



Company: Municipality of Pendik, Istanbul, Turkey

Application: EPC-compliant vehicle fleet tracking

Area of Use: 1,000 vehicles housed in parking lot with four separate entrances

Status: Production

Tag Supplier: Alien Technology

Frequency: 866MHz

Range: 6 readers, 5-6 meters of range

Reader Supplier: Alien Technology

System Integrator: STS Technology
www.sts-rfid.com

Challenge

- Use RFID to efficiently track vehicles going in and out of a parking lot
- Parking lot is expansive and has four gates

Solution

- Municipality of Pendik worked with STS technology, a Turkish RFID solutions firm, to develop EPC-compliant vehicle tracking solution
- Toolset includes:
 - Alien® ALR-8800 series readers and circular antennas
 - Alien M tags

Benefits

- Complete, automatic traceability of 1,000-vehicle fleet
- Secure parking payment system
- Easy, automatic in-and-out access for drivers

TURKISH MUNICIPALITY GIVES GREEN LIGHT TO RFID VEHICLE TRACKING

Operating a managed, busy parking lot can pose significant challenges, especially to a government organization that also owns some of the vehicles in the lot. The parking area has to be secure, with barrier-enforced entrances and exits. It also has to have an automated, efficient monitoring system that allows for accurate vehicle tracking as well as easy in-and-out access for drivers.

CHALLENGE

The Municipality of Pendik in Istanbul, Turkey, operates a highly trafficked parking area for its municipality-owned fleet of 1,000 vehicles. The lot has four gates, far away from each other. The cars move in and out of the lot four or five times each day. The municipality did not want to hire four parking lot attendants, yet funneling all the traffic through a single, congested gate was not an option.

Since some of the gates are dangerously close to a motorway, municipality officials did not want to distract its drivers by having them press buttons to open the barriers. They wanted a completely automated solution that would give the drivers better ease of use with an easy in and out.



To solve their problem, the municipality turned to STS Technology, an RFID solutions provider based in Turkey. STS has deployed Alien Technology products, including UHF (866 MHz) RFID EPC-complaint solutions, throughout the country. STS provides RFID solutions and services to customers in various industries, including retail, textile, manufacturing, transportation, and logistics.

“When we heard about the problems that the municipality was facing, we decided that RFID would be the best solution,” says Levent Yalcinkaya, STS Technology Technopark Director.

SOLUTION

STS recommended RFID solutions from Alien Technology and developed a complete RFID vehicle tracking solution for the municipality’s parking lot and fleet of vehicles. Each gate has exit and entrance doors equipped with Alien ALR-8800 readers and circular antennas.

Each vehicle has an Alien M tag, which is applied inside the windshield. The M tag is a high-performance tag that is ideal for plastic. The tags are encapsulated in a sticker that has the logo of the Pendik municipality.

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“We are very happy with the Alien products,” says Yalcinkaya. “The reader has many options, and we can change the behavior of the reader by simply changing some parameters. It fits almost all cases of the project. The performance of the tag is perfect.”

STS built software based on Alien’s API, so the municipality administrators can record the vehicle movements.

“The system records about 4,000 transactions to the database each day,” explains Yalcinkaya. On some gates, STS deploys one reader for the entrance and exit. On other gates, STS uses two separate readers, for a total of six Alien readers to monitor the lot traffic. Each reader can detect the vehicle tags from approximately five to six meters, he adds.

RESULTS

STS’s RFID solution for the municipality was able to overcome the challenges of monitoring the fleet. “The municipality before would have to open the barriers with the help of security people or by the driver’s action button. And the administrators were recording the vehicle movements manually,” says Yalcinkaya.

“With RFID, we collect the data automatically and without human action. The municipality gets reports from its IT system, and it can easily track the employee’s vehicles and parking lot status,” he explains. And the drivers are not busy opening the gates—they are only driving their vehicles.

Yalcinkaya adds that the key to the project’s success was the ongoing testing that STS did first in lab conditions and then on-site. “It’s very important to test hardware and software with the real conditions,” he says.

STS also creates extensive documentation during each deployment. “We write down whatever we do on the project. That information becomes very valuable as we deploy the RFID and start work on future implementations.”

STS predicts that the Turkish market will continue to embrace RFID for tracking solutions, and it will change the way businesses operate.

“Collecting data with RFID and without human intervention will change many business sectors,” says Yalcinkaya. “Classic methods of parking and vehicle tracking operations will be history in the near future.”

BENEFITS AND NEXT STEPS

Alien is the first RFID supplier to come to Turkey, and the Pendik Municipality project is the first UHF RFID project announced in the country, according to STS.

Pendik and STS both stated that it was very important to have accreditation from EPC Global for the solution they chose. Alien was the only accredited RFID product supplier that was active in Turkey at the time this project began, says Yalcinkaya. “And we knew that Alien support is with us for every problem that we would encounter.”

The Pendik Municipality officials are also pleased with the success of the RFID deployment. “We believe the RFID reader/tag solution from Alien to be superior to other solutions we tested,” says Omer Elci, Transportation Manager for the Pendik Municipality.

“We were impressed with the ability of STS to provide the RFID hardware and software integration solution to suit our needs,” Elci adds.

As a second phase of the project, STS is working with Pendik to set up a system that will track the vehicles and their respective drivers at fuel stations owned by the municipality.

For that implementation, each gas station will have a reading point, and each driver will also have an RFID-embedded card. The reader will record information from each vehicle’s RFID tag along with the driver’s RFID-embedded card. STS and Pendik intend to roll out this phase of the project in October 2007.

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*—Levent Yalcinkaya,
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