As part of a project implemented by the Log@Sea business network, Aitek provided the technological platform for the automated management of vehicle and goods transits at the new gate of the San Giorgio multipurpose terminal in the port of Genoa.
A gate automation system significantly reduces the time required for gate-in and gate-out procedures. The automation of data acquisition and management processes not only ensures high standards of security and reliability, but also brings considerable benefits in terms of sustainability, as it limits the number of waiting vehicles and minimizes queues and congestion in the terminal access roads.

This is particularly important where a terminal is geographically located within a particularly complex urban fabric, i.e. where the ordinary road system interferes with the flow of vehicles to the port.

A port terminal is characterized by a complex system of vehicle transits, which produce a large amount of data. The automation of the procedures for acquiring, processing and managing these data represents the first and fundamental step towards achieving optimum levels in terms of operational efficiency and security.

Our solution

Competitiveness and sustainability are key points for a new generation of port terminals. The need to ensure faster shipments, coupled with the continuous increase in traffic volumes, requires increasingly digital, sustainable and connected ports.

With this in mind, the use of technologically advanced systems for the automated management of transit procedures at access points becomes an essential requirement.

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This is the case at the Terminal San Giorgio in the port of Genoa, to which Aitek - through the Log@Sea business network of which it is a member - has provided the technological infrastructure that manages vehicle transits at the new fully automated access gate.
Terminal San Giorgio is one of the most important multipurpose terminals in the port of Genoa, controlled by Gruppo AutospedG Group (Gavio Group). With its 206,000m² of surface area, it is equipped to handle key traffic such as motorways of the sea, full containers and various goods.

To accommodate with maximum safety and efficiency all types of traffic, the new gate at Terminal San Giorgio has been equipped with Sesamo-Gate, the software platform fully developed by Aitek for the automated management of vehicle, goods and people transits.

Equipped with two 300-metres-long waiting lanes, three entrance lanes and two exit lanes, the new infra-structure occupies a total of around 10,000 square metres and is equipped with all the necessary technological components for the gate automation, such as real-time recognition and vehicle transit authorization, sophisticated cameras, laser scanners and RFID readers.

With Sesamo-Gate, Terminal San Giorgio's operators can remotely manage transit procedures, automatically acquire number plates and identification codes, and use video technology to perform inspections and measurements with the highest accuracy.

Sesamo-Gate integrates a wide range of software modules, each of which performs a specific task within the transit management process, such as the management of on-field devices (barrier, traffic lights, interactive totems), OCR recognition of number plates and identification codes (ISO 6346 codes for containers, ILU codes for swap bodies and semi-trailers, Kemler-ONU codes for dangerous goods), as well as interfacing with the database for data management and storage.

Thanks to the digitalization and automation of transit control procedures, port hubs such as Terminal San Giorgio that have chosen Sesamo-Gate technologies can be considered true ‘smart port’ models.

The very high level of integration between different IT applications, coupled with the complete automation of transit procedures at access gates and the maximum customization of solutions, makes Aitek’s Sesamo-Gate platform the most widely used in the Italian port and logistics panorama.
The technological equipment for gate automation and real-time acquisition of vehicle and trailer number plates, container and swap body identification codes.

At each lane, a multi-function totem for driver interaction has been installed, equipped with devices such as display, camera, badge reader, intercom, QR code reader and printer.
Sesamo-Gate is the software platform for the automated management of the transit of vehicles, goods and people at road and rail access gates, chosen by new-generation ports and logistics hubs.

The integrated use of cameras, laser scanners and sensors, enables the automation of control processes carried out at the gate lanes and the real-time acquisition of vehicle number plates and identification codes placed on vehicles, trailers, containers, railway wagons and swap bodies, as well as the shape, vehicle dimensions and HD images of transits.

The large amount of information acquired by the on-field devices and processed by the Sesamo-Gate algorithms must be verified in real time in order to complete the transit procedures in the shortest possible time, while ensuring maximum security.

For this, the Sesamo-GOS (Gate Operating System) subsystem can connect with external information systems such as PCS and TOS to verify the validity of the information acquired at the gate, enable vehicles to pass through, or activate anomaly handling procedures.

But that’s not all: Sesamo-Gate offers a range of functionalities for managing railway gates and real-time acquisition of ID codes of containers and wagons in transit. A unique solution in the Italian market, widely tested in important port and industrial operating scenarios.
The new gate has been designed and developed as part of the interventions included in the Extraordinary Plan of the Port Viability, launched by the Western Ligurian Sea Port Authority.

The use of state-of-the-art gate automation technologies will improve the fluidity of all incoming and outgoing heavy traffic, with benefits both for Terminal San Giorgio, which will be able to better handle the growing traffic volumes (more than 500,000 equivalent TEUs handled in 2022 and trending upward), and for the external port viability.

The large waiting lanes and the automation of transit procedures will make it possible to accommodate at least fifty vehicles within the terminal areas, decongesting the port road system during traffic peaks.

Maurizio Anselmo,
CEO
Terminal San Giorgio S.r.l.
Automation and innovation

3 entrance lanes
2 exit lanes