

CASE HISTORY

TERMINAL CONTENITORI PORTO DI GENOVA S.p.A. - PSA Group

Automatic management of vehicle transits

PSA SECH, one of the biggest Container Terminals of the Port of Genoa, 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 and vehicles

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.

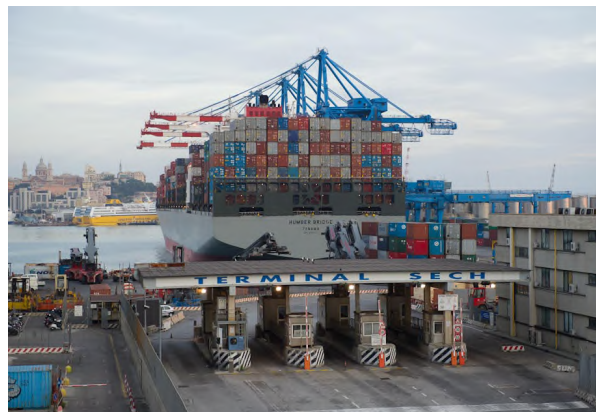
The accuracy of the exiting container data and of the plate of the vehicle carrying the container is verified by comparing in real time the data acquired by the system with the shipment documentation shown during the transit.

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.

Each exit lane 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.

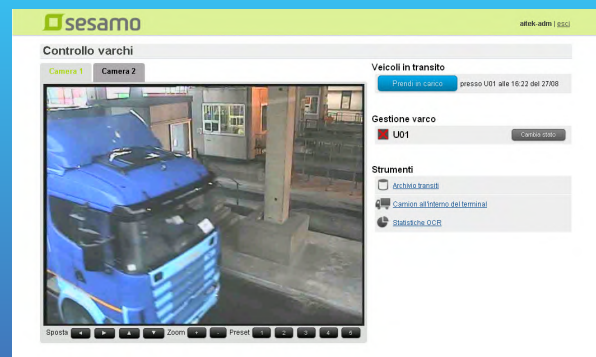
Optical barriers, photocells and magnetic loops allow to detect vehicles entering the exit lane, estimate their speed and trigger the image acquisition procedure, while a laser scanner determines the vehicle profile to detect the containers. Frames containing plates and ISO codes are selected and transmitted 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 via a web-based interface.



Main features

- Management of 2 exit lanes
- Automatic license plate recognition for tractor units and trailers
- Recognition of ISO 6346 container codes
- Recognition of ILU codes (Intermodal Loading Units)
- Video recording of vehicle transits for container damage detection
- Management of self-service interactive kiosks at road lanes
- Sesamo-GOS application for the management of transit procedures and integration with Terminal Operating System for data matching



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