

iLOQ
Making life accessible

FELGNER
SICHERHEITSTECHNIK GmbH & Co. KG

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iLOQ S5
Unlocking
smarter
properties



One step forward – another step ahead

Over 15 years ago, iLOQ took a great leap forward in the locking industry. We were the first company to steer a path away from mechanical locking and lead the way in developing self-powered digital locking and access management solutions.

With mechanical locking systems, there are many practical challenges that reduce security levels and increase costs and administration time. Our portfolio of technically advanced, yet easy-to-use, products solves these challenges and revolutionizes the locking industry in the process by maximizing security, minimizing administration and reducing lifecycle costs. Now, our second-generation solution – the iLOQ S5 – is set to lift access management to the next level.



“Based on 15 years
of experience”



Challenges with mechanical locking systems

Rekeying limitations

High lost-key cost

Risk of copying keys

Complicated management

Many systems

High life-time costs

Batteries*

*Other digital locking system



Solutions with iLOQ S5

Fully programmable system

Elimination by programming

Electronic copy protection

Cloud software & D2D communication

One system

**The more keys/locks,
the higher the lifecycle savings**

Self-powered

Environmentally friendly solution

Boost the value of your property

iLOQ S5 is a self-powered digital locking solution. The power needed to confirm access rights and open the lock comes from the motion of inserting the key into the lock. No batteries or cables are needed. The battery-free solution means you'll save the money needed to purchase batteries and the maintenance time and costs involved with replacing them.

The more keys and locks your properties contain, the more you will reduce the costs. In large properties, this saves potentially millions of euros in maintenance costs over the lifecycle of the locking system.

With iLOQ S5, the access rights of lost, stolen or unreturned keys can be quickly and inexpensively removed from the system and re-issued. There's no need to change or re-key any lock cylinders or change any of the keys still in use saving administrative time and, more importantly, excessive costs. And, by reducing costs, you'll be able to boost the value of your properties.

You'll learn more in this brochure about how iLOQ is capitalizing on new opportunities offered by digitalization and the internet of things to provide even more added value for you.

Built-in sustainability

In accordance with iLOQ's environmental program, we aim to conserve natural resources and reduce our impact on the environment. In 2019 alone, our unique self-powered solutions will eliminate 28,000 kg of battery waste and, compared to mechanical locking solutions, 7,000 kg of metal waste.

We maximize the usability of our products, favor recyclable packaging and reduce the need for maintenance-related travel by developing advanced remote-control services. We also invest in the recycling of used products.

All of our locks and keys are fully re-programmable, they can be returned to their factory settings and reused in another system. Most of our packaging materials can be recycled, and, for example, our lock cylinders, keys, fittings and installation materials can also be recycled as metal waste.

“**28,000 kg**
of saved battery
waste per year

“**Guaranteed
fast
ROI**

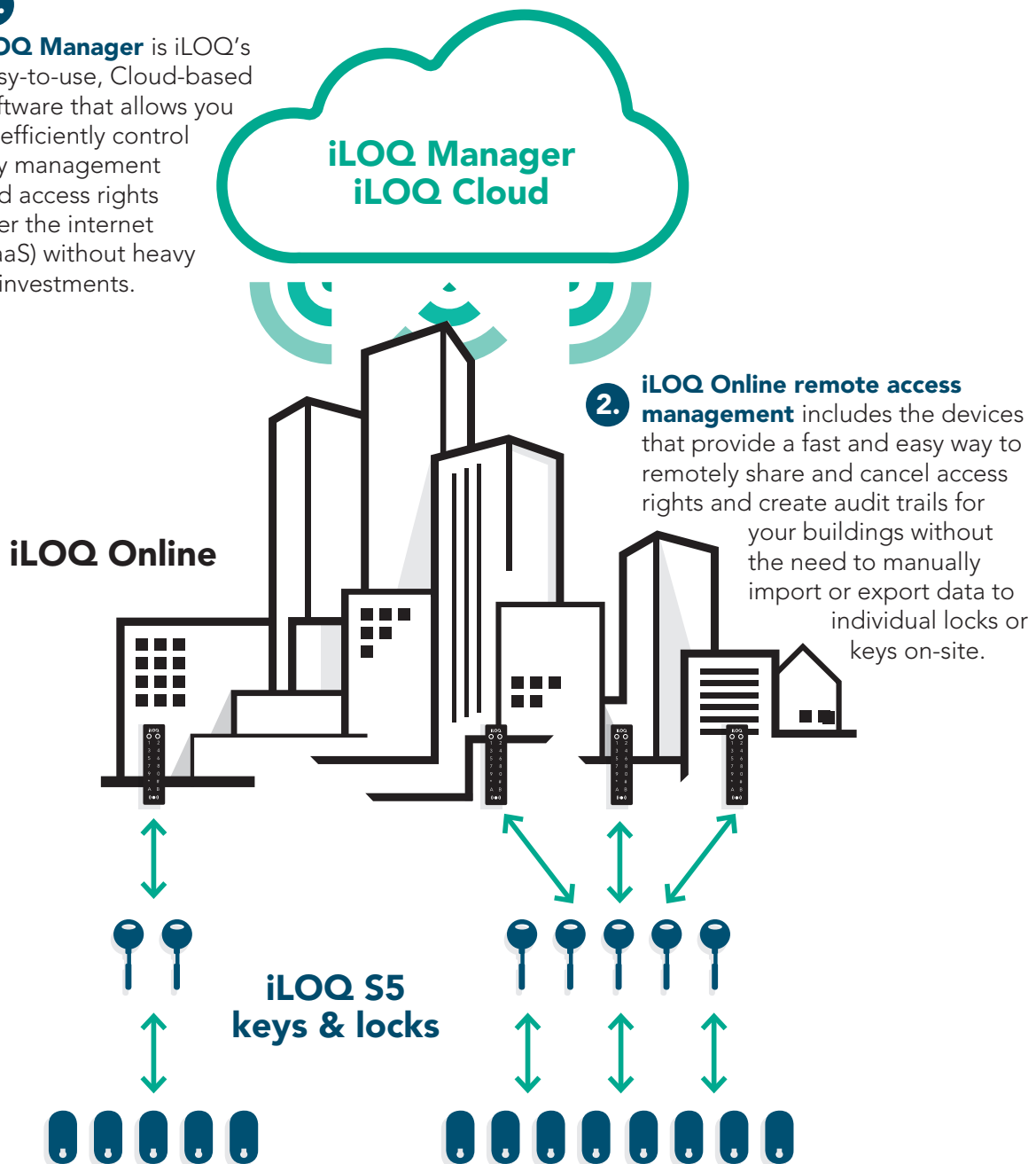


Increase your property's IQ

How iLOQ S5 ensures smarter, simpler access management

1.

iLOQ Manager is iLOQ's easy-to-use, Cloud-based software that allows you to efficiently control key management and access rights over the internet (SaaS) without heavy IT investments.



2.

iLOQ Online remote access management includes the devices that provide a fast and easy way to remotely share and cancel access rights and create audit trails for your buildings without the need to manually import or export data to individual locks or keys on-site.

3.

iLOQ S5 keys and locks are programmable. They can be reused and securely reprogrammed according to any changes in access rights, making the system easy to expand. Device-to-device communication allows a vast amount of data to be updated over iLOQ Online and then shared between the readers, keys and locks in a building.

1. Simplified administration with iLOQ Manager

Access rights are controlled using cloud-based iLOQ Manager software. Administrators have a real-time view of the property's floor plan showing keys, locks and readers, and who has access rights to which areas.

Programming a new key, adjusting access rights or blocking a key from the system can be done quickly, easily and cost-effectively. Multiple sites in different locations can be conveniently managed in the same system.

Information related to changes between locks and keys can be updated remotely and shared through iLOQ Online readers on the property eliminating the need to physically visit a location.

iLOQ Manager's user-friendly interface features handy wizards to guide users through tasks.

iLOQ S5's standard, open application programming interface (API) allows integration with modern information sharing and booking systems and customer personal databases. This has many helpful use cases. For example, booking of communal spaces can be updated using touchscreens in the premises or on mobile apps and shared with the iLOQ S5 key. No additional wiring to the door is needed.



Huge system capacity



Keys per locking system:	Up to 2,000,000
Locks per locking system:	Up to 1,000,000
Access rights in the system:	2,000,000
Keys that can be blocked:	Up to 500 per zone
Key owners per locking system:	Unlimited
Installed client apps per locking system:	Unlimited
Administrators per locking system:	Up to 1,000
Administration zones per locking system:	Up to 1,000
Lock audit trail capacity:	16,000 latest events
System event log capacity:	16,000



2. Remote access management with iLOQ Online

iLOQ Online provides fast and easy remote access management of your locking system.

The all-in-one iLOQ RFID/PIN/Bluetooth and NFC reader allows frequently used doors to be opened with a variety of devices such as the iLOQ S5 digital key, an iLOQ S50 fob, an RFID tag, an NFC-enabled Bluetooth phone or with a PIN code. Time-restricted PIN codes can easily be assigned to external users of the building.

iLOQ Online can be used for single-door access points or as a wired multi-door solution.

With the single-door access point, the connection to iLOQ's cloud-based access-management software – iLOQ Manager – is a Plug & Play system. The connection uses 4G wireless internet technologies.

With the multi-door solution, connection to iLOQ Manager uses the TCP/IP communication protocol. The devices in the locking system are conveniently connected across a physical network. Additional locking and access control features include:

- Easy opening of doors by just holding the key against a reader
- Opening of doors using a PIN code
- Door status monitoring
- Remote management of wired iLOQ cylinders
- Calendar functions for electric locks



3. So much more than a key or locking mechanism

The iLOQ S5 digital key is a self-powered solution that is **maintenance free**. The power needed to open the lock is generated by the motion of inserting the key into the lock cylinder. There's no need for battery replacement **minimizing maintenance costs** and impact on the environment.

- Mechanically identical and reusable, iLOQ S5 keys can be **quickly and easily reprogrammed** with new access rights.
- Made from durable stainless steel, iLOQ S5 keys are robust and **operate reliably in harsh conditions** in a temperature range of -40°C up +70°C.
- iLOQ S5 keys have AES-256-bit encryption. This Advanced Encryption Standard is used worldwide to **protect confidential data**.
- Equipped with an NFC antenna, iLOQ S5 keys ensure fast and easy access to doors with a reader.
- The digital key is also an important component in iLOQ's device-to-device network. It allows 2-way communication between locks and keys to **keep access rights information up to date**.



iLOQ has been leading the way in smarter access management for almost 20 years with

over 2 million keys and 1 million cylinders delivered.

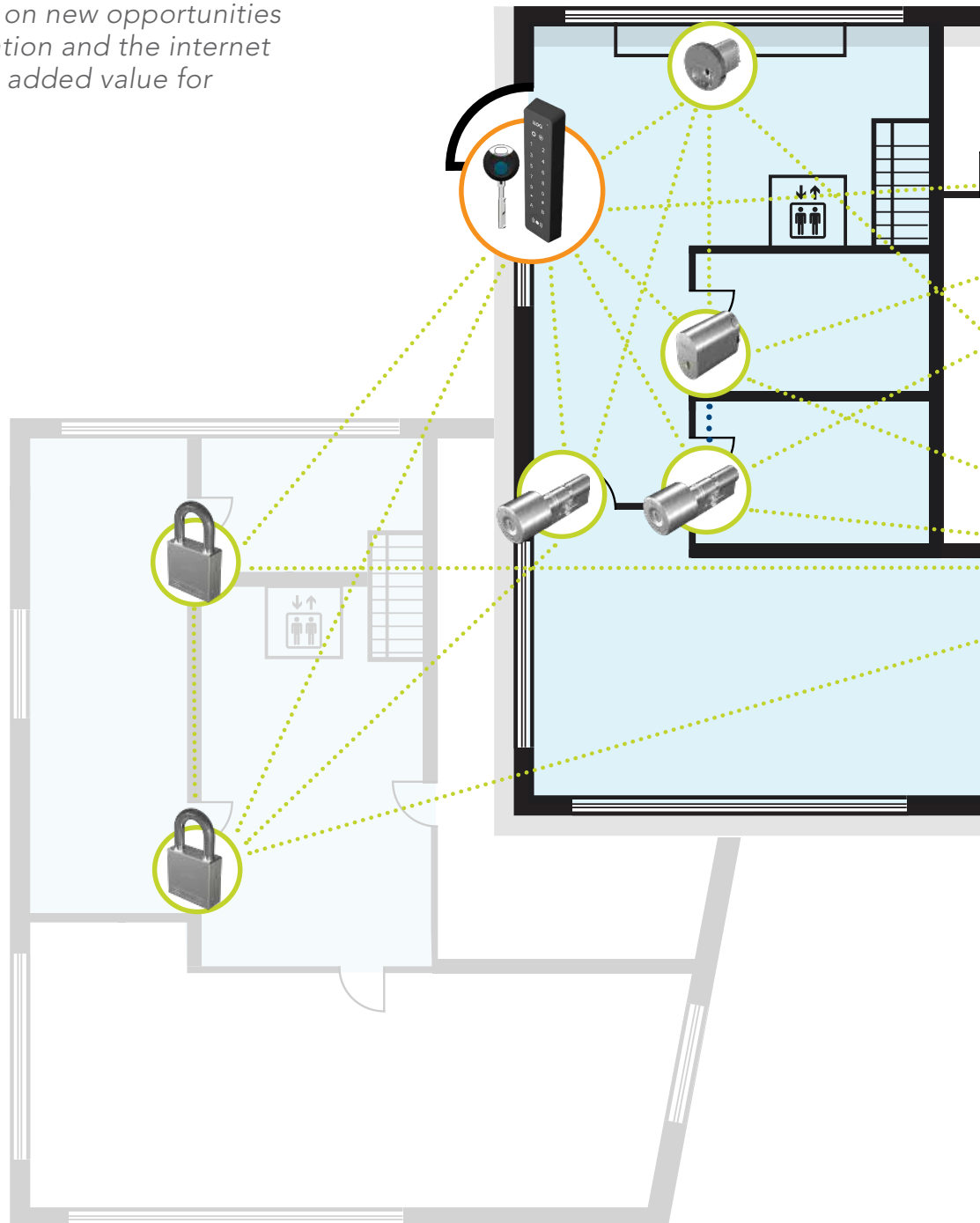
iLOQ S5 cylinders are not just a locking mechanism. They contain a wealth of information about access rights. The cylinder is an important component in iLOQ's device-to-device network. It allows 2-way communication between locks and keys to **quickly and easily share information** related to access rights changes, time limitations and blocked keys.

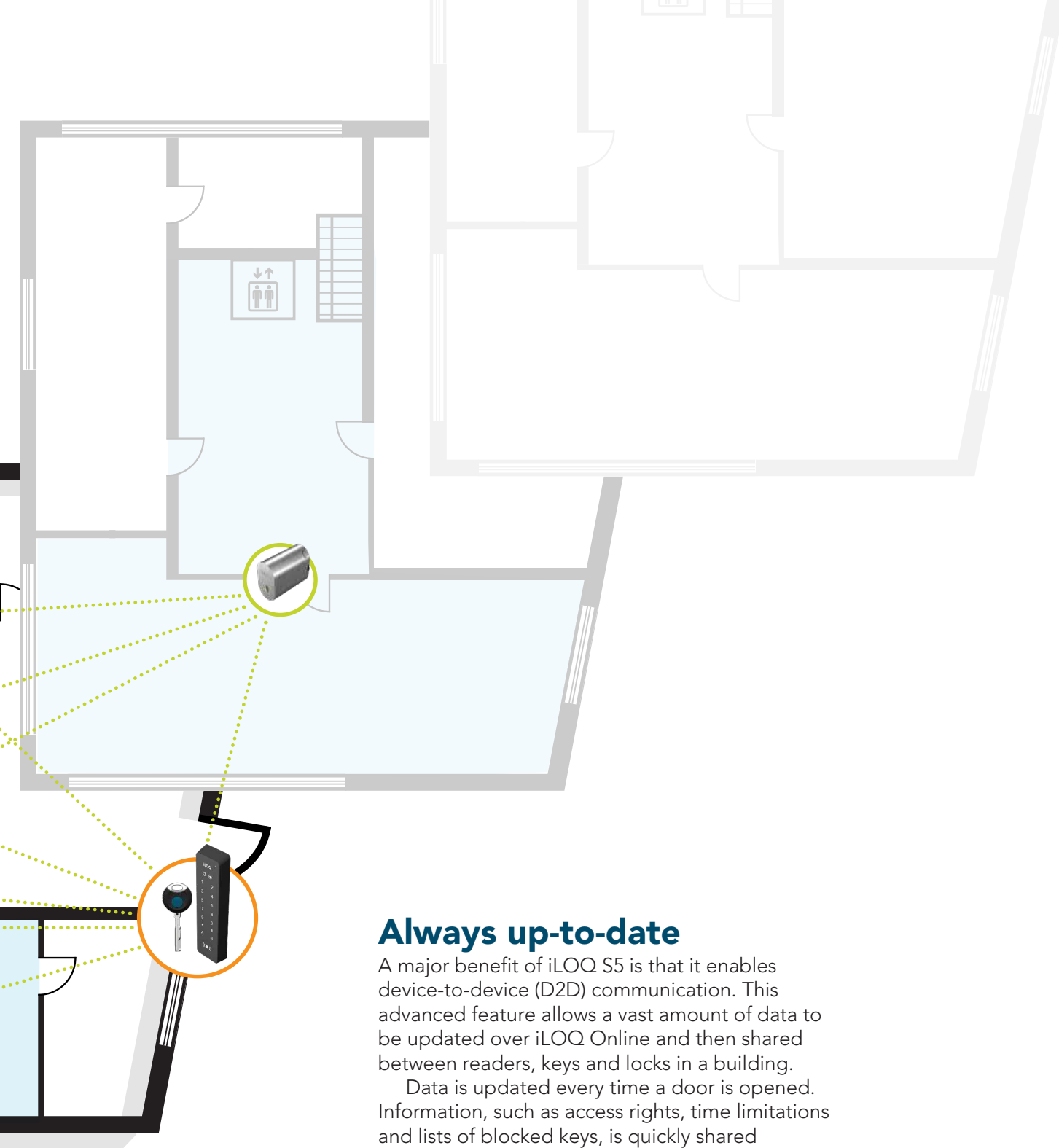
- Due to their standard size, iLOQ S5 cylinders are **easy to install**. There's no need to modify existing doors.
- Mechanically identical and reusable, iLOQ S5 cylinders can be **quickly and easily reprogrammed** with new access rights.
- Like the keys, the cylinders use the powerful AES-256 encrypted communication to **keep your data safe**.
- The cylinders have an event log which keeps a record of the last 500 key insertions. This makes it **easy to track down and prevent misuse**.
- Information concerning all lost or missing keys that are blocked can be communicated to the cylinders. **500 individual lost keys per zone can be blocked**.
- A range of optional features are available by using connectors. For example, connection to the iLOQ Online system for **remote management**, and connection to an external battery enabling **time functions**.

It's good to talk

– an overview of device-to-device (D2D) communication

iLOQ is capitalizing on new opportunities offered by digitalization and the internet of things to provide added value for customers.





Always up-to-date

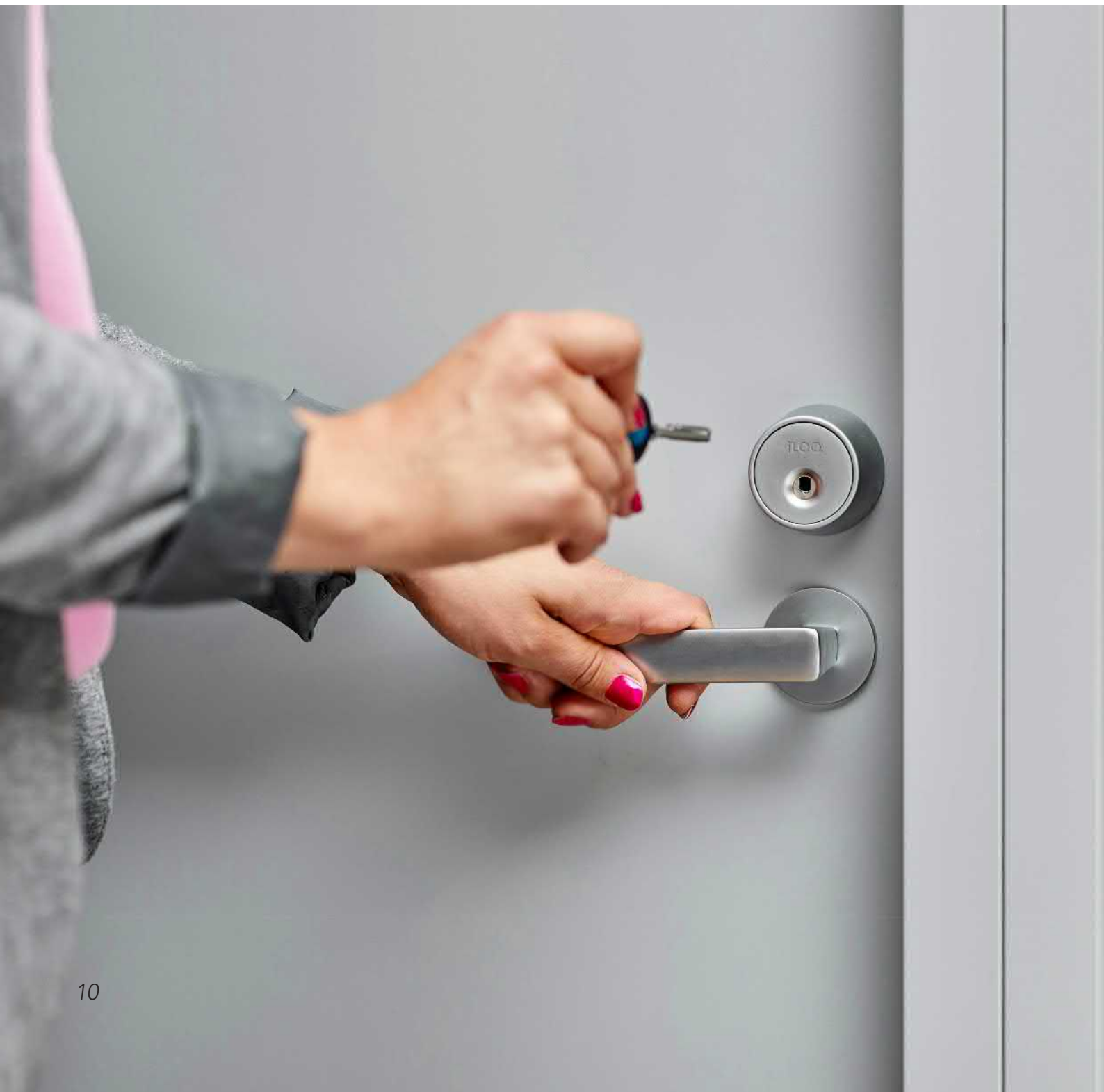
A major benefit of iLOQ S5 is that it enables device-to-device (D2D) communication. This advanced feature allows a vast amount of data to be updated over iLOQ Online and then shared between readers, keys and locks in a building.

Data is updated every time a door is opened. Information, such as access rights, time limitations and lists of blocked keys, is quickly shared between the devices before the door is unlocked.

An event log can also be shared between the devices and reported back to the iLOQ Manager software over iLOQ Online.

With all devices connected and communicating with each other, iLOQ S5 ensures that access rights are continually kept up to date. It reduces administration by removing the need to manually import or export data to locks or keys on-site using a programming device, not to mention the eliminates the hassle involved with mechanical locking systems when, for example, a key gets lost. It also minimizes the expenditure associated with system wiring and drives down lifecycle costs.

State-of-the-art **security**

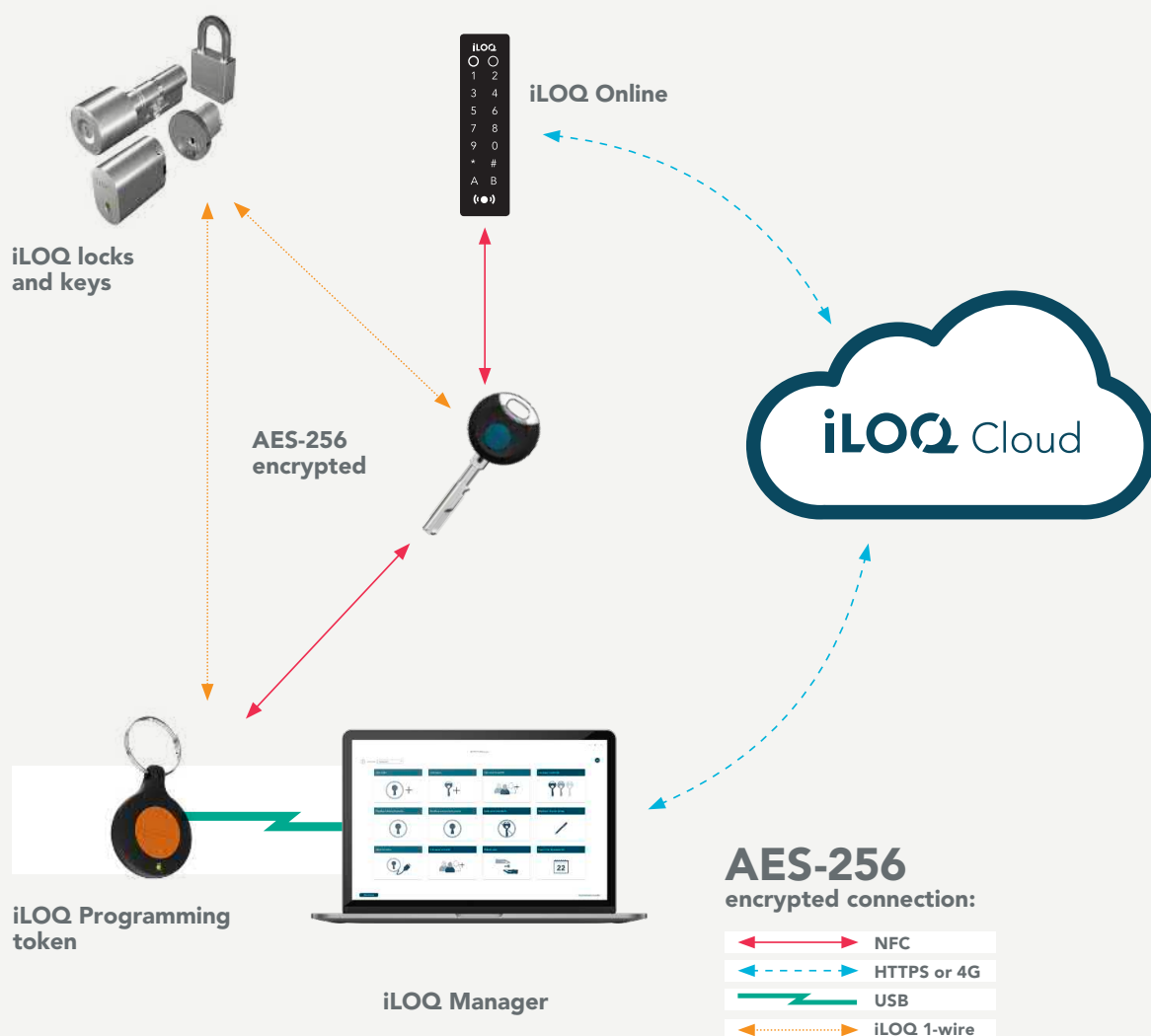


The decentralized iLOQ S5 solution ensures that the loss or breach of one element does not compromise the security of your entire locking infrastructure. Three key features enable you to carry out security-critical operations, such as programming keys, efficiently and safely:

1. The client software installed on the PC you use to manage your solution requires login credentials for access
2. You need to have a programming token which connects to the PC through a USB
3. Your customer database lives in the ISO-certified iLOQ Cloud. Each customer has their own isolated SQL server database completely separate from other databases

Secure system architecture

All communication is secured with AES-256 encryption



Efficient and intelligent digital-locking solutions for all your properties

iLOQ has the clear goal of making life accessible by providing people with easy, efficient and secure access to everyday living and working spaces around the world. To date, we have delivered over 2 million digital keys and over 1 million digital locking cylinders. Our solutions can be seen worldwide, from the smallest apartment buildings to some of the largest and most complex utility sites.

Student housing

In student housing, residents constantly change, and keys are frequently lost. Due to high turnover rates and complicated key logistics, the management of access rights with traditional systems is difficult and expensive. iLOQ S5 is the perfect solution for the challenges faced by student housing management and staff.

Offices

iLOQ S5 is a locking system based on strong digital authentication – a perfect solution for offices with a heavy flow of people and multiple layers of security. The solution improves the efficiency of access control in offices that have previously used mechanical-based locking and access control systems. Additionally, iLOQ S5 is easily expandable to a remotely controlled, lightweight and practical access management system capable of handling large amounts of access rights under one user-friendly platform.

Hospitals

Hospitals present a particular challenge for locking systems as numerous members of staff with varying responsibilities are all trying to work efficiently in premises that are usually large and widespread. The level of security must remain high at all times even when staff need to have the right of entry into many different areas in the building. iLOQ S5 meets the strict requirements of hospitals while helping to ensure that everyday operations run smoothly.

Hospitals



Offices



Schools and public facilities

In properties that need high levels of security, such as schools, museums and other public facilities, mechanical locking systems must be supplemented with an expensive access control system. iLOQ S5 minimizes costs more than ever before by providing both digital locking and a remotely controlled access management system conveniently in one package. The solution can easily be expanded to cover many different types of entry points without heavy modifications to the existing infrastructure.

Residential properties

iLOQ S5 ensures that the lock security of apartments, staircases and other common areas is continuously maintained at the highest possible level. The system is easy to install and manage, and inexpensive to maintain. iLOQ solves issues caused by lost keys, unauthorized

copying of keys, expiration of patents and the misuse of common areas.

Integration with 3rd-party solutions makes the building even smarter and life more convenient. For example, bookings of communal spaces can be updated using touchscreens in the premises or on mobile apps and shared with the iLOQ S5 key. No additional wiring to the door of the booked communal space is needed, and your key opens the door during the selected time.



iLOQ S5's standard, open application programming interface (API) allows integration with modern information sharing and booking systems and customer personal databases.



Public facilities



Residential Properties



Student housing



Schools



iLOQ S5 series

– the complete access-sharing solution

The iLOQ S5 series fulfills all access management needs for all properties in all markets throughout Europe and Asia. Whether you are an existing or a new customer, you'll quickly find out how iLOQ's digital, mobile and hybrid solutions maximize security, minimize administration and costs, reduce consumption of resources and impact on the environment and boost the value of your properties.



Flexible The iLOQ S5 solution shares a platform and system architecture with our iLOQ S50 mobile access management solution. This means that you can have a key-based solution, mobile solution or a hybrid that combines the two.

Scalable Our smart and sustainable iLOQ S5 series is completely scalable according to the size and layout of your premises today and long into the future. Your system can manage up to 2 million keys if necessary.

Modifiable The iLOQ S5 solution can be modified and customized to meet your specific needs, whether you are managing a single building or dozens of premises spread across a vast area with thousands of locked objects.



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