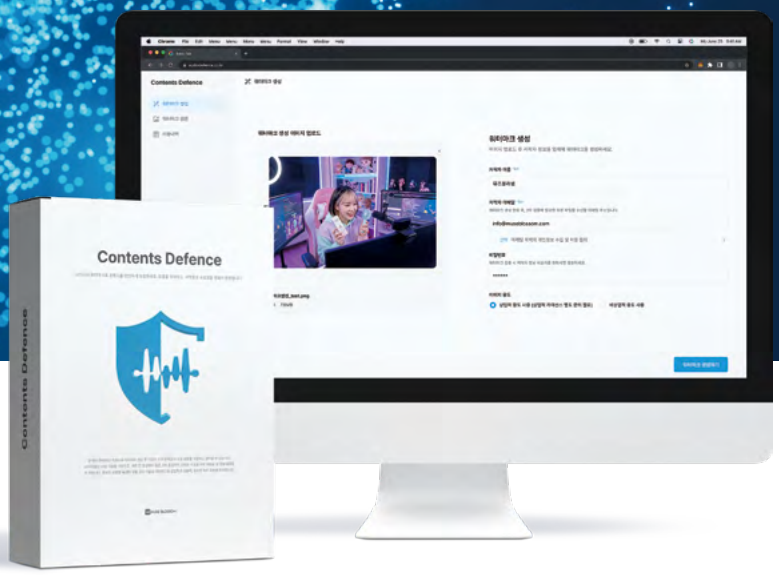
CONTENTS DEFENCE

Digital Watermark Solution

AI-powered inaudible and invisible digital watermarking
Integrated protection for audio, images, video, and documents



MUSE BLOSSOM

www.museblossom.com

Digital Watermark Solution

CONTENTS DEFENCE

Muse Blossom's **Content Defence** is an **AI-powered digital watermarking solution** that delivers inaudible and invisible protection across audio, images, video, and documents.

Why watermarking?

Problem

Screen recording, screenshots, re-encoding, and copying create leakage paths that conventional DRM cannot prevent.

» **Even when a leak occurs, there is no fundamental solution unless you can identify who leaked it, when, and through what route.**

Challenges

By embedding an invisible watermark directly into the content, the source can be traced through virtually any conversion.

» **Detection + deterrence + legal evidence: that is the value of watermarking.**

Four specialized products, one platform

The Content Defence suite integrates and protects all media types

Detection | Deterrence | Legal evidence

Audio Defence

Inaudible watermark

+ Music, podcasts, call recordings, etc.
+ Survives speaker re-recording
+ Tracks illegal music distribution

MP3 | WAV | AAC

Image Defence

4-layer invisible watermark

+ Photos, webtoons, designs, drawings, etc.
+ Detected even in printed photographs
+ C2PA international standard signing

JPEG | PNG | WebP

Video Defence

Frame-by-frame invisible watermark

+ Movies, dramas, lectures, CCTV
+ Detectable even after re-encoding
+ Real-time, batch, and CCTV integration

MP4 | MKV | WebM

Text Defence

Invisible document watermark

+ Exam papers, textbooks, confidential documents, etc.
+ Detectable in printed captures and screenshots
+ Forgery prevention + leak identification

PDF | DOCX | HWP

Patented technology specialized for content protection

Developed in-house from embedding to detection, with no reliance on external libraries

Visually/Audibly indistinguishable

Virtually indistinguishable from the original

C2PA international standards

Authenticity certification and tamper detection based on ISO/IEC international standards

REST API integration

Easily integrates with existing CMS, DAM, MAM, and LMS platforms via API. No separate program installation required

Flexible deployment options

Available as cloud SaaS, on-premises, or hybrid

AUDIO DEFENCE

Audio Security Solutions

Why **Audio Defence**?

Tier-3 watermarking engine

Powered by Muse Blossom's patented technology, it achieves a detection rate of over 99% even after re-encoding, recording, and clip editing.

Audibly indistinguishable from the original

Even when the original and the watermarked audio are played side by side, they sound indistinguishable, with no loss in audio quality.

Easy integration

Seamlessly integrates with existing systems via REST API. Cloud-based, with no additional hardware required.

Target Institutions

- **Audiobook and e-book platforms**: bestselling audiobook titles and tracking leaks of narrator- or author-recorded content
- **Music and streaming services**: pre-release tracks and monitoring unauthorized distribution of review copies
- **Podcasts and broadcasters**: paid episodes and preventing unauthorized distribution of archived audio content
- **Educational and testing institutions**: paid lecture recordings, language test audio, and tracking leaks of CBT audio content
- **Enterprises and public organizations**: video conference recordings, internal briefing audio, and tracking leaks of confidential calls
- **Film and drama producers**: dubbing files, pre-release OST tracks, and tracking leaks of screener audio
- **Entertainment and record companies**: unreleased songs, demo tracks, and artist recordings

Detailed Features

Tier-3 inaudible watermarking

Three protective layers are embedded simultaneously within a single audio file, forming a cross-validation structure that helps compensate for partial damage.

Re-encoding and recording resistance

The watermark remains detectable after MP3 re-encoding, speaker playback recording, and DAC/ADC conversion.

Clip and edit resistance

It remains detectable even when only part of the original file is used or when the beginning or end is edited.

Leak tracking

Identify the leak path by extracting the serial number, insertion date and time, and target information from the detected watermark.

C2PA international standard signing

Authenticity certification based on ISO/IEC international standards enables immediate verification of forgery or tampering.

API integration

Easily integrates with existing CMS, DAM, LMS, and audio management systems via REST API, with no separate program installation required.

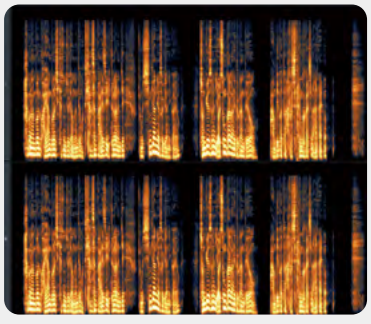
Technical specifications

Watermark	Detectable even after re-encoding and recording	**Protection layer**	Layer 3 (C2PA + frequency domain + fingerprint) cross-validation
Format of support	WAV, MP3, FLAC, AAC, OGG	**Resistance**	Re-encoding, clip editing, formatting, speaker recording, volume control
Content adaptation	automatic music (strong/weak) and voice classification, and optimal insertion strength for each genre	**Certification Standards**	C2PA (ISO/IEC)
Deployment Method	Cloud SaaS / On-premises / Hybrid	**Interworking API**	Provide RESTful API and link existing CMS/DAM/LMS

No Audible Difference

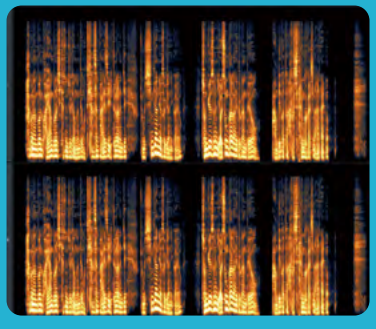
No Loss in Audio Quality

Re-encoding · Clip editing · Format conversion · Speaker re-recording · Volume adjustment



Original Audio

No watermark



Layer 3 watermark inserted complete

Listen Same, Full Protection

IMAGE DEFENCE

Image Security Solutions

Why **Image Defence**?

Tier-4 watermarking engine

Powered by Muse Blossom's patented technology, it achieves a detection rate of over 99% even after printing, screenshots, and format conversion.

Virtually indistinguishable from the original

Even when placed side by side, the original and the watermarked image are visually indistinguishable, with no loss in quality.

Easy integration

Seamlessly integrates with existing systems via REST API. Cloud-based, with no additional hardware required.

Target Institutions

- Art museums and galleries
- Photo and video agencies
- Webtoon and web novel platforms
- Press and publishing companies
- Enterprises and public organizations
- Educational institutions and testing organizations
- E-commerce businesses and brands

No Visible Difference

No Loss in Image Quality

» Rotation · Compression · Format conversion · Crop · Screenshot



Original Image
No watermark



Layer 4 watermark inserted complete
Same appearance, full protection

VIDEO DEFENCE

Video Security Solutions

Why **Video Defence**?

Frame-by-frame watermarking engine

Powered by Muse Blossom's patented technology, it achieves a detection rate of over 99% even after re-encoding, screen recording, and editing.

Virtually indistinguishable from the original

Even when the original and the watermarked video are played side by side, they are visually indistinguishable, with no loss in quality.

Easy integration

Seamlessly integrates with existing systems via REST API. Cloud-based, with no additional hardware required.

Target Institutions

- OTT and streaming platforms
- Film and drama production companies
- Broadcasters and news media
- Corporate training and video conferencing
- Online learning platforms
- Advertising and marketing videos
- CCTV and security systems

No Visible Difference

No Loss in Image Quality

» Re-encoding · Resolution change · Clipping · Screen recording · Transcoding · Uploading SNS



Original Video
No watermark



Watermark Inserted Done
Same appearance, full protection

SecurXam

Text & Document Security Solutions

Why **SecurXam**?

Proprietary watermarking engine
with over 99% detection from printed captures

End-to-end protection
across creation, encryption, distribution, printing, and monitoring

Easy integration
Cloud-based deployment in as little as two weeks, with no additional hardware required

Target Institutions

- + Universities and graduate schools
- + National qualification and certification bodies
- + Enterprises and public institutions
- + Academies and educational service providers

Detailed Features

Invisible watermark
Invisible watermarking that survives printing, scanning, and copying

Monitor access history
Access history monitoring and automatic audit reports

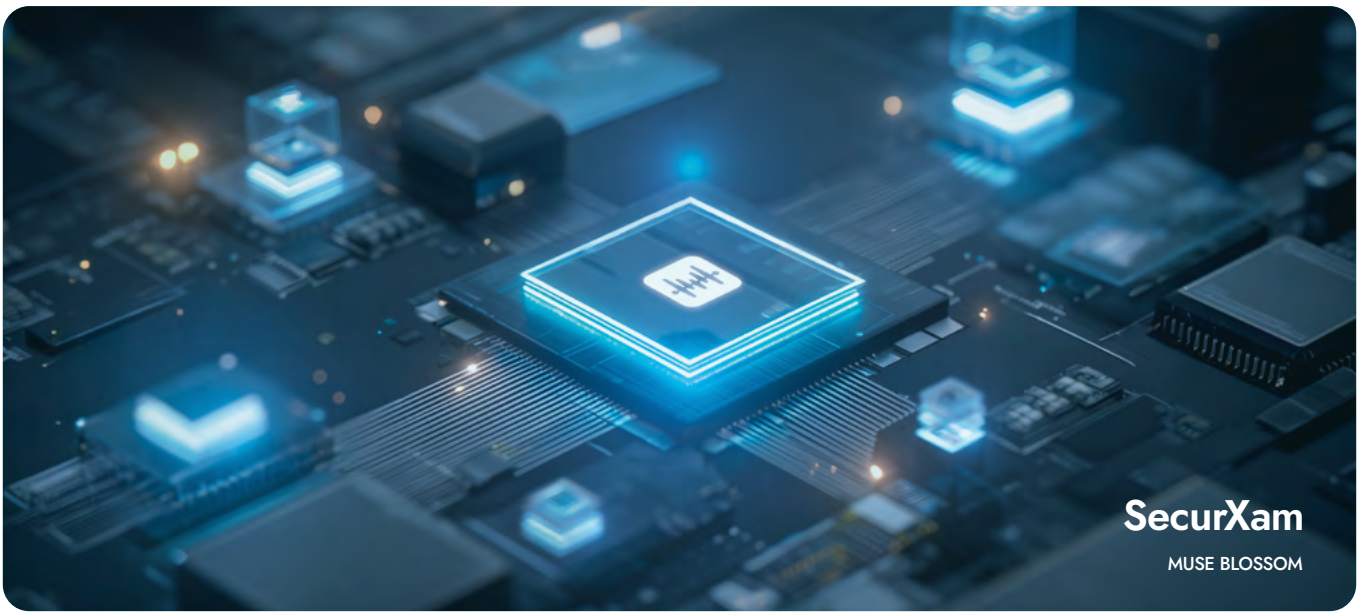
Managing Output Policies
Output policy management and emergency remote blocking

Immediate notification
Real-time alerts for unauthorized access or policy violations

Administrator Dashboard
Administrator dashboard for security overview, risk analysis, and statistics

Technical specifications

Encryption	AES-256-GCM (File) + TLS1.3 (Transfer) + At-rest Encryption(save)	**Watermark**	AI-based invisible watermark-printing/ scanning/after shooting Detectable
Format of support	PDF, Docx, Hwp, Image (JPG/PNG/TIFF)	**Authentication method**	SSO, Oauth 2.0, 2FA (SMS/TOTP), IP Whitelist
Deployment	Cloud SaaS/On-premises/Hybrid	**Provision of Management API**	RESTful API - Existing LMS/ ERP interworking is possible



Muse Blossom **Technology** Patents & Certifications











15 patent filings
and registrations
in Korea and abroad

2 registered trademarks
and 1 trademark application

GS(Good Software)
Grade 1 certification

Technical advisory contributor to the TTA AI Watermark Technology Trend Report

Collaboration with the Korea Copyright Protection Agency

Over 20 government-supported R&D projects since 2021, in collaboration with the Ministry of SMEs and Startups and the Ministry of Culture, Sports and Tourism

We are looking for webtoon, music, and short-form content producers and distributors to join PoC trials for Muse Blossom's Content Defence solution.

Try Muse Blossom's Stealth Watermark

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EMAIL ▸ info@museblossom.com