rf IDEAS

3 MORE SECURE ALTERNATIVES TO PROX AND iCLASS CARDS

Evolving cyberthreats require advanced credential options

The average data breach costs $4.88 million and takes 11 months to resolve — causing massive reputational and financial damage.[1]

Yet many organizations still rely on outdated proximity (prox) cards and vulnerable iCLASS cards that put their data at risk.
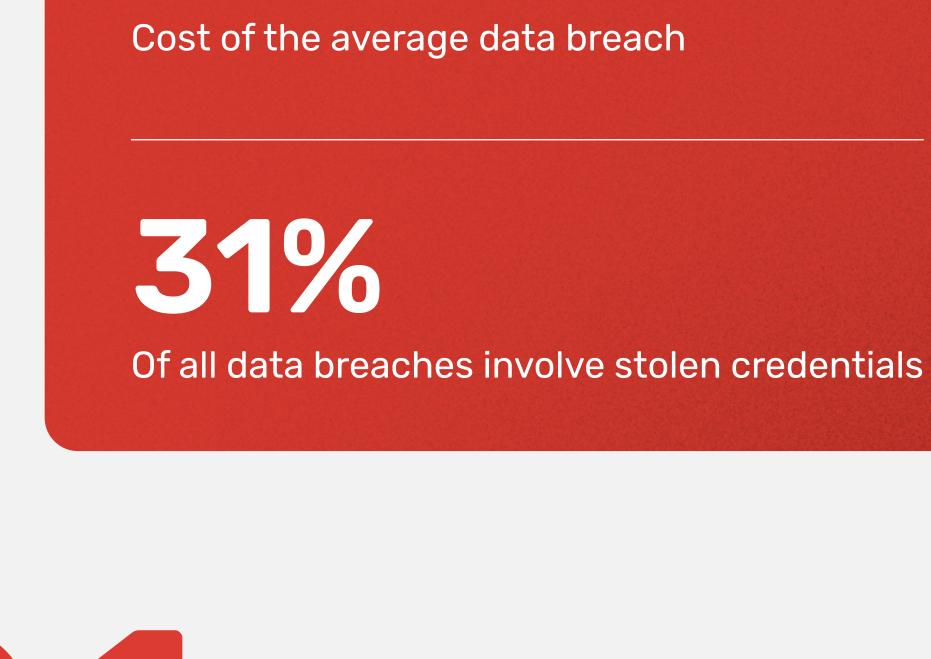
iCLASS credentials' simple encryption makes them relatively easy to clone, downgrade or emulate. Prox cards lack encryption entirely, leaving them even more vulnerable to account takeover (ATO) and other attacks. Credential theft, including attacks on prox cards, remains a significant factor in data breaches. In fact, stolen credentials have

been involved in nearly 31% of all data breaches over the past decade.[2]

You may feel stuck with these legacy credentials due to budgetary constraints. However, delaying an upgrade will only leave your organization more vulnerable. An inevitable data breach costs more than an initial security investment.

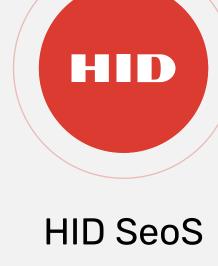Fortunately, there are more sophisticated authentication methods available. Strong encryption and other safeguards make **smart cards, mobile credentials** and **FIDO passkeys** better-suited to combat ATO attacks and keep your users secure.

$4.8M
Cost of the average data breach

31%
Of all data breaches involve stolen credentials

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01 SMART CARDS

HID SeOS | LEGIC Secure | NXP MIFARE | LEAF Universal*

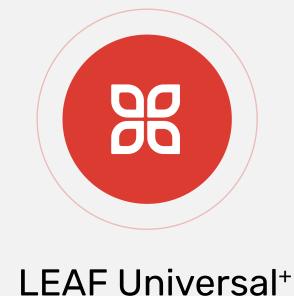### What are they?

Smart cards are encrypted, high-frequency credentials that authenticate users with embedded microchips, similar to contactless credit cards. Advanced security features from providers like LEGIC, HID Global and NXP prevent cloning.

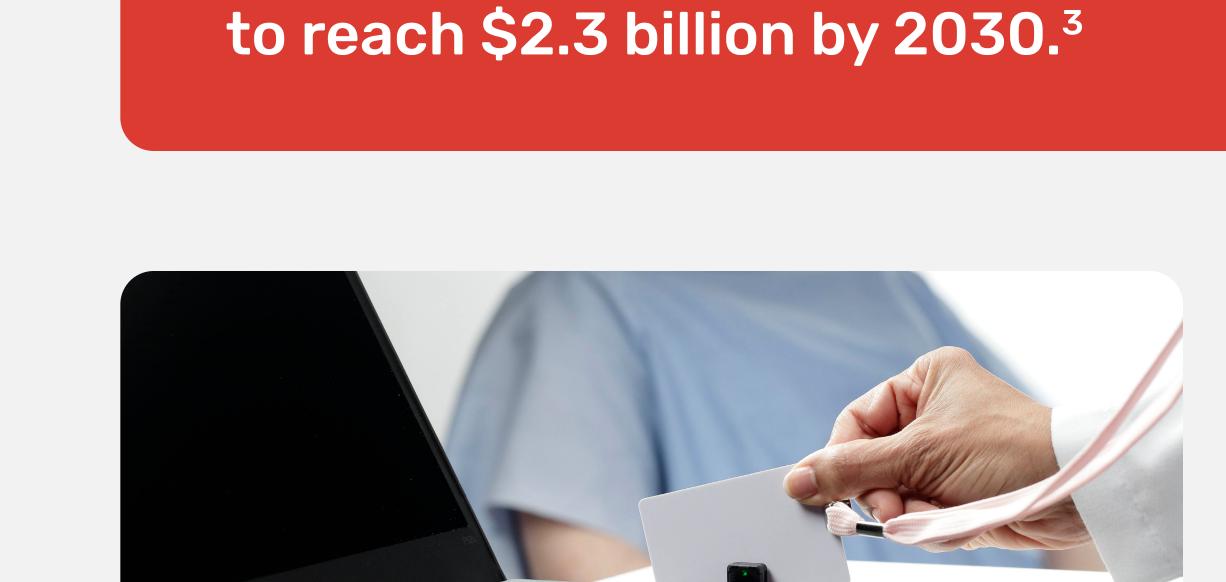### Who are they ideal for?

Smart cards are great for organizations that are transitioning to multi-factor authentication (MFA) or looking to preserve the familiar form factor of a physical badge.
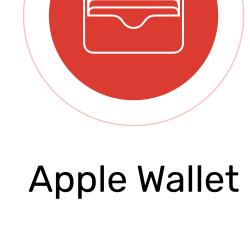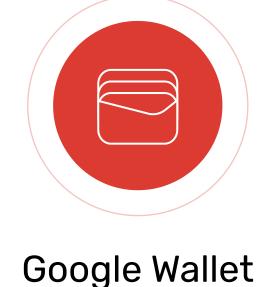
The global market for healthcare smart card readers was valued at $1 billion in 2024 and is projected to reach $2.3 billion by 2030.[3]
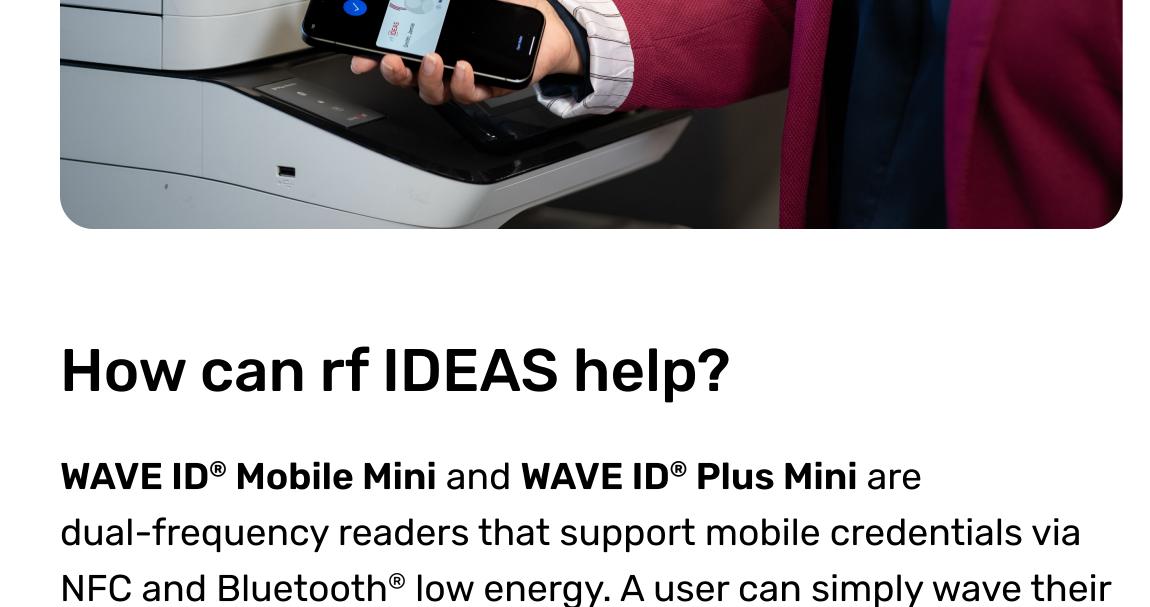
How can rf IDEAS help?

rf IDEAS' **WAVE ID® Plus Mini**, **WAVE ID® Nano** and **WAVE ID® SP Plus** are dual-frequency readers that support a variety of smart card configurations, enabling a phased transition away from prox and iCLASS cards.

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02 MOBILE CREDENTIALS

Apple Wallet | Google Wallet | Samsung Wallet

What are they?

Mobile credentials use digital versions of ID badges stored on smartphones, replacing physical ID cards entirely.

Mobile credentials from providers like Gallagher, CBORD, Transact, Wavelynx and LEGIC are stored in a phone's Apple Wallet, Google Wallet or other NFC-based digital wallet, enabling employees easy access to secure endpoints. Besides reducing the risk of lost cards, smartphones' built-in biometric authentication measures further boost security.

Who are they ideal for?

Digital wallets are a good option for organizations looking to eliminate the burden of printing and managing physical access cards. Instead, IT can grant or revoke access remotely, streamlining onboarding and security processes.
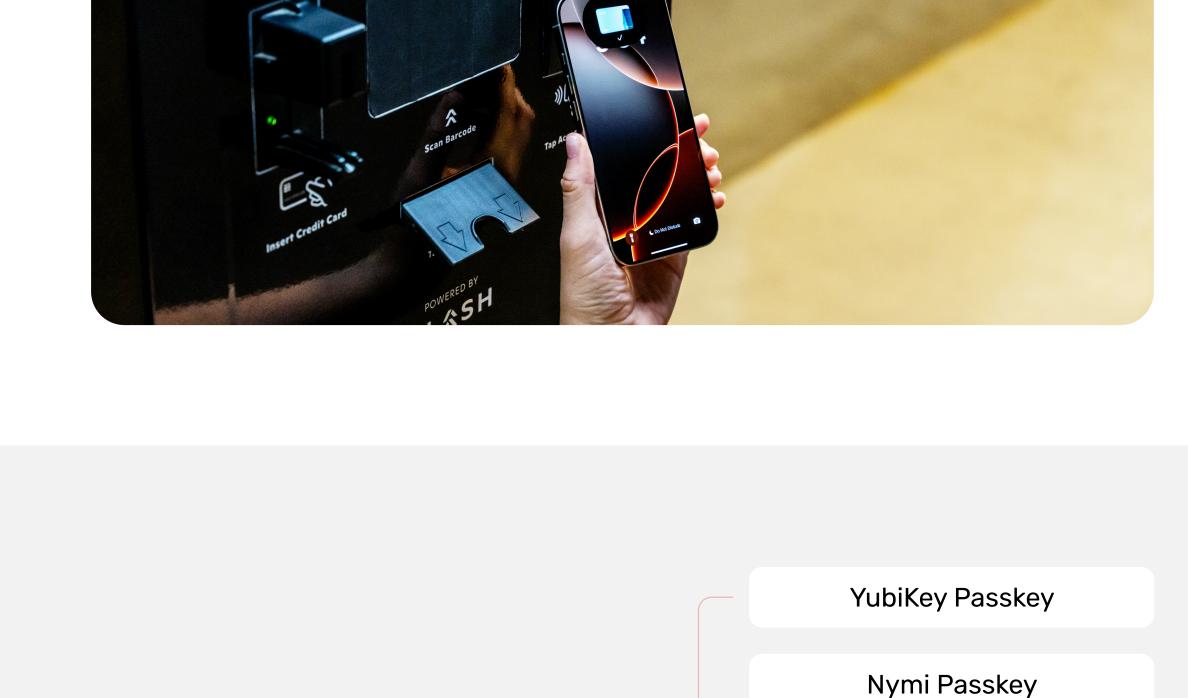
61% of security leaders say that mobile identity is a top trend in 2025.[4]

How can rf IDEAS help?
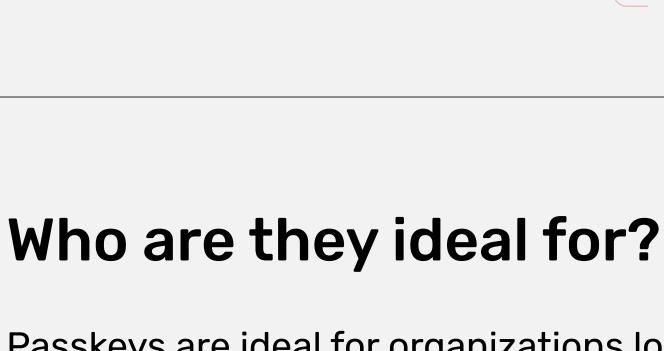
WAVE ID® Mobile Mini and **WAVE ID® Plus Mini** are dual-frequency readers that support mobile credentials via NFC and Bluetooth® low energy. A user can simply wave their smartphone or tablet at the reader to gain authentication.

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03 FIDO PASSKEYS

ConvergeID™ | Physical Passkeys
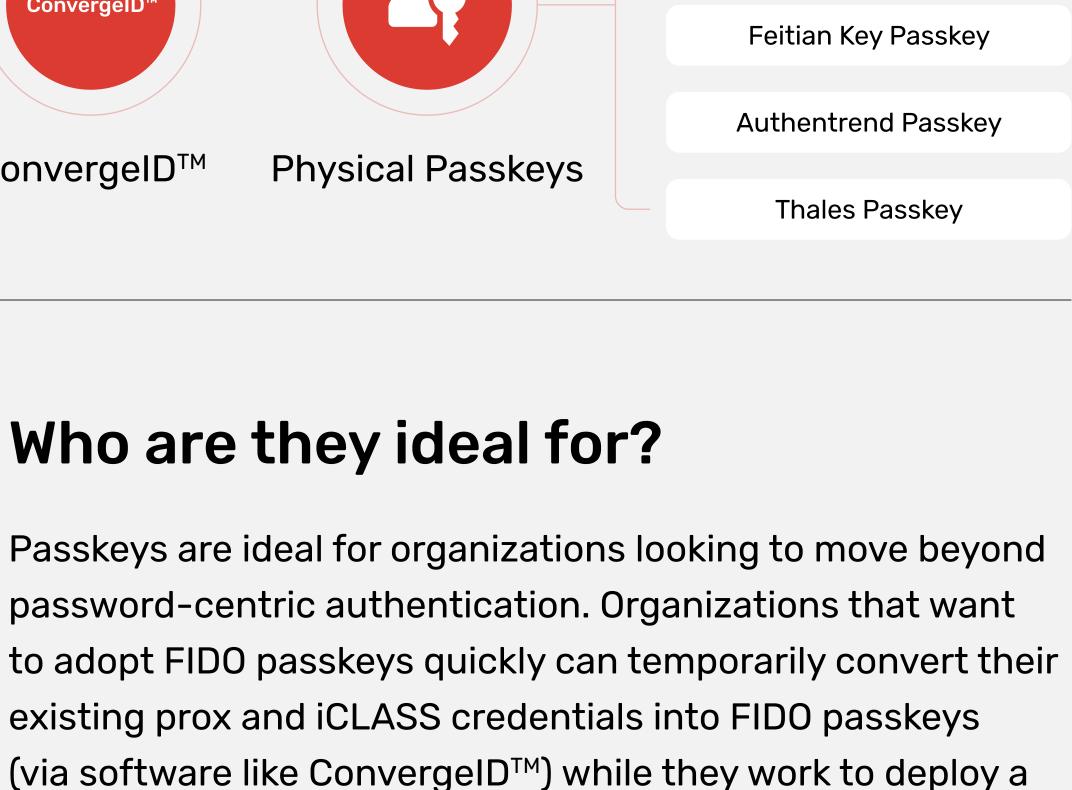
YubiKey Passkey
Nymi Passkey
HID Crescendo Passkey
Feitian Key Passkey
Authentrend Passkey
Thales Passkey

What are they?

FIDO passkeys are cryptographic credentials linked to a user's account. Upon registration, public and private keys are created, with authentication occurring through biometrics or other secure methods.

Built on FIDO standards, passkeys eliminate passwords and enable secure, phishing-resistant authentication across devices.

Who are they ideal for?

Passkeys are ideal for organizations looking to move beyond password-centric authentication. Organizations that want to adopt FIDO passkeys quickly can temporarily convert their existing prox and iCLASS credentials into FIDO passkeys (via software like ConvergeID™) while they work to deploy a long-term credential strategy.

87% of U.S. and U.K. workplaces have already deployed passkeys for employee sign-ins.[5]

How can rf IDEAS help?

rf IDEAS' **ConvergeID™** software solution enables your organization to turn your existing credentials into a FIDO passkey. Our diverse range of FIDO-compliant products include the **WAVE ID® Nano** and **WAVE ID® Embedded OEM**.
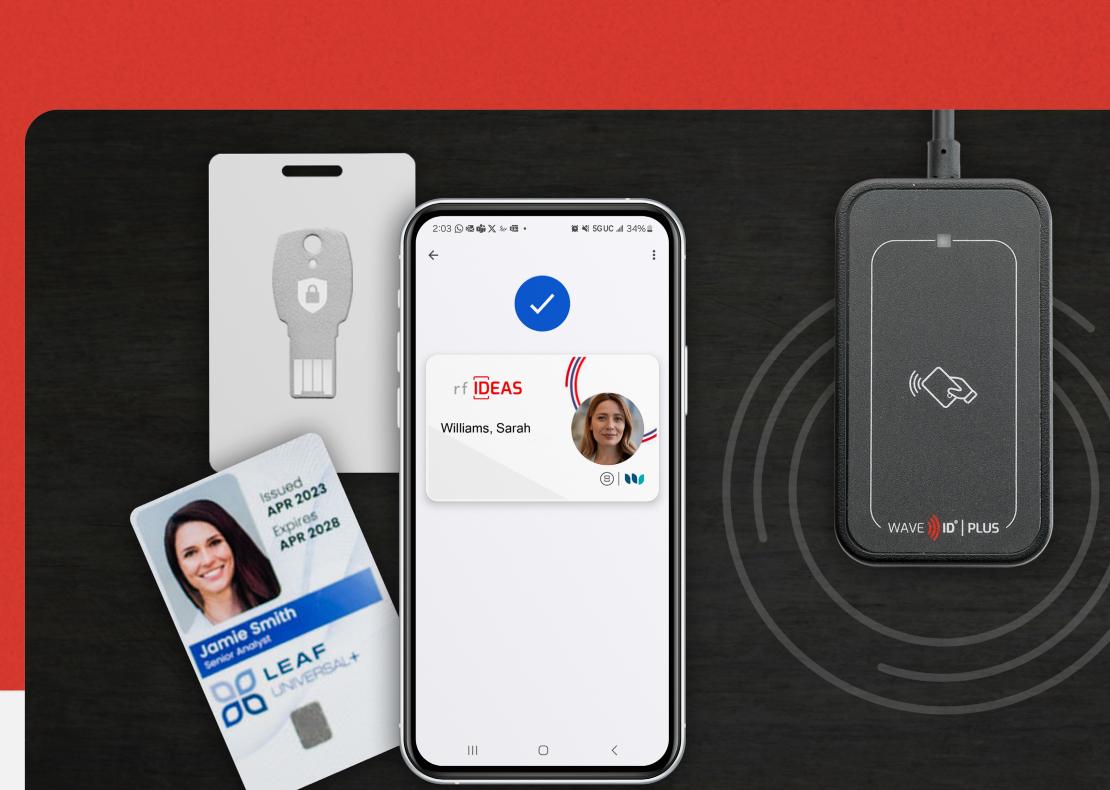

NON-SECURE CREDENTIALS ARE A RECIPE FOR DISASTER

READY TO UPGRADE TO A MODERN, SECURE CREDENTIAL SOLUTION?

Make the switch now to strengthen security, reduce long-term risk and future-proof your access strategy.

[Learn more]

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[1] IBM Cost of a Data Breach Report
[2] Verizon 2024 Data Breach Investigations Report
[3] Business Wire Healthcare Smart Card Readers Business Analysis Report 2025
[4] HID The Industry Report: 2025 State of Security and Identity
[5] FIDO Alliance State of Passkey Deployment in the Enterprise Report

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