GLOBAL DIALOGUE on Seafood Traceability

TRACEABILITY STANDARDS

KEY CONCEPTS & TERMS

WHY ARE TRACEABILITY STANDARDS IMPORTANT?

Implementing traceability systems can be complex and challenging; it requires collaboration among all actors of a supply chain. A standard provides a clear framework for everyone to follow, easing the burden of implementation throughout the supply chain. A shared approach to traceability practices reduces redundant data collection, improves data reliability, and makes traceability more affordable and accessible to all stakeholders.

Standardization is also the foundation of technical interoperability – the ability of different systems to exchange and make use of information. With a common approach to data collection, formatting, and exchange, technology solution providers can design systems that interact seamlessly, without the need for customized integration between systems. This allows seafood companies to choose the system that makes business sense for them without worrying whether their choice will be compatible with systems used by suppliers and customers.

HOW DOES THE GDST APPROACH STANDARDIZATION?

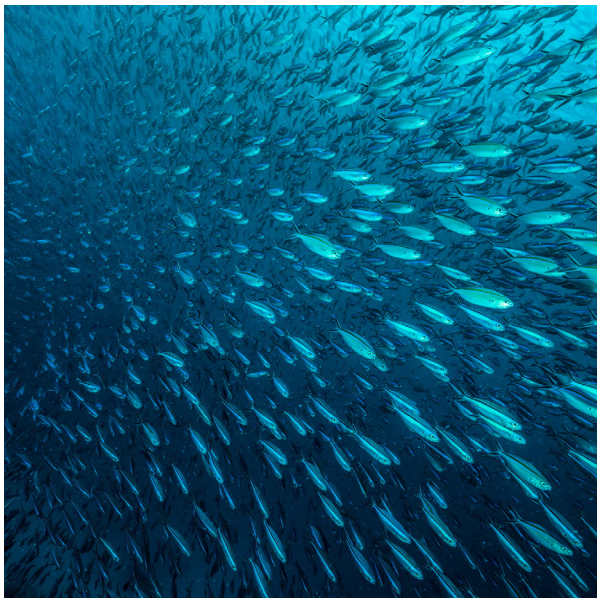
The GDST Standard defines what data must be collected (KDEs – Key Data Elements) and when that data must be collected (CTEs - Critical Tracking Events) as products move through seafood supply chains. It also defines how that traceability data must be formatted and communicated digitally.

- The GDST's CTEs and KDEs can be found in the Core Normative Standard
- The protocols for data formatting and exchange can be found in the Technical Implementation Guidance

GS1's system of standards provides the technical foundation of the GDST Standard.

WHAT IS GS1?

GS1 is an organization that works across the globe to collaboratively develop standards tailored to address the challenges of data exchange. GS1 maintains the most widely used system of supply chain standards in the world. GS1's system of standards provides a common language to identify, capture, and share supply chain data. These standards ensure that important information is understandable and accessible, improving supply chain visibility across multiple sectors.



Resources:

- Standards | GS1
- Traceability solutions and why GS1 matters - YouTube

HOW DOES THE GDST USE GS1 STANDARDS?

The GDST Standard is built upon the foundations of GS1's EPCIS and Digital Link standards. While the GDST defines what data must be collected by seafood industry actors, the EPCIS standard defines how that data should be formatted. 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.

WHAT IS EPCIS?

EPCIS, or Electronic Product Code Information Services, encompasses GS1's approach to event-based traceability, providing a standardized framework for documenting supply chain events. As an open standard, it is designed to establish data interfaces and formats for capturing and sharing physical event data within a supply chain. EPCIS establishes a common language to capture the what, when, where, why, and how data of products as they move through their supply chain. It also provides common API's that facilitate data exchange. The use of these common language and data exchange practices supports interoperability between supply chain partners and their diverse digital systems.

Resources:

- EPCIS & CBV | GS1

WHAT IS GS1 DIGITAL LINK?

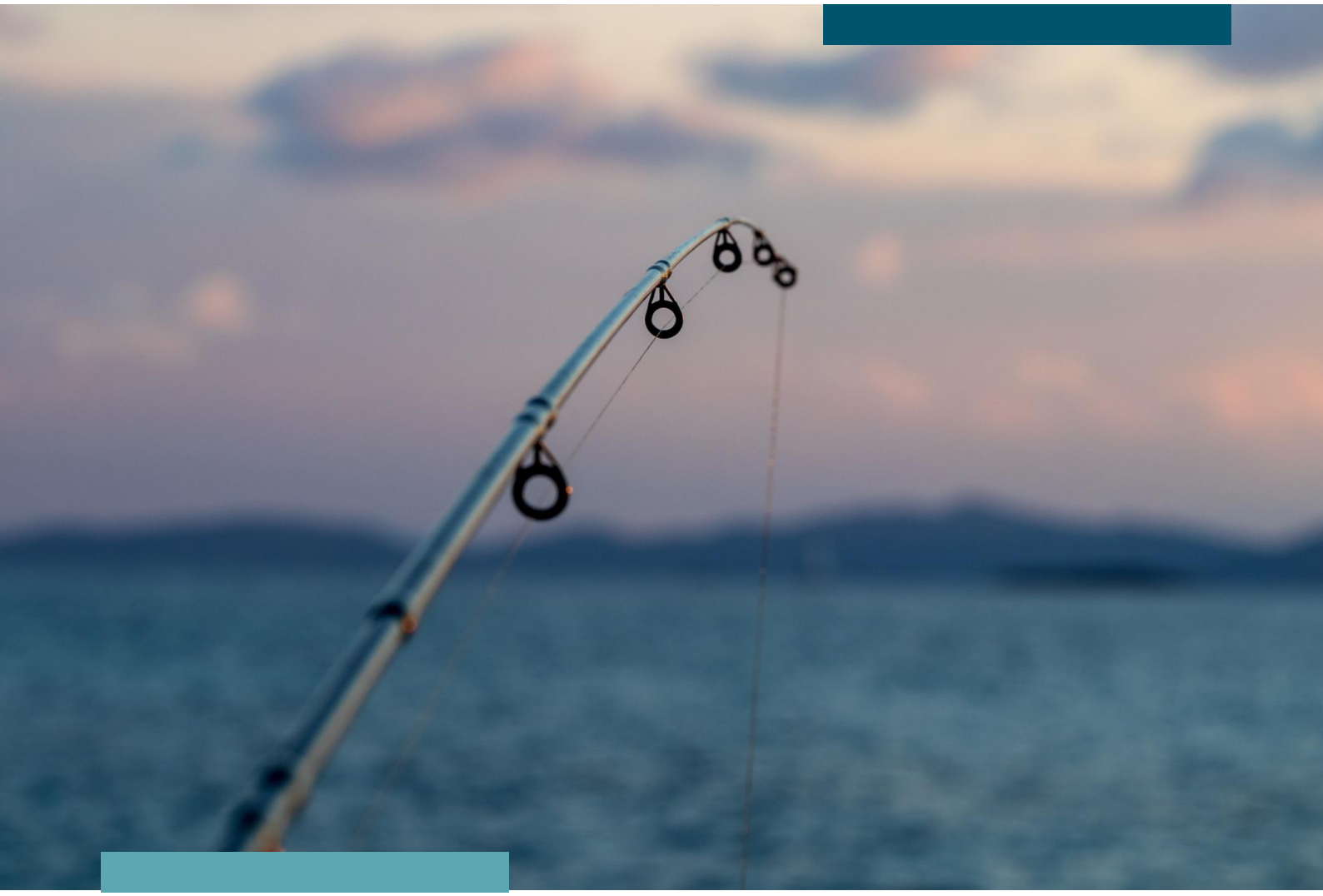
GS1 Digital Link is a standard that focuses on connecting traceability identifiers to related content, such as location information, product specification, organization information, recipes, brochures, and even traceability information about the product. Individual organizations can host their own GS1 Digital Link Resolver that receives requests for link(s) associated with a certain traceability identifier. Requests may ask for a specific type of link, such as a link to an EPCIS service, or a link to the key data elements.

For example:

> An organization receives a product from a supplier, and they want traceability data for that product. They ask their supplier's GS1 Digital Link Resolver to provide the link to their EPCIS service for the EPC of the product they received so that they can pull the traceability data.

> An organization asks their supplier's GS1 Digital Link resolver for the master data associated with a GTIN (a product identifier) in their product catalogue.

> An organization asks their supplier's GS1 Digital Link Resolver for the location information associated with a specific GLN (location identifier).



KEY TRACEABILITY TERMS:

Traceability System:
The system used by an organization to maintain traceability in its supply chain(s). This system encompasses the collective resources (hardware, software, infrastructure, human labor, etc) required to identify, capture, and share traceability data.

Traceability Solution:
The software system an organization uses to manage traceability data.

Traceability Standard:
A common framework or set of shared practices for industry or sector-wide traceability implementation.

Master data:
Master data refers to basic information about an organization and its products, suppliers, and customers that remains consistent over time (e.g. product description or facility location). This data serves as a foundational element for all business transactions and operations within an organization.

Event Data:
Event data refers to information generated by a product as it moves through its supply chain.

CTE (Critical Tracking Event):
Events in a supply chain where data capture is necessary to maintain traceability; these are usually critical points of transfer or transformation.

KDE (Key Data Element):
The data elements that must be captured at each CTE to successfully trace a product and/or its ingredients through the supply chain.

Traceability Identifier:
An alphanumeric code used to consistently identify a product, party, or location in a supply chain.

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.

GS1 KEY TERMS:

GTIN (Global Trade Item Number): a GS1 identifier used by a company to identify a specific trade item or product. GS1 GTINs are universally unique and function as globally recognized product codes.

GLN (Global Location Number): a GS1 identifier used to identify a party and/or location in a supply chain. GLNs can be assigned to physical locations, organizations, and even business units or departments within organizations.

EPC (Electronic Product Code): an EPC refers to the data elements that define a product instance. EPCs can be used to identify a specific case, pallet, lot, container, or any other configuration of product(s). EPCs are generally the GTIN plus a lot number.

UUID (Universally Unique Identifier) - An ID used to uniquely identify an object or entity. No two objects or entities will have the same UUID.

GS1 EPCIS: A GS1 standard for event-based traceability.

CBV (Core Business Vocabulary): a GS1 standard that specifies a standardized set of terms for describing the physical events and processes in the supply chain, ensuring consistent communication across different entities and systems. This standard is meant to be used in conjunction with EPCIS.

GS1 Digital Link: a GS1 standard that helps connect GS1 identifiers to the internet, providing consumers and trading partners with speedy and secure access to product information.

SSCC (Serial Shipping Container Code) - An identifier of a shipping container.

EPCIS Capture Interface – The API of an EPCIS server that allows for internal recording of events. It is possible for events from an external party to also be pushed to this interface, but this practice is unorthodox.

EPCIS Query Interface (Control & Callback) - The API of an EPCIS server that allows for external parties to request traceability information.

ILMD (Instance/Lot Master Data) – information that is associated with all products derived from the same lot. This may include data elements like expiration date, harvest date, or product origin.

GS1 Digital Link URI - A GS1 identifier transformed into a resolvable URI that follows the GS1 Digital Link standard.

GS1 Digital Link Resolver - The GS1 Digital Link Resolver is a service that interprets GS1 Digital Link URIs to redirect users to relevant online information about a product, such as its origin, ingredients, or authenticity, based on the scanned GS1 identifier.

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