



Accelerating the Popularity
of
Public
Transportation

Optidev Develops A Part Of Mobile Ticketing System Powered by Code's CortexDecoder SDK

READ TIME: 3 MIN., 40 SEC.

Sweden's citizens are increasingly parking their cars in favor of public transport. Much of this shift is driven by Sweden's long-term [climate goals](#) of reducing emissions from domestic transport by at least 70 percent by 2030 compared to 2010. The plan appears to be on track; Sweden is perennially one of the world's top 10 most sustainable countries based on its [environmental performance index](#).



Figure 1: Västtrafik, a public transport firm, is using Code's CortexDecoder® SDK through Optidev's TrueMobile solution.

However, it's not just country-wide sustainability goals that are driving the popularity of public transit. Sweden's intelligent, simplified, and rider-centric public transportation infrastructure boasts the performance and reliability to be a viable alternative to private vehicles. This shift is no doubt in thanks to the continuous improvement of Swedish transport experts like [Västtrafik](#).

Västtrafik is a public transport company based in the Västra Götaland region, an industrial hub in western Sweden. Moving some 444,000 passengers daily, the firm's transport solutions include buses, trains, trams, and boats—all of which contribute to Sweden's lofty environmental sustainability goals. Västtrafik's system at the time was



Figure 2: Sweden is targeting a 70% reduction in transportation-related emissions by 2030. The goal relies on a tightly integrated, reliable mass transit system.

built on an older platform and needed to be modernized to meet the demands of an ever-increasing number of passengers that require a stable and reliable system. As a result, the firm sought a new part of a mobile ticketing solution that would efficiently manage ticket sales and scanning aboard their vehicles and vessels.

MOBILITY SOLUTIONS FOR PUBLIC TICKETING

In 2018, Västtrafik selected [Optidev](#) to deliver part of a mobile ticketing solution and streamlined experience. Headquartered in Borås, Sweden, Optidev leads in mobility solutions for the transport, logistics, and public transportation markets within the Nordic countries. It is also one of the few players offering software, and it leads the market with comprehensive hardware, software, EMM and Exchange service.

Optidev's devices are tailored to Sweden's broad climate and offer superior durability at a significantly lower cost than other ruggedized solutions. Moreover, their user-friendly mobile devices are equipped with cutting-edge technology that keeps users connected to the new generation ticketing system governed by Samtrafiken, the Swedish public transport authority.

Västtrafik's operating philosophy is that a best-in-class mobile ticketing solution must deliver an excellent customer experience at a competitive price. To put their philosophy

into practice, Optidev's developers zeroed in on barcode scanning, which is mission-critical and absolutely must perform well in all environmental and lighting conditions. No easy task considering passengers load in environments as diverse as sea-sprayed docks, snowy urban bus stops, and harshly lit train stations.

"There was a need to read Aztec barcodes with a large data size with binary output, something few software scanners were able to do with decent performance," explains Håkan Magnusson, Optidev Key Account Manager.



Figure 3: Optidev evaluated SDK performance in several locations, from docks to dim train stations, to gauge which SDK met reliability requirements.

Solid, repeatable performance is one thing. Providing consistent performance when scanning mobile phone tickets in ever-changing environments was quite another.

"We had to optimize the scanning process and achieve both rapid focus and solid readability in shifting conditions. This is because barcode scanning happens almost anywhere, from a dimly lit mobile screen outside in strong sunlight to a brightly lit mobile screen in darker parts of subway or train stations," Magnusson adds.

It became clear that Optidev needed an enterprise-grade barcode scanning software to deliver a flawless user experience.



"We researched the barcode reading software market and discovered that Code's Corporation's [CortexDecoder](#)® was a perfect match—it paired the right solution with the right pricing model," says Christian Lundin, Head of Strategic accounts and Partner relations, Optidev.

Code's barcode reading CortexDecoder software development kit (SDK) was tested in specific real-world scenarios to ensure it was truly ideal. During evaluation, the Optidev team tested the functionality to read generated ticket samples in large Aztec barcodes with binary reading-mode—strings represented tickets. In addition to testing in varying environments, the team examined scanning capability on virtually every type of screen, from those sprinkled with raindrops to those coated with smudges.

“Reading performance [with CortexDecoder] excelled in meeting expectations when using standard settings, but when setting static focus-mode to an arm-length from the target, we received noticeably faster readings of the barcodes intended. Code’s decoder was not only quick, it excelled at reading damaged QR codes (with ‘redundancy’). The ability to set a fixed-focus distance for the camera was a game-changer for rapid barcode scanning,” Lundin concludes.



Figure 4: Västtrafik’s highly rated “ticket control” agents are always ready to assist 440,000 riders daily.

PUTTING IT ALL ON THE LINE

Västtrafik’s steadfast commitment to sustainability is evident in its customer service policies; the firm will compensate riders who are more than 20 minutes late by 50% of the ticket price. While a seemingly small amount, it is an incredible display of Västtrafik’s confidence in their systems (like ticketing) and suppliers (like Optidev). Västtrafik’s operations encompass a fleet of 1,857 buses, 101 trains, 263 trams, and 36 boats that provide 947,000 trips over 47,500 miles (nearly 12 times around the world) every day. As such, minor delays could prove quite costly—not only to Västtrafik, but to the public’s perception of public transit, and therefore public transit’s pivotal role in reducing Sweden’s emissions.

Given this enormous responsibility, it’s apparent why Västtrafik counts on Optidev’s turnkey mobility solutions for data capture and real-time access to crucial data. Every ticket successfully scanned on a mobile screen equates to one less car trip, bringing Sweden closer to its 2030 sustainability goals.

Learn more about Västtrafik AB’s operations and commitment to sustainability by visiting <https://www.vasttrafik.se/en/>.

Upgrade your high-volume ticketing, travel, or retail systems with Europe’s mobility leader, [partner with Optidev](#).

Sharpen your firm’s performance and data analytics with enterprise-grade barcode scanning and data capture, contact [Code Corporation](#).

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