MINISTRY OF MARINE AFFAIRS
AND FISHERIES
REPUBLIC OF INDONESIA

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Traceability Systems for Fish and Fishery Products in Indonesia:

STELINA

www.stelina.kkp.go.id

TRACEABILITY OF FISH AND FISHERY PRODUCTS IN INDONESIA: POLICIES AND REGULATIONS

KEY REGULATIONS SUPPORTING TRACEABILITY

1. 
Government Regulation No. 27 Year 2021
concerning Marine and Fisheries Affairs

2. 
Regulation of MMAF No. 28 Year 2023
concerning Quota-based Fishing Policy

3. 
Regulation of MMAF No. 23 Year 2021
concerning VMS

4. 
Regulation of MMAF No. 33 Year 2021
concerning Capture Fisheries Logbook

5. 
Regulation of MMAF No. 3 Year 2013
concerning Harbor Master

6. 
Regulation of MMAF No. 13 Year 2012
concerning Catch Certification

7. 
Regulation of MMAF No. 10 Year 2021
concerning Standards for Business Activities and Products for the Implementation of Risk-Based Business Licensing in the Marine and Fisheries Sector

8. 
Regulation of MMAF No. 32 Year 2024
concerning National Fish Traceability and Logistic System (STELINA)

9. 
Regulation of MMAF No. 14 Year 2024
concerning Commodity Balance

10. 

MMAF Decree No.79 of 2025
concerning National Action Plan for the Prevention, Control, and Elimination of Illegal, Unreported, and Unregulated (IUU) Fishing 2025–2029

IMPLEMENTATION OF TRACEABILITY OF FISH AND FISHERY PRODUCTS IN INDONESIA: EXISTING TECHNOLOGIES

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System designed to ensure the electronic traceability of fish, supply chains, and fishery products by integrating information systems across capture, aquaculture, distribution, processing, and marketing.

Capture ---> Aquaculture ---> Distribution ---> Processing ---> Marketing

Mobile App (Android)

Web Version
https://stelina.kkp.go.id

Scan to Access STELINA

OBJECTIVES

- Ensuring the traceability of raw materials from legally caught, reported, and regulated fisheries and come from good aquaculture practices
- Protecting consumers from Seafood Fraud
- Monitoring the connectivity of the fish logistics ecosystem to efficiently reach all regions, as well as monitoring fish stock availability and managing logistics information
- Facilitating a faster recall process for fishery products when needed
- Ensuring the quality and safety of fishery products from potential contamination throughout the supply chain

BENEFITS STELINA FOR FISHERIES BUSINESS OPERATOR

- A digital end-to-end recording system for real-time reporting, required for export requirements in destination countries/buyers
- Helps fisheries business operators monitor its operational business processes to reduce risks and inefficiencies
- Enhances global buyer and consumer trust
- Guarantees transparency and sustainable practices in the management of marine and fisheries resources
- Expands market access and assists in meeting regulatory recommendations from export market

STELINA BUSINESS PROCESS

END TO END WILD-CAUGHT FISHERIES

1 FISHING

Fishing activities in Indonesian waters

2 DISTRIBUTION / SUPPLIER

Fish are distributed to business operators

3 PROCESSING

Fish are processed into semi-finished or finished products

4 RETAIL / MARKETING

Products are marketed to domestic and international markets for consumers

5 CONSUMER

Fish products are consumed by end consumers

DATA TO BE INPUT AT EACH SUPPLY CHAIN STAGE
IN ACCORDANCE WITH MINISTER OF MARINE AFFAIRS AND FISHERIES REGULATION NO. 32 OF 2024

1. FISHING

- Vessel Name
- Vessel Registration Number
- Vessel Flag
- Fishing Gear
- Fishing Area (Fishing Ground)
- Type of Fish
- Total Catch (Weight)
- Type of Fish

2. DISTRIBUTION / SUPPLIER

- Distributor Name
- Origin of Fish
- Purchase Date
- Type of Fish
- Volume (Weight)
- Stock
- Transport Type
- Logistics Service
- Sales Date

3. PROCESSING

- Processing Facility Name
- Business Identification Number (NIB)
- Processing Location
- Processing Date
- Type of Product
- Raw Material (Type & Quantity)
- Processing Process
- Additional Ingredients (If any)
- Final Product Weight
- Lot/Batch Number
- Net Weight

4. RETAIL / MARKETING

- Business Operator Name
- Sales Location
- Sales Date & Time
- Type of Product
- Batch/Lot Number
- Weight / Unit
- Price (Optional)

TRACEABILITY FLOW FOR WILD-CAUGHT FISHERIES

Fishing → Landing → Distribution → Processing → Storage → Retail / Marketing → Consumer

Data is recorded and verified at each supply chain stage through STELINA

QR CODE FOR WILD-CAUGHT FISHERIES

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INFORMATION DISPLAYED

- Origin of Fish
- Vessel & Fishing Gear
- Type of Fish
- Supply Chain (Upstream – Downstream)
- Landing Location & Time

STELINA BUSINESS PROCESS

END-TO-END AQUACULTURE TRACEABILITY

1 AQUACULTURE

Aquaculture activities including feed, seed, and health management

2 DISTRIBUTION / SUPPLIER

Aquaculture products and inputs are distributed to business operators

3 PROCESSING

Products are processed into semi-finished or finished products

4 RETAIL / MARKETING

Products are marketed to domestic and international markets for consumers

5 CONSUMER

Aquaculture products are consumed by end consumers

DATA TO BE INPUT AT EACH SUPPLY CHAIN STAGE
IN ACCORDANCE WITH MINISTER OF MARINE AFFAIRS AND FISHERIES REGULATION NO. 32 OF 2024

1. AQUACULTURE

- Farm/Facility Name
- Farm Registration Number
- Aquaculture Commodity
- Seed Source
- Feed Type
- Feed Supplier
- Harvest Date
- Harvest Quantity (Weight)

2. DISTRIBUTION / SUPPLIER

- Distributor Name
- Origin of Aquaculture Product
- Purchase Date
- Commodity Type
- Volume (Weight)
- Stock
- Transport Type
- Logistics Service
- Sales Date

3. PROCESSING

- Processing Facility Name
- Business Identification Number (NIB)
- Processing Location
- Processing Date
- Type of Product
- Raw Material (Type & Quantity)
- Processing Process
- Additional Ingredients (If any)
- Final Product Weight
- Lot/Batch Number
- Net Weight

4. RETAIL / MARKETING

- Business Operator Name
- Sales Location
- Sales Date & Time
- Type of Product
- Batch/Lot Number
- Weight / Unit
- Price (Optional)

TRACEABILITY FLOW FOR AQUACULTURE

Aquaculture → Distribution → Processing → Storage → Retail / Marketing → Consumer

Data is recorded and verified at each supply chain stage through STELINA

QR CODE FOR AQUACULTURE

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INFORMATION DISPLAYED

- Origin of Aquaculture Product
- Farm/Facility & Registration Number
- Aquaculture Commodity
- Supply Chain (Upstream – Downstream)
- Harvest Date
- Harvest Location & Time

INTEGRATION STELINA

e-PIT
(Electronic Quote Based Fishing)
- Fishing vessel data
- Catch data
- Vessel location & gear

SIAP MUTU
(Quality Information System)
- Quality certification data
- HACCP/GMP/GHP

INSW
(Indonesia National Single Window)
- Fisheries export data
- PEB document
- Export status & realization
- Import data
- Import Approval (PIB)
- KKP Recommendation Data

NATIONAL FISH TRACEABILITY AND LOGISTICS SYSTEM

INTEGRATED PLATFORM

- ONE DATA for Fisheries
- TRACEABILITY End-to-End
- VALIDATION & VERIFICATION
- REPORTS & ANALYTICS

SIP CS
(Cold Storage Management Information System)
- Cold storage data
- Capacity
- Inventory & stock movement

ONLINE SINGLE SUBMISSION (OSS)
- Business licensing
- Legal compliance
- Business actor data

SUPPLY CHAIN BUSINESS ACTORS
Business actors input data into STELINA according to their respective roles and activities.

TRACEABILITY REPORT

ID STELINA PRODUCT

Unique ID generated by STELINA as proof of product traceability

PRODUCT INFORMATION WITH QR CODE

Scan the QR Code to see:
- ✓ Source of Capture Fish
- ✓ Source of Aquaculture Fish
- ✓ Source of Import

With STELINA

- Every stage of the fish journey from capture or aquaculture to the consumer's table can be tracked and monitored transparently in real-time.
- Digitalized supply chain creates accountability that helps prevent illegal fishing and fraud.
- Proves that Indonesian fish products come from legal and sustainable sources that do not harm the ecosystem.
- QR code technology strengthens integration from upstream to downstream.
- Provides insights that attract new markets and increase consumer trust globally.

TRACEABILITY OF FISH AND FISHERY PRODUCTS IN INDONESIA:
CURRENT SITUATION IN CAPTURE FISHERIES

FISHING VESSEL OPERATIONAL BUSINESS PROCESS

ROLES / STAKEHOLDERS

- Port Authority
- Fisheries Inspector
- Enumerator
- Vessel Owner
- Crew

KEY POINTS

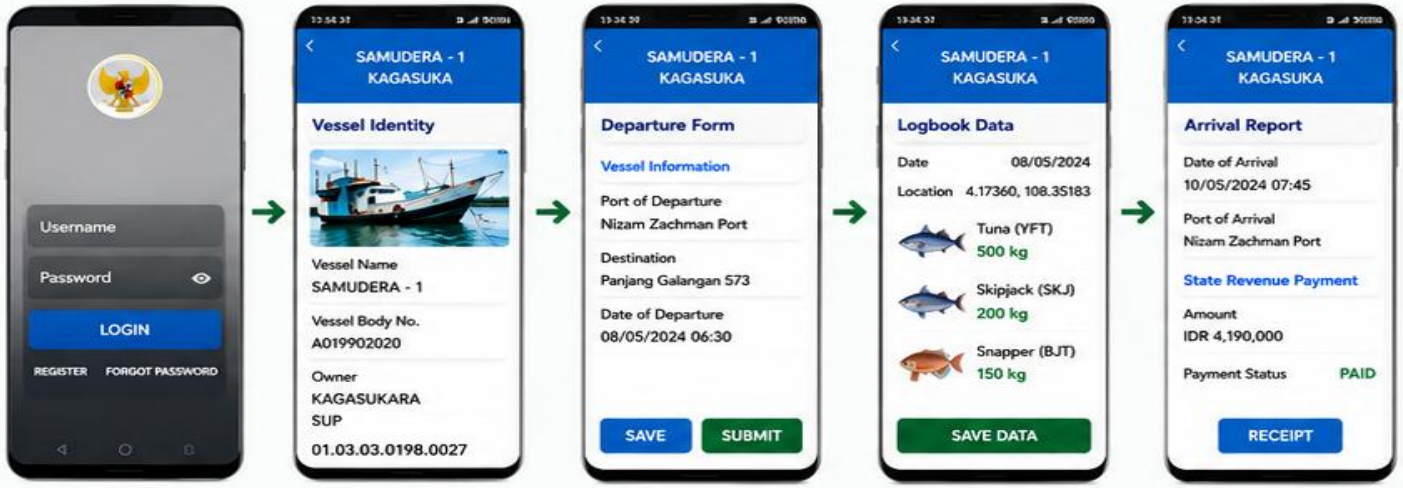
- Fishing Vessel Operational License
- Port Clearance
- Fishing Logbook Data
- Tagging
- Vessel Monitoring System (VMS)
- In Clearance
- Catch Certificate

IMPLEMENTATION OF TRACEABILITY OF FISH AND FISHERY PRODUCTS IN INDONESIA:

FROM EXISTING TECHNOLOGIES TO CURRENT CHALLENGES

1. e-PIT (QUOTA BASED FISHING) APPLICATION

An integrated mobile application for stakeholders (vessel owner and captain) to submit departure form, fill in logbook data, submit arrival form, catch report, and post-harvest state revenue payment process.



A DASHBOARD
Access to e-PIT application

B VESSEL IDENTITY
Vessel and owner information

C DEPARTURE PROCESS
Submit departure form before fishing

D FILLING LOGBOOK DATA
Record coordinates, species and fish volume

E ARRIVAL PROCESS & STATE REVENUE PAYMENT
Submit arrival report and complete state revenue payment

e-PIT is integrated with e-SLO, PIPP, SPB, and other systems to support digital traceability and data interoperability across stakeholders.

2. CHALLENGES IN CAPTURE FISHERIES TRACEABILITY

Incomplete VMS Implementation.

Vessel Monitoring System (VMS) is not yet fully implemented, especially for small-scale fishing vessels.

Electronic Fishing Logbook Data Report.

Fishing vessels below 5 GT still use paper-based logbook reports, which results in less accurate data and delays in reporting.

Competency Requirements.

The competency of fishing vessel crews needs to be strengthened to improve their knowledge, skills, and compliance with traceability standards.

Complex Supply Chain.

With 578 fishing ports across the country, tracking seafood from catch to consumer involves multiple intermediaries, making data collection and verification difficult.

Technology Integration.

Fish and fishery product traceability involves multiple Directorates General applications. It is essential to integrate and connect all applications to provide a unified traceability system with a single access point.

ADOPTION GDST STANDARD

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National Fish Traceability and Logistics System

GLOBAL DIALOGUE ON SEAFOOD TRACEABILITY (GDST)

GLOBAL DIALOGUE on Seafood Traceability

The GDST Standard provides a common digital language that enables traceability systems worldwide to exchange information seamlessly while supporting sustainability, legality, and responsible seafood trade.

www.thegdst.org

WHAT IS THE GDST STANDARD?

- Global seafood traceability standard
- Defines Key Data Elements (KDEs)
- Defines Critical Tracking Events (CTEs)
- Enables interoperability between traceability systems
- Adopted by governments, retailers, importers, processors, and technology providers worldwide

The GDST Standard ensures consistent data formats so information can be exchanged (interoperable), verified, and trusted across global seafood supply chains.

WORLD FIRST ACHIEVEMENT

INDONESIA SETS A GLOBAL MILESTONE

12 NOVEMBER 2025

STELINA successfully passed the GDST Capability Test, making Indonesia the first country in the world with a government-operated national seafood traceability system fully compliant with the GDST Standard.

VERIFIED GDST CAPABLE — THEGDST.ORG

- Official GDST Capability Test Passed
- Government-operated national traceability platform
- End-to-End Digital Traceability (from harvest to market)
- Global Interoperability
- Supports international seafood trade
- Meets global traceability standards

VERIFIED BY GDST

GDST Global Dialogue on Seafood Traceability

"The first government-operated system anywhere in the world has accomplished this milestone."
- Global Dialogue on Seafood Traceability (GDST)
Source: www.thegdst.org (Announced on 12 November 2025)

This achievement enables STELINA to exchange traceability information seamlessly with other GDST-compliant systems worldwide, improving transparency, reducing trade barriers, and strengthening confidence in Indonesian seafood exports.

GLOBAL BUYERS REQUIRING GDST-COMPATIBLE TRACEABILITY

Major global retailers and seafood companies increasingly require suppliers to implement interoperable traceability systems based on the GDST Standard.

Walmart · Whole Foods Market · Metro · Aldi · Tesco · Carrefour · M&S Est. 1888 · Lidl · Auchan Retail · Sainsbury's · Coop · Thai Union · Mowi · Nissui · Trident Seafoods · Bolton Foods

These retail, import, and seafood brands have publicly stated their expectation for suppliers to use interoperable traceability systems aligned with the GDST Standard.

Solution Provider	Solution Name	Version Tested	Date Passed and Expiration Date	Date Last Passed	Capability Level
Agritrack	Agritrack SA	3.0	March 4, 2025 March 4, 2026	March 4, 2025	Full Chain
KAIST	Auto-ID Labs KAIST	2.0	November 5, 2025 November 5, 2026	November 5, 2025	Full Chain
stelina	Directorate General of Product Competitiveness, Ministry of Marine Affairs and Fisheries of the Republic of Indonesia (MMAF)	2	November 12, 2025 November 12, 2026	November 12, 2025	Full Chain

BENEFITS OF GDST-COMPLIANT STELINA

- Global interoperability
- Seamless digital data exchange
- Standardized KDE & CTE data
- Improved access to international markets
- Stronger regulatory compliance
- Enhanced transparency
- Sustainable fisheries management
- Increased buyer confidence
- Reduced documentation complexity
- Faster cross-border verification

1 FISHING (CATCHING) → 2 TRANSSHIPMENT → 3 LANDING (PORT) → 4 PROCESSING → 5 STORAGE & DISTRIBUTION → 6 EXPORT → 7 BORDER INSPECTION → 8 RETAIL (MARKET) → 9 CONSUMER

Scan the QR Code on the product to access verified traceability information.

LESSON LEARNED AND CAPACITY BUILDING NEEDS

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Sistem Ketertelusuran dan Logistik Ikan Nasional

LESSON LEARNED

1. **Strong national regulations drive broader implementation**
   The implementation of STELINA requires a strong legal framework, clear government regulations, and effective coordination within the Ministry of Marine Affairs and Fisheries, as well as with other relevant ministries and agencies.

2. **Start simple and scale gradually**
   Implement the system in phases, beginning with priority commodities such as tuna, shrimp, and swimming crab. This phased approach enables continuous improvement before expanding nationwide.

3. **Engage stakeholders from the beginning**
   Actively involve all stakeholders, including fisheries businesses, industry associations, NGOs, and technology providers, from the early stages to ensure that the system addresses practical business needs and achieves wider adoption.

4. **Use international standards**
   Adopt internationally recognized standards, such as GDST to improve interoperability, facilitate data exchange, and strengthen international market confidence in Indonesian fisheries products.

5. **Build practical digital systems**
   Develop a user-friendly and accessible digital platform that encourages participation of all scales of fisheries business operator while reducing administrative burdens and improving compliance.

6. **Continuous improvement for the system**
   Continuously improve the traceability system through user feedback, technological innovation, and adaptation to evolving regulatory requirements and market demands.

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Sistem Ketertelusuran dan Logistik Ikan Nasional

CAPACITY BUILDING NEEDS

1. **Training on traceability implementation**
   Provide training for fisheries business operators across the supply chain, particularly small and medium-sized enterprises (SMEs) to strengthen their capacity to implement traceability.

2. **Capacity building for digital traceability adoption**
   Strengthen the capacity of exporters and other fisheries industry stakeholders to adopt digital traceability systems aligned with international standards.

3. **Training on data quality management**
   Enhance stakeholders' capacity to improve the accuracy, completeness, and reliability of traceability data, particularly in supporting the implementation of STELINA under the Red and White Fishermen Village (Kampung Nelayan Merah Putih/KNMP) program.

4. **Regional knowledge exchange**
   Facilitate regional cooperation through the exchange of experiences, best practices, and lessons learned on fisheries traceability among ASEAN Member States.

5. **Training of Trainers (ToT) for STELINA**
   Develop a pool of national trainers to strengthen institutional capacity and support the sustainable implementation and expansion of STELINA across Indonesia.

MINISTRY OF
MARINE AFFAIRS AND
FISHERIES

THANK YOU
FOR YOUR TRUST!

WE TRACE YOUR FISH FROM SEA/FARM TO TABLE