SWEAR™

SWEAR Authenticity Platform

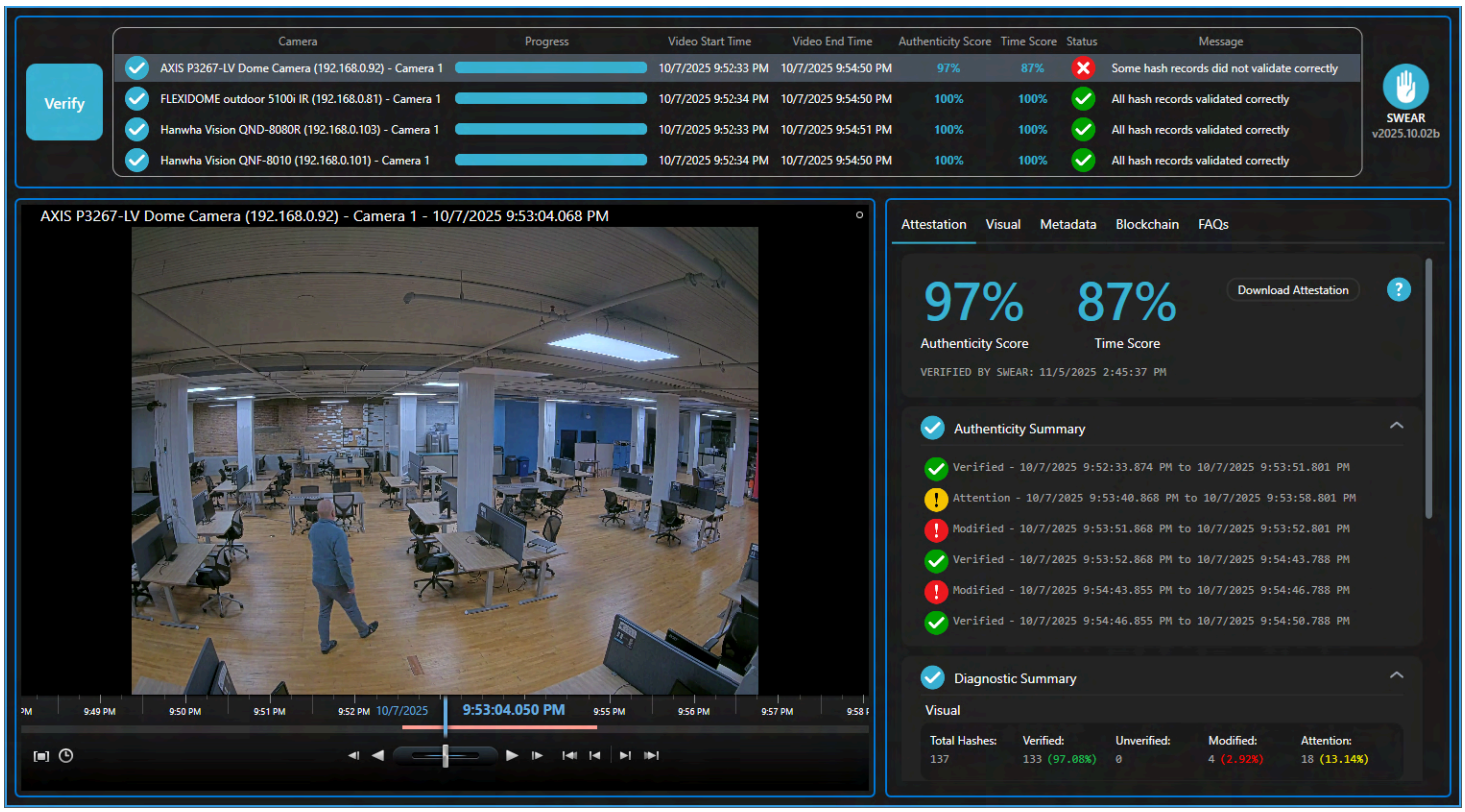
Creating AI-Resistant Recordings with Digital DNA Mapping and Blockchain

WHITE PAPER

Abstract

The SWEAR Authenticity Platform delivers real time security of digital video assets with our patented “Digital DNA Mapping” solutions. SWEAR creates AI-resistant videos by establishing an independent chain-of-custody that maps cryptographic fingerprints during recording and simultaneously protects the fingerprints with a blockchain network.

Every pixel and every sound bite is permanently protected – frame-by-frame and second-by-second – in real time.



Problem Statement: A Global Crisis of Trust

Seeing is no longer believing. AI-generated deepfakes and synthetic content are eroding confidence in digital assets, undermining the credibility of journalism, courts, law enforcement, corporate security, and public discourse. When anyone can create convincing fake videos or audio, every piece of digital evidence becomes suspect.

Without provable authenticity, even genuine content can be weaponized or dismissed. The world needs more than forensic detection after-the-fact — it needs proof of truth at the moment of creation. SWEAR answers that call.

The SWEAR Approach: Locking In Authenticity at Capture

The SWEAR Authenticity Platform flips the deepfake problem on its head. Rather than trying to identify which content is fake after it's already circulating, SWEAR ensures that digital content is born authentic — with an unbreakable independent chain of trust from the moment it is captured, during recording, until it is reviewed.

Certification: Digital DNA Mapping

As digital content is captured — whether video, audio, or metadata — the SWEAR Authenticity Platform generates cryptographic fingerprints (hashes) for every frame, pixel, audio sample, and data channel. This process occurs entirely within the customer's environment, ensuring that no private content, device identifiers, or user data ever leave the system. Privacy is maintained. Only the Digital DNA is preserved with cryptographic fingerprints — mathematically derived hashes that cannot be reverse-engineered.

Patents: #10,560,261; #10,853,456; #11,669,598; #11,683,180; #11,755,693; #11,886,544

Protection: Immutable and Independent Chain-of-Custody

SWEAR anchors the Digital DNA fingerprints to an independent ledger that is protected by blockchain — creating an immutable and independent chain-of-custody that records each content fingerprint with timestamps and cryptographic hashes. No personal/private information, device IDs, or client data ever leave the customer's environment. The ledger stores only what is essential for proof: cryptographic fingerprints and temporal anchors.

A distributed blockchain network creates the final audit layer to protect the authenticity of the Digital DNA.

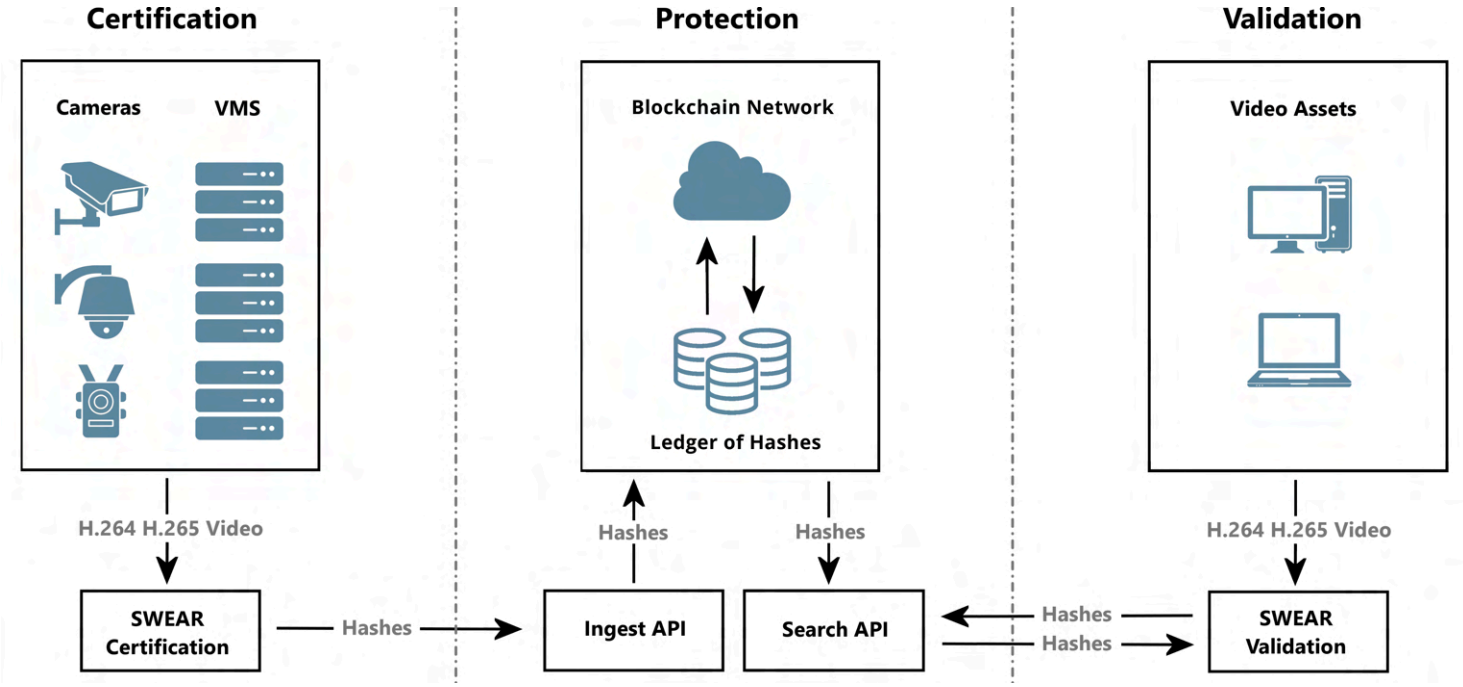
Patents: #10,355,865

Verification: Instant Proof of Authenticity

At any point — moments later or years in the future — the authenticity of SWEAR-certified content can be instantly verified. Our verification engine recalculates the current Digital DNA of a recording and compares it to the original fingerprints protected by blockchain. Even a single altered pixel, frame, or audio sample triggers instant tamper-evidence. This isn't guesswork or probability — it's cryptographically absolute. Investigators, journalists, regulators, or courts can obtain definitive proof: either the content remains authentic or it has been altered, and exactly where.

Patents: #10,348,505; #11,055,384; #11,163,855; #12,278,856

Architecture



Certification (Mapping With Cryptographic Hashes)

The SWEAR Authenticity Platform directly integrates with content capture sources — including security cameras, body cameras, car cameras, smartphones, or any VMS stream. Cryptographic fingerprints are generated via secure hashing algorithms across multiple synchronized channels (visual frames, audio streams, and associated metadata). This multi-channel certification ensures any subsequent manipulation — whether splicing, audio dubbing, or metadata tampering — becomes instantly detectable. SWEAR supports all major media formats, including H.264, H.265, MJPEG, raw video streams, and compressed or uncompressed audio codecs.

Protection (Anchoring With Blockchain)

Following certification, SWEAR anchors the generated Digital DNA into an immutable ledger and then maps the DNA with a blockchain network. All anchored records contain only cryptographic fingerprints, timestamps, and opaque transaction identifiers. Identity management utilizes X.509 certificates while advanced access controls ensure strict permissioned participation. SWEAR's architecture eliminates the risk of forks, retroactive manipulation, or unauthorized ledger tampering.

Validation (Comparing Cryptographic Hashes)

The SWEAR Authenticity Platform enables validation through a dedicated validator engine — available as standalone software or embedded into VMS playback systems. During playback or review, SWEAR re-computes the live content's fingerprints and compares them against the immutable originals protected by blockchain. Even after years of storage or countless copies, the authenticity of content can be proven or challenged within seconds, providing forensic-grade verification to investigators, media outlets, courts, or corporate security teams.

Technical Features of the SWEAR Authenticity Platform

- **Point-of-Creation Integrity**: SWEAR maps authenticity directly at capture and in real-time.
- **Immutable Blockchain Ledger**: Tamper-proof, distributed, and permanent.
- **Pixel-Level Cryptographic Fingerprinting**: Every frame, every channel, and every detail is secured.
- **Zero Identifiable Data Exposure**: Only hashes and timestamps are stored in blockchain — protecting privacy.
- **Deployment Flexibility:** SWEAR-hosted, self-hosted, on-premises, or cloud — full customer control.
- **Real-Time Operation:** Certification and anchoring happen during recording, without interrupting workflows.
- **Seamless Integration:** Compatible with body cameras, smartphones, surveillance networks, and VMS.
- **Scalable:** From individuals to enterprise surveillance systems, SWEAR operates efficiently at any scale.
- **Lightweight:** Minimal impact on infrastructure — less than 1Mb of Digital DNA protects one hour of video.

Primary Application Domains

Security & Surveillance

SWEAR ensures surveillance and operational video assets remain authentic and forensically verifiable.

Law Enforcement & Judiciary

SWEAR creates a secure chain-of-custody for digital evidence that withstands legal challenges.

Media Integrity & Authenticity

SWEAR protects the credibility of reporting and enables the ability to distinguish real footage from forgeries.

Setting the Standard for Authentic Content

SWEAR defines a new global standard for digital truth. We don't chase fakes after the damage is done — we prevent tampering at its root by embedding authenticity at creation. With cryptographic fingerprints, blockchain anchoring, and real-time verification, SWEAR makes content authenticity provable, permanent, and indisputable.

For platform demonstrations, technical integration details, or partnership inquiries, please visit www.swear.com.