Your smart
access control

Our strong
NB IoT network

The future is exciting.

Ready?

vodafone
business

1

Vodafone IoT is helping LEAPIN Digital Keys make locks, buildings and access smart

From a regulatory perspective, smart access control promotes the ability to meet government compliances, e.g. PCI compliance, and occupational health and safety requirements. From a property or facilities management perspective, smart access is about delivering security, controlling access to assets and buildings, and offering more efficient key management for staff and volunteers, leading to cost and time savings. In regards to customers and end-users, it offers convenient access, safety and peace of mind. However, regardless of the perspective, enterprises must address regulatory and customer/staff expectations, and adopt smart access control.

The challenge

Globally, the access control industry, sometimes referred to as the 'physical security industry', is in the midst of a transformative process. Integrating wireless technologies and the Internet of Things (IoT) into the traditional keycard access control system, the process delivers greater services to customers, in terms of efficiency and responsiveness.

LEAPIN Digital Keys was founded in 2011, specialising in building software and applications for smart access control. With a firm commitment to innovation and filling the gaps created by traditional lock manufacturers, whose focus was mainly on hardware, LEAPIN Digital Keys started building digital keys apps, web-check-in systems and software development kits. Unlike most smartlock startups, building deadbolt attachments for residential use, LEAPIN Digital Keys partnered with existing lock manufacturers to offer commercial solutions and bring them into the 'IoT age'. LEAPIN Digital Keys has received European Commission Grant funding and Australian Government grant funding for their smart access control research and development,

where they have utilised technologies such as near-field communication (NFC), one-time password (OTP), cloud computing, and most recently, Narrowband Internet of Things technology (NB IoT). LEAPIN has offices in the UK, Australia and China, and distributor partner representation across the globe.

However, due to hacking concerns with existing products in the market, there has been a global resistance to smart access adoption. This can be evidenced when comparing the number of smart electricity meters already installed around the world, with over 64 million installed in 2015 alone in the USA[1], to approximately 1 million smart locks installed globally in the last 5 years[2]. There is significant global apprehension around IoT-enabled physical security, and the only way to overcome this fear is to offer a new, more advanced technology for smart access. NB IoT, a new technology for smart device communications, is the 'perfect fit' for secure smart access control.

---

[1] https://www.eia.gov/tools/faqs/faq.php?id=108&t=3
[2] https://nextmarket.co/products/smartlock

2

The solution

Smart access control is generally defined as a combination of 'traditional access control' (i.e. with keycards and software or metal keys), with 'smart controls via the internet' (i.e. with cloud-based software, smartphone digital keys, data analytics etc.).

LEAPIN Digital Keys has built NB IoT Smart Access Control – a complete end-to-end system with NB IoT smart locks, lock management software, digital keys apps and APIs for interfacing with third-party software and hardware. The LEAPIN system uses the NB IoT network to: issue unlock commands from smartphones, program the locks for limited time periods, capture lock events, cancel digital keys, remote unlocking, and programming the lock for the use with keycards (one-time programming with NB IoT for handling NFC keycards).

Thanks to the Vodafone NB IoT network and its integration with the LEAPIN system, account administrators such as HR and managers can receive instant notifications when someone opens what door at what time. Users can also remotely unlock a door in an instant from anywhere with phones or other devices. Furthermore, users can invite staff and customers to make time-sensitive digital keys on the app and have them approved in an email. Alternatively, digital keys can be cancelled at any time. And for the first time in access control, the system can be located anywhere, as there is no need for onsite infrastructure or onsite power (for example competing Wi-Fi/Bluetooth smart locks need to have onsite Wi-Fi modems and Wi-Fi bridges, and of course, power for this).

The future

The Vodafone NB IoT network, is a leading LPWAN network based on 3GPP standards. Delivering strong signal, stable uplink and downlink rates, high grade security and extended coverage, penetrating deep into buildings old and new.

"We're fortunate for Vodafone's support as it has allowed us to work in the NB IoT open lab in 2017, side by side with their technical engineers, to build our prototype and MVP. In addition to their technical support, Vodafone has also given us commercial support from their UK headquarters and other countries including Spain, Australia, Italy and the Netherlands. We've been working hard to bring NB IoT smart access to a global marketplace, and without our collaboration with Vodafone, our product would not be possible", states Steve Dunn, CEO of LEAPIN Digital Keys.

The benefits

- A simple, user-friendly, end-to-end smart access control system for use anywhere. It is not restricted by onsite power and onsite network infrastructure

- Facilitates physical security and access management of buildings in new 'connected' ways

- NB IoT coverage in dozens of countries across the world

- Numerous opening methods, including smartphone unlocking, time-sensitive PIN unlocking on numberpads, NFC cards, and tokens or metal key overrides

- A system more reliable, more affordable and more secure than rival Wi-Fi/BLE smart locks

- A data analytics and lock management software in the cloud for users anywhere – it can be interfaced to any existing software/hardware or any smart devices that come along in the future

> " Smart access provides increased information flow so users can make quicker, more informed decisions about their individual system's use and how to optimise it. This information flow occurs through the increased use of lock audits, and the locks' communications and interfacing capabilities (for example through APIs linking the locks to third-party software and hardware), arranged to gather, transmit, decode, analyse and share raw data into useful information and actions. These actions will become increasingly automated with AI as technologies such as NB IoT and 5G advances."

Steve Dunn, CEO LEAPIN Digital Keys

About LEAPIN Digital Keys

Our team has extensive experience in all aspects of access control, IoT and security. As former asset managers in local government, we are aware of the various issues associated with key management and the important role of making a secure, user-friendly system.

LEAPIN Digital Keys represents an award-winning team of software engineers, hardware engineers, security experts and asset managers, with a smart, innovative approach to access control. We bring together a solution that balances security with convenience and practicality.

Our successful track record in bringing new access control systems to market reflects our aims and capabilities, including delivering Australia's first digital keys apps and Australia's first web check-in system for hotels and resorts.

www.digitalkeys.io

www.vodafone.com/business

The future is exciting.
Ready?

vodafone business