

The Future of Seafood Traceability: From Chain of Custody Standards to Interoperable Digital Assurance

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Abstract:

This presentation introduces the Marine Stewardship Council's (MSC) Traceability Enhancement Program (TEP), an initiative designed to strengthen trust, transparency, and digital assurance across seafood supply chains. The MSC is the leading independent ecolabel and certification program for wild-capture seafood with over 20.9% of global marine catch engaged in the program. Its theory of change links certified sustainable fisheries, through certified supply chains, market demand, and consumer confidence. Against a backdrop of growing regulatory requirements (EU IUU Regulation, U.S. SIMP and FSMA-204, and emerging rules in Asia), the presentation highlights the increasing need for standardized digital traceability to combat illegal, unreported, and unregulated fishing (IUU) and food fraud, in an industry that remains highly fragmented and often paper-based.

The TEP aims to evolve the MSC Chain of Custody requirements, so certificate holders collect traceability data in standardised, digital formats aligned with GSI EPCIS and the Global Dialogue on Seafood Traceability (GDST) interoperability standards. The program aims to enable automated verification of traceability data through an interoperable digital tool capable of randomized checks, anomaly detection and red-flag scoring, to streamline the third-party audit process, while protecting commercially sensitive data. By adopting event-based traceability through Critical Tracking Events (CTEs) and Key Data Elements (KDEs), the TEP seeks to support the adoption of common data standards across diverse seafood supply chain actors with varied systems and technological maturity, to exchange data more seamlessly. Proposed benefits include improved sector alignment on traceability data capture, flexibility for partners to choose digital systems that fit their needs, reduced audit burden, faster traceback testing, and more frequent data verifications, to increase assurance of the MSC program.

The presentation concludes with a phased timeline from pilots and technical testing through expanded real-world supply-chain trials, policy development, voluntary rollout, and a longer-term pathway toward 2030.