



**Integrated solutions for  
Manufacturing**



# TRASSIR today



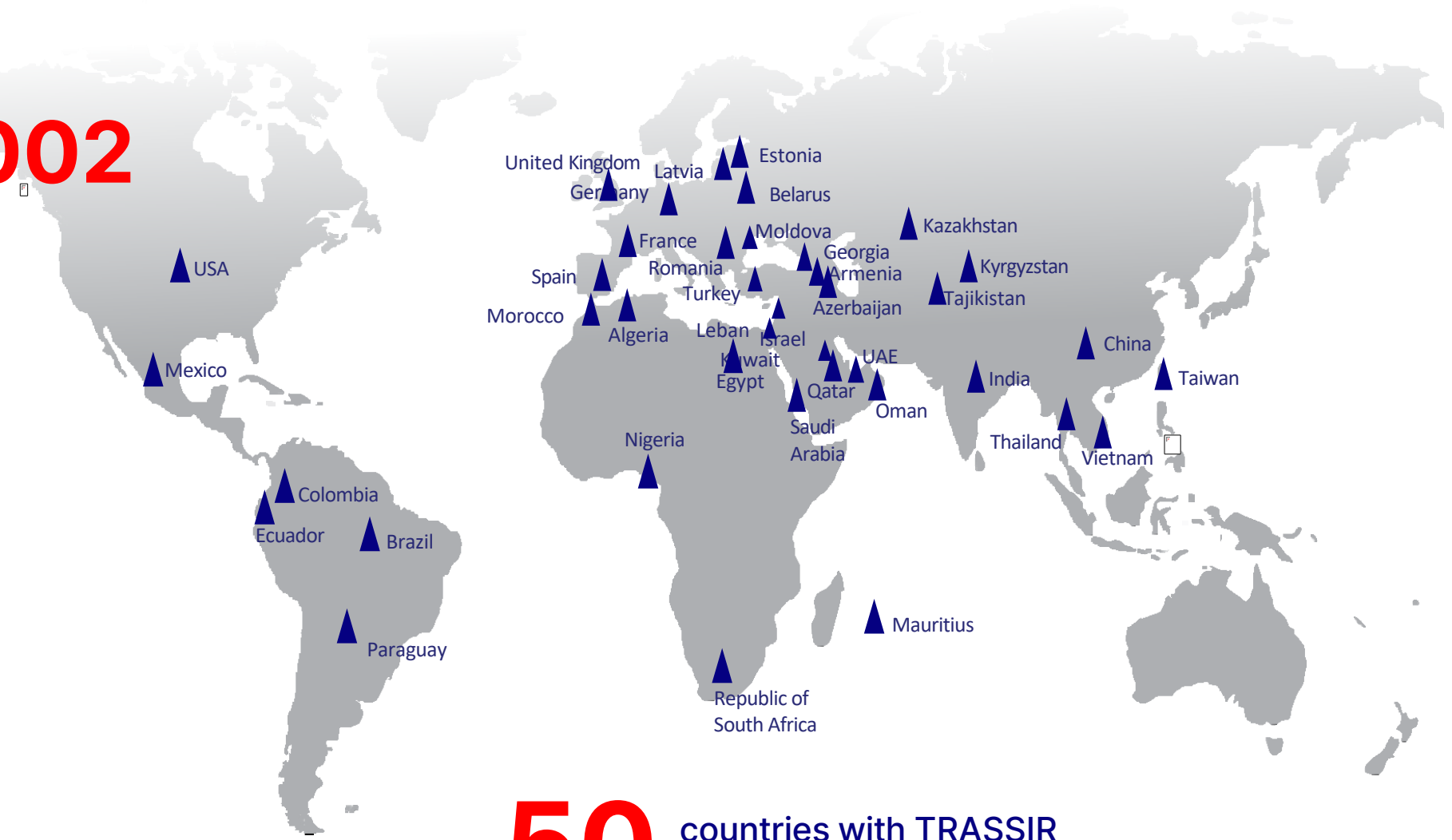
Experience in CCTV  
surveillance

**SINCE 2002**

**15 000 +**

loyal customers  
around the globe

**3** R&D centers



**50** countries with TRASSIR  
installations

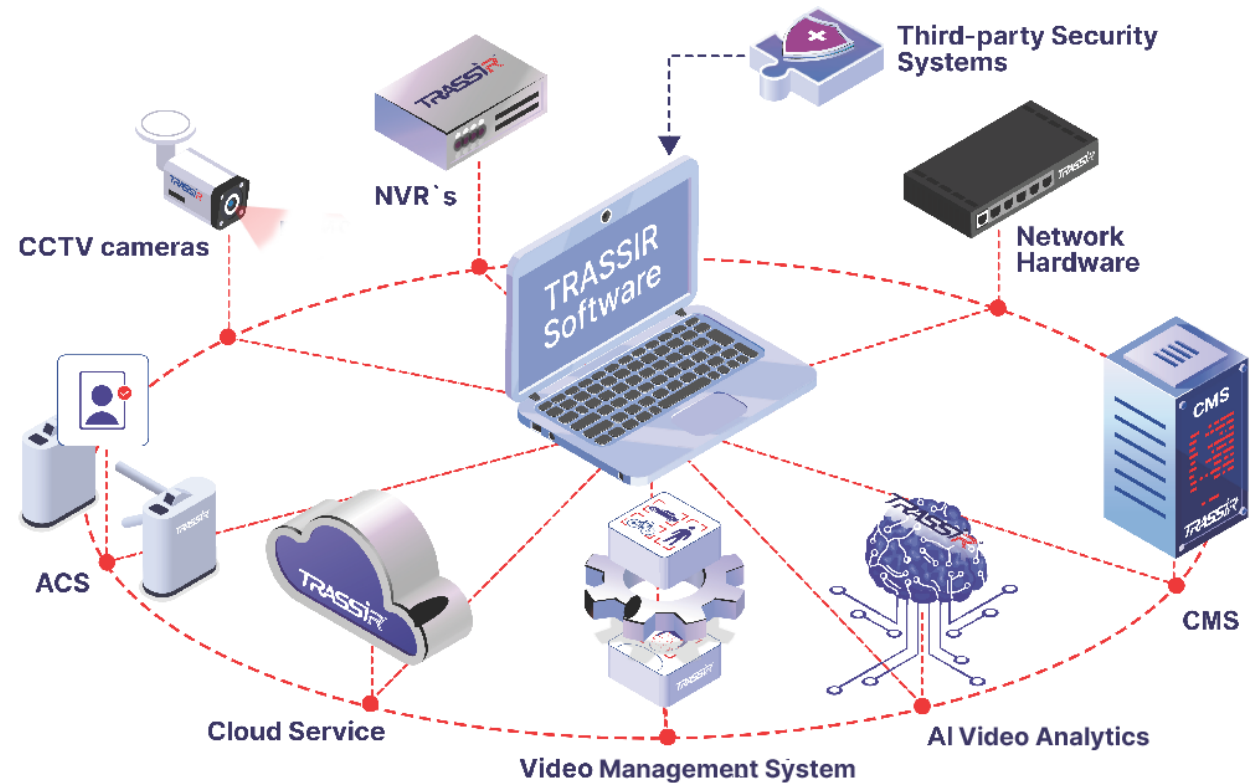
# Open digital platform



TRASSIR creates advanced solutions in the field of security and automation

## TRASSIR'S GOAL

is to improve the security of society, sustainability and profitability of businesses using machine perception and event prediction technologies



# TRASSIR differentiators



## Compatible with 99% of cameras

NVRs and analytics are compatible with 99% of IP-Cameras.

Connection options include:

- Native integration with more than 90 brands (manufacturer protocol)
- ONVIF
- RTSP connectivity

## Pre-sale demo and training

Our engineers demonstrate system functions and conduct training sessions and webinars

## Possibility for customization

Customization available for specific business needs using rules and Python scripts

## Technical project supervision

Dedicated technical manager on project base

## Easy predictable TCO

Lifetime licensing, firmware updates, free technical support

## Flexibility of choosing OS

Accessible across multiple platforms, including its own TRASSIR OS (Linux-based), Windows, and Linux (Debian). Additionally, a web interface and mobile apps for both iOS and Android are available.

The logo for TRASSI, featuring the word "TRASSI" in a bold, italicized, sans-serif font, followed by a stylized "R" composed of horizontal lines of varying lengths, and a registered trademark symbol (®) to the right.

**TRASSI<sup>®</sup>**

A grayscale photograph of a large industrial facility, likely a refinery or chemical plant, with various towers, pipes, and storage tanks. The image is overlaid with a blue and purple gradient at the bottom.

**Integrated solutions for  
Manufacturing**

# A comprehensive solutions for different zones of manufacturing



## Protection from external factors

- **Monitoring the operation** of the facility
- **Perimeter security solution** for detecting intrusion into a restricted area (also valid for internal security for the sake of access zone control)
- **Access control system** in conjunction with face and license plate recognition:
  - License plate recognition without special LPR cameras (fully software based)
  - Employee face recognition
  - Integration with third-party access control systems



## Internal Security

- **Fire & Smoke Detection** and integration with Fire Alarm system
- Monitoring **wearing of helmets or / and wearing a special uniform**
- **Fall & Dangerous Posture Detection**



## Manufacturing efficiency

- **Automate warehouse operation** and incidents management by synchronizing warehouse operations with video
- **Increasing Employee Productivity** by automative controlling their presence at the workplace
- **Vehicles weight control**

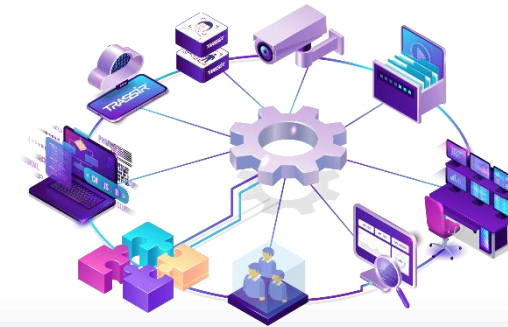


**Solutions for Protection from external factors**

# Monitoring the operation of the facility



TRASSIR VMS combines everything you need for site security in one window



Video surveillance



Video Archive



Situation center and maps



System status monitoring



User management



Integration with ACS, Fire Security Systems, and other systems



Functionality for large customers



API, automation customization



Video analytics

# Perimeter Security Solution



Instant notification to security personnel when a person breaches the facility's perimeter

## Business case

Manufacturing sites are struggling to:

- Protect large open industrial territories
- Prevent material theft and vandalism
- Control access to hazardous and restricted zones
- Monitor workforce density in production areas
- Measure security team performance

## Clients' pain points

- Night-time perimeter breaches and scrap theft
- Delayed response from security staff
- No visibility on real-time occupancy in workshops
- Overcrowding in safety-regulated areas
- Manual incident reporting with no structured analytics

## TRASSIR's solution

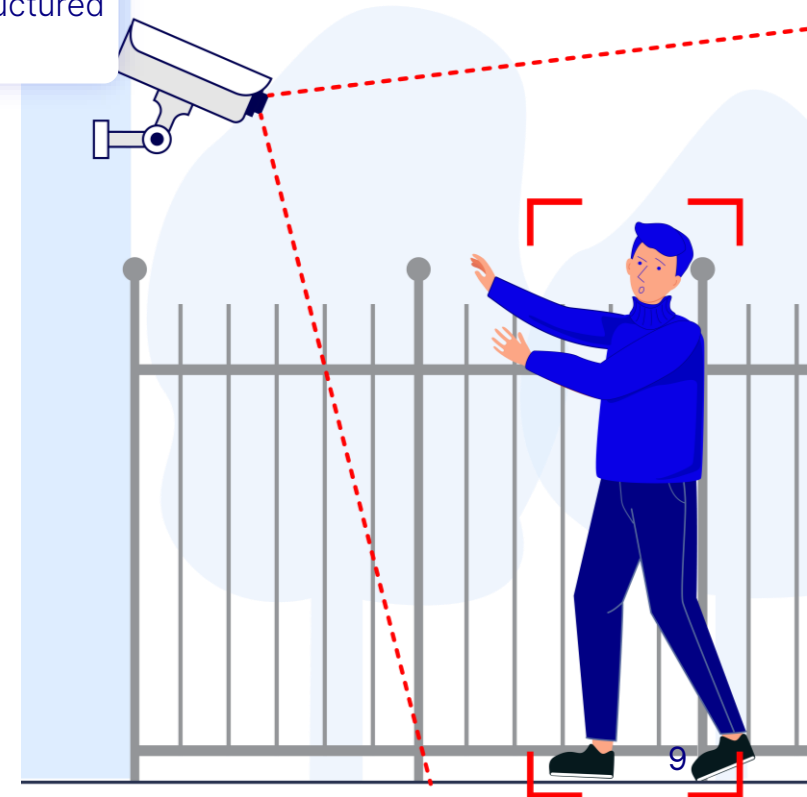


With help of AI-based intrusion detection (Neuro Detector INT) you can:

- ✓ Automatically detect people and vehicles entering protected zones
- ✓ Receive instant alerts to security monitors and email
- ✓ Use automatic camera focus on breach location
- ✓ Predefined maximum capacity thresholds (crowd management)

The functionality can be expanded with additional module: Neuro Counter+ INT, which allows to manage:

- ✓ Live occupancy tracking per zone
- ✓ Totally remove false positives on static objects at most complex scene
- ✓ Track the direction of vehicle and human movement and notify in case of violations



# Access control system



Securing people, vehicles, and assets across complex industrial sites

## Business case

*Manufacturing sites struggle with:*

- Unauthorized vehicles
- Employee time fraud
- Insider threats
- Contractor access control
- Fragmented security systems
- Lack of full traceability

## TRASSIR solution: unified platform for different scenarios

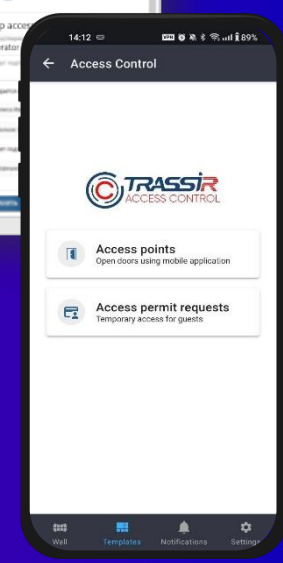
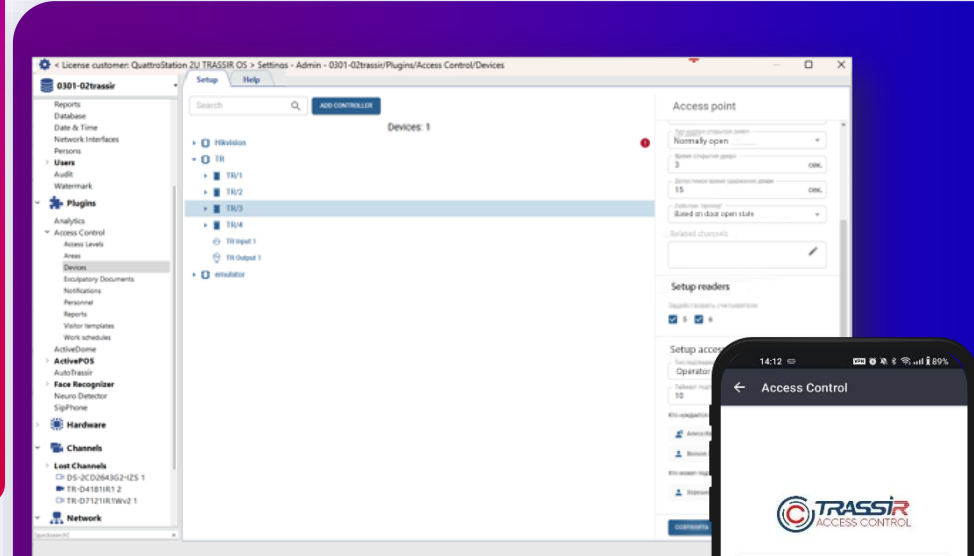
- Face, card, and fingerprint authentication
- Vehicle license plate recognition – without the need of specific LPR camera
- Personnel & visitor database management

Seamless integration with leading manufacturers' devices:

- Hikvision
- ZKTeco

*Seamless integration with other security systems:*

- *Suprema Biostar 2*
- *Bosch FSM 500*
- *Honeywell winmag v7*





**Solutions for Internal Security**

# Fire and Smoke Detection



AI-powered early fire detection reduces risk, response time, and financial exposure in high-risk industrial environments.

## Key pain points

- Traditional fire sensors react too late in large spaces
- Limited coverage in open or outdoor areas
- High installation cost of additional fire sensors
- Delayed operator awareness of ignition
- High financial losses from even small fire incidents
- Insurance and regulatory risks

## How TRASSIR Solves It

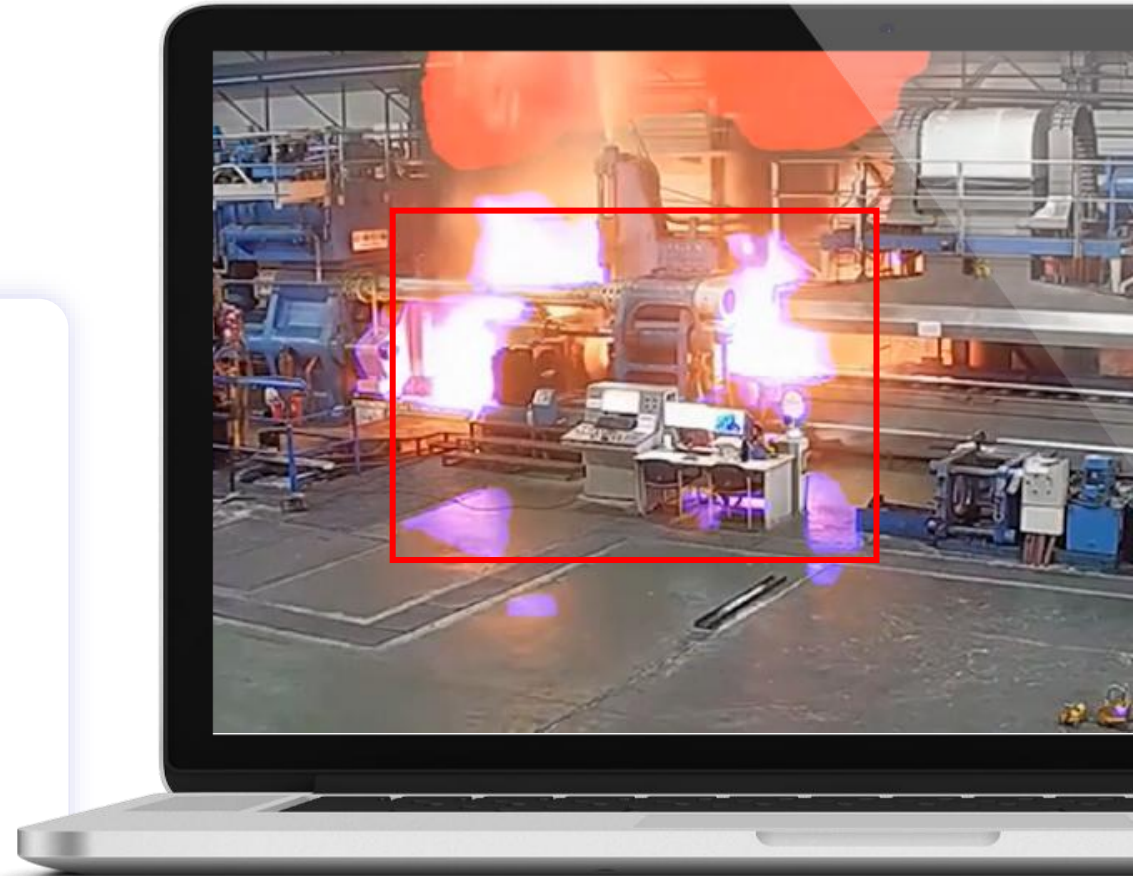


### AI-Based Fire & Smoke Detection (Neuro Fire and Smoke Detector INT)

- Detects open flames and smoke directly in the camera's field of view
- Works in large indoor areas and outdoor industrial zones
- Identifies fire at early visual stage
- Triggers instant alerts (visual, audio, notifications)
- Can activate sirens and integrate with external safety systems
- Provides video evidence for investigation and compliance

### Faster Awareness = Faster Action

- Reduces time between ignition and response
- Enables early containment of incidents
- Supports centralized monitoring of multiple sites





# Monitoring wearing of helmets and a special uniform

TRASSIR®

In manufacturing, PPE compliance is essential to prevent injuries, avoid penalties, and maintain operational continuity.

## Key pain points:

- Employees entering production zones without helmets
- Improper use of protective uniforms
- Manual supervision is inconsistent and labor-intensive
- Safety violations detected too late (after incident occurs)
- No objective data on compliance rate
- Risk of fines from labor and safety authorities
- High insurance and compensation costs due to accidents

## How TRASSIR solves it:

### AI-Based PPE Detection (Hard Hat detector, Wear Detector)

- Automatically detects helmets and special uniforms
- Identifies absence of required protective gear in real time
- Supports color-based uniform recognition for zone differentiation
- Triggers instant alerts when violation is detected

### Automated Safety Enforcement

- Works 24/7 without human fatigue
- Sends notifications to security or supervisors
- Logs every violation with video evidence
- Enables rapid response to unsafe behavior

### Analytics & Compliance Control

- Tracks frequency of violations
- Generates safety performance reports
- Provides documented proof for audits
- Measures safety discipline by department or shift



# Fall & Dangerous Posture Detection

Proactive detection of workplace incidents protects employees, reduces liability, and strengthens safety compliance.

## Key pain points:

- Employees working alone in high-risk zones
- Delayed discovery of falls or injuries
- No automatic alert when a worker collapses
- Manual monitoring is unreliable and reactive
- High financial impact of serious injuries
- Legal and insurance risks due to slow emergency response

## How TRASSIR Solves It

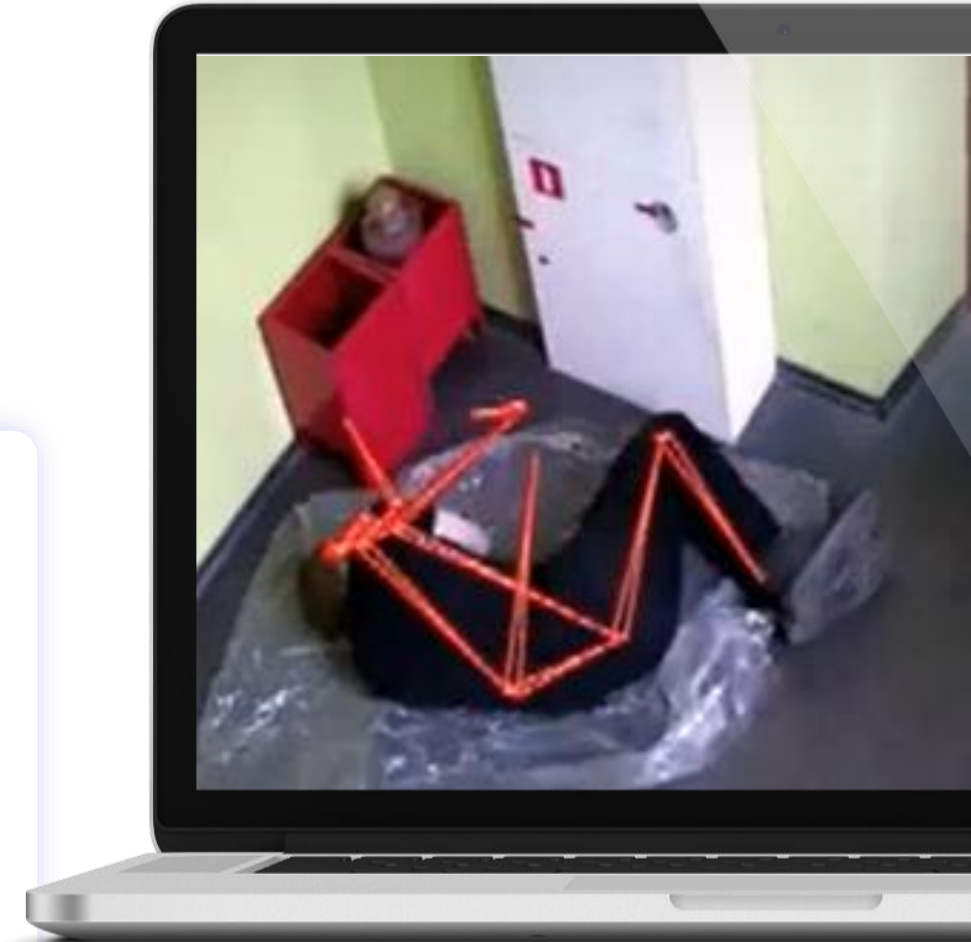


### AI-Based Pose Detection (Pose Detector INT)

- Detects human body position in real time
- Identifies abnormal or recumbent postures (fall, collapse, unconscious state)
- Configurable zones for high-risk areas (production lines, warehouses, staircases)
- Instant alerts to security or supervisors when hazardous posture is detected
- Full video evidence logging for investigation and compliance

### Emergency Response Optimization

- Reduces time between incident and assistance
- Supports lone worker protection
- Provides measurable response time analytics
- Improves overall workplace safety monitoring



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**Solutions for Manufacturing efficiency**

# Warehouse and logistics operations automation

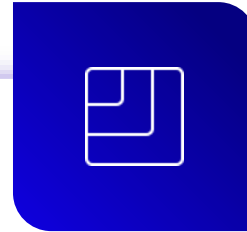
Connecting warehouse operations with actionable video evidence

For Companies Using WMS

## ⚠ Key pain points in WMS-based warehouses



- Complex and lengthy incident investigation process
- Manual search by operator using surveillance overview cameras



- Presence of blind zones in the warehouse
- Errors in barcoding or absence of barcoding during goods receipt and loading

**3 TO 12 HOURS**

Lengthy incident investigation process



- Significant number of uninvestigated incidents
- Investigating incidents in descending order of loss amount
- Minor losses not investigated at all

# Warehouse and logistics operations automation



TRASSIR Active Stock – is to help you solve above challenges and automate operations. It is Video Intelligence Layer for WMS-Based Warehouses – designed exclusively for companies operating a Warehouse Management System (WMS).

## Advantages of the solution:



Quick and convenient search by events, goods, or employees



Categorization of video by warehouse action scenarios



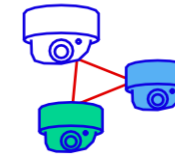
Online viewing and archive search



Unified interface for working with video and warehouse operations from WMS



Easy integration with WMS via API\*



One or more cameras can be used for an object or surveillance area

## Business impact:



**Reduction of losses in the warehouse/distribution center by quickly identifying the responsible party**



**Increasing the number of investigated incidents with fewer video surveillance operators**



**Significant acceleration of incident investigations by reviewing only the cameras that recorded actions involving the goods**



**Monitoring employee presence and work quality**

\*Integration with WMS is performed by the client via API.

# Employees Productivity improvement



Intelligent module for tracking actual time employees spend in the workplace

## Business case

- The efficiency of manufacturing is impacted by:
- prolonged absence of employees from the workplace
  - systematic lateness and early departures
  - employee distraction from work processes, etc.

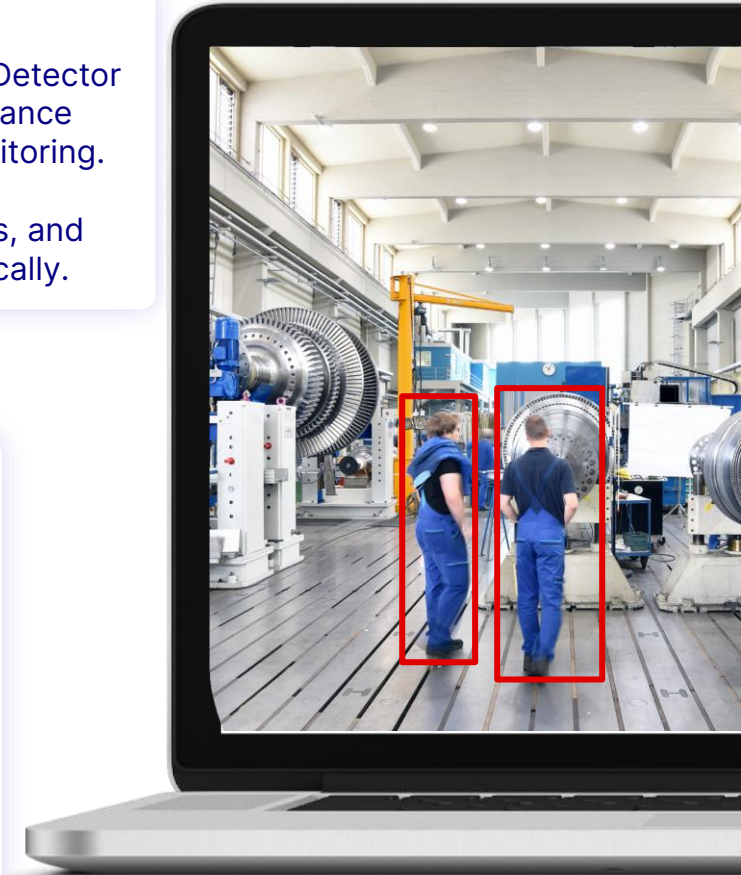
## How it works



Use the TRASSIR Workplace Detector to automate employee attendance and workplace discipline monitoring. It allows to detect prolonged absence, unauthorized breaks, and empty workstations automatically.

## TRASSIR Solution: Workplace Detector

- One or more surveillance cameras are installed in the working area, the TRASSIR server is installed
- The person in charge sets the necessary parameters for the module's operation: working zones on the surveillance camera channels, employee working hours, permitted personnel absence time from their workplaces
- TRASSIR Workplace Detector generates a notification and sends an alert to the responsible party when employees arrive late, leave early, or are absent from the workplace for more than the time permitted
- The module creates daily reports on the actual time staff are present and absent on site and sends reports to the responsible party by email
- Functionality can be expanded by connecting additional scripts



# Weight View control

## Business cases

Manufacturing plants receive raw materials or ship finished products. Weight verification ensures:

- Correct loading
- No theft before exit
- Compliance with transport regulations

## TRASSIR Resolution

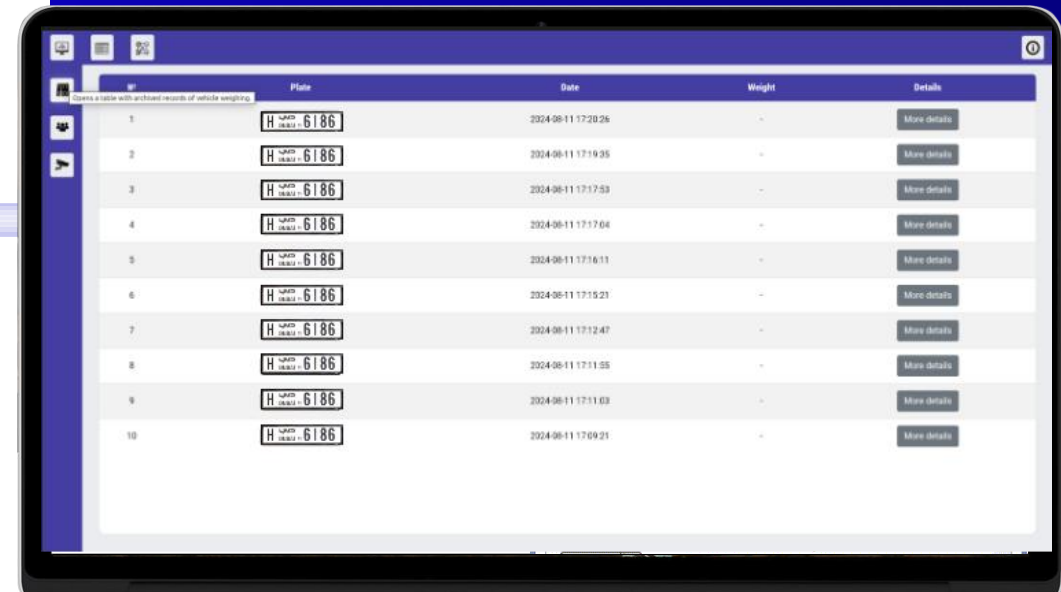
- Links vehicle weight to its license plate, time and date and location
  - Store events in specific folder (license plate + photo of weight + date + time)
  - Allows cross-check with dispatch documentation
- No integration required, works even with analog weights

## Additional use case:

- When a license plate is identified, a screenshot is taken from the recognition camera and from additional selected cameras if necessary. Screenshots from all cameras are saved in a predefined folder. The folder name contains the recognized license plate number, date, and time of the event. Each recognized license plate is stored in a separate such directory.

## Client Pain Points

- Overloading trucks → regulatory fines
- Underloading → financial loss
- Internal theft during loading
- No proof that the right vehicle picked up goods
- Difficulty tracking shipment timelines



#	Plate	Date	Weight	Details
1	H 6186	2024-08-11 17:20:26	-	More details
2	H 6186	2024-08-11 17:19:35	-	More details
3	H 6186	2024-08-11 17:17:53	-	More details
4	H 6186	2024-08-11 17:17:04	-	More details
5	H 6186	2024-08-11 17:16:11	-	More details
6	H 6186	2024-08-11 17:15:21	-	More details
7	H 6186	2024-08-11 17:12:47	-	More details
8	H 6186	2024-08-11 17:11:05	-	More details
9	H 6186	2024-08-11 17:11:03	-	More details
10	H 6186	2024-08-11 17:09:21	-	More details

**TRASSI<sup>®</sup>**



**Highlighting Success Stories**

# Case #1

## RAMCO CEMENT PLANT



Ramco Cement Plant, a major Indian cement manufacturer with multiple plants across several states, needed a centralized, intelligent security system to protect its vast campuses, warehouses, and critical infrastructure while improving operational efficiency. The goal was to leverage existing cameras, minimize new hardware costs, and implement advanced analytics for proactive monitoring.

### Project Solution

TRASSIR deployed a centralized system integrating existing cameras with new 8MP cameras for key areas. NeuroStation servers and TRASSIR VMS provided unified management across all plants. AI modules were configured for:

- Perimeter intrusion detection
- Unauthorized access alerts
- Fire and smoke detection
- Advanced video search

Control rooms at each plant receive instant alerts for quick response. The scalable platform also supports future AI integrations like face recognition and ANPR.

### Project Tasks

- The client faced challenges with fragmented security systems across multiple locations. Large campuses were vulnerable to perimeter breaches and fire hazards. Manual monitoring was slow and inefficient, delaying response times. The task was to unify all surveillance, enable real-time alerts, and implement intelligent analytics to enhance security and streamline operations.



## Outcome

- The solution transformed security operations across the client's multi-state facilities:
- Centralized surveillance across all plants
- Real-time alerts for faster incident response
- Enhanced perimeter and warehouse security
- Reduced manual monitoring and improved efficiency
- Scalable, AI-ready platform for future innovations

# Case #2

## NON-WOVEN FABRIC FACTORY

North America, Europe,  
Middle East, Eastern Europe,  
India, China, Asia



### Project Objectives

Major businesses covering extensive geographical area generally need a single corporate video surveillance solution to monitor all of a company's systems from the same control center with the ability to generate video analytics reports from all subsystems in a consolidated manner.

### Project Solution

- Enterprise IP INT, professional software for major distribution of video surveillance systems.

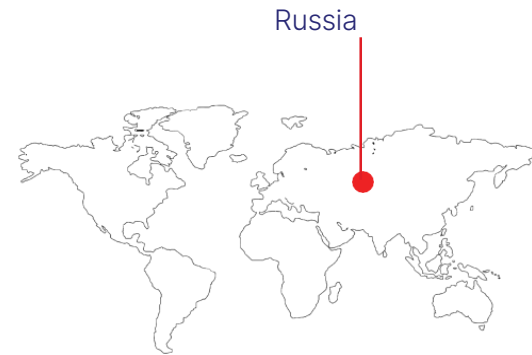


## Outcome

- Monitoring the entire subsystem's functionality and availability;
- Visualization capabilities and centralized licensing;
- Single authorization point and account details;
- Access to 100% of the surveillance system's resources.

# Case #3

## THE LARGEST OIL REFINERY



The operation of oil refineries is associated with high requirements for ensuring industrial and fire safety of production, as well as labor protection and control of labor discipline.

It is essential to prevent emergency situations and reduce the level of risk for refinery employees and the population.

### Project Solution

- Surveillance cameras have been installed on the Plant's premises
- For the progressive modernization and development of existing control systems, the customer annually purchases 3 TRASSIR UltraStation servers
- TRASSIR CMS station has been implemented – a server for managing and monitoring the Enterprise IP INT video surveillance system. The servers' performance and their "health indicators" are automatically monitored, and automatic notifications are set up in case of problems: network, cameras, hard drives, databases, etc.

### Project Tasks

The existing security system at the enterprise was seriously outdated, video analytics was absent, the security and control systems did not meet modern requirements. The customer set the task of ensuring security at the enterprise with an extremely high demand for it at the proper level.



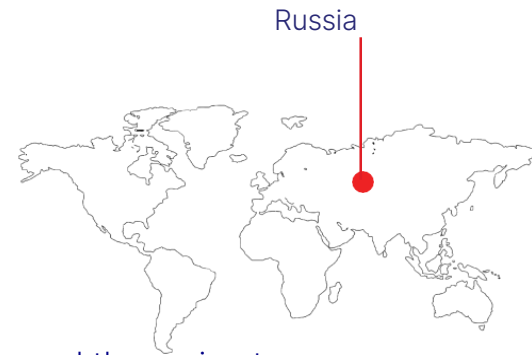
### Outcome

- Thanks to video monitoring, it is possible to track all the processes recorded by cameras. Total payroll cost have been reduced by reducing the number of security personnel.
- The immediate plans include expanding capacity: a project to install video analytics systems and facial recognition modules is being coordinated.

# Case #4

## ZINC PLANT

Ensuring security on the premises of the enterprise and around the perimeter, preventing theft, damage to equipment, monitoring compliance with safety regulations and labour discipline.



### Project Solution

- 2 servers were installed optimizing the technical part of video surveillance.
- TRASSIR Hardhat Detector neural network module – detector of the presence of a protective helmet

### Project Tasks

- Implement modern software for video surveillance systems, allowing to use all the options of video equipment, using its capabilities 100%
- Implement a helmet presence detector – a video analytics system that recognizes violators of safety helmets wearing regime



### Outcome

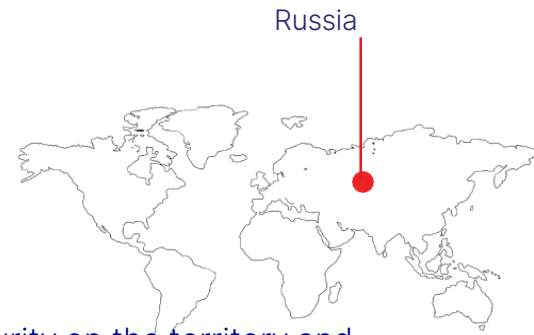
- The effect of the upgrades was immediately obvious, receive a strong positive response and was long-lasting the enterprise security system began to operate as efficiently as possible.
- As a bonus, the optimized system protects equipment from premature failure. The installation of the helmet detector eliminated violations of safety regulations by employees in the area.



# Case #5

## MACHINE BUILDING PLANT

Typical tasks of an industrial enterprise are: ensuring security on the territory and around the perimeter, preventing theft, damage to equipment, compliance with safety regulations and control of labor discipline



### Project Solution

- The AutoTRASSIR intelligent module automatically identifies the license plates of vehicles that fall into the field of view of a video camera.
- AutoTRASSIR HW allows tracking the passage of a vehicle of interest in real time and based on data from a video, recognizing license plates and taking screenshots of the moment of passage. It supports logging, hierarchical classification of recognized license plates by groups (black, white lists, etc) integration with speed measuring devices and complex security systems, including ACS and Fire and Alarm systems equipment (barriers and gates).

### Project Tasks

The main goal is to create a system for controlling entry into the production area  
Mandatory requirement : organization of "white" and "black" lists of registers using which it is possible to automate the operation of barriers at the checkpoint.



### Outcome

- The intelligent AutoTRASSIR module ensured 95% efficiency of number recognition
- The security service does not participate in monitoring the opening of barriers, saving working time.
- The company plans to integrate the TRASSIR Hardhat Detector module into the enterprise management system, which allows for automatic tracking and notification of employees without protective helmets on the premises.



# Case #6

## TERMINALES Y LOGISTICA PORTUARIA SA: TLP

Paraguay, Asuncion



### Project 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

### Project Tasks

- 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.



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 [www.trassir.com](http://www.trassir.com)

 [welcome@trassir.com](mailto:welcome@trassir.com)