blocks into new product formats.
- **Commingling Transformations:** Where materials from multiple sources or lots are mixed into a combined batch, and individual origin can no longer be distinguished. These transformations are commonly referred to as aggregation, but because these products cannot be disaggregated once combined, it is, technically, commingling. Examples include:
    - Raw Material Pooling: Combining fish from multiple vessels or farms into a single lot for sale.
    - Batch/Lot Mixing: Combining raw materials from multiple lots into a single lot for processing.
    - Trimmings or Byproduct Pooling: Combining offcuts or secondary materials from different lots for use in fishmeal, fish oil, or other derived products.
- **Segregation Transformations:** Where materials from one batch are divided or sorted into distinct lots or product types with separate identifiers. Examples include:
    - Grading: Separating fish by size, quality, or species into distinct lots.
    - Product Type Segregation: Dividing a batch into fillets, heads, bones, and trimmings for different uses.
- **Packaging Transformations:** Where changes in packaging, labeling, or configuration result in a new trade item, SSCC, or identifier. Examples include:
    - Re-labeling: case labels are changed to reflect the needs of a new buyer or destination.
    - Re-packaging: Transferring frozen fillets from bulk cartons into consumer retail packs ready for sale.

In practice, multiple transformation types often occur simultaneously or sequentially within the same processing workflow:

- Compound transformations may combine physical and commingling changes, such as when seafood from several vessels are filleted and combined into a single

frozen lot or when trimmings from multiple sources are ground together to produce ground fish or blended products.

- Sequential transformations occur in continuous processing, such as thawing, cutting, glazing, and freezing — all part of one processing run for a given batch. Each sub-step modifies the material, but if no new inputs are introduced and no segregation occurs, the entire process may be recorded as a single Transformation Event (e.g., "filleting and freezing") to reduce unnecessary granularity. Separate transformation events must be recorded when new materials are added, removed, or separated during the process, or when the sequential steps occur on different days.

Transformations should be recorded as TRANSFORMATION events. Below are the KDEs that should be captured for all transformation events, regardless of transformation type.

Transformation		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	TRANSFORMATION*
Disposition	disposition	active*
Core Traceability Data		
Business Step	bizStep	comissioning*
Event ID	eventID	Identifier for the transformation event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement - Input	inputEpcList	The EPCs of the products that are being transformed (processed). This field is used when products are being traced using instance-level traceability.
	inputQuantityList	The EPCs and quantity of the products being transformed (processed). This field is used when the input products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Product Identification (EPC), Quantity, Unit of Measurement - Output	outputEpcList	The EPCs of the products that are produced from the transformation. This field is used when the output products are being traced using instance-level traceability.

	outputQuantityList	The EPCs and quantity of the products that are produced transformation. This field is used when the finished products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the products were transformed (processed)
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the factility where the products were transformed (processed)
Data - All Seafood		
Product Origin	countryofOrigin	ISO 2 or 3 letter country code for the nation where product underwent the last substantial transformation. **Note: Country of Origin/Product Origin labeling regulations are different for different nations. Please refer to applicable regulations in region of manufacture/sale to determine appropriate data.
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner (e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the transformation event (e.g. 7492743)
Legal Authorization	certificationType	urn:gdst:certType:urn:gdst:certType:processorLicense*

Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for processing activity (e.g. United States Food and Drug Administration)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g. Food Facility Registration)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Human Food)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. 275620482)
Event Read Point	readPoint	The read point of the location where the products were transformed
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were transformed
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the transformation event

** Indicates that the value is always this value.*

Special Cases for Transformation Events in Seafood Supply Chains

While the transformation events described above capture the vast majority of transformations across seafood supply chains, certain operations in seafood require additional clarification or data capture. These include on-vessel processing for wild capture operations; feed processing for marine ingredient operations; and mature farm harvesting for aquaculture operations. These activities follow the same event structure as standard transformation events but additional data related to the products or the locations associated with the events must be captured.

On-Vessel Transformation

On-vessel transformation events refer to any type of transformation event that happens on a vessel, rather than on land. Additional data is collected regarding the vessel.

Transformation (Processing, On-Vessel)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	TRANSFORMATION*
Disposition	disposition	active*
Core Traceability Data		
Business Step	bizStep	comissioning*

Event ID	eventID	Identifier for the transformation event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement - Input	inputEpcList	The EPCs of the products that are being transformed (processed). This field is used when products are being traced using instance-level traceability.
	inputQuantityList	The EPCs and quantity of the products being transformed (processed). This field is used when the input products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Product Identification (EPC), Quantity, Unit of Measurement - Output	outputEpcList	The EPCs of the products that are produced from the transformation. This field is used when the output products are being traced using instance-level traceability.
	outputQuantityList	The EPCs and quantity of the products that are produced transformation. This field is used when the finished products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the products were transformed (processed)
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the vessel where the products were transformed (processed)
Event Read Point	readPoint	The read point of the location where the products were transformed (geocoordinates)
Data - All Seafood		
Product Origin	countryofOrigin	ISO 2 or 3 letter country code for the nation where product underwent the last substantial transformation. **Note: Country of Origin/Product Origin labeling regulations are different for different nations. Please refer to applicable regulations in the region of manufacture/sale to determine appropriate data.
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner (e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)

Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the transformation event (e.g. 7492743)
Existence of Human Welfare Policy	humanWelfarePolicy	Indication of wether or not a human welfare policy was in place during the fishing event: specify "internal policy", "3P audit", or "none"
Human Welfare Policy Standards - Certification Type	certificationType	urn:gdst:certType:urn:gdst:certType:humanPolicy
Human Welfare Policy Standards - Certification Agency	certificationAgency	If a 3rd party audit is applicable, the name of the human welfare policy program owner
Human Welfare Policy Standards - Certification Standard	certificationStandard	If a 3rd party audit is applicable, the name of the human welfare policy standard
Human Welfare Policy Standards - Certification Value	certificationValue	If a 3rd party audit is applicable, the value or class of the human welfare policy certification, if applicable (e.g. quality class 4)
Human Welfare Policy Standards - Certification ID	certificationIdentification	If a 3rd party audit is applicable, the ID number for the human welfare policy certificate holder performing the transformation event

Legal Authorization	certificationType	urn:gdst:certType:urn:gdst:certType:processorLicense*
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for processing activity (e.g. United States Food and Drug Administration)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g. Food Facility Registration)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Human Food)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. 275620482)
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were transformed
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the transformation event

** Indicates that the value is always this value.*

Feed Processing

Feed processing events refer to any type of transformation event associated with the production of feed. Additional data is collected regarding sources of protein in feed formulations.

Transformation (Feed Processing)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS Data		
Event Type	eventType	TRANSFORMATION*
Disposition	disposition	active*
Core Traceability Data		
Business Step	bizStep	commissioning*
Event ID	eventID	Identifier for the transformation event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement - Input	inputEpcList	The EPCs of the products that are being transformed (processed). This field is used when products are being traced using instance-level traceability.

	inputQuantityList	The EPCs and quantity of the products being transformed (processed). This field is used when the input products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Product Identification (EPC), Quantity, Unit of Measurement - Output	outputEpcList	The EPCs of the products that are produced from the transformation. This field is used when the output products are being traced using instance-level traceability.
	outputQuantityList	The EPCs and quantity of the products that are produced transformation. This field is used when the finished products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the products were transformed (processed)
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the factility where the products were transformed (processed)
Data - All Seafood		
Product Origin	countryofOrigin	ISO 2 or 3 letter country code for the nation where product underwent the last substantial transformation. **Note: Country of Origin/Product Origin labeling regulations are different for different nations. Please refer to applicable regulations in region of manufacture/sale to determine appropriate data.
Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner (e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification -	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)

Certification Value		
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the transformation event (e.g. 7492743)
Legal Authorization	certificationType	urn:gdst:certType:urn:gdst:certType:processorLicense*
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for processing activity (e.g. United States Food and Drug Administration)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g. Food Facility Registration)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Human Food)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. 275620482)
Event Read Point	readPoint	The read point of the location where the products were transformed
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were transformed
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the transformation event
Data - Aquaculture		
Source of Protein	proteinSource	Source(s) of protein in formulation of feed used (e.g. soy, insects, wild caught fish byproduct, other, etc)

** Indicates that the value is always this value.*

Mature Harvesting

Mature farm harvesting events refer to events in which mature seafood is harvested from an aquaculture facility. Additional data is collected regarding the farming method.

Transformation (Mature Harvesting)		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS		
Event Type	eventType	TRANSFORMATION*
Disposition	disposition	active*
Core Traceability Data		

Business Step	bizStep	commissioning*
Event ID	eventID	Identifier for the transformation (harvesting of mature seafood) event that distinguishes it from other recorded events (this is usually generated by the capturing application)
Product Identification (EPC), Quantity, Unit of Measurement - Input	inputEpcList	The EPCs of the products that were transformed. At a minimum, inputs should include the broodstock/immature seafood that went through grow out. Optionally, feed, antibiotics, or other inputs may be captured as well. This field is used when products are being traced using instance-level traceability.
	inputQuantityList	The EPCs of the products that were transformed. At a minimum, inputs should include the broodstock/immature seafood that went through grow out. Optionally, feed, antibiotics, or other inputs may be captured as well. This field is used when the input products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Product Identification (EPC), Quantity, Unit of Measurement - Output	outputEpcList	The EPCs of the seafood that was harvested. This field is used when the output products are being traced using instance-level traceability.
	outputQuantityList	The EPCs and quantity of the seafood that was harvested. This field is used when the finished products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the seafood was harvested
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the facility where the seafood was harvested
Data - All Seafood		
Harvest Certification - Certification Type	certificationType	urn:gdst:certType:harvestCert*
Harvest Certification - Certification Agency	certificationAgency	The name of the harvest certification program owner (e.g. ASC)
Harvest Certification -	certificationStandard	The name of the harvest certification standard (e.g. ASC Farm Standard)

Certification Standard		
Harvest Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. quality class 4)
Harvest Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the catch event
Existence of Human Welfare Policy	humanWelfarePolicy	Indication of wether or not a human welfare policy was in place during the hatching/birthing event: specify "internal policy", "3P audit", or "none"
Human Welfare Policy Standards - Certification Type	certificationType	urn:gdst:certType:urn:gdst:certType:humanPolicy
Human Welfare Policy Standards - Certification Agency	certificationAgency	If a 3rd party audit is applicable, the name of the human welfare policy program owner
Human Welfare Policy Standards - Certification Standard	certificationStandard	If a 3rd party audit is applicable, the name of the human welfare policy standard
Human Welfare Policy Standards - Certification Value	certificationValue	If a 3rd party audit is applicable, the value or class of the human welfare policy certification, if applicable (e.g. quality class 4)
Human Welfare Policy Standards - Certification ID	certificationIdentification	If a 3rd party audit is applicable, the ID number for the human welfare policy certificate holder performing the harvest event

Chain of Custody Certification - Certification Type	certificationType	urn:gdst:certType:harvestCoC
Chain of Custody Certification - Certification Agency	certificationAgency	The name of the CoC certification program owner (e.g. MSC)
Chain of Custody Certification - Certification Standard	certificationStandard	The name of the CoC certification standard (e.g. MSC CoC)
Chain of Custody Certification - Certification Value	certificationValue	The value or class of the certification, if applicable (e.g. Default Standard)
Chain of Custody Certification - Certification ID	certificationIdentification	The ID number for the certificate holder performing the aggregation event (e.g. 7492743)
Legal Authorization	certificationType	urn:gdst:certType:legalAuth*
Legal Authorization - Agency	certificationAgency	The name of the authority granting authorization for the facility to operate (Illinois Department of Natural Resources)
Legal Authorization - Standard	certificationStandard	The name of the authorization granted (e.g. Aquaculture Permit)
Legal Authorization - Value (if applicable)	certificationValue	The value of class of the authorization granted (e.g. Commercial)
Legal Authorization - ID	certificationIdentification	The identification of the authorization granted (e.g. 83750284)

Event Read Point	readPoint	The read point of the location where the seafood was harvested
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the seafood that was harvested
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the harvest event
Production Method	productionMethodForFishAndSeafoodCode	The code specifying how the seafood was cultivated. Reference: https://navigator.gs1.org/gdsn/class-details?name=ProductionMethodForFishAndSeafoodCode&version=15
Data - Aquaculture		
Farming method	aquacultureMethod	A description of the aquaculture method used to create the harvest seafood, selected from list of FAO's Aquaculture Methods and Practices (extensive, semi-intensive, or intensive). Reference: https://www.fao.org/4/t8598e/t8598e05.htm

** Indicates that the value is always this value.*

Decommission

Decommission events capture the removal of products from a supply chain. These events typically occur when a product is consumed or must be removed from the supply chain due to damage or defects. Examples include:

- Damaged cases are sent for destruction at a processing facility
- Expired products are marked for landfill at a distribution center

Decommissioning should be recorded using an **OBJECT – DELETE** event which indicates that traceable product(s) have been removed from the supply chain. Below are the KDEs that should be recorded with the event.

Decomission		
KDE Name	**CBV Field**	**Data Description or Value**
EPCIS Data		
Event Type	eventType	OBJECT*
Action	action	DELETE*
Core Traceability Data		
Business Step	bizStep	destroying*
Event ID	eventID	Identifier for the decommission event that distinguishes it from other recorded events (this is usually generated by the capturing application)

Product Identification (EPC), Quantity, Unit of Measurement	epcList	The EPC used to identify the product that was decommissioned. This field is used when products are being traced using instance-level traceability.
Product Identification (EPC), Quantity, Unit of Measurement	quantityList	The EPC used to identify the product that was decommissioned. This field is used when products are being traced using lot-level traceability. (epcClass, quantity, and uom elements should be included)
Event Date & Time	eventTime	The date and time the product(s) were decomissioned
Event Location ID	bizLocation	The unique identifier (GLN or GDST identifier) of the factility where the product(s) were decomissioned
Data - All Seafood		
Event Read Point	readPoint	The read point of the location where the products were decommissioned
Product Ownership ID	productOwner	The unique identification (PGLN or GDST identifier) of the entity that owns the products that were decommissioned
Information Provider	informationProvider	The unique identification (PGLN or GDST identifier) of the entity that provided the information associated with the decommission event

** Indicates that the value is always this value.*

Appendix D: Technical Data Mapping – Master Data

Master data plays a critical role in traceability by providing standardized, consistent information about products, locations, and organizations. This section describes how master data is represented. Core master data KDEs should be maintained for ALL products, locations, and organizations. Supplementary KDEs may only need to be maintained for certain products, locations, and organizations.

Product Definition Master Data

Product Definition Master Data		
KDE Name	**CBV Field**	**Data Description or Value**
Species Code	speciesForFisheryStatisticsPurposesCode	The FAO 3 Alpha code of the species harvested
Species Name	speciesForFisheryStatisticsPurposesName	The scientific name of the species harvested
Product Form	tradeItemConditionCode	Code (selected from GS1 Code Values for Trade Item Condition) that describes the seafood that was harvested

Location Definition Master Data

Location Definition Master Data		
KDE Name	**CBV Field**	**Data Description or Value**
Core Traceability Data		
Event Location Name	name	The name of the facility where the seafood were harvested
Event Location Address or Geolocation	geoLocation	The location of the facility described as latitude and longitude coordinates
	geoFence	The location of the facility described as an array of geo-coordinates used to geo-fence the location
	streetAddressOne	The street address of the location.
	streetAddressTwo	The street address two of the location.
	city	The city of the location.
	state	The state, province, or other constituent unit of a nation.
	postalCode	The postal or zip code of the location.
	countryCode	The country of the location.
Data - All Seafood		
Organization ID	owning_party	PGLN or GDST Identifier for the legal entity that owns the facility where seafood was harvested

Vessel Master Data

Vessel Master Data		
KDE Name	**CBV Field**	**Data Description or Value**
Core Traceability Data		
Event Location Name	name	The name of the vessel that caught the seafood
Data - Wild Catch		
Vessel Registration	vesselID	The standardized number or identifier for distinguishing a vessel from other vessels registered under the same flag nation.
Unique Vessel Identification	imoNumber	Identifier associated with a vessel for the duration of its existence that cannot be re-used by any other vessel. Identifier is displayed as a permanent physical marking on the craft.
Vessel Flag	vesselFlagState	Country code for the nation under which the fishing vessel is registered, licensed, and/or monitored.
Public Vessel Registry Hyperlink	vesselPublicRegistry	Link to web address for vessel registry managed by vessel flag state regulatory authority
Data - All Seafood		

Organization ID	owning_party	PGLN or GDST Identifier for the legal entity that owns the facility where seafood was harvested

Party Definition Master Data

Party Definition Master Data		
KDE Name	**CBV Field**	**Data Description or Value**
Data - All Seafood		
Organization Name	name	Name of the legal entity that owns the facility where products were aggregated

Appendix E: Acronyms, Abbreviations & Key Terms

Term	Definition
API (Application Programming Interface)	A software interface that allows disparate systems to "talk" to each other. An API defines a set of rules or protocols that software applications can use to exchange information.
Batch/Lot Number	A unique coded identifier that unites products/items that have undergone combination, transformation, or manipulation of one or more products. The lot number corresponds to a specific grouping of product. "Batch" and "lot" are considered synonyms by some firms.
CBV (Core Business Vocabulary)	A GS1 standard specifying a standardized set of terms for describing supply chain events and processes. Designed to be used alongside EPCIS to ensure consistent communication across entities and systems.
CTE (Critical Tracking Event)	Events in a supply chain where data capture is necessary to maintain traceability, usually at points of transfer or transformation.
Data Validation	Processes that ensure data accuracy and validity. Methods range from manual verification to automated system checks.
End-to-End/Full Chain Traceability	The ability to track a product and its components through the entire supply chain, from origin to endpoint.
EPC (Electronic Product Code)	A set of data elements that define a product instance. Used to identify a specific case, pallet, lot, container, or other product grouping. Typically combines GTIN with a lot number.
EPCIS Capture Interface	The API of an EPCIS server that allows internal recording of events. External events may also be pushed here, though this practice is unorthodox.
EPCIS Query Interface (Control & Callback)	The API of an EPCIS server that allows external parties to request traceability information.
Event Data	Information generated by a product as it moves through its supply chain.

External Traceability	Data exchange and business processes between trading partners that enable accurate product identification and tracking.
GLN (Global Location Number)	A GS1 identifier used to identify a location in a supply chain. GLNs can be assigned to physical locations, or sub-units such as departments.
GS1 Digital Link	A GS1 standard that connects identifiers to the internet, enabling secure and rapid access to product information by consumers and trading partners.
GS1 Digital Link Resolver	A service that interprets GS1 Digital Link URIs and redirects users to online product information, such as origin, ingredients, or authenticity.
GS1 Digital Link URI	A GS1 identifier expressed as a resolvable URI following the GS1 Digital Link standard.
GS1 EPCIS (Electronic Product Code Information System)	A GS1 standard for event-based traceability.
GTIN (Global Trade Item Number)	A GS1 identifier used to identify a specific trade item or product. Universally unique and globally recognized as a product code.
ILMD (Instance/Lot Master Data)	Data associated with all products derived from the same lot, such as expiration date, harvest date, or origin.
Internal Traceability	The ability to follow a product unit or batch within a company—from receipt, through internal processes, to outbound shipment.
Interoperability	The ability of computer systems or software to exchange and make effective use of information.
KDE (Key Data Element)	Specific data points that must be captured at each CTE to trace a product and its components through the supply chain.
Logistical Unit	An item of any composition established for transport and/or storage that must be managed through the supply chain.

Master Data	Core information about an organization, its products, suppliers, and customers that remains consistent over time (e.g., product descriptions or facility locations). Serves as a foundation for business operations and transactions.
Party Global Location Number	A GS1 identifier used to identify a trading party, business, or organization.
Product Identification	A reference value, typically numeric, that represents product formulation and packaging characteristics assigned by the supplier (e.g., SKU or GTIN).
SSCC (Serial Shipping Container Code)	An identifier assigned to a shipping container.
Traceability Framework	A common set of shared practices for industry- or sector-wide traceability implementation.
Traceability Identifier	An alphanumeric code used to consistently identify a product, party, or location in a supply chain.
Traceability Solution	The software system an organization uses to manage traceability data.
Traceability System	The complete set of resources (hardware, software, infrastructure, labor, etc.) an organization uses to maintain supply chain traceability.
Uniform Resource Identifier (URI)	A general term for identifying a resource, encompassing both URLs (Uniform Resource Locators) for location (how to get it) and URNs (Uniform Resource Names) for persistent naming (what it is, regardless of location).
Uniform Resource Name (URN)	a URI that identifies a resource by a location-independent name in a particular namespace.
UUID (Universally Unique Identifier)	An identifier used to uniquely distinguish an object or entity. No two entities share the same UUID.