



**HBPC**

Hungarian Banknote  
Printing Company

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**ONE SCAN  
FULL IDENTITY**

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**CQR TECHNOLOGY** redefines secure identification by embedding full biometric profiles into a high-capacity visual code. By eliminating the need for fragile chips or constant connectivity, it provides a cost-effective, military-grade solution for instant, offline verification in any environment — from modern cities to the most remote regions.



## **YOUR LIMITLESS DIGITAL ID. ANYTIME, ANYWHERE**

The technology's most critical advantage is its total offline functionality, allowing for seamless validation without any reliance on internet connectivity, 5G/Wi-Fi networks, or central database access. Since all encrypted biometric data is stored directly within the code itself, security personnel can perform instant verification using only a standard smartphone in off-grid areas or high-density environments like overloaded stadiums. This infrastructure independence ensures that essential services, such as electronic identification, voting, and emergency medical assistance, remain fully operational in remote regions or crisis zones.

## **PREMIUM SECURITY, ZERO CHIP COST**

The core value proposition lies in chipless biometric identification, which enables the storage and transport of a full-scale profile without the need for expensive and fragile microchips. This elimination of hardware requirements results in exceptional cost-effectiveness, making the technology significantly more affordable and enabling inclusive digital identification even in the world's poorest regions. Furthermore, the system provides software-based security, meaning that protection does not rely on physical components, delivering both high security and cost efficiency without the risk of invisible hardware failure. code while maintaining an optimal balance between data volume and durability.

## **IDENTITY IN FULL COLOR**

The Beyond Grayscale concept enables CQR technology to store full-color facial images within an extremely compact 10×10 mm area. This is achieved through a proprietary compression method that reduces high-resolution image data to under 1000 bytes while preserving essential visual features. As a result, the system provides a highly efficient and compact solution for real-time, color-based identity recognition.

## **STANDARD QR. ABOVE STANDARD SECURITY**

The Future of Secure Identification framework within CQR is built on a multi-layered security architecture combining physical, encryption, protocol, and biometric protection. At the physical level, laser engraving provides strong resistance against tampering, while data security is ensured through AES-256 encryption, with access controlled via KeyStore and a unique ScanKey mechanism. On the protocol level, the system aligns with ICAO standards, incorporating Passive Authentication, BAC, and Chip Authentication v1, alongside MRZ data integration for comprehensive verification. The biometric layer links encrypted data with the portrait, enabling immediate, live-person authentication.

## **HIGH LEVEL DIGITAL DENSITY**

Beyond the portrait, the system offers exceptional data capacity, which enables the storage of over 50 Kbytes of information within a minimal physical footprint. This unprecedented digital density ensures that all necessary identification data is physically embedded in the code while maintaining an optimal balance between data volume and durability.



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