

The Netherlands' e-ticket revolution

By Wendy Cooper

The Dutch are introducing an innovative electronic payment system—the world's first for all modes of public transportation for an entire country.



In 2006, the Netherlands will become the first country in the world to boast a nationwide electronic payment system for public transport. Passengers will soon be able to say “*Tot ziens!*” to long lines at ticket gates and last-minute scrambles for small change as they travel anywhere in the country using a single smart card.

Smart card transport systems are not new, of course. Passengers in big cities from Baltimore to Bangkok can place fast, user-friendly “contactless” cards in front of electronic readers and have their fares calculated and deducted automatically

from their accounts. The Dutch, however, are the first to attempt such a system for an entire country and for all modes of domestic transport—train, tram, bus and ferry.

Smart cards not only make traveling faster and easier; using them is more cost-effective than issuing paper tickets on a per-trip basis. And because smart cards virtually eliminate fare evasion—nobody can move beyond the gates and travel without one—they can help make traveling safer.

That’s not all. Smart cards can be loaded with value by using machines

in stations or by being linked to the cardholder’s bank account. Either way, they provide public transport operators with valuable information about who is traveling, where and when—information they can use to continuously improve service and add value. The more uses the cards have, the more attractive they become to consumers. In Hong Kong, for example, where a smart card operated mass transit system has been in operation since 1997, the cards can now also be used in convenience stores, supermarkets, fast-food restaurants, on-street parking meters and many other point-of-sale applications.



Trans Link Systems

Headquarters: Amersfoort,
The Netherlands

CEO: Jeroen Kok

Formed: 2001

Employees: 40

Jeroen Kok, CEO of Trans Link Systems, the company formed to launch the pioneering Dutch project, is fully aware of the cards' potential. Right now, however, he and an international consortium that includes Accenture are concentrating on making them work for the transportation sector—a major challenge in itself.

The technical complexities associated with the nationwide implementation of an electronic, multimode and multiprovider transport system are legion. Trans Link Systems is proceeding piecemeal, making sure each bit works properly before the full-scale rollout, set for about a year from now, when the system will accommodate more than 2 million passengers a day.

But technical issues, says Kok, are the least of it. "These projects don't fail on the technology; they fail on decision making."

The right governance

The Trans Link project is the fifth serious attempt to introduce a nationwide electronic ticketing and payment system in the Netherlands. Its predecessors all foundered because there was no agreement between the country's nearly 20 different, and often turf-conscious, public transport operators, each of which represents a regional or municipal fiefdom. So in 2000, when the country's five largest operators approached Kok—who was then responsible for public-private partnerships and setting tolls for the roads at the Dutch Ministry of Transport, Public Works and Water Management—and asked him to head yet another attempt, he laid out some strict conditions.

The governing company, he told them, would have to be a fully independent company, and the five transport oper-

ators—Nederlandse Spoorwegen, the national train service; Connexxion, the trans-regional bus service; GVB, Amsterdam's public transport operator; RET, Rotterdam's public transit system; and HTM, the public transport group for The Hague—would have to take joint responsibility as equal shareholders and providers of capital. If the company's corporate governance were right, Kok reasoned, its chances for success would improve, and the other regional public transport operators, whose long-term cooperation in a nationwide system was obviously essential, would be more likely to come on board.

Trans Link was formed in September 2001, but it took two more years for Kok to assemble the dream team capable of designing, building, launching, rolling out and operating the project. His was a tall order. "In most procurement processes, you write up specifications and then send them to the market," he explains. "But this carries risks of system noncompliance and has escalating cost implications."

Trans Link, by contrast, was looking not only for bidders that could offer an open architecture flexible enough to accommodate changing customer and/or provider requirements—a first for any smart card transport network—but also for systems integrators that could, in addition, demonstrate a proven e-ticketing system that was actually up and running.

Winning by a landslide

A long list of more than 70 bidders was whittled down to about 20 as they realized they would have to form a consortium to compete for the tender. According to Kok, East-West, the international consortium led by Accenture, Thales and Vialis that won the tender, did so "by a landslide"—not least because it included

MTR Corporation, whose Octopus smart card had been operating Hong Kong's mass transit system so successfully for more than eight years.

East-West's price was right too. And the combined capabilities of its three leading members clinched the deal. Thales, the French electronics group, which provides all the front-end equipment, is a world leader in integrated fare systems, and had previously won contracts for its contactless card technologies in Oslo, Singapore, New Delhi and other cities. Vialis Traffic & Mobility, a subsidiary of the big Dutch construction group VolkerWessels, is installing and maintaining the system's physical infrastructure, including the readers and the ticketing and fare machines.

Accenture, for its part, is playing a major role in program management and the coordination of systems delivery. "We're making sure the system works," explains Marc Hillen, Amsterdam-based client partner. Moreover, as part of a business process outsourcing arrangement with Trans Link, Accenture will operate the system's back office, which includes the clearing and settlement of revenues for all the participating transport operators.

Trans Link has gone out of its way to be sensitive to the transport operators' concerns. The company's offices, which are located in the medieval market town of Amersfoort, right in the center of Holland, "symbolize our independence," according to Kok, because none of the regional companies is headquartered there. Even so, he hasn't been able to entirely neutralize what he calls the "spec freaks"—engineers for the regional transport operators who insist on designing things their own way and just can't leave responsibility for systems integration to the consortium.

This peculiarly Dutch phenomenon has caused delays, Kok admits: Ticket gates in Amsterdam and Rotterdam, for example, were built to different specifications. This was not necessarily a problem for the functioning of the system, Kok says, "but it would have been cheaper if they'd bought the same size."

Dutch realities have thrown up other hurdles. Fears about vandalism led to the redesigning of the plastic covers on the electronic ticket readers to make them vandal-proof. And the readers' laser beams had to be altered when it was found that rain and snow interfered with their functioning.

Like a bank

European Union regulations have loomed large as well. As the issuer of some 8 million smart cards worth about 10 euros each, Trans Link will be functioning much like a bank—and as such is obliged to register, under EU law, for a special license. This has involved all sorts of unanticipated security requirements, ranging from criminal record checks on back-office staff to the revision of encryption codes.

Despite all the complexities, Kok remains sanguine. The Dutch system, he says, is still "one of the fastest implementations ever and very much on track." In September 2005, the system in Rotterdam was put into operation on the upgraded RET-operated subways and the feeding Connexxion-operated bus lines. Currently, it is being tested by those transportation personnel and a few hundred travelers, with authorization to extend this group to 15,000 (and more rollouts planned). In the spring of 2006, the Amsterdam subway system will be added to the service.

Kok, moreover, is delighted with the "long-term, quality approach" of East-West as well as Trans Link's working relationship with it. The consortium has built a state-of-the-art demonstration facility at Trans Link headquarters, where the new system's software is being tested and where the consortium can showcase its e-ticketing innovations.

Indeed, for this irrepressible Dutchman, these are plainly very exciting times. Kok even describes the laborious process of compliance with the European bank licensing requirements as a "quality challenge" that will eventually award Trans Link yet another first. "Other operators have tried to avoid it," says Kok, "but we want to be ready for the future."

And he has no doubts about what that implies. "We have a once-in-a-lifetime opportunity to revolutionize a transport system," he declares. "E-ticketing makes the sector more transparent. We can now start to manage it like a business."

Outlook Industry Editor Wendy Cooper is based outside of London.