ecos *systems*

ecos fleet

Intelligent Solutions for your organization

Centered around the efficient management of value.

Ecos systems GmbH was founded 20 years ago with the aim of supporting organizations with electronic systems.

Since then, we have been constantly working on automating and simplifying business processes with our systems. Therefore, our focus lies primarily on efficiently merging the physical with the digital world.

Within the real world, physical items and objects occupy center stage. We utilize them every day, we avail ourselves of them in all areas of our lives. But unfortunately, most of these objects are not connectable.

In order to integrate objects into our lives, we need to monitor them, count them, dispense them in a controlled way, and retrieve them.

This is our world, the ecos world: we use cutting-edge technologies to bridge the gap between the physical and digital world.

ecos - electronically controlled organisation systems

Evolution Tower Moskau
equipped with ecos security systems

Table of contents

Corporate Carsharing
Efficient vehicle use

Less is more.
Our fleet - sharing concept.

Our clients' analyses of how to increase efficiency through intensive use of corporate car sharing have shown cost savings of around 30%.
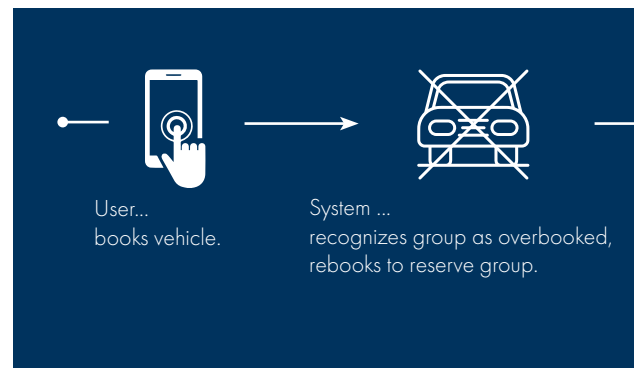
This includes the accurate accounting of company cars using a smart driver's logbook while avoiding the 1% rule, as well as the joint use of pool vehicles for private use.

Moreover, electric vehicles can be elegantly integrated into your vehicle pool via car sharing. After entering the desired destination, the most suitable vehicle is automatically booked in relation to the route length: from the group of electric vehicles for short distances, as well as from the group of combustion vehicles for long distances.

For the most part, these savings are offset only by the additional administrative effort. However, the latest technologies for automating ever same processes make it possible to keep this effort to a minimum.
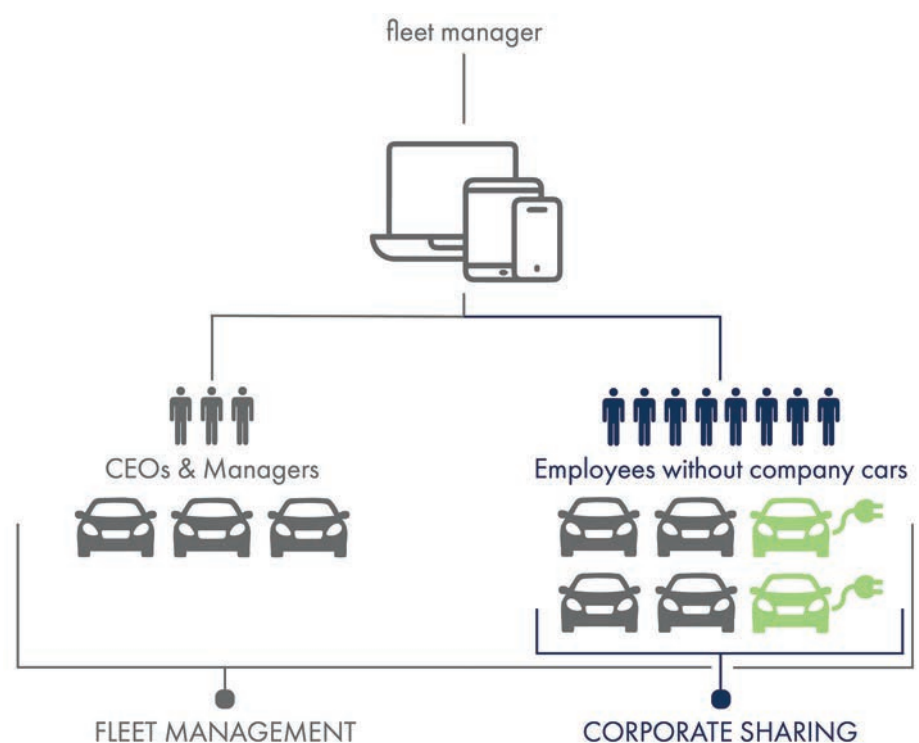
User...
books vehicle.

System ...
recognizes group as overbooked,
rebooks to reserve group.

How it works:
The fully automated process of demand compensation

Your potential savings:

• Smart driver's logbook approx. **10%**

• Pool vehicle management approx. **10%**

• Rental car integration approx. **10%**

fleet manager

CEOs & Managers

Employees without company cars

FLEET MANAGEMENT

CORPORATE SHARING

Carsharing - concepts for you and your employees: centrally coordinated by the fleet manager

System ...
detects reserve group as overbooked, recognizes demand for external replacement.

System ...
generates order to contract partner, sends it automatically as an e-mail.

Contractor ...
provides replacement vehicle.

User ...
receives replacement vehicle.

Reduce running costs.
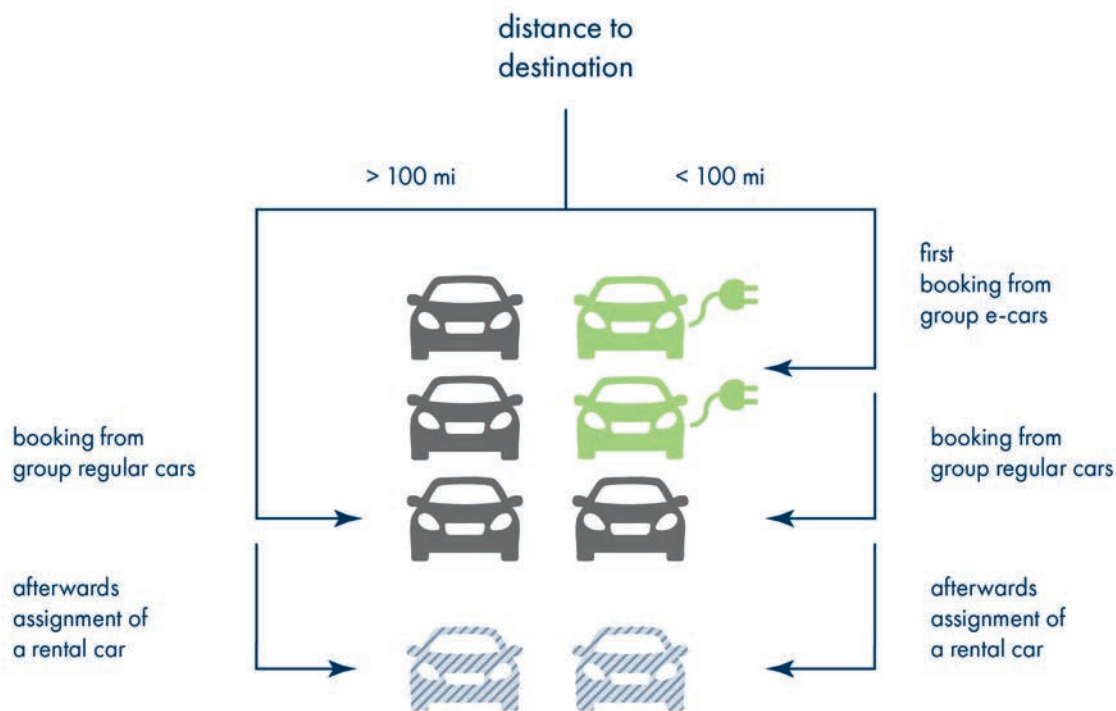# Through optimized fleet utilization.

In addition to the optimization options already mentioned, increased vehicle utilization in particular leads to further great potential for savings.
Our fleet management solution allows you to automatically compensate for unexpected vehicle breakdowns or peaks in demand with minimal effort. A service partner of your choice, be it a repair service, a car dealer, or a rental car company, must be registered once for this purpose.
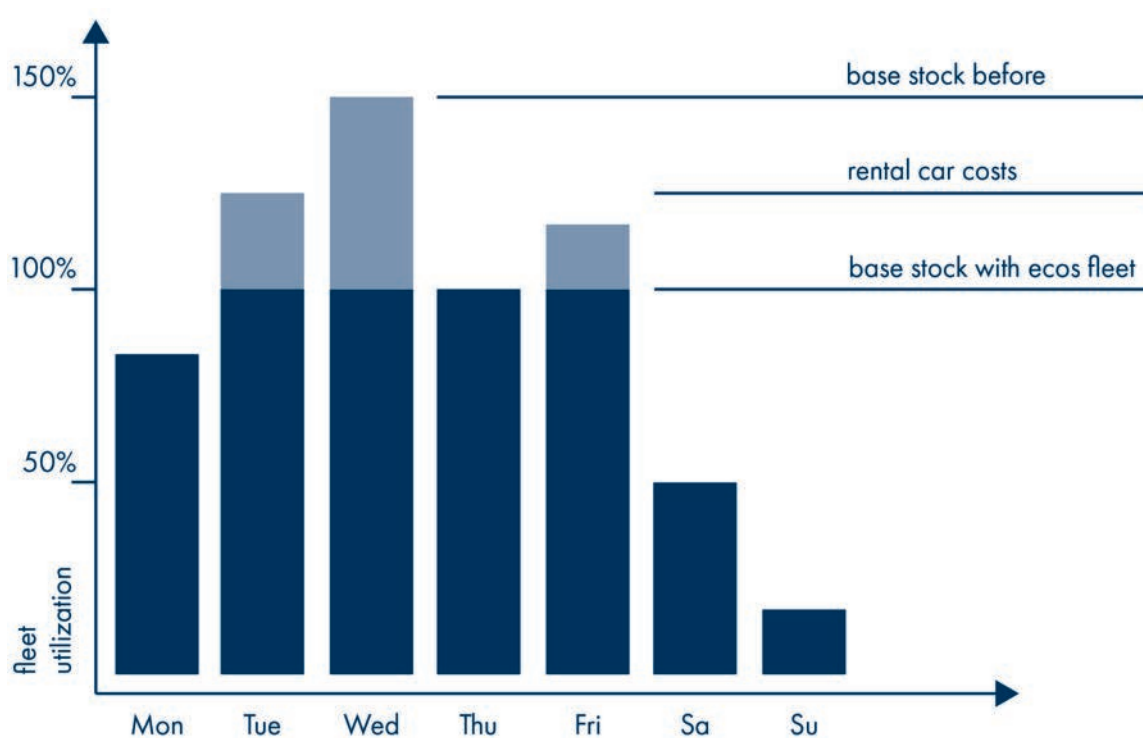
Reducing your basic fleet requirements saves you money - on acquisition as well as in ongoing operations

Corporate Carsharing
Specific benefits

distance to destination

> 100 mi   < 100 mi

first booking from group e-cars

booking from group regular cars

booking from group regular cars

afterwards assignment of a rental car

afterwards assignment of a rental car

Benefit from intelligent group assignment in your fleet. For high utilization rates and maximum efficiency

Your benefits:

- Optimized vehicle utilization through higher occupancy rates

- Interception of peaks through booking of rental vehicles

- Efficient integration of electric vehicles

- Private use taxed via real costs, no 1% regulation

- Automated maintenance

- Simplified administration

Low effort. High benefit.

Using vehicle groups, the planned trip may always be provided with the perfectly matching vehicle. Our system differentiates according to the length of the route and automatically assigns you the most suitable groups of vehicles.

With our ecos fleet, the data of all the vehicles you use can be digitally merged as well. Information on rented vehicles, including kilometers driven and fuel receipts, can also be integrated here easily.

Via the ecos app, your users can also immediately assign smaller receipts such as car washes to the vehicle used for the respective trip, providing you with a complete overview of all financially relevant data in your fleet at all times.

Together with all other documents accruing for a specific vehicle, such as leasing and insurance contracts, inspection or repair invoices, this overview enables you to easily itemize costs and tax them accordingly.

Save money by circumventing the 1% rule.
With the smart driver's logbook.

When taxing the imputed income according to the 1% rule, a flat-rate private use value of 1% of the vehicles gross list price is applied -
An assumption that causes unnecessarily high costs.*
The smart driver's logbook by ecos fleet instead enables you to achieve a complete documentation of all journeys for the exact accounting of your values.

1% - regulation:	
1% x gross list price (40.000€)	400,00 €
+ 0,03% taxable base (12€/mi, 20mi)	240,00 €
countervailing benefit	640,00 €
annual tax (x30%)	192,00 €
ecos smart driver's logbook:	
total cost (running 500€ + AfA 408,50€)	908,50 €
share of private use	x 20 %
countervailing benefit	181,70 €
annual tax (x30%)	54,51 €
monthly tax savings per vehicle:	137,49 €

* This is in accordance to german law. For other countries, different regulations may apply.

Maintain an overview in a fully automated manner.
By evaluation in compliance with the fiscal authorities.

The evaluation of all data transmitted by your logbook in compliance with the fiscal authorities is a matter of course for us. Therefore, the unique interaction of ecos key cabinet/locker and smart driver's logbook ensures 100% complete, fully automatic data transmission and documentation. GDPR-compliant and certified according to ISO 27001 information security standards.

ecos fleet
Our offering

For companies and self-employed

Mobility is not limited to your company locations.
It must be ensured everywhere! For this reason,
we provide you with our ecos fleet solution as a worldwide service.

Mobility is not fixed, it is flexible and mobile - it breathes.
Today your organization requires six vehicles, tomorrow ten
and on weekends only two, so how do you plan for dynamics?

Our concept for your mobility has addressed this issue.
Our ecos fleet offering is simple and scalable.

You don't need to be clairvoyant and know your needs for many years in advance.
If necessary, you simply book or unbook additional vehicles.

Our solution ecos fleet includes our module for vehicle management ecos car, and
additionally the modules ecos cost control as well as the smart driver's logbook and
our Outlook - integration.
Our worry-free package ecos care covering software, communication and backup
is also included.

We provide two solutions for the actual management of your vehicle keys.
Either you store them in a key cabinet, or you secure each key individually
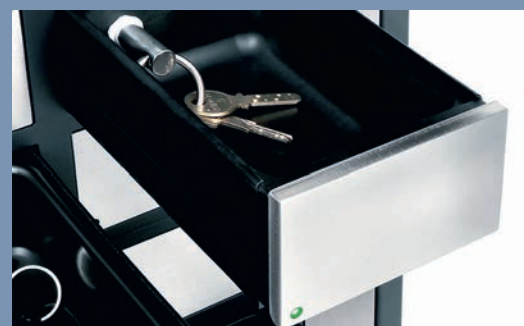in a separate locker.

Your vehicle keys in the ecos key cabinet.

ecos drawer m/4 with ID recognition
Available starting at 4 sockets

Smart
driver's logbook

4,90 €/mt

per vehicle

For self-employed or
company-only cars

Also available separately
(for more informationen see p.21)

ecos fleet

99 €/mth

per ecos key cabinet

+ # 9,90 €/mth

per vehicle

- starting at 10 interlocked sockets
- including ecos care
- including ID recognition
- including smart driver's logbook

calculation example

19,80 €/mth*

total per vehicle

for 10 vehicles
with ecos fleet

* 99 € / 10 vehicles + 9,90 €

ecos fleet secure

99 €/mth

per 10" control unit

+ # 14,90 €/mth

per vehicle

- starting at 4 sockets
- including ecos care
- including ID monitoring
- including smart driver's logbook

calculation example

24,80 €/mth*

total per vehicle

for 10 vehicles
with ecos fleet secure

* 99 € / 10 vehicles + 14,90 €

Further options for ecos drawer - lockers

ecos drawer m/2 with RFID recognition
and space for documents such as
vehicle documents and fuel cards.

ecos drawer m/4 with RFID recognition
Available starting at 4 sockets

ecos fleet
Manage with a system

Selection of ecos security systems:
Stand system with 15" control unit, 8 ecos drawer m/4 and 8 ecos drawer m/2
Wall system with 7" control unit, 4 ecos drawer m/4 and 2 ecos drawer

key cabinets ecos key 20,40 and 80
each with 7" control unit

The ecos key management systems.

Ecos' electronic systems are optimized for the management of values. Due to their function, keys are among the most important valuable objects of all. For this reason, some of ecos' systems have been developed specifically for the management of keys only. two product lines are being offered for this purpose:
The key cabinets as well as the small drawers.

The key cabinets are available standardized with a 7" control unit. The drawers can be equipped with 7", 10", 12" and 15" touch displays.

ecos key cabinets:

The capacity of our key cabinets ranges from 20 to 360 keys. Each cabinet size is available starting at as little as half the maximum number of keys. The sockets that are not required are being deactivated in this case.

These deactivations allow new sockets to be activated by simple electronic activation using a license code in the event of additional demand at a later date. This way the number of available sockets can be adapted to your exact needs.

ecos drawers:

The m/4 and m/2 drawers open and close fully automatically.
This eliminates human errors such as forgetting to close them and ensures a smooth workflow at all times.

All drawers are available with ID plugs as well as with RFID stickers: Using plugs, the ID-equipped key bundles must be inserted into a socket provided for this specifiy purpose. This process follows the same principle as for the key cabinets. Keys equipped with RFID stickers on the other hand only need to be placed within the drawer to ensure proper recognition.

The m/4 size of our drawers is ideal for storing a vehicle key. In contrast, the slightly larger m/2 drawers are designed for the joint submission of additional documents, such as the vehicle registration document or a fuel card.
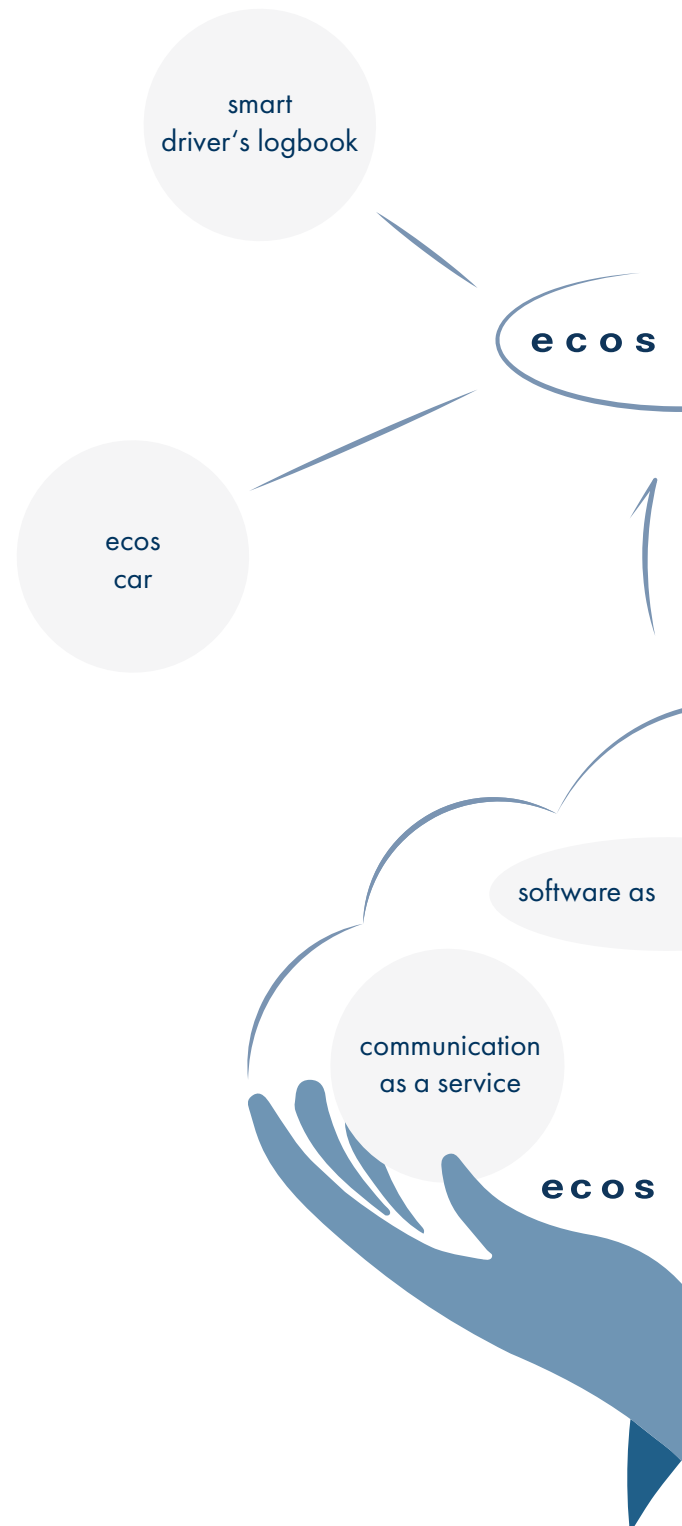
All drawers are designed to meet particularly high security requirements and have been tested as suitable for military installations.
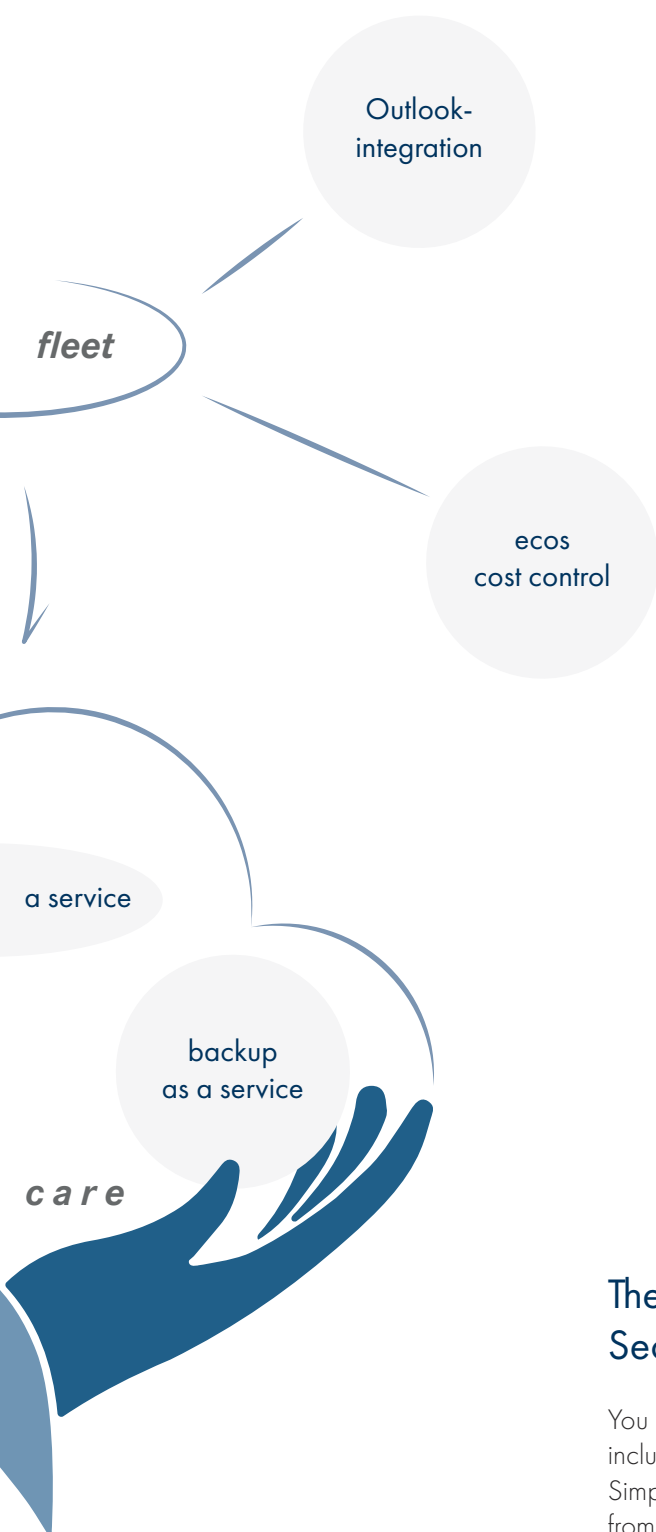
Your benefits:

- Intuitive operator panel with integrated service phone

- Central control of systems via web and app software

- Customized key number

- Simple activation of additional sockets without the need for a technician

- ISO-27001 - certified Information security

- Drawers suitability tested by the German Federal Office for Information Technology (BSI)

ecos fleet
fleet management as a service

State-of-the-art - localization raises your fleet
to the latest technological level.
Benefit from our fully digital smart driver's logbook and
enjoy efficiency-increasing features all around the
subject of GPS localization.

Our vehicle management module ecos car offers you our
proven combination of flexibility and security.
The reservation module included within is the core of our
booking systems: In addition to a wide variety of reserva-
tion modes, it primarily includes security routines that
ensure each of your employees is always provided with
the vehicle they need. Furthermore, we are supporting
your responsibility as fleet manager with an intelligent
returning system and our autonomous demand control.
At the same time, the ecos safety modules ensure the
highest level of protection for you and your drivers.

smart
driver's logbook

ecos

ecos
car

software as

communication
as a service

ecos

Outlook-
integration

The Outlook integration within our ecos booking module enables your employees to conveniently make reservations in a familiar interface. In addition, every single user receives a full overview of all appointments and trips in their personal calendar.

fleet

ecos
cost control

The ecos cost control administration module records all relevant documents and data of your vehicles. Purchase, leasing and insurance contracts are being electronically stored in the system. Repair invoices, vehicle washes and fuel receipts can be photographed via the app and thus also assigned to the vehicle currently in use. Simultaneously, your drivers get prompted to enter the corresponding mileage as well as the liters filled up. Our ecos app calibrates the GPS data using the values recorded and reliably calculates your exact respective consumption.

a service

backup
as a service

care

The epitome of mobility.
Security can be so simple

You receive the ecos fleet offers
including unlimited access to all ecos care services.
Simplify your IT infrastructure and benefit directly
from our all-round carefree service.

State-of-the-art Booking systems
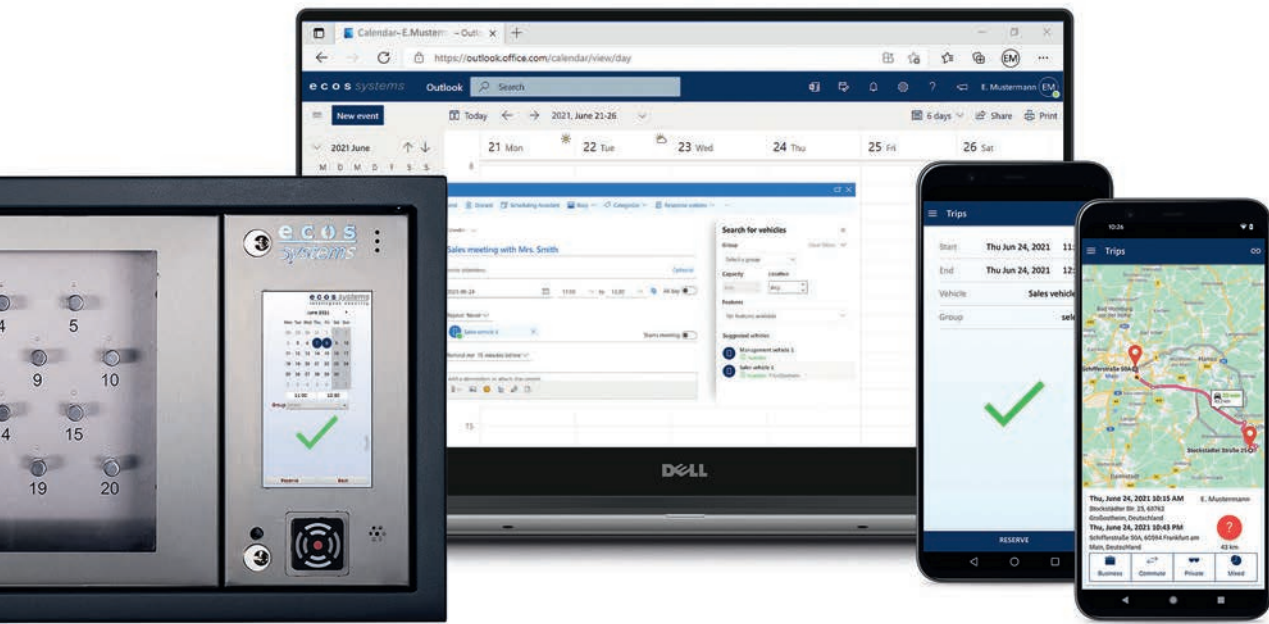
Reservation of your vehicles - via web, app and directly at the system

Your benefits:

- Access to the booking system from any device

- Short-term booking at all times directly at the ecos key system

- Intuitive system with intelligent vehicle allocation

- Elegant rebooking via mobile key transfer

- Intelligent vehicle recognition via Bluetooth

- Real-time data transmission without add-on device

Mobile key transfer via app

Via web, app or directly at the system.
## You decide when and where you book.

To ensure efficient vehicle use, users must be able to register their needs and make a binding reservation for a vehicle. We therefore provide you with booking options from any smartphone and computer as well as at the system anytime.

You can either directly book individual vehicles or simply select a vehicle group.
If your desired vehicle is already booked, a vehicle from the same group is automatically reserved as a replacement.

If the desired group is fully booked, a replacement vehicle from another group is selected according to defined company settings. In case of no more of your own vehicles being available, a rental car is automatically getting ordered from your contractual partner.

During the reservation process, you will always receive immediate feedback regarding the availability of your desired vehicle or information on the request release from your supervisor. Of both positive and negative responses you will be informed once again.

For longer trips, it may be necessary to transfer the vehicle to another driver.
This is elegantly and easily possible via our apps rebooking function.
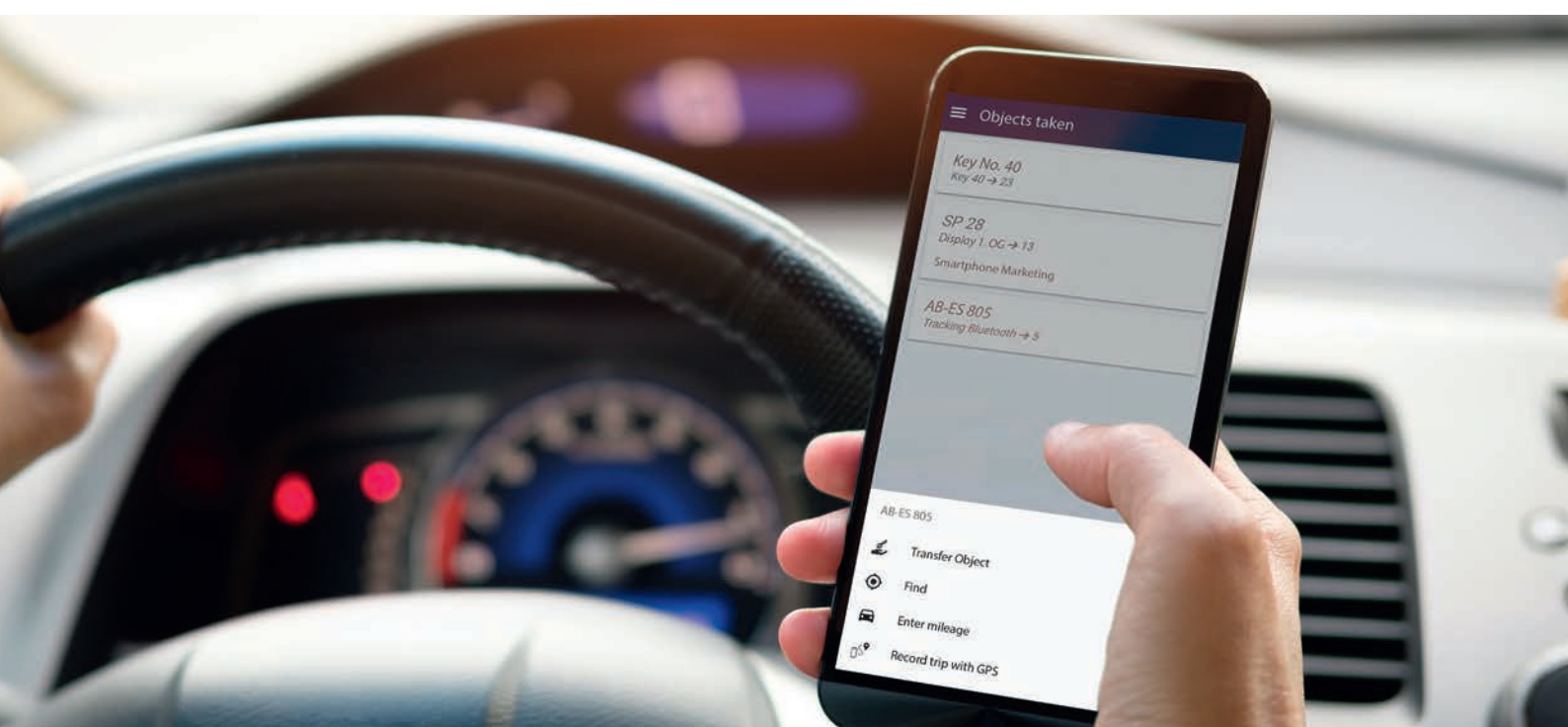
Outlook - integration
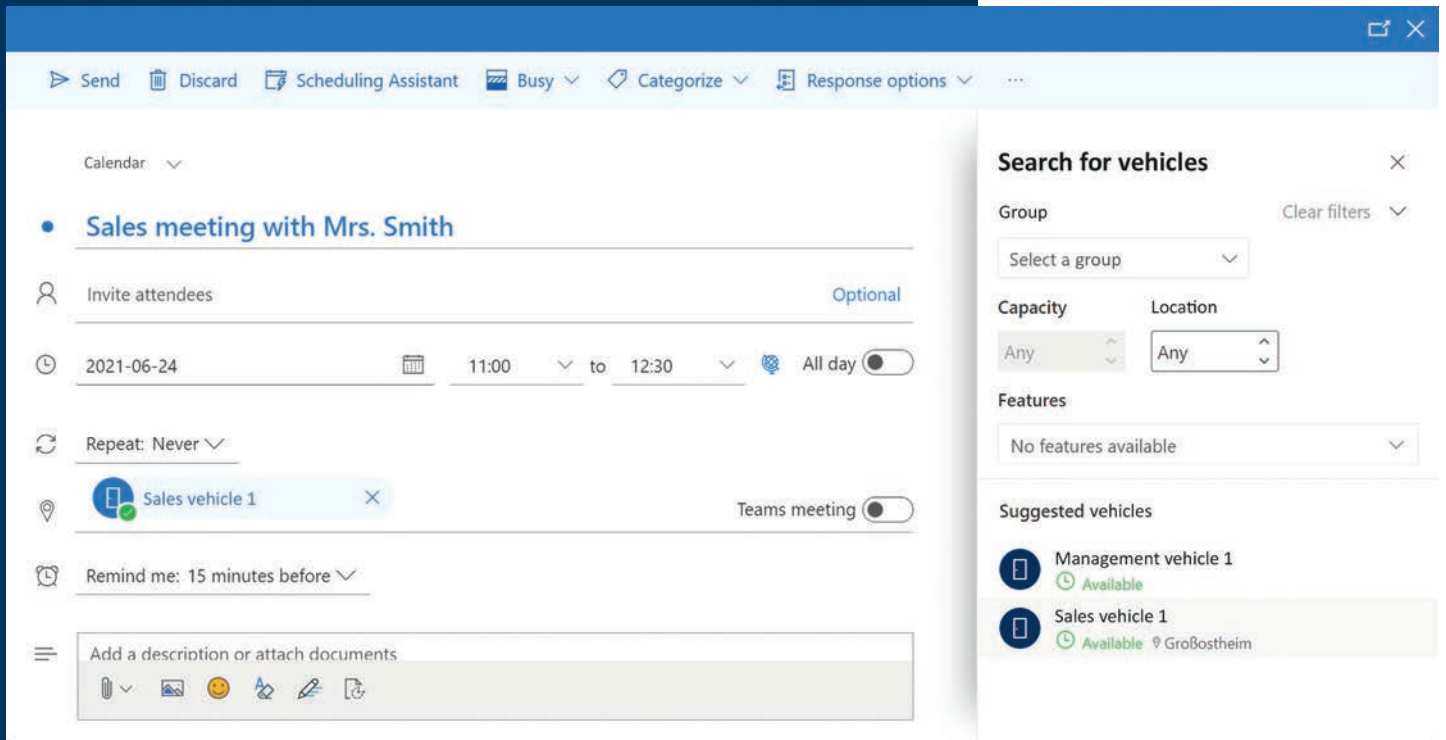
Vehicle reservation 100% Outlook - implemented

Easy to use.
Via the familiar Outlook calendar.

The use of your Outlook calendar as a reservation tool reduces the training time for your employees and avoids scheduling conflicts at the same time.

The full integration of our reservation module as a resource to your Outlook calendar enables your employees to directly book a vehicle for an upcoming appointment.

You can also invite colleagues to this trip, so that your vehicles are utilized more efficiently and redundant trips are avoided.

With further integration of our systems for object or room management, demo systems or tools can be booked for customer visits as well.

For trips to branch offices or training buildings, the booked room is additionally reserved for you on site.

Your benefits:

- Direct booking in Outlook

- Real-time overview of all available vehicles

- Appointment reminders and calendar on your desktop

- Smooth integration into your office routine

- Compact planning overview in familiar software environment

All dates at a glance.
While avoiding incorrect bookings.

By centrally managing all your appointments in one calendar, incorrect bookings or overlaps become visible immediately.
Even if an appointment is postponed at short notice, your appointment as well as the reservation of the required vehicle will be moved to the new date. The existing reservation will be deleted from the system and the previous reservation will be made available again for further bookings.
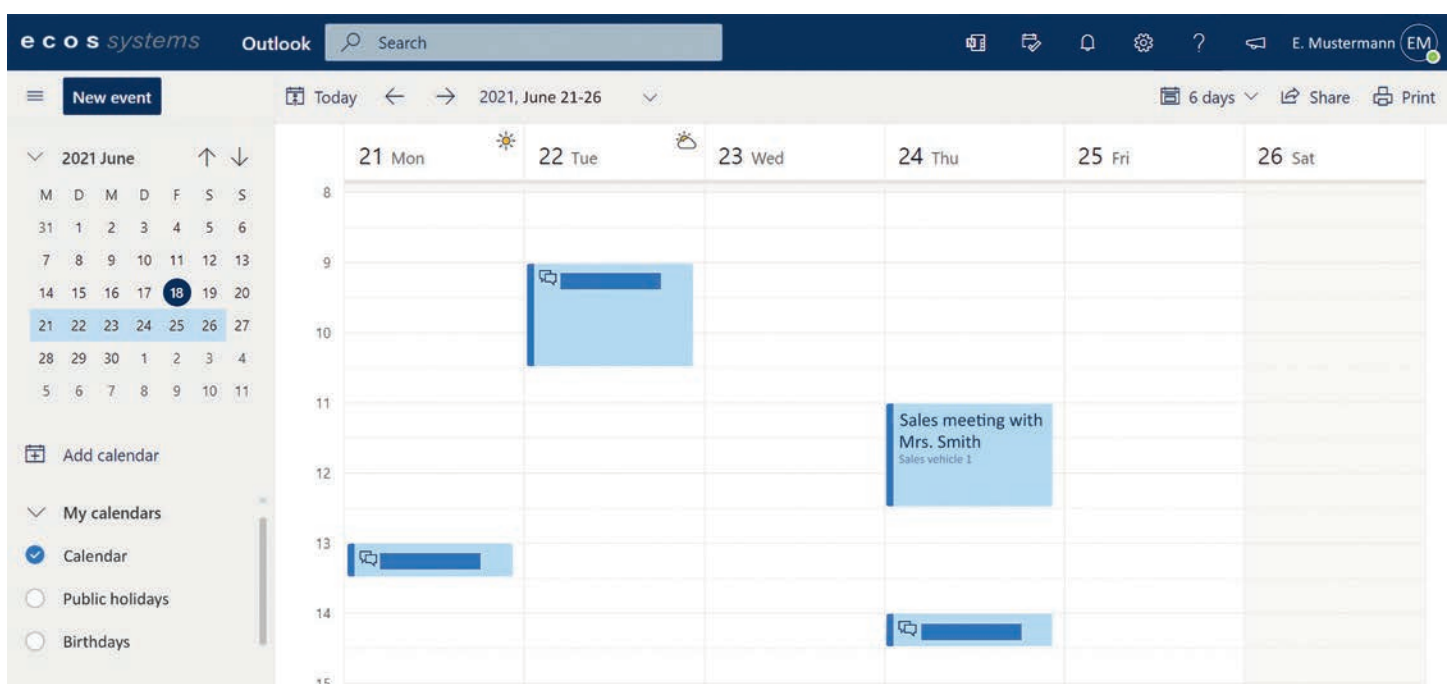
Seamless integration of your trips into your personal Outlook calendar

Autonomous
Demand control

All data stored in one place.
The intuitive return system.

To supplement your overview of all vehicle data in your fleet, ecos has introduced the intelligent return system. At the end of your trip, you enter important vehicle-related data such as cleanliness, maintenance requirements and mileage in the app and confirm them on the system. The intuitive input screen allows you to check and submit all the data at one glance upon returning the key.

If, upon receipt of the data, a problem with driving safety or other maintenance requirements are detected, your system independently blocks the unroadworthy vehicle and notifies your fleet manager. Thanks to the real-time data transmission between all ecos systems, they will be fully informed about the status of each vehicle at all times.

Your benefits:

- Process-integrated data check upon return

- Intelligent transmission of miles and fuel level to the system

- Real-time overview of all vehicle date within the pool

- Immediate booking block in case of damage

- Automatic e-mail message to the garage you trust

- Automatic reallocation of replacement vehicles

So that maintenance does not turn into waiting.
The intelligent booking management.

The autonomous systems by ecos also support you in organizational processes related to the maintenance and servicing of your vehicles. If, in the event of damage, a vehicle with a critical defect such as damaged brakes is returned to the fleet, the software blocks it immediately upon return for all further operations and sends an automatic e-mail to the engineering department or the garage of your trust. Subsequent bookings for this vehicle are also automatically rebooked. In the event of a capacity shortage, your ecos system independently notifies your contract partner in the rental car sector. As a service provider, this partner is already known to your ecos system and can thus provide the required replacement vehicle directly on site.

Driver ...
detects damage or
critical defect on the vehicle.

Driver ...
reports the damage
on return to the system

System ...
blocks damaged vehicle,
searches for reserve vehicle for subsequent journey,
if no reserve vehicle is available,

System ...
generates order to
contract partner,
sends it automatically

Entry and confirmation of your current vehicle data: At the intuitively operated return mask of your ecos system.

The associated vehicle keys are then received by your ecos system. Once the new temporary vehicle is put into operation, your users are subsequently prompted by the system to photograph the vehicle with the app and thus document the current condition of the vehicle. Your fleet manager is freed from time-consuming administrative tasks by this autonomous operating capability of the ecos systems.

Contractor ...
provides replacement vehicle.

User ...
receives replacement vehicle.

as an e-mail.
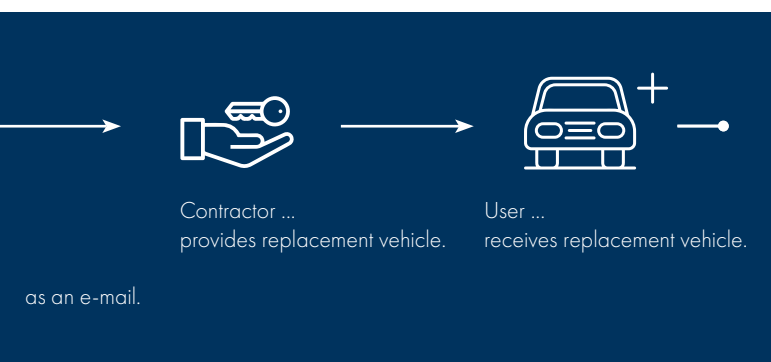
RFID-identifiable keys allow your contract partner to store additional vehicle keys directly in the system if required

Intelligent Localization

Parking spot and vehicle display directly on the system

Always one step ahead.
## Optimized processes with ecos.

Ecos' state-of-the-art technology enables you to improve your processes down to the smallest detail. You are losing valuable time every day searching for your pool vehicles? The display of your ecos system will show you the exact location of your vehicle directly upon key distribution. Additional information on vehicle status, previous damage or terms of use can also be viewed.

Thanks to real-time data transmission between the mobile device and ecos key management during the journey, your system always knows your current location.
Possible applications in this context include e.g. geofencing:
You can have your gates opened exactly in coordination to when you are just approaching.

Using geofencing, your system can detect when you are nearby - and open your gates at the appropriate time.
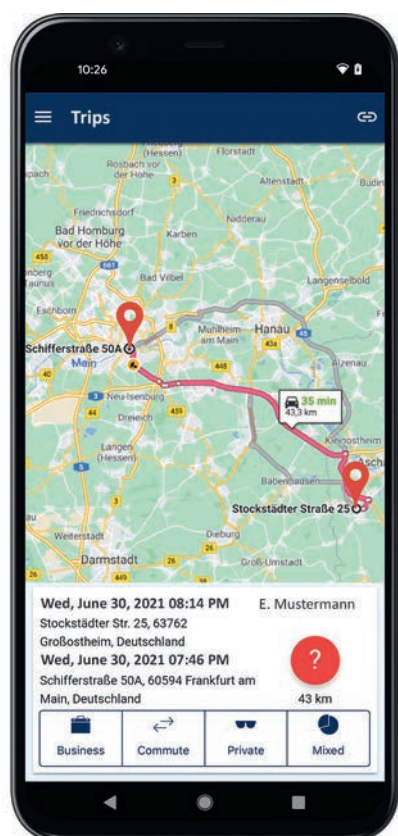
Logbook conveniently on the smartphone

The smart driver's logbook.
Seamlessly integrated.

Experience the intra-organizational use of GPS trackers taken to a new level.
Instead of a physical add-on module requiring manual installation in your vehicles,
your ecos smart driver's logbook will be provided to you as an app on your smart-
phone.. This allows you to clearly classify and document every trip completely inde-
pendent of the type of vehicle, even for rental cars organized at short notice.

In order to prevent unrequested tracking aside of relevant journeys, the ecos app tra-
cker is started only with the explicit permission of the user. This is achieved by classic
„on" and „off" buttons in the app.
Your logbook always ensures the correct assignment of your vehicle:
Before initiating data recording, the Bluetooth code of the vehicle is being scanned
and compared to the code registered for the respective vehicle key.

You can also configure an automated option that enables the app to independently
search for and analyze the vehicle's Bluetooth code upon approaching the vehicle.
When the code matches the expected sequence, data acquisition is initiated in the
background. An acoustic signal is emitted so that you can turn off automated data
recording if required whenever you want.

Logbook as an add-on device

However, if your employees do not have access to a smartphone, we can alter-
natively provide the classic version of the electronic driver's logbook as an add-on
device. Just like the app, this OBD plug with an integrated SIM card is able to record
important data regarding mileage status, fuel consumption and error messages as
well as transmit them to your ecos system.

Integrated
Service hotline

To optimize
your workflow.

Each of our systems is equipped with state-of-the-art audio communication.
If desired, we also offer customer-friendly video communication comparable to the
video chat functions of well-known messenger programs.

Especially in case of technical or organizational questions, but also in case of delays
by the previous user, this direct demand tool is of utmost benefit.

The system knows the previous user of your reserved vehicle based on their booking
and will call them directly if requested. This provides you with first-hand information
regarding delays and the length of their duration.

Alternatively, the technical department can be called in for assistance with operating
a vehicle or analyzing defects.

It is also possible to contact the rental car company directly regarding the provisio-
ning time of a new car.

Your dialing choices on the system

Direct communication with your
Desired - interlocutor on the road

Video communication by ecos provides you with
face-to-face communication directly at the system

Your booked vehicle is stuck in a traffic jam?
The integrated service hotline of the ecos systems enables
you to directly contact the current driver

Your responsibility – Your safety

Because safety comes first.
The integrated driver's license check.

Driver's license checking is a crucial part within your vehicle management. Particularly in combination with ecos fleet's flexible reservation and booking module, it automatically ensures the exclusive use of all vehicles by people holding a valid driver's license.

All driving licenses are being tagged with unique RFID seals designed for one-time use only. Upon removal, the seal's chip will be irreparably destroyed, thus reliably ruling out repeated use. The RFID chip can be recognized and evaluated by all readers of ecos key cabinets, locker systems, and communication terminals. This ensures continuous verification of the driver's license prior to the issuance of a vehicle key.

Once the system is put into operation, the driver's license classes as well as the expiration date are being entered into the software. There employees not authorized for driving a specific group of vehicles can be automatically denied access to the system. For company-specific vehicles, such as transports of hazardous goods requiring regular inspections, separate classes may be created.

Your benefits:

- Unique identification system using RFID seals

- Direct verification of the driver's licence at all ecos systems

- Automated denial of access in case of invalid proof

- Individual class assignment for company-specific vehicle groups

Driving license data filed in our software

The alcohol test can be connected to any ecos system
Depicted here is an ecos premium system with 20 interlocked slots

For all those who have to take everything exactly.
The mandatory alcohol test.

Supporting your responsibility as a fleet manager is important to us.
That's why a mandatory alcohol check can be connected to every ecos system
for even better assurance of users' ability to drive. Due to this mechanism's linking
function the system will henceforth open only if a negative breathalyzer test has been
carried out beforehand. A renewed check upon returning the vehicle also documents
sobriety during the journey. In the event of damage, you and your drivers can therefo-
re always rely on up-to-date proof of legal driving ability.

Secure handling in logistics

The most suitable solution for everyone

No matter how large or branched your fleet is: ecos fleet offers you a suitable all-in package for every vehicle fleet.

Our individual solutions illustrated in the following have been specifically customized for major customers and demonstrate the immense variability of ecos solutions.

10.000 + Users

Key figures for this fleet

Our client: A logistics service provider with nationwide operations

**100 +
Stations**

Through wind and weather

We have been working successfully with this client since 2012. For the efficient management of their vehicles, we provided them with our previous ecos cloud across the board. By now, this customer has upgraded to our innovative ecos care service.

Our client in the logistics sector was looking for a uniform fleet management solution for approx. 900 stations spread across the country.

The national safety regulations presented a special challenge: According to the law, every driver must pass an alcohol test before and after driving.

By connecting the mandatory alcohol test to all of the client's ecos systems, this requirement could be met. All users thus have up-to-date proof of their driving ability at all times.

The main sites of our client are spread all over the country
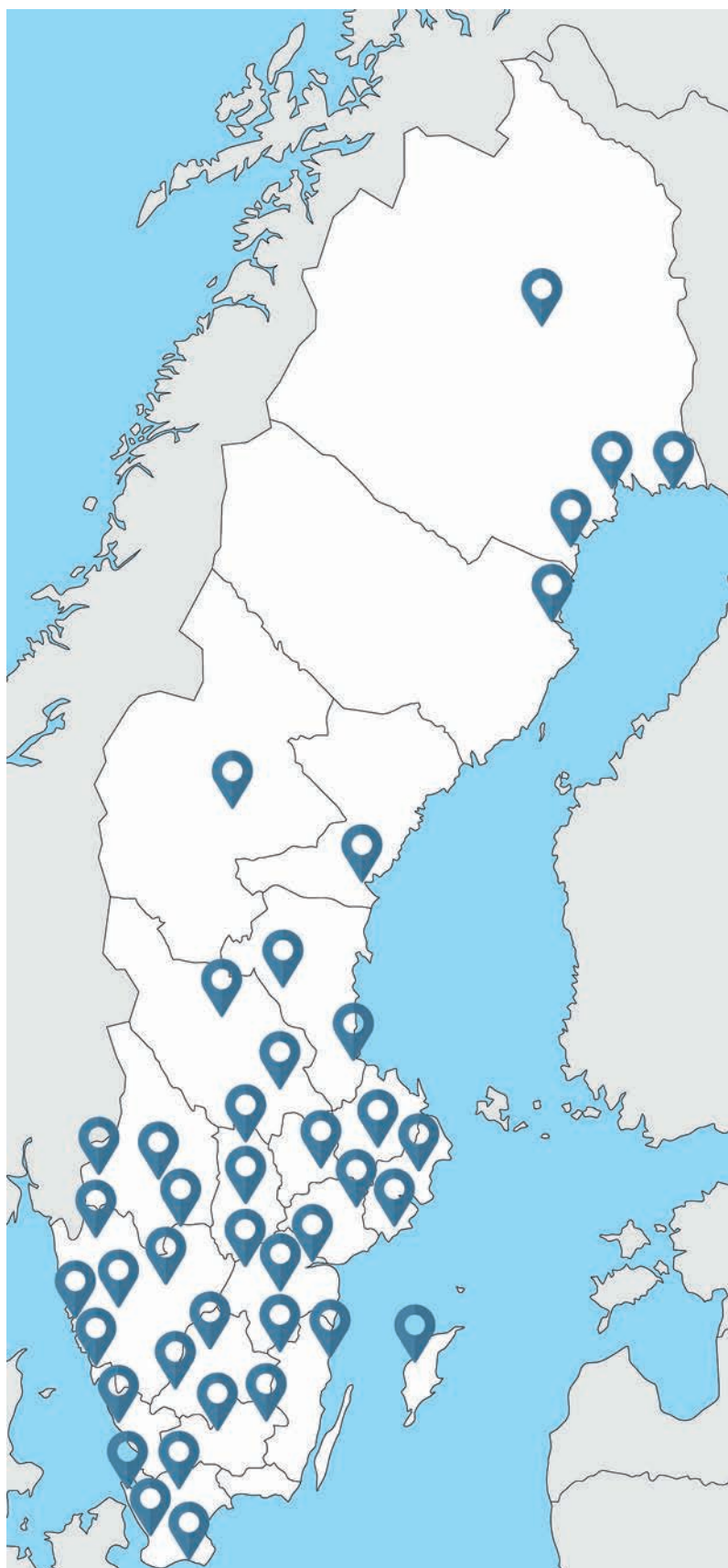
Process optimization in the premium segment

Secure and fast service for your most valuable clients

Ecos' systems of the type ecos drawer are used at several international airports for a globally operating vehicle rental company.

The main challenges of this project include the connection of a fully automated dispensing system to the existing reservation system of our client, as well as implementing access control to the system by reading out individual driver's license barcodes.

By integrating the required barcode reader to our terminal, a bidirectional data transfer between both systems via the ecos API was enabled.

The integration of the ecos systems also resulted in a significant process optimization for our client and their end users.
The vendor's support system benefited considerably from the integrated automated controls and intuitive operating options provided by ecos.

For premium customers in particular, our solutions have led to a substantial reduction in waiting times.

Rental car dispensing system of our customer
including driver's license control

Total elimination of queues thanks to the use of the ecos system

There is a great demand for rental vehicles at
our customer's airport locations

Our client's airport locations

Utilization increase in the Maxi fleet

Efficient management for key accounts

In the maxi fleet of our nationwide operating customer, the automated management of its vehicles resulted in significant increases in usage.
A secure reservation and issuance of keys at any time of day or night; a pseudonymized data exchange with the existing internal high-security network and the integration of numerous different locations have been implemented compactly in one solution from ecos.

Numerous challenges had to be overcome in the project, which was designed to run for a period of 3-5 years; ranging from protecting the key management systems installed in the outdoor area against adverse environmental conditions to increasing the average network availability in the entire area.

These and other measures ultimately led to substantial and measurable efficiency gains across the fleet. As shown in the graphs to the right, the utilization rate of all vehicles in percentage terms alone grew steadily over the period of one year after the systems went into operation. The number of reservations actually used also experienced strong growth - this evaluation does not take into account cancelled bookings or vehicle keys not removed or removed for less than 30 minutes.
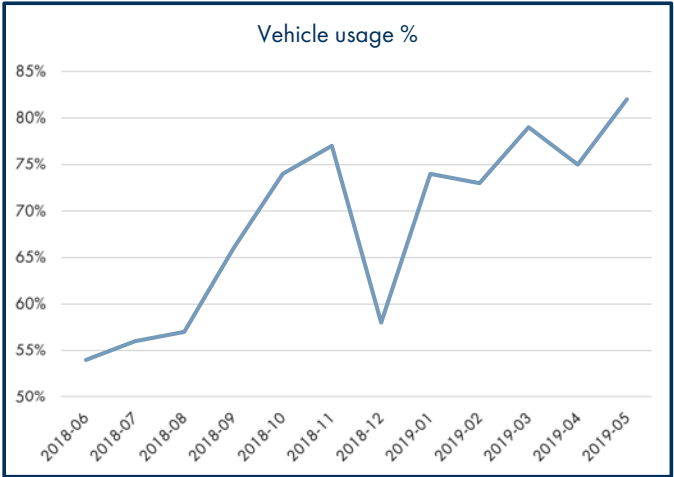
The simple implementation of the ecos systems also ensured a smooth integration of all new vehicles of the ever-growing fleet into the existing administrative structures.

Size dimension of our maxi fleet client

Nationwide distributed locations of our client

Vehicle usage %

Original data provided by our customer for the increase of utilization rate during the introduction phase. The noticeable decline in vehicle usage in December is attributable to the Christmas holidays.

Reservations per month

Statistics on the increase in vehicle reservations (introductory phase)

Sum of vehicles for all sites
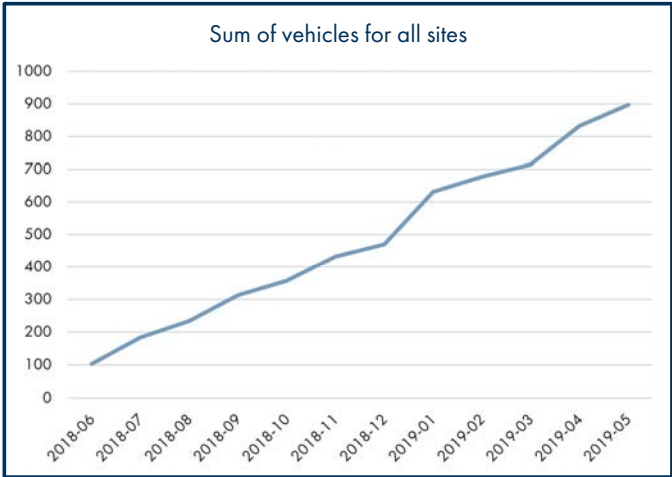
Statistics on the number of vehicles included (introductory phase)

**10.000 +
Vehicles**

**100.000 +
Users**

**500 +
Sites**

Planned final stage of expansion

Mercedes car dealership in Moscow. Equipped with ecos systems

ecos systems GmbH

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ISO 27001
Information Security

ISO 9001
Quality management