



SecurOS Cargo Terminal

Visual inspection and automation of terminal gates

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SecurOS Cargo Terminal facilitates data flow processing and seamless integration with Terminal Operation System

Key features

- > Powerful visual inspection tool for container damage control based on IP cameras
- > Constant speed is not required as well as straight track
- > Solution can be installed on the existing infrastructure

Primary Applications



Sea Ports



Warehouse Terminals



Railroad terminals



Border Management and Customs Control



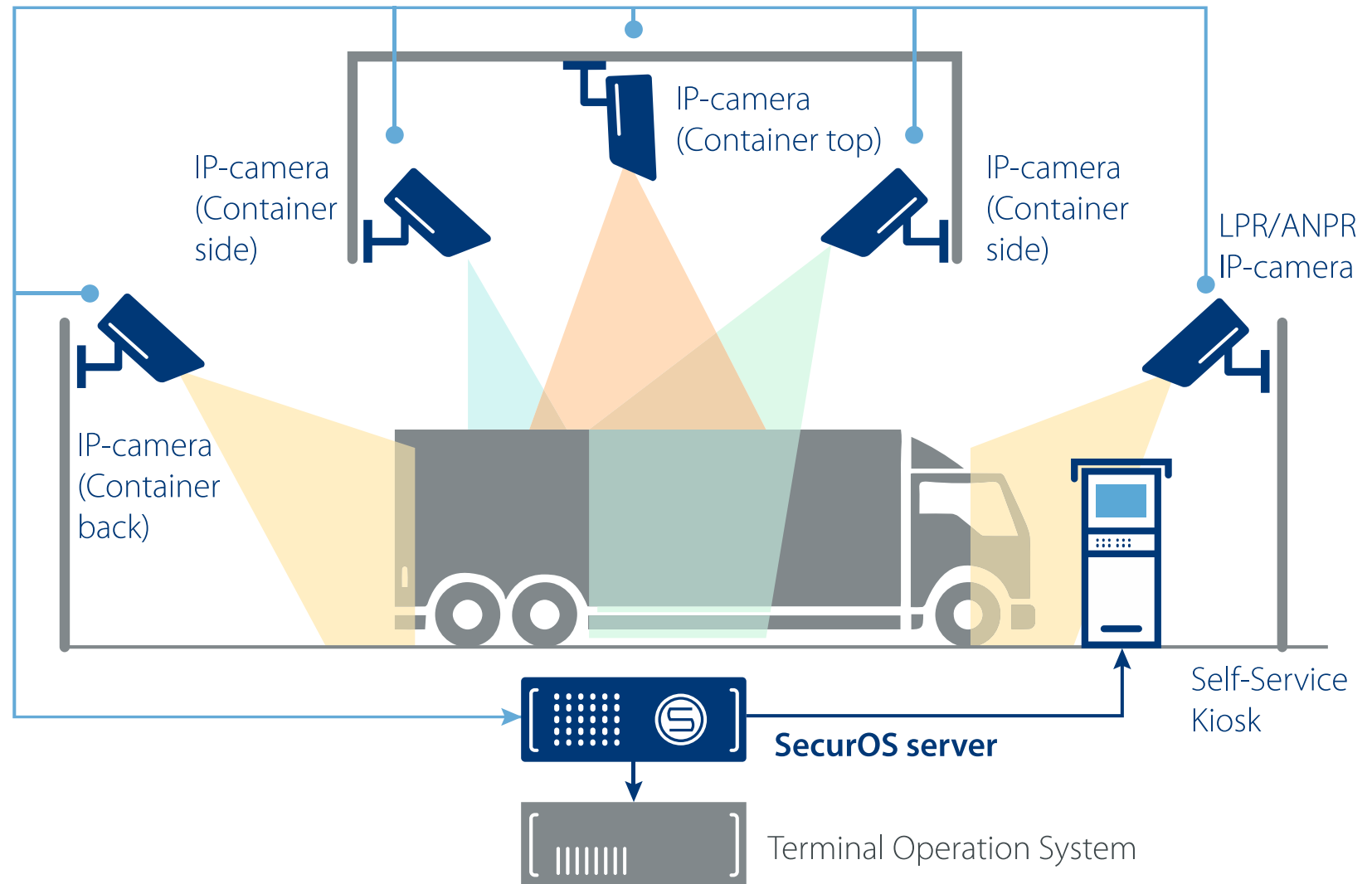
Manufacturing Sites



System design

Main solution components

- > OCR analytical modules (SecurOS Auto and SecurOS Cargo)
- > Visual Inspection Module
- > SecurOS VMS & Operation Platform



SecurOS Cargo Terminal > Metadata output

SecurOS Cargo Terminal automatically collects and provides to TOS full set of Gate metadata

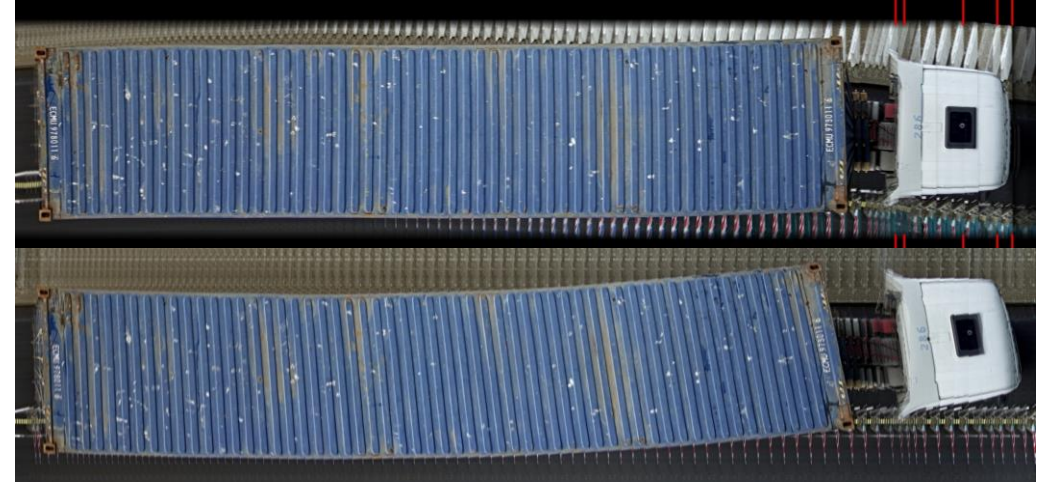
- > ISO Container images for visual inspection
- > ISO container number, Size and type code, Kemler
- > License plate of a truck
- > RTSP video stream and ASF/AVI video clips

	License plate	T442XC47
	ISO code	APHU 674482
	Date	09.02.2017
	Time	10:34




SecurOS Cargo Terminal > Visual inspection module

- > Powerful visual inspection tool for container damage control
- > No need for a dedicated facility (can be installed on the existing infrastructure)
- > Container image alignment (straight track is not required)
- > Based on IP cameras
- > Vehicle speed is not required (working range: from 3 to 10 km/h, can handle truck stop)



OCR modules



SecuROS native analytic modules

- > SecurOS Auto: License plates (front and back)
- > SecurOS Cargo: ISO code, Size and Type container codes

Additional OCR

- > Kemler / ADR reading





SECUROS
AUTO

OCR Modules > SecurOS Auto – Key Features

ISS native technology with regular updates for new plate types (templates). Proven to work in complex real life environment (day/night and wide range of weather conditions)

- > template-based algorithms providing up to 98% recognition accuracy
- > camera vendor agnostic
- > video-based recognition, no loops required
- > advanced Search capabilities
- > full or partial plate number including wildcard, search against watchlists and external databases
- > add plate numbers to local watchlists, connect external DB as a watchlist, set custom alarms for numbers found in watchlist
- > excellent international coverage (most of templates for Europe, Middle East, Latin and North Americas are already integrated)

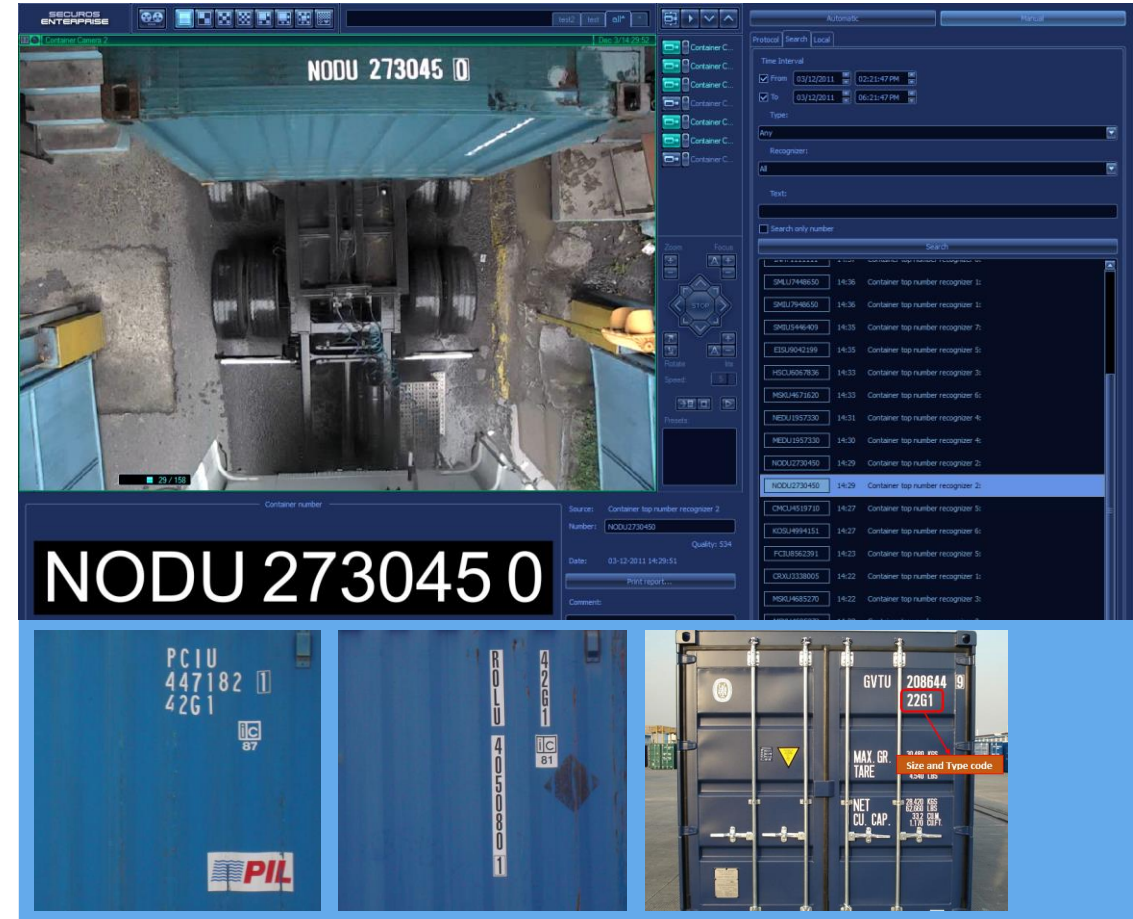




SECUOS
CARGO

OCR modules > SecurOS Cargo – Key Features

- > camera vendor agnostic
- > video-based recognition
- > all container types are supported (20', 40' and 30', 45', 53')
- > recognizes container codes (ISO code and Size and Type code) printed horizontally or vertically, on the top, side, or back of the container
- > can be used for variety of applications: trucks, cranes, forklifts, as well as hand-held devices
- > when multiple cameras are used (e.g. both sides and top of container), system consolidates recognition results into best result



SecurOS Cargo Terminal > GUI & Reporting

Operator GUI

- > customizable interfaces to match customer business processes and workflows

Rich reporting capabilities

- > flexible built-in Reporting Module
- > save in PDF or XML

The screenshot displays the SecurOS Cargo Terminal interface. It features a top navigation bar with icons and a search bar. The main area is divided into several sections:

- Top Left:** A camera feed labeled "115 Cargo" showing a blue container.
- Top Right:** A camera feed labeled "117 KT1-2 Крыша" showing a close-up of a corrugated metal roof.
- Bottom Left:** A camera feed labeled "114 KT1-2 Авто" showing the front of a yellow truck.
- Bottom Right:** A camera feed labeled "116 KT1-1 Крыша" showing a close-up of a corrugated metal roof.
- Center Right:** A detailed report table for the truck "T069XB 178".
- Bottom:** A timeline and playback controls.
- Far Right:** A "Мониторинг" (Monitoring) table with columns for object type, name, time, description, operator, and comments.

Report Table Data:

Ист. номер (I)	№ контейнера	Дата	Время
T069XB 178	ECMU9468643	16.01.2017	23:37

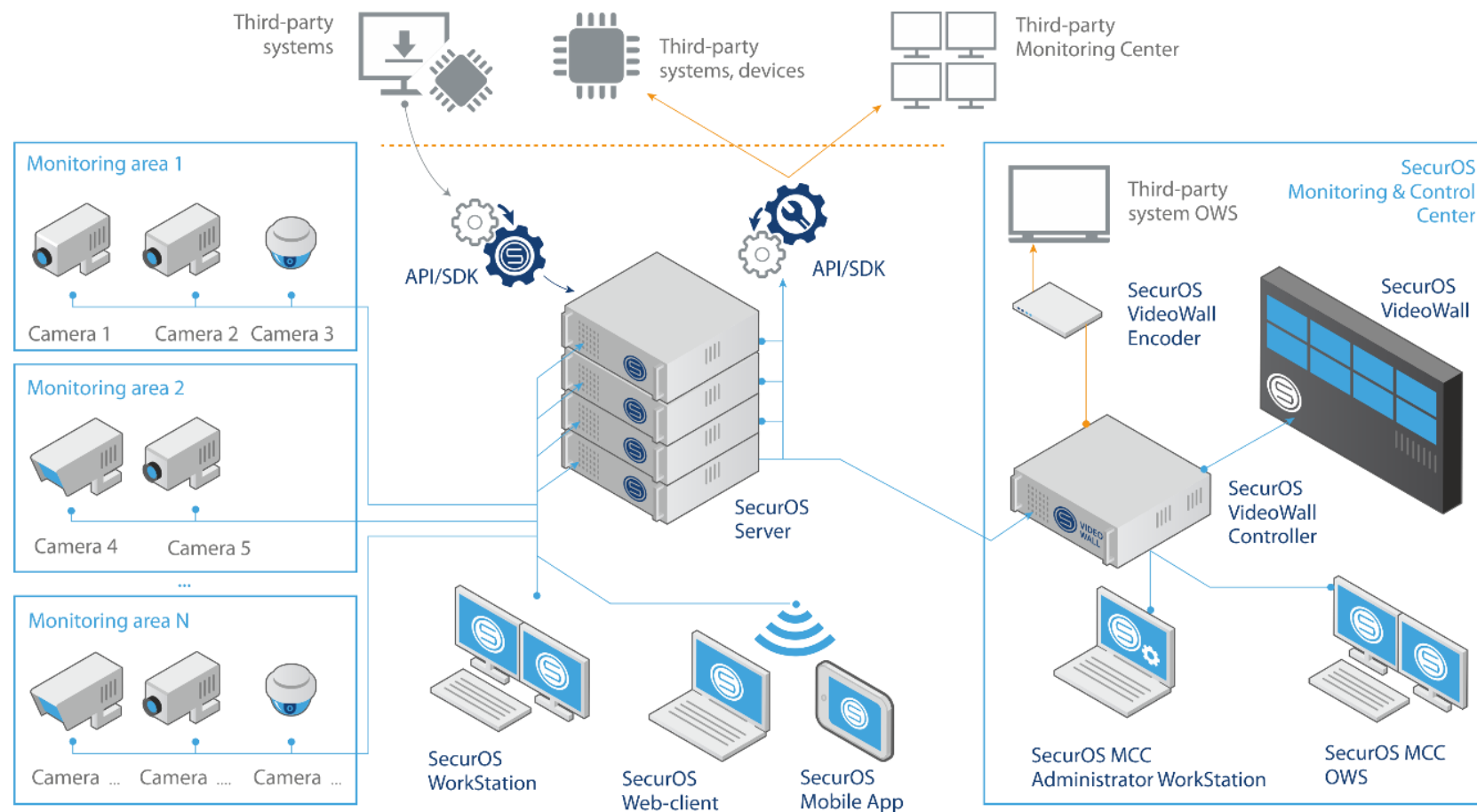
Monitoring Table Data:

Тип объекта	Имя объекта	Время	Описание	Оператор	Комментарий
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, 0286PH...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, Y161PC...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-1, V620YU...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-3: Storing ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, T100M...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-2: Storing ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-2: Storing ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-2: Passage...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-2: Storing ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-3, ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, 0007O...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, 8898O...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, 0286PH...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, C606AM...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-2: Passage...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, P698TK...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, P758AY...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-1, K900ET...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-1: Storing ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-3: Storing ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, C154XE...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-1, ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-1, Y485CA...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-2: Video e...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, X393AY...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-3, ...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-3: Video e...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-3, 0286PH...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, 0907O...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-3, B711TK...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-3: Video e...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-3, B962HY...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, B501OT...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-1: Video e...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-1, 0533M...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-3: Ignoring...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-3, X920KK...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-1, T942M...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Тревога п...		KT1-2: Ignoring...
Бронка: Л...	Бронка: Л...	чт 19 янв...	Проезд		KT1-2, H683YA...

Stitcher online status: IS_RUNNING

SecurOS Cargo Terminal > Integration capabilities

- > file export (video and images) and Web-based API (FTP, HTTP, Restful web-services)
- > export to External Data Base / real time event and archived data queries
- > RTSP video streaming and AVI/ASF clip export
- > other EDI formats support
- > integration with 3rd party hardware



REFERENCES | Ports & Terminals installations



- > Bronka Sea Port, Saint-Petersburg, RF
- > Fish Sea Port, Trade Sea Port – Vladivostok city, RF
- > Sea Port - Murmansk city, RF
- > Southern Africa Transport Investments Container Services terminal in Maersk
- > Port of Angra dos Reis (Brazil)
- > Port Terminal Portuário de Itajaí Ltda (Brazil)
- > Port of Maceio (Brazil)
- > Port of Recife (Brazil)
- > San Antonio Terminal Internacional (Chili)
- > Empresa Portuaria de Iquique (Chili)
- > Port of Tahitian island
- > Port of Santo Tomas (Guatemala)

REFERENCES | Bronka Sea Port, Saint-Petersburg, RF



- Visual Inspection and Automation of Terminal Gates
- License Plate Recognition
- Container Recognition

REFERENCES | Port of Santo Tomas, Guatemala



- Global video control (Samsung Cameras)
- License Plate Recognition
- Container Recognition
- Face Recognition
- Streamline Operations
- Cut Down costs
- Increase overall efficiency

REFERENCES | Port of Pecem, Brazil



- Container recognition (36 channels), ANPR (34 channels), and Face Capture utilized to increase operational efficiency threefold saving millions of dollars in ground infrastructure costs.
- Situational awareness – PIDS system integrated for complete view of facility.
- Integration with port operations systems, weight scales, and terminal management systems.
- Solution drives significant ROI – cargo is processed nearly three times faster as it leaves port by integrating with Weight stations similar to a POS terminal overlay.

REFERENCES | Port of Itajai, Brazil



SECUROS
PREMIUM



SECUROS
AUTO



SECUROS
CARGO



- Global video control
- License Plate Recognition
- Container Recognition
- Integration with Port Management System



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