

# AI-Restricted Open Standard (AIROS)

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## 1. Executive Summary

The AI-Restricted Open Standard (AIROS) defines a universal, vendor-neutral framework that enables organizations to tag and restrict sensitive data from being ingested or processed by AI systems. Developed under VisionZeroAI, AIROS introduces a verifiable 'AI-Restricted' metadata tag that can be embedded in documents and validated by AI systems or data platforms before ingestion. The framework aims to protect privacy and intellectual property without limiting innovation.

## 2. Background & Problem Statement

With the exponential growth of large language models and AI platforms, the boundary between internal corporate data and public AI ecosystems has blurred. Employees, clients, or vendors may unknowingly upload confidential material into AI systems, resulting in data exposure and compliance violations. Once such data is absorbed into model training or vector stores, it cannot be retrieved or deleted. AIROS provides a structured solution by introducing technical enforceability for data restrictions.

## 3. VisionZeroAI Overview

VisionZeroAI is a cybersecurity innovation company based in South Africa, committed to creating trust-based digital ecosystems. Through initiatives such as AIROS, VisionZeroAI advances the mission of Responsible AI ensuring that privacy, compliance, and ethical boundaries are enforced by technology itself rather than manual policy alone.

## 4. The AI-Restricted Tagging Framework

AIROS operates through a layered tagging and verification architecture:

- Metadata Layer: Adds an 'AI-Restricted' identifier in document metadata (PDF, DOCX, TXT, etc.)
- Policy Layer: Embeds an optional policy reference (e.g., sensitivity level, organizational scope)
- Validation Layer: Uses cryptographic signatures or registry checks to verify authenticity

When implemented within enterprise systems or AI ingestion APIs, the AIROS tag serves as an enforceable signal that the document must not be used for AI training, processing, or storage.

## 5. Verification SDK Overview

VisionZeroAI will provide reference SDKs and REST APIs that allow AI systems, security tools, and developers to integrate AIROS verification into their upload and ingestion pipelines. The SDK can be used to:

- Detect AI-Restricted tags before accepting uploads
- Verify tag integrity via cryptographic keys
- Enforce automated rejection or quarantine actions
- Log compliance events for auditing and traceability

## 6. Governance & Interoperability

AIROS will be maintained as an open, collaborative standard governed by VisionZeroAI. The governance model ensures public transparency, backward compatibility, and shared participation from AI vendors, security solution providers, and academia. Over time, VisionZeroAI aims to establish a decentralized verification registry, allowing independent validation of AI-Restricted signatures using blockchain or digital certificates.

## 7. Public Collaboration & Licensing

AIROS Draft v1.1 is released under the Creative Commons Attribution 4.0 International License (CC BY 4.0). This license allows anyone to share, adapt, and implement the standard, provided appropriate credit is given to VisionZeroAI. Software SDKs and related tools may later be dual-licensed under MIT or commercial models to support broader integration.

GitHub Repository: <https://github.com/VisionAIROS/AIROS>

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## 8. Future Roadmap

- AI vendor collaboration program (2025)
- Open SDK and API development
- Decentralized tag verification registry
- Integration with enterprise DLP and CASB systems
- AIROS v2.0 - compliance reporting and tag analytics

## 9. Contact & Contribution

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