

CiViTAS
Cleaner and better transport in cities

AALBORG
.....

Aalborg

T. 53.1 Workplace Car Sharing in Aalborg

Aalborg Kommune
April 2012



THE CIVITAS INITIATIVE
IS CO-FINANCED BY THE
EUROPEAN UNION

Project no.	TREN/FP7TR/218940 ARCHIMEDES
Project Name	ARCHIMEDES (Achieving Real Change with Innovative Transport Measure Demonstrating Energy Savings)
Start date of the Project	15/09/2008
Duration:	48 months
Measure:	No. 53 Workplace Car Sharing in Aalborg
Task:	Task 6.3 Workplace Car Sharing
Deliverable:	T53.1 Workplace Car Sharing in Aalborg
Due date of Deliverable:	15 th July 2010
Actual submission date:	12 th April 2012
Dissemination Level	Public
Organisation Responsible	Aalborg Kommune
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Quality Control	Leisa Stephenson / Alan Lewis
Version	1.0
Date last updated	12 th April 2012

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1. Introduction

1.1. Background CIVITAS

CIVITAS - cleaner and better transport in cities - stands for City-VITALity-Sustainability. With the CIVITAS Initiative, the EC aims to generate a decisive breakthrough by supporting and evaluating the implementation of ambitious integrated sustainable urban transport strategies that should make a real difference for the welfare of the European citizen.

CIVITAS I started in early 2002 (within the 5th Framework Research Programme); CIVITAS II started in early 2005 (within the 6th Framework Research Programme) and CIVITAS PLUS started in late 2008 (within the 7th Framework Research Programme).

The objective of CIVITAS-Plus is to test and increase the understanding of the frameworks, processes and packaging required to successfully introduce bold, integrated and innovative strategies for clean and sustainable urban transport that address concerns related to energy-efficiency, transport policy and road safety, alternative fuels and the environment.

Within CIVITAS I (2002-2006) there were 19 cities clustered in 4 demonstration projects, within CIVITAS II (2005-2009) 17 cities in 4 demonstration projects, whilst within CIVITAS PLUS (2008-2012) 25 cities in 5 demonstration projects are taking part. These demonstration cities all over Europe are funded by the European Commission.

Objectives:

- to promote and implement sustainable, clean and (energy) efficient urban transport measures
- to implement integrated packages of technology and policy measures in the field of energy and transport in 8 categories of measures
- to build up critical mass and markets for innovation

Horizontal projects support the CIVITAS demonstration projects & cities by:

- Cross-site evaluation and Europe wide dissemination in co-operation with the demonstration projects
- The organisation of the annual meeting of CIVITAS Forum members
- Providing the Secretariat for the Political Advisory Committee (PAC)
- Development of policy recommendations for a long-term multiplier effect of CIVITAS

Key elements of CIVITAS

- CIVITAS is co-ordinated by cities: it is a programme “of cities for cities”
- Cities are in the heart of local public private partnerships
- Political commitment is a basic requirement
- Cities are living ‘Laboratories’ for learning and evaluating

1.2. Background ARCHIMEDES

ARCHIMEDES is an integrating project, bringing together 6 European cities to address problems and opportunities for creating environmentally sustainable, safe and energy efficient transport systems in medium sized urban areas.

The objective of ARCHIMEDES is to introduce innovative, integrated and ambitious strategies for clean, energy-efficient, sustainable urban transport to achieve significant impacts in the policy fields of energy, transport, and environmental sustainability. An ambitious blend of policy tools and measures will increase energy-efficiency in transport, provide safer and more convenient travel for all, using a higher share of clean engine technology and fuels, resulting in an enhanced urban environment (including reduced noise and air pollution). Visible and measurable impacts will result from significantly sized measures in specific innovation areas. Demonstrations of innovative transport technologies, policy measures and partnership working, combined with targeted research, will verify the best frameworks, processes and packaging required to successfully transfer the strategies to other cities.

1.3. Participant Cities

The ARCHIMEDES project focuses on activities in specific innovation areas of each city, known as the ARCHIMEDES corridor or zone (depending on shape and geography). These innovation areas extend to the peri-urban fringe and the administrative boundaries of regional authorities and neighbouring administrations.

The two Learning cities, to which experience and best-practice will be transferred, are Monza (Italy) and Ústí nad Labem (Czech Republic). The strategy for the project is to ensure that the tools and measures developed have the widest application throughout Europe, tested via the Learning Cities' activities and interaction with the Lead City partners.

1.3.1. Leading City Innovation Areas

- The four Leading cities in the ARCHIMEDES project are:
- Aalborg (Denmark);
- Brighton & Hove (UK);
- Donostia-San Sebastián (Spain); and
- Iasi (Romania).

Together the Lead Cities in ARCHIMEDES cover different geographic parts of Europe. They have the full support of the relevant political representatives for the project, and are well able to implement the innovative range of demonstration activities.

The Lead Cities are joined in their local projects by a small number of key partners that show a high level of commitment to the project objectives of energy-efficient urban transportation. In all cases the public transport company features as a partner in the proposed project.

2. Aalborg

The City of Aalborg, with extensive experience of European cooperation and having previously participated in CIVITAS I (VIVALDI) as a 'follower' city, is coordinating the consortium and ensures high quality management of the project. The City has the regional public transport authority (NT) as a local partner, and framework agreements with various stakeholder organisations.

Aalborg operates in a corridor implementing eight different categories of measures ranging from changing fuels in vehicles to promoting and marketing the use of soft measures. The city of Aalborg has successfully developed similar tools and measures through various

initiatives, like the CIVITAS-VIVALDI and MIDAS projects. In ARCHIMEDES, Aalborg aims to build on this work, tackling innovative subjects and combining with what has been learned from other cities in Europe. The result is an increased understanding and experience, in order to then share with other Leading cities and Learning cities.

Aalborg has recently expanded its size by the inclusion of neighbouring municipalities outside the peri-urban fringe. The Municipality of Aalborg has a population of over 200,000, and the urban area a population of some 130,000. The ARCHIMEDES corridor runs from the city centre to the eastern urban areas of the municipality, see Figure 1, and forms an ideal trial area for demonstrating how to deal with traffic and mobility issues in inner urban areas and outskirts of the municipality. University faculties are situated at 3 sites in the corridor (including the main university site). The area covers about 53 square kilometres, which is approximately 5 % of the total area of the municipality of Aalborg. The innovation corridor includes different aspects of transport in the urban environment, including schools, public transport, commuting, goods distribution and traffic safety. The implementation of measures and tools fit into the framework of the urban transport Plan adopted by the Municipality.



Figure 1. The ARCHIMEDES corridor in Aalborg.

3. Background to the Deliverable

Surveys have shown that a car used for car-sharing can replace 4 to 8 other cars¹. It is reported that 1/5 of a car's lifetime emissions and climate damage are caused during the manufacture of the car, which means savings if that car is used for car sharing². Having more people taking turns to use the same car means fewer cars on the roads and on car parking capacity. Thus car sharing can help limit congestion. In addition, removing young people's need to buy a car, by giving them access to a car sharing car, can maintain them as customers in Public Transport for a period of time. For young people with very limited car-transport needs a car sharing car is cheaper than owning a car themselves; and a car sharing car, where you pay as you go, is a very effective means to reduce the kilometres driven compared to owning your own car, where only - some - marginal cost is taken into consideration before you decide to take a trip. All in all there should be reason in promoting the car sharing.

In the CIVITAS VIVALDI project the City of Aalborg established a car sharing scheme in Aalborg in cooperation with a car sharing company and promoted it to young people.

Thus it was decided to take this effort a step further, and to promote car sharing to companies as a part of the ARCHIMEDES project. The companies should be encouraged through campaigns and promotion to use the car sharing scheme as a company car for employees during working hours, whereas outside working hours the car would be part of the private car sharing scheme in the city.

3.1. Summary Description of Task

This deliverable provides information regarding implementation on Task 6.3 Workplace Car Sharing.

To establish the foundation for promotional campaigns for Car Sharing to the companies, the City of Aalborg conducted in-depth studies of all drivers and barriers to take up. All relevant topics were considered but especially the (lack of) financial drivers were the target for much attention.

After this work a promotional campaign directed to selected companies was carried out but with poor results.

¹ In car sharing circles numbers from 4 to 13 vehicles replaced for every car sharing vehicle is used as common knowledge. Few of these numbers are documented.

In the period between December 1999 and September 2000, The Danish Centre for Mobility and Environment carried out an evaluation of car sharing in Denmark for The Danish Environmental Protection Agency and The Danish Transport Council. One of the conclusions in this research where that a car sharing car replaces on average, approx. 5 private cars.

The MoMo EU-Project in the Intelligent Energy concludes based on four different surveys that 'Each Car-Sharing vehicle replaces at least four to eight personal cars'

In a nationwide American survey of over 6,200 car sharing members, Eliot Martin and Dr. Susan Shaheen came up with the most authoritative number to date: between 9-13 vehicles shed for every car sharing vehicle in the fleet. Of those, 4-6 vehicles were directly shed by households as a result of joining car sharing and the remainder were avoided/not purchased as a result of membership

² Car-Sharing fact sheet No. 3 from the EU-project MoMo.: 'Assuming a car with an average lifespan, approximately one fifth of the emissions and climate damage it is responsible for are caused during the production process of the car – before a single kilometre is driven.'

As the campaign showed up to be 'fruitless', and as the above mentioned analyses showed that there in fact were no drivers for private companies to use car sharing, the target group was changed to young students, for whom there were positive drivers.

Two campaigns were conducted with this target group, with the last having been completed just before the submission of this deliverable.

4. Workplace Car Sharing in Aalborg

4.1. Description of work done

The existing car sharing scheme in Aalborg was developed as part of the CIVITAS VIVALDI project. It is based on Internet booking and the access to the car is controlled by a smart card.

Payment is a combination of a fixed subscription fee, a fee for time a car is used and for the distance (kilometres) driven. There are two different forms of membership. The "A" membership is characterised by a monthly membership fee of 300 DKK and low payment per hour and kilometres driven. The "C" membership is without the membership fee, but with a higher cost for kilometres and hours.

Companies can have a special VIP membership with an even higher subscription fee, (or with a guaranteed minimum use) giving them the right to have a car sharing car located on their premises, and to have the car prebooked for the company during work hours.

If a company is member of the scheme, the employees can have an 'A' membership with the low hour and km. costs for renting the car, without paying the subscription fee.



Figure 2. Unlocking a car sharing car with the smart card.

4.1.1. Phase 1. Analysing the drivers and barriers.

To establish the foundation for promotional campaigns for Car Sharing to the companies, the City of Aalborg conducted in-depth studies of all drivers and barriers to take up. All relevant

topics were considered but especially the economical drivers were targets for attention. The following stipulations were done:

1. As the existing payment scheme for car sharing has a break-even³ somewhere between 5.000 km/year and 8.000 km/year depending on the actual circumstances, a private company will never be able to substitute all cars with car sharing cars, as the payment model is not suitable for such use.
2. For a company owned car the fixed costs are distributed over all km driven, making each km cheaper than the previous. That is, the averages price per km. gets low, when the car is heavily used. But in the payment model for car sharing, a fixed part of the fixed costs is added to each km. If the car is expected to be hired out for example 10.000 km. a year, 1/10.000 of the fixed costs are added to the km price. So if a company would substitute a company car running 30.000 km/y with a car sharing car, it would in effect pay the fixed costs three times, making the total costs all too high, compared to owning a car.

But the company should be able to optimise the mileages on as few cars as possible, and then substitute 'the last car' with low mileages, taking the peak demands, with a car sharing car.

4.1.1.1. Drivers to uptake

The drivers identified were as follows:

a) The environmental effect of car sharing. The possible energy savings by using a car sharing car in a private company can have two causes:

The energy savings in production caused by substituting the 4 - 7 cars with one car sharing car. This effect does not apply to company car sharing in the described framework where the company uses a car sharing car to take the last 5-7.000 km. in the peak situations. The companies' alternative to car sharing is to keep the oldest company car for another year. Due to the location of the companies in Aalborg in the industrial areas the potentials for use of the car sharing cars by private in the evenings were low. For these two reasons the amount of cars produced will not be reduced.

The energy consumption caused by the car sharing car being newer and smaller than the alternative company car. This effect exists as a car sharing cars typical will be newer and smaller than the company's oldest car, which it substitutes. The effect of the car being smaller is not given, that depends on the requirement from the company, but the effect of the car being newer will probably be significant as engine performance has improved notable in the last years.

b) The Public relations effect for the company. Using a car sharing car, with car sharing logos on the sides should help giving the company a green image – to the extent that the customers accept that car sharing is a green alternative.

c) The congestion effect. One of the great drivers behind car sharing learned from experience in Bremen is the lack of space for parking private cars in the city. In some quarters almost all parking spaces have been removed, except for dedicated car sharing stations. As a resident in one of these quarters a car is 'nothing but problems'. You have to

³ The point, above which, a car sharing car will be more expensive than owning a car.

use a lot of time to find a free parking space, and you have to walk a long distance between home and car. As an alternative the car sharing car is located right in the middle of the settlement giving you a good alternative to car ownership.

For private companies the same effect is known from car sharing in some parts of Copenhagen. Small companies are located in the old, densely populated areas, thus having no space for parking of company cars and thus have benefited from using car sharing cars located nearby.

The same effect can't be found for companies in Aalborg. They are usually situated in the industrial areas with lots of space around the buildings.

d) Other drivers. One of the drivers for companies in Copenhagen is free access to all public parking spaces. For companies doing a lot of business in the city centre, this can be a major saving, that can be in-calculated in the economical business case for car sharing and thus raise the break-even point considerably.

In Aalborg car sharing cars are not exempted from paying the parking fees, and even if they were, the parking is either free or the fees are lower than in Copenhagen and the effect would be minor.

Another reason why companies participate in the car sharing scheme in Copenhagen is to get easy access to a car in another city. Companies located in other parts of Denmark join the car sharing scheme in Copenhagen to have access to car sharing in the airport. This is a little cheaper for them to use than ordinary rented cars, and it is a little faster and easier to use a contactless card than to go through the usual handing process at the rental company.

Aalborg, not being a centre as Copenhagen, does not have this kind of in-commuting company traffic and thus not the same target group for car sharing.

A third driver is the possibility for the employees to have a free 'A' membership (no monthly fee) when the company is 'A' or VIP member. The value of this argument showed up to be rather low, as the companies estimated that there was a very limited demand for this perquisite among the employees

e) The economic benefit from using car sharing. When the ARCHIMEDES project was launched in 2008, the financial crisis started in Europe. As a consequence, companies' green profile was suddenly given a lower priority compared to the economy. The business case for using car sharing became more important than green branding in the decision about whether a company should decide to use car sharing or not.

To find the right argument to use in the company campaign, we tried to find the niches where car sharing was of best economical benefit for the companies. We developed a large calculation model, that compared the economical cost for using car sharing, 'A' membership or VIP membership, to having a company car or to paying compensation to employees for using own car. The comparison was done for several scenarios with different mileages and different car ages etc.

The costs used in the model were taken from the official car sharing price list and from official Danish web pages mainly from the model developed by FDM, the Danish car owners association.

The first results were, that paying compensation to employees for using own car following the official rates were always the cheapest solution. And the employees prefer this model as the rates is above their marginal costs for using the car. For this reasons this option was omitted from the campaign.

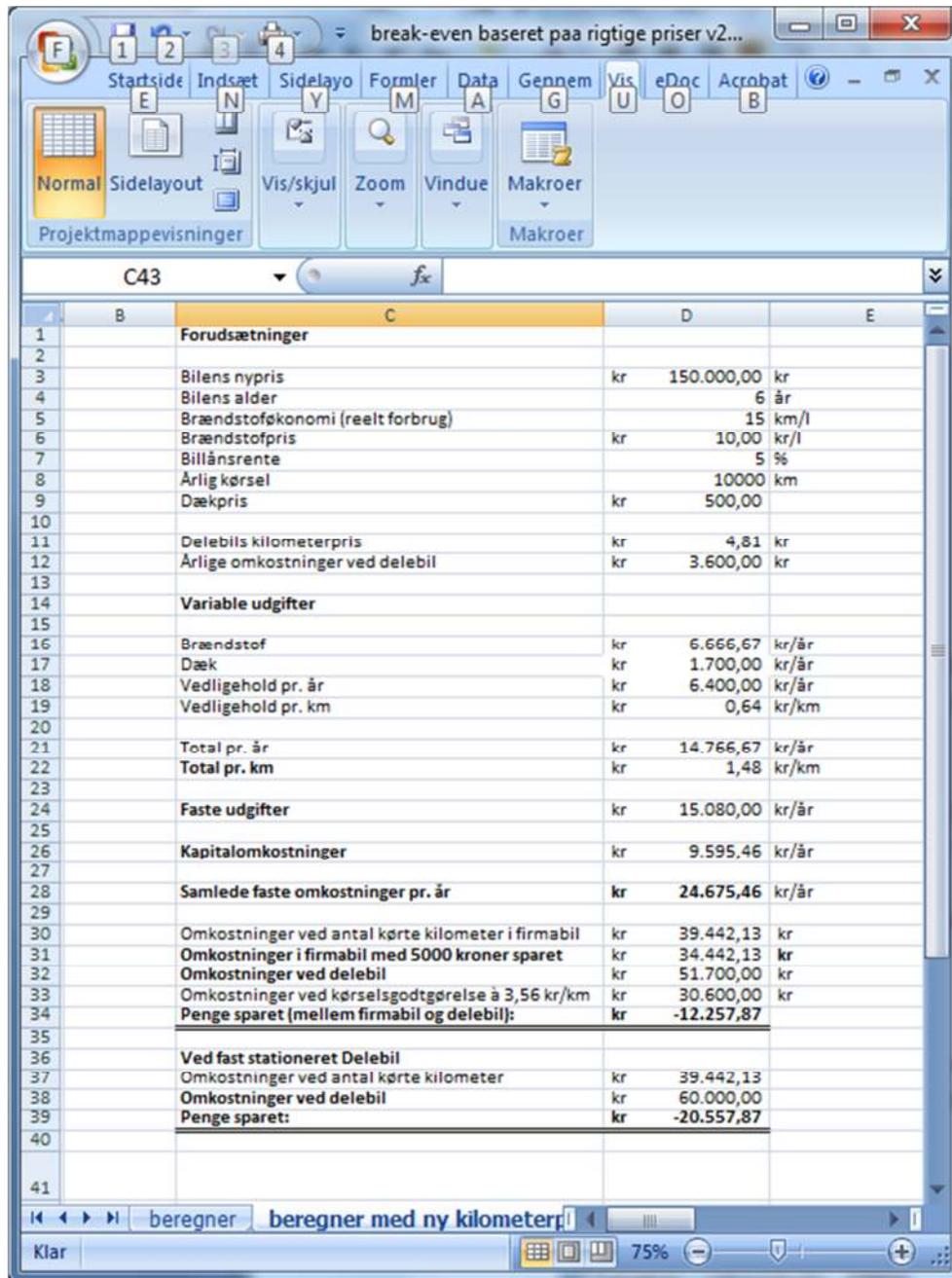
The second conclusion was that having a VIP membership, in the most favourable situation where you use the car 11.500 km/y, will be 2.400 € more expensive a year than having your own company car. In all other situations where the company uses the car more than 11.400 km/y or less than 11.400 km/y, the extra costs for the company will be even higher.

The reason for this is that the VIP membership uses the normal prices, but includes that the company always pays for a fixed minimum use per month. If the company uses less km. than is paid for by this fixed payment, the km. will be un-proportional expensive. But if the company uses more km than paid for by this fixed payment the marginal costs pr km is too high due to lack of digressive marginal costs – as described in 4.1.1.

The third conclusion was that having an 'A' membership was an economical advantage when the car is used less than 6.500 km/y.

At 6.500 km. the expenses are the same. The less the car is used, the more is saved by substituting with a car sharing car. So the potentials are best with 0 km. but of course no company has a company car without using it. If you assume that no company car drives less than 4.000 km a year the potentials for saving is between 0€ at 6.500 km and 1.000€ at 4.000 km.

So now the arguments to the campaign and the target group were found. Companies with a car doing less than 6.500 km. a year, or who could optimise the use of the company's fleet so 'the last car' should do less than 6.500 km a year.



	B	C	D	E
1		Forudsætninger		
2				
3		Bilens nypris	kr 150.000,00	kr
4		Bilens alder		6 år
5		Brændstofføkonomi (reelt forbrug)		15 km/l
6		Brændstofpris	kr 10,00	kr/l
7		Billånsrente		5 %
8		Årlig kørsel		10000 km
9		Dækpris	kr 500,00	
10				
11		Delebilens kilometerpris	kr 4,81	kr
12		Årlige omkostninger ved delebil	kr 3.600,00	kr
13				
14		Variable udgifter		
15				
16		Brændstof	kr 6.666,67	kr/år
17		Dæk	kr 1.700,00	kr/år
18		Vedligehold pr. år	kr 6.400,00	kr/år
19		Vedligehold pr. km	kr 0,64	kr/km
20				
21		Total pr. år	kr 14.766,67	kr/år
22		Total pr. km	kr 1,48	kr/km
23				
24		Faste udgifter	kr 15.080,00	kr/år
25				
26		Kapitalomkostninger	kr 9.595,46	kr/år
27				
28		Samlede faste omkostninger pr. år	kr 24.675,46	kr/år
29				
30		Omkostninger ved antal kørte kilometer i firmabil	kr 39.442,13	kr
31		Omkostninger i firmabil med 5000 kroner sparet	kr 34.442,13	kr
32		Omkostninger ved delebil	kr 51.700,00	kr
33		Omkostninger ved kørselsgodtgørelse à 3,56 kr/km	kr 30.600,00	kr
34		Penge sparet (mellem firmabil og delebil):	kr -12.257,87	
35				
36		Ved fast stationeret Delebil		
37		Omkostninger ved antal kørte kilometer	kr 39.442,13	
38		Omkostninger ved delebil	kr 60.000,00	
39		Penge sparet:	kr -20.557,87	
40				
41				

Figure 3 Part of the calculation model comparing Car Sharing, Company car and compensating employee for use of own car.

4.1.1.2. Barriers to uptake.

The barriers to uptake

As VIP membership, with a dedicated car at the company, was not at all interesting for economical reasons, **distance to the nearest car sharing station** became an issue.

For many companies located in the industrial areas the distance to the existing car sharing stations was too high a barrier. As a part of the campaign we tried to motivate nearby companies to join the scheme together to make it possible to situate a car in the neighbourhood.

Another barrier felt by the companies is the **need to book** the car in advance. This raises concerns as you have to deal with uncertainty. If the car can be used by other companies what can you do, if it is already booked – maybe we should just keep our own car even if it is a little more expensive?

So knowing the drivers and the barriers, the City of Aalborg and the car sharing company were ready to develop the campaign.

4.1.2. Phase 2. First campaign, towards private companies

A direct mail campaign was developed.

A folder describing the possibilities and the benefits was composed – see [Figure 4](#) and [Figure 5](#). - The messages in the campaign were 'It is good for the environment', 'It is a benefit for your economy', 'It is easy' and a recommendation from 4 companies already using car sharing in Copenhagen.

Based on extractions of company data from the register from the Aalborg Chamber of Commerce a number of companies were selected as possible participants in the car sharing scheme.

The campaign folder was sent to the companies along with a recommendation letter signed by the CEO of Hertz Delebilen and by the Alderman of Aalborg, Mariann Nørgaard, telling about the project and the possibilities.

En række virksomheder har allerede set fordelene

Aalborg Universitet – ved rejser til København anvender vi altid Delebiler. Vi sparer på transportomkostningerne fra lufthavnen i medlemsstedene, og er altid sikre på, at der er en Delebil.

Throne og Throne – Vi har vores egen delbil, som kun anvendes i firmaet kan besøge. Det er en god løsning for os.

Foreningen Grønlandske Børn – Vi er også vores delebilsværtselskab som en god frytsegode til medlemmerne. De får gratis delebil med omskift (værdi 3.600 kr. pr. måned – årligt) og afslutning for privat kørsel uden uden arbejdsfor os.

Id Bryggeri – Vi benytter delebiler til at, men også i de andre byer, hvor vi køber. Vi foretrækker os til møder i tog og køber det sidste stykke ud til kunden i delebil. På hjemturen i toget kan vi så opsummere møder, og slippe af.

Hertz Delebil og Aalborg Kommune samarbejder for at skåne miljøet

Flere Delebiler og Aalborg Kommune er gået sammen for at gøre virksomheder i Aalborg en mulighed for at skåne miljøet og samtidig spare ned på udgifterne til kørsel i firmaet.

Mange virksomheder vil kunne bevare fleksibiliteten i transportvogn og samtidig spare penge ved at udføre en firmabil eller undlade at købe en ny og i stedet bruge Hertz Delebil.

Virksomheden slipper for udgifter og besvær med drift af egne firmabiler, forsikringer, rengøring samt administration af tælleregninger og kørselsgodtgørelser.

Yderligere oplysninger og tilmelding på vores hjemmeside: www.delebil.dk.

Hertz Delebil, Vesterport 3, 1612 København V.
Telefon 33 17 90 40, Telefax 33 33 49 57
E-mail: delebil@hertz.dk

Delebiler - noget for din virksomhed

Aalborg Kommune og Hertz Delebil samarbejder om Delebil som en del af EU projektet ARCHEMEDS. Uden Delebil indgår ARCHEMEDS projektet i Aalborg ca. 15 andre projekter med fokus på miljørigtige transportløsninger. Læs mere på [aalborgkommune.dk/archemedes](http:// aalborgkommune.dk/archemedes)

Teknik- og Miljøforvaltningen

Skolevej 10, 9400 Nørresundby, Tlf: 99 10 10 00, www.aalborgkommune.dk, teknic@ aalborg.dk 2023

Figure 4 Company folder for the Direct Mail campaign. Page 1

Mange fordele ved at dele bil

Virksomheden får rådighed over en ny bil og behøver ikke bekymre sig om vedligeholdelse, reparation og lignende.

Hensetover:

- der er virksomheden de fleste omkostninger med andre brugere af bilen.
- har virksomheden fri rådighed over netop den type og størrelse bil, der er bedst egnet til opgaverne dag.
- sparer virksomheden kørselsomkostninger hvis kørselsbehovet ikke overstiger ca. 5.000 kilometer om året.
- får virksomheden rådighed over en ekstra bil til spidsbelastningsperioder.
- ser der gratis adgang til alle anvælte.

Når et firma er medlem af Hertz Delebil, tilbydes alle ansatte et A-medlemskab uden månedsgyld. Til den ansattes private kørsel. Herudover sparer den ansatte et årligt medlemsgebyr på 3.600 kr. Fakturering for privat kørsel sker direkte til den ansatte.

Ingen bekymringer

- Hertz sørger for rengøring og checker olie m.m.
- Service og syn er inkluderet.
- Dækskifte er inkluderet.
- Kørselsregnskab sker automatisk for hver medarbejder.
- Intet benzinselskab – brændstof er inkl. i prisen.

Bilen bookes på nettet eller ved at ringe til Hertz Delebils bookingcentral. Når bilen hentes, bruges smartcardet, der er den personlige adgangsbillet, der passer til alle delebiler. Og så er det bare at køre... Begrefter parkerer bilen på den faste parkeringsplads. Sikker skifte omkostninger: fast måltager, hvor langt den kører, og i hvor lang tid.

En gang om måneden betaler virksomheden for den samlede kørsel i den pågældende måned.

På www.delebil.dk er der et kort over delebilens placering i Aalborg og Nørresundby. Her oprettes ledende nye delebilpladser i forhold til udviklingen i trafikken.

Delebil er det miljørigtige firmabilalternativ

En ny delebil anvender typisk en ældre firmabil, og bruger derfor mindre brændstof og foruren mindre. En delebil erstatter typisk 4-6 andre biler. Herudover spares miljøet for forbrug af store mængder råvarer og energi til bilfremstilling.

Det er til at betale

For virksomheder og institutioner er der flere muligheder for at benytte delebil.

- Normalt A-medlemskab, hvor man betaler 300 kr. pr. måned for hele virksomheden 7 medarbejdere. Til et arbejde med medlemskab kan der i forbindelse et adgangsbillet betales ansatte, som har fået medlemskab til kørsel i firmaets tjeneste.
- Specialaftale hvor en bestemt bil reserveres til virksomheden i løbet af måneden kl. 08 - kl. 17. Bilen stilles over ved 14 medarbejdere. Udover det normale månedlige abonnement på 300 kr. pr. måned fungerer virksomheden sig til et afkast månedsmøderbrug.

Eksempel på priser på en Ford Focus Station Car

Medlemskab	Pris	Pris	Pris	Pris	Pris	Pris
A	300	300	300	300	300	300
B	300	300	300	300	300	300
C	300	300	300	300	300	300

Alle priser er inkl. moms, service, forsikring og udgifter til bil.

Figure 5 Company folder for the Direct Mail campaign. Page 2

After a while the companies were called by the fleet manager from the car sharing company, who tried to set up a meeting with the person responsible for use of cars in the various companies.

The general response was that the letter and folder were thrown away; that the company was not interested in a new folder, and did not have time to take a meeting with the car sharing fleet manager.

Based on this feedback and on the lack of really good drivers for companies to use car sharing, the city of Aalborg decided to change campaign target group to another group, where the drivers were more straightforward.

4.1.3. Phase 3. Changing the target groups

The ordinary user group for car sharing is young people, mostly students or other groups with limited financial resources. Also “Hertz Car Sharing” who is operating the scheme in Aalborg, usually find their customers in this segment.

Among the City of Aalborg and the Hertz Car Sharing company a new strategy was decided including the following elements.

- Redistribution of existing cars to match the settlement of the target group
- Extension of the fleet with a new car at the university campus
- A new modernised internet information system with a more modern booking system
- An iphone app for easy booking.
- A citywide campaign concentrated on the media that are most supposed to reach the target group.
- A dedicated follow-up campaign targeting at a sub-segment of the target group, the young people most interested in new technology.

All with the purpose to create attention around car sharing, provide information on car sharing and to give the car sharing a modern image.

Redistribution of existing cars to match the settlement of the target group and extension of the fleet with a new car at the university campus.

A GIS analysis of the settlement of the target group to determine the best locations for the car sharing spaces was carried out in Spring 2011, using data from the municipality. First analyses were conducted on medium sized areas to locate the most interesting areas. In the next phase more detailed analyses were conducted on sub sets of these most interesting areas. These analyses resulted in various maps, see Figure 6 and Figure 7.

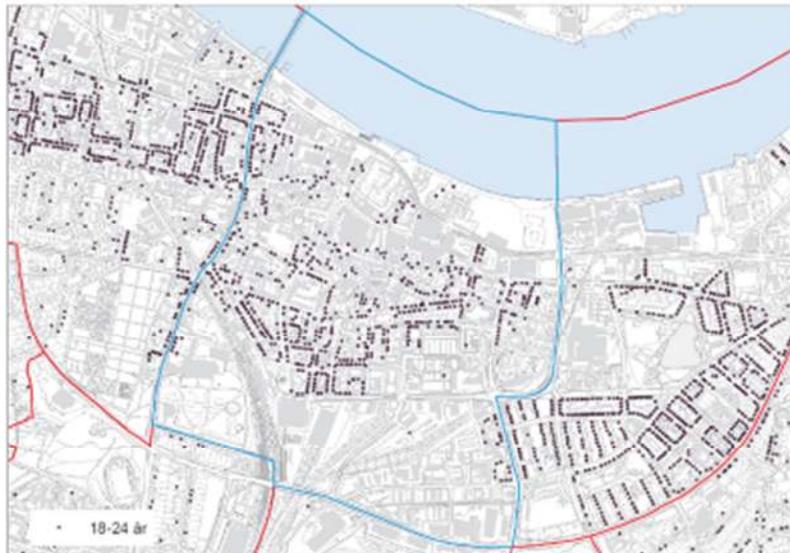


Figure 6. This map shows the distribution of young people aged 18-24 in the city centre of Aalborg.

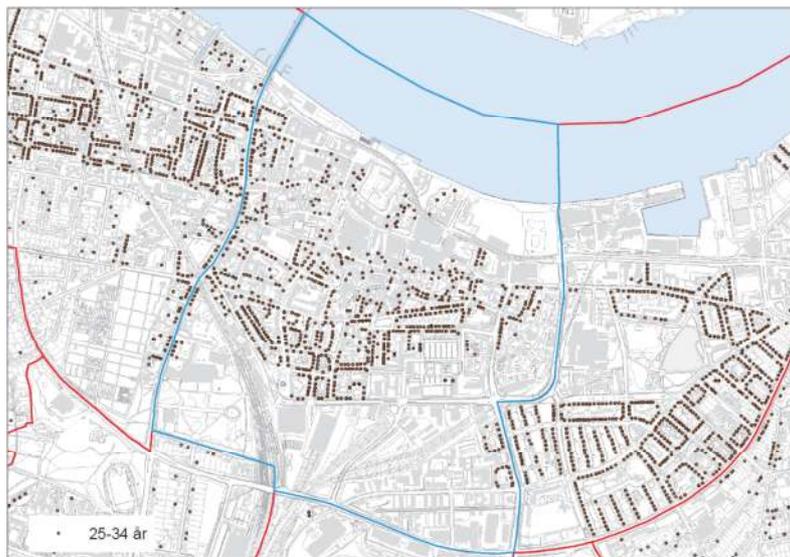
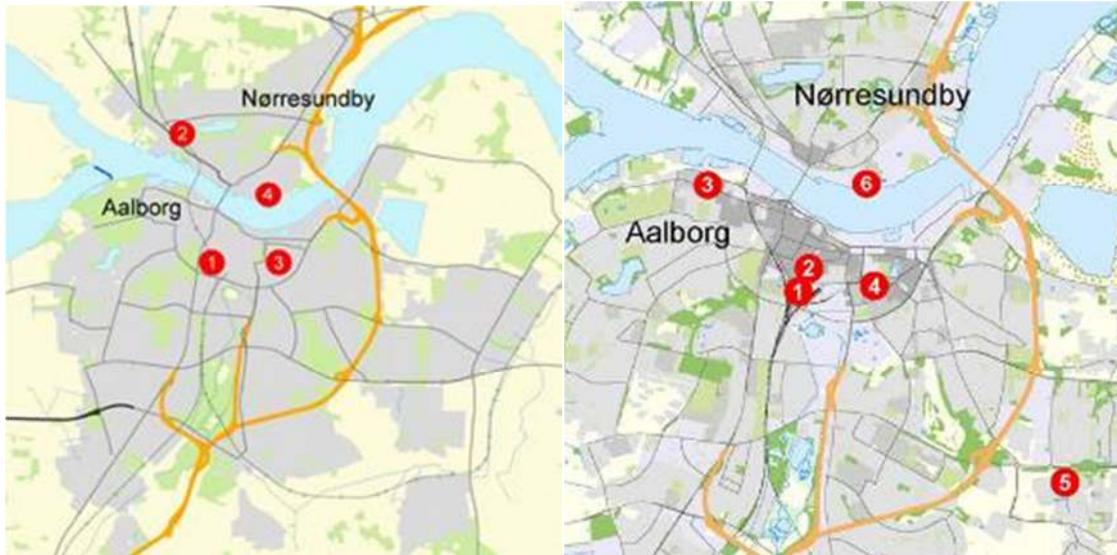


Figure 7. This map shows the distribution of young people aged 25-34 in the city centre of Aalborg.

As a result of these analyses the cars were redistributed in Summer 2011 to make the cars easily accessible for the new target group. A car was moved from the north-west outskirts north of the Limfjord to a new station in the western part of city centre with a high density of students and young people and a car was moved from the southern part of the city to a new station in the centre. Please see Figures 8 and 9.

In October 2011 the system was extended with a new car sharing station at the university campus.

As a result of these redistributions and the establishment of the new campus station the number of car sharing stations went up from 4 to 6.



Figures 8 & 9. Locations before and after the CIVITAS ARCHIMEDES project extended the number of locations from 4 to 6



Figure 9. New parking spaces for Car Sharing cars in western part of the city centre.



Figure 10 Car Sharing station at the University

In September 2011, when the redistribution of cars was fully implemented and the new locations created (see Figure 9 and 11), advertisements in local newspaper were launched in order to inform the citizens about the revised scheme with easier access. See Figure 12.



Kør bil nemt og billigt

Fra kun kr. 24/time og 3,20/km
Brændstoffer med i prisen!



Hertz Delebil - et miljøvenligt og billigt alternativ.
Du kan altid komme afsted uden selv at eje en bil

I Aalborg holder Delebilerne på Frederikstorv, Fyensgade 18,
Kennedyarkaden, Stigsborg Brygge 5, Universitetet og nu Herluf
Trolles Gade 18.

Du booker nemt og hurtigt online og betaler kun for den bookedede
tid og de kørte kilometer. Nemmere kan det ikke blive.

Læs mere og tilmeld dig på www.delebil.dk.



Figure 11 Newspaper advertisement for a new car sharing station

A new modernised internet information system with a more modern booking system was implemented during the summer of 2011.

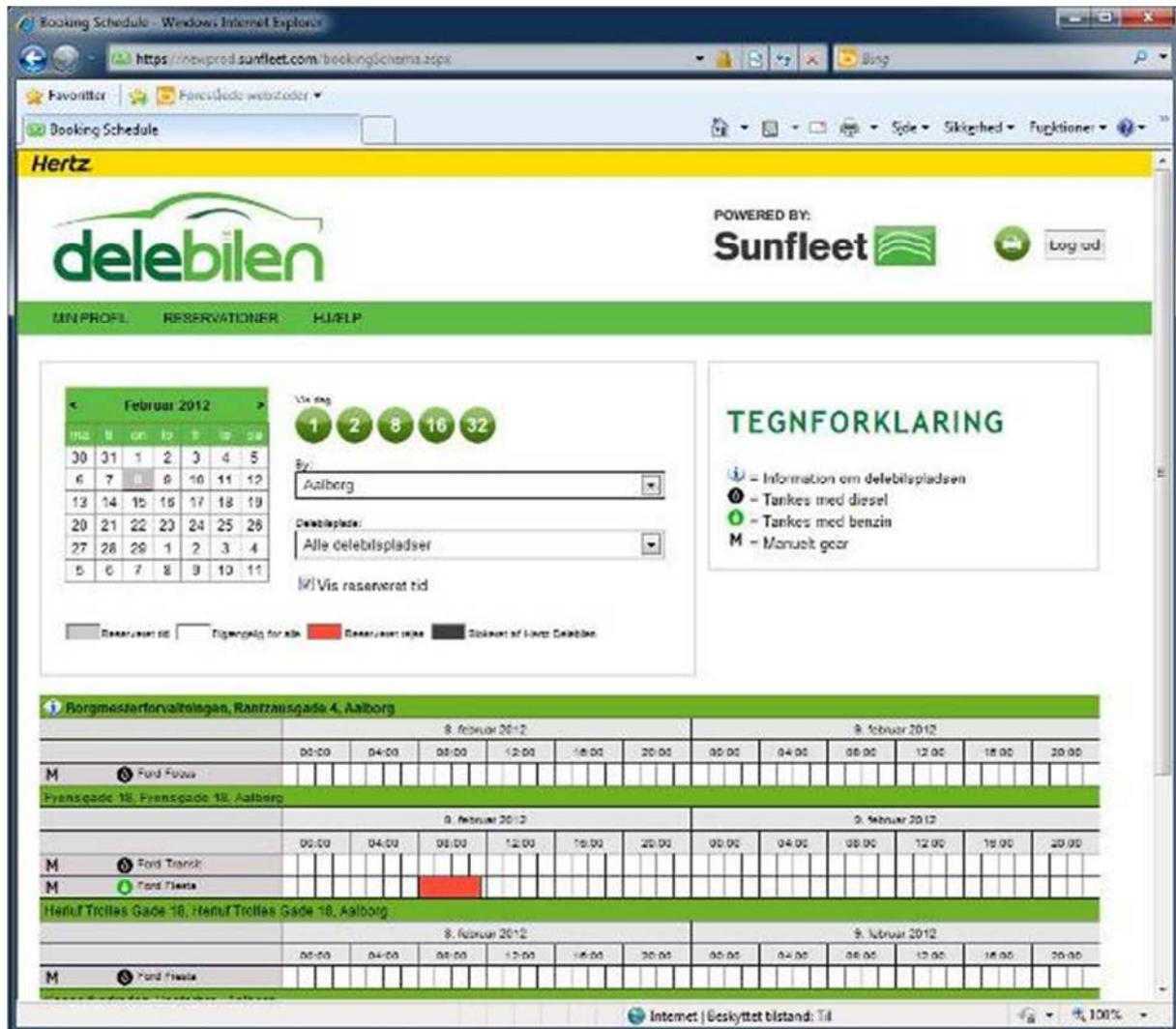


Figure 12 A new modernised internet booking system

An iphone app for easy booking

To make bookings easier and more modern, it was decided that the car sharing company would develop an iphone booking app. The app was not ready at the agreed launch date for the campaign. It was decided to launch the campaign all the same, as the space for posters at the bus stops had been booked for a long time. Bookings have to be done at least half a year in advance.

The development of the app has been ongoing at Hertz ever since and the app is still not ready for launch, but is planned to be launched by Spring 2012.



Figure 13 A screen print of the prototype of the Smartphone booking facility.

A **citywide campaign** building on all the elements mention above has been conducted:

4.1.4. Phase 4. Campaign towards young people

4.1.4.1. Second campaign. Citywide towards the complete target group.

The promotion campaign aimed at students and young people was launched in May 2011. The approach was mainly to draw attention to possibilities in the existing car sharing scheme in the city, and to market car sharing as easy, smart and modern.

The media used were City Posters in the bus shelters all over the city - see Figure 14 - and promotion on the live monitors in all city buses - see Figure 15.



Figure 14. Campaign posters on bus stops.



Figure 15. Marketing material presented on bus monitors, installed in every city bus in Aalborg (ARCHIMEDES measure 69).

The use of bus stops and bus monitors was chosen because the target group, students and young people without a car, often live in the city and use the bus, see Figure 6 and Figure 7.

The large bus-stop posters - 175cm x 120 cm -, were shown at 50 selected bus stops for 3 weeks. The advertisement in the buses was shown in 10 seconds timeslots in all 100 city buses each 5th minute for three weeks. In all, more than 375,000 exposures .

The first result of the campaign was not encouraging. A number of new users joined the scheme, but seen over the first 8 months of 2011, the turnover of members was the same as in other periods.

4.1.4.2. Third campaign. Follow-up aimed at the sub-segment of young computer 'geeks'

In the winter 2011-2012 a follow-up campaign aimed at a subset of the target group, were launched.

The sub-segment of computer geeks was selected, to test a new form of campaign, where the contents were a competition requiring skills and an effort to participate. The competition was so hard that only a small number of the participants were supposed to find the solution – giving them a significant possibility to win one of the prizes. The purpose was that a great number of participants should spend a lot of time, trying to solve the puzzle, and thus be very much aware of car sharing. And that the puzzle should be so difficult that the target group would start sending it to each other – creating a viral marketing effect.

The key element in the competition was a homepage showing The Wall and the challenge was to 'break through the Wall'. To do so, among other things, you had to find and break a cookie, set-up an rss feed, find another site where you could leave your contact details etc.

The geeks who broke right through The Wall participated in a draw to win one of 10 one-years 'A' memberships with 250 km free driving – all in all at the value of 650€ each. The first prize was further supplemented with an iphone.

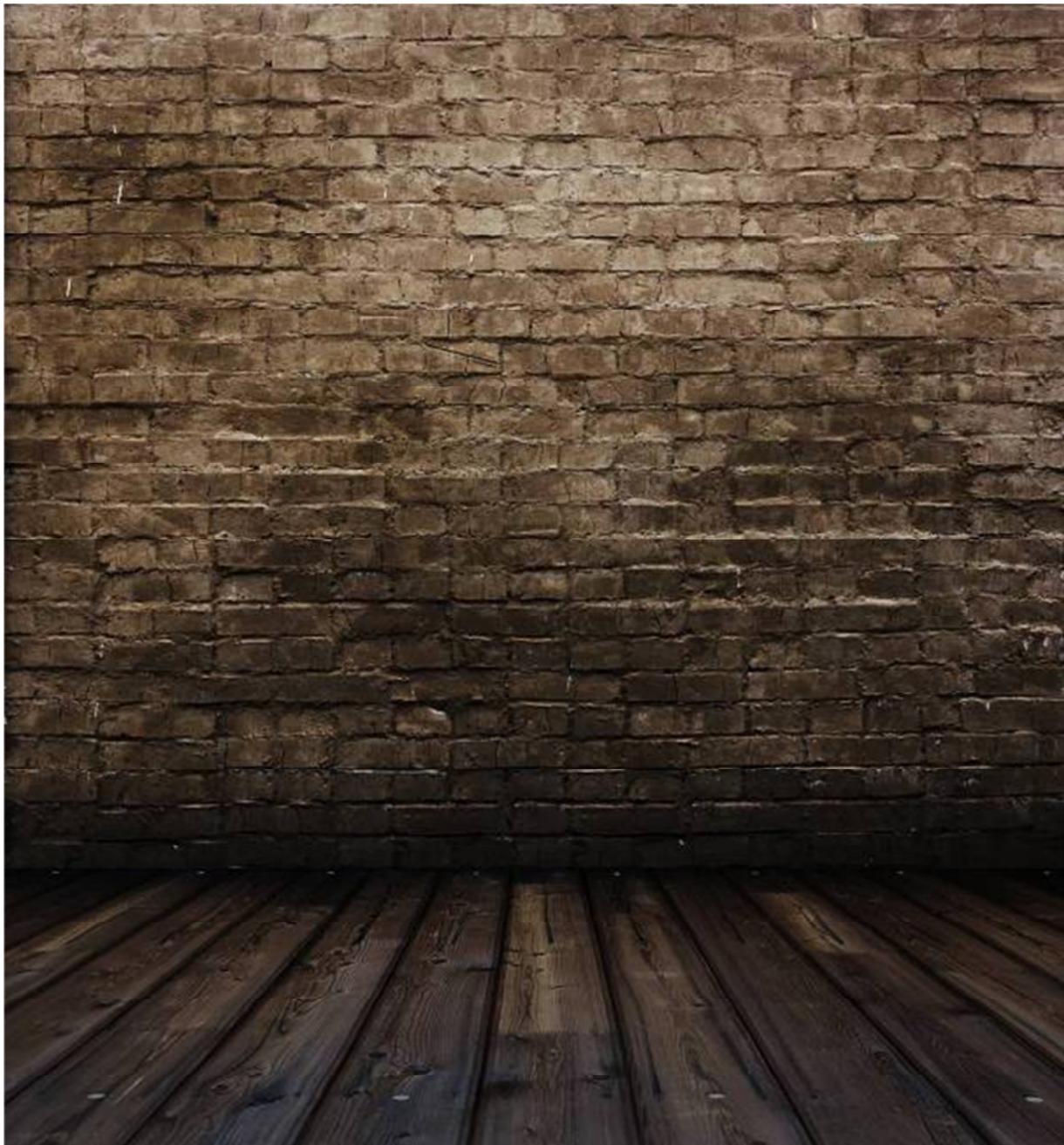


Figure 16 The Wall - the competition site on the internet

To make everything a little more fun and difficult, in some of the media the advertisement only was an QR Code, and the text 'Break through the Wall – only for IT geeks'. In other advertisements, the link to the competition page was shown. And in some, a click on the internet advertisement only led to a guidance text and the QR code.



Figure 17 Example of 'QR Code only' advertisement

Campaign strategy

The following media were part of the campaign.

- Facebook – the social website
- Version2.dk – The Online magazine for IT and communication engineers.
- The live-screens in all city buses.
- Email – viral campaign
- Big posters at the University
- Flyers, distributed in the buses

Facebook. On Facebook it is possible to have a very precise, targeted campaign. The advertisement was shown only to the selected target group of young (18-35 years), in the Aalborg area (radius 45 km), with interest for IT and technology. In the last part of the campaign period the criterions were eased so the ad was also shown to women and to persons that had not indicated an interest in IT and technology, to have more responses.

The ad was shown 3.307.045 times; giving 885 clicks leading a person to The Wall competition site.

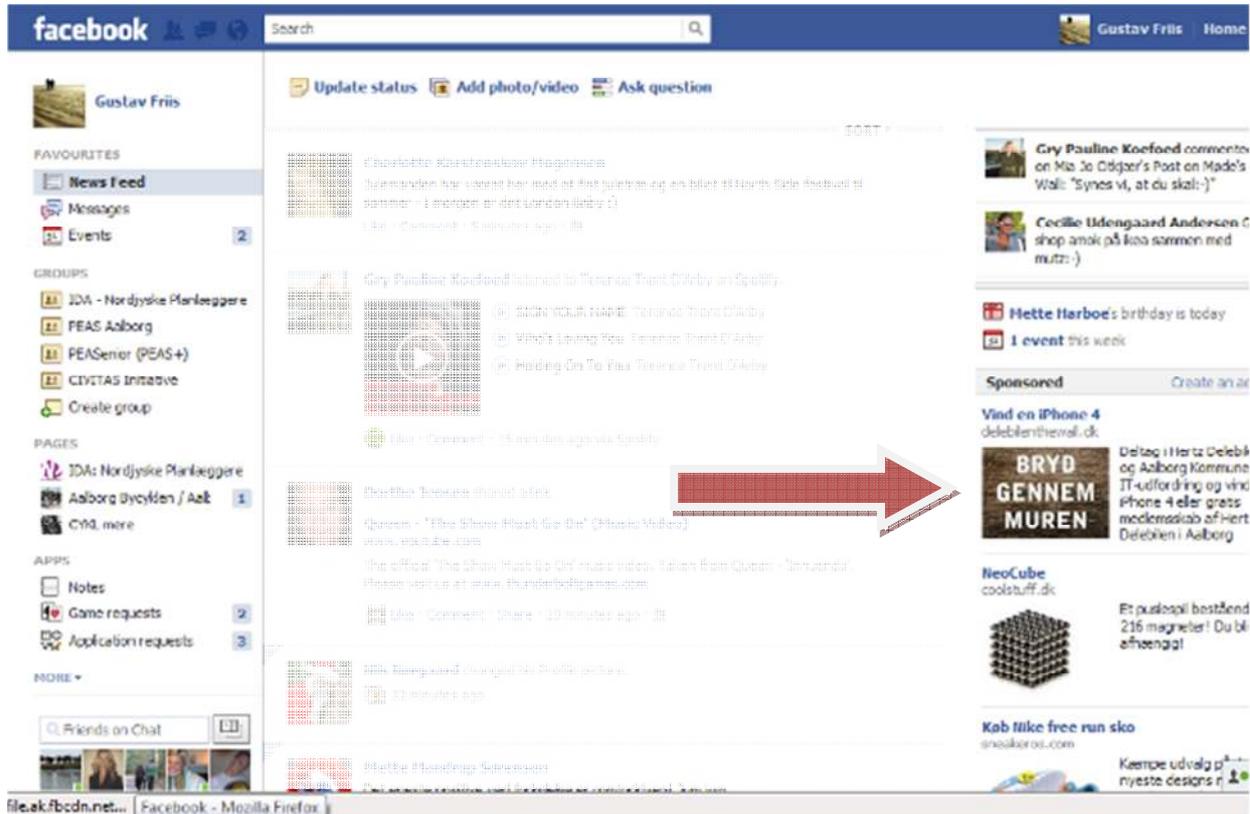


Figure 18 Facebook advertisement

Version2.dk – The Online magazine for IT and communication engineers

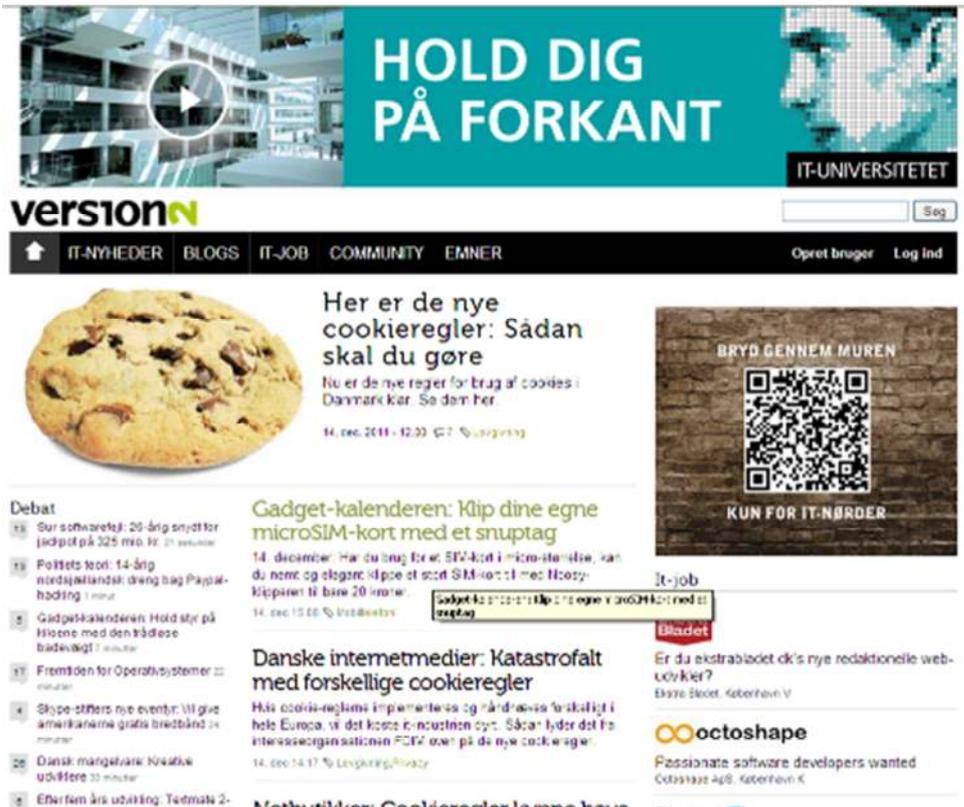


Figure 19 Add on Version2 - for IT and communication engineers

All readers of the Version2.dk magazine are by definition in the geek segment of the target group. Furthermore the presentation of the ad was limited to the North Denmark geographic area.

Having the real geeks here, we decided to show the 'QR code only' add here. Clicking the ad led to a hint page saying – You are on the wrong track, use the QR code in your smart phone. Using the QR code in the phones as intended, led the persons to a page giving the proper link to The Wall competition site.

The ad was shown 25.096 times, giving 89 clicks leading a person to the hint page. But is not possible to see how many persons scanned the QR code and in this way went to the hint page.

The live-screens in all city buses.

Once again the live screens in all city buses (ARCHIMEDES measure 69) were used as media in an ARCHIMEDES campaign. The advertisement (Figure 20) in the buses was shown in 10 seconds timeslots in all 100 city buses each 5th minute for six weeks: all in all more than 750.000 exposures.



Figure 20 ad on live screens in all citybuses

The screen showed the link to the competition page together with presentation of the prizes as an appetiser.

Email – viral campaign. To try to start a viral campaign, emails with invitations to join the competition in the campaigns graphical design, were emailed from the project to all connections, using all personal and professional networks – including an urge to send the mail on via the receivers own networks.

It is obvious, that is has not been possible to trace to how far the snowball effect has reached.

Large posters at the University

100 posters in 500x700 mm were printed, and put up on the notice boards at the relevant parts of the university.

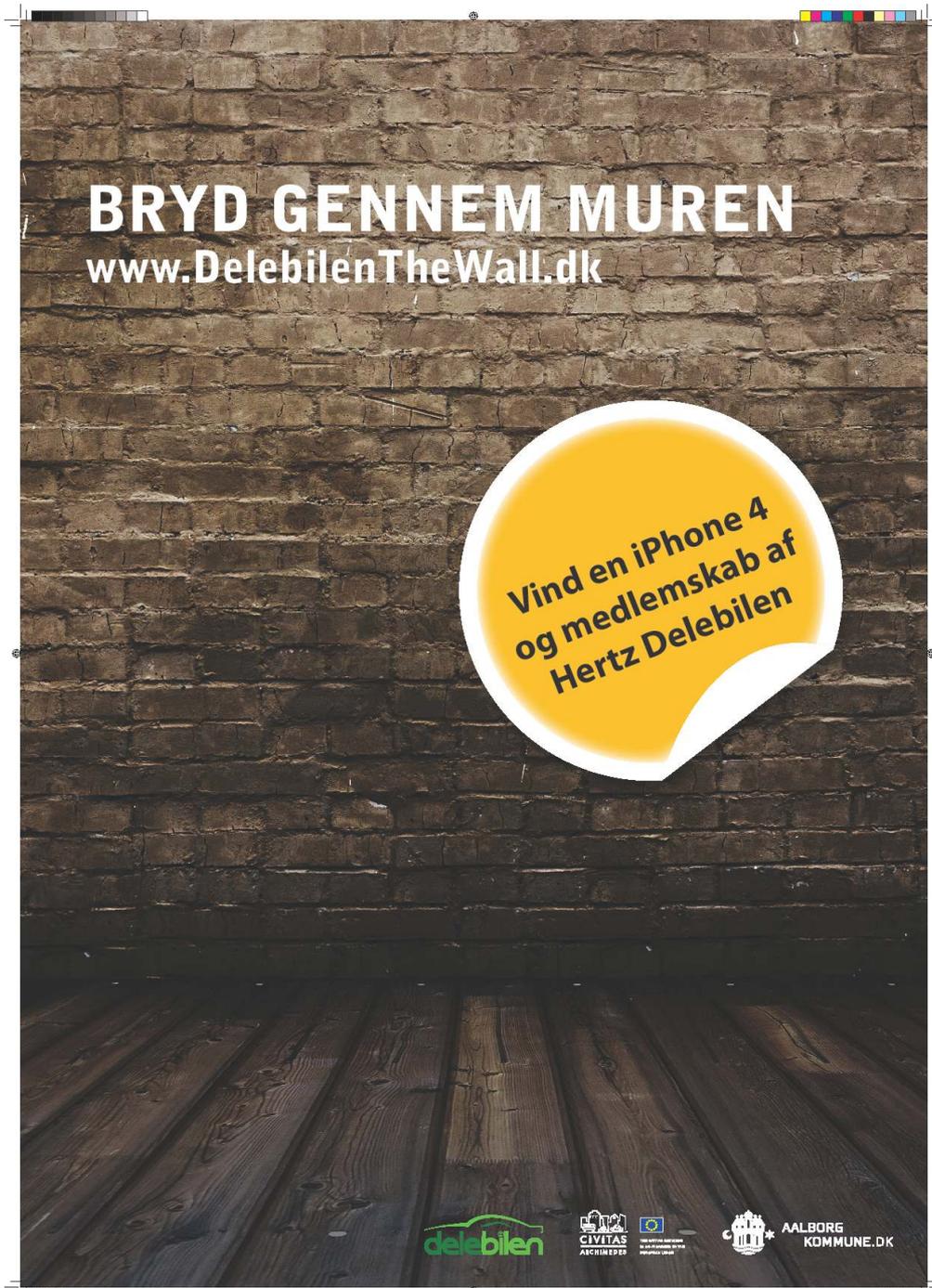


Figure 21 One of the 100 posters from the bulleting boards at the university

Flyers, distributed in the buses. As the last attempt to reach the target group, 500 flyers were printed and as many as possible were distributed directly to the students in the mornings buses going to the university area.

The flyers were small and handy (80x100mm) and printed on two sides. Again the QR code was used to sharpen the appetite.



Figure 22 Front and back side of flyer

More than one thousand people reached The Wall on the competition site. We don't know how many of these people tried seriously to break the wall, but only 20 succeeded.

A draw was made between those who succeeded and ten winners were given prizes.

Tillykke - du har vundet!

Kære Lea,

Du er den heldige første præmievinder i Aalborg Kommunes og Hertz Delebilen's kampagne "The Wall", hvor du knækkede koden og brød igennem muren. Du har derfor vundet en iPhone 4.

Kampagnen var en del af EU-projektet CIVITAS ARCHIMEDES, der indeholder en række projekter med fokus på bæredygtig og miljørigtig transport. Udover en iPhone 4 får du desuden mulighed for at transportere dig grønt og bæredygtigt, du har nemlig også vundet:

- 1 års gratis A medlemskab i Hertz Delebilen (værdi 3.600 kr.) inklusiv 250 km den første måned, hvorefter du kan leje en af debilerne til fordelagtig lav pris.

For at blive oprettet i Hertz Delebilen og for vi kan sende præmien, bedes du sende en mail til delebilen@hertzdk.dk og skrive "Vinder – The Wall" i emnefeltet. I mailen bedes du oplyse dit fulde navn, adresse, mobilnummer og CPR-nummer. Vi sender dig herefter en kontrakt, som skal returneres underskrevet, så vi kan oprette dig i systemet. Vi skal også have en kopi af dit kørekort, som kan returneres sammen med kontrakten eller scannes og medsendes i din mail.

Du kan læse mere om debilerne på: www.delebil.dk, og du kan læse om ARCHIMEDES projektet på www.aalborgkommune.dk/archimedes.

Endnu engang tillykke - og god fornøjelse med dit medlemskab!

Med venlig hilsen
Hertz Delebilen & Aalborg Kommune

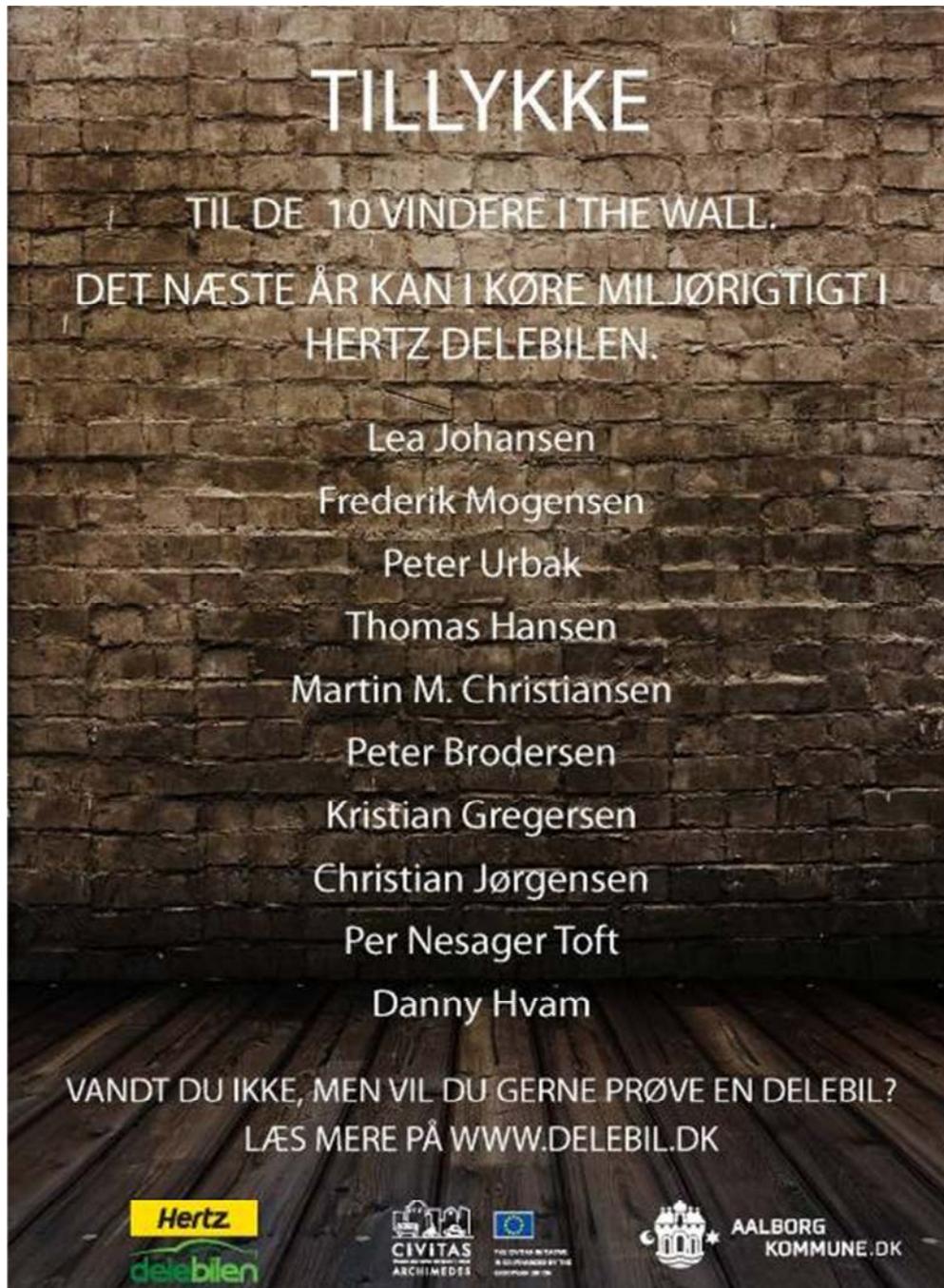






Figure 23 Winner certificate

As the last point, an advertisement was put into the regional newspapers, declaring the winners, saying 'Congratulations to ... for the next year you can transport yourself in a sustainable manner in a car sharing car' - to draw a little more attention to car sharing.



The advertisement features a dark, textured background resembling a brick wall. The text is centered and reads: 'TILLYKKE TIL DE 10 VINDERE I THE WALL. DET NÆSTE ÅR KAN I KØRE MILJØRIGTIGT I HERTZ DELEBILEN.' Below this, a list of ten names is presented: Lea Johansen, Frederik Mogensen, Peter Urbak, Thomas Hansen, Martin M. Christiansen, Peter Brodersen, Kristian Gregersen, Christian Jørgensen, Per Nesager Toft, and Danny Hvam. At the bottom, it asks 'VANDT DU IKKE, MEN VIL DU GERNE PRØVE EN DELEBIL? LÆS MERE PÅ WWW.DELEBIL.DK'. Logos for Hertz, delebilten, CIVITAS ARCHIMEDES, the European Union, and AALBORG KOMMUNE.DK are visible at the bottom.

Figure 24 The newspaper ad declaring the winner. 'Congratulations. For the next year You can drive sustainable ...'

4.2. Problems identified

This measure has experienced problems of two different types.

1. Lack of drivers for the potential users – especially for the first target groups of companies – to use the car sharing system.

2. Problems and delays due to organisational changes at the car sharing company with consequential uncertainties.

The drivers and barriers for joining a car sharing scheme in Aalborg are outlined in section 4.1.1 . The short conclusion is that the drivers that make car sharing attractive in other European cities – mostly cities of a bigger size than Aalborg - do not exist for the companies in Aalborg, and to a lesser degree, not even for the target groups of young people in Aalborg.

This matrix compares the drivers:

Drivers	Companies	Private users – young target group
<p>The environmental effect of car sharing:</p> <p><i>-The energy savings in production</i></p> <p><i>-The energy consumption caused by the car sharing car being newer and smaller than the alternative car.</i></p>	<p>-As a companies' alternative to car sharing is to keep the oldest company car for another year, the amount of cars produced will not be reduced.</p> <p>-The effect of the car being smaller is not given, that depends on willingness of the company to use a smaller car, but the effect of the car being newer will probably be significant as engine performance has raised notable in the latest years.</p>	<p>- The effect is only valid, if the user alternatively would have bought a car. Usually the alternative for this user group is Public Transport or bikes. Or the use of car sharing is only temporally postponing the acquisition of a car for a year or two.</p> <p>- For the vast majority of this target group where the alternative is Public Transport, this argument is not valid. But the few who would have bought their own car, would have bought an old, cheap car. And due to the car development and to the cheap cars available on the market; this would typically be a bigger car with an old, more inefficient engine.</p>
<p>Images effect for the company / private user.</p>	<p>Before the financial crises this argument would be valid primarily for companies working with environment or CRS, but now companies have to evaluate the images effects more against involved costs. This is especially a problem if they are not convinced that an environmental effect exists – see above.</p>	<p>The effect does have some value, but economy weights more heavily for this target group.</p>
<p>The congestion effect of one car replacing 4-7 other cars. In congestion on roads and in use of parking spaces.</p>	<p>The argument is often used in European cities. For this target group it is not valid. The transport work is supposed to be the same, company car or car sharing car. A parked car sharing car takes the same space at a company as the alternative company car. Only if more companies share a car, space is saved, but in the industrial area, such space is not a sparse resource.</p>	<p>The effect is only valid if the user alternatively would have bought and used a car. Usually the alternative for this user group is Public Transport or bikes.</p>

Drivers	Companies	Private users – young target group
<p>Other drivers:</p> <ul style="list-style-type: none"> -Free access to public parking spaces - easy access to a car coming with train or plane from other parts of the country - free ‘A’ membership for employees 	<ul style="list-style-type: none"> - In Aalborg car sharing cars are not exempted from paying the parking fees, and even if they were, parking is free or the fees are lower than in Copenhagen and the effect would be less. - Aalborg does not have this kind of in-commuting company traffic and thus not the same target group for car sharing - The value of this argument showed up to be rather low, as the companies estimated that there was a very limited demand for this perk among the employees 	<p>The argument is not valid for the same reasons as for companies. Besides this target group is typically living in the city and is using the car out of the city, to shopping centres in the outskirts with free parking or visiting family elsewhere in the region.</p> <ul style="list-style-type: none"> - Not relevant - Not relevant
<p>Economic savings from using car sharing</p>	<p>The potentials for saving showed up to be between 0€ at 6.500 km and 1.000€ at 4.000 km. This is a) a rather limited savings potential and b) a rather narrow interval, where savings can be gained. Besides paying the employee the official taxes for using own car is always cheaper.</p>	<p>Doing up to 6.500 km. is cheaper in a car sharing car, under the conditions, that the alternative would be an own car of same age and size. Using an old car would change the equilibrium. Being a young driver with an expensive insurance could change the equilibrium in the opposite direction.</p> <p>Doing all the traffic with PT would be even cheaper, but another level of services. Besides the km expense calculation using Car sharing instead of own car has the saving potential, that you tend to do less km. when you have to pay for each, instead of only calculating marginal costs of your own car.</p>
<p>Better mobility</p>	<p>For a company the alternative would be using another company car, securing same mobility.</p>	<p>Usually the alternative for this user group is Public Transport, bikes or even renting or borrowing a car. Joining a car sharing scheme would seriously improve the mobility possibilities for this group – given that the economical and other barriers do not limit the realisation of the possibilities too much.</p>

Barriers	Companies	Private users – young target group
Distance to the nearest car sharing station	The car sharing station have to be situated on the company or between a couples of neighbour companies, If not, the costs – real or experienced - will hinder use of the system.	The car sharing station has to be situated within a reasonable distance from the users premise. If the distance is more than 500- 1.000 meter, the car sharing will not be seen as a realistic alternative.
Need to plan and pre-book / lack of own cars flexibility	You have to plan ahead, you have to remember to book a car in good time ahead, and you have to handle the uncertainty. What can you do, if you suddenly need a car right now, or what do you do if the car is already booked when you try to pre-book? This 'cost' have to be balanced up with some real savings, before the company accept to rely on car sharing.	The trip that this user group uses the car sharing car for - to Ikea or the weekend trip to the summerhouse - is simple to plan and book in good time ahead. The need to book is not a big issue, and having a car of your own in not a realistic alternative.

Based on this analysis it is not surprising that the effect of marketing the car sharing scheme has not been very fruitful.

As a consequence of the organisational changes at the car sharing company, due to the financial crises in 2008, three different CEOs have been responsible for the company, and three different people have had the daily responsibility for the car sharing scheme in Aalborg during the ARCHIMEDES period.

After each change of CEO the new CEO had to develop his own strategy for the company. As car sharing is only a marginal part of the company's activities, this activity – including the campaign activities – have been placed on hold (or slow) for a long period until the new strategy was ready.

A company which experiences such turbulent situations, including downsizing and cost cutting, tends to allocate its resources to the core business and thus moving the attention from marginal business areas as in this situation the car sharing. The support and active contribution from the car sharing company to the campaign work – or even to keeping the car sharing 'in good shape' - has thus been lacking for major parts of the project period – among other leading to delays in the campaign plans, and probably also to poorer effect of the campaign.

4.3. Future Plans

The last car sharing campaign in the ARCHIMEDES period has been realised. For the rest of the period – and in the time after ARCHIMEDES – the car sharing company and the City of Aalborg will continue to keep up the daily work of keeping the car sharing scheme running.

This includes the launch of the smartphone booking app in the next months.

During Spring 2012 collection of after-data will be done, and the evaluation will take place as described in the evaluating plan.