Standards Overview

7-Layer Technical Standards Stack

The framework uses a layered architecture where each layer has a specific, non-overlapping responsibility. No single existing standard covers the full pipeline — the stack was assembled to fill real gaps in LATAM climate data governance.

#	Layer	Standards	Purpose	CTH Contribution / Notes
1	**Identity**	W3C DID 1.1 + cth:FPICCredential	Who is acting	CTH-original: FPICCredential as W3C VC
2	**Credential Format**	W3C VC 2.0 (BBS+) + UNTP DTE/DCC + OID4VP	What is asserted	UNTP maps directly to EUDR Article 9
3	**Provenance & Quality**	W3C PROV-O + ISO 8000-220:2025 + cth:FieldDataQuality SHACL	How was it measured	CTH-original: EUDR GPS precision + Andean IoT calibration rules
4	**Governance Ledger**	Append-only Postgres + rolling SHA-256 + KERI anchoring	What decisions were made	5-year persistence; KERI for cross-org verifiability
5	**Policy & Enforcement**	ODRL + W3C DPV 2.0 + OPA (ODRE pattern) + SHACL	What is allowed	ODRE = ODRL policy evaluated by OPA at runtime
6	**Discovery & AI Access**	W3C DCAT v3 + OpenAPI 3.1 + llms.txt + JSON-LD context	How to find and query	llms.txt enables direct agent access without scraping
7	**Compliance Outputs**	EUDR DDS, CSRD ESRS E1/E4, CBAM, ISSB IFRS S2, Art.6	What gets reported	One data pipeline ? five regulatory outputs

CTH-Original Contributions

Two standards were created by CTH because no existing specification covers these requirements for LATAM:

> **cth:FPICCredential**
> Free Prior and Informed Consent as a W3C Verifiable Credential. The community holds the signing key — not CTH, not the coffee buyer. Revocation is handled by the community. No existing VC type covers FPIC for indigenous territorial data in Colombia.

cth:FieldDataQuality SHACL Profile
SHACL validation shapes for EUDR-specific GPS precision (?6 decimal places), IDEAM deforestation data vintage (?24 months), IoT sensor calibration (?180 days), and Andean GPS lock wait time (?90 seconds per polygon vertex). ISO 8000-220 covers data quality generically — none of these field-specific thresholds exist in any standard.

?? The Article 6 / EUDR shared evidence layer is the key commercial innovation: the same UNTP Digital Traceability Event (DTE) that proves deforestation-free status for EUDR serves as the shared evidence layer for an Article 6.4 carbon credit. Two Digital Conformity Credentials (EUDR DDS + carbon credit) against one DTE.

Revisión #1
Creado 2026-05-27 13:47:42 UTC por Angelica Diaz
Actualizado 2026-05-27 13:47:42 UTC por Angelica Diaz