

Defending Against Deepfake Fraud in Brazil's Banking Sector

As deepfake technology becomes more accessible and sophisticated, financial institutions are confronting a new wave of fraud that traditional identity verification methods cannot stop.

This case study highlights how a leading bank in Brazil strengthened its fraud defenses using Aware Intelligent Liveness™, evolving beyond basic detection to a multi-layered approach that verifies real user presence while identifying deepfake-driven presentation, injection, and replay attacks in real time.

The Challenge:

A New Generation of Fraud

The bank faced a surge in advanced fraud targeting its digital enrollment and authentication channels. Unlike traditional spoofing attempts, these attacks leveraged highly realistic synthetic media and injection techniques capable of bypassing legacy liveness systems.

Key challenges included:

- » **Deepfake identities at enrollment** enabling fraudsters to create and validate synthetic users
- » **Morphing attacks during authentication** leading to impersonation and account takeover
- » **Injection attacks** where manipulated or pre-recorded media bypassed the device camera entirely

These threats reflect broader industry trends. Deepfake-related fraud is growing rapidly, with financial institutions among the most targeted sectors. Synthetic identity fraud alone accounts for billions in annual global losses, while increasingly accessible tools allow attackers to scale with minimal cost.

The bank recognized that existing controls, largely focused on detecting visual anomalies,

were no longer sufficient. A new approach was required: one that could both verify real presence and detect sophisticated deepfake attacks in real time.

The Solution:

Advancing Liveness Detection for Real-Time Deepfake Defense

To address these challenges, the bank implemented Aware Intelligent Liveness™, introducing a multi-layered approach to identity verification.

This solution moves beyond traditional liveness detection by:

- » **Verifying real user presence at capture**
- » **Detecting and classifying deepfake-driven attacks in real time**
- » **Analyzing proprietary optical signals within each image**

The system identifies:

- **Presentation attacks** (e.g., screens, masks, printed images)
- **Injection attacks** (e.g., deepfake streams, synthetic media insertion, replay attacks)

Critically, the solution not only detects fraud but also classifies the type of attack, enabling more precise mitigation strategies and stronger fraud intelligence.

The Results:

Measurable Impact and Stronger Security

Following deployment, the bank achieved significant improvements:

- » **Substantial reduction in successful deepfake and injection attacks**, closing a critical vulnerability
- » **Higher detection accuracy** against sophisticated synthetic media
- » **Real-time attack classification**, accelerating response and investigation
- » **Reduced manual review workload**, lowering operational costs
- » **Seamless user experience**, with sub-second capture times and no added friction

By enhancing liveness detection to both verify presence and detect deepfake attacks, the bank strengthened security without compromising customer experience.

Conclusion:

Redefining Liveness in the Age of Deepfakes

This case illustrates a critical shift in identity verification. As deepfake and injection attacks evolve, organizations must move beyond traditional detection models and adopt technologies that actively identify and stop advanced threats.

Aware Intelligent Liveness™ enables financial institutions to:

- » **Prevent fraud at the earliest point of entry**
- » **Deliver secure, frictionless digital experiences**
- » **Strengthen compliance and risk management**
- » **Build long-term trust in an increasingly digital world**

In an environment where synthetic media is becoming indistinguishable from reality, modern liveness detection must do more than confirm presence—it must detect and stop deepfake-driven attacks in real time.

AWARE

HEADQUARTERS:

76 Blanchard Road
Burlington, MA 01803
Website: www.aware.com
Phone: +1 781.687.0300

See how Intelligent Liveness can help your organization fight fraud.

[Schedule a demo.](#)