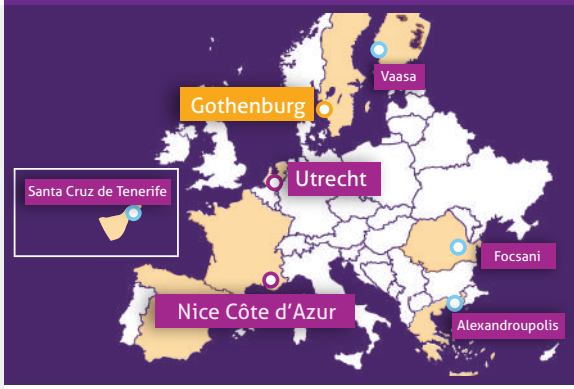
FACTSHEET

IRIS Gothenburg

Co-creating Smart and Sustainable Cities



Mobility as a Service (MaaS)

A new Mobility as a Service (MaaS) concept called EC2B ("Easy to be" or "Easy to B"), has been implemented in Gothenburg as part of the IRIS project. EC2B offers customers an attractive alternative to owning their own car, allowing easy access to a variety of transport modes (as e-cars, e-bikes or public transport) for their daily trips. EC2B is developed by the IRIS-partner Trivector, an SME based in Lund in the south of Sweden.

MaaS innovation projects often have a large focus on the ICT-solution needed to integrate several different mobility services into one app. In contrast, the main focus of the EC2B demonstration in IRIS is not on the app but focus is on designing a service that responds to the needs of all actors involved (users, property developers and transport service providers). The EC2B service integrates several different mobility solutions within one app. To start with, the following are included: e-cars, e-bikes (normal bikes as well as cargo bikes), light e-vehicles and public transport. Further on, taxi, rental cars and municipal bike sharing might be added. The APIs (Application Programming Interfaces) of all these services are integrated into the EC2B app.

Factsheet created by

Trivector

it's EC2B

Riksbyggen Rum för hela livet

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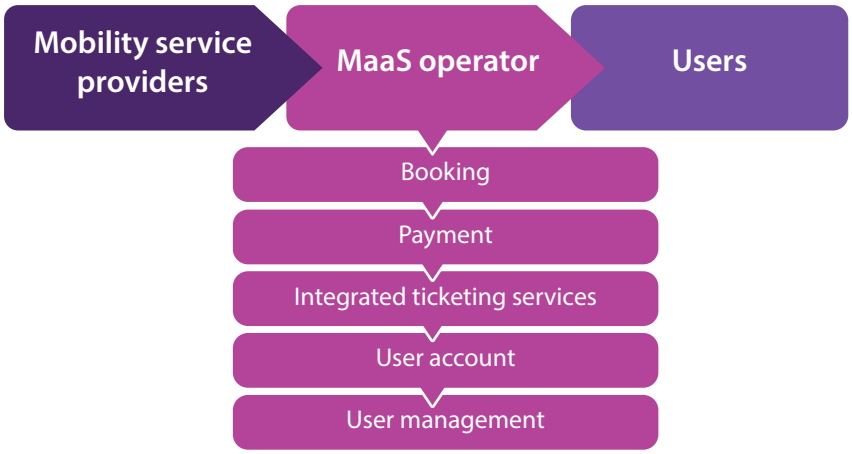

Baseline (City context)

Within the IRIS project, the EC2B mobility service is implemented in two different settings with different target groups:

- The housing association Brf Viva with 132 apartments, in collaboration with property developer Riksbyggen, also IRIS partner,
- and the campus area of Johanneberg, in collaboration with IRIS partners Chalmers Technical University, Akademiska Hus, JSP and HSB.

The mobility situation in the Johanneberg area is strained, as Gothenburg is a city traditionally planned and built for cars. During recent years, the city and the regional public transport company have implemented many measures to change this, but 44 % of journeys are still made by car. In the area around campus Johanneberg, main actors such as Chalmers University of Technology, Akademiska Hus, other property owners and the municipality of Gothenburg have been working for several years to achieve and implement a Green Travel Plan for the area. According to the plan the total travel by car to and from the area will not increase, compared to today's level, despite several new offices being planned and built.

Before the launch of the IRIS project, there was no MaaS available in the Johanneberg campus area, neither for residents nor for employees or students. Chalmers Technical University, Akademiska Hus and HSB have all procured car-sharing services that employees can use for business trips. Usage varies between the organizations. Akademiska Hus has some shared bikes for employees to use (one e-bike and a couple of ordinary bikes), but these are not very often used as they are not possible to book on beforehand, employees do not know where to find these bikes, and there are no routines for keeping the bikes in good standard. At Chalmers, some departments have bikes for loan, but there is no common booking system for these.

Before the start of the IRIS project (and before the construction of Brf Viva) there were five ordinary shared cars stationed within 500 meters from Brf Viva, but no shared e-cars or hybrid cars were available.

Demonstration

In Riksbyggen's Brf Viva, tenants from 132 apartments get direct access to EC2B through accommodation, with specific measures implemented in connection to the building complex. The city of Gothenburg works to create favourable conditions for property developers who work with innovative housing concepts that reduce the demand for private car ownership , and Riksbyggen has put special effort into designing an attractive bike parking. Consider that there is no parking space for private cars for the tenants at all at Brf Viva.

Residents have access to 3 electric cars (Renault Zoe), 1 light e-vehicle (Zbee), 3 electric cargo bikes and 4 electric bikes, as well as charging infrastructure for all types of e-vehicles (55 recharging polls for e-bikes, 6 for e-cars and 2 for light e-vehicles). The demonstration in Brf Viva is up and running from January 2019.

At the Johanneberg campus, the employees in the area (e.g. tenants to Akademiska Hus and Chalmersfastigheter) will get access to a light version of EC2B, which includes booking and payment of e-vehicles (e-cars and e-bikes) at several locations around the district. A variety of transport suppliers already active in the district will provide the transportation services (e-car sharing, bike sharing, e-scooters and public transport). Furthermore, a function will be developed within the EC2B app which allows employees to send receipts of their transport expenses (as car rental fee or public transport tickets) directly from the app to their employer's economy department, to reduce administration surrounding local business travel. The demonstration on campus Johanneberg will be implemented starting autumn 2020.

MaaS ICT platform

The EC2B app has been implemented based on a MaaS ICT platform from the subcontractor SmartResenär. The SmartResenär platform consists of three main parts: a frontend component library for rapid mobile app development, a collection of generic MaaS backend services and tools that run on SmartResenär's servers and an integration layer where API integrations towards mobility suppliers are implemented and managed by SmartResenär. The purpose of the SmartResenär platform is to facilitate rapid development and efficient management and operation of MaaS applications.

Societal, user and business aspects

Citizen engagement

One of the tag lines that Trivector has had in mind while developing the EC2B concept has been "easier every-day life with EC2B". In order to create a service that can really help users achieve a hassle-free and sustainable mobility, a close dialogue with potential and real users has been central. During the first year of the IRIS project, before the first residents moved into Brf Viva, interested future residents were invited to a series of three meetings where the plans for EC2B in Viva were described, and input was collected on different aspects of the concept. Although residents knew there would be no private car parking in their new home, the specification of the mobility service they would get in exchange was still quite open. Trivector wanted to know more about both their needs, and their expectations of the service. Over the first year of implementation of the EC2B service in Brf Viva, several activities have been performed to interact with and collect feedback from users, including introductory events, individual counselling, interviews and questionnaires.

Business model

EC2B's business model has several dimensions and is more like a network than a straight value chain. There are at least two groups of customers (users and property owners/developers) and several different payment streams. Value is created in the different relationships between the actors in the network, where multiple actors are both producer and consumer, or both customer and supplier.

EC2B comprises three parts:

- **flexible mobility services (attractive packages through digital services)**
- **advice (counselling in sustainable mobility)**
- **and community (platform for sharing).**

The main value propositions are:

- EC2B helps residents and companies in the (larger) cities to a carefree mobility without the need of owning a car. This is done through the packaging of flexible mobility services, counselling and a community for sharing.
- EC2B helps real estate developers who want to offer the market a modern, urban and low-car housing or office concept, through a package solution for sustainable and flexible mobility that is attractive to both users (residents/employees) and authorities (the municipality).
- EC2B helps mobility service providers who want to reach a large and affluent market for their sustainable mobility services. It will form part of a comprehensive service for sustainable mobility, easily available at home or at work.
- EC2B helps cities create a more attractive urban environment and sustainable development with fewer cars and a significantly more efficient land use.

The main idea is that property developers save money through avoiding the construction of expensive car parking, and that part of the money that is saved is spent on paying for the EC2B service for the residents/employees during a certain period of time. As the concept is further developed, one could also imagine that service providers (e.g. car sharing, public transport or taxi) pay a kick-back to EC2B for the transactions that are generated through the app and the value the service creates through bringing in new customers and increasing customer satisfaction.

Governance

The EC2B service operates at the intersection between many different actors: in addition to the end-users, Trivector interacts with property developers, mobility service providers (both public and private), and in the case of the campus area also employers, as well as with the municipality. Trivector does not intend to provide mobility services under the EC2B brand in its own right, but only to bring together the services of others in an integrated offer which benefits both mobility providers (who can gain a broader audience), and users. For the EC2B service to thrive, good relations with collaborating mobility providers (both public and private) is hence key. Furthermore, for the EC2B concept to be viable, local authorities need to be supportive of the idea of exchanging parking lots against MaaS in connection to a building, allowing the construction of buildings with a reduced number of parking lots, but requiring property developers to provide other services in exchange. The new parking policy adopted by the city of Gothenburg is one step in this direction. Local authorities can also create a favorable environment for MaaS through promoting public transport, biking and walking, as well as discouraging car traffic through parking fees and other incentive structures.

Impact Assessment

EC2B is unique among MaaS concepts in linking its mobility services to the place where most trips start: where people live (or work), creating an integrated solution with multiple benefits. Previous studies show that people who don't own a car have a more sustainable travel pattern than others, which means that EC2B has a great potential for reducing car traffic. Furthermore, if property developers can skip building expensive underground garages and instead offer attractive mobility services, this means previously locked financial assets are released. If EC2B is broadly implemented, this may have an impact on how mobility is considered when planning new developments in cities, resulting in less car traffic and reduced accommodation costs. Through using shared vehicles, users can also access newer and less polluting vehicles. Furthermore, less vehicles in circulation also means less resources are being used for manufacturing of vehicles, which is a substantial share of a vehicle's environmental footprint.

The demonstrators will hence contribute directly to the goals of rolling out electric vehicles and reducing transport-based CO2 emissions, and indirectly also to the goal of increasing local air quality.

Preliminary assessments of the implementation of EC2B in Brf Viva show that tenants make only about half the number of car trips a day, compared to the average in Gothenburg, and instead have increased the number of trips by bike. Usage of public transport is about average. Although some tenants still own a car, car ownership is significantly lower in Brf Viva compared to the average for Gothenburg.

IRIS Gothenburg

Focus:	Scope:	Time span:	Phase:
Mobility as a Service	132 apartments	2019 till 2022	Demonstration

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