



TRASSIR solutions for fuel and energy sector

TRASSIR equipment on guard at highly
hazardous production facilities



Fuel and energy sector

Video surveillance in the industry

The presence of explosive zones on oil refinery grounds generates an extremely high demand for on-site and perimeter. It's crucial to prevent theft and equipment damage and ensure compliance with safety precautions and labor discipline.

21 YEARS

Experience in the field of video surveillance

20

Offices and warehouses

42

Countries with integrated TRASSIR solutions

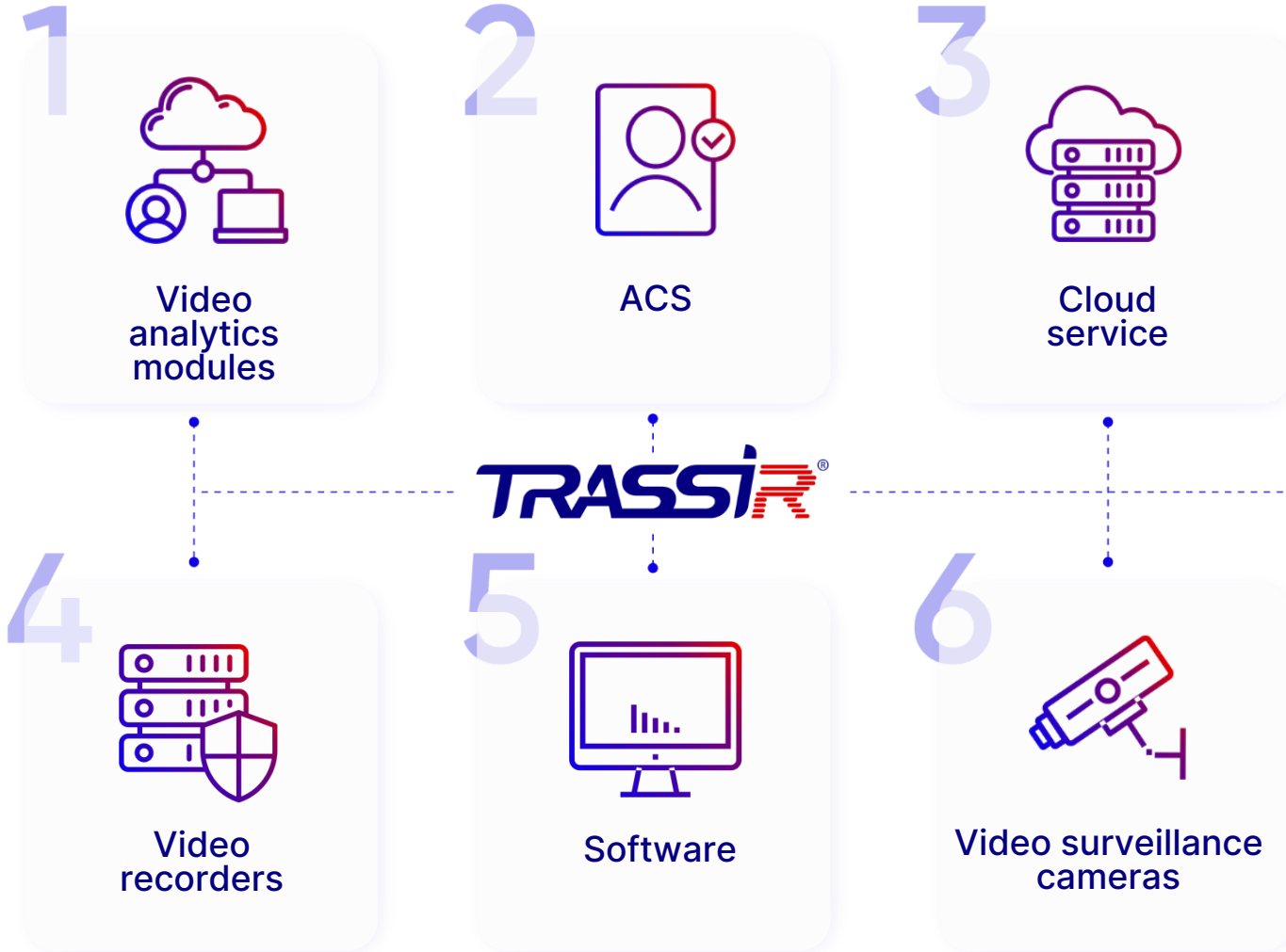
15000+

Regular customers all over the world

800+

Qualified employees

6-in-1 video surveillance



The TRASSIR concept of video surveillance lies in the deep integration of all its constituent products with one another



TRASSIR for fuel and energy
sector

TRASSIR video cameras

The company's many years of experience, as well as deep understanding of the security market and its customers' needs, have allowed the company to form an advanced line of TRASSIR cameras that meet the high requirements of its users. All TRASSIR products can be successfully implemented at facilities of any scale.

ECO

Budget lineup with basic analytics
for solving typical video
surveillance tasks



High-quality image

TREND

Professional line for safety and control
in complex systems



Cutting edge
technology

PRO

Professional line for building large
projects



Technical support
and fast service



CMS and TRASSIR licensing

TRASSIR CMS

Solution for managing large scale video surveillance systems,
created for closed IT circuits of large clients



Unified user
management
LDAP



Centralized update
and management
of servers



Reduction
of internet
traffic



Monitoring
of video
surveillance
equipment



Access to web-
interface
and mobile app



Situation
center

Who needs TRASSIR CMS



**Over 20
recorders**



**Multiple
locations**



**Mandatory 24/7 systems
monitoring**



TRASSIR VMS

Stable operating software for managing the monitoring and video surveillance system

- Internal scripting system with virtually unlimited possibilities for automating system operation
- Convenient and adaptive interface, customizable for different tasks
- Configuration of devices, cameras, and video recorders in the TRASSIR interface
- Flexible management system of user rights
- Software integration with third-party Access Control and Security systems
- Unique technology for archive recording. Simultaneous recording of video stream to 1-4 hard disks
- Record, export, and view images in multithreading mode
- Interactive maps with the ability to display and control the system
- Send notifications to email, telegram, SMS
- Failover
- Operation with 99% of IP cameras on the market: complete protocol support ONVIF, RTSP, etc.
- System health monitoring
- Convenient access through web client, desktop and mobile app
- API/SDK for integration with third-party systems

Advanced TRASSIR VMS features



TRASSIR OS

on TRASSIR servers protection and performance of the video surveillance server



TRASSIR CMS

solution for managing large-scale video surveillance systems of large clients



Processing video analytics on GPU for maximum investment efficiency



Efficient and fast search in the archive for different events



Advanced neural network video analytics



TRASSIR VMS and CMS LICENSING

TRASSIR Server software requires a license to operate.

TABLE OF BASIC LICENSE FUNCTIONALITY	TRASSIR VMS TRASSIR CMS TRASSIR License Manager Linux version of TRASSIR VMS TRASSIR VMS modules
--------------------------------------	--

AnyIP	AnyIP Pro	EnterpriseIP
+	+	+
-	+	+
-	-	+
-	-	+
<ul style="list-style-type: none"> · TRASSIR ActiveSearch · TRASSIR EventSearch · TRASSIR MultiSearch · TRASSIR Heat Maps · TRASSIR Plans · TRASSIR Sabotage Detector · TRASSIR Fire · TRASSIR Smoke · TRASSIR Failover · TRASSIR Sound Detector · TRASSIR PTZ · TRASSIR Informer · TRASSIR TelegramBot 	<ul style="list-style-type: none"> · TRASSIR ActiveSearch · TRASSIR EventSearch · TRASSIR MultiSearch · TRASSIR Heat Maps · TRASSIR Plans · TRASSIR Sabotage Detector · TRASSIR Fire · TRASSIR Smoke · TRASSIR Failover · TRASSIR Sound Detector · TRASSIR PTZ · TRASSIR Informer · TRASSIR TelegramBot · TRASSIR Alerts 	<ul style="list-style-type: none"> · TRASSIR ActiveSearch · TRASSIR EventSearch · TRASSIR MultiSearch · TRASSIR Heat Maps · TRASSIR Plans · TRASSIR Sabotage Detector · TRASSIR Fire · TRASSIR Smoke · TRASSIR Failover · TRASSIR Sound Detector · TRASSIR PTZ · TRASSIR Informer · TRASSIR TelegramBot · TRASSIR Server (x64 Linux) · TRASSIR Alerts



TRASSIR ACS

Access Control is a part of TRASSIR system



TRASSIR ACS

Proprietary access control and management system on TRASSIR platform

The system allows you to manage access, as well as register events and compile analytic reports, personnel attendance.

Tasks to be solved

- Personnel management
- Manage access by temperature
- Photo/video ID
- Configure access levels
- Configure and manage equipment
- Multifactor authentication
- Flexible schedules and access
- Generate analytic reports
- Configure flexible reactions to system events
- Work with guest passes
- Mobile app and work from browser

Advantages



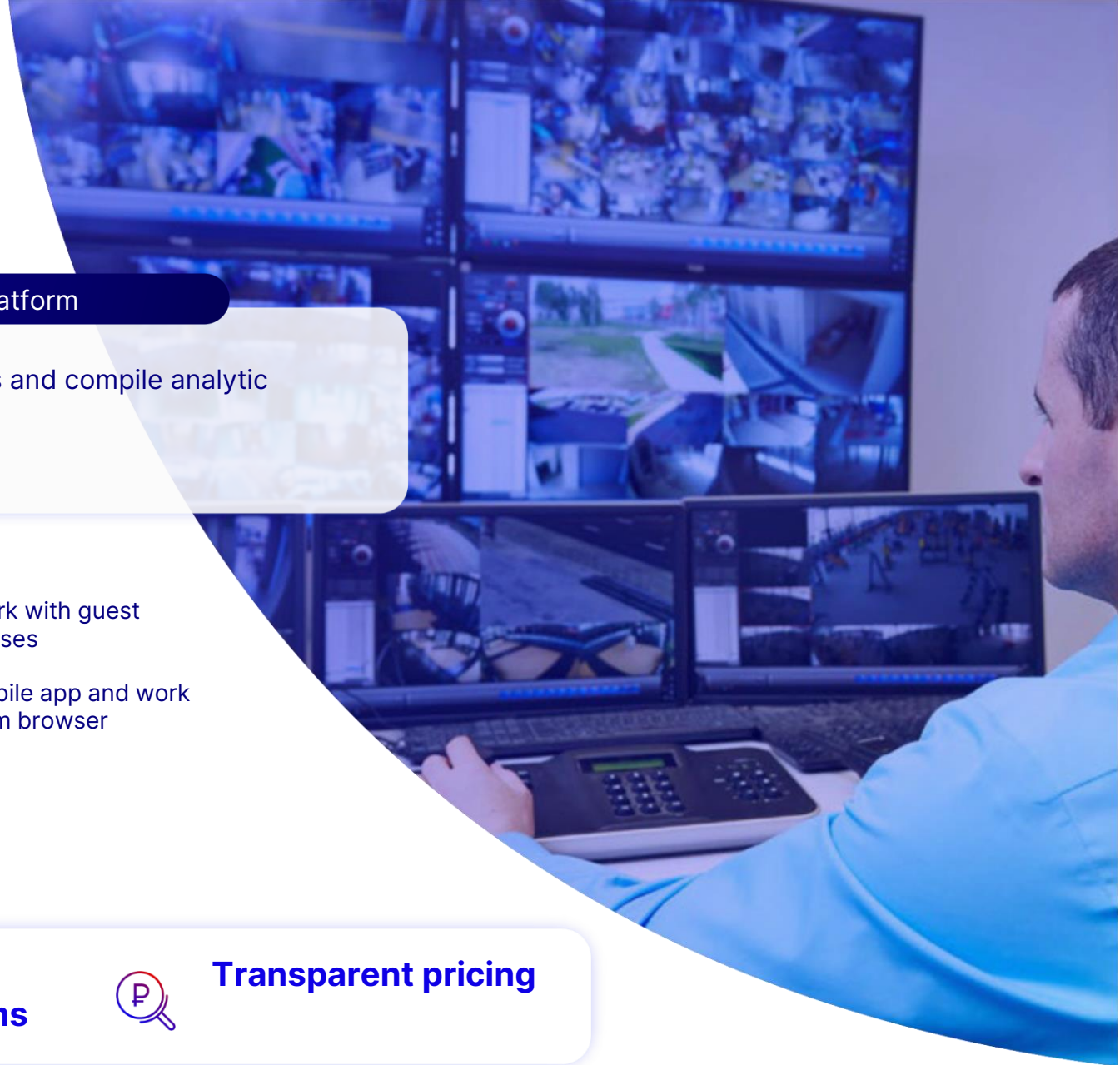
Complex solution



One server for two systems



Transparent pricing



TRASSIR ACS Enterprise

Distributed access control and management system on TRASSIR platform

The system provides unified access control and timekeeping for companies with branches or separate distributed facilities.

Allows

- Combine TRASSIR ACS servers installed in separate departments into a single system;
- Simplify administration of ACS and timekeeping systems without building a private virtual network using TRASSIR Cloud Connect;

Advantages



Enhanced fault tolerance



Access control from head offices and between separate distributed objects



End-to-end reporting for all objects, taking into account movements between them



Easy to connect

SYSTEM ADVANTAGES



MULTIVENDOR ACS

Works both with TRASSIR controllers and readers, as well as ACS equipment from other manufacturers

Supported equipment: Hikvision, ZKTeco, Hiwatch, TrueIP



INTEGRATED SYSTEM SAFETY

TRASSIR ACS isn't just a program module within a platform. It's closely interconnected with other video surveillance modules, video and event analytics, security systems and uses all the power of the TRASSIR platform to create a safe environment



ECONOMY AND SIMPLICITY

There is no need for additional ACS servers, just simple licensing and a clear interface - that's all this reduces costs in projects and significantly simplifies installation and configuring the security system



AVAILABLE CUSTOMIZATION TO ORDER

Using rules, scripts, and open API TRASSIR can easily and quickly implement most individual requirements and preferences of clients



DISTRIBUTED ACS

The ability to organize a system of timekeeping and access control at distributed sites with management from the head office



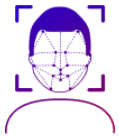
Cross-camera tracking

Building a trajectory of human movement
and identifying location with visualization on the site
plan



Cross-camera tracking: security and tracking tasks

What tasks does cross-camera tracking speed up and solve automatically without manual work?



Identifying people



Creating a trajectory of movement on the site



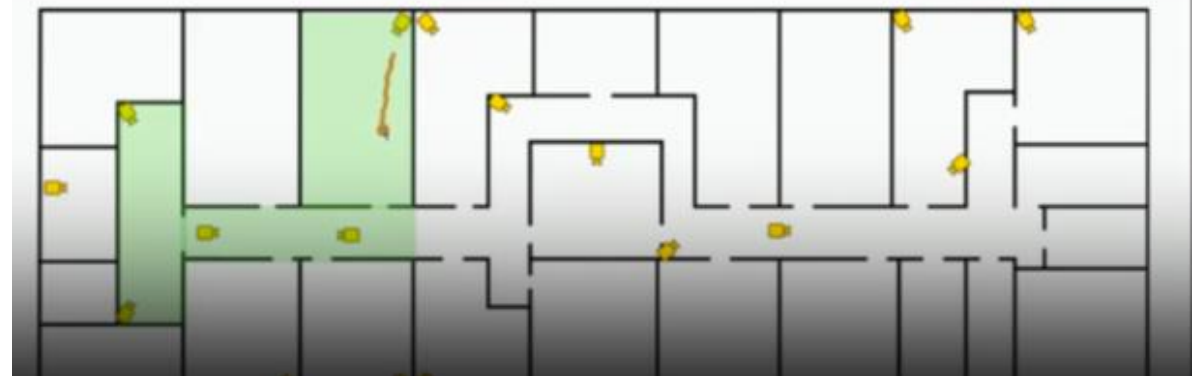
Strengthens access control

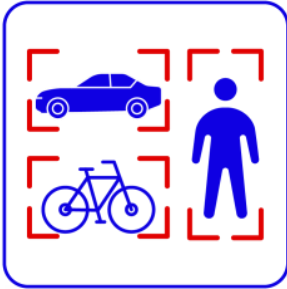


Investigates incidents



Displays people's locations on maps in real time





Neuro Detector

Neural Network Object Detector is a video surveillance tool for automatic object detection and recognition with the ability to trigger preconfigured event responses. It functions on the basis of trained neural networks which provide high accuracy in module triggering.

Performs the following functions:

- Detecting objects in the frame.
- Form incident alarm notifications, notify operators in case of intrusion into specified zones
- Filter out extraneous objects, eliminate false alarms

How it works:

- ✓ Extracts relevant image for identification, makes the most reliable hypothesis for classification.
- ✓ Forms a response to the threat based on the resulting categorization, or ignores it as a false alarm.

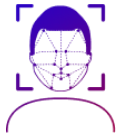




Face Recognition



Face Recognition: usage scenarios



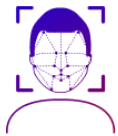
Face detection

Face detection on video, matching a person to whitelists and banlists



Tracking multiple faces in video stream

facial tracking when moving in video stream



Face identification of people and quality assessment

compare detected face with those stored in the database and determine the degree of match



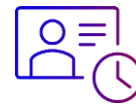
Archive search

archive search of all detected frames with a specified face



Facial vivacity

Detection of face swapping in order to prevent the use of photos in the frame



Using the module in ACS

allows you to use ACS together with the module to automate access to restricted facilities



Smart access points

Automated entry/exit system for industrial enterprises



TRASSIR solution capabilities

Smart Access Point Solution - a ready-made set of hardware, software and video analytics modules designed specifically for integrated checkpoint automation.



Create a database of license plates, maintain white and black lists of license plates and regulate access to the territory



See video in real time and quickly search the archive for events



Receive detailed reports with the time of entrance and exit, time spent on the territory



Optimize transport flow



Video surveillance in real time



Centralized control of entrances and exits



Notifications on monitor or in messenger

The solution is technically suitable for most industrial plants and can be customized to meet each facility's specific requirements.

TRASSIR[®]

**Personal
protection equipment**





Face Mask Detector

A neural network-based protective mask detector designed to monitor the use of protective masks in public places.

How it works:

- ✓ The video surveillance camera monitors the specified area and transmits the data to the server.
- ✓ The detector analyzes the stream, finds faces and determines if they have a mask.
- ✓ An additional script closes the dry contacts, initiating a hands-free announcement and sending an alert message.



Hard Hat Detector

Neural network-based hard hat detector featuring reduced false alarms

How it works:

- ✓ When an employee enters the work area without a safety helmet, the intelligent module sends a real-time notification and saves the footage for evidence.



Wear Detector

Neural network detector that determines the presence of protective clothing

How it works:

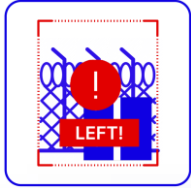
- ✓ Real-time notifications are sent when employees not wearing a uniform appear in the work zone



The background image shows a worker in a blue uniform and yellow hard hat operating a large industrial crane hook in a factory setting. The worker is leaning forward, holding a rope attached to the hook. The scene is dimly lit with a blue tint, and the background shows industrial structures and machinery.

TRASSIR[®]

**Neuro Left Objects
detector, Pose detector**



Neuro Left Object Detector

Intelligent module for detecting objects left in the camera's field of view.

What functions it performs:

- Instant detection of abandoned and forgotten items, which could potentially jeopardize the facility's security



How it works:

- ✓ Detects ownerless objects to which the "owner" has not returned
- ✓ Does not link objects to bystanders



Pose Detector

TRASSIR Pose Detector is a neuroanalytical detector that allows you to classify a person's pose based on algorithms of human movement and behavior.

What functions it performs:

- Identifies and classifies people's various poses to track atypical behavior and detect danger: unusual posture at an ATM, falling, raised hands when attacked, etc.



How it works:

- ✓ Detects a person and determines the position of their bodies and limbs.
- ✓ By tracking the detection found, it identifies potentially dangerous people, provides a pose classification, and identifies it as either normal or potentially dangerous.
- ✓ There are settings for the size of objects to be detected, zones where poses are to be detected, sensitivity, quality and speed of recognition.



Terminales y Logística Portuaria SA: TLP

Terminales y Logística Portuaria SA (TLP) is engaged in the transportation, delivery, storage and shipment of oil, alcohol and vegetable oil in Paraguay. It is a high-risk site that needs extreme measures to ensure its safety.

Surveillance in the industry

Ensuring security onsite and perimeter-wise for equipment and vehicles, staff and visitors involving round-the-clock visual monitoring and monitoring of events in real time and archival data analysis.

Monitoring compliance with safety regulations and labour discipline.



Project objectives

To ensure an integrated approach aimed at both safety of work processes and processing and storing incoming data:

- Perimeter security and onsite security control shall be implemented through a single online surveillance system integrating existing equipment;
- To introduce technologies for recognizing truck license plates, state registration numbers are automatically entered into a special record-keeping system;
- Create remote access for operators, including mobile clients.



Outcome

Customer received an easy-to-implement and cost-effective solution ensuring the most reliable protection of a high-risk facility as well as the information from the cameras itself.

The TRASSIR video surveillance system monitors the security of the facility according to a certain schedule both in real time and using archived data. A number plate recognition system has been implemented, automatic access to the territory has been organised. Remote access has been provided for operators, a mobile client has been developed to view cameras using mobile phone outside the workplace. In case of risky situations TLP employees receive system alerts in Telegram messenger. In the future TLP plans to use the obtained information arrays to study the capacity of terminals and create a detailed database of trucks potentially applicable in other systems of the company.

Solution

Together with its regional partner INOVASI S.R.L, TRASSIR has created a professional video surveillance management system (VMS). Network video recorders and IP cameras of another vendors have been integrated into our NVR.

We used:

- 3rd party NVRs integrated into TRASSIR NVR;
- IP cameras of various vendors and TRASSIR;
- AutoTRASSIR intelligent license plate recognition module.





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