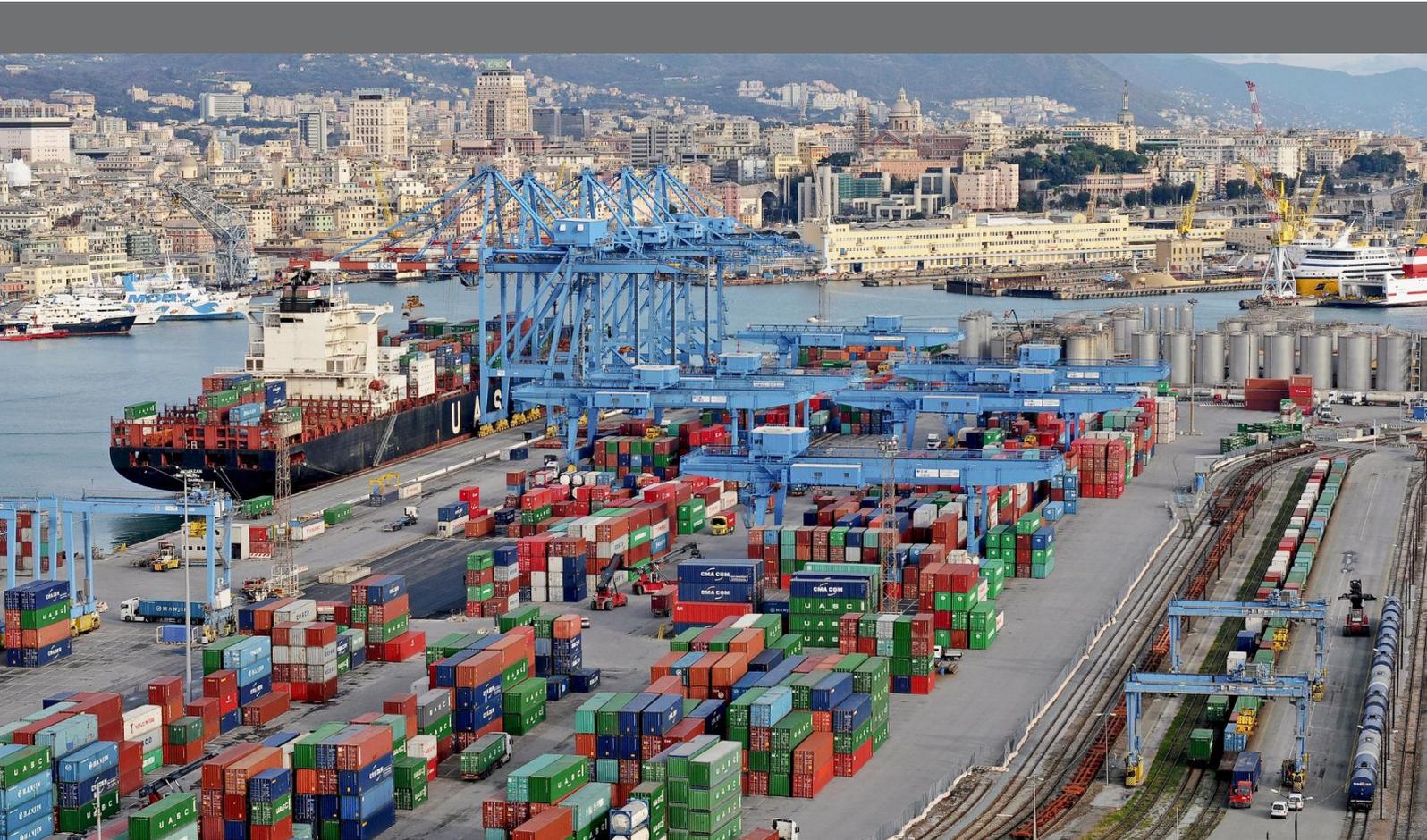


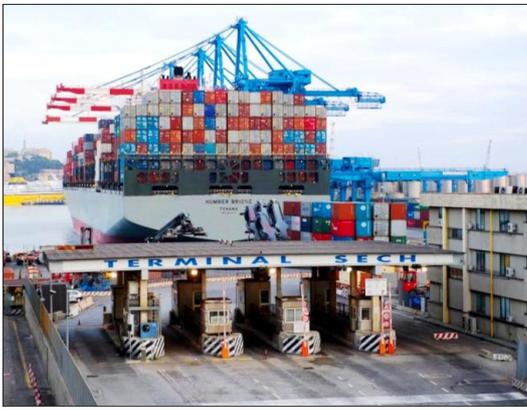
Case Study

SECH - Southern European Container Hub S.p.A.

AUTOMATIC TRANSIT MANAGEMENT FOR VEHICLES EXITING THE SECH TERMINAL IN THE PORT OF GENOA

SECH S.p.A. is the company managing one of the biggest Container Terminals of the Port of Genoa and it has entrusted Aitek with the development of a system for the complete management of the transits of vehicles and containers at the exit gate of the terminal.





Automatic control of exiting containers

This solution allows to check in real time that the containers exiting the SECH terminal are loaded on the vehicle specified in the shipment documentation, therefore simplifying inspection procedures and eliminating the risk of losses due to errors or unlawful activities.

The license plates of exiting vehicles, as well as the ISO codes of the containers they transport, are automatically detected by applying image processing techniques to the images acquired by IP video cameras.

The accuracy of the exiting container data and of the plate of the vehicle carrying the container is verified by comparing in real time the data acquired by the system with the shipment documentation shown during the transit.

The solution employs Aitek's **Sesamo-Gate** platform, which provides gate automation solution in port and dry ports. **Sesamo-Gate** integrates software modules, each one coping with a specific task in transit management process. The modules sharing data and information, allowing the management of complex and distributed tasks.

The exit lane of the SECH gate is equipped with a set of 4 color Megapixel video cameras for acquiring HD images of container surfaces, white impulsive (strobe) lights and an infrared video camera for detecting the tractor plate.

Conveniently-placed optical barriers, photocells and magnetic loops allow to detect vehicles entering the exit lane, estimate their speed and trigger the image acquisition procedure, while a laser scanner determines the vehicle profile to detect the containers. Frames containing plates and ISO codes are selected and transmitted to the OCR for alphanumeric string processing by dedicated software modules. A ticket (Interchange) with a QR code containing the shipment data stored in the Database is associated with each exit transit.

During the exit transit, the vehicle driver passes the ticket over the QR code reader on the gate column: the transit is authorized by the system if the data in the ticket correspond to the data acquired during image processing.

All acquired data and images are stored in Database and can be accessed by gate operators or remote users via a web-based interface.

Features

- Four Megapixel IP video cameras for acquiring the visible surfaces of vehicles and containers and detecting container ISO codes
- One infrared video camera for vehicle plate acquisition
- Management of multipurpose column (QR code reader, intercom)
- Laser for the detection of trailer composition (presence of one or two containers)
- Optical barrier for axle counting
- Gate Controller for management of field devices (bar, signal light)



About Aitek

Aitek is a leading company in the design and implementation of innovative technological solutions. It designs and implements intelligent systems for transportation and traffic, video surveillance for security, digital signage for communications.

Since 1986 Aitek has consolidated its presence on national and international markets thanks to its continuing partnership with leading companies and its constant attention to technological evolution. Aitek is one of the few Italian companies to have been awarded by the European Union the prestigious IST Prize for technological production.

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