

Solution Description

Idesco ID



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1. Introducing Idesco ID

Mobile access is a convenience that has begun growing increasingly popular among users. It lets users phone or other personal mobile device at a reader to unlock the door. A couple years ago, integrators began sharing with Idesco their concerns about potential challenges from deploying mobile access. We listened.

Idesco ID is our answer to their concerns. Idesco ID is an array of solutions that, together, comprise the easiest, most cost-effective way to bring mobile access to sites large or small, for integrators large or small. Idesco ID includes a powerfully convenient service that lets you send credentials directly to users' smartphones from your access control system. This lets your customers' sites replace their conventional RFID transponders with mobile credentials (mobile IDs) - or continue using them side-by-side.

To enter with their phones, users obviously need a mobile access app installed. That is why Idesco ID includes another solution: Idesco ID mobile app. This app is free for users to download and install in their phones. However, we don't limit you to Idesco ID mobile app alone. If your company prefers using its own mobile app, Idesco ID solutions will still support you ([section 12](#)).

A convenient feature of Idesco ID mobile app is it lets user smartphones store multiple credentials to different places. Best of all, Idesco ID solutions eliminate inconveniences commonly found in other solutions. Users don't need to register with a cloud service; site managers don't need to log into a parallel credential system. Finally, since all organisations are different, we offer different ways to install and begin using mobile access.

Idesco ID Entry Level is designed to accommodate smaller sites, with low staff turnover. Idesco ID Entry Level lets you enroll users' mobile credentials to your system on-site. A credential (created after a user installs Idesco ID mobile app), is detected by our on-site Enrollment Station for you to add to your system.

In contrast, Idesco ID Enterprise Level is ideal for organisations with larger user populations, high staff turnover or wherever onsite user enrollment isn't feasible. Idesco ID Enterprise Level provides two methods for integrating mobile access to a site's access control system. Below in sections [4-6](#) you will find descriptive introductions to both solution levels. First, let's look briefly at the convenient features of Idesco ID Mobile app and the readers that support Idesco ID Solutions.

2. Idesco ID Mobile App

Designed for convenience, Idesco ID mobile app gives users an access alternative to conventional cards or tags and can even store multiple credentials to different sites. It won't force them to register on a cloud service and is downloadable free from Google Play or App Store in either English or Finnish (see QR codes, next page). Easily installed and intuitive, user-friendly Idesco ID mobile app even contains embedded instructions. Best of all, it responds instantly, via highly secure (128-bit AES) Bluetooth Low Energy (BLE), to the different security levels you program into Idesco's mobile-compatible readers.



Again, note you are free to choose whether to enroll on-site users' app-created IDs, or create and send IDs to their phones from Idesco ID service. Not only will the app integrate readily to your access control system, but we provide options for branding it or otherwise customizing it to suit your needs. You can download Idesco ID's mobile app datasheet on the following product page:

<https://idesco.fi/product/mobile-access-control-app/>

3. Idesco ID service overview

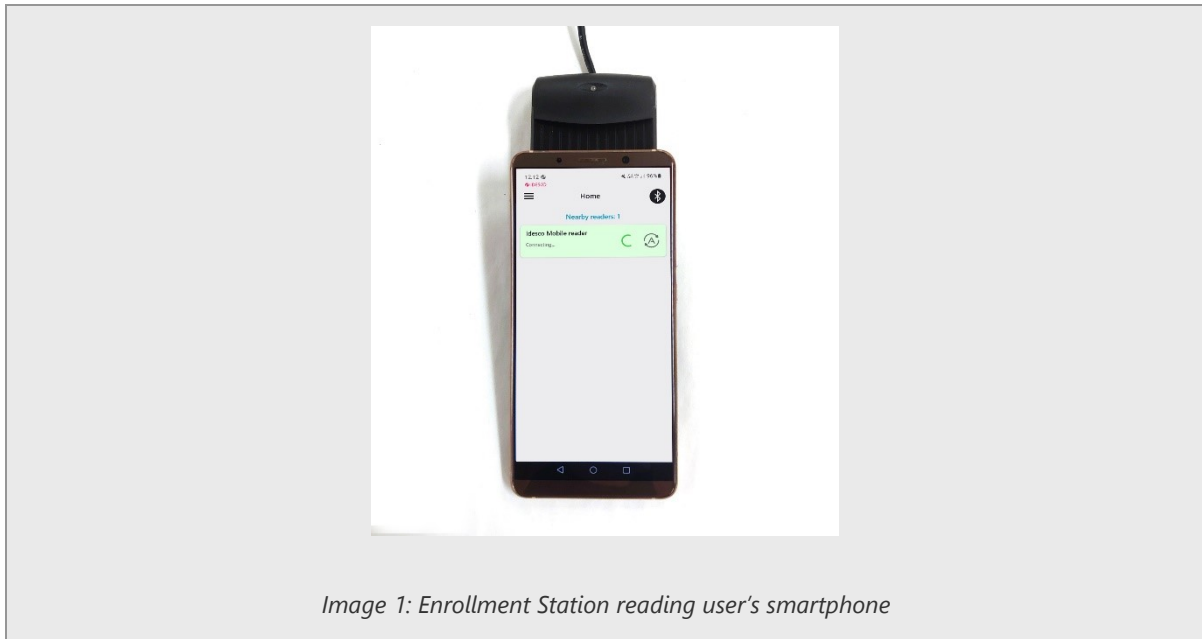
As described above, Idesco ID is the result of years of conversations with integrators, about what they wanted in a mobile access solution. As a result, we designed Idesco ID service to simplify and reduce the cost of deploying and integrating mobile access into an existing access control system – and especially for the continued, cost-effective provision and management of user credentials.

Obviously, since organisations differ greatly in size, turnover and in their embrace of mobile access, we recognized Idesco ID service must scale seamlessly across, and accommodate all those important factors. That is why, in following chapters, you will see how thoroughly Idesco ID Service's flexibility encompasses, pricing, customizability, credential creation and credential management.

4. Idesco ID Entry Level

Idesco ID Entry Level is an ideal solution for smaller organisations without high staff turnover and interested in providing mobile access to their users. Idesco ID Entry Level uses simple, onsite physical enrollment to import credentials from users' phones into an existing access control system. This keeps startup costs low while still providing smaller sites a simple way to add an occasional new user.

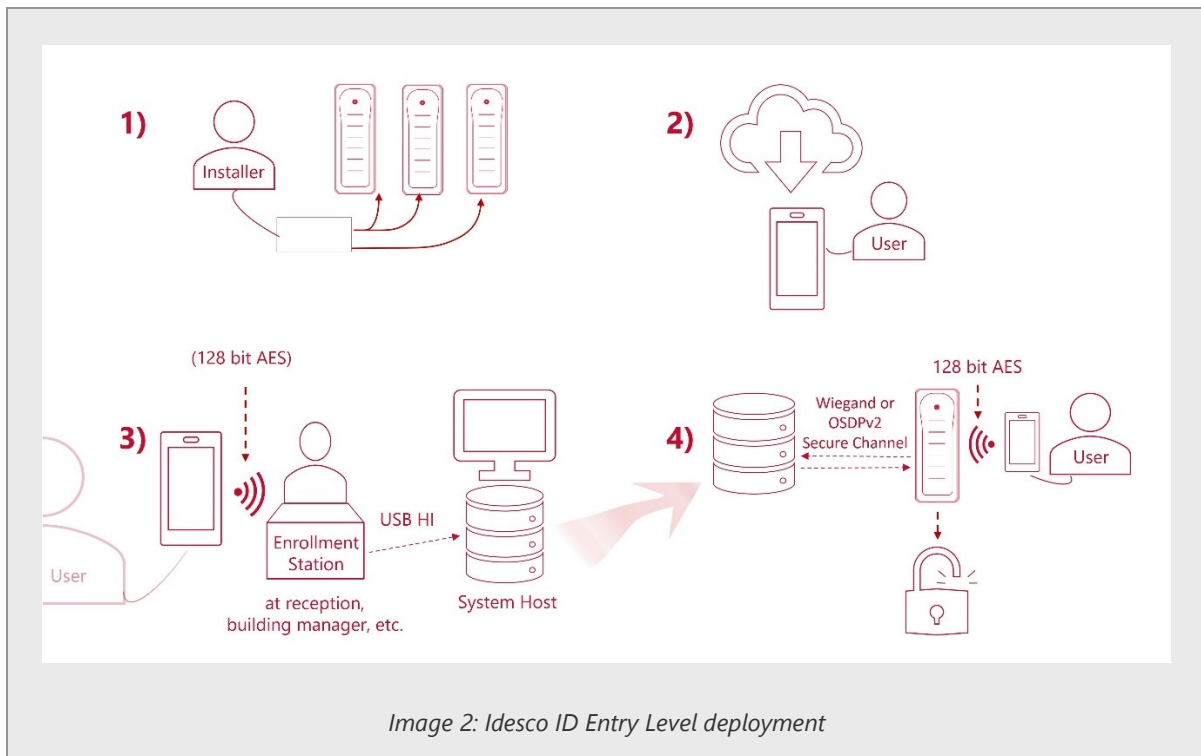
As described above, once users download and install Idesco ID app in their phones, it embeds a unique, AES-128-secured credential in their phone. This credential is what a pc-connected Enrollment Station (Image 1, below) will detect and forward to your system. Enrollment Station is a USB desktop reader that recognizes and reads (via BLE) phones containing an embedded Idesco ID mobile app credential. This lets users and system managers avoid cloud services, while providing a quick and cost-effective way to import mobile IDs into a system.



5. What does Idesco ID Entry Level deployment look like?

The steps below show how deploying will proceed for smaller organisations:

1. Install and connect 8 CD 2.0 MI readers at each secured access point. Assign and program each reader's access point name, preferred door security level (1-3), read range, and re-read delay, via Idesco Mobile Coder App.
2. Invite users to download and install Idesco ID app on their Android/iOS smartphones. This will automatically create and embed a unique device IDs in each user's smartphone.
3. Reception, security manager, etc. then reads and adds users' device IDs to their access control system by reading their phones via Enrollment Station. Users' device IDs are usable in tandem with their system-registered cards or tags. If they prefer, users may even continue using their enrolled and assigned MIFARE transponders.
4. Initiate mobile access: As users approach a door and their phone is detected by its reader, its assigned security level (e.g. hands-free, phone screen interaction, secure authentication) will be triggered. All transactions between readers and users' phones, regardless of security level, are always protected by powerful 128-bit AES encryption.



6. Idesco ID Enterprise Level

If an organisation has a large user population, high staff turnover, or requires an ability to remotely distribute user mobile credentials, irrespective of time or location, then Idesco ID Enterprise Level provides ideal solutions for you to meet their needs.

Importantly, Idesco ID service's Enterprise Level lets you create and distribute mobile credentials to users from your own system. This lets you confine the administration of user-related information, access rights, and credential data, etc. exclusively to your system. How so? Because no separate cloud or parallel administration system is required for Idesco ID service's Enterprise Level.

In this section, we will describe two variants for launching and deploying Idesco ID Enterprise Level. Each one is designed to address distinct enterprise needs or requirements:

- File Transfer permits a mass upload of credentials (vital for large, but stable user populations)
- Full Integration: 24/7/365 Mobile ID management, via secure interface (REST API).

We describe these options in greater detail below.

6.1 What is Idesco ID Enterprise File Transfer?

Idesco ID Enterprise File Transfer is meant for organisations with large user populations yet lower staff turnover. It provides an ideal, cost-effective solution for deploying Idesco ID Enterprise Level. To register users' mobile devices to their access control system, an organisation begins by exporting a

CSV format file from their system. Their file will list users' phone numbers and the unique ID each user is assigned in their access control system. (Including user email addresses is optional.)

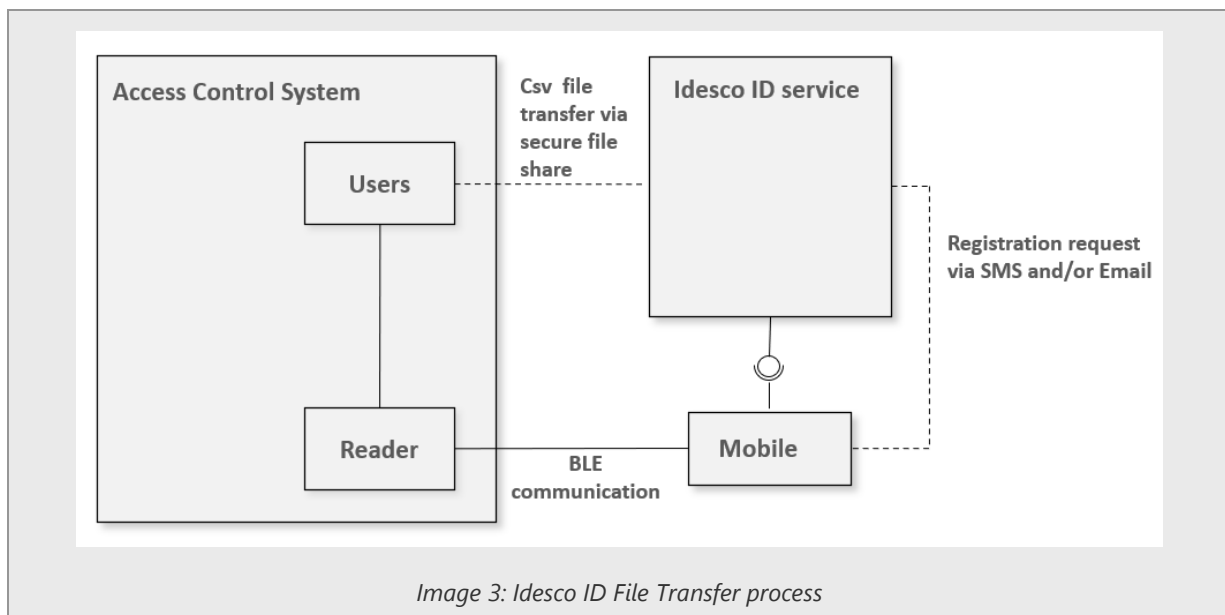
After their access control system exports this CSV, the organisation uploads it to Idesco's secure extranet file system. Their csv data is then uploaded to Idesco ID, as a service by Idesco, which then distributes an SMS to each listed user. Since File Transfer does not require system-specific integration or maintenance, it is also very cost-effective: a file transfer can be scheduled once, or only rarely.

Once organisations purchase File Transfer, they will receive instructions on drafting and uploading the SMS their users receive, as well as properly formatting the configuration data of their site's readers. Additionally, any user messaging is totally customizable.

To summarize, your File Transfer's steps are as follows:

1. Access control system exports UUIDs/ phone numbers (as CSV) to Idesco via secure extranet folder.
2. Idesco uploads this data with organisation's text message content and reader configurations to Idesco ID. Idesco ID then distributes registration messages via SMS (or Email) to all users.
3. Upon opening an SMS (or email), users will be provided a registration pin code they must enter within their Idesco ID app.
4. After expiration of a mutually agreed registration period, Idesco will report back to the organisation on the registration status for every user listed in their CSV File Transfer.

Both File Transfer and Full Integration (below) ensure all user rights, access rules, etc., remain confined to, and managed only in an organisation's access control system. If a user's phone is lost or stolen, the organisation simply deletes the mobile credential number (UUID) from its access control system and creates a replacement UUID. This is sent to the user via the same process described above. Note also Idesco ID does not store data. It merely transmits SMS messages with registration pin code. File Transfer's steps are shown in Image 3, below.



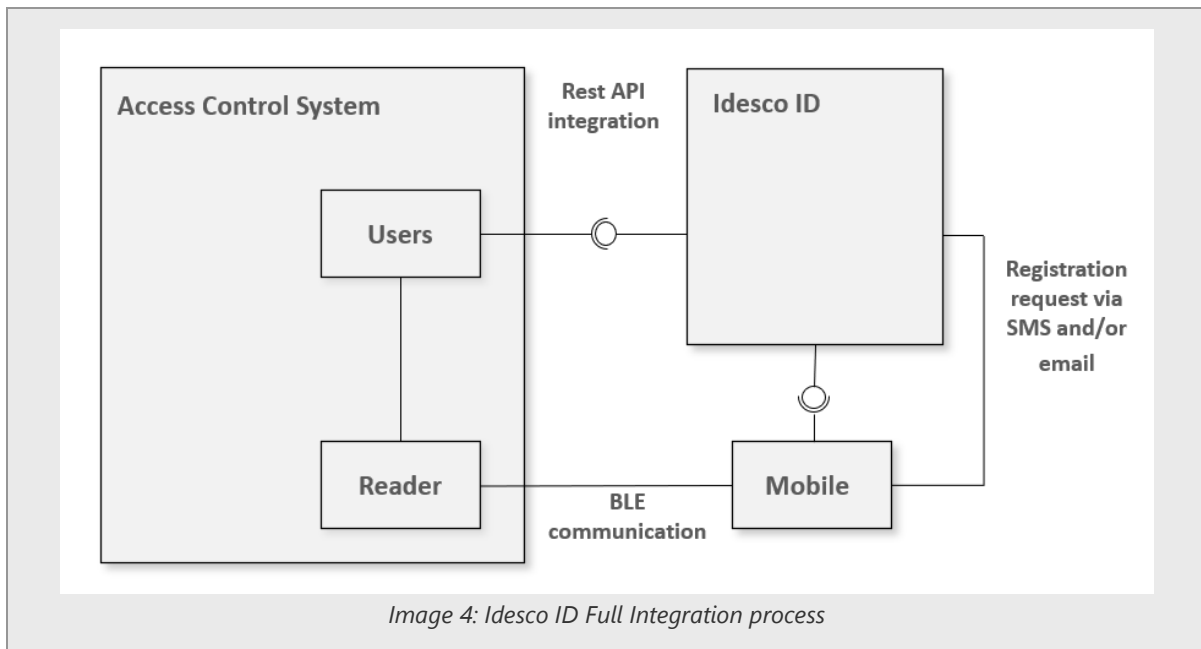
7. What is Idesco ID Enterprise Full Integration?

Idesco ID with Full Integration is meant for larger organisations (>500 people) which also experience higher staff turnover or must meet a constant need for temporary mobile access privileges. Full integration between Idesco ID and your access control system gives system managers a powerful freedom to add and send credentials 24/7/365. In this architecture, Idesco ID registers users' mobile credentials to an organisation's access control system via a REST API-integration.

This lets a system manager create mobile credentials for users in much the same way they create conventional access cards. As before, all user privileges, access rules, etc. are managed only within their system. Therefore, if a user's mobile phone is lost or stolen, their old credential is simply deleted from the system, to be replaced later with a new one when needed.

Like with File Transfer, the data that Full Integration requires to create and send new credentials is: users' mobile numbers, UUID numbers and optionally, also e-mail addresses. Also like File Transfer, Full Integration organisations must first provide their customized message content and related reader configuration data that Idesco ID requires for sending user credentials.

Also as before, Idesco ID enterprise Full Integration never stores user data. It only mediates credential registration in users' phones. Full Integration is illustrated in image 4, below.



8. Business models

As mentioned in Chapter 2, Idesco ID Mobile App is always free and available in Google Play and AppStore. Additionally, white labeling of Idesco ID Mobile App is an available option. If your company prefers its own, white-labeled app, please speak with your Idesco sales representative since we will be happy to develop one customized to your specification.

By contrast, if you have an app you need to implement 8 CD 2.0 MI support, we can also provide Android/iOS SDKs for that.

Pricing for Idesco’s mobile compatible 8 CD 2.0 MI readers, may only be addressed via quotation. This is because pricing always depends on order quantity and reader specific features. Your sales engineer will happily work with you on your specification process.

9. Entry Level pricing model

Idesco ID Entry Level has no start up, licensing or annual fees. That is because credentials are automatically created in users’ phones when they download and install the Idesco ID mobile app. That credential, the device UID, is what you will read and enroll using the Enrollment Station.

Enrollment Stations and Idesco 8 CD 2.0 MI readers will be invoiced according to your company pricelist or your sales representative’s quotation.

10. Enterprise Level pricing model

Every access control system managing its users locally will require its own Idesco ID integration. Idesco ID’s start-up fee covers the cost of this. However, systems that centralize their user management, but distribute to satellite subsystems, will only be invoiced a single integration.

For credentials, two invoicing models are offered:

1. Pay-as-you-Go: The distribution of user credentials is constantly monitored by Idesco ID, with each credential send request recorded as a transaction. Idesco ID will total accrued transactions monthly for invoicing.
2. Quota; Idesco assigns an agreed, finite volume of transactions to the customer's account, which is invoiced when that volume is activated.

11. How customizable is Idesco ID?

As described at the beginning, Idesco ID is the result of years of conversations with system integrators about how they imagined the ideal in mobile access. Their comments revealed significant diversity in needs, in addition to a broad spectrum of predicted customer preferences. Consequently, we designed Idesco ID to flexibly address that wide range of needs, both to benefit integrators and their customers. We highlight these flexible capabilities below.

12. Need mobile access integrated to your own mobile application?

As mentioned earlier, some integrators may already have, or started developing, their own mobile apps for mobile access. That is why Idesco Mobile SDK (software development kit) was created: to help you implement BLE (4.1 or higher) communication between your own mobile app and Idesco 8 CD 2.0 MI and Pin D readers. The Idesco Mobile SDKs are available for both the Android (5.0 or higher) and iOS (8 or higher) platforms and are compatible and usable with native and cross-platform integrated development environments.

13. Want to customize Idesco ID to support your brand?

If you need Idesco ID customized to your company brand, we can provide white labeling of our app. Also the compatible readers can be customized.

14. Idesco ID compatible readers

Idesco ID is currently supported by Idesco's 8 CD 2.0 MI readers. These are available in a wide variety of housings, and also with convenient display screen for more personalized user interaction. 8 CD 2.0 MI readers are durable, highly secure and flexible DESFire (EV1, EV2, EV3) access control readers, supporting conventional tag and card transactions. Their additional BLE capability is what lets users enter buildings using only their phones.



Best of all, you can specifically program the distance (1 – 13 meters) at which these readers transact with users' phones. This lets you assign generous, 'hands-free' distances for semi-secure indoor access points, while assigning a more secure, proximity interaction protocol for users that approach outward-facing, perimeter access points. These readers support three distinct security levels you define yourself. You can read more about these different security levels in section 9.

8 CD 2.0 MI is available in housings both with and without pin pads. Pin pad housings let you add a pin code protocol for greater security during appropriate periods (weekends, after work) even when visitors enter using their smartphones. Alternatively, the reader is flexible enough to let you choose when mobile access will be available to users. You can even configure it for mobile transactions later.

Beyond mobile, these readers support all MIFARE® transponders from Classic UID to DESFire and UIDs in all ISO 14443 A type cards. It configures fast and simply while powered and installed, using either configuration card or the Idesco Mobile Coder app (see section 10), installed in an NFC-supported smartphone. To learn more, surf our readers' product pages:

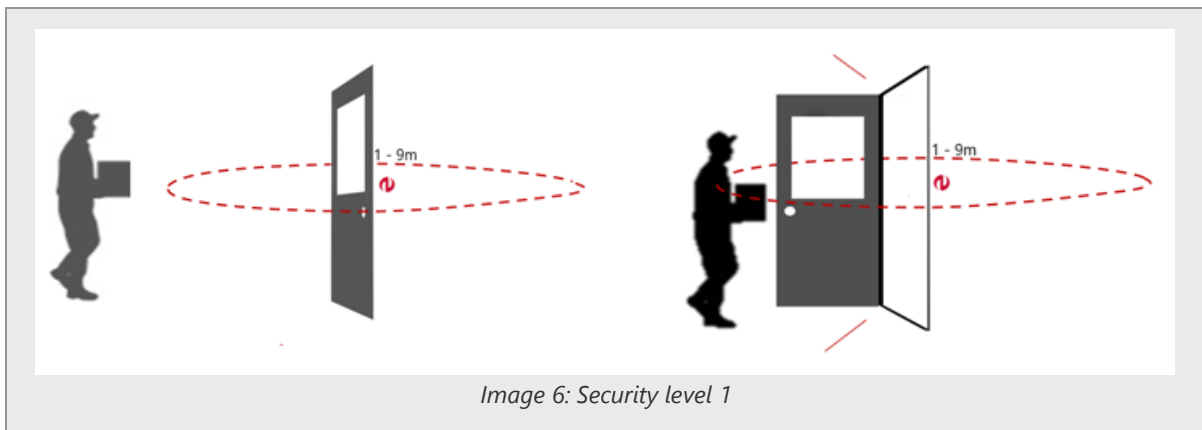
<https://idesco.fi/product/bluetooth-rfid-reader/> - or - <https://idesco.fi/product/rfid-reader-display/>

15. Idesco ID security levels

As mentioned above, Idesco 8 CD 2.0 MI mobile compatible readers support three distinct mobile security levels. Every door's reader may have its own independently programmable security level; each reader may also be assigned its own unique mobile device detection range (between 1 - 13 meters). Combined, these security levels and adjustable ranges give integrators and security managers a remarkable flexibility for controlling how users will transit each access point at a site.

16. Security level 1

Security level 1 allows hands-free access, with no user interaction, when a reader detects a user's registered phone entering its preprogrammed reading range. This flexibility in reading range lets security managers assign a distance that prevents unintended door unlocks or powered door openings. Since users can keep their phones pocketed, no waving or phone interaction is required. Security level 1 obviously provides a convenient setting for accommodating the use of a building's indoor or powered door access points for hands-free egress.



17. Security level 2

When a door's reader is programmed to security level 2, that reader will force users to interact with their phone before it triggers the door to unlock or open. Specifically, the user must press an activation button shown on their phone's display (see image 7, right).

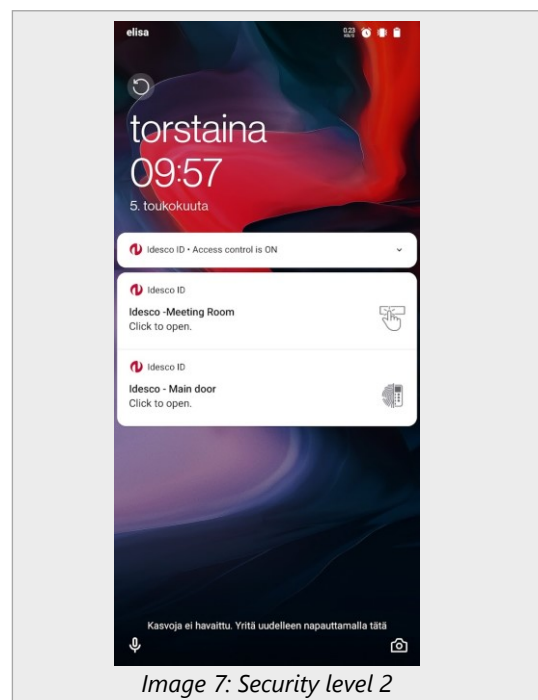
If the mobile app in the user's phone detects multiple doors within range, the app will vertically list each available door on the display, also as shown at right.

This feature lets a user choose which door they wish unlocked for entry. Finally, Idesco ID mobile app also provides users the convenience of blocking the displayed listing of any doors they don't want to use.

18. Security level 3

When a reader is programmed to Security level 3, the user's phone app will require them to fulfill their phone's own security unlock protocol. Obviously, this protocol can be pin code, pattern, even the biometrics of facial recognition or the user's fingerprint (see image 8 below).

As with Security Level 2, the app will list the closest, available doors on the phone's display (image 9, below), once the user is challenged for their device unlock. While lock screen notices remain viewable, the door will only be unlocked by its reader after the user fulfills their phone's security unlock protocol, then selects the preferred door from their display.



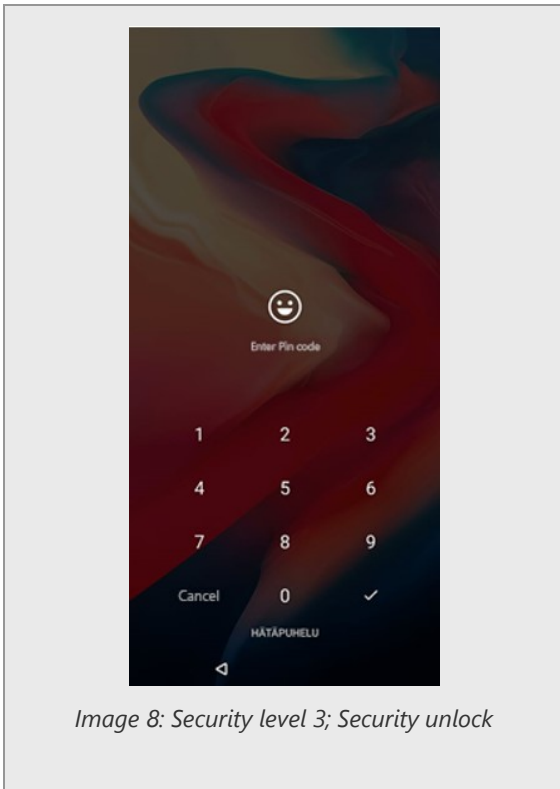


Image 8: Security level 3; Security unlock

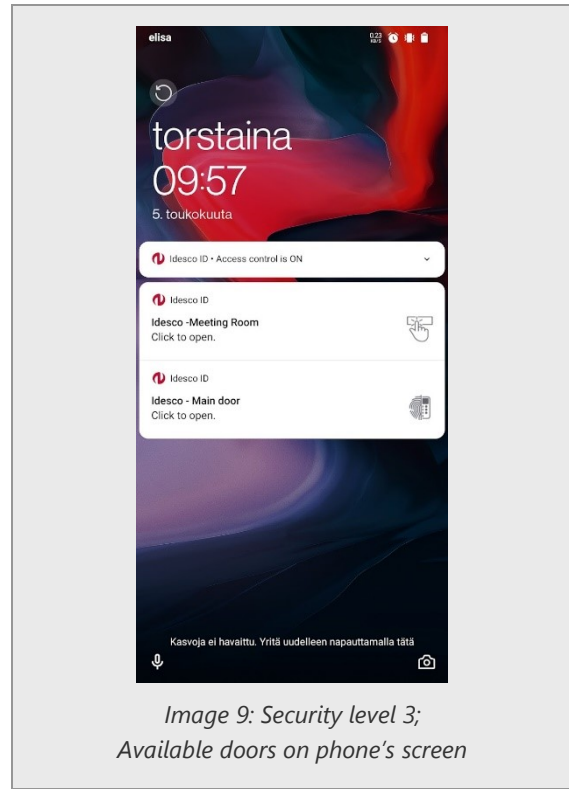


Image 9: Security level 3;
Available doors on phone's screen

19. Mobile Coder

Mobile Coder is an app that gives integrators and installers a powerful, convenient way to streamline the configuration of their site's installed Idesco ID mobile access readers. The app lets installers quickly and easily modify important BLE parameters of 8 CD 2.0 MI readers. These parameters include e.g., assigning a reader's security level, adjusting each reader's BLE reading range and modifying the name assigned to a reader; this name is what Idesco ID mobile app displays on the phone screens of users entering that door.

20. Closing summary

As you saw here, Idesco ID is carefully designed to provide a maximally efficient, maximally flexible solution for implementing mobile access across a wide variety of settings, for any user population size or security architecture. The solution is future-oriented, to maximize the service life of its deployment while easily accommodating site expansion or shifts in security protocol. Finally, it relies on robustly reliable, highly and conveniently configurable mobile compatible readers, that seamlessly integrate into a MIFARE-mediated environment.