

Prepared by DigitalTrade4.EU



Linking Market Transparency Reforms under MiFIR with the European Trade Indexes Registry (EUTIR)

Feedback to the EU Commission

August 2025

1. Introduction

The European Commission's recent review of the Markets in Financial Instruments Regulation (MiFIR) has introduced essential reforms aimed at strengthening transparency, enhancing competitiveness, and harmonising post-trade risk reduction services across EU markets. These reforms replace outdated criteria for defining liquid markets, streamline the provision of market data on a reasonable commercial basis, and establish clearer conditions for post-trade risk reduction (PTRR) activities. Together, they create a more predictable, data-driven environment for both regulators and market participants.

The proposed European Trade Indexes Registry (EUTIR) directly complements these objectives by acting as a trusted verification and indexing infrastructure for trade- and market-related datasets. Where MiFIR establishes the **rules for transparency and fair access to financial data**, EUTIR provides the **technical foundation to ensure that all such data is authentic, traceable, and machine-readable** across borders. This dual alignment reinforces the EU's capacity to build integrated, AI- and ML-ready regulatory ecosystems that reduce fragmentation, prevent data duplication, and enable real-time compliance checks.

EUTIR also provides a bridge between **financial market reforms and broader trade digitalisation**, ensuring that the standards introduced under MiFIR – such as consistent liquidity assessment thresholds, harmonised data formats, and the definition of PTRR services – are supported by a secure, decentralised infrastructure. By embedding these regulatory changes into a wider digital trust environment, the EU can not only improve the functioning of its capital markets but also extend transparency and efficiency across customs, sustainability, and supply-chain data flows. In this way, EUTIR transforms MiFIR's legal provisions into a practical, interoperable framework for Europe's green and digital transition.

1.1. Shared Interests between MiFIR Reforms and EUTIR

Policy Area	MiFIR Reform Objectives	EUTIR Contribution / Shared Interest
1 Market Transparency	Replace “free float” with market capitalisation as the basis for liquidity assessment; set thresholds (e.g. EUR 100m cap, 250 daily trades).	Provides trusted metadata registry ensuring that liquidity assessment data (trading volumes, prices, transactions) is authentic, traceable, and machine-readable.
2 Data Accessibility	Ensure market data is made available on a reasonable commercial basis under harmonised rules.	Establishes single verification layer for trade and financial datasets, preventing duplication and lowering compliance costs for operators.
3 Post-Trade Risk Reduction (PTRR)	Define PTRR services (portfolio compression, rebalancing, basis risk optimisation) exempt from certain obligations.	Registers and verifies PTRR-related data flows , ensuring technical authenticity and secure audit trails across counterparties.
4 Regulatory Certainty	Align MiFIR liquidity and transparency rules with MiFID II and empower ESMA with new technical standards.	Provides uniform, EU-wide trust anchor that complements ESMA’s role by embedding verification into daily workflows.
5 Digital Interoperability	Harmonise liquidity determination methodologies across asset classes and Member States.	Connects MiFIR reforms to global identifiers (LEI/vLEI, EORI) and EU platforms (eFTI, DPP, CBAM), ensuring cross-sector interoperability.
6 Green & Digital Transition	Strengthen EU market competitiveness and transparency in the global landscape.	Anchors sustainability-related trade data (e.g. CBAM, DPP) into the same verification layer, linking market reforms with green trade compliance.

1.3. Institutional Coordination

The successful implementation of the European Trade Indexes Registry (EUTIR) requires a coordinated effort across several Commission services, each of which holds a critical mandate in ensuring policy coherence and technical interoperability:

- **DG MOVE** – responsible for the implementation of the **electronic Freight Transport Information (eFTI)** framework under Regulation (EU) 2020/1056.
- 1. **DG HOME** – engaged in the development of the **Digital Product Passport (DPP)** under the Ecodesign for Sustainable Products Regulation (ESPR).
- 2. **DG TAXUD** – responsible for the **EU Customs Single Window environment** and alignment with customs reporting.
- 3. **DG CLIMA** – responsible for the **Carbon Border Adjustment Mechanism (CBAM)** under Regulation (EU) 2023/956.
- 4. **DG CONNECT** – coordinating the **European Blockchain Services Infrastructure (EBSI)**.
- 5. Etc.

The process should be coordinated and led by **DG FISMA**, in close cooperation with **DG TRADE**, as the initiative directly affects both financial services regulation and international trade policy. Their leadership guarantees that digital infrastructures are aligned with EU market rules, while ensuring global competitiveness and adherence to multilateral standards.

For the detailed accreditation and certification framework for Certified Service Providers, see Annex II. For the Union-wide rules on data submission, amendment, and locking of trade metadata, see Annex III. Together, these Annexes form the operational backbone of EUTIR and must be developed at Union regulation level to ensure uniform obligations across all Member States.

2. Why a European Trade Indexes Registry (EUTIR) is Needed

The **European Trade Indexes Registry (EUTIR)** — (*in some earlier documents referred to as the Digital Documents Register*) — has been proposed to the European Commission as the **next step in global trade digitalisation** and a catalyst for the **green transition**. Its purpose is to provide a **decentralised, interoperable, and secure infrastructure** for registering and verifying trade-related data sets across the EU and with international partners. EUTIR aligns with the objectives of the **EU Competitiveness Compass**¹, fostering a data-driven trade environment that supports AI/ML-driven trade facilitation, innovation, and sustainable economic growth.

EUTIR acts as a **trust anchor** for Economic Operators, Service Providers, and Competent Authorities, ensuring that all registered data sets — whether related to freight transport, product lifecycle, sustainability compliance, or permits — are **authentic, traceable, and machine-readable**. This not only strengthens legal certainty but also reduces administrative burdens, eliminates duplication, and increases efficiency in cross-border trade.

The strategic value of EUTIR lies in its ability to **harmonise digital verification processes** across sectors, connect with global identifier systems such as **LEI/vLEI** supported by GLEIF², and link to EU identifiers like **economic operators registration and identification (EORI)**. By providing a single, trusted verification layer for multiple types of regulated documents and datasets, EUTIR supports interoperability both within the EU and globally.

Importantly, EUTIR also **enables structured data environments** that can be leveraged by **machine learning (ML)** and **artificial intelligence (AI)** tools for advanced analytics, risk assessment, and trade facilitation. This capability creates a significant **competitive advantage**

¹ European Commission. Competitiveness compass

https://commission.europa.eu/topics/eu-competitiveness/competitiveness-compass_en

² GLEIF – Global Legal Entity Identifier Foundation

<https://www.gleif.org/en>

for the EU on the global stage, allowing faster market access, simplified lending procedures for operators choosing environmentally friendly solutions, and streamlined compliance with sustainability standards.

As a decentralised and interoperable infrastructure, EUTIR can also be adapted for **dual-use applications**, including integration into secure supply chain and defence logistics systems, ensuring resilience and trust in critical goods flows.

The name **EUTIR** was deliberately chosen to:

- **Avoid confusion** with the long-established “TIR Convention” (Transports Internationaux Routiers), which is primarily used for international road transport permits.
- **Emphasise the European dimension** of the registry while retaining the clarity of the “Trade Indexes Registry” concept.
- **Highlight interoperability** with global identity frameworks (LEI/vLEI) and alignment with international supply chain and trade finance systems.
- **Provide legislative clarity**, ensuring that EUTIR is defined as a new, distinct registry with its own technical and legal architecture.

3. Roles in the EU Digital Trade Ecosystem

3.1 Economic Operators

Economic Operators are the primary creators, holders, and users of trade-related information. They include:

- **Financial Institutions** – banks, trade finance providers, insurers.
- **Logistics Providers** – carriers, freight forwarders, warehouse operators.
- **Manufacturers** – producers of goods and intermediate products.
- **Importers / Exporters** – companies engaged in cross-border trade.

Legislative Enhancement:

To ensure global and EU interoperability, Economic Operators should be identifiable by **LEI/vLEI** in addition to **EORI** where applicable. This dual-identifier model allows seamless cross-referencing between EU customs systems and international trade finance networks. It reduces the administrative burden on Economic Operators by eliminating the need for duplicate registrations in different jurisdictions. By embedding this requirement into customs, transport, and environmental legislation, the EU ensures that its digital trade infrastructure remains interoperable with global trust frameworks.

3.2 Service Providers

Service Providers operate specialised digital platforms and registries that structure, store, and exchange regulated trade data:

- **European Trade Indexes Registry (EUTIR)** – EU-level trust and indexing registry built on EBSI-based³ Distributed Ledger Technology (DLT); provides Certified Providers Registry, Data Sets Metadata storage, Traceability, and Verification Services; interoperable with electronic freight transport information (eFTI), Digital Product

³ European Commission. What is European Blockchain Services Infrastructure (EBSI)
<https://ec.europa.eu/digital-building-blocks/sites/display/EBSI/Home>

Passport (DPP), Permit Registries, and EU Carbon Border Adjustment Mechanism (CBAM) platforms.

- **eFTI Platforms** – manage electronic freight transport information; support Digital Business Wallet submissions to third parties without direct platform access; connected to ICS2, Customs SW, and EUTIR for document version verification.
- **DPP Platforms** – manage product lifecycle, ESG/CE compliance, and linked traceability identifiers; interoperable with eFTI, Permit Registries, CBAM, and eInvoicing.
- **Permit Registries** – issue and manage regulatory certificates (veterinary, phytosanitary, chemical); provide Real-Time Verification APIs for legal validity, complementary to EUTIR's technical authenticity checks.
- **CBAM Registries** – record embedded carbon data for imported goods; interoperable with DPP and Customs SW for compliance validation.
- **Etc.**

Legislative Enhancement:

Require that **all registries and platforms**, including EUTIR, that register or validate trade documents in official EU processes are **accredited** under a harmonised EU-wide scheme. This will ensure consistent technical and legal compliance across all sectors, improving trust and operational reliability. Real-time synchronisation of certification status with EUTIR will prevent non-compliant or revoked Service Providers from participating in regulated processes. Such a requirement will also facilitate mutual recognition of trusted platforms in international agreements, strengthening the EU's position in global digital trade governance.

3.3 Competent Authorities

Competent Authorities are the official bodies responsible for overseeing compliance with EU and national regulations in the context of cross-border trade and market operations. In the EUTIR environment, they play a central role in verifying the authenticity, integrity, and compliance status of trade-related data sets.

- **Customs Authorities** – operate systems such as ICS2 and the EU Customs Single Window, receiving trade data from eFTI, DPP, CBAM, and Permit Registries. They use

EUTIR to verify that the data sets presented are authentic, up-to-date, and linked to certified service providers.

- **Market Surveillance Authorities** – oversee product compliance, safety, environmental standards, and conformity assessments across the EU single market. They access EUTIR to validate the traceability and certification status of product-related data sets, ensuring interoperability with DPP platforms, CBAM registries, and permit databases.
- **Tax Authorities** – manage VAT, excise duties, and other fiscal obligations linked to cross-border trade, using EUTIR to cross-check financial and customs-related data.

Legislative Enhancement:

Mandate that all Competent Authorities, including Customs Authorities, Market Surveillance Authorities, and Tax Authorities, have **direct read-access** to EUTIR Verification Services to authenticate data sets without requiring multiple submissions from Economic Operators. This will streamline regulatory processes, reduce transaction costs, and minimise errors from manual data re-entry. It will also strengthen **real-time risk assessment capabilities**, enabling early detection of non-compliance and fraud. Embedding these access rights in sector-specific legislation will ensure a uniform approach across Member States, eliminating fragmentation in digital verification procedures.

3.4 Accredited Certification Bodies

Independent entities responsible for verifying Service Providers' compliance with technical and legal requirements.

- Must issue **LEI/vLEI-based credentials** to ensure global identity assurance.
- Should be part of a **mutual recognition framework** across Member States and sectors.

Legislative Enhancement:

Integrate mutual recognition clauses for accredited Service Providers across customs, transport, and environmental legislation. This will avoid duplication of certification processes and reduce delays in onboarding new platforms into the EU trust framework. By recognising accreditation issued in one Member State across the EU, regulatory coherence is improved, and cross-border trade digitalisation is accelerated. Including LEI/vLEI credentials in certification requirements will further ensure interoperability with non-EU trust ecosystems.

3.5. Interoperability Ecosystem for EU Digital Trade and Customs Integration

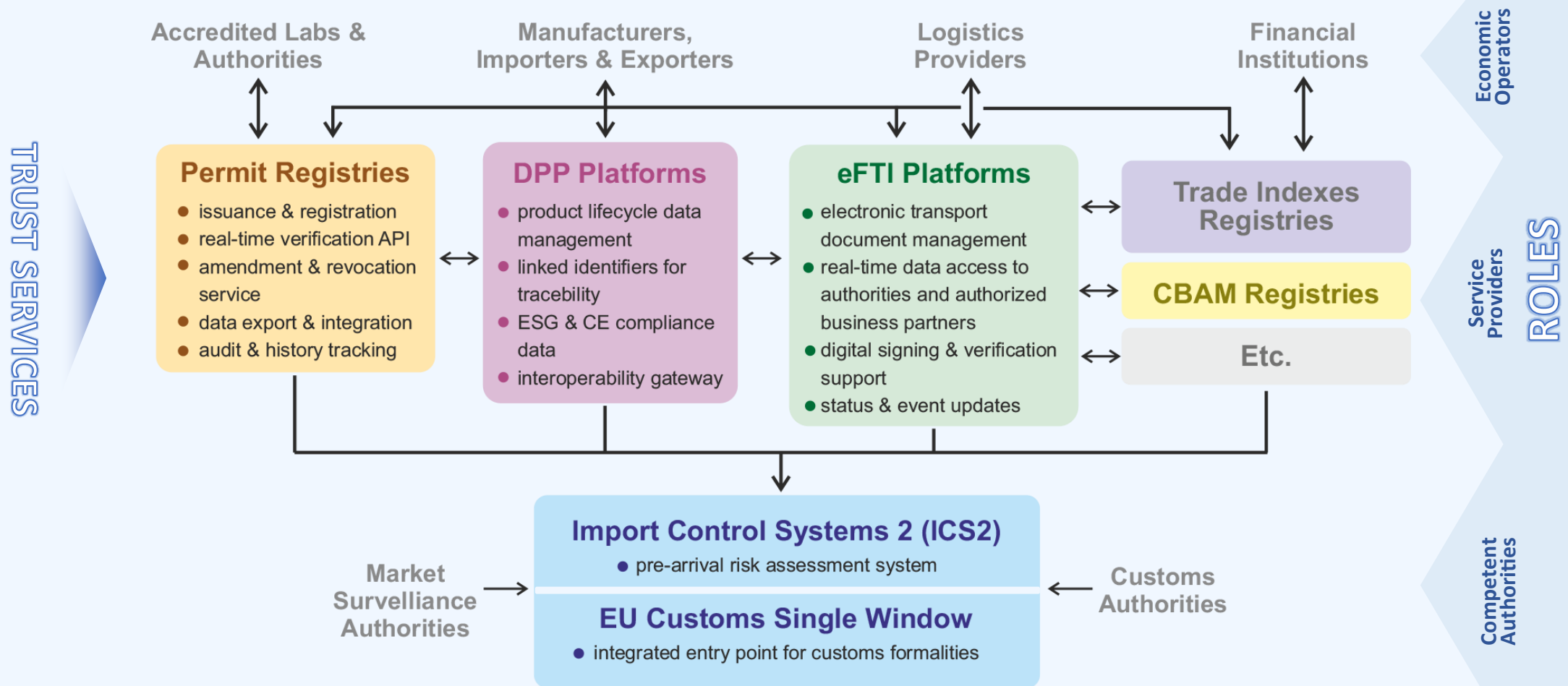


Figure 1. This diagram illustrates the key platforms, data flows, and stakeholder interactions across the EU's digital trade and customs ecosystem. It shows how manufacturers, logistics providers, and regulatory systems connect through structured data platforms—such as eFTI, the Digital Product Passport, and EU Customs systems—while integrating with trusted external sources including TRACES, REACH-IT, and EUDAMED. **Trust Services** supporting this interoperability include LEI/vLEI, Qualified Electronic Signature, Qualified Electronic Seal, Qualified Timestamp, etc. All data exchanges comply with the **General Data Protection Regulation (GDPR)**. The diagram was prepared by Riho Vedler and is presented on behalf of the DigitalTrade4.EU consortium.

3.6. Platform Functions and Trust Roles in the EU Digital Trade Ecosystem

#	Platform	Core Function	Key Actors	Interoperability Role	Trust Features
1	eFTI Platform	Structures and exchanges electronic freight transport information in accordance with EU regulation. Supports Digital Business Wallet submissions to third parties (e.g., warehouses) without granting direct platform access.	Logistics providers, freight forwarders, customs brokers, software vendors	Connected to ICS2, Customs SW, DPP; can interact with TDR for version verification before release to third parties.	Signing-enabled, eIDAS/vLEI, traceable submission logs, TDR-assisted latest-version checks
2	DPP Platform	Digitally represents product lifecycle data, ESG/CE compliance, and traceability information.	Manufacturers, importers/exporters, ESG auditors, platform providers	Linked to eFTI, permit registries, eInvoicing, CBAM Registries, customs declarations; interoperable via linked identifiers.	Verifiable ESG/CE data, linked traceability to other platforms
3	EU Customs Single Window	Single EU-wide gateway for customs and regulatory documentation (incl. permits).	National customs authorities, inspection agencies	Receives data from eFTI, DPP, ICS2, CBAM Registries; pushes to national systems.	Integrated with risk analysis
4	ICS2	Performs pre-arrival cargo risk assessments using Entry Summary Declarations (ENS).	EU customs administrations, transport carriers, EU security agencies	Pulls eFTI/DPP/ permit info	Real-time validation
5	Permit Registries	Hosts and validates official permits and certificates (e.g., veterinary, phytosanitary, chemical). Real-Time Verification API checks legal validity, current status, and conditions — even when TDR provides technical authenticity verification.	National competent authorities (e.g., TRACES, ECHA), EU agencies	Linked from DPP & eFTI; accessible to TDR for live status lookups.	Real-time legal verifiability, amendment and revocation logs
6	EU Trade Indexes Registry (EUTIR)	Anchors and registers metadata (e.g., hashes, signatures, timestamps) of trade documents (e.g., eFTI, eBL, invoices), enabling full document traceability across platforms. Tracks document origin, versioning, Certified Provider ID (LEI/vLEI), and custody history without exposing content.	Registry operators (EU or delegated), customs, logistics integrators, financial institutions	Reference point for document verification and linking across eFTI, DPP, CBAM, and Customs SW.	Tamper-proof identifiers, issuer verification, Certified Provider registry, MLETR compliance, traceable audit trails with DocumentCustodyHistory
7	CBAM Registries	Record and manage embedded carbon emissions data for imported goods under the EU Carbon Border Adjustment Mechanism.	Importers, customs authorities, national CBAM authorities, accredited CO ₂ verifiers, ESG auditors	Linked with DPP for product-level emission data, Customs SW for compliance validation, trade finance systems for tariff adjustments.	Verified emission declarations, EU-accredited verifier network, secure transmission to customs
–	Business Wallet	Decentralised environment for securely holding and sharing credentials and electronic documents under user control.	Traders, SMEs, logistics operators, authorised representatives, identity providers	Interacts with all above	vLEI identity, eIDAS 2.0

4. European Trade Indexes Registry (EUTIR) as the Trust Anchor

The **European Trade Indexes Registry (EUTIR)** is a proposed EU-level trust and indexing layer for electronic trade documents, designed to ensure authenticity, integrity, and traceability across platforms and jurisdictions. It is best suited for development on the **EBSI infrastructure**, leveraging Decentralised Ledger Technology (DLT) to provide tamper-resistant storage of document metadata and verifiable credentials. **EUTIR does not store the actual electronic documents themselves, only the metadata necessary to verify their authenticity, current validity, and the identity of the document's rightful holder.**

A key proposed feature of EUTIR is its interoperability with the **Global Legal Entity Identifier Foundation (GLEIF)** infrastructure, enabling integration of both **Legal Entity Identifiers (LEI)** and **verifiable LEIs (vLEI)**. This alignment would ensure seamless entity identification across jurisdictions, support regulatory compliance, and strengthen trust in cross-border transactions.

- **LEI** ensures globally unique identification of legal entities in compliance with ISO 17442.
- **vLEI**, aligned with the GLEIF trust framework, provides cryptographically verifiable credentials, allowing **real-time machine-verifiable proof of entity identity**.
- This integration allows EUTIR to validate Certified Providers instantly, support **cross-border mutual recognition** of identities, and align with international trade finance and compliance systems already using LEI.
- The combination of **EORI** for EU-specific customs processes and **LEI/vLEI** for global interoperability ensures a dual-identifier model that is both policy-neutral and technically future-proof.

Core Functionalities:

1. **Certified Providers** – organisations, companies, and other accredited entities, each uniquely identified via LEI/vLEI and EORI where applicable.
2. **Data Sets Metadata** – *Refers to the structured descriptive information about each registered data set, without storing its full content. This metadata enables the identification, verification, and traceability of trade-related data across platforms and jurisdictions.*
 - a) **Registration** in EUTIR assigns a globally unique identifier (UUID) to each data set, ensuring it can be unambiguously referenced in cross-border transactions. In addition to the core registration process, an electronic document can be linked to:
 - **Insurance information** – allowing stakeholders to confirm the existence and scope of coverage.
 - **Financing Reference** – enabling secure linkage to financing arrangements.

Why Financing Reference is important:

- **For banks** – prevents multiple pledging of the same document as collateral.
 - **For customs and market surveillance authorities** – provides immediate visibility into whether a document is under financial obligations.
 - **For service providers** – enables quick API checks before further document processing.
- b) **Traceability** in EUTIR ensures that the lifecycle of a registered data set — including all updates, transfers, and changes of custody — is fully recorded and linked across the supply chain. **EUTIR does not store the actual content of any document**, but instead maintains structured metadata that enables:

- Confirmation that the document presented to a stakeholder is **authentic**.
- Confirmation that it is the **latest valid version** of the data set.
- Identification of the **current legal holder** (owner) of the valid version, which is essential in cases where the document changes hands multiple times during the supply chain — for example, with **Negotiable Cargo Documents**⁴, including **electronic Bills of Lading (eBL)**.

This mechanism guarantees that even if a document is modified by multiple Certified Providers in the supply chain, the receiving party can instantly verify its validity and rightful holder before proceeding with any transaction or operational step.

- c) **Verification** confirms the authenticity and current validity of a registered data set.
- EUTIR provides **base verification** – confirming whether the data set is valid and whether the source is authentic.
 - In cases involving **special conditions** defined by EU Member State legislation (e.g., sector-specific compliance checks, additional technical validations), the additional verification process may be performed by a **Service Provider**.
 - EUTIR guarantees that the verification process always uses an **authentic source of truth**, preventing reliance on unverified or tampered data.

Legislative Enhancement:

1. Recognise EUTIR as the official EU-level trust service for registering and verifying trade data set metadata.

⁴ United Nations. Working Group VI: Negotiable Cargo Documents
https://uncitral.un.org/en/working_groups/6/negotiablecargodocuments

2. Mandate that only Certified Providers listed in EUTIR may participate in regulated trade data exchange processes.
3. Define the admissibility of metadata (UUID, file hash, financing and insurance references) as legal proof of authenticity and integrity in administrative and judicial proceedings.
4. Ensure all Competent Authorities have direct read-access to EUTIR's verification services, avoiding multiple submissions by Economic Operators.
5. Harmonise metadata standards across the EU to guarantee cross-border interoperability and machine-readability.
6. Integrate LEI/vLEI identifiers in sector-specific regulations to ensure global recognition of EU-certified entities.

Relevant EU Legislation:

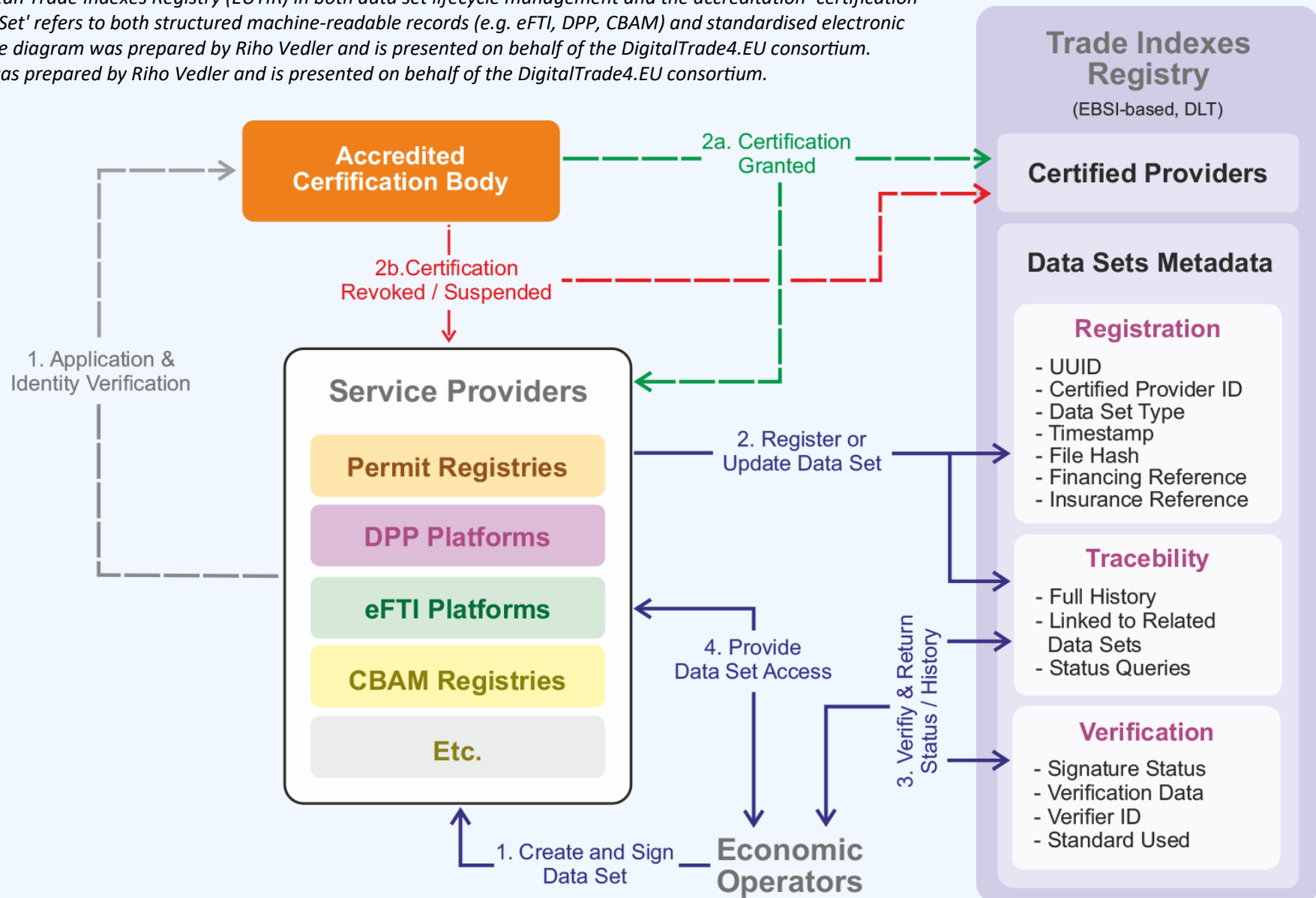
- **Regulation (EC) No 765/2008** – establishes EU accreditation framework; relevant for recognising Certified Providers in EUTIR.
- **Decision No 768/2008/EC** – harmonised rules for product marketing and conformity assessment bodies.
- **Regulation (EU) 2019/1020** – market surveillance and product compliance; can be extended to digital trade data set verification.
- **Regulation (EU) 2020/1056** – eFTI; can integrate EUTIR as a trust verification layer.

Potential Amendments:

- Amend eFTI and customs implementing acts to require EUTIR verification for all relevant logistics and trade datasets.
- Extend market surveillance scope to include trade dataset metadata verification.
- Incorporate LEI/vLEI into regulated trade documentation requirements.

4.1. EUTIR Environment: Data Set Lifecycle and Accreditation–Certification Flow

Figure 2. This diagram illustrates the interaction between Economic Operators, Service Providers, Accredited Certification Bodies, and the European Trade Indexes Registry (EUTIR) in both data set lifecycle management and the accreditation–certification process. 'Data Set' refers to both structured machine-readable records (e.g. eFTI, DPP, CBAM) and standardised electronic documents. The diagram was prepared by Riho Vedler and is presented on behalf of the DigitalTrade4.EU consortium. The diagram was prepared by Riho Vedler and is presented on behalf of the DigitalTrade4.EU consortium.



4.2. Accreditation and Certification Framework within the EUTIR Environment

EUTIR operates in close alignment with an EU-wide accreditation and certification framework to ensure that all Service Providers meet harmonised technical and legal requirements before participating in regulated data exchange.

- **Accreditation** – Performed by an **Accredited Certification Body (ACB)**, verifying compliance with applicable EU regulations, security standards, and interoperability protocols.
- **Certification** – Granted upon successful accreditation, with the Certified Provider immediately registered in EUTIR.
- **Continuous Compliance** – Certification status (active, suspended, revoked) is synchronised in real-time with EUTIR to ensure only valid providers participate in official processes.
- **LEI/vLEI Integration** – All Certified Providers receive globally unique, verifiable identifiers, enabling cross-border trust and interoperability.

This model ensures that both the **technical authenticity** of data (via EUTIR's Verification Service) and the **legal compliance** of the Service Provider (via ACB certification) are guaranteed.

Legislative Enhancement:

1. Require that all Service Providers participating in regulated trade data exchange processes undergo accreditation by an EU-recognised **Accredited Certification Body (ACB)**.
2. Mandate that certification data, including status changes (active, suspended, revoked), be synchronised in real-time with EUTIR.
3. Integrate **LEI/vLEI** and **EORI** identifiers as mandatory elements in certification records.
4. Require that all issued certificates be machine-readable and cryptographically verifiable.

5. Ensure that suspension or revocation of certification results in immediate access revocation across all regulated digital trade platforms.

Relevant EU Legislation:

- **Regulation (EC) No 765/2008** – accreditation requirements and recognition within EA framework.
- **Decision No 768/2008/EC** – common framework for conformity assessment.
- **Regulation (EU) 2020/1056** – certification model for digital trade platforms (eFTI).
- **Regulation (EU) 2023/956** – authorised declarant framework (CBAM) can integrate EUTIR trust layer.

Potential Amendments:

- Require that all ACB-issued certifications be registered in EUTIR as a condition for legal validity in regulated processes.
- Create a unified EU template for digital accreditation and certification records, linked to LEI/vLEI.
- Introduce real-time API-based status updates from ACBs to EUTIR.

4.3. Data Exchange Between Stakeholders

In the EUTIR environment, data exchange follows a **federated trust model**:

1. **Create and Sign Data Set** – The Economic Operator generates and digitally signs a trade-related data sets (e.g., eFTI, DPP, CBAM).
2. **Register (Update) Data Set** – The Service Provider registers the data set's metadata in EUTIR, including UUID, type, timestamp, file hash, **financing reference**, **insurance reference**, and Certified Provider ID.
3. **Provide Data Set Access** – EUTIR facilitates access to authorised parties (e.g., customs, tax, banks), enabling them to verify the authenticity and traceability without handling full document content.

Dual Verification Path:

- **Technical Authenticity** – Checked in EUTIR via metadata and hash matching.
- **Content Validity** – Verified by sector-specific registries (e.g., permit registries, CBAM registry) using their own APIs.

This approach avoids unnecessary duplication of verification functions and ensures that each layer of the system performs its most efficient role.

Legislative Enhancement:

1. Require that all trade data sets used in regulated processes be technically verified via EUTIR before acceptance by Competent Authorities.
2. Clearly define the division of responsibilities between **EUTIR** (technical authenticity / integrity) and **sector-specific registries** (content validation).
3. Mandate that Service Providers perform automated pre-checks before registering data sets in EUTIR.
4. Grant Competent Authorities direct API access to EUTIR for authenticity checks.
5. Ensure interoperability between EUTIR and EU-wide systems such as **EU Customs Single Window, ICS2, CBAM Registry, and eFTI platforms**.
6. Require machine-readable, standardised data formats to enable AI and ML-driven analytics.

Relevant EU Legislation:

- **Regulation (EU) 2020/1056** – eFTI Regulation; extend to include mandatory EUTIR verification.
- **Regulation (EU) No 952/2013** – Union Customs Code; integrate EUTIR in customs data workflows.
- **Regulation (EU) 2023/956** – CBAM; require certificate authenticity checks via EUTIR.
- **Regulation (EU) 2019/1020** – Market Surveillance Regulation; link surveillance data to EUTIR metadata.

- Sector-specific permit regulations (veterinary, phytosanitary, chemical) – include UUID/hash verification in EUTIR as a precondition for official acceptance.

Potential Amendments:

- Modify customs and eFTI implementing acts to require an EUTIR verification step before processing.
- Require sector-specific permit registries to register document metadata in EUTIR upon issuance.
- Allow AI-based monitoring tools to use EUTIR datasets for fraud detection and compliance risk scoring.

5. Strategic Digital Models for Sustainable Trade and Logistics

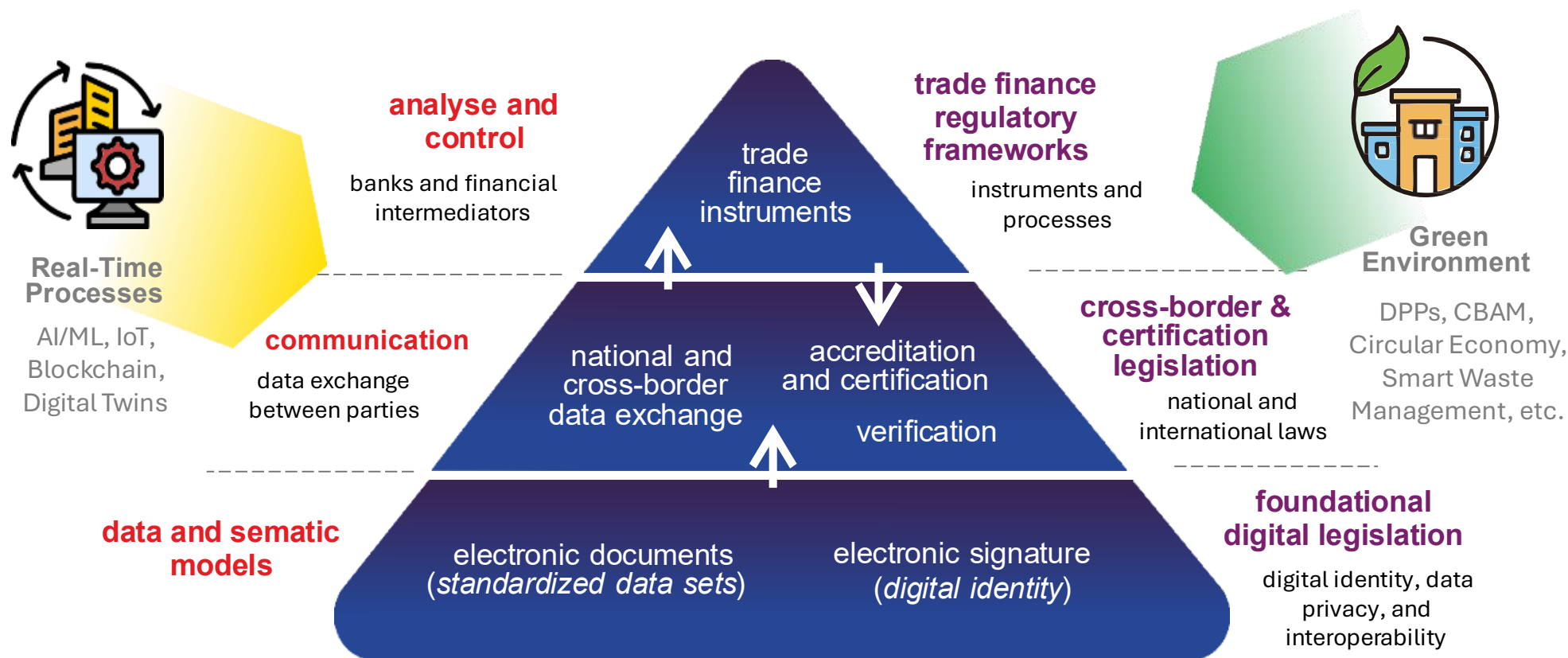


Figure 3 This visual model bridges the European Commission's strategic objectives with the proposed regulatory and operational solutions, illustrating how digital requirements and compliance mechanisms can be implemented in a technologically neutral and future-proof manner. All digital requirements and compliance mechanisms must remain technologically neutral and future-proof, allowing companies to select and reuse their preferred IT solutions.

The diagram was prepared by Riho Vedler and is presented on behalf of the DigitalTrade4.EU consortium, icons by Flaticon.

6. Proposed Amendments to Strengthen MiFIR through Digital and Sustainable Market Infrastructures

6.1. Integration of EUTIR in Liquidity Assessments

Proposed Legal Text, Delegated Regulation (EU) 2017/567, Article 5:

For the purposes of determining a liquid market, competent authorities shall ensure that liquidity assessment data (including market capitalisation, average daily turnover, and transaction counts) is cross-verified against an EU-level trusted registry, such as the European Trade Indexes Registry (EUTIR), to guarantee authenticity, traceability, and version control of reported datasets.

Justification: Liquidity assessment depends on accurate and consistent data. Anchoring liquidity datasets in EUTIR ensures that all Member States apply thresholds (e.g. EUR 100m market cap, 250 daily trades) uniformly, reducing duplication and manipulation. It provides supervisors with a single source of truth and enables AI-driven monitoring of liquidity. This increases efficiency, cuts costs, and strengthens investor confidence in EU markets. By establishing EUTIR as the reference verification layer, the EU builds a robust infrastructure for capital market transparency.

6.2. EUTIR Verification for PTRR Services

Proposed Legal Text, Delegated Regulation (EU) 2017/567, new Article 16a (Post-trade risk reduction services):

Service providers offering portfolio compression, rebalancing, or basis risk optimisation under Article 31(1) of Regulation (EU) No 600/2014 shall register transaction metadata in the European Trade Indexes Registry (EUTIR), including UUID, file hash, timestamp, and Certified Provider identifier, for the purposes of supervisory audit and systemic risk

monitoring. Verification of metadata by competent authorities and market participants shall be open and not limited to certified providers, while submission of metadata into EUTIR shall be restricted to Certified Service Providers only.

Justification: PTRR services reduce systemic risks but remain outside standard transparency obligations. Recording metadata in EUTIR balances efficiency with accountability: supervisors gain visibility without imposing heavy reporting burdens. The tamper-proof audit trail created via EUTIR prevents hidden risks and ensures PTRR is used responsibly. By distinguishing between **verification** (open to all competent authorities and participants) and **submission** (restricted to certified service providers), this amendment ensures both accessibility and integrity. Certification for data submission guarantees authenticity, accountability, and resilience under eIDAS 2.0 and NIS2 principles, while maintaining broad transparency and usability of reported metadata.

6.3. Recognition of Metadata as Legal Proof

Proposed Legal Text, Cross-cutting amendment to MiFIR and related delegated acts:

Metadata generated through EU-trusted registries, including unique identifiers, file hashes, timestamps, and LEI/vLEI-based credentials, shall be recognised as legally admissible proof of authenticity and integrity in administrative and judicial proceedings.

Justification: Digitalisation requires strong legal certainty. By recognising metadata from trusted registries (such as EUTIR), the EU ensures uniform admissibility of electronic evidence. This accelerates digital reporting, reduces paper-based duplication, and supports interoperability with MLETR-based frameworks. Courts and supervisors gain a reliable source of machine-verifiable proof, strengthening both enforcement and compliance. This amendment also places EU markets at the forefront of global digital governance.

6.4. Interoperability with EU Digital Platforms (DPP, CBAM, eFTI, etc.)

Proposed Legal Text, Implementing provisions under MiFIR and Regulation (EU) 2020/1056:

Liquidity, sustainability, and customs-related datasets shall be interoperable with EU-trusted registries, ensuring cross-sector consistency and machine-readability across regulatory frameworks.

Justification: Financial transparency is tied to broader trade and sustainability reporting. By requiring interoperability, the EU ensures that MiFIR reforms connect smoothly with Digital Product Passports (DPP), CBAM certificates, and eFTI customs data. This reduces fragmentation, lowers compliance costs, and prevents duplication of reporting. While EUTIR can provide this function, the legal text leaves flexibility for multiple trusted EU solutions. The result is a coherent digital environment where financial and trade data reinforce each other.

6.5. Linking MiFIR Transparency with Sustainable Finance under FiDA

Proposed Legal Text, Regulation (EU) 600/2014, Article 13 (market data availability):

Market data related to ESG-linked instruments shall include sustainability metadata verified through EU-level registries. Financial institutions may rely on such verified data to adjust risk premiums, lending rates, or financing conditions under the Financial Data Access Framework (FiDA).

Justification: Embedding ESG metadata into MiFIR reporting allows green businesses to benefit from lower financing costs, in line with FiDA. This creates a direct incentive for sustainable investment and aligns financial transparency with the Green Deal. Trusted registries (such as EUTIR) provide the verification layer, ensuring reliability and avoiding greenwashing. Investors gain confidence, while regulators obtain consistent sustainability signals across markets. This proposal links capital markets with EU climate ambitions in a practical, finance-driven way.

6.6. GDPR-by-Design for MiFIR Market Data

Proposed Legal Text, Delegated Regulation (EU) 2017/567, new recital:

The provision and verification of market data under MiFIR shall comply with Regulation (EU) 2016/679 (GDPR). EU-level registries shall provide authenticity checks on metadata only, without processing personal data contained in underlying records.

Justification: Compliance with GDPR is essential for sustainable digitalisation. By focusing on metadata verification, trusted registries (such as EUTIR) can ensure authenticity without handling sensitive information. This protects privacy, reduces legal risks for operators, and builds public trust in financial transparency reforms. The amendment positions MiFIR as GDPR-compatible by design, avoiding conflicts between data protection and market efficiency. It also provides clarity for cross-border data handling and machine-to-machine reporting.

6.7. Mandatory Use of EORI and LEI/vLEI Identifiers

Proposed Legal Text, Delegated Regulation (EU) 2017/567, Annex (data fields for reporting):

All entities reporting under MiFIR shall use their Economic Operators Registration and Identification (EORI) number where applicable, and their Legal Entity Identifier (LEI) or verifiable LEI (vLEI). Competent authorities shall ensure such identifiers are embedded in reporting datasets.

Justification: A consistent identifier system reduces fragmentation between financial and trade reporting. By mandating EORI and LEI/vLEI, the EU ensures seamless interoperability between customs, trade, and capital markets. It lowers the compliance burden for firms that otherwise need to use multiple IDs across regimes. Using vLEI strengthens authentication with cryptographic assurance, providing tamper-proof identity verification. Trusted registries (such as EUTIR) can facilitate the management of these identifiers, ensuring consistency and reducing errors.

6.8. Cybersecurity and Critical Infrastructure under NIS2

Proposed Legal Text, Delegated Regulation (EU) 2017/567, new recital:

Trading venues, systematic internalisers, and competent authorities shall ensure that market data infrastructures comply with Directive (EU) 2022/2555 (NIS2). EU-level registries supporting MiFIR reporting shall be designated as critical digital infrastructure.

Justification: MiFIR transparency obligations depend on secure data flows. Recognising EU registries as critical infrastructure ensures resilience against cyberattacks and technical failures. This protects market stability, investor trust, and supervisory efficiency. The

integration with NIS2 guarantees that financial transparency reforms align with the EU's cybersecurity strategy. It also prevents systemic vulnerabilities, ensuring that the financial system remains operational even during cyber incidents. EUTIR, as one of these registries, could serve this role while remaining flexible to future infrastructures.

6.9. eIDAS 2.0 Trust Services for Market Data Verification

Proposed Legal Text, Delegated Regulation (EU) 2017/567, Article 5 and Annex:

Market data reported under MiFIR shall be signed, sealed, and timestamped using qualified trust services in accordance with Regulation (EU) 2024/1183 (eIDAS 2.0). EU registries shall facilitate verification of such credentials.

Justification: Ensuring authenticity and legal validity of market data requires harmonised use of digital trust services. By mandating eIDAS 2.0-based signatures, seals, and timestamps, the EU guarantees cross-border recognition of all reported datasets. This reduces fraud risks and supports real-time supervisory workflows. Trusted registries can automate verification, ensuring machine-readability and compliance. The amendment aligns MiFIR reforms with the EU's broader digital identity agenda, reinforcing Europe's leadership in secure digital finance.

6.10. “FinancingReference” Metadata Field for Transaction Integrity

Proposed Legal Text, Delegated Regulation (EU) 2017/567, Annex (data fields for reporting):

A new mandatory metadata field ‘FinancingReference’ shall be included in transaction reporting datasets. This field shall uniquely link each financial instrument or trade record to its corresponding financing arrangement, preventing duplicate pledging and enabling cross-border supervisory checks. A Certified Financial Institution shall register the “FinancingReference” metadata in the European Trade Indexes Registry (EUTIR) at the time of issuance or modification of the relevant obligation. The institution shall be required to close or terminate the “FinancingReference” process as soon as technically possible, and in any case no later than 24 hours after the underlying obligation has been discharged. Verification of metadata shall remain open to competent authorities and market participants, while submission is restricted to certified institutions.

Justification: The “FinancingReference” field introduces a practical, machine-readable element into MiFIR transaction reporting. It prevents systemic risks related to double financing, ensures transparency across borders, and aligns EU capital markets with international frameworks such as MLETR. By embedding a verifiable link between assets and financing contracts, supervisors gain stronger oversight of credit exposures, while financial institutions reduce legal and operational risks. The inclusion of a strict 24-hour requirement to close the “FinancingReference” ensures timely market updates, increases trust in reporting, and supports real-time risk monitoring. The use of EU-trusted registries (e.g. EUTIR) guarantees authenticity, timestamping, and legal admissibility under eIDAS 2.0. **Further technical specifications of the FinancingReference metadata field are provided in Annex I (Technical Note), which demonstrates its structure, implementation model, and interoperability across EU digital frameworks.**

6.11. “FinancingReference” Metadata for AML/CTF Supervision

Proposed Legal Text, Delegated Regulation (EU) 2017/567, Annex (supervisory reporting provisions):

Competent authorities shall be granted access to “FinancingReference” metadata registered in EU-trusted registries for the purposes of Anti-Money Laundering and Counter-Terrorist Financing (AML/CTF) supervision. The metadata shall allow identification of duplicate financing arrangements, unusual transaction chains, and potential financial crime indicators, without exposing personal data contained in the underlying contracts. Verification of metadata shall remain open to competent authorities, while submission is restricted to certified institutions.

Justification: Money laundering and terrorist financing risks increasingly exploit complex cross-border financing structures. By using the “FinancingReference” field as a supervisory tool, competent authorities can detect anomalies such as duplicate pledging, circular financing, or opaque risk transfers. This strengthens systemic resilience and closes regulatory blind spots without requiring full disclosure of sensitive contract data. The approach is fully compatible with GDPR, as only metadata (hashes, timestamps, identifiers) is processed. It also aligns MiFIR with the EU’s broader AML package and supports cooperation with financial

intelligence units (FIUs). Detailed technical aspects of how the FinancingReference metadata enables AML/CTF oversight are described in Annex I (Technical Note).

Certification Amendment

6.12. Certification Framework for Financial and Service Providers Connecting to EUTIR

Proposed Legal Text, Delegated Regulation (EU) 2017/567, new Article XX (Certification and Authorisation):

The European Commission, in cooperation with ESMA and competent national authorities, shall establish a certification framework for financial institutions and service providers authorised to submit data into the European Trade Indexes Registry (EUTIR). This framework shall include minimum technical, operational, and cybersecurity requirements, aligned with Regulation (EU) 2024/1183 (eIDAS 2.0) and Directive (EU) 2022/2555 (NIS2). Only certified providers shall be authorised to submit or amend data in EUTIR, while verification of metadata shall remain openly accessible to competent authorities and market participants.

Justification: To ensure the credibility and security of EUTIR, certification of submitting institutions is essential. Without a harmonised framework, Member States risk fragmentation and divergent practices. A Commission-led certification scheme provides legal certainty, a level playing field, and mutual recognition across the EU. It guarantees that only technically and operationally reliable providers can alter registry data, reducing risks of manipulation or fraud. At the same time, verification of metadata remains open and inclusive, ensuring transparency. By linking certification requirements to eIDAS 2.0 and NIS2, the EU guarantees both digital trust and cybersecurity resilience. This amendment provides the governance backbone needed to implement Amendments 2, 10, and 11 effectively.

7. Conclusion – The Strategic Value of EUTIR

EUTIR is a strategic enabler for Europe's future competitiveness, sustainability, and security. By providing a trusted, decentralised verification environment, it accelerates trade, strengthens resilience, and supports the EU's green and digital ambitions. Its adoption would not only modernise cross-border processes but also position Europe as a global leader in transparent, ML/AI-ready trade ecosystems.

Key reasons for establishing EUTIR:

1. **Global Unique Identification** – International trade involves vast flows of data across multiple stakeholders, systems, and jurisdictions. Without globally unique identifiers, there is a high risk of duplication, misassociation, and fraud.
2. **Interoperability Across Platforms** – Modern trade relies on multiple specialised registries and platforms (eFTI, DPP, CBAM, permit registries). EUTIR functions as the **index layer**, enabling automated cross-referencing between systems without requiring manual reconciliation.
3. **Traceability & Accountability** – EUTIR maintains a full custody chain, showing the entire lifecycle of a document or shipment, including transfers between different Certified Providers, enabling transparent compliance checks.
4. **Single Source of Truth** – By acting as the authoritative reference, EUTIR ensures that both authorities and market actors can confirm that the information they use is the latest, valid, and authentic version.
5. **Support for Digital Trust Infrastructure** – Full interoperability with **GLEIF's LEI/vLEI** framework and EBSI-based DLT creates a trust environment that extends beyond the EU, enabling recognition in global supply chains and finance networks.

Now is the time to integrate EUTIR into the EU's digital policy framework and make it a cornerstone of the Single Market's next evolution.

Annex I. **FinancingReference** Metadata Field in the TDR

1. Purpose and Scope

The **FinancingReference** metadata field is introduced to link an electronic trade document—such as an **electronic Bill of Lading (eBL)** or other **Negotiable Cargo Documents**—to any associated financing arrangements. Its primary objectives are:

- To **prevent multiple pledging** of the same negotiable document in different financial institutions.
- To **ensure transparency** for customs, market surveillance authorities, and regulators.
- To **support secure trade finance operations** in compliance with eIDAS 2.0 and the Model Law on Electronic Transferable Records (MLETR).

2. Field Structure and Sub-Fields

FinancingReference shall be a structured object consisting of the following sub-fields:

	Sub-field	Type	Description
1	FinancingStatus	Enum	Indicates the current financing state of the document. Allowed values: Unencumbered (not linked to any financing), Pledged (used as collateral), Released (previously pledged but released), UnderLien (under judicial or regulatory lien).
2	FinancingInstitutionID	String	The identifier of the financial institution holding the financing rights, preferably the Legal Entity Identifier (LEI) .
3	FinancingAgreementID	String	The reference number of the financing agreement, letter of credit, or other contractual arrangement.
4	FinancingRegistrationDate	DateTime	The date and time when the financing link was registered in the TDR.
5	FinancingReleaseDate (optional)	DateTime	The date and time when the financing link was removed or the collateral was released.

3. Example Implementations

Example 1 – Document Not Linked to Financing

```
1 "FinancingReference": {  
2   "FinancingStatus": "Unencumbered"  
3 }
```

Example 2 – Pledged Document with Active Loan

```
1 "FinancingReference": {  
2   "FinancingStatus": "Pledged",  
3   "FinancingInstitutionID": "5493001KJTIIGC8Y1R12",  
4   "FinancingAgreementID": "LC-2025-00145",  
5   "FinancingRegistrationDate": "2025-05-10T10:32:00Z"  
6 }
```

Example 3 – Released Collateral

```
1 "FinancingReference": {  
2   "FinancingStatus": "Released",  
3   "FinancingInstitutionID": "5493001KJTIIGC8Y1R12",  
4   "FinancingAgreementID": "TRF-2025-7789",  
5   "FinancingRegistrationDate": "2025-02-15T09:00:00Z",  
6   "FinancingReleaseDate": "2025-08-01T15:20:00Z"  
7 }
```

3. Rationale for the Structured Approach

A structured **Financing Reference** field is necessary for the following reasons:

1. **Legal clarity** – Ensures that the document's financing status is machine-readable, verifiable, and unambiguous for all parties.
2. **Risk mitigation** – Prevents duplicate pledging or fraudulent reuse of negotiable cargo documents.
3. **Operational efficiency** – Allows banks and service providers to perform automated checks via the TDR API before accepting a document as collateral.
4. **Regulatory compliance** – Facilitates alignment with trade finance regulations, anti-money laundering (AML) requirements, and sanctions screening.

5. **Interoperability** – Enables seamless integration with cross-border trade finance platforms and distributed ledger systems.

5. Integration with TDR Services

The FinancingReference field shall be applied during the **Registration** phase of the document lifecycle and maintained through **Verification** and **Traceability** services.

- **Registration Service** – Assigns and records the initial FinancingReference.
- **Verification Service** – Confirms the validity of the financing link and checks for conflicts (e.g., double pledging).
- **Traceability Service** – Maintains a full audit trail of all changes to the financing status.

Annex II. Accreditation and Certification Framework for Service Providers [DRAFT]

1. Definitions

For the purposes of this Annex, the following definitions apply:

(a) **“Accreditation Authority”** means a national competent authority (NCA) recognised under this Delegated Act, acting in coordination with ESMA, and responsible for granting and renewing certifications of service providers.

(b) **“Certified Service Provider (CSP)”** means a legal entity authorised by an Accreditation Authority to submit, amend, or close metadata records in the European Trade Indexes Registry (EUTIR).

(c) **“Legal Entity Identifier (LEI)”** means a globally unique, ISO 17442-compliant identifier for legal entities, governed by a global, accredited operating entity.

(d) **“Verifiable Legal Entity Identifier (vLEI)”** means ISO 17442-3, a digitally signed credential compatible with Regulation (EU) 2024/1183 (eIDAS 2.0), enabling secure and automated entity identification and authorisation, issued by an authorised global operating entity within the LEI ecosystem.

(e) **“Qualified Trust Services”** means electronic identification and trust services as defined in Regulation (EU) 2024/1183 (eIDAS 2.0), including qualified electronic signatures, seals, and timestamps.

(f) **“Standardised Dataset”** means structured information conforming to international or EU standards (including ISO 20022, ESMA RTS/ITS templates, and Commission-endorsed data models) to ensure machine-readability and interoperability across EU digital infrastructures.

(g) **“Submission”** means the act of creating, amending, or closing metadata records in EUTIR, which may only be performed by Certified Service Providers.

(h) **“Verification”** means the act of reviewing or confirming the authenticity, timestamp, and identifier of metadata stored in EUTIR, which may be performed by competent authorities, market participants, or other authorised stakeholders without certification.

(i) “**European Trade Indexes Registry (EUTIR)**” means the Union-wide digital infrastructure established for the secure submission, storage, verification, and retrieval of trade-related metadata by certified service providers and authorised stakeholders, ensuring interoperability with other EU digital systems.

2. Accreditation Authorities

1. National competent authorities (NCAs), in coordination with ESMA, act as accreditation authorities for certifying service providers that wish to connect to EUTIR.
2. Accreditation is mutually recognised across Member States.
3. Accreditation Authorities may delegate testing and technical evaluations to accredited **Conformity Assessment Bodies (CABs)** in accordance with ISO/IEC 17065.

3. Certified Service Providers (CSPs)

1. Only Certified Service Providers may perform submissions to EUTIR.
2. Certification is valid for a period of **five years**, renewable upon review of compliance.
3. CSPs must be uniquely identifiable via a valid **LEI or vLEI**.
4. Each submission by a CSP shall include a Certified Provider Identifier linked to its LEI or vLEI.
5. Certification in one Member State shall be **recognised across all Member States** without additional requirements.

4. Technical and Organisational Requirements for CSPs

Certified Service Providers must demonstrate compliance with the following requirements:

- a) **Trust Services Compliance:** All submissions to EUTIR must be signed, sealed, and timestamped using qualified trust services under eIDAS 2.0.
- b) **Identity Assurance:** Each CSP must operate under a valid LEI or vLEI, ensuring cryptographic proof of identity.

- c) **Standardised Data Sets:** CSPs must use harmonised and Commission-endorsed reporting formats (e.g. ISO 20022, ESMA RTS/ITS, W3C Verifiable Credentials).
- d) **Data Protection and Privacy:** CSPs must comply with Regulation (EU) 2016/679 (GDPR) and process only metadata required for regulatory purposes.
- e) **Cybersecurity Requirements:** CSPs must comply with Directive (EU) 2022/2555 (NIS2) and ensure incident notification within 24 hours of detection, followed by a detailed report within 72 hours. Notifications must be sent both to the relevant Accreditation Authority and ESMA.
- f) **Audit and Logging:** CSPs must maintain tamper-proof audit trails of all submissions, amendments, and closures, available to competent authorities.
- g) **Interoperability Obligations:** Submitted metadata must be machine-readable and interoperable with other EU digital infrastructures, including:
 - 1. the **Digital Product Passport (DPP)** as established under the Ecodesign for Sustainable Products Regulation (ESPR),
 - 2. the **Carbon Border Adjustment Mechanism (CBAM)** under Regulation (EU) 2023/956, and
 - 3. the **electronic Freight Transport Information (eFTI) framework** under Regulation (EU) 2020/1056.
- h) **Liability and Insurance:** CSPs must maintain adequate liability insurance or financial guarantees to cover damages arising from non-compliance, data manipulation, or systemic failure.

5. Certification Process

- 1. Applicants shall submit compliance evidence, including technical documentation and security audits, to the relevant Accreditation Authority or its designated Conformity Assessment Body.
- 2. Certification shall only be granted after successful completion of conformity assessment.
- 3. Certification renewal requires proof of continued compliance with all requirements.

4. Accreditation Authorities may suspend or revoke certification in case of non-compliance or systemic risk.
5. ESMA shall immediately update the public register of CSPs in case of suspension or revocation and shall maintain a **blacklist of revoked entities** accessible to stakeholders.

6. Oversight and Reporting

1. ESMA shall maintain and publish a register of Certified Service Providers authorised to connect to EUTIR.
2. Accreditation Authorities shall report annually to the Commission and ESMA on certification activities, systemic incidents, and compliance levels.
3. The Commission shall evaluate the framework every three years and may issue additional implementing measures where necessary.
4. Certified Service Providers shall ensure **global interoperability**, aligning submissions to EUTIR with internationally recognised standards and ISO-based metadata models.

Annex III – Data Submission and Locking Rules

[DRAFT]

1. Scope

This Annex lays down the **binding Union-wide rules** governing the submission, amendment, and locking of metadata records in the European Trade Indexes Registry (EUTIR). These rules apply to all Certified Service Providers, competent authorities, and economic operators within the Union.

2. Submission Rules

1. Metadata records in EUTIR may only be created or amended by **Certified Service Providers (CSPs)**, using accredited technical channels and identifiers.
2. Submissions shall be based on validated legal or transactional events, including but not limited to financial settlement, customs declarations, regulatory reporting, or contractual obligations.
3. Each submission shall carry a **time-stamp, LEI/vLEI reference, and Qualified Trust Service seal** as defined under Regulation (EU) 2024/1183 (eIDAS 2.0).

3. Amendment Rules

1. Metadata records may be amended until the moment they are locked under Article 4 of this Annex.
2. Amendments shall not overwrite the original submission but shall be stored as **versioned records**, ensuring full auditability.
3. All amendments must be logged in the EUTIR audit trail and remain accessible to competent authorities.

4. Locking Rules

1. Metadata records shall be **locked** by competent authorities or system triggers upon the occurrence of a defined legal or regulatory event, including:
 - a) customs seizure or detention of goods,
 - b) judicial injunction or binding administrative order,
 - c) closure of a financial obligation or trade settlement,
 - d) expiry of a reporting deadline, or
 - e) other events defined by delegated acts adopted under this Regulation.
2. Once locked, no further amendments may be made by CSPs or economic operators.
3. Competent authorities may add annotations or attach additional compliance-related metadata to locked records, without altering the original content.

5. Union-wide Harmonisation

1. The rules set out in this Annex are binding across all Member States. No Member State may introduce additional or divergent submission or locking rules.
2. To ensure legal certainty, the Commission shall adopt **delegated acts** specifying detailed technical and operational criteria for locking events, including interoperability with customs, financial, and judicial procedures.
3. Member States shall designate competent authorities responsible for monitoring compliance with these rules and for reporting systemic incidents to the Commission and ESMA.

6. Legal Effect

1. By defining submission and locking rules at **Union regulation level**, this Annex establishes direct obligations on economic operators, Certified Service Providers, and competent authorities.

2. Failure to comply with these rules shall be subject to administrative or financial penalties under national law, without prejudice to Union-level enforcement mechanisms.

Annex IV. Digital Trade & Capital Markets Integration Roadmap (DigitalTrade4.EU 2025)

#	activity	objective	indicative metrics	tools/enablers
1	Establish EU Trade Indexes Registry (EUTIR)	Decentralize and secure cross-border trade/ESG data for supervision using a distributed architecture, enabling trusted and interoperable access to regulatory and ESG information across the EU.	- 30% reduction in duplicate filings by 2027 - 100% fraud detection rate	Zero Trust Architecture & cross-border verification (e.g., blockchain-based systems like EBSI), MLETR-compliant systems, PSD3-PSR/FiDA APIs, vLEI
2	Digitalise Tax & Customs Interfaces	Integrate trade, tax, and customs data flows to reduce friction and fraud	- 50% faster customs clearance - 30% reduction in VAT fraud - Full uptake of EU Single Window by 2028	EU Customs Data Hub, Single Window for Customs, VAT in the Digital Age (ViDA), vLEI for trader authentication, eFTI/eCMR linkages
3	Adopt MLETR + eIDAS 2.0	Enable seamless digital negotiable instruments and cross-border recognition	- 70% faster transaction times - 95% SME adoption of e-signatures	MLETR framework, eIDAS 2.0 digital identity wallets, EU legal harmonization tools
4	Develop RegTech supervision tools	Enhance real-time oversight of capital markets and ESG compliance	- 50% reduction in supervisory costs - 80% automated ESG data collection	AI/ML dashboards, Legal Sandboxes, ETDR-linked reporting systems
5	Digital Bonds & Convertibles	Enable automated, ESG-linked debt instruments	- 30% reduction in issuance costs - 20% lower interest rates for ESG-compliant bonds - 100% real-time conversion execution	ETDR registry, smart contracts, DPP/ESG data integration, eIDAS 2.0 authentication
6	SME-friendly compliance frameworks	Ensure SMEs benefit from digital reforms without disproportionate burden	- 40% increase in SME participation - 60% cost savings for SMEs	Tiered compliance thresholds, Green-Digital Trade Academy, Erasmus+ grants
7	Pilot CBAM-DPP Corridors	Link trade finance to verifiable ESG metrics for tariff incentives	- 20% CBAM compliance cost reduction - 50% adoption of DPPs by 2030	Digital Product Passports (DPPs), IoT carbon trackers, CBAM rebate schemes, CBAM certificate registry integration, EU Customs Single Window
8	Harmonize e-document laws	Eliminate legal fragmentation for digital trade documents	- 90% mutual recognition of e-Bills of Lading - 0 paper-based processes	EU Transport Law updates (e.g. eFTI, eCMR), UN/UNECE protocols, Legal Harmonization Sandboxes
9	ESG-linked finance incentives	Reward sustainable supply chains with cheaper capital	- €10B/year green trade finance unlocked - 30% lower Scope 3 emissions	InvestEU guarantees, FinTech platforms, CSRD-aligned reporting templates

Annex V. EU Green-Digital Trade Leadership Roadmap (DigitalTrade4.EU 2025)

#	activity	objective	indicative metrics	tools/enablers
1	EU-Singapore DTA & Expand DEPA Partnerships	Strengthen digital trade diplomacy in Asia through high-standard agreements.	- 5+ new digital trade agreements with key Asian partners (e.g., Japan, India, ASEAN) by 2030 - 15% increase in EU-Asia digital services trade by 2028	DEPA framework, EU-Singapore DTA, Global Gateway Initiative, eIDAS 2.0
2	Implement Digital Product Passports (DPPs)	Ensure traceable, sustainable supply chains aligned with EU Green Deal.	- 50% adoption of DPPs by 2030 - 20% reduction in supply-chain carbon intensity by 2030	EU Sustainable Products Initiative, CBAM incentives, UNECE Recommendation 49
3	Fund Secure Digital Corridors in Asia	Build interoperable digital infrastructure for EU-Asia trade.	- ~€2B allocated via NDICI-Global Europe - 10+ blockchain-based traceability pilots by 2027	NDICI-Global Europe, ASEAN digital customs systems, EU Customs Data Hub
4	Harmonize Digital Standards (MLETR/eIDAS 2.0)	Enable cross-border recognition of e-documents and digital identities.	- 90% mutual recognition of e-signatures by 2028 - 70% SME adoption of eIDAS wallets	MLETR framework, eIDAS 2.0, EU Transport Law updates, UN/UNECE protocols
5	Implement LEI and vLEI for Supply Chain Trust	Harmonise and simplify legal entity identification across borders	- 90% entity coverage with LEI by 2030; 50% vLEI use in customs and eFTI transactions	ISO 17442, vLEI, eIDAS 2.0, UNECE UID
6	Launch Green-Digital Trade Academy	Upskill SMEs and officials on DPPs and carbon accounting.	- 40% increase in SME participation by 2027 - 60% cost savings for SMEs	Erasmus+ grants, COSME programme, tiered compliance thresholds
7	Integrate ESG into Trade Finance	Link trade finance to sustainability metrics for cheaper capital access.	- €10B/year unlocked for green trade finance - 30% lower Scope 3 emissions by 2030	InvestEU guarantees, CSRD-aligned reporting, FinTech platforms
8	Enforce Platform Interoperability	Prevent vendor lock-in and empower SMEs.	- 100% compliance with CJEU rulings by 2026 - 50% reduction in platform dominance	Court of Justice of the European Union (CJEU) Case C-233/23, DEPA, eIDAS 2.0, Digital Markets Act (DMA)
9	Global Digitalisation Projects with EU Standards	Extend EU digital infrastructure and norms globally.	- 20+ co-funded projects by 2030 - 80% interoperability with EU systems	Digital Europe Programme, CEF funding, EU-Asia Digital Standards Taskforce
10	Advance UNECE Transparency Protocols	Globalize EU sustainability standards for supply chains.	- 100% alignment with UNECE Rec. 49 by 2028 - 30% reduction in greenwashing claims	UNECE CEFAC, W3C Verifiable Credentials, EU CBAM registry
11	Pilot CBAM-DPP Corridors	Link trade finance to verifiable ESG metrics for tariff incentives.	- 20% CBAM compliance cost reduction - 50% DPP adoption by 2030	IoT carbon trackers, CBAM rebate schemes, EU Customs Single Window

About Us

The **DigitalTrade4.EU consortium** envisions a **seamlessly interconnected Europe** and **neighbouring regions** powered by harmonized standards for the digitalisation of trade documents and processes. By fostering the digital transformation of trade, we aim to promote economic integration, enhance cooperation, and ensure long-term trade facilitation across borders.

Our consortium is made up of **experts in their field**, including **108 full partners**—trade associations, logistics providers, shipping lines, banks and insurances, technology innovators, etc.—**from 17 European Union countries** (*France, Belgium, Netherlands, Austria, Estonia, Finland, Italy, Latvia, Spain, Germany, Sweden, Poland, Luxembourg, Lithuania, Slovenia, Denmark, Bulgaria*) and **22 non-EU countries** (*United Kingdom, Switzerland, Montenegro, Japan, Singapore, Hong Kong, Australia, New Zealand, India, Nepal, Canada, United States of America, Cameroon, Morocco, Egypt, Kenya, Pakistan, Nigeria, Brazil, Uzbekistan, Turkey, Ukraine*).

Our consortium is already **aligned with the fundamentals** of the **EU Competitiveness Compass**.
Learn more:

- How DigitalTrade4.EU Can Help Achieve the Objectives of the EU Competitiveness Compass (February 2025)

<https://www.digitaltrade4.eu/how-digitaltrade4-eu-can-help-achieve-the-objectives-of-the-eu-competitiveness-compass/>

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