Catch a Car by Mobility: on track for success with MobiSys

"Catch a Car" is Switzerland's first car sharing service to operate without dedicated parking stations. Members can locate and book a "Catch-Car" using their smart phone or the website, and use it to make a spontaneous journey from A to B. At the end of the journey they park the car within the Catch-Car-Zone in any public parking space for which a resident's parking permit is valid. Payment is based entirely on the duration of the journey. Fuel, insurance and the parking space are included in the price. This means that there are no additional costs or annual fees. Vehicles are located and their correct usage is monitored using GPS. This car sharing solution is operated on the basis of the MobiSys software, which has already proved its worth in Switzerland for "Mobility car sharing". This case study tells you everything you need to know about the software-related challenges and solutions of the pilot project, which was launched in Basel in 2014 and is planned for 2 years.

About Catch a Car

"Catch a Car" is Switzerland's first car sharing service to operate without dedicated parking stations. The pilot launched in the city of Basel in summer 2014 with 100 "VW up!" cars serving as "Catch-Cars", which the Members locate online, use to drive from A to B and pay to rent by the minute. After a year there are already 120 vehicles involved in the scheme, and the area covered has been extended to include three more municipalities and the EuroAirport. Catch a Car is operated by the Mobility cooperative together with its partners Allianz Suisse, AMAG, EnergieSchweiz and SBB. Unlike the station-based model of "Mobility car sharing", Catch a Car is based on a free-floating principle. Vehicles are left in public and licensed parking spaces, can always be reserved spontaneously and at short notice before embarking on a journey, and are parked again in any other public and licensed parking space. Catch a Car has been set up as a two-year pilot project in Basel. While the project is ongoing, the company hopes to optimise its service and measure the effects on inner-city traffic with the scientific support of ETH Zurich. Catch a Car is then to also be offered in other Swiss cities as a complement to Mobility car sharing.

The pilot project and its stakeholders

With "Catch a Car" you can be independent, flexible and mobile at all times. Catch a Car is an initiative of the Mobility Cooperative. The Mobility Cooperative also offers the familiar "Mobility car sharing" service throughout Switzerland. It was founded in 1997, making it one of the inventors of commercial car sharing. Following the huge and ongoing success of Mobility car sharing, in which cars are reserved and returned to the same location after use, the company launched a new project in Basel in the form of Catch a Car, which adds another option to the car sharing services on offer.

Starting with a fleet of 100, as many as 120 Catch-Cars have been in use in the city of Basel since 25 August 2014. Using them is easy and hassle-free, and simply a question of locating the car online, driving from A to B and paying by the minute. The Mobility Cooperative operates Catch a Car together with some partners. Amag, the Swiss exclusive importer of Volkswagen vehicles, procures the cars, while Allianz Suisse provides the insurance coverage. As with the existing Mobility services, the Swiss Federal Railways (SBB) are also acting as a partner for Catch a Car.

insurance to maintenance, cleaning to fuel. Catch a Car-Members do not even have to remember to refuel as this is handled on an ongoing basis by a special service team.

Members can locate and book an available Catch-Car using the app or the web site as soon as they have registered on www.catch-a-car.ch for a one-time fee of CHF 25. Catch-Cars are reserved for up to 8 hours at the parking rate, while the app uses GPS tracking to direct the member straight to their chosen vehicle. An available Catch-Car can also be booked at the last minute by scanning the QR code on the windscreen with your smart phone. Members can drive the cars for as long and as far as they want, even into neighbouring countries, provided they return the car to the Catch-Car-Zone once their journey is complete and leave it in a parking space for which a resident's parking permit is valid.

The Catch-Cars are distributed throughout the whole city. The services provided for driving and short stops include everything from

"Catch a Car builds on the experience and knowledge gained from more than 25 years of car sharing using dedicated parking spots. The free-floating pilot Catch a Car represents a logical progression, and sends a clear signal that Mobility responds to the market's needs. Scientific support is also being provided for the pilot project by an ETH study, which is analysing the effects of free-floating car sharing."
Adamo Bonorva. CEO. Catch a Car

Free-floating car sharing: multiple challenges with respect to organisation and technology

Even conventional car sharing poses a number of logistical challenges for operators. The level of complexity is even higher for free-floating car sharing, which is not tied to dedicated parking stations. The technical infrastructure, both in the vehicle itself and at the operator's management centre, must be coordinated perfectly and function in real time.

Once the reservation is over, the vehicle automatically sends a text message to the host system containing its current GPS coordinates and the fill level of the tank. The message is forwarded internally to the service team, which can implement measures immediately (such as refuelling, repairs etc.).

Consequently, Catch a Car-Members throughout the geo-zone have access to a refuelled (minimum fill level: 20%) Catch-Car that is ready to go. Vehicles with insufficient fuel or that are no longer suitable to drive for technical reasons are automatically reported as being inactive to the Catch a Car fleet management via the car sharing software. This also means that they are no longer shown to members as being available to book.
The cars are available to members 24 hours a day, seven days a week. This high level of immediate availability calls for clever logistics and coordination.

None of this could be implemented cost-effectively without an intelligent, efficient and extremely reliable software solution. Outages are disastrous, even for a pilot project.
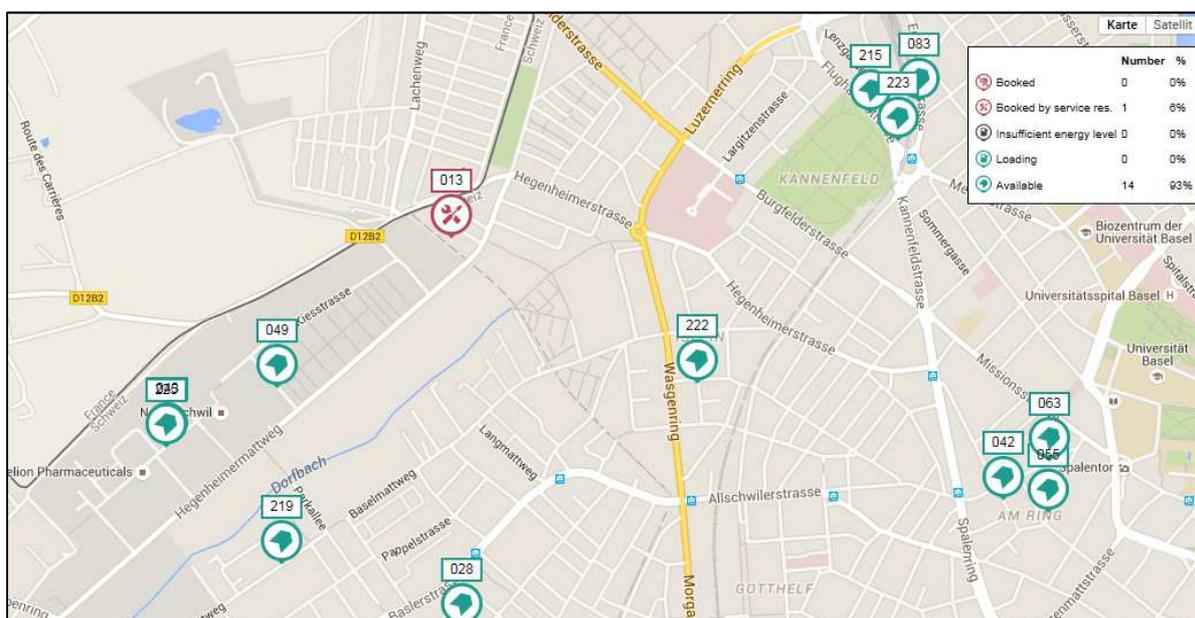
The tried-and-tested solution: MobiSys

As a cloud solution, MobiSys uses the most advanced model for the provision of business software processes over the internet. These processes include elements such as Member and contract management, geographical regions, fleet management and pricing models.

Unlike for the conventional Mobility car sharing service, the software was set up on the basis of a fixed contract structure for the implementation of the Catch a Car-pilot project in Basel. Members pay a one-time fee upon registration. The data for making charges to members' credit cards or subsequent billing is updated daily by calculating their usage to the exact minute based on the factors of the time spent driving and brief stops. MobiSys also operates on the basis of a geo-zone for Catch a Car instead of managing parking stations with specific vehicles assigned to them. Journeys may only terminate within this geo-zone.

Comprehensive functionalities – individually adaptable for all processes

MobiSys integrates and manages all member information such as multiple addresses and languages. It can even store credit card details.

Output management allows standard letters to be generated and sent to Members automatically via email (with Catch a Car, reminders are also sent out by email) or text message. Thanks to MobiSys, almost all processes are fully automated.

When a new Member registers online, the registration is entered immediately in MobiSys. The system sends a welcome letter to every new member.
An order to produce a membership card is sent out every time a new Member registers. This is the universal electronic vehicle key in a handy credit card format. MobiSys also can also interface with multiple external applications such as third-party accounting software or output management software.
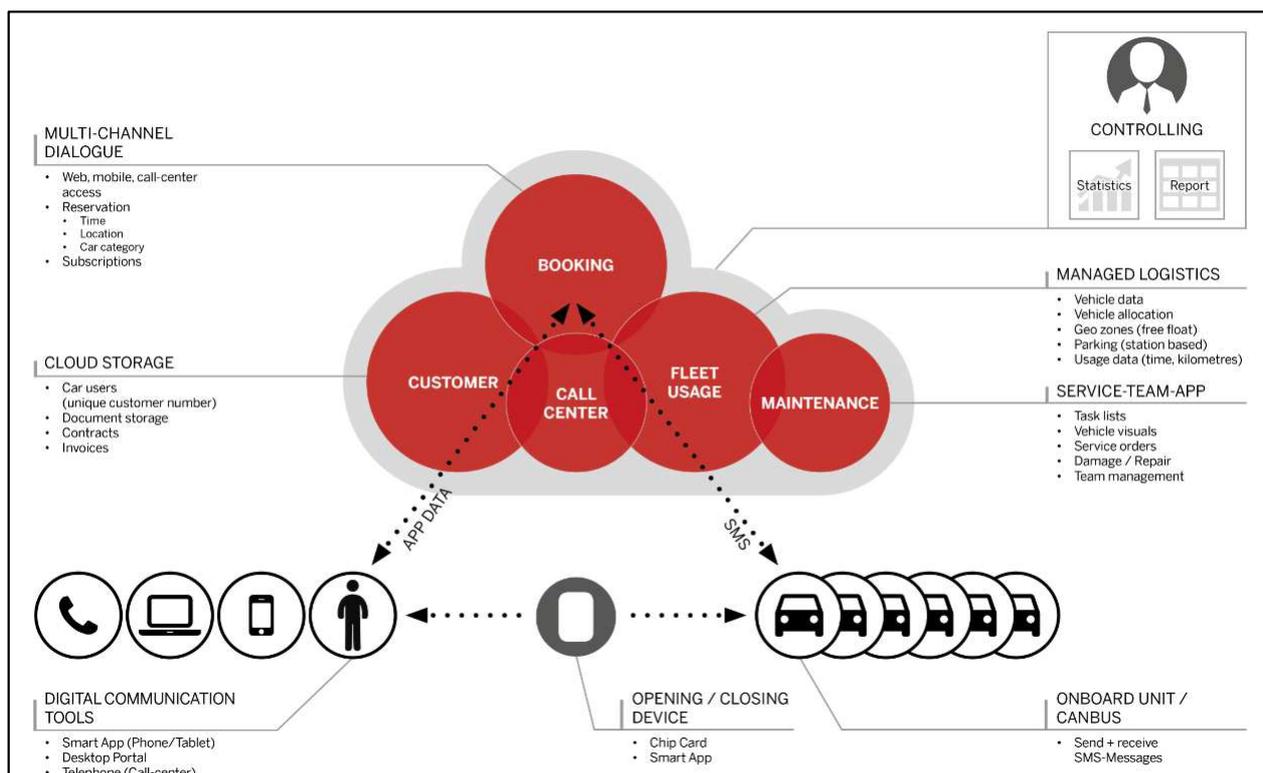
Software as a service

MobiSys can be used online with the appropriate licence without the software having to be locally installed. This business model eliminates the additional costs and maintenance expenses for local hardware, software and support. As a result, clients can focus entirely on their core operating business as a car sharing provider. MobiSys harnesses the latest technology: Google Web Toolkit, Eclipse Rich Client in Java and SQL Server.

It also features a Java-based rich client with all the necessary functionalities for the optimum support of business operation in car sharing. All users of the MobiSys rich client correspond to the various roles in the car sharing business: call centre staff, fleet management, and employees in accounting or marketing. Specific roles with defined usage rights are also assigned to Catch a Car-Members, who also benefit of MobiSys when they use the app or web application.

The advantages of the MobiSys rich client at a glance:

+ All car sharing business processes supported
+ Automated workflows
+ Wide variety of user groups with specific roles
+ A central application for the management and administration of car sharing data
+ Users have their own user rights
+ Features assigned and linked using central groups
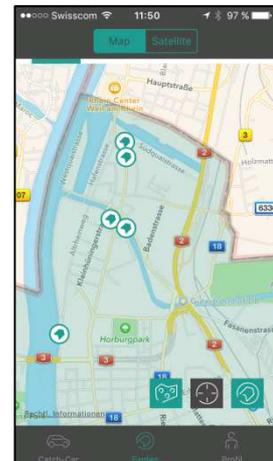+ Multiple languages supported

through various channels, not only for the various units at Catch a Car, but for Members too.

Members can use the web portal to locate and book Catch-
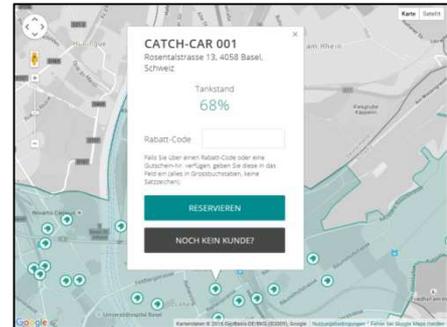
Cars but also to view and update their profile details. They can check their billing balance in real time.

For the pilot project, the system is configured in German, but it can also be translated into other languages. Optional extras can be integrated, such as links with special offers (for instance CO_2 compensation).

For mobile use there is a smart phone app that can be branded for any provider using its own logo.

Focus on user-friendliness

MobiSys as a white labelled application, provides an extremely user-friendly front end

Three questions put to Silena Medici, Head of Catch a Car:

Will young people in Switzerland now prefer to use Catch a Car over Mobility car sharing?

Catch a Car is a service in its own right rather than a replacement for conventional car sharing. Mobility and Catch a Car are different enough to complement each other and open up a broad range of car sharing services to their members. The more people are interested in car sharing, the better it will also be for Mobility services using parking stations.

How does Catch a Car differ from car sharing using drop-off points?

The principle behind conventional car sharing as offered by Mobility for some time is based on users reserving vehicles in advance and returning them to where they collected them from when their journey is over. With Catch a Car, however, members locate Catch-Cars using their smart phones and use them spontaneously, without a prior reservation. Then they simply drive from A to B. The Catch-Cars are parked in urban parking spaces within a clearly defined Catch-Car zone. With Catch a Car you pay CHF 25 upon registration, after which there are no further costs or annual fees. Catch a Car also only charges two rates: a driving rate and a parking rate. There is no rate based on the number of kilometres driven, which is why Catch a Car is more suited to short journeys. Conventional car

sharing is charged by the hour and kilometre making it suitable for any length of journey.

What are the benefits of Catch a Car?

- Members are not tied to any reservation times or fixed parking stations.

- Members can use Catch-Cars without reserving them in advance. Vehicles are located using a smart phone or the web site.

- As with station-based car sharing, you save the time and costs associated with owning your own car.

- Members only pay for what they actually use, and there are no annual fees.

- Members can use Catch a Car at any time of day and are free to choose their own routes, although the journey must ultimately end within the Catch-Zone.

Three questions put to Lena Leppert, MobiSys Project Manager for Catch a Car, Mobility Systems + Services:

What were the biggest challenges of developing MobiSys for Catch a Car?

In the free-floating model, the way in which cars are reserved is different to the model used by Mobility car sharing Switzerland which is a station-based model. Reservations for Mobility car sharing Switzerland are registered in advance and sent to the car 48 hours before the start of the reservation, while with Catch a Car, reservations can be made and started on the spur of the moment. This means that different communication is required between the on-board computer and MobiSys, and various processes that are managed by the system had to be completely revised.

Also, the vehicles no longer had to be assigned to specific parking stations for Catch a Car. This had to be implemented in MobiSys, and was an exciting challenge.

Could MobiSys for Catch a Car also be transferred to other free-floating car sharing providers? The principle behind Catch a Car can easily be adopted by other car sharing service providers. At the same time, it is important for everyone to tailor their business model to their own preferences and the local market. MobiSys handles all of the desired business processes developed and agreed in advance between Mobility Systems + Services and the future car sharing operator. MobiSys therefore stands out by offering the greatest degree of flexibility when planning a car sharing provider's individual services.

Where do you see further potential on the market for using the software in free-floating mode?

In addition to providing a free-floating service in a single city, it goes without saying that it would also be possible to work with multiple cities and link two geo-zones accordingly. The service is also of interest for companies: they can for instance benefit from limited access to a vehicle for a certain group of users within a defined geographical area without the need for prior reservations.

About Mobility Systems + Services

Mobility Systems and Services is the wholly owned IT subsidiary of the Swiss Mobility cooperative. Its car sharing software MobiSys is distributed worldwide and is currently in use or about to be rolled out on various continents. On its home market, the successful software is used by Mobility car sharing throughout Switzerland and by Catch a Car in Basel. MobiSys is available in a "software as a service" model.

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