



TRASSIR Shelf Detector

Smart module for controlling
the saturation of shelves with goods

Live video analytics to detect insufficient
amount of exposed merchandise



TRASSIR Shelf Detector

Smart video analytics module that allows you to determine the amount of goods available on the shelves, taking into account the different product groups, and to signal their insufficient occupancy.

It is designed to allow the organization managers to:

- Control the timely display of goods, receive notification of empty shelves;
- Forecast demand for product groups or individual products using analytical reports;
- Introduce new criteria for evaluating employee performance.



How does it work?

The module operates using a neural network trained on a large base of stores.

- Progressive analytics allows you to recognize any goods, their presence or absence on the shelf with high accuracy. The efficiency of the algorithms makes it possible to detect voids in the frame and to avoid generating false notifications in case of the presence of objects temporarily covering the shelf.

The flexible interface allows you to configure notifications to be sent in the event that the threshold number of missing items by group is reached.



TRASSIR Shelf Detector usage scenarios

Prompt reaction to lack of goods on the shelves

Notifications can be set up both for the operator and for individual employees when the threshold number of items in a group is reached

Increase in sales

The presence of a "favorite" product on the shelves can increase sales by up to 5%

Monitoring the dynamics of goods availability

Evaluation of store performance and monitoring of the dynamics of availability of key products on the shelves

Forecasting demand for goods

Automatic generation of detailed reports as a tool for forecasting demand for different goods and product groups at different time intervals

Compliance with the priority display of goods

The use of the module makes it possible to guarantee the availability of and compliance with the requirements for the display of priority product groups

Forecasting the production of goods

Using the module in the cooking and baking departments allows you to determine the demand for products made in the store, and therefore to optimize the work of kitchen staff and equipment load

Staff performance monitoring

Sending repeated notifications in case of prolonged absence of goods on the shelves and reporting tools as a means of controlling and correcting the work of the staff

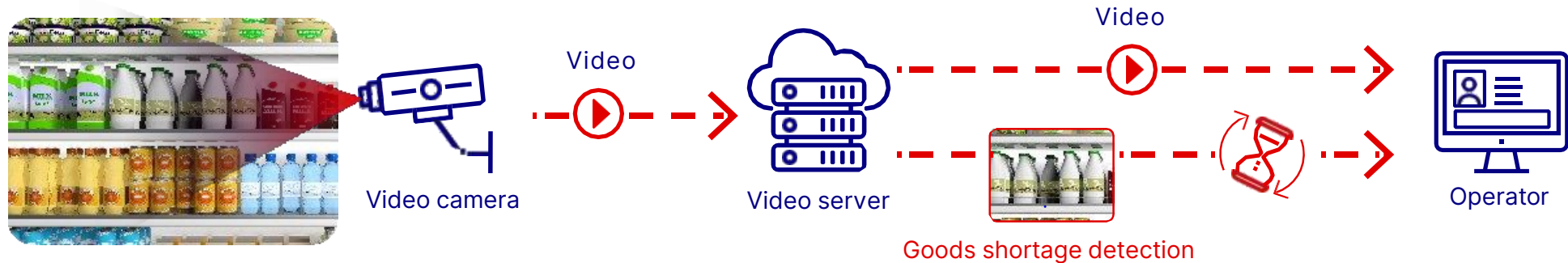
Reducing the expenses of excess perishable goods

Monitoring the presence of goods with a short shelf life will reduce the percentage of stale products in stock, and reporting analysis will help to plan inventories more effectively

Monitoring the availability of food baskets

The module can also be used to recognize and notify the absence of food baskets in the sales floor and checkout areas

Solution architecture. How does it work?



Reaction scenarios:

1 **Notifications in the TRASSIR interface**

2 **Generating and exporting reports:**

- Incident rates
- Smart search for archived events powered by the Active Search script

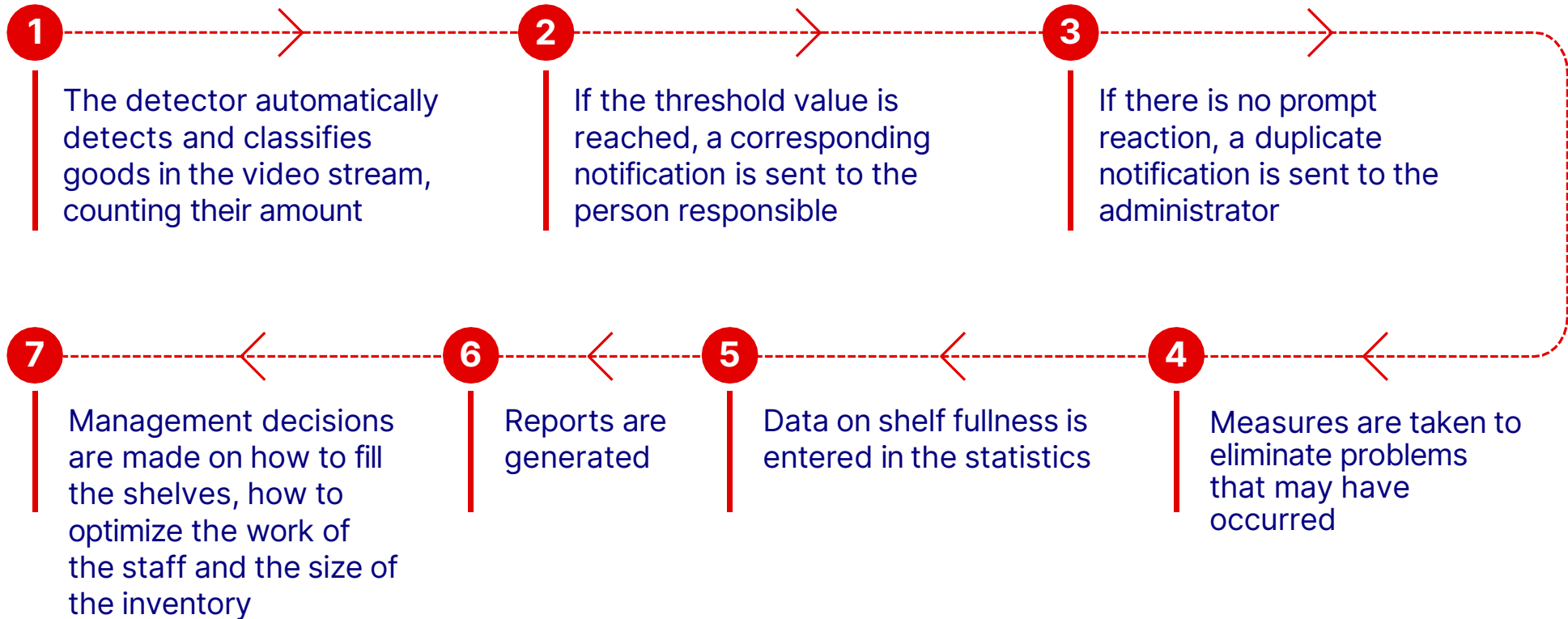
3 **Integration with on-site systems:**

- API integration
- Data export in XLSX and CSV
- Data access using SQL
Customization of alerts and reports using Python programming

4 **Notifications:**

- SMS-notifications
- Email-notifications
- Telegram

Solution functionality. How does it work?



Areas of application



**Restaurant business
and food services**



Food oriented retail



Non-food oriented retail

Solution benefits

Precision and efficiency

The use of neural networks makes it possible to detect specific goods, not voids on the shelves, and distribute them into groups and notify when thresholds are reached in one product group or another.

TRASSIR CMS management system

A corporate solution for managing tens of thousands of servers and hundreds of thousands of cameras within a single system. System health monitoring. Access restrictions. Consolidated video analytics data collection

TRASSIR VMS management system

A local system for easy management of cameras and servers. It allows monitoring the health of the servers, and ensures the reliability of the archive record

Reduced labor costs

The use of real-time analytics allows to optimize the work of the staff, eliminating the need for shelf patrols, providing employees with prompt notifications and enabling them to perform their work more precisely, and therefore more efficiently

Separation of areas of responsibility

Address-based configuration of notifications allows for prompt notification about goods threshold levels only to those employees, whose area of responsibility they belong to

Modification

Option to expand functionality and create customized solutions

Benefits and investment returns

The feasibility of implementing the module is supported by a fast payback period, and the increase in turnover in each category provides a guaranteed increase in profits

Integration

The necessary set of mechanisms for integration with hardware

Independence

Option to use the module with most third-party equipment

You may also be interested in:

1

Heat Map on Map – TRASSIR add-on for mapping the movements of people in a selected area and identifying where they stay the longest

2

Staff Tracker – a module to assess the quality of staff performance: salespeople, promoters or managers in offline retail

3

Neuro Counter – a module for measuring the number of visitors passing through a given boundary. Analysis of visitors activity by reports for a given time interval

4

Social distance detector – a module for monitoring compliance with social distancing

5

Face Mask Detector – a module for monitoring compliance with face mask requirements in public places

6

Theft Prevention – software for reducing/reimbursing losses from shoplifting

7

Face Recognition – a TRASSIR software add-on for recognizing and searching people using a preconfigured face database, as well as for counting unique faces and demographic analysis

8

Queue Detector – a module for counting people in queues. It operates using neural networks. Includes module for reporting and notification of queue length limit violation

Shelf Detector. Stories of success

BEGEMOT hypermarket, the largest federal toy retail chain, including 89 stores across Russia

Industry: Non-food oriented retail

Key objectives of the project:

- Establishing round-the-clock video surveillance
- Measuring visitor count and controlling shelf occupancy using video analytics
- Providing a continuous archive of video recordings for at least 30 days Integration of cash register system with video surveillance
- Organization of centralized monitoring for all stores of the chain

Implementation results:

- Ensured monitoring of the fullness of shelves
- Ensured the measuring of visitor count to the store
- Reduced manager staff



Shelf Detector. Stories of success

«Center of Paints» company network –an office,
a store and five warehouses across Russia

Industry: Non-food oriented retail

Key objectives of the project:

- Monitoring of shelf fullness in the store
- Monitoring the quality of service by salespeople
- Preventing theft
- Supervision of cashiers –minimizing theft at cash desks
- Investigation of conflict situations
- Ensuring the safety of employees

Implementation results:

- Ensured monitoring of the fullness of shelves
- Established centralized monitoring for all facilities
- Scheduling the implementation of modules for automatic statistics calculation





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