Public Procurement
Promoting Innovation

Ticket vending machines: Hardware for the future

This is a translation – for the original challenge description, contacts and submission got to:
https://www.ioeb-innovationsplattform.at/challenges/detail/fahrkarten-am-automaten-hardware-fuer-die-zukunft/

An initiative of
Federal Ministry
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Digital and
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Federal Ministry
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Transport, Innovation
and Technology

In cooperation with
BBG
BUNDESBESCHAFFUNG

Challenge sponsor

ÖBB-Personenverkehrs AG

Point of Departure

Even in times of increasing online purchases, ticket vending machines remain hallmarks of our stations, guaranteeing customer-friendly sales. The ÖBB ticket vending machines currently deployed at railway stations throughout Austria have been around in their current form for 15 years.

The new generation, which will be put out to tender shortly, will also serve for a similar period of time. Although ÖBB-Personenverkehrs AG is retrofitting one or the other component during ongoing operations, the following nevertheless applies: what is planned today will determine what customers can expect from vending machines until the year 2035.

Planning is therefore a responsible task in which ÖBB-Personenverkehrs AG wants to rely on more than its own intelligence and feedback from users. In the course of this IÖB Challenge, an exchange with companies will therefore take place in order to ensure that their innovative products can be taken into consideration when designing the new generation of ticket vending machines.

From an operational point of view, there are two sources of frustration that beg for changes: Each machine has its own (analogue) key to release the mechanical lock. When working on the technical components of the vending machines, operating staff have to be sure to be carrying the appropriate one – or in most cases: ones – along. And because this also grants access to the cash register, the 4-eyes principle applies. We are looking for innovative solutions to solve this issue. For the interaction with customers, far-sightedness is required. Currently, the machines have the following “interfaces”: cash systems, ticket and change dispensers (for technical reasons, the maximum change dispensed by a machine is € 9.90), readers for chips and magnetic stripes on bank and credit cards, NFC near-field communication (RFID), barcode scanners, touch screens, audio output via jacks, paper printers.

From today’s point of view this is not bad. But in the future?

Main Question

What novel hardware components ensure that our ticket vending machines will still be up to date in 2035 (e.g. interfaces to customer devices, receipt and distribution of cash) and what smart security solutions are there to control access for service staff?

Desired situation

The machine of the future is equipped with the components of its time and is at least “future-ready” when purchased. It is prepared for new patterns of interaction as well as evolving interactive technologies. In addition, the company’s employees should no longer require analogue keys during operations. And yet, the machine is safe. The following scenarios could

therefore occur in the future:

A - A man arrives at the station. He has already started to buy a ticket online on the subway. However, the journey was too short to complete the transaction. So he chooses the comfort option, goes to the vending machine and holds his smartphone up to the screen. The machine retrieves the data already entered, queries the missing data and initiates the payment. The man holds his smartphone up to the machine's screen again. The payment is completed and the ticket is transferred to the portable device.

B - A schoolgirl has received EUR 100 in bills from her grandmother for her birthday and wants to use the money to visit an amusement park in a nearby city. She chooses the ticket she needs for the trip. The machine starts the payment. The girl inserts the banknote into the designated fixture. Moments later, she receives her change – a few banknotes and several coins. It is no longer necessary to limit the amount of change issued for monetary security reasons.

C - The service employee no longer has to carry a large number of keys with him when doing his maintenance round of the ticket vending machines. The locking system is secure and yet easy to use. The cash register is physically separated from the rest of the technology.

THE FOLLOWING GENERAL CONDITIONS SHOULD BE TAKEN INTO CONSIDERATION:

- The (waiting) duration of a ticket purchase should be shortened as much as possible.
- It is not intended to replace the ticketing software. It may, however, be supplemented via add-ons.
- A machine cannot be wider than 70 cm.
- All customer groups must be able to operate a machine.

Call for proposals

Do you have an interesting (partial) solution? Are you currently developing one? Are you an expert?

Then enter a submission!

Click "Submit Solution" and have the following ready:

- A title image
- A meaningful description
  How could the new functions be implemented together with you? In particular, also provide further information relating to the evaluation criteria (e.g. non-binding cost estimate). Use any available reference projects for illustration purposes.
- A brief summary of the value added
- For any information that you cannot disclose publicly, there is a special field for "Confidential information". Only the moderator and the jury can see what you enter into this field. The number of characters is limited – the Innovation Dialogue will offer you the opportunity to provide further details. P.S.: Don't worry, the jury members are committed to confidentiality.

- Optional: Upload a file
  (e.g. existing product brochures or illustrations that supplement – but do not replace! – your description)

NOTE: With this Challenge, we are currently in the market exploration phase. Therefore, the following is not yet necessary for participation, in order to attract interest: concepts which are completely new or have been specially developed for this Challenge, detailed technical designs or feasibility studies. Please be concise (as a guideline: a maximum of five A4 pages or ten presentation slides in total).

Benefits of the Challenge and further course of the project

With this Challenge, ÖBB Personenverkehr AG will gain an overview of possible solutions and potential partners.

For companies, this means: By participating in the Challenge, you will be on the radar of the public-sector client. Even after the Challenge has ended, your submission will remain visible to other interested parties as your virtual calling card. You are putting yourself in a good position for further public procurement projects. You may draw the attention of cooperation partners.

Those companies, whose solutions stand out in a particularly positive way with regard to the specific evaluation criteria, will be invited to a subsequent Innovation Dialogue by the jury made up of in-house experts. If you are among these winners, you will have the opportunity to present your solution during a market discussion with ÖBB. You will exchange ideas directly with those responsible for the project.

> As a submitting company, please keep 5 September free for the Innovation Dialogue in Vienna.

The Challenge and the Innovation Dialogue create sensitivity and understanding regarding suitable innovations on the part of the public-sector client. This is important, as it allows the public-sector client to take innovative approaches into account in subsequent purchasing projects under the Federal Procurement Act following the market exploration phase.

Depending on the results, the further project plan provides for the following:

The current machines are to be replaced. A possible (near-term) tender is therefore currently planned, depending on the results obtained during the Challenge.

Your Questions

Contact the moderator or post your question about the Challenge. Our moderators will check, research and publish your question together with the answer. This way, all potential participants are certain to receive the same information.

Contact Information

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