sesamo

PRODUCT

SESAMO-GATE

Gate Automation solutions

Sesamo-Gate is a software platform for the automated management of vechicle, goods and people transits at road and rail access gates, chosen by next-generation ports and logistic hubs.

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SESAMO-GATE

AUTOMATED CONTROL OF ENTRY AND EXIT GATES

In maritime transportation, the introduction of mega-ships makes the automation of port activities a necessity, including the transits at entry and exit gates.
Currently many checks at access gates require the presence of personnel and this negatively affects the efficiency (increased time duration, not always reliable inspections).

The automated control of terminal procedures removes the necessity of having operators on the field, allowing personnel to operate remotely and therefore greatly improving the safety of people, the accuracy of acquired data and reducing the duration of procedures involving vehicles.

The software modules of the Sesamo-Gate platform increase the security, automation and efficiency of any entry and exit gate. A wide range of features allows to create solutions that can be customized according to any operational need and adaptable to the physical infrastructure of the road/rail gates.

That's why Sesamo-Gate is the most referenced gate automation solution in Italian ports and dry ports.

- **Identification of vehicle in transit**
- **Plate recognition for tractor units and trailers**
- **Recognition of container, swap body, semi-trailer codes (ISO6346, ILU)**
- **HD images of transits for container integrity verification**
- **Remote container damage examination**
- **Recognition of railway wagon codes (UIC)**
- **Automatic estimation of vehicle dimensions**
- **Container seal remote inspection**
- **Recognition of Kemler/ONU codes**
- **Integration with IT systems (TOS, PCS)**

Sesamo-Gate platform provides solutions for the management of control procedures for vehicles and containers entering and exiting port and freight terminals.

HOW DOES IT WORK?

Our Sesamo-Gate solutions integrate software modules, each one coping with a specific task in transit management process. Sesamo modules sharing data and information, allowing the management of complex and distributed tasks.

The technological infrastructure is composed of sensors, actuators and interfaces allowing the automation of the control processes performed in the gate lanes.

In case of a roadway gate, the technological component must be integrated in an appropriate road infrastructure for channeling traffic, protecting the machinery from the effects of weather and allowing the transit of authorized vehicles.

In railway scenarios the infrastructure constraints depend on the availability of an appropriate site for the installation on a railway stretch where trains proceed at low speed.

Our Sesamo-Gate solutions usually interface with the Terminal Operating Systems, in order to verify shipments and transits.

Unlike competing Sesamo-Gate can be installed even in scenarios with critical infrastructure constraints, in terms of both geometry and available space.

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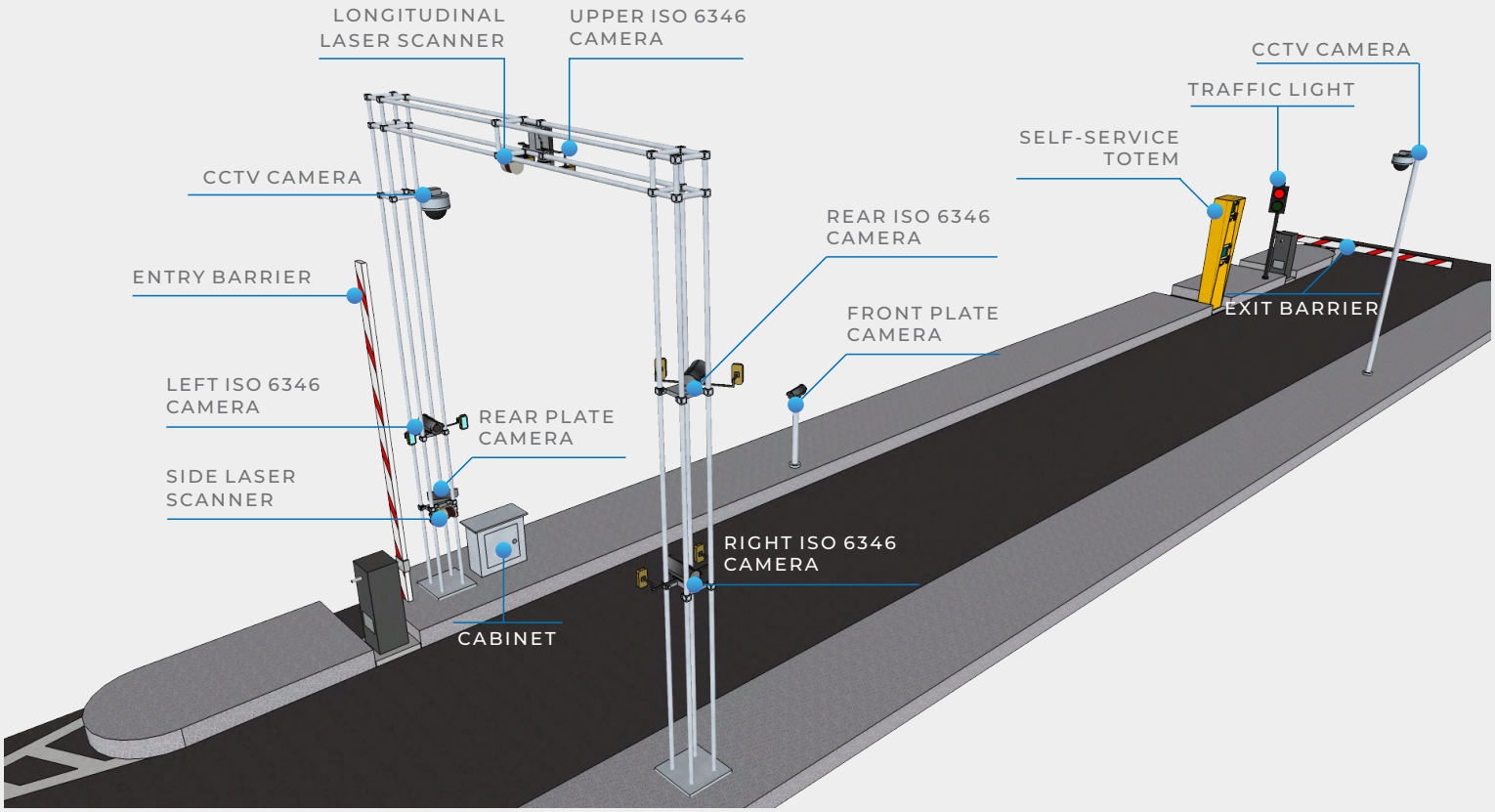
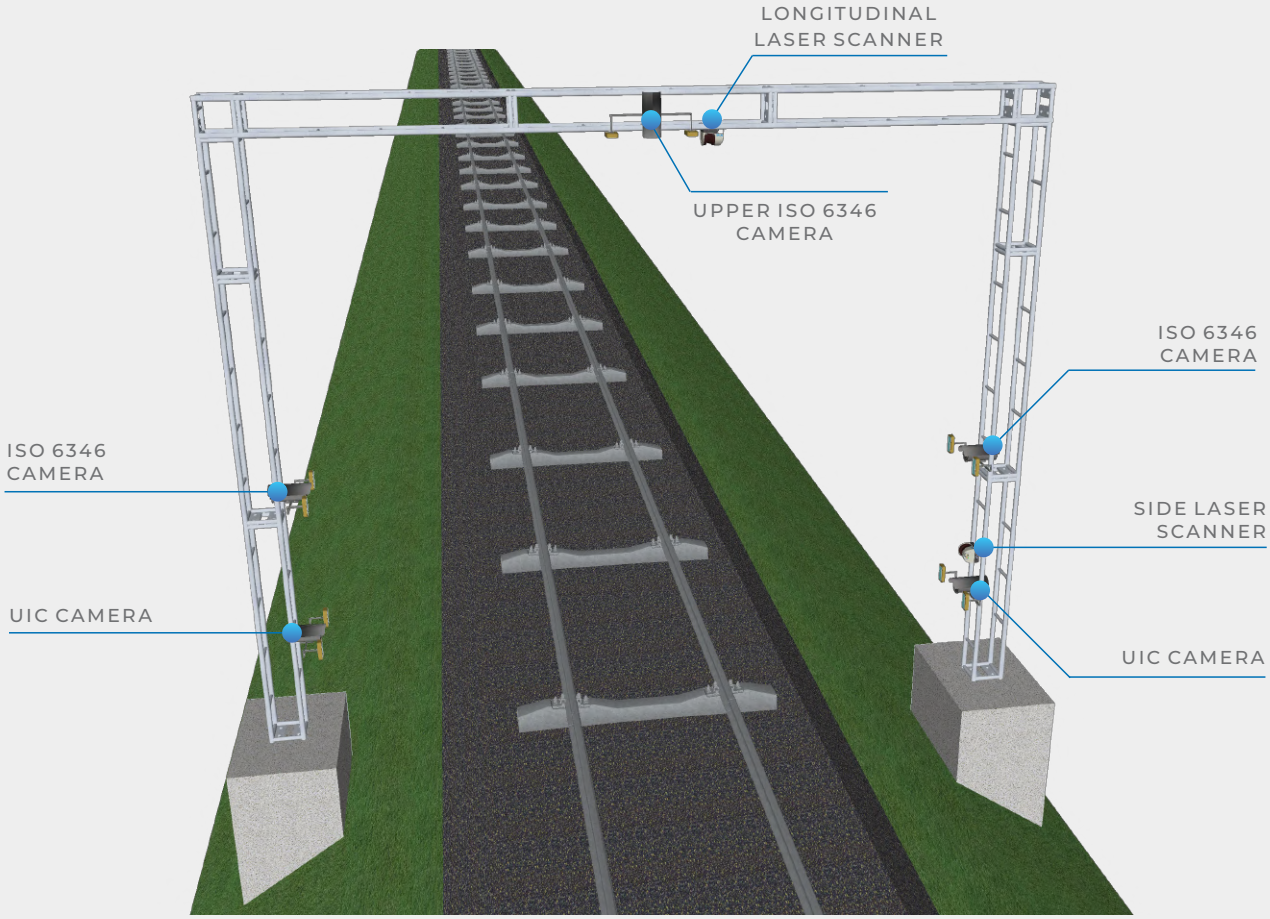
ROADWAY GATE INFRASTRUCTURE



RAILWAY GATE INFRASTRUCTURE



SOFTWARE MODULES

Sesamo - LANE

Basic software for the implementation of applications for the management of a roadway or railway lane. This subsystem is available in all Sesamo-Gate implementations and it is aimed at managing the basic lane automation according to control procedures.

Sesamo - LPR

Subsystem for the detection and recognition of the licence plates of tractor units and trailers. This module is employed only in roadway gate installations and it provides the automatic recognition of front and rear plates of vehicles in transit.

Sesamo - ADR

Module for the acquisition, detection and recognition of Kemler-ONU codes that identifies dangerous goods (in roadway scenario).

Sesamo - CCR

Module for the acquisition, detection and recognition of ISO 6346 container codes in roadway and railway scenarios.

Sesamo - ILU

Module for the acquisition, detection and recognition of ILU codes of semi-trailers and swap bodies in roadway and railway scenarios.

Sesamo - PROFILER

This subsystem is designed for the estimation of the volume and shape of vehicles. It acquires information on the size of processed vehicles using a single-gantry configuration, i.e. a single gate hosting all the devices required for the measurements.

Sesamo - REC

Subsystem for the video recording of vehicle transits for container damage examination. Sesamo-REC provides the acquisition of video streams of the visible surfaces of containers proceeding through the gate for subsequent checks for possible damage to the containers.

Sesamo - SEAL

Acquisition of the HD images for the identification of the lock seals affixed on the containers transiting through the gate and verification of their integrity. This module does not provide any feature for automatic seal control.

Sesamo - TOTEM

Module for managing user interaction through self-service terminals in roadway scenarios. It allows communicating with the vehicle driver, examining identification and transit documentation, printing transit certifications, etc.

Sesamo - UIC

Module for the acquisition, detection and recognition of the UIC codes of the wagons entering or exiting a railway gate.

Sesamo - UVI *(Under Vehicle Inspection)*

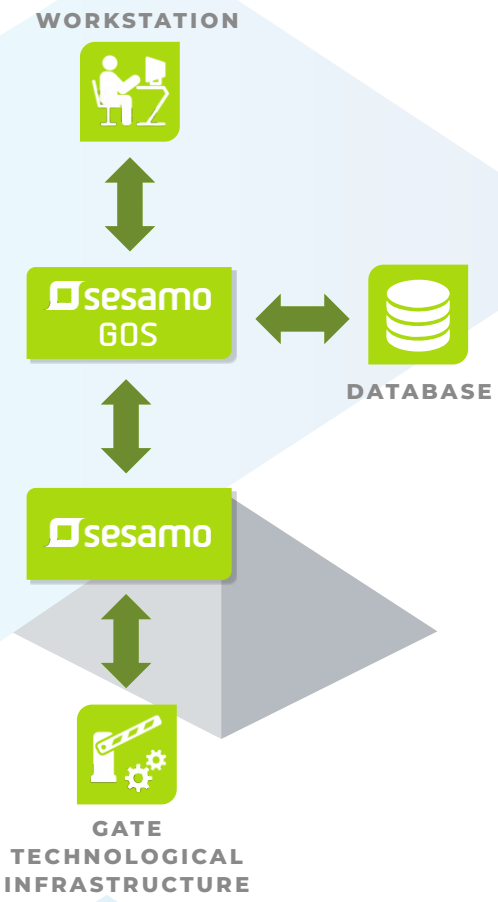
Module for video inspection of the lower surface of wagons in transit at a railway gate, as well as for remote inspection of the load by panoramic views. Sesamo-UVI can also be installed at roadway gates.

SESAMO GATE ARCHITECTURE

Control application: Sesamo-GOS

The architecture of the Sesamo-Gate platform in both roadway and railway scenarios is composed of an application controlling each technological infrastructure installation (Sesamo) and a supervision and control application *(Sesamo-GOS)* for the remote management of all Sesamo instances.

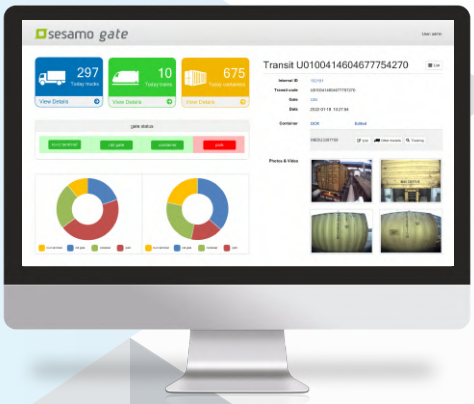
Through Sesamo-GOS, the system stores all detected events and all performed operations and it can interact with the operator information system for data examination and access control.



User interface

The frontend interface allows operators to have complete control of the Sesamo-Gate system. Only authorized users can access the application, using a common Internet browser and entering their login and password.

The Sesamo-Gate interface is an agile and powerful tool, accessible to all players in the logistics process, with different levels of access to the system's features.



STRENGTHS AND PERFORMANCES

- Complete integration with Terminal Operating Systems and third party supervisory systems
- Remote control of transit procedures, removing the necessity of having personnel at the gate
- Simplification of control procedures, tracking and customs management
- High modularity, allowing to implement applications which meet specific requirements
- Minimal operating requirements, high performance standards

	RELIABILITY	
Functionality	*Roadway gate*	*Railway gate*
TRANSIT DETECTION	> 99%	> 99%
CONTAINER DETECTION	> 99%	> 99%
CONTAINER CODE RECOGNIGTION (ISO 6346)	> 95%	> 95%
UIC TRAIN WAGON CODE RECOGNITION	N / D	> 90%
TRACTOR UNIT LICENSE PLATE RECOGNITION	> 95%	N / D
TRAILER LICENSE PLATE RECOGNITION	> 90%	N / D
VEHICLE PROFILE DETECTION	> 99%	N / D

These percentage are purely indicative and refer to optimal operating conditions.

sesamo *gate*

- **+70 managed gates**
- **11 ports/terminal**
- **8 dry ports/logistics hubs**
- **2 industrial sites**

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