

# White Paper: The Future of Elevator Security – From Card Readers to Multi-Modal Identity

---

## Executive Summary

For decades, the in-car card reader has been the default elevator security device. But as buildings evolve into intelligent platforms, traditional card readers have become outdated, limited, and costly to maintain. Tenants now expect seamless, touchless mobility. Visitors need secure, frictionless journeys. Owners demand ROI and future-proof investments. Consultants seek to specify compliant, long-lasting systems. Integrators want solutions that drive revenue and strengthen client relationships. Card readers fail on all counts.

The **BluBOX In-Car Person Reader** represents a paradigm shift — replacing card readers with an **all-in-one, multi-modal identity platform** that unifies access control, visitor enablement, intercom, video surveillance, ride-quality analytics, and OTA updates in a single device. This paper examines why card readers are obsolete, why multi-modal identity is the new standard, and how Person Readers deliver cost savings, improved security, and enhanced tenant experiences.

---

## 1. The End of the Card Reader Era

Card readers were once a breakthrough, replacing keys with electronic access. But in elevators today, they face four critical limitations:

- **Single-Credential Lock-In:** Prox or mobile cards only; no QR, face, or voice.
- **Visitor Gap:** No secure way to grant floor-restricted visitor access.
- **No Intelligence:** Cannot provide video, intercom, or analytics.
- **Rigid Infrastructure:** New capabilities require hardware swaps.

The result? Buildings spend more on fragmented systems, tenants face friction, and owners invest in technology that depreciates rapidly.

---

## 2. The Rise of Multi-Modal Identity

**Multi-modal identity** allows buildings to accept any form of authentication — adapting to the user, rather than forcing the user to adapt to the system.

Supported credentials include: - Physical and mobile cards (HID, NFC, BLE) - Apple Wallet & Google Wallet - QR codes for visitors - PIN codes - Facial recognition (opt-in) - Voice commands and biometrics

This flexibility solves multiple pain points: - Tenants enjoy seamless, touchless access. - Visitors receive secure, floor-restricted access via QR. - Owners support inclusivity and accessibility with voice. - Systems remain future-ready as new credential types emerge.

---

### 3. In-Car Person Reader: A Five-in-One Platform

The **BluBOX In-Car Person Reader** consolidates multiple systems into one device:

1. **Access & Credentialing** – Multi-modal authentication (cards, QR, face, voice, PIN).
2. **Visitor Enablement** – Secure QR workflows with automatic floor restriction.
3. **Emergency Intercom** – Integrated audio, video, and text communication.
4. **In-Car Surveillance** – Local recording and network streaming.
5. **Ride-Quality Analytics** – Captures performance data for smarter maintenance.

With BluSKY OTA updates, this platform **improves every month** without hardware replacement.

---

### 4. Stakeholder Benefits

#### For Property Owners & Managers

- Lower total cost of ownership (5 devices → 1 device)
- Differentiated tenant experience = higher lease value
- Actionable data for service contracts & liability reduction
- Future-proof investment via OTA updates

#### For Tenants & Residents

- Multiple credential choices: card, phone, QR, face, or voice
- Touchless convenience & inclusive accessibility
- Greater security & peace of mind with video/intercom backup

#### For Consultants

- Future-ready specifications (ADA, compliance, multi-credential)
- Reduced liability by eliminating outdated readers
- Reputation as forward-thinking advisors

#### For Integrators & Technology Partners

- Higher margins and recurring revenue
  - Stronger client relationships through differentiated solutions
  - Faster deployment (fewer devices, cutouts, cable runs)
-

## 5. Cost & ROI Analysis

**Traditional System Per Elevator Cab:** - Card Reader: \$1,000 - Intercom: \$1,500 - Camera + Recorder: \$1,200 - QR/Visitor Solution: \$800 - Voice/Face Terminal: \$2,500 - Installation/Integration: \$1,200 **Total:** ~\$8,200+ per cab

**Person Reader System Per Cab:** - BluBOX Person Reader: One device - Converter/Traveler Networking: \$500 - Installation: \$800 **Total:** ~\$3,000 per cab

**Savings:** 50–60% lower upfront cost + reduced Opex via OTA updates and simplified maintenance.

---

## 6. Future-Proofing with OTA Updates

Unlike static card readers, Person Readers are **software-defined**. Monthly OTA updates via BluSKY deliver: - New credential types and features - Security patches and compliance upgrades - Performance and usability enhancements

This ensures buildings evolve with technology, instead of being left behind by it.

---

## 7. Conclusion

The card reader has reached the end of its useful life in elevators. It cannot meet the demands of modern tenants, visitors, or owners. Multi-modal identity is the new standard, and the **BluBOX In-Car Person Reader** sets the benchmark: consolidating multiple devices, reducing costs, enhancing security, and continuously improving via OTA updates.

**The card reader is dead. The age of multi-modal identity has begun.**

---

*For more information, visit [BluINFO](#) or contact [BluCARE](#) for deployment support.*