

authentix.com

**Authentix**<sup>®</sup>  
The Authority in Authentication



**JEWEL**<sup>™</sup>

**Cash Confidence with JEWEL -  
Every Note Counts**



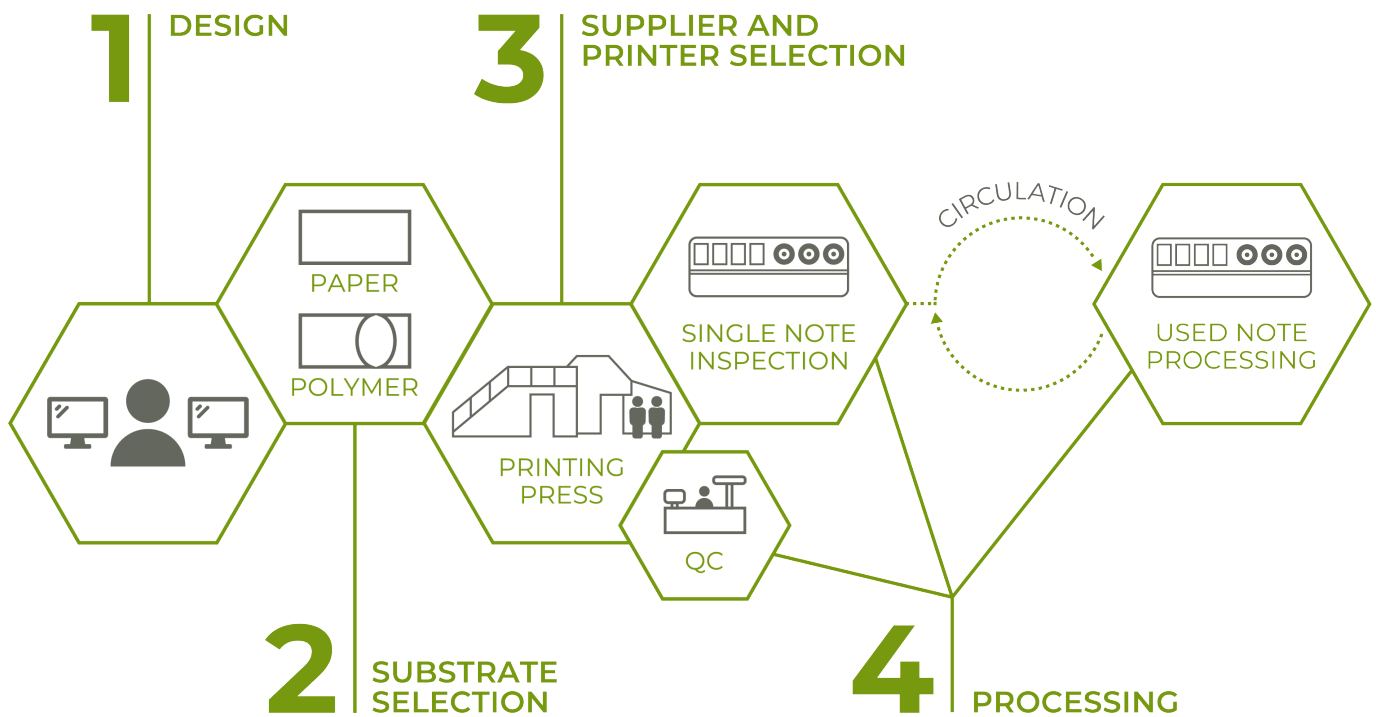
**Covert banknote security** features are the trusted last line of defense for central banks to accurately detect counterfeit banknotes on high-speed sorters. In a world where cash handling must be fast, accurate and secure, high-speed sensors and Level 3 banknote solutions have become essential - they are now the backbone of modern currency validation.

Authentix JEWEL™ is a proven Level 3 currency authentication feature designed exclusively for central bank use. This comprehensive solution includes specialized taggant materials, expert design services, high-speed sensors for inspecting used and newly printed banknotes, and both online and offline QC sensors to support the incorporation of the feature into the banknote. It delivers highly secure, machine-readable authentication that remains effective throughout the entire lifecycle of a banknote - from new issue through heavy circulation to final destruction. Deployed on billions of banknotes across multiple substrates and featured in over **47** banknote denominations in circulation, JEWEL is trusted globally to deliver confidence in cash.



## WHY IS JEWEL™ THE MOST FLEXIBLE COVERT BANKNOTE SECURITY SOLUTION?

JEWEL stands out for its versatility. It can be integrated into paper, polymer, or composite substrates and applied using various security printing processes. The JEWEL sensor is compatible with all high-speed banknote sorters, and our design team works flexibly to assist with feature implementation, QC sensor selection, and sensor integration. This is one of the only solutions in the currency industry that allows you to maintain complete control over the design, substrate selection, printing and processing equipment for your banknotes.




Authentix JEWEL™ 4D Flexibility




This flexibility allows central banks to strengthen banknote security without disrupting production or cash processing operations.

- Flexibility in banknote design, can be included in the substrate, printed inks, and overprint varnish
- Flexibility in substrate selection
- Keeps a Central Bank from being “locked in” to a single supplier by the selection of the Level 3 feature
- Processing flexibility QC and high-speed processing


Exclusive or region-specific signatures can be provided to ensure clear differentiation between neighbouring or related currencies. Supporting:



**Flexible introduction during a new series launch or as an upgrade to an existing series**



**Strategies to add a Level 3 feature mid series**



**Seamless, flexible migration strategies aligned with each central bank’s roadmap**

## THE RISE OF LEVEL 3 COVERT BANKNOTE SECURITY

While Level 1 and Level 2 features play a crucial role in public and machine-assisted authentication, Level 3 covert banknote security solutions are reserved exclusively for issuing authorities. They are:

- Undisclosed and confidential.
- Detectable only using specialised central bank equipment.
- Designed to protect currency against the most sophisticated attacks.

The challenge with modern banknote authentication is that counterfeiters have become more sophisticated with the rise of AI, international networks and access to legacy security technologies. While public features like watermarks and OVDs help everyday users, the last line of defense lies in covert, machine-readable elements. Currently, more than 100 global central banks include at least one Level 3 security element designed specifically for sensor-based authentication.



## WHY SHOULD CENTRAL BANKS CHOOSE THE JEWEL™ COVERT SECURITY PLATFORM?

By incorporating JEWEL as a Level 3 currency authentication feature, central banks gain increased resilience against organised and state-level counterfeiting. Long-term security remains robust even as lower-level features become known or compromised, ensuring greater cash confidence in the integrity of currency recirculation. Authentix JEWEL sensors are engineered to detect the most advanced covert features with exceptional accuracy. They integrate seamlessly into high and mid speed sorting machines, offering rapid detection of Level 3 taggants, high-resolution spectral analysis and real-time authentication at industrial speeds.

Central banks understand that security extends beyond the banknote itself. This is why JEWEL is supplied through a controlled and secure supply chain, with:

- All Jewel materials are produced within the secure Authentix facilities without the reliance on external taggant manufacturers
- Fully auditable production
- Controlled distribution aligned with central bank requirements

**JEWEL does not alter the mechanical strength, opacity, color, or other detectable properties of the substrate. In addition, Jewel does not change substrate printability nor create a milky appearance when added to a clear ink or varnish system. It can be provided to central banks as a dry powder, dispersion compatible with the ink or varnish of interest, or as a finished ink.**



## WHAT SETS JEWEL APART FROM EXISTING LEVEL 3 COVERT BANKNOTE SOLUTIONS

- JEWEL can be added via a wide variety of production steps (multiple inks, multiple substrate types). Its ability to be added at any stage (ink, varnish, substrate,) gives it an edge for retrofitting existing series.
- In addition to reliably determine the authenticity of the note, the intelligence of the JEWEL sensor can also determine the quality of the feature and detect the presence of “Frankenstein” counterfeits.
- JEWEL is part of a highly secure supply chain which does not use external partners for taggant production.

DECISION FACTOR	CENTRAL BANKS REQUIREMENTS	JEWEL
Security Strength	Covert, exclusive, sensor-based detection	Proprietary sensors
Integration	Compatible with note production process and other features ; does not impact the aesthetic design of the note	Most flexible, fully integrated solution: ink, varnish, inside substrate
Durability	Survives full note lifetime	Extremely robust, best-in-class durability, can even be detected in ash
Processing Efficiency	Low false rejects; high-speed compatibility	Ease of implementation of high speed sensors and QC devices
Innovation Pipeline	Ongoing R&D and updates	Continuous R&D upgrades with customization and sensor development
Vendor Partnership	Customization and secure supply chain	The only solution designed for multi-vendor ecosystems. Enables dis-aggregation. Multiple certified partners can incorporate JEWEL

Developed and produced in our secure U.S. facility, our proprietary materials offer the highest level of banknote authenticity assurance. With JEWEL, institutions ensure 'every note counts' and can be reliably authenticated. It serves as dependable risk insurance by ensuring no counterfeits are destroyed unnoticed and no fakes can leave the central bank. Integrated invisibly into the note, JEWEL provides central banks with a confidential last line of defence against advanced counterfeiting, including altered and composite notes, while remaining fully compatible with high-speed cash processing environments.

**Contact Authentix** today to learn how JEWEL can elevate your covert banknote security strategy or learn about our **currency portfolio**.



North America | Europe | Middle East | Africa | Asia

# The Most **Reliable** Banknote **Security** in the Industry

