

AUTHENTIX

Animating Security:
The next evolution in QUANTUM™ stripe



FACT SHEET

- Introducing real animation in a security feature: QUANTUM Stripe now enables full frame by frame animation, bringing smooth, dynamic movement to overt security features.
- Blending Art and Authentication: This breakthrough allows designers to integrate visual storytelling and temporal effects - like pulsing, switching, and rotation - into secure features, enhancing both user interaction and authentication.
- Raising the Bar for Counterfeit Deterrence: The technical complexity required to replicate animated features, especially with smooth, direction-sensitive transitions makes duplication significantly more difficult for counterfeiters.
- "Time in Motion" Design: A new time-themed concept, Time in Motion, showcases elements like watch cogs, moving hourglasses, and flowing sand demonstrating the potential for movement based authentication cues.
- A Platform for Future Innovation: This advancement opens the door to future capabilities, enhanced interactivity, increased design flexibility and higher security.

ANIMATING SECURITY: THE NEXT EVOLUTION OF QUANTUM STRIPE

The world of security features has long walked the line between science and art. As banknote designers and security technologists, we aim not just to protect, but to captivate. Creating features that communicate trust, deter counterfeiting, and elevate the user experience. With the latest evolution of QUANTUM stripe from our Nano Optics platform, we are proud to unveil a powerful new capability that deepens that blend with full animation.

This is not metaphor or marketing flourish. We are now able to deliver real 2D animation within a secure, nano-scale overt feature with numerous frames per sequence, unlocking a new visual vocabulary for authentication. This innovation expands the creative possibilities for banknote design and security, introducing effects never before seen in this context; pulsing, image transitions, disappearance and reappearance, and rotational imagery. Think of cogs turning in a watch. Flames flickering. An hourglass slowly filling. Time made visible, and movement made secure.

We call this concept Time in Motion - a new demonstration design that captures the potential of dynamic overt features through the universal and evocative theme of time.

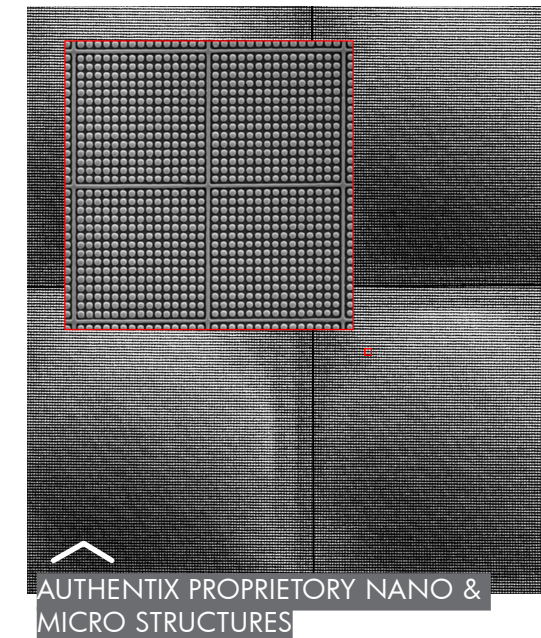


THE ARTISTRY OF ANIMATION IN BANKNOTE DESIGN

Animation, at its heart, is storytelling through movement. It's a form of magic, the illusion of life brought to static images. In traditional media, it's a creative craft honed over decades by artists who understand timing, pacing, and emotional resonance. In the world of security features however, animation has largely remained elusive - confined to low-frame optical tricks or coarse lenticular effects with limited flexibility.

What we have developed with QUANTUM stripe is something altogether different. Our ability to create numerous frame animations opens the door to detailed motion effects at an entirely new scale. The result is smooth, fluid movement that mirrors the richness of traditional animation, but rendered with nanoscale precision in an overt security feature.

With this breakthrough, we can now integrate smooth frame by frame animations into our designs. A sun can rise and set. A lock can open. A symbol of national pride can come alive. These animations aren't just decorative; they serve a core authentication purpose. By giving end users something intuitive and unmistakable to look for, we make authentication easier and faster, while increasing the barrier to counterfeit replication.



watches, cogs and hourglasses: each animated to create an intuitive, memorable interaction. A user can tilt the note and watch symbols of time shift in fluid harmony, reinforcing the ideas of movement, trust, and precision.

This design is not only visually arresting, it also reflects the layered purpose of modern banknote security: to blend beauty with deterrence, to inspire confidence while foiling counterfeiters.

RAISING THE BAR FOR REPLICATION

Security features are only as strong as the difficulty of replicating them. Animation adds a new dimension to that challenge. Where traditional overt elements can be mimicked with static approximations or even digital print tricks, dynamic sequences demand exactitude not just in shape and color, but in frame order, consistency of movement, and directional responsiveness.

Attempting to counterfeit a feature with multiple frame animation introduces a new class of difficulty. Every frame must align. Every transition must be seamless. Every optical pathway must support the intended viewing experience. This is no trivial feat. And critically, the visual payoff - when executed correctly - is unmistakable. Movement is something the eye instantly detects and the brain remembers. That makes animation not just engaging, but secure.

Furthermore, dynamic features open up additional layers of functionality. We can create effects that appear only when tilted in a specific direction, or that reveal different content depending on viewing angle - enabling more complex authentication cues for the end user.

DESIGNING WITH FLOW

What makes QUANTUM stripe uniquely suited to this evolution is its structure. Built upon a plasmonic nano-optic platform, it uses structural color; inspired by the phenomenon seen in nature like the Blue Morpho Butterfly to generate vivid hues without pigments or dyes. This gives us remarkable control over form, color, and now sequenced movement.

The addition of animated effects transforms QUANTUM stripe into a platform rich with dimension and rhythm. Our design team is now not only creating features with multiple color hide and reveal, depth, and high resolution imagery but also sequencing them in time. Like animators, we work with storyboards, timing sheets, and frame-by-frame refinements - only our canvas is a microscopic landscape, and our tools are informed by optics, physics, and fabrication engineering.

To demonstrate the potential of this evolution, we're introducing a concept piece titled Time in Motion. It brings together iconic imagery of

THE BEAUTY OF FLOW, THE POWER OF PRECISION

The introduction of animation marks a pivotal moment for the QUANTUM Stripe platform. As the technology evolves, even greater levels of sophistication, interactivity, and design freedom are on the horizon. This next chapter cements QUANTUM Stripe's position at the pinnacle of innovation in the security feature industry.

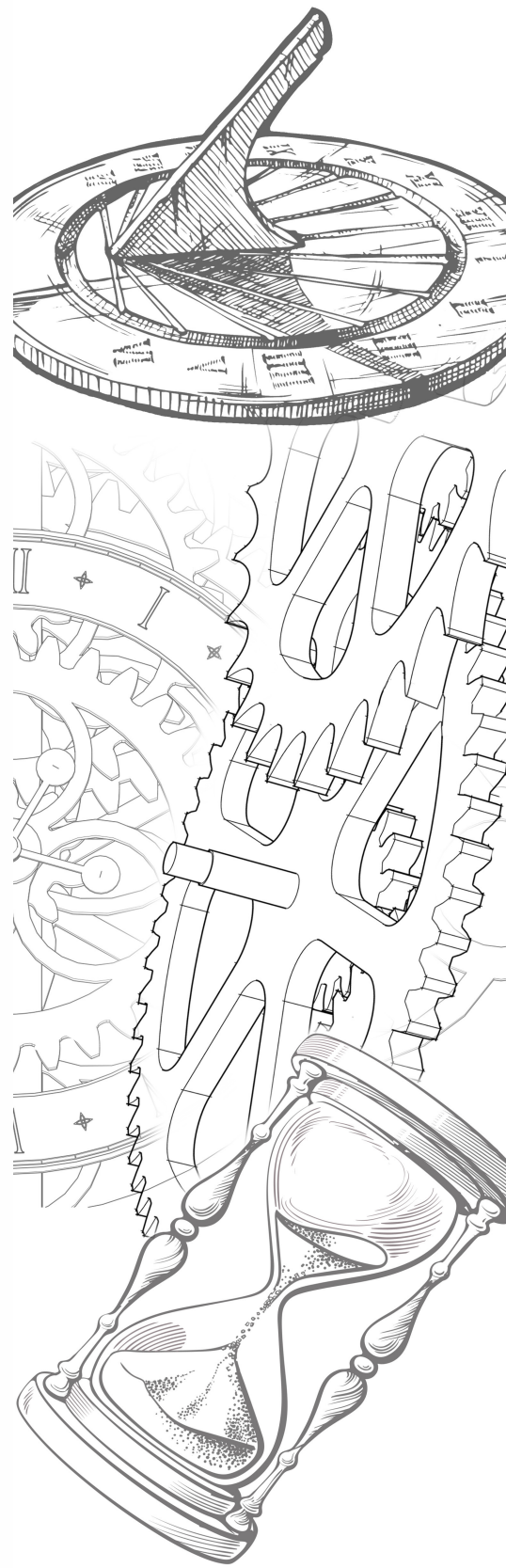
Looking ahead, we see a future of greater customization, where animations are tailored to individual issuers, drawing on cultural and national themes to create deeper resonance. Combined with our proven scalability and manufacturing readiness, QUANTUM Stripe is not just a breakthrough, but a practical, deployable solution for central banks worldwide.

This leap into animation represents more than a technological milestone. It marks a shift in how we think about design: recognizing that movement carries meaning, that artistry can amplify security, and that the best features don't just protect...they inspire.

With Time in Motion, we offer a glimpse of a future where dynamic design becomes a new language for authentication. Where every shift in light and angle tells a story, and where the timeless principles of trust, creativity, and innovation continue to lead us forward.

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NEXT GENERATION CURRENCY OFFERINGS





Nano Optic Overt Security Features



High Speed Sensors and Detectors



Covert and Forensic Security Features



Banknote Design, Print and Currency Services