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Transport Revenue
Fare Collection



Business Unit Overview

Fare Collection

Ticketing solutions with bright future prospects





From fare collection to information system

ACS Transport Revenue helps passenger transportation operators to improve their productivity, profitability and customer satisfaction by delivering comprehensive, customer-specific solutions based on leading-edge technologies and a powerful management system.

Mass transit operators all over the world know they can rely on ACS Transport Revenue. The company's systems and services are used by over a thousand municipal, regional and national operators who together run more than 35,000 automated ticket vending machines, validators, portable inspector terminals and access gates enabling around 40 million passengers a day to use bus services, underground railways and trains. Over the decades, ACS has established itself as the world's leading supplier of complex, networked solutions for managing fare collection for public transportation systems.

The secret of this success lies in ACS's ability to create highly efficient systems combining proven state-of-the-art technology with a wealth of experience, permanent innovation and all-encompassing service. The result is that every single mass transit operator served by ACS receives a tailor-made solution – powerful tools enabling it to manage its equipment centrally across different modes of transportation, adapt its systems to new requirements, and boost overall profitability.

Always one step ahead

ACS's solutions enable mass transit companies to design their business more profitably – both now and going forward. Operators who choose ACS Transport Revenue always have clear prospects for the future. Firstly, our R&D people are quick to identify and adopt market trends, and

our project designers always look several years ahead. Secondly, ACS systems can always be expanded through the addition of new components and technologies. This combination of extensibility and future compatibility means that our customers not only receive the most modern solution to their current needs, but have the confidence that their investment is safeguarded for the future as well.

A real operational aid

ACS Transport Revenue's fare collection systems are conceived as networked, integrated solutions covering all components from ticket vending machines to validators, and from turnstiles to ticket-on-departure machines for electronic ticketing. However, the real core of every ACS solution is a powerful management system that enables a ticketing installation to be managed and monitored centrally.

The fact that every ticketing system must gather and organize data in a multitude of different forms is no obstacle for ACS Transport Revenue. We have developed a comprehensive system platform designed to be functional and user-friendly so that it really does provide operators with effective support. The platform offers everything operators need to configure their services in line with customer needs, and deliver these services at the precise time and place they are needed.

Analysis and evaluation

ACS's modular software enables transportation operators to manage, configure, monitor and remotely service not only their vending machines, but every other component in the entire networked fare collection system as well.



At the heart of every ACS solution is a powerful management system that enables a ticket system to be managed centrally.

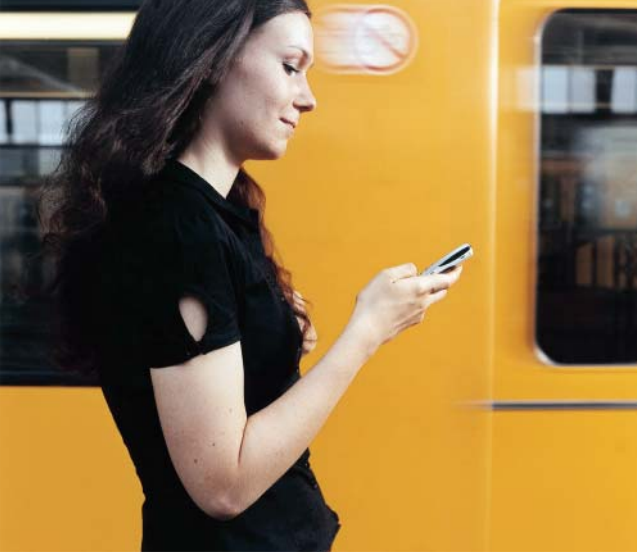
From passenger volumes and vehicle movements to technical defects, the system monitors every single piece of equipment and delivers local information to a central database for analysis and evaluation on a daily basis. These data can be used to create reports that consolidate the information received from fare collection equipment in a form defined by the customer. For example, an operator can have the system produce daily and monthly overviews of all tickets issued and revenues generated by each terminal. Reports can also be generated that allocate revenues from a multi-operator mass transit group to individual operators and modes of transport. Another function enables the creation of blacklists and the identification of invalid tickets. The result is maximum protection from fraudulent behavior.

Professional marketing tool

ACS's management software makes day-to-day tasks easier for operators, while at the same time allowing them maximum freedom. For example, ticket categories and the corresponding fares can be adjusted any time, individual ticket categories can be restricted to specific routes, fares can be adjusted according to the time of day, or special offers can be initiated on the basis of sales data. This gives operators the freedom to adapt their services to the current situation on an ongoing basis and ensure an optimum match between service quality and profitability. ACS helps make ticket machines into real marketing instruments

200 million rides under control

The Lyon transport authorities, which notch up 200 million rides per year, were looking for a solution that could manage these journeys and be integrated with their existing systems. ACS met these stringent requirements to implement an information center where data on ticket validations – up to one million a day – can be gathered and evaluated. The transport authority uses these data to analyze in detail the typical passenger, peak loads, individual modes of transport, and other information relevant to its operations. The ACS solution enables these statistics to be generated for all networks and modes of transport in the Lyon region. Built on forward-looking technology that allows the identification of correlations between data from the most varied sources, the solution gives the Lyon authority insights into important new information that has enabled it to enhance the profitability of its whole mass transit system.



The latest technology at the service of operators and their passengers

All ACS Transport Revenue hardware components are open – in terms of both systems architecture and possible applications.

However complex the ticketing system, the most important thing for the passengers, drivers and conductors who use it is the equipment they are actually confronted with. The user interface has to be simple, practical and absolutely reliable. With decades of experience and numerous projects under its belt, ACS Transport Revenue can draw on a comprehensive range of end-user equipment that meets these requirements and proves its practical worth on a daily basis. The range covers all areas of the ticketing process, starting with operated sales terminals for counter staff and retailers, ticket vending machines of every description, driver consoles for printing and vending tickets, validators for all types of tickets, portable terminals for mobile inspectors, and a broad range of access control equipment.

Reliable and cost-optimized

ACS always uses equipment and components that are based on state-of-the-art technology and will be extensible in future. Wherever possible, recognized standards are chosen. At the same time, ACS takes care to adapt the chosen equipment to the specific needs and situation of the customer. The company also has the expertise to build products from other providers into its integrated systems.

The cross-device, open system architecture and the high degree of standardization ensure maximum availability and reliability, while keeping service and maintenance costs to a minimum.

Individual solutions with standard components

When ACS develops a ticket system for a transport operator, it does so on the basis of accepted standards and standard specifications. But in each case, the final solution will be geared specifically to the operator's needs. Some examples:

- In Capri, ACS installed the first ticketing solution to use only one-way paper tickets.
- In Hong Kong, the Kowloon-Canton Railway Corporation uses only recyclable magnetic cards.
- The Berlin transportation company BVG offers its customers the whole range of payment options from coins and banknotes to electronic payment using debit cards, credit cards or «e-purse». Other operators offer only one form of payment.
- ACS has installed special small access gates in buses in Medellín.



From ticket to multi-service card

Customer- and application-friendly

ACS's vending and control components are open not just in terms of systems architecture, but also in terms of their ability to deal with different types of tickets. From conventional paper to magnetically coded or touchless tickets, from multi-function tickets to touchless smart and chip cards, operators can choose the combination of tickets and cards for occasional and regular travelers best suited to their network – all in the sure knowledge that ACS vending and inspection machines will be able to deal with whatever solution they choose. User-friendliness is always a priority. For example, ACS's ticket vending machines for networks with complex fare structures feature touchscreen interfaces designed on the basis of thorough ergonomic research. One touch of the finger suffices to select the destination and calculate the fare. User-friendliness also means ensuring that people with impaired vision or mobility can make full use of machines, and if necessary can ask for help direct via a networked call center.

Tickets have been part of public transportation from the very start. But the explosive pace of technological development in recent years has increasingly made conventional tickets obsolete. The future belongs to e-ticketing. At ACS Transport Revenue, the ticket revolution has already begun.

Thanks to recent developments and enhancements, smart card technology now has the potential to radically change fare collection in mass transit systems. Public transport is certainly the perfect arena for introducing touchless smart cards and thus fulfilling the dream of multi-service models – models which use the ticketing infrastructure for additional services such as making payments, accessing public services, loading prepaid mobile phone cards, identification, and customer loyalty programs. Ticketing systems based on smart cards open up whole new fields of business for mass transit operators. On the one hand they give operators the option of adding new services to their own offering whenever they deem it appropriate.

Examples include different kinds of season ticket or end-of-month payment for loyal customers. On the other hand they can access an additional source of revenue by making their infrastructure available to other service providers. What sounds like a pipedream is already tried-and-tested technology at ACS. After initial experiments with smart card technology in the early 1990s, ACS Transport Revenue had installed and commissioned its first completely touchless ticket system. It has functioned smoothly ever since. To date, ACS has installed fifteen touchless systems, and more than 18,000 touchless terminals, in countries around the world. Now ACS is going yet another step down the e-ticketing path with a solution that enables passengers to use public transportation without even having to buy a ticket in advance. The system tracks the passenger via an active medium such as a smart card or mobile phone, and transmits the information necessary to charge a fare to the vehicle's computer. The system can use this information to calculate the fare and bill the customer on a regular basis – for example every month, like a telephone company.



Professionalism across the board

ACS Transport Revenue offers transportation operators uncompromising customer service, and the benefit of decades of experience in the delivery of integrated ticketing systems.

No two ticketing systems are alike. Each has its own peculiarities, and every mass transit operator has its own business objectives. In recognition of this, ACS Transport Revenue tailors its services to the customer's individual needs and circumstances throughout the project and for the entire life cycle of the installation. In doing so it draws on decades of experience and globally recognized expertise in networked, integrated ticketing solutions, from the simplest to the most complex.

The right service for every need

Ticketing systems can attain their true potential only if they meet the highest operational standards at all times. We have developed an extensive and differentiated range of professional services in response to this need. At ACS, customer service begins long before a vending and management system is commissioned, with project definition, needs analysis and expert advice on how to design the solution.

These preparatory services do a lot to ensure smooth and prompt installation and commissioning. After commissioning, we offer comprehensive service to ensure smooth operation and a system that meets the needs of both its operator and its passengers at all times. ACS's modular service plan guarantees that each operator gets exactly the service it requires, from simple basic services such as maintenance and repair, a hotline, and release management, to an all-inclusive service package.



ACS ticketing systems are built on globally recognized know-how in the development, implementation, maintenance and operation of integrated solutions.

From systems maintenance...

The most important services required to ensure smooth long-term operation are bundled in the systems maintenance module. This covers services such as software maintenance, configuration management, and support for interfaces to outside systems. Other modules cover services such as repairs, the entire logistics involved in changing a vending machine, server management, and staff training designed to ensure optimum, economical operation. Also available is a system check-up module where experts check the entire system to ensure that it functions properly and meets operating requirements, and if necessary suggest ways of rectifying any weaknesses found and optimizing the ticketing system.

...to life cycle management

We also offer a range of additional service packages whereby customers can outsource operational tasks to ACS specialists. For example, mass transit operators may want support from ACS in tackling the problem of counterfeit and foreign currency, or conducting preventive or corrective maintenance on ticket machines. Other modules go a step further, giving ACS responsibility for the procurement, backup, repair and maintenance of the management system, or the management of all hardware throughout the life cycle, including ongoing updates.

Whichever service package they choose, transport operators benefit from the experience gathered by ACS in numerous projects over the last 40 years, from its professional expertise, and from its highly capable service organization. The result is always an economical solution that ensures the efficient operation of the ticketing system.

Right on time and weatherproof

Every ACS ticketing system is tailored to the specific needs of the customer. This includes ACS's solution for the Warsaw metro, bus and tram network. Because equipment in Poland must be approved for time management, ACS had its equipments calibrated with atomic clocks. And to ensure that they would go on delivering through cold Warsaw winters, ACS equipped all 9,100 validators with a heating element based on a new technology. Since commissioning, the first dual ticketing system in eastern Europe (it is equipped to deal with magnetic cards and touchless cards) has not only functioned without a hitch in all weathers, but has helped the transport operators boost revenues substantially as well.