

Budapest signed the Contract Agreement for the Automated Fare Collection system



BKK is pleased to announce that the tendering process for the design build and five-year operation of an automated fare collection system for public transport in the Hungarian capital has been successfully completed. After introductory remarks by the Mayor of Budapest Mr István Tarlós, the Contract Agreement was signed by Mr Dávid Vitézy, CEO of BKK Centre for Budapest Transport

and Mr Matthias Augustyniak, the Managing Director representing Scheidt&Bachmann GmbH of Germany who are the successful tenderer as one of the leading companies in automated fare collection systems worldwide, the company will design, build and operate the system for a total contract value of EUR 91 million. The project will transform public transport in Budapest by providing a high level of sales service and state of the art tariff scheme to city-dwellers, commuters from the metropolitan area and tourists. Budapest's fare collection scheme will be world class and on a par with those in cities such as London, Chicago and Hong Kong. The project is jointly funded by the European Bank for Reconstruction and Development and the Municipality of Budapest and will be implemented in several phases between 2015 and 2017.

During the two-stage tender process 79 companies showed interest. Eight companies applied for the prequalification, out of which six companies met the criteria. As a result of one withdrawal and a formation of a consortium, four companies submitted a detailed technical tender and then a legally binding offer in the second stage. The winning tenderer is Scheidt&Bachmann with the most competitive offer. Under the Contract Agreement concluded today, the winning tenderer will be responsible for building the revenue system, the creation of the required IT background, the installation of the automatic access gates at metro and suburban railway stations and the implementation of all the necessary elements of the validation and revenue protection systems.

As part of the programme of Mayor István Tarlós, the General Assembly of the Municipality of Budapest assigned BKK Centre for Budapest Transport to prepare the project. The work had to be started from scratch as no usable preliminary preparation was available. On the basis of the concept approved by the General Assembly of Budapest in early 2012, BKK first secured the financing and then conducted the tendering process. Hungary's largest public transport



network used by the most customers has lacked a modern, easy-to-use ticketing system that is able to adapt to customers' demands flexibly and innovatively. In the past decades, similar systems were introduced in several cities around the world, now finally Budapest can also join their league. Although promised for more than 20 years, the substantial preparation began only in 2011.

As a result of the introduction of an automated fare collection system, public transport service levels will significantly increase. The tariff scheme will be enhanced by the introduction of time-based tickets, while sales services offered by the new ticket vending machines and customer service centres will be supported by online and mobile phone based purchasing options. In addition to that, revenue protection will also be reformed. As a result of these changes paper-based passes and tickets will soon disappear from Budapest.

Partners of BKK, the transport organiser of Budapest, in the project implementation will be Scheidt&Bachmann from Germany, one of the leading European companies of automated fare collection systems and its subcontractor Octopus Transactions Ltd. from Hong Kong. According to the Contract Agreement, the winning company of the tender process which started in the summer of 2013 will not only design and build the system, but also operate it for five years. Scheidt&Bachmann is not an unknown actor in the public transport of Budapest: the Mönchengladbach-based company founded in 1872 supplied – as a subcontractor – the new ticket vending machines of which more than 200 are already operating successfully in the capital and in surrounding towns.

Following the signing of the Contract Agreement, the detailed technological and architectural design phase of the system will begin and last for several months. After a pilot period, issuance of cards for non paying riders can take place. It will be followed by the pass products while time-based tickets and daily capping will also be introduced as a result of the already installed automatic access gates and on-board validators. As part of the implementation, we will develop a new central system while new validators will be installed on every surface vehicle and all metro and designated suburban railway stations will be gated. The current paper-based tickets and passes will be finally phased out by 2017. In the transition period the two systems will operate simultaneously.

Procurement and financing

As a result of the Loan Agreement concluded in September 2013, the introduction of an Automated Fare Collection system in Budapest is secured by the European Bank for Reconstruction and Development (EBRD) in the amount of EUR 54.5 million. The Municipality of Budapest provided BKK HUF 5.3 billion according to the Development Agreement concluded in April 2013.

The tendering process of the project proceeded according to Procurement Policies and Rules of EBRD. Six out of eight companies meet the criteria of the prequalification formed by BKK and approved by the EBRD. Following that in March 2014, prequalified tenderers submitted their technical bids containing key technical and business requirements. Based on the submitted tender documents and the

clarification meetings, BKK has prepared the final version of the technical requirements to which the tenderers submitted their final technical and commercial bid. All of the prequalified tenderers, namely the contract award winner German company Scheidt&Bachmann, LG CNS from South Korea, Cubic from the United Kingdom and the Thales and Xerox consortium from France have submitted valid bids.

For the price of the implementation and the five-year operating period, Scheidt&Bachmann offered EUR 91 million, second-placed LG offered EUR 112 million, Cubic came in third with EUR 128 million while Thales-Xerox offered a price of EUR 168 million. Overall, the procedure ended with a clear winner in a strong competitive environment with the lowest-priced, technically qualified offer.

On the basis of the submitted technical and price bids, the international market has confirmed the concept and price calculation of BKK both regarding the costs of implementation and operation as the winning bid is below the initial calculated costs. As a result of that, there are sufficient funds for the implementation and operation of the project.

Major elements of the system

The basis of the AFC operation is the central system which registers the cards and travel media, product purchase, balance top-ups, calculates prices and related financial settlements and supports the new, integrated sales channels. The supplier's responsibilities are to design, implement, install, configure and test all of the software and hardware elements of the system and, finally, to hand over the system for operation.

According to BKK's calculations, 1.5 million personalised and anonymous smart cards will be issued for BKK's regular customers, with a further circa 9 million smart papers for occasional travellers and tourists (visitors staying in Budapest for a short period of time). In order to achieve this, a new online sales channel will be developed, Ticket Vending Machines will be integrated into the AFC system, sales will be offered via BKK's Call Centres and BKK's Customer Service Centres will be equipped with card personalisation devices.

The revenue protection system will also be renewed. Approximately 800 automated access gates will be installed at metro stations and designated suburban railway stations while ticket inspectors will be provided with over 600 new hand-held devices to help them check the validity of cards more easily and quickly. The supplier will be tasked to produce installation plans for every station, obtain the necessary permissions from authorities and to produce, deliver and implement the access gates.

Part of the system will be circa 10 thousand new validators to be installed on 2,500 vehicles (buses, trolleybuses and trams) and 450 validators to be installed at suburban railway stations which cannot be enclosed by gates.

Building on the experience gained in the deployment of the FUTÁR system, it is expected that the

preparation of vehicles for the AFC system will probably be the most time-consuming phase of the project. This is the main reason why the project will take three years. However the currently-used paper-based tickets will disappear entirely at the end of this process.

Changes resulting from the introduction of Automated Fare Collection system (AFC)

Smart cards, online purchasing opportunities, acceptance of new student IDs are coming

As a result of the development, paper-based passes and tickets will be replaced by a plastic card with a chip. Customers can choose to have them personalised or anonymous.

Personalised travel card with the customer's name and photo on it will not be transferable. Any discounted products (free of charge, pensioners' discount etc.) and passes can only be purchased if the customer is in possession of a personalised plastic card. By contrast anonymous cards will be issued without a photo or name; they will only contain a card number and can be freely transferred to other persons.. The PAYG balance of these anonymous cards entitles the owner to purchase ticket-type products only.

What will change for BKK customers?

Passengers with passes

The pass ID will be replaced with a personalised chip card and the paper-based pass will become a virtual product. Usage of the card will be similar to a credit card with a bank account and money belonging to it. The account will be handled by BKK, the credit card will be equivalent to the travel media, while the purchased pass will be registered on the account. Automatic renewal of validity can be set and in case of losing a card it will be very easy to put it on a deny list and transfer the account with the pass to a new card even via the internet.

All the BKK passes will be issued in the automated fare collection system during the project, the paper-based systems will disappear phase by phase. The currently known passes (annual, monthly) will remain according to the concept. Students can buy passes with the help of the new student cards and they can use them directly in the AFC system according to our plans.

Passengers with tickets

Travellers with tickets will also need a personalised or anonymous card which has to be topped up with money in advance. The current paper-based tickets will be replaced by time-based tickets which is a very positive change. It will entitle its holder to an unlimited number of transfers within the validity period which is why they need to be validated at every check-in and check-out. The majority of our passengers can use this opportunity and may travel at a lower price compared to the current single

ticket rate for it makes the numbers of transfers limitless in the specified time period.

We will introduce price capping which will replace the 24-hour-travel cards. If passengers with tickets use defined numbers of tickets within a day then their balance will not be debited again that day. It is especially useful because passengers do not have to decide between single tickets or 24-hour tickets at the beginning of travel because they will not be able to spend more money on BKK travels in Budapest than the designated capping limit. Anonymous cards can be purchased in the future from the Ticket Vending Machines (TVM), and can be charged via the Internet as well as customer service centres.

Those occasional customers who use public transport rarely in Budapest (once or twice in a year) and therefore do not have any anonymous or personalised card can purchase a smart card (“smart paper”) for their travel. The smart paper is virtually a time-based ticket that will be eligible for unlimited transfers within the administrative boundaries of Budapest during the period of validity (30 or 60 minutes). This ticket is disposable after a single use, since it is not possible to purchase a new product with it. Smart papers can be purchased in the future from the Ticket Vending Machines (TVM) and customer service centres.

Validation: The validation of tickets and passes can be done in the following ways:

- on the metro network: By tapping the built-in validators in the gates upon entering for passengers travelling with tickets, passes or free of charge as well.
- On buses, trams, and trolley-buses: By tapping the validator installed on board the vehicle – for passengers travelling with tickets, passes or free of charge as well.
- on suburban railways: By tapping the same way as at any metro station at designated main stations, by tapping the validators at each entry and exit installed on the platform at stations without gates for passengers travelling with passes, for passengers travelling free of charge only at the gates, for passengers travelling with tickets at every station, since the suburban railways cross the boundaries of Budapest and switch tariff zones.

Revenue Protection: As a result of the introduction of the system, ticket inspectors will check the validity of tickets and passes with Hand Held Checker (HHC) devices. Owing to the electronic revenue protection system, inspection can happen faster and easier. Random controls will remain on the surface network, at the metro stations gates will replace the constant entry control, but random inspections can be expected inside the gates area.

Queuing in front of the ticket offices can be eliminated because the travel cards and travel accounts can be topped up in no time using the Internet or the help of the call centre service, as well as one of the 300 newly installed Ticket Vending Machines.

We indicated in the development plans that the current student cards should be adequate for verification for the student discount and for the direct use of the AFC system in Budapest, furthermore

to make contactless credit cards (MasterCard – PayPass, Visa – PayWave) usable in the AFC system, where the customer account will be charged at the daily financial settlement with the purchase-price of BKK products bought on the actual day. No registration will be required in the BKK back office system for the use of the credit cards, but in case of registration the customers can track their travel history and transactions.

Background

In line with the Automated Fare Collection (AFC) scheme, BKK decided to introduce a new sales strategy to provide a service to customers that has a higher quality level than the previous one and meets the requirements of the 21st century. As an element of improved service and as a preliminary step of the currently launched AFC project, new ticket vending machines (TVMs) have been installed. Our short-term goal is to make nearly all products available for easy and fast purchase at the TVMs in Budapest and its metropolitan area, so that our services are accessible for our customers near where they live and work and these modern machines – similarly to other countries in the world – eventually replace outdated ticket offices. In the framework of the development a total of 300 new, state-of-the-art TVMs operating round the clock will be mounted throughout Budapest and towns in the metropolitan area, which means a threefold increase in the number of sales points and a sixfold increase in bankcard payment options by the beginning of 2015. The new machines are capable of issuing tickets, travelcards, passes as well as VAT invoices and accept coins and also bankcards for payment allowing for less queuing up by Budapest passengers in the future. For issuing passes the new TVMs already now require the number of a photo ID.

In parallel with the installation of TVMs, BKK has started the establishment of modern integrated customer service centres which will also play an important role during the implementation phase of the AFC scheme. The customer service centres will be able to provide assistance in all transport-related matters: ticket and pass purchase, parking and freight transport access information, taxi services complaint management, MOL Bubi public bike-sharing system and general passenger information. The new facilities will help to make the current time-consuming and complicated process of purchasing tickets and other administration into a pleasant customer experience. The modern service centres feature several counters where 3-4 customer service agents can simultaneously assist BKK's customers wishing to buy tickets or passes, or provide information on the MOL Bubi system. At the present time, in Budapest seven customer service centres are at the disposal of customers, the most recently opened one is located at Móricz Zsigmond körtér.

In April 2011, the General Assembly of the Municipality of Budapest assigned BKK Centre for Budapest Transport with the preparing, securing financing for and the introduction of the AFC scheme in Budapest. By the end of 2011, the transport organiser had prepared the feasibility study and the concept, both of which were approved by the General Assembly in January 2012. BKK secured financing – as also approved by the General Assembly – by September 2013 through a loan agreement

with the European Bank of Reconstruction and Development (EBRD) in the amount of EUR 54.5 million along with municipal support for BKK's own contribution of HUF 5.3 billion. Before the final approval of both the Bank and the Municipality, in February 2013 BKK issued a General Procurement Notice based on EBRD's authorisation. The pre-qualification procedure started in July 2013 and ended in December of the same year. The call for technical tenders to pre-qualified competitors was published by BKK in March 2014 with a due date for submission in mind-June followed by negotiations in July and the publication of the final call for technical and financial tenders in mid-August. The final bids had to be submitted by mid-September followed by evaluation and approval by the bank making the announcement of the results and the award of contract on 8 October 2014 possible. Considering the complexity of the system, the tendering procedure went quickly and smoothly according to international practice while the planned period for implementation of three years is in line with international benchmarks.

In Hungarian