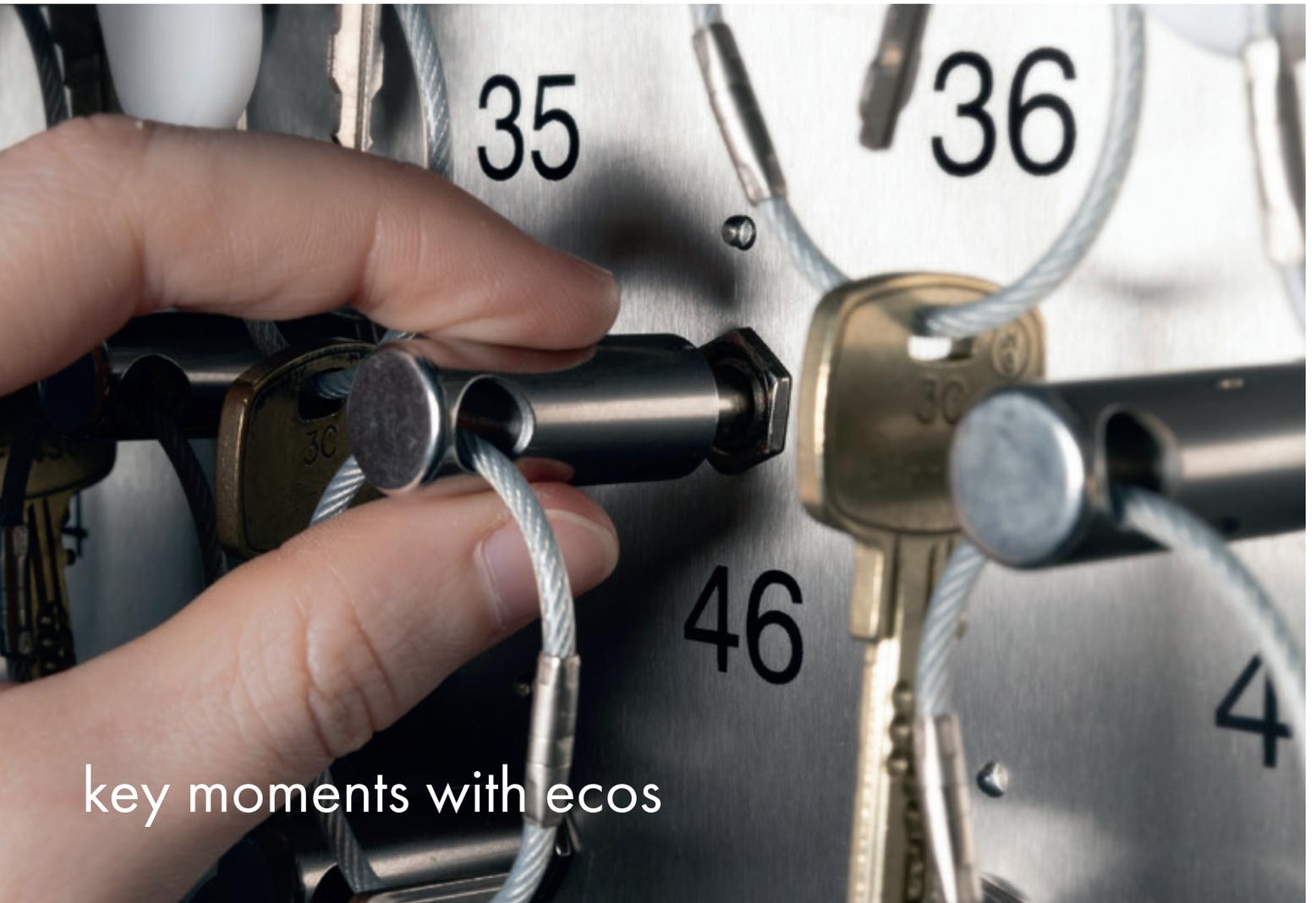


**e c o s** *systems*



key moments with ecos

**ecos** key management

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ecos systems



# Key to success

Your keys are power.  
Make more of it.

Keys secure your organization.  
Keys protect your building and your valuables.  
Keys give responsibility and grant power.

Responsibility and power must not be distributed indiscriminatory and uncontrolled.  
Manage your keys intelligently and grant selective access.  
This is the only way to keep everything under control and prevent damage.

State-of-the-art digital technologies make this task easier for you.  
ecos key management systems have been helping you do this for over 20 years.

**ecos** - electronically controlled organization systems

# Key management

## Intelligent key cabinets from ecos

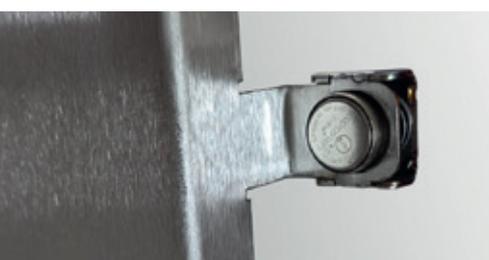
Modern key management systems are computer-controlled, fully automated issuing and return stations for your keys. Additionally, ecos systems bring with them the same functionalities as any smartphone.

Continuous 4G/5G communication is ensured via an integrated modem. This enables state-of-the-art video communication with our systems. Alarms are independent of your IT infrastructure. Your security is double-reinforced.

Via the mobile hotspot in the ecos systems, other nearby Wi-Fi-capable devices, such as the electronic door signs from ecos, can access the Internet.



Webview of our software ecos webman



Detail: Integrated LED strips, alarm contacts on the door, antenna on the system

## State-of-the-art electronics

All systems are equipped with state-of-the-art ARM processors, 7" touch screens and integrated 5 MP camera, microphone and speaker. With Android as a basis, we always have the latest technological innovations at our disposal. Especially in the area of user interaction, this increases the acceptance of the systems in your organization.

Alarm contacts with individual ID numbers for each of the two doors, an emergency battery and two security locks protect the system. An independent monitoring board as a „watchdog“ allows alarm messages to be issued even if the main board is defective.

Integrated multicolored LED strips inform in green about a successful login. The pulsing of blue LEDs indicates existing communication and red LEDs inform about a current power failure as well as use of the emergency battery. When scanning QR codes, taking photos and communicating via video, white LEDs improve lighting in front of the camera.



ecos key 40 with polycarbonate door

# Access to keys

## Protect and help

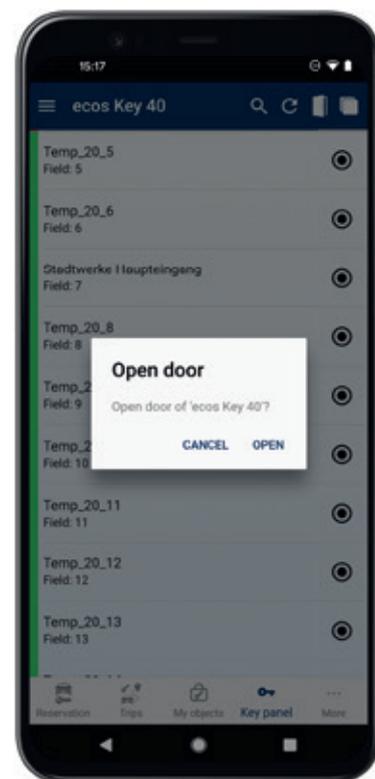
State-of-the-art authentication methods protect your ecos systems and verify correct access to your keys. In addition to the classic PIN code and RFID readers, biometric readers for fingerprint and finger vein, as well as QR code readers are available.

Our multi-RFID reader is compatible with common RFID protocols such as Legic, Mi-fare, DesFire, I-Code, HID, HID Prox, and Hitag. Your existing readers can be easily integrated via RS232, Wiegand or Data/Clock interfaces as well.

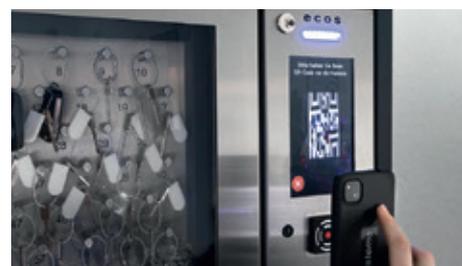
All options can be combined with each other as multifactor authentication. Access to a key is only released after several input methods are successfully completed, such as an RFID card and a PIN code.

A four-eye principle can be activated in particularly sensitive environments. In this case access to the system is granted only after several people have logged in with their respective authentication medium.

Our ecos app allows authorized persons to release keys from a distance for the fire department or security services in emergencies.



Remote release of the door via ecos app



Authentication methods on the system with RFID, Multi-RFID, Fingerprint, Fingerveins, PIN or QR-Code

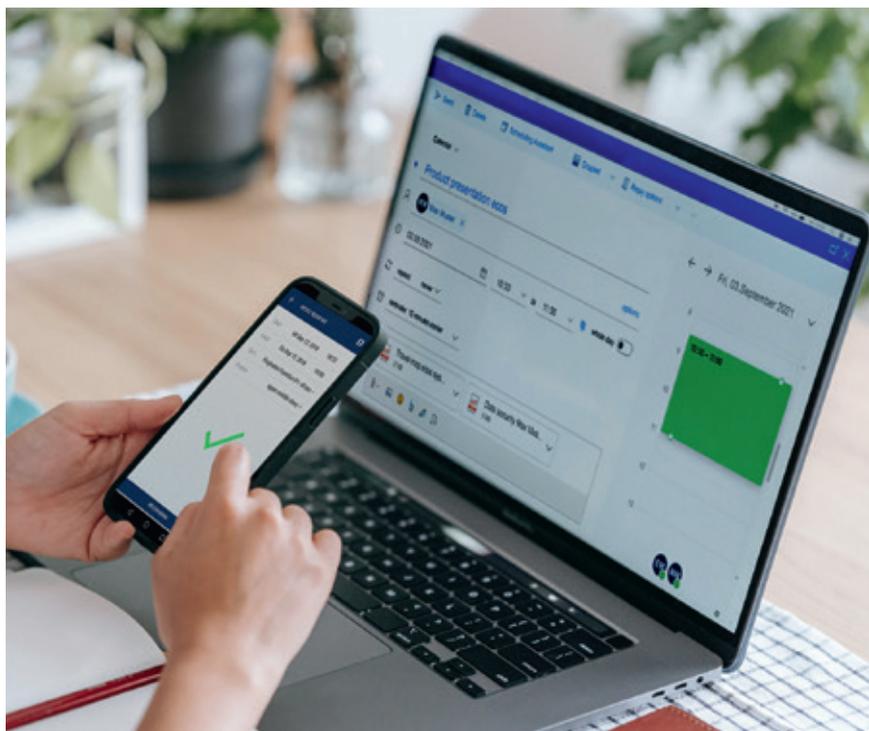
## Administrating via web or app

In addition to the possibilities of our web-based software ecos webman, the ecos app has many functionalities.

The ecos app offers more than just the pure administration of data. Through it, you can also interact with your key cabinet from anywhere.

If you have removed a key, you can hand it over to a colleague in a documented manner with the mobile key handover via app.

You also benefit from efficiency-enhancing functions such as mobile key reservation or integration into your Outlook calendar.



Reservation of keys through app and web



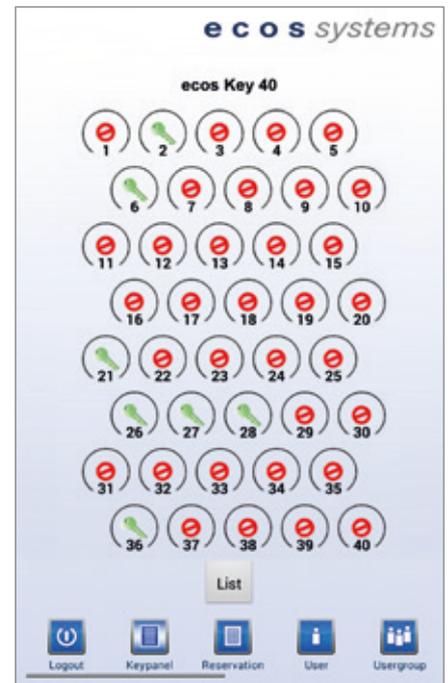
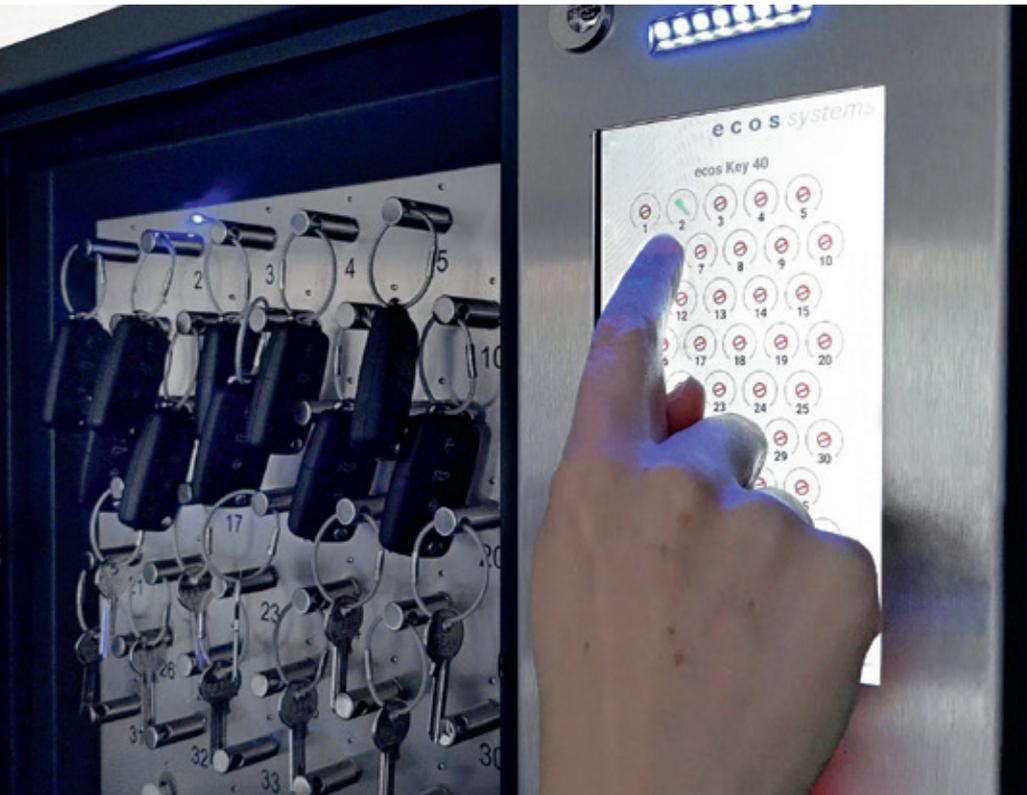
## Simple - efficient - certified. ecos care.

For an even easier user experience, we also offer our software as a service. With our all-round worry-free package ecos care, you benefit from automatic software updates and backups, as well as all the functions of the ecos app.

Communication is in one hand and includes both hosting and wireless communication. This enables us to provide our customers with an availability of 99.9% between our systems and server. Additionally, we take utmost care on information security, shown in our ISO 27001 certification.



# Information about keys



Only those keys to which the user has access are unlockable

## Operate and administer directly on the system

Our proven graphical interfaces are self-explanatory. This means that your employees can start using them productively right away. Intuitive search and filter functions allow you to quickly find the desired key, even from thousands of keys.

The most important administration functions, such as viewing historical data, updating keys, creating employees and assigning authorizations, can be performed directly on the system.

Purpose-built entry screens for room management, vehicle management and video communication allow you to collect useful data. This information is passed on to other users, the technical department or the administrative department.



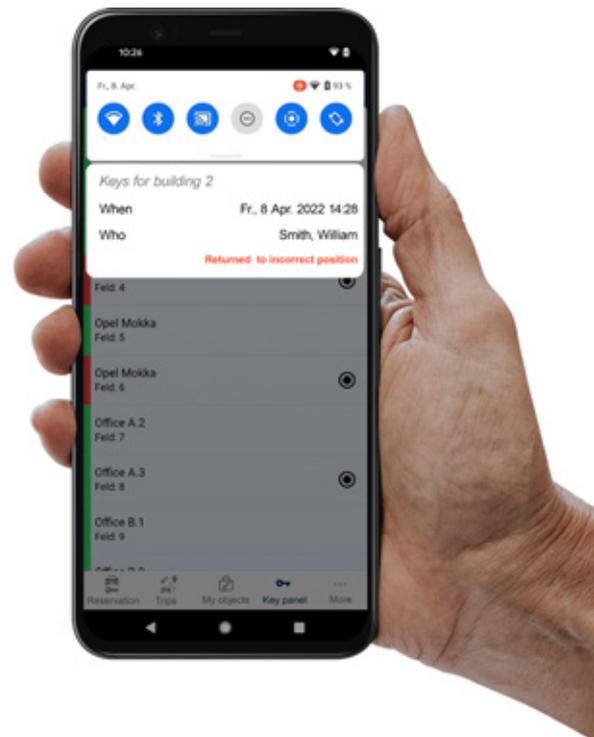
The correct key can easily be found via the search function

## Corrections and alarms through the system

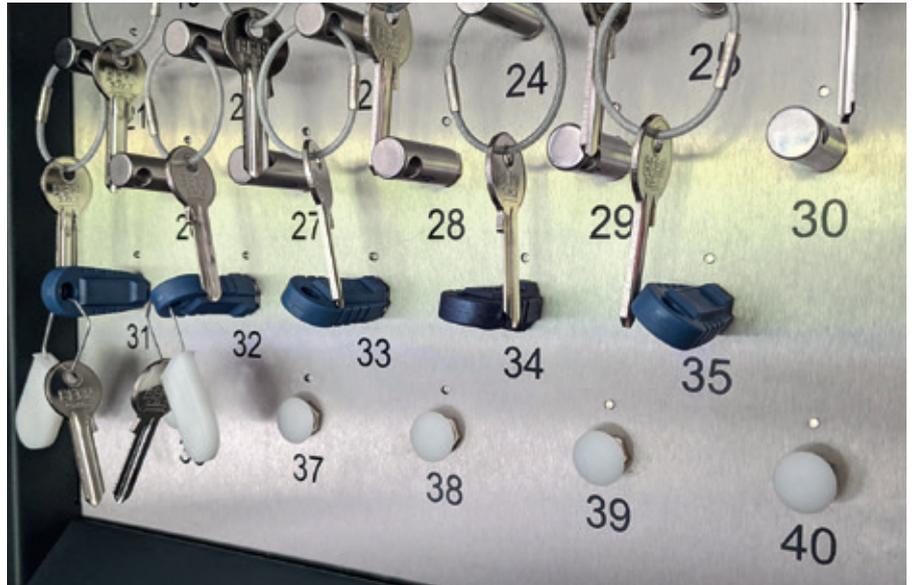
A wide range of security checks detect user mistakes and show correction prompts directly on the system and inform the responsible parties.

If preset time authorizations are exceeded, the respective user is alerted, as is the administration. Such messages are particularly important for time-critical applications such as vehicle management: if a vehicle is not back on site in time, a replacement vehicle may have to be organized.

More than 20 different alarms can be displayed acoustically or visually on site and forwarded to safety officers. Alarms can even be forwarded to the authorities with the help of potential-free contacts. All safety-relevant events are logged and are available to those in charge at any time.



# Detect and secure keys



Key slots with locked ID security plugs, unlocked blue ID plugs and deactivated slots

## Locked vs Unlocked

To be able to identify your keys, they must be connected to ID plugs. This enables the unique recognition of the key. Furthermore, it also allows you to meet different requirements for the security of your keys.

If your keys are of a similar nature, as is the case with patient keys, and your employees are allowed to work with all keys equally, you need the key cabinet less for security and more for better organization. In this case, the standard blue plugs are sufficient, especially to avoid the annoying search for keys. By setting return times or usage durations, the user will be alerted via email or push notifications on the app to bring back the key.

If your keys are important and you want to restrict their access to certain groups of people, then you should use the stainless-steel lockable ID security plugs. This allows you to directly control the use of individual keys, for example by activating time authorizations. This means that after the end of work, no employee may use this key or only issue it if a second person agrees to the release.



ID-plug with non-locking tip (top)  
ID-security plug with locking tip (bottom)



Depending on your security needs you can use different key rings to attach your key to your ID-plugs



# Key cabinets

## Housings and sizes

Our key cabinets consist of a powder coated steel body with high-quality stainless-steel doors. For security reasons, the cabinets are manufactured from a one-piece, compact steel housing with an integrated control unit.

In case of failure of all electronic functions the last fallback is that the doors and the locked slots can be mechanically unlocked quickly and without the use of tools via two safety locks.



ecos key 360

key 80

key 120

key 40

key 20

Key Cabinets		Key slots	Dimensions / inch			Weight / lb
Housing	Standard	Keys	Width	Height	Depth	Weight
XXS	ecos key 20	10-20	25.6	13.8	7.1	66
XS	ecos key 40	20-40	25.6	20.9	7.1	88
S	ecos key 80	40-80	25.6	34.7	7.1	110
M	ecos key 120	80-120	37.8	28.7	7.1	132
Housing "L"		Keys	Width	Height	Depth	Weight
L	ecos key 120 wide	80-120	37.8	72.4	7.1	231
L	ecos key 180	120-180	37.8	72.4	7.1	231
L	ecos key 240	180-240	37.8	72.4	7.1	243
L	ecos key 360	240-360	37.8	72.4	7.1	265
Extension		Keys	Width	Height	Depth	Weight
L	ecos ext 180	120-180	31.9	72.4	7.1	220
L	ecos ext 240	180-240	31.9	72.4	7.1	220
L	ecos ext 360	240-360	31.9	72.4	7.1	220



## See-through or solid doors

Depending on the requirements our customers can either store their keys protected from views in a solid stainless-steel door or in a polycarbonate door for a quick visual inspection.

## Extensions for large number of keys - ecos extension

The number of keys a L housing holds can easily be expanded by an extension housing. Depending on the available space the extension can be mounted side-by-side on the wall or alternatively back-to-back standing in the room. Hence the possibility to not only use the integrated 7" control unit but also bigger control units such as the 10" or 15" terminals.



ecos key 360 + ecos ext 360  
(Wall-mounted)



2x ecos ext 360 + ecos 10" Terminal  
(Standing)

# Space for keys

## Experience counts

From over 20 years of experience with our customers' needs, we have learned that nothing is more important to our customers than adequate space for their keys. Above all, easy access is important to them. There should be enough room for fingers to pull the ID plugs. By offsetting each key slot row we achieve to provide 2.4 inches in horizontal spacing without making the key cabinet too large.

Some users only want to manage individual keys or very few keys. They need only little space per key. Other users have packed their keys together into large key rings, for example, to keep a tour or a building completely on one key ring. There are also extra-large keys, from the olden days or for increased security.

For this we offer vertical space from 3.5 up to 8 inches. If your keys are too large even for this space, our slot deactivation allows the slot below to remain unused without incurring costs.

Since keys are only one access medium, other access media, such as RFID cards from electronic access controls, are also occasionally stored in our cabinets. Especially for this purpose, we have extended the depth of the interior of our systems to 4 inches in order to store ISO card formats without damage, even if they stick out vertically.



4" of interior depth offers space for ISO card formats



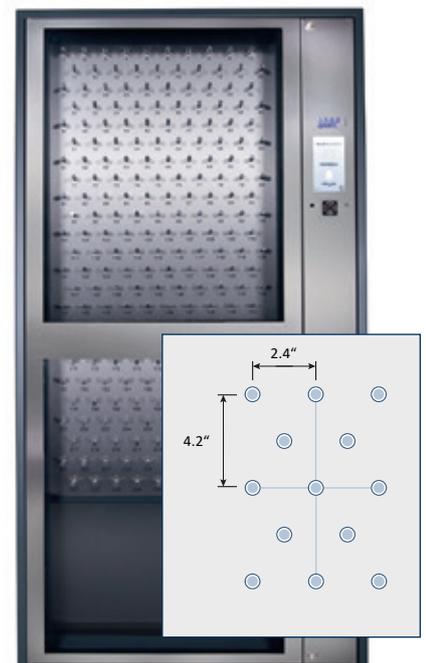
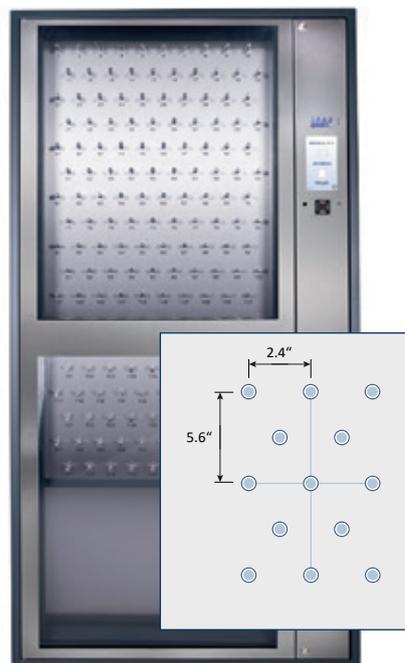
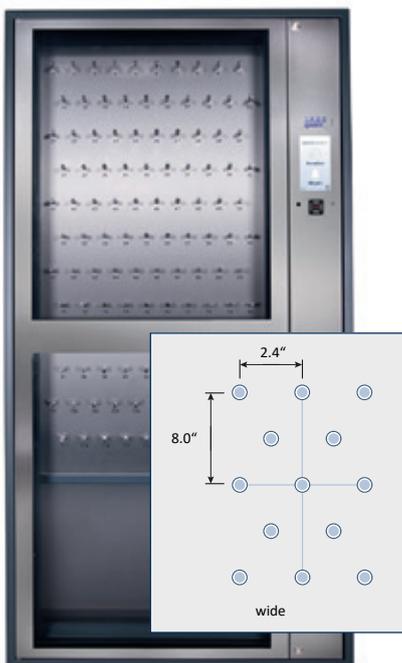
### ecos S - Housing „standard“



### ecos S - Housing „wide“



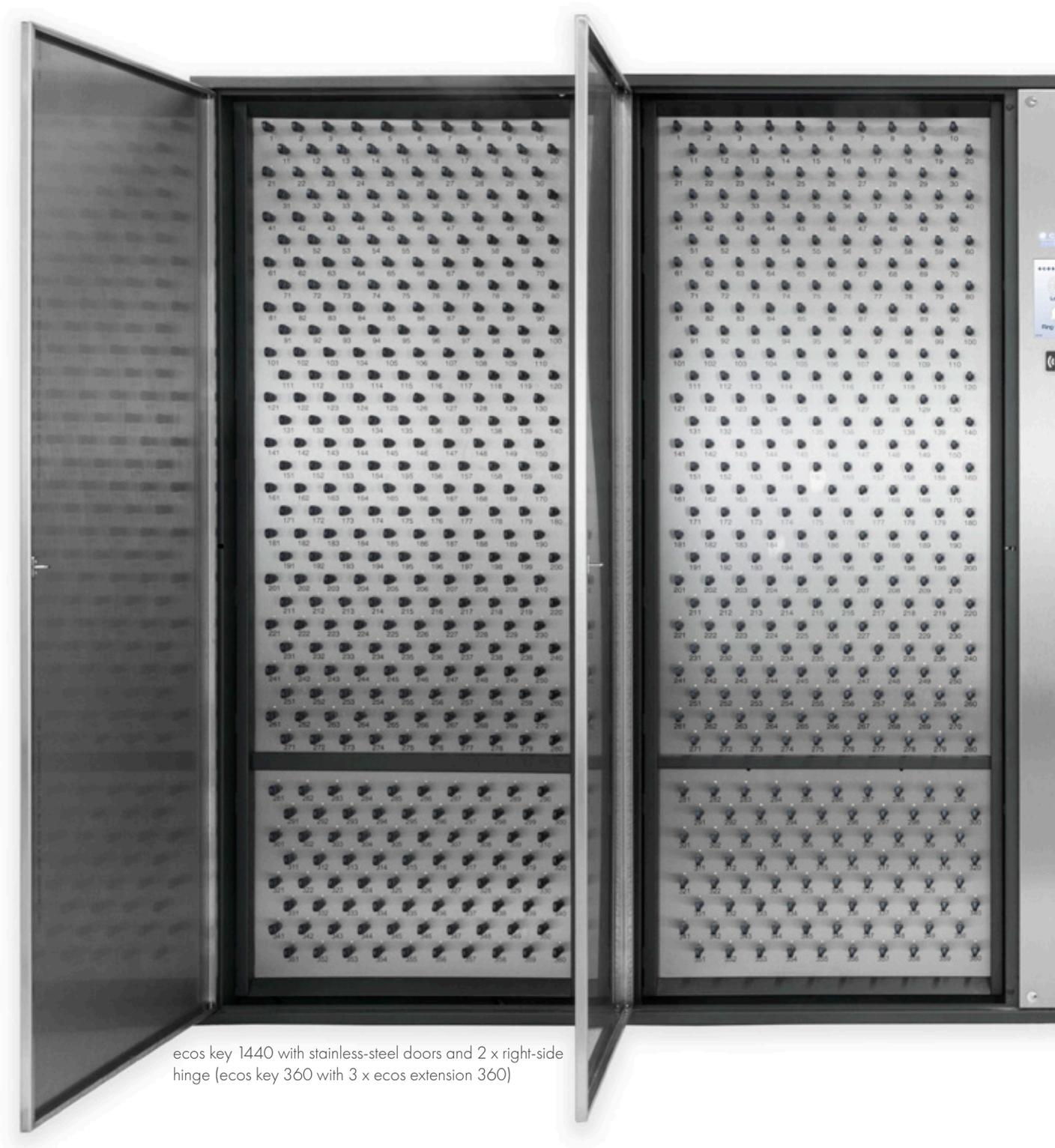
### More space inside the large ecos L - housing



# Space for many keys

Any number of keys can be managed via just one control unit using our extension cabinets. When it comes to the number of keys to be managed, the decisive factor is not our electronics, but your ease of use. For this reason, a second control terminal should be provided if the number of keys exceeds a certain limit, and the number of simultaneous users increases.

For further ease of use while handling a large number of keys, all extension cabinets can be supplied with a left-hand or right-hand hinge. This saves you unnecessary steps around doors and you can see the illuminated LEDs of the requested keys immediately.



ecos key 1440 with stainless-steel doors and 2 x right-side hinge (ecos key 360 with 3 x ecos extension 360)



# More space for later

## Future-proof investment

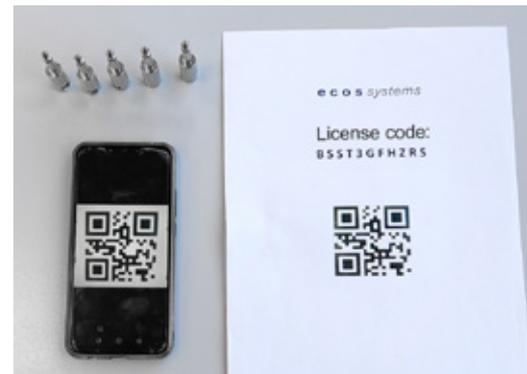
One of the key considerations when purchasing a key cabinet is the number of keys to be managed.

Especially for service providers such as security-, home emergency-, care- or cleaning services, the future business development is difficult to predict and therefore the number of its customers requiring key slots.

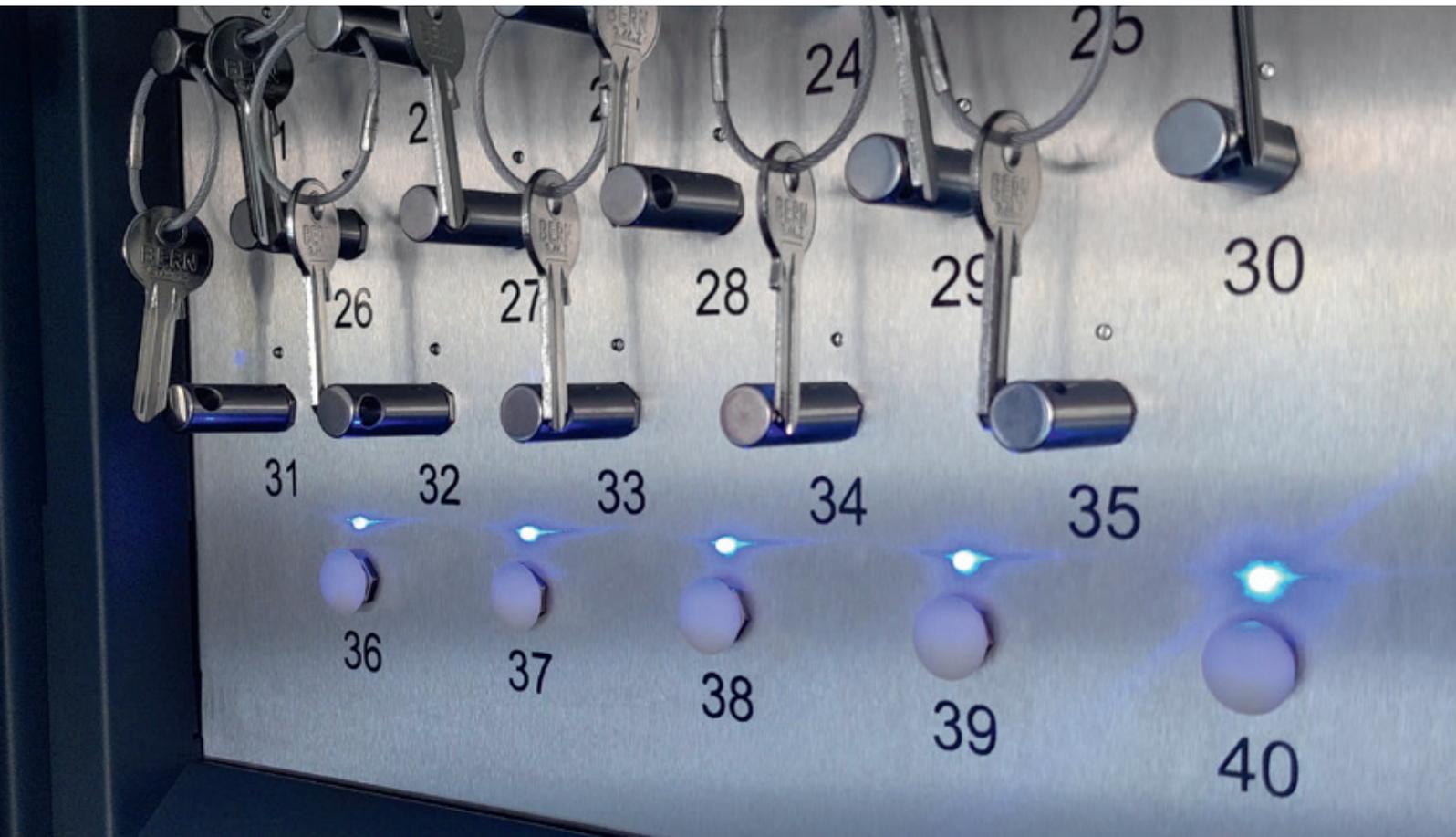
This kind of innovative investment from your organization indicates a successful future, which is why we believe in you and invest in you.

All our key cabinets come fully built with mechanics and electronics, even if not all key slots have been purchased. These reserve key slots can be activated at any time in minutes.

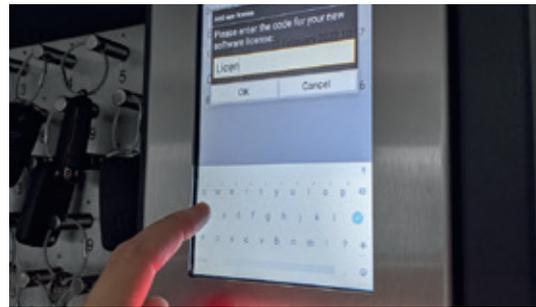
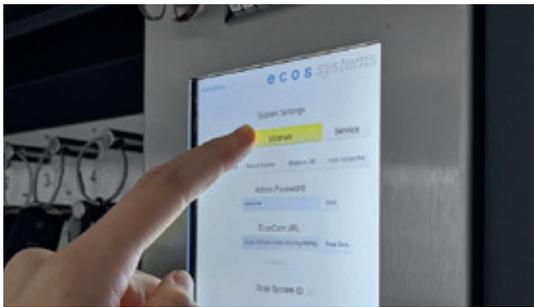
No retrofitting and additional installation costs are necessary.  
No appointments need to be scheduled.



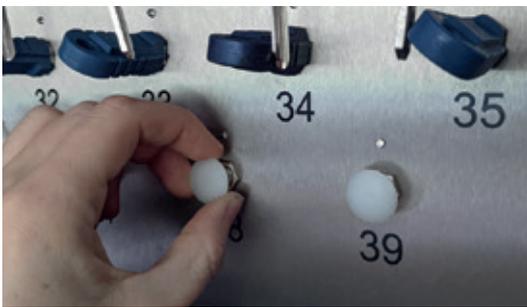
All you need to activate further key slots:  
ID-plugs and an ecos license code



## Entering the license code on the system



## Removing the covers



## Reading in the ID plugs



Procedure for the activation of additional key slots

# Keys and more

## Things made easy

Combining a locker system with a key cabinet allows the efficient use of one control unit. It enables your users to simultaneously take out keys with its corresponding object such as medications, documents or tools.

Very important keys can be secured separately from the other keys in individual small drawers.

By default, every key cabinet has a connector, which provides the possibility of retrofitting lockers effortlessly and quick.



Manage entrance keys ...



... and medications together



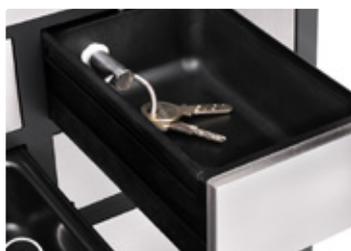
Key cabinet ecos key 360 connected to a locker system with eight 1 m/2 drawer

## Combination with an ecos locker system



ecos key 120, externally coupled via connector to a locker system with 1m/2 and 1m/4 drawers

## Motorized drawers for



Door key with ID-plug



Vehicle key with RFID sticker



Storage medium / work material



Vehicle key and documents

# Room management

## Integration into your organization

The fewer programs that need to be operated, the easier.

With this in mind, we have integrated our functions into the Microsoft Office package. With the connection of our reservation module to the Outlook calendar, its functions can be used as well.

Resources can be assigned to the appointment in the Outlook calendar. These bookable resources show directly whether the room keys are available for the desired day and time. If yes, the organizer of the appointment will be given access at the right day and time.

Thus, the key cabinet knows all relevant information about this appointment, such as room, day, time, and participants. Via the mobile hotspot of our key cabinets, this data is displayed directly on the respective electronic door signs using Wi-Fi.

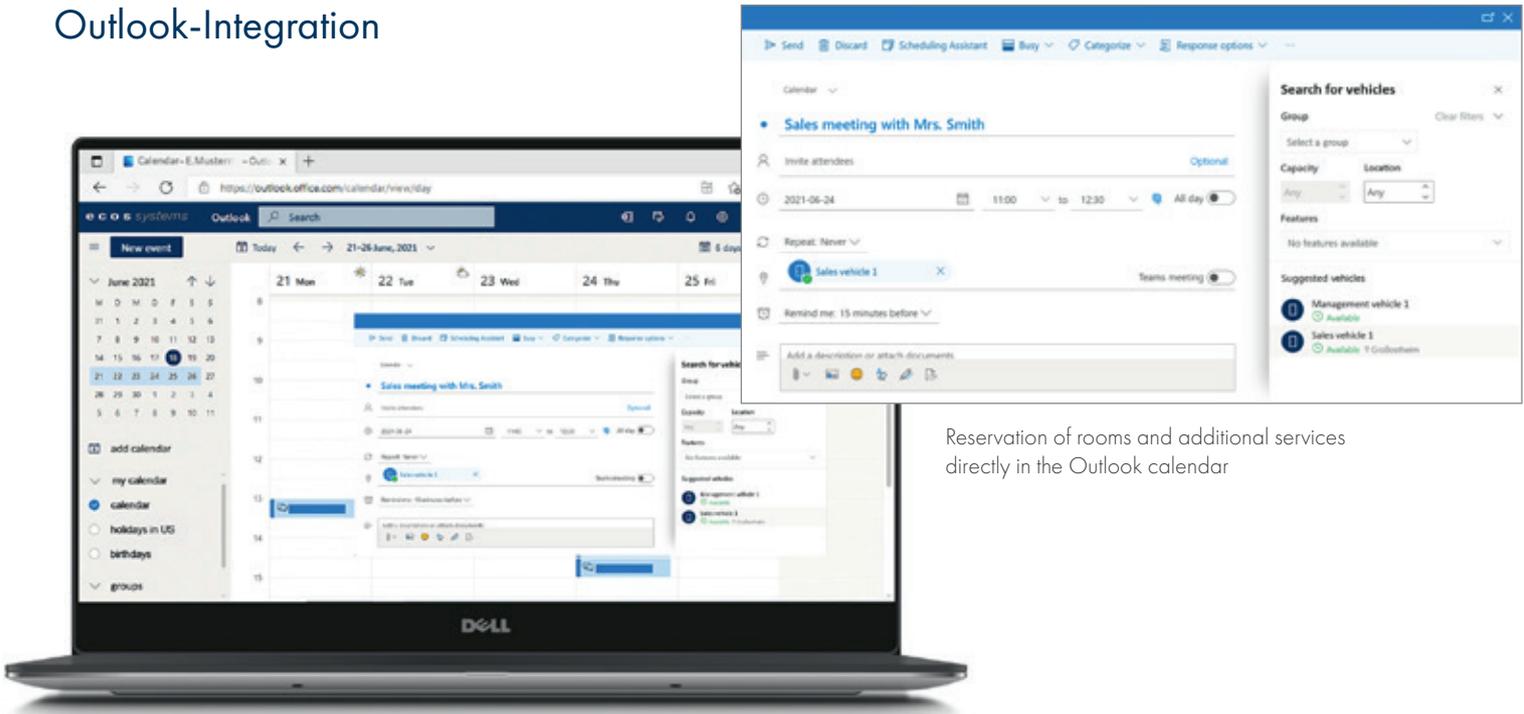
In times of home office, this makes it very easy for every employee to reserve a workspace on site. Of course, this can also be done via the ecos app.

When making appointments, any catering service that may be required can also be ordered by automated e-mailing.



Key cabinet ecos key 20 with polycarbonat door for issuing reserved room keys

## Outlook-Integration



Reservation of rooms and additional services directly in the Outlook calendar

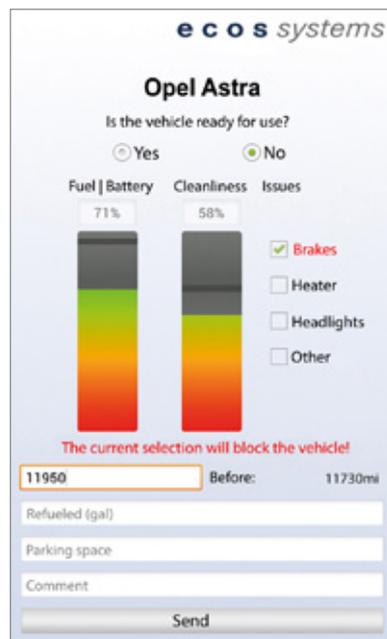
## Electronic door sign



# Vehicle management



Thanks to the reservation function, required vehicles are always reliably available.



Information about the vehicle is entered directly into the system when the vehicle key is returned into the system...



...and can be viewed by the next user by clicking on the virtual key

## Usage counts

Vehicle keys should be managed in a controlled manner because of the value of the vehicle they represent. But that is not all, because availability is also of great economic importance.

To optimize availability, we enhanced the key issue „before the trip“ and key return „after the trip“ with different technologies.

ecos has four options for reserving a vehicle. Via the ecos webman, the ecos mobile app, your Outlook calendar or directly at the system. Various authorization and allocation concepts thus allow the best possible use of your vehicles.

Additional control options ensure that the respective user is in driving conditions. These can be alcohol or driver's license checks, but also a renewal check in case of special driver's licenses.

After the end of your ride, diverse input masks allow you to share mandatory or voluntary information with other users or the technicians and administrators.

## Mandatory breathalyzer test



ecos key 20 with built-in breathalyzer test

## Integrated driver's license check



# Two-way intercom

## Communication builds trust

Many of your employees are rather skeptical about the introduction of new technologies. You wonder what this means for you.

It is the joint task of management and the manufacturer of these new technologies to create trust among employees. For this reason, we give the user the opportunity to establish communication with the respective responsible persons via the key cabinet, as an internal service hotline.

By default, our systems are equipped with audio communication. If required, video can also be added. Via intelligent group assignment, the user in need of help can call the technical department, the administration, but also the safety department on site by a simple tap.



Login screen with ring function. Camera is to the left and microphone to the right of the RFID reader



Videocommunication with the head office through the key cabinet



Direct connection to the head office

# Entry door



Videocommunication and access control in an outdoor area with an ecos terminal

## More than keys

To round off our key cabinets, our terminals are suitable, which, in addition to their intercom function, can also open electric locks of entrance doors. The master data of your employees are known via the key cabinets, only an additional authorization for the outside door must be issued.

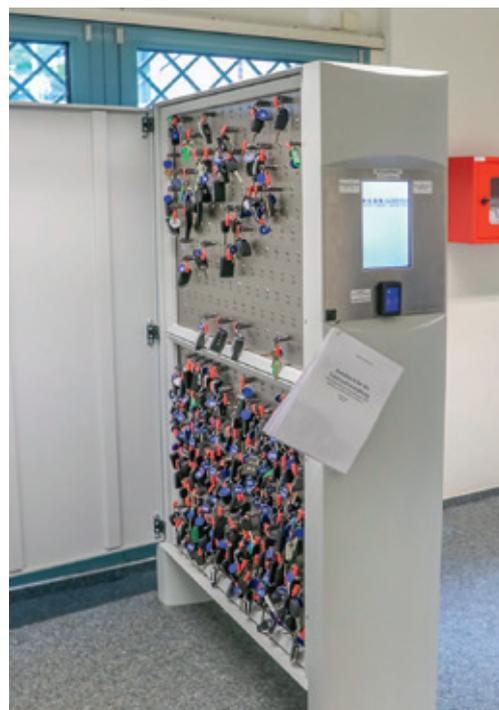
This combination allows an even better integration of our key cabinets into your organization. The key to your most important door, your entrance door, no longer must be carried around but is replaced electronically.

Our video communication allows the identification of external visitors. If the visitor is known or can identify himself, you can open the door remotely for him with the ecos app. Above all, our additional solutions in the area of access control and visitor management complete your key cabinet.



Greet visitors through your ecos app remotely

# Indoor



## A 24/7 urban utilities company for his services

A municipal utilities company in northern Germany supplies the city's residents with electricity, gas, water and long-distance heating, and also with telephony, internet, cable TV and mobile communications via its own fiber-optic network.

It also owns and manages external properties and holdings, such as an amusement park, a swimming pool, and the transportation services.

Five ecos systems manage 2,000 keys of various types.

Likewise, the entire fleet of company vehicles, including electric bicycles, is managed using our vehicle management solution.

According to the company's own statement, employees had to hand out the keys during the pre-ecos period. However, this was only possible during regular working hours. However, due to the variety of services offered by these municipal utilities, a 24/7 service was essential.

For almost 10 years, this service has been tirelessly provided by ecos key cabinets to the 500 employees of these public utilities more than 50 times a day.

## The home emergency call center of a red cross association

For 20 years, the home emergency call service of an association of the Red Cross has been using ecos key cabinets. The systems have been regularly expanded and renewed and now include many systems with several thousand managed customer keys.

Over time, the service vehicles of the association have also been included and are now also organized via the ecos vehicle management system.

In order to be with their customers as quickly as possible, the 5 locations were equipped with decentralized systems.

According to the head of service, the work processes and procedures are very closely linked to the ecos software. Work schedules with the respective authorization distribution are entered on a weekly basis.

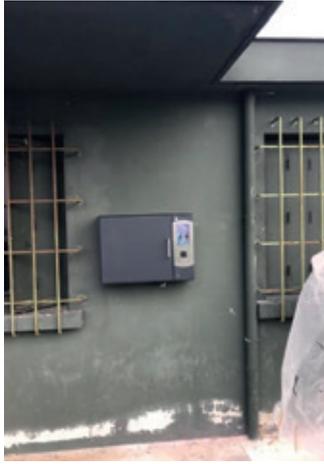
He names the two greatest strengths of the ecos key cabinets as being the time saved in an emergency. Even if the search for the right key would only take a few minutes longer without the key system, these minutes can save lives.

The second great strength, which is becoming more and more important in times of increased data protection, is the protection of the personal data of his customers, which is only accessible to a very small group of employees.



# Outdoor

## Mounted in outdoor area



ecos key 20 and 40 in outdoor use at various military sites, each equipped with a cover to protect the user and system

## In the underground parking



ecos key 80 in an underground parking in France

## Robust and reliable

All ecos systems are manufactured using components from the automotive industry. In addition to the high-quality standards of the automotive industry and the cost savings associated with mass production, the outdoor capabilities of these electronic components are of central importance for ecos systems.

The covered temperature range and the robustness against external weather conditions thus allow outdoor use without modification directly from the factory.

The compact one-piece housing of the key cabinets protects against dust and water. Nevertheless, we recommend roofing for outdoor use, especially to protect the user from rain.

The systems shown have proven themselves for many years in outdoor use.

## Daily use in South African mines



Various key cabinets of different sizes and system generations in many years of hard continuous outdoor use. The system on the top right is currently being upgraded to the latest processor generation.



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ISO 27001  
Information Security



ISO 9001  
Quality Management



ISO 14001  
Environmental Management