EU European Union

Blockchain Timestamping and Creative Work Protection

eIDAS framework, electronic ledgers and cross-border legal recognition

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What is blockchain timestamping?

This guide presents the legal framework applicable across the European Union to blockchain timestamping as proof of prior existence. It covers the eIDAS regulation that applies directly in all 27 Member States, the 2024 eIDAS 2 update, and notable national developments that illustrate the direction of European case law.

Blockchain timestamping creates permanent, tamper-proof evidence that a document existed at a specific point in time. It does not grant intellectual property rights — but it proves prior existence with mathematical certainty.

How it works (simplified)

1. Digital fingerprint: Your file is converted into a unique 64-character code (SHA-256 hash) — mathematically unique to that exact file.

2. Permanent record: That fingerprint is inscribed on Ethereum, a public ledger maintained by thousands of computers worldwide. Once recorded, it cannot be altered or deleted.

3. Timestamp: The blockchain automatically records the exact date and time — publicly verifiable by anyone, at any time, for free.

4. Your certificate: You receive a ZIP containing the PDF certificate, metadata, and a link to the Ethereum transaction.

The eIDAS regulatory framework

The eIDAS Regulation (EU No 910/2014) applies directly in all 27 EU Member States without requiring national transposition. It is the primary legal foundation for the admissibility of electronic timestamps — including blockchain-based timestamps — across the entire European Union.

eIDAS Article 41 — Electronic timestamps

Article 41 establishes that an electronic timestamp cannot be denied legal admissibility as evidence solely on the grounds that it is in electronic form. This directly applies to blockchain timestamps — no national law is needed to make them admissible.

eIDAS Article 41 — Key provision

An electronic timestamp cannot be denied legal admissibility as evidence solely on the grounds of its electronic nature.

A qualified electronic timestamp benefits from a presumption of the accuracy of the date and the time it indicates and the integrity of the data to which the date and time are bound.

This applies across all 27 EU Member States — uniformly and without exception.

eIDAS 2 — Regulation (EU) 2024/1183

Published in the Official Journal of the EU on 30 April 2024 and in force since 20 May 2024, eIDAS 2 significantly strengthens the legal framework for blockchain by introducing, for the first time, a formal category of 'electronic ledgers'.

eIDAS 2 — Electronic ledgers (Article 3, point 52)

An electronic ledger is defined as a sequence of electronic data records that ensures their integrity and the accuracy of their chronological order.

Blockchain and other distributed ledger technologies (DLT) are explicitly recognised as legitimate tools for creating electronic ledgers under EU law.

Qualified electronic ledgers benefit from a legal presumption of uniqueness, authenticity, integrity and immutability of the data they contain.

Full implementation of eIDAS 2 is expected by 2026. Public blockchains such as Ethereum already meet the core principles — integrity, immutability, chronological ordering — though the formal qualification process for public blockchains remains under discussion at the European Commission level.

EBSI — European Blockchain Services Infrastructure

The EU has established EBSI, a network of interconnected blockchain nodes across Member States, used for university diplomas, professional certifications and cross-border public services. In May 2024, the Commission established EUROPEUM-EDIC, a consortium of 9 Member States to further deploy EBSI. This signals strong institutional commitment to blockchain as trusted public infrastructure.

National developments across the EU

While eIDAS applies uniformly across all Member States, several countries have gone further with specific national legislation or landmark case law.

Country	Development	Year
Italy	Law No. 12/19, Article 8 ter: blockchain storage produces the same legal effect as an electronic timestamp under eIDAS. First EU country to legislate explicitly.	2019
France	TJ Marseille (RG 23/00046): first European court decision recognising blockchain timestamping as admissible evidence of copyright ownership. AZ Factory v Valeria Moda.	2025
Japan	Blockchain-friendly jurisdiction. First country to regulate crypto assets. Courts have accepted blockchain evidence in criminal proceedings. Web3 national strategic priority since 2022.	2022 +
Germany	eIDAS applies directly. Courts increasingly accept digital evidence in IP disputes. Technology-neutral framework is favourable.	—
Estonia	Digital-first jurisdiction. Blockchain used in government systems since 2012. Strong foundational infrastructure for blockchain evidence.	2012 +

Intellectual property law in the EU

Copyright protection arises automatically at the moment of creation across all EU Member States, with no registration formality required (Berne Convention + EU Copyright Directive 2001/29/EC). Protection lasts 70 years after the author's death — uniformly across the EU.

Practical implication for EU creators

A blockchain timestamp anchored on Etch is verifiable by any court in any EU Member State — and indeed worldwide. The eIDAS framework ensures that no EU court can refuse it as evidence solely because it is electronic.

With the France TJ Marseille 2025 decision as the first EU precedent, and Italy's explicit legislation since 2019, the trend across the EU is clearly toward broader recognition of blockchain-based proof in IP disputes.

Use cases across the EU

Blockchain timestamping is relevant whenever you need to prove that a creative work or technical document existed before a specific date — across any EU jurisdiction.

Scenario	What the timestamp proves	Stake
Creative works — art, design, fashion, music	Existence and form of the work at date X	Copyright priority, anti-counterfeiting
Software and source code	Exact codebase state at a given date	Prior art, alternative to software patent
Research and academic work	Version before submission or peer review	Priority of ideas, protection against scooping
Commercial proposals, briefs	Content shared with a client or partner	Protection in contractual disputes
Technical inventions	Existence of the idea before formal filing	Prior art evidence while patent is pending
Collaborations	Successive versions — who contributed what, and when	Co-author and co-founder disputes

Practical workflow — preparing your file(s)

The file(s) you timestamp must be preserved exactly as anchored. Even changing one character invalidates the proof.

Step	Action	Notes
1	Finalise your document	Make sure it is the version you want to protect — not a draft.
2	Prepare your file(s)	PDFs are stable. Word files modify their metadata when opened. For multiple files, drop them all at once — Etch will bundle them automatically. You may also ZIP them yourself if you prefer.
3	Name it clearly	E.g.: Smith_Work_FINAL_ANCHORED_2026-03-20.pdf
4	Make it read-only	Windows: right-click > Properties > Read-only. Mac: File > Get Info > Locked.
5	Timestamp it	Upload your file(s) to etchproof.eu — they never leave your browser, only their fingerprints are sent.
6	Store the ZIP	Keep your original file(s) and the proof ZIP together, in at least two locations.

File format stability

The hash changes if the file changes — even by a single bit. Always anchor the final version, in a format that does not modify itself when opened.

Format	Stability	Recommendation
PDF	**Ideal**	Stable when opened, universal, does not modify its metadata.
Plain text (.txt, .md)	**Ideal**	No hidden metadata, fully stable.
Source code	**Ideal**	Plain text, fully stable.
Video / Audio	Good	Stable if not re-encoded.
PNG / JPEG / WebP	Medium	EXIF metadata may change when re-saved. Make a dedicated copy.
SVG / AI / EPS	Medium	Stable if not re-saved in an editor.
PSD / Clip Studio	Medium	Stable if not re-saved. Also export a flattened PDF.
Word (.docx / .pages)	**Avoid**	Modifies metadata on every open — always export to PDF before anchoring.
Excel / Numbers	**Avoid**	Same issue as Word.

Important limitations — what timestamping does NOT do

It does NOT grant intellectual property rights. A timestamp proves existence, not ownership or authorship.

It does NOT prove you are the author. It proves you had the file at that date — additional evidence may still be needed.

It does NOT store your file(s). Only the fingerprint (hash) of each file is recorded. Without your original file(s), the proof is useless.

It does NOT constitute absolute proof. It is admissible evidence within a broader body of evidence.

The certificate alone is not sufficient. Verification requires both the certificate AND the original file(s).

Method	Approximate cost	Duration
Blockchain timestamping (Etch)	~2 EUR per anchoring	Permanent
Notarised declaration (varies by country)	50-500 EUR	Permanent
Design registration (EUIPO)	350 EUR (1 design)	25 years
EU Trade Mark registration (EUIPO)	850 EUR (1 class)	10 years (renewable)
European Patent application (EPO)	1,500-15,000+ EUR	20 years

How verification works

Anyone can verify your proof, at any time, for free — including courts, lawyers, and opposing parties in any EU Member State:

- Calculate the SHA-256 hash of your original file using the verification tool at etchproof.eu.
- Look up the transaction on Etherscan.io — the public Ethereum blockchain explorer.
- Confirm that the hash in the blockchain matches your file's hash exactly.

For a multi-file bundle, each file can be verified individually using its own hash. The session hash (anchored on the blockchain) corresponds to the hash of the manifest listing all files.

Even if the Etch service were to cease operations, your proof remains permanently verifiable on the Ethereum blockchain — maintained by thousands of independent nodes worldwide, with no dependence on any company, government, or hardware.

Questions? contact@etchproof.eu | Verification: etchproof.eu/verify