



Best practice examples of Stuttgart

November 2011

PUBLIC BIKE RENTAL SYSTEM WITH PEDELECS

Since 2007, the German Railway Company Deutsche Bahn AG (DB) has been offering the public bike rental system "call a bike" in several German cities. Users have to be registered once by phone or via the website as members of the call a bike community. There are different forms of call a bike in Germany: Some cities like Cologne or Berlin provide a free system, that means that the users can catch the bike or deliver the bike at any place in the city. Stuttgart decided to establish a station-bound system ("call a bike fix") with 60 stations in the city where the bikes have to be rented or delivered. The 450 bicycles could be rented by mobile phone only. In order to promote the use of call a bike, the City of Stuttgart gives a yearly subsidy of 100.000 Euro to offer a cost-free use of the bikes for the first 30 minutes. The system was well received, in 2010 there were more than 5.000 registered users and a total of 80.000 trips, mostly of young male persons in the evening or at night.



In 2009, the German Government made a call for innovative bike rental systems. DB and Stuttgart decided to participate and developed together a new system with bikes and pedelecs. The partners finally won a grant of 3

Million Euro of the German government. The overall aims were a new mixed offer of pedelecs and bicycles at all stations, a charging infrastructure, an easy handling and the integration in public transport.

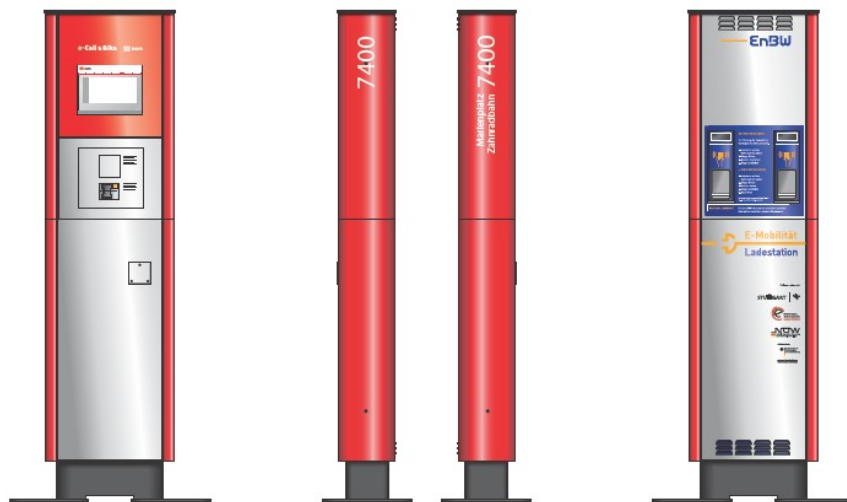
In November 2011, the e-call a bike system was launched. There are 44 stations with currently 60 pedelecs (from January 2012 on 100) and 450 bicycles. Every station has a new designed terminal with a touch screen and slots for the DB customer card and ec/credit cards. The pedelec is the same vehicle as the conventional bike plus motor and battery. In order to avoid destruction by vandalism, there are no buttons or displays, only a small LED which shows if the battery is charged or not by a green or red light. The motor is from *BionX*, it starts automatically when the pedelec is being moved. The drivers can choose between 3 gears. Despite the weight of more than 20 kg, the handling of the bike is easy, especially the brakes are excellent.



The installation of the charging facility was a huge effort, as all stations needed to be provided with a standard power connection. The solution was a subterranean *serial bus* with connection to charging devices. The cable which is used to lock the pedelec to the station has an integrated plug, so if the pedelec is locked, its battery will be charged. If the plug is connected correctly, a green or red light on the top of the locker columns shows the actual charging status of the battery. A pedelec with less than 20% of

energy level is blocked for rental until it is charged again to an acceptable level.

For better service at the stations, DB has developed a terminal which is being used in Berlin and Hamburg. It is possible to rent a bicycle or to bring it back, using the menu on the touch screen of the terminal. In Stuttgart there are different terminals due to cooperation with energy supplier EnBW in the field of electro-scooters. EnBW is promoting electromobility in the Stuttgart region, and therefore it carried out a one-year-test with 700 "elmoto"-scooters with participation of citizens, companies and local authorities. The test has ended in August 2011. Users have driven more than 1 million kilometres. Based on this experience, EnBW decided to co-finance the terminals provided that they are modified in order to serve as charging facilities for e-bikes. The result is a flat terminal column with a "blue side" for EnBW with two sockets for the charging plugs of e-bikes, and a "red side" for DB with the touch screen for the bike rental. So there are 90 charging sockets for e-bikes in Stuttgart, which is the basis for a good supply of the users of e-bikes and scooters all over the city. The energy is "green energy" form renewable sources.



Prices

While the normal *Call a bike* bicycles can be used for free in the first 30 minutes, the use of *e-Call a bike* pedelecs costs 12 cent per minute (daily rate 22,50 Euro). Another alternative is to pay a yearly flat rate of 54 Euro. In this tariff the first 30 minutes are free of charge. For frequent public transport users of DB and the regional transport consortium (VVS), who posses a yearly ticket, there is a discount.

BOX OF ADVICE

- It is important to **test the pedelecs** with a close user group before operation starts. Thanks to a four week test with 20 users many technical problems were identified and resolved.
- The launch must be accompanied by a **marketing campaign** tailored to the target groups. For example through the distribution of teaser postcards in clubs, bars and restaurants.
- Aspects like the **limitation of public space** for the stations should be taken into account.
- Different **charging offers** (for pedelecs, e-bikes, etc.) should be combined to reduce costs and space demand.