

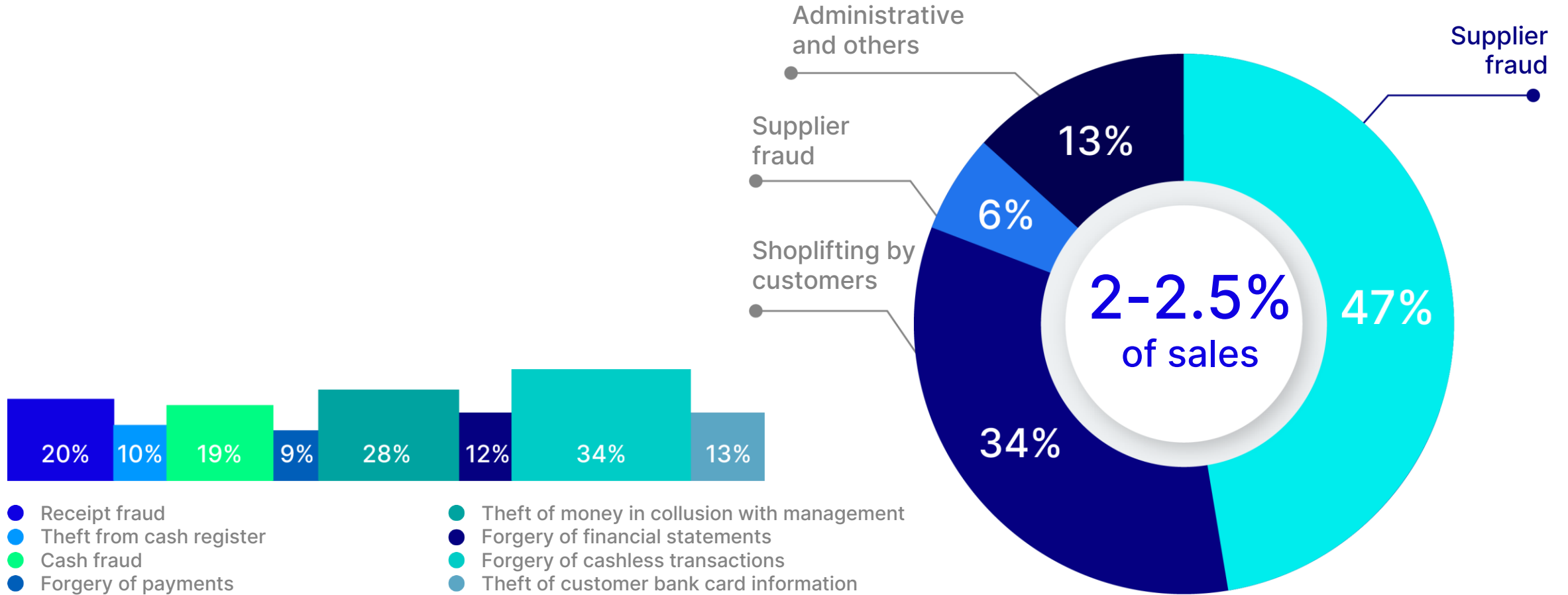


TRASSIR[®]

Active POS

Smart monitoring
of checkout transactions

RECORDED LOSSES IN RETAIL



47%

losses in statistics

DIRECT LOSSES:

cases of obvious theft and fraud. Lead to a shortfall that can be identified during stock-taking

Beyond the statistics

INDIRECT LOSSES:

when the cashier shortchanges the customer. The resulting loss is higher due to reputational costs

MORE THAN HALF OF ALL LOSSES OCCUR AT THE POS

Common examples of violations:

Deliberate theft

- Cancellation or partial receipt printing
- Unsettled receipt, when the cashier's accomplice takes goods using previous customer's receipt
- Returns
- Extra goods
- 1+1 offer positions
- Customer loyalty card fraud

Mistakes and carelessness

- Cashier gets the goods mixed up (regrading)
- Errors in the quantity of goods
- Ignoring deliberately underweighed goods
- Errors when taking goods off the receipt

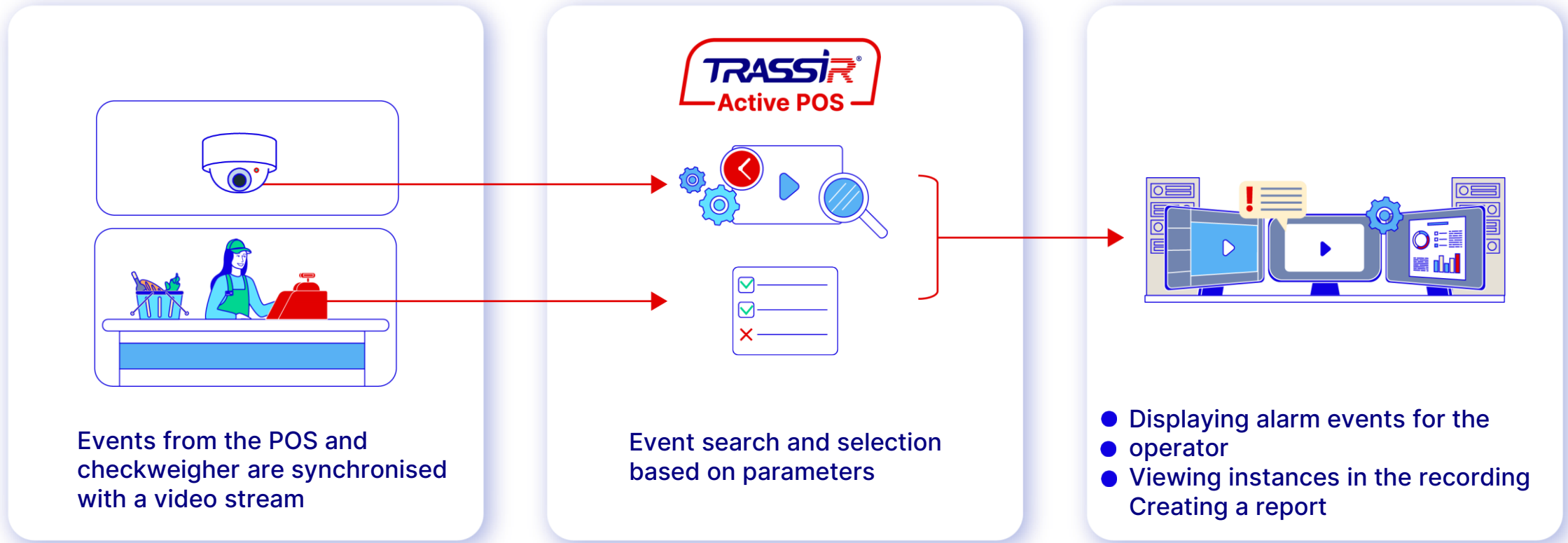
Violation of cash register discipline

- Shop opening and closing time
- Talking on the phone while working at the POS
- Leaving the workplace
- Mess at the workplace



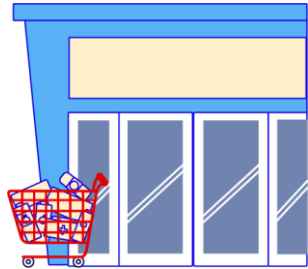
The smart module ensures synchronisation of the POS with the video stream:

upon reaching ActivePOS, events from the POS go through a checklist according to set parameters, in case of a violation an incident (notification of a violation with a short video clip) is generated and output to the operator for checking. The module also improves the efficiency of conflict resolution with customers.

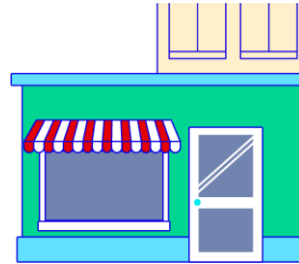


SOLUTION BEST SUITED FOR

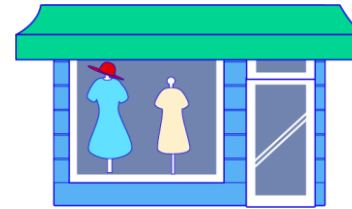
Hypermarket



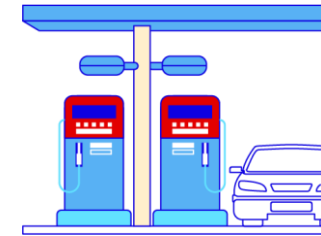
Convenience store



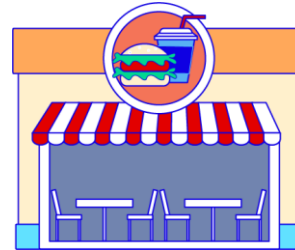
Specialised stores



Fuel station



Banks



Fast food restaurants



Pharmacy



VIOLATION

Receipt cancellation

The customer did not wait for the receipt and left. The cashier cancelled the purchase and kept the money

Fake return

Using the receipt left by the customer, the cashier returns the goods that were actually sold and takes the money

Cashier's personal discount card

The cashier does not clear the receipt and waits for the customer to leave. Uses own discount card. Takes the resulting difference between the amount paid and the sum total

DETECTION:



Viewing incidents of cancelled receipts paid in cash



Viewing cases of returned goods



Viewing cases when the same discount card is used - for example, more than twice per working day



VIOLATION

Error when letting through a group of products

When scanning a multipack, the cashier scans the barcode of one product and forgets to enter the actual number of items in the multipack. As a result, the amount on the receipt is for just one item and not the whole package

Error when entering the product code manually

When entering the product code manually, the cashier makes an error and sells another product with a different price. As a result, there is a mix-up

Error in the quantity or weight of goods

The cashier makes a mistake when entering the quantity of goods (for example, enters 77 instead of 7), deletes the wrong digit, and does not enter the correct quantity of goods. The customer gets the goods for free because of the error

DETECTION:

→ Viewing the entry of groups of goods into the system, during the sale of which such an error might occur

→ Viewing manual entry of product codes

→ Viewing instances when the number of goods is changed, after which the goods disappeared from the receipt

DETECTION OF VIOLATIONS CASH REGISTER DISCIPLINE



VIOLATION

Opening a cash register without payment

Unjustified opening of a cash box with the threat of the cashier pocketing cash that is unaccounted for

Selling alcohol without verifying the customer's age

Before selling alcohol, the cashier must make sure the customer is an adult by checking their ID

Not checking high-value notes

High-value notes shall be checked on a detector to avoid payment with counterfeit banknotes

DETECTION:



Viewing instances of a cash box being opened without the customer paying in cash



Checking the sale of all goods from a given list (alcohol, cigarettes)



Viewing purchases paid for in high-value notes

KEY ADVANTAGES

100+ types of violations

50% reduction of cash losses

10k+ TRASSIR modules reduce the financial losses of our customers every day

99,9% equipment is compatible with the ecosystem

TRASSIR®



Reduction of financial losses at POS via quick search of incidents



Common interface for multiple locations



Creation of any search algorithms and combinations of events



Flexible filter parameters and events sorting



Only 1 operator per 100 POS at several stores



Reduced service time in case some receipt positions are cancelled

COMMON INTERFACE

One-contact principle



Timely prevention of violations



Multiple stores at the same time



Types of violations for analysis



Generating detailed and convenient reports with one click

The screenshot displays the TRASSIR Active POS interface. On the left, a cashier is seen at a counter with a customer. The main screen shows a 'Create new violation' form with fields for Receipt ID (14), Receipt total (0.00), Cashier (Julia Smith), Server (NeuroTestServer), and Time (22.10.2021 13:26:29). Below the form is a 'Previous document' table listing violations:

Receipt ID	Event description	Quantity	Price per unit	Total Price	Time
3162557	Eggs 10 pcs.	1 pc.	39 CZK/pc.	39 CZK	13:26:27
3400884	Milk 0.9 l	1 pc.	47.70 CZK/pc.	47.70 CZK	13:26:28
3028048	French bread 300 g	1 pc.	14.90 CZK/pc.	14.90 CZK	13:26:25
3028048	French bread 300 g	1 pc.	14.90 CZK/pc.	14.90 CZK	13:26:25
3385951	Plastic bag 57x30 cm	1 pc.	1.99 CZK/pc.	1.99 CZK	13:26:30
	Request for a pending receipt				13:26:30
	Position of manager's key	1			13:26:31

At the bottom of the screen is a detailed log table:

Server time	Device time	Event type	Machine	Operator	Text	Item code	Barcode	Price per unit	Quantity
22.10.2021 13:26:31	03.12.2015 10:09:11	Position of manager's key	x5pos@NeuroTestServer	Julia Smith cashier	1			0.00	0.000
22.10.2021 13:26:30	03.12.2015 10:09:10	Restoring pending document	x5pos@NeuroTestServer	Julia Smith cashier				0.00	0.000
22.10.2021 13:26:30	03.12.2015 10:09:10	The items are added by item code	x5pos@NeuroTestServer	Julia Smith cashier	Plastic bag 57x30 cm	3308901		1.99	1
22.10.2021 13:26:29	03.12.2015 10:09:10	The items are added by item code	x5pos@NeuroTestServer	Julia Smith cashier	French bread 300 g	1028048		14.90	1
22.10.2021 13:26:29	03.12.2015 10:09:09	The items are added by item code	x5pos@NeuroTestServer	Julia Smith cashier	French bread 300 g	3028048		14.90	1

TIMELY PREVENTION OF VIOLATIONS

 Timely prevention of violations

 Multiple stores at the same time

 100+ Types of violations for analysis

 Generating detailed and convenient reports with one click



Automatic selection of suspicious incidents and immediate notification

Broadcasting incidents and operations from the cash register in the visual backdrop

Options for filtering and sorting per specific cashier or store

TIMELY PREVENTION OF VIOLATIONS

Automatic withdrawal of incidents online based on specified setting rules



Timely prevention of violations



Multiple stores at the same time



100+ Types of violations for analysis



Generating detailed and convenient reports with one click

The screenshot displays the TRASSIR Active POS interface. On the left, there is a live video feed of a cashier at a terminal. On the right, a 'Create new violation' form is visible, showing details for a receipt cancellation. Below the form is a list of receipt events, with the 'Receipt cancellation' event highlighted in orange. At the bottom, a table lists recent receipt cancellations.

Server time	POS time	POS	Event type	Cashier	Price per unit	Quantity	Value	Receipt ID
11.12.2021 23:10:31	27.01.2014 13:15:39	New terminal1@DESKTOP-CCGMIRD	Receipt cancellation	Robert Taylor	0.00	0.000	0.00	226
11.12.2021 23:07:10	27.01.2014 10:15:21	New terminal1@DESKTOP-CCGMIRD	Receipt cancellation	Robert Taylor	0.00	0.000	0.00	78
11.12.2021 22:11:42	27.01.2014 18:48:31	New terminal1@DESKTOP-CCGMIRD	Receipt cancellation	Robert Taylor	0.00	0.000	0.00	
11.12.2021 21:59:49	27.01.2014 18:48:31	New terminal1@DESKTOP-CCGMIRD	Receipt cancellation	Robert Taylor	0.00	0.000	0.00	

WORKING WITH MULTIPLE STORES AT THE SAME TIME



Timely prevention of violations



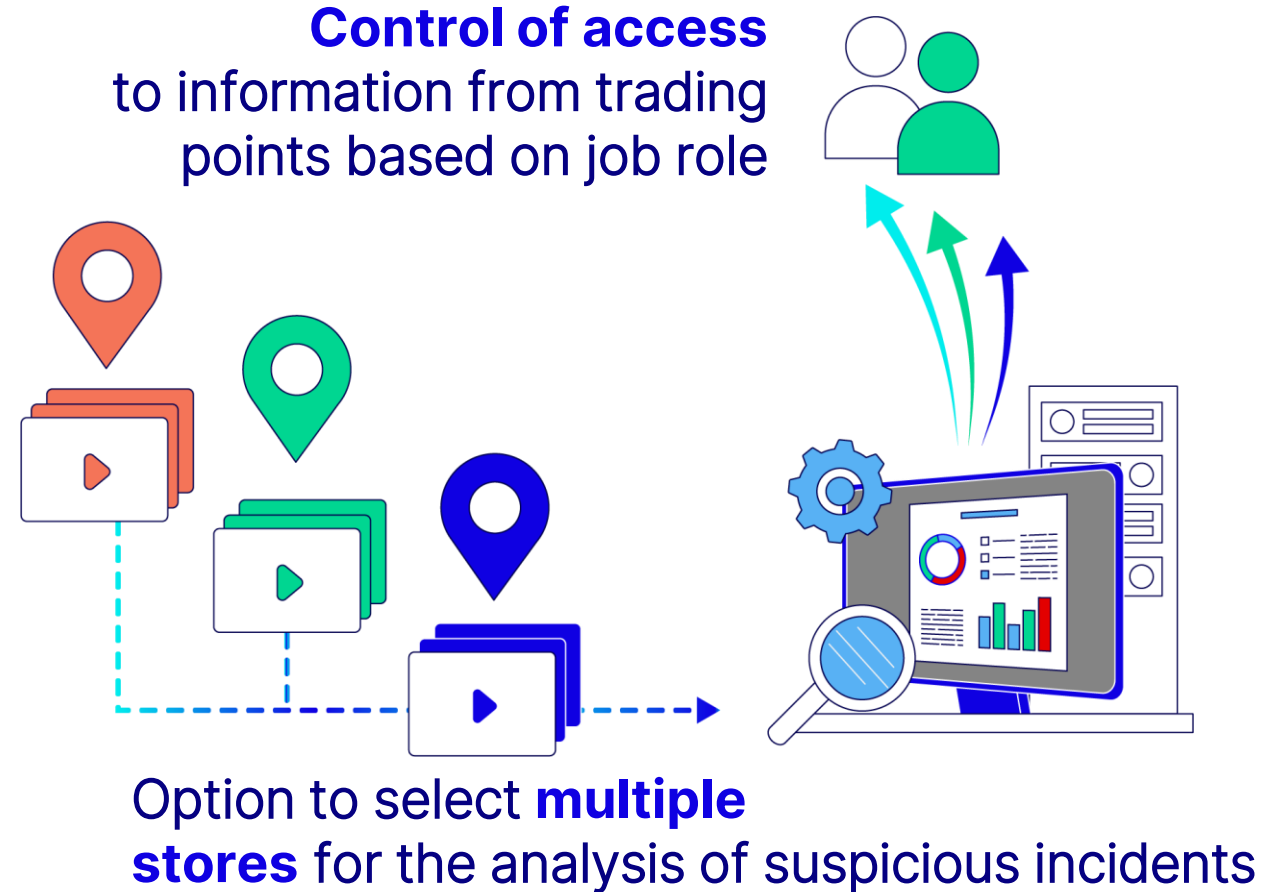
Multiple stores at the same time



100+ Types of violations for analysis



Generating detailed and convenient reports with one click



WORKING WITH MULTIPLE STORES AT THE SAME TIME



Timely prevention of violations



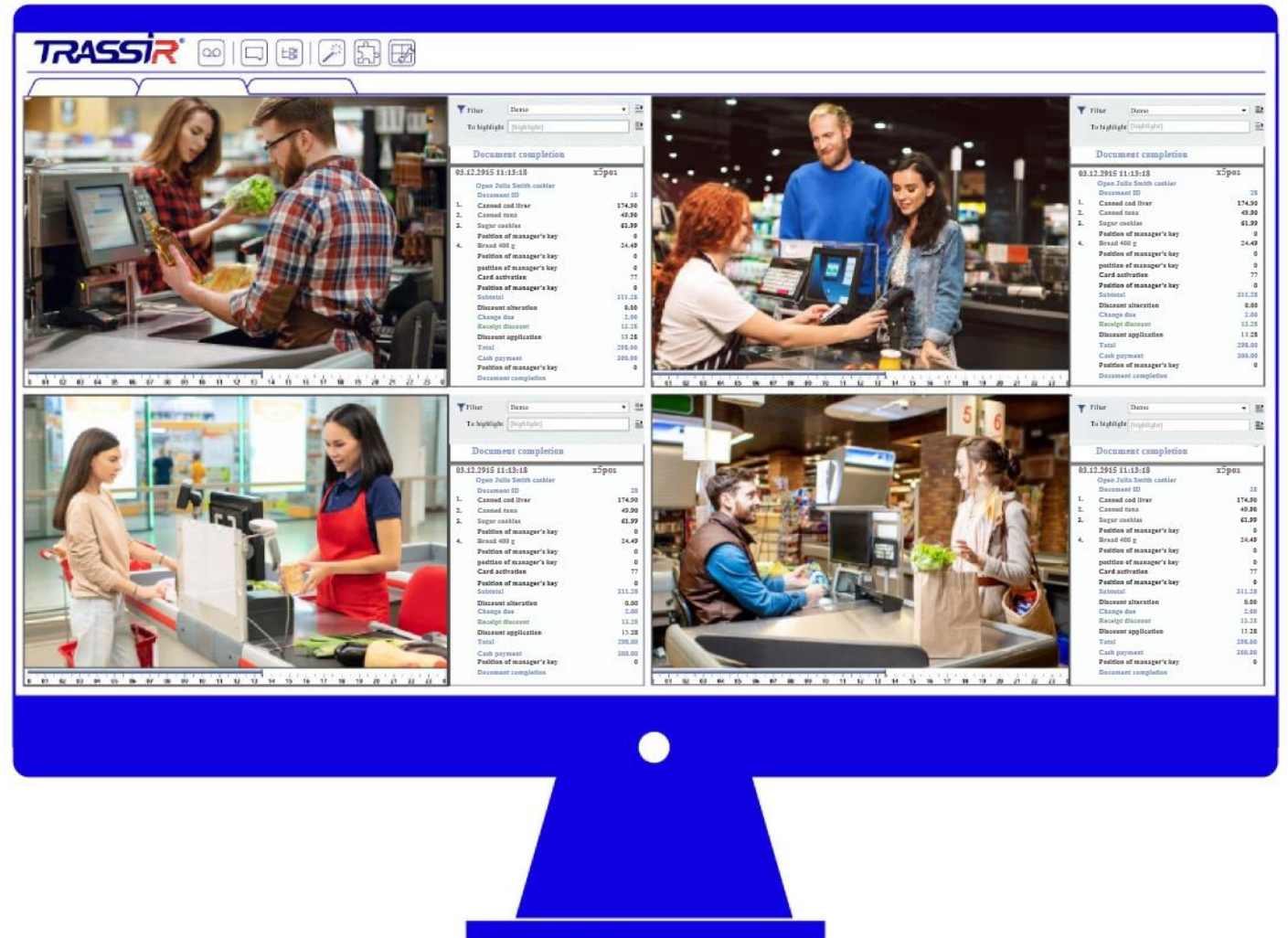
Multiple stores at the same time



Types of violations for analysis



Generating detailed and convenient reports with one click



BUILT-IN ALGORITHM CONSTRUCTOR

of search for violations to create any combinations of events



Timely prevention of violations



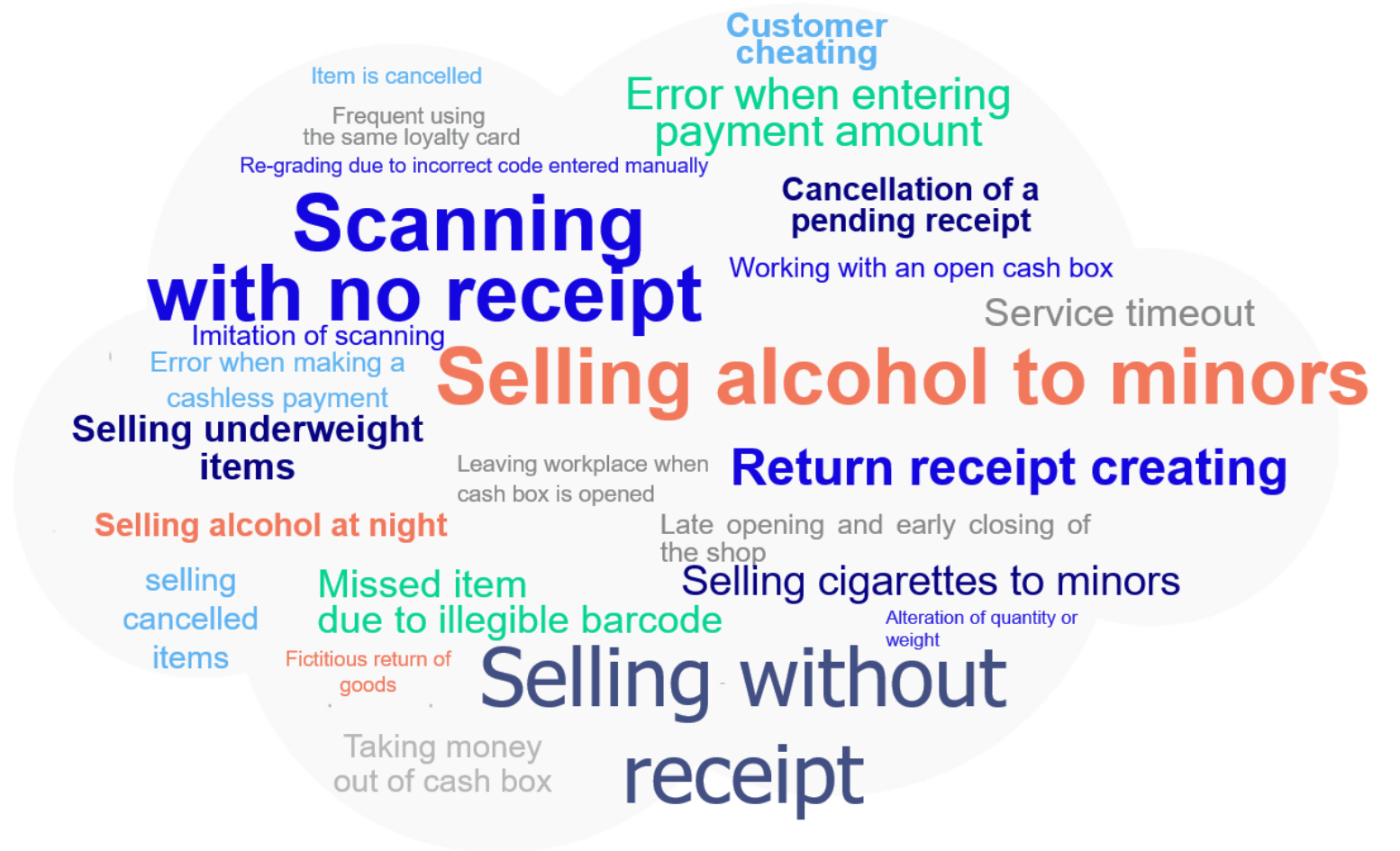
Multiple stores at the same time

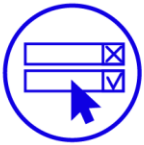
100+

Types of violations for analysis

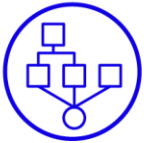


Generating detailed and convenient reports with one click

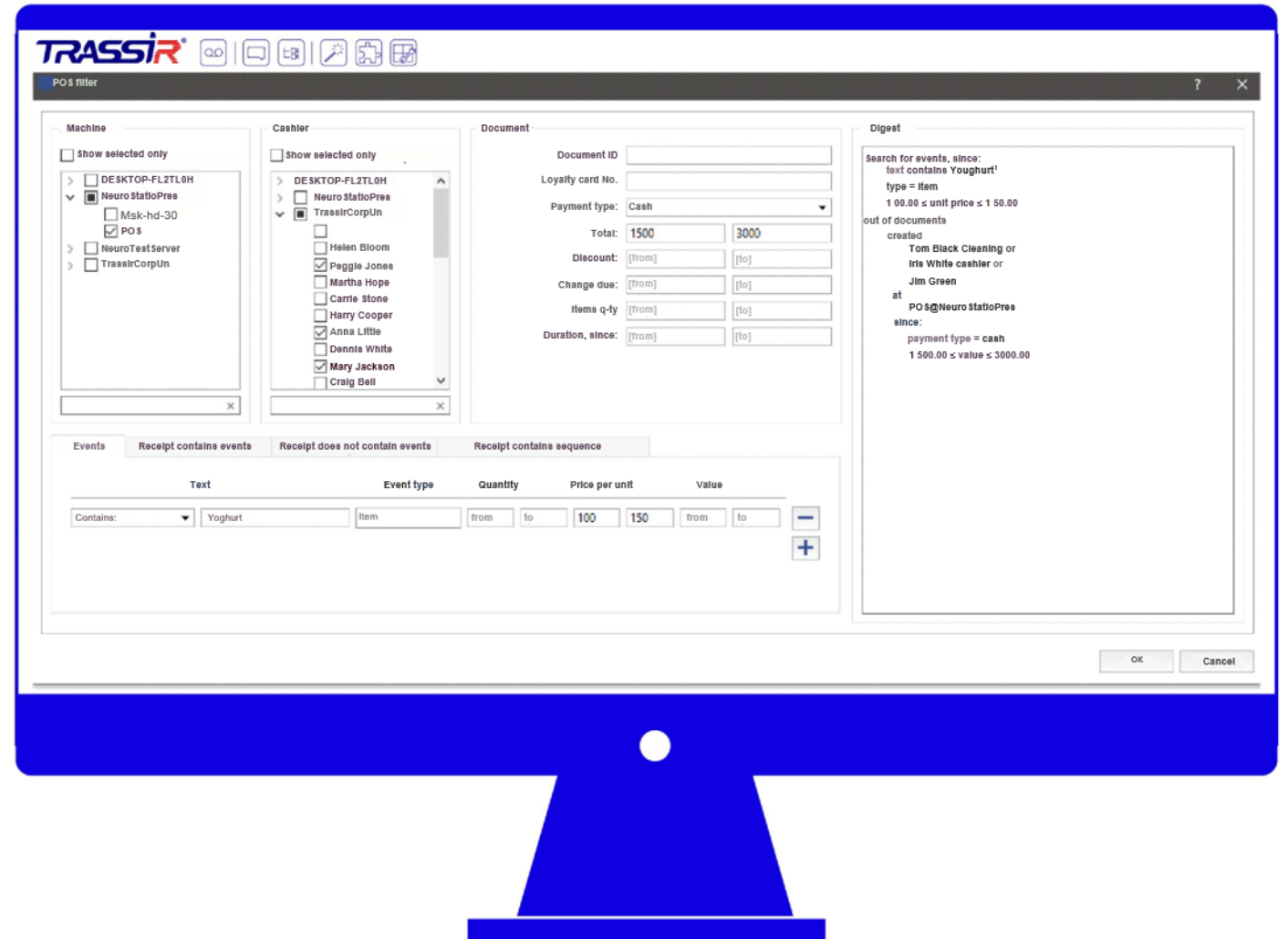




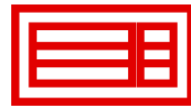
No need for an IT expert — all rules are easily created in the interface



Create unique rules with a complex sequence, selection of products, cashiers or other parameters



>12 report templates



creating own flexible templates

TRASSIR® Active POS

| 18



Timely prevention of violations



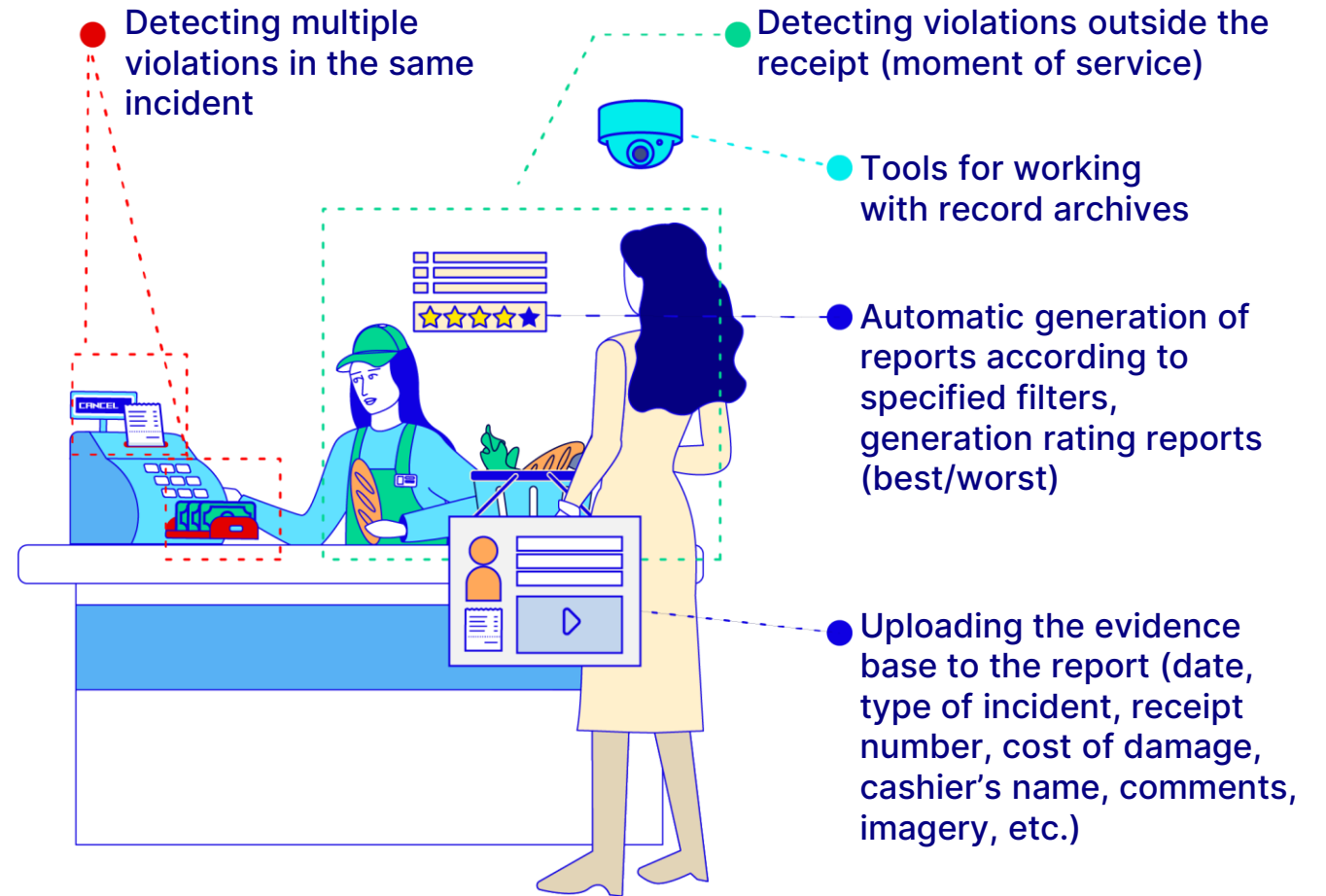
Multiple stores at the same time



100+ Types of violations for analysis



Generating detailed and convenient reports with one click



AUTOMATIC GENERATION OF A REPORT



Timely prevention of violations



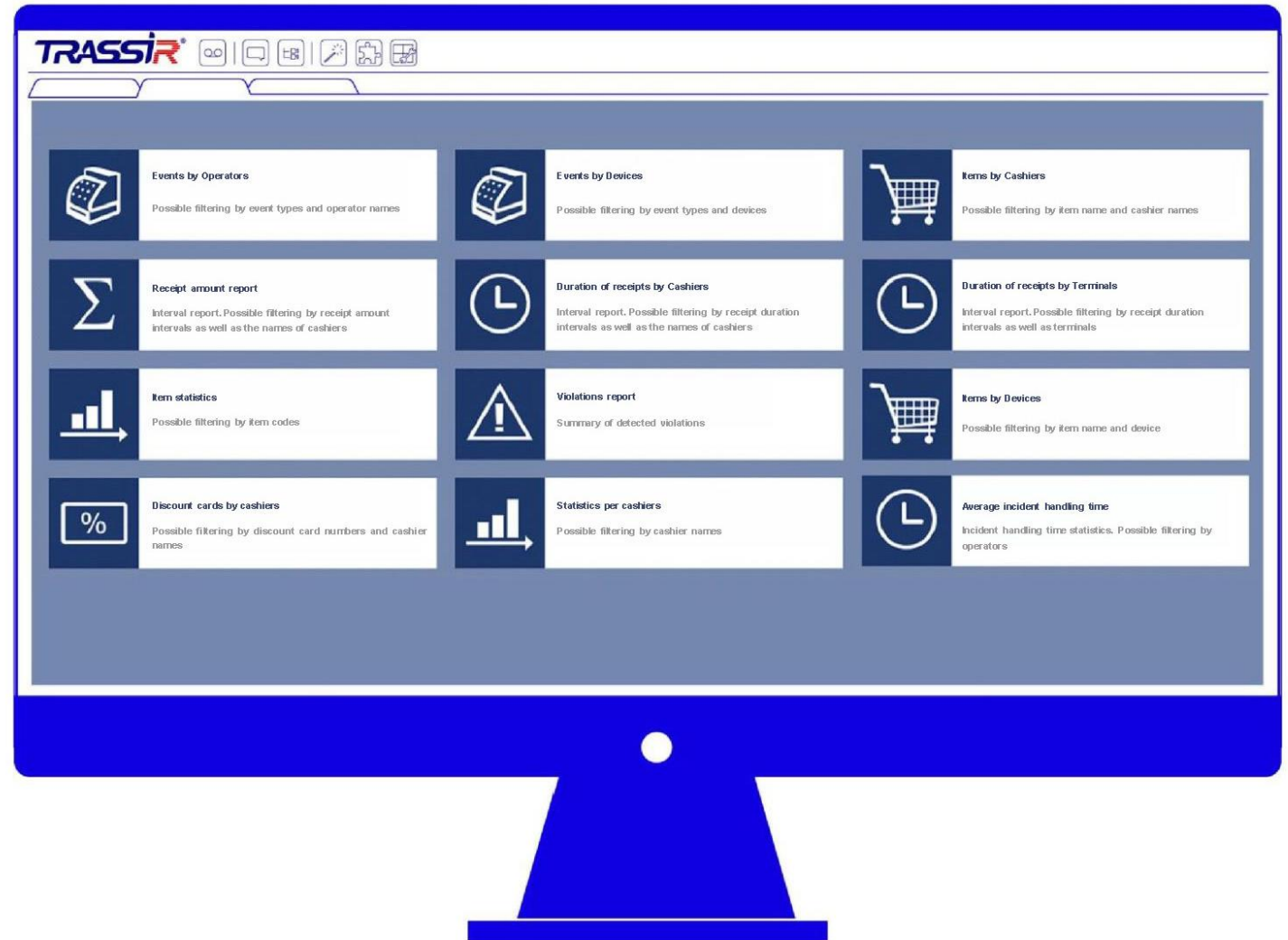
Multiple stores at the same time



Types of violations for analysis



Generating detailed and convenient reports with one click



AUTOMATIC GENERATION OF A REPORT

on the identified violations



Timely prevention of violations



Multiple stores at the same time



Types of violations for analysis



Generating detailed and convenient reports with one click

Event type	Total				
		Total	Tatyana Gorelkina	Микаева Анна...	Анна Plekhankova
Receipt cancellation	5	5	0	4	0
Adding cash money into cash box	7	7	0	3	2
Login to cashier mode	9	9	1	1	2
Log out of cashier mode	8	8	1	1	2
Adding an item to receipt	5712	5712	666	1913	0
Item alteration	268	268	42	89	0
Taking money out of the cash box	6	6	1	2	0
Total	1015	1015	119	410	0
Receipt end	898	898	91	368	2
Start of "Sale" receipt	888	888	89	368	0
Receipt ID	893	893	90	368	0
Item is cancelled	51	51	7	30	0
Printing X-report	15	15	2	6	2
Receipt printing	879	879	90	361	0
Cash payment	1015	1015	119	410	0
Increasing goods quantity	614	614	81	201	0

PRESENTING AN INCIDENT IN A REPORT



Timely prevention of violations



Multiple stores at the same time



100+ Types of violations for analysis



Generating detailed and convenient reports with one click

Incident report	Detected	Not viewed	Confirmed	Declined	TrassirCorpUp	
					Total	Neur
✓ Violation of POS servicing rules	28	5	1	22	1	
Cancellation of a pending receipt	8	4	2	2	2	
Receipt cancellation in the absence of the manager	2	2	0	2	0	
Receipt cancellation with delay	2	2	2	0	2	
Item input by calculation	0	0	0	0	0	
Selecting an item from the list manually by price	6	0	3	3	3	
Issuance of a sales voucher without signing	2	1	1	0	1	
Reloading the cash register in the absence of the manager	2	1	0	1	0	
Cancellation of items in the receipt in the absence of the manager	8	0	4	4	4	
Selling without receipt	2	0	1	1	1	
Printing return receipt in the absence of the manager	2	0	2	0	2	
Counting cash in a cash box	0	0	0	0	0	
Printing X-report	2	0	1	1	1	
Printing X-report and withdrawing money in the absence of manager	3	0	0	3	0	
Acceptance of a high-value note without detecting	14	14	0	0	0	
Selling alcohol to minors	2	1	1	0	1	
Selling cigarettes to minors	2	0	2	0	2	
Working with an open cash box	0	0	0	0	0	
Selling alcohol at night	4	0	1	3	1	
✓ Unintentional damage to the seller or customer	25	20	0	5	0	
Alteration of quantity or weight when accepting	2	0	1	1	1	
Unintentionally cheating a customer by scanning the same item twice	3	0	2	1	2	
Cutting off small amounts	5	1	3	1	3	

SORTING INCIDENTS

by type of violations, cost of damage, number of incidents



Timely prevention of violations



Multiple stores at the same time



100+ Types of violations for analysis



Generating detailed and convenient reports with one click

Statistics per cashiers		Suspicious...	Working time	Receipts	Receipts total	Cancelled amount
▼	DESKTOP-CCGMIDR	6	51 m 17 s	888	131432.411	67406.25
	Peggie Adams	7	6 m 9 s	89	7793.98	67.99
	Alex Levine	3	15 m 13 s	224	19984.87	94.94
	Ann Gordon	9	17 m 26 s	368	86445.35	67189.34
	Fred Blossom	0	0 s	0	0.00	0.00
	Andy Novak	3	12 m 29 s	207	17208.21	53.98
	James Murray	0	0 s	0	0.00	0.00

Sorting incidents by the cost of damage. Special attention is paid to 'costly' incidents

Marking of viewed incidents

REDUCED SERVICE TIME

in case some receipt positions are cancelled



The traditional method of fraud prevention, when each incident of cancelling goods in the final receipt requires confirmation from the senior staff

- **Queuing**
People with small purchases are leaving as they are unwilling to waste time in queues, the visitors' loyalty decreases
- The shift supervisor is distracted from his duties during peak hour, he is forced to dash from one POS to another

By reducing customer service time you get:



Increase of conversion to payment



Customer loyalty improvement



Increasing the quantity of receipts per one POS

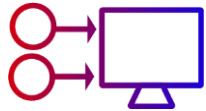
Manager is not distracted.



Opportunities to:



Monitor the presence of staff in the workplace



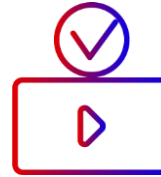
Simultaneously process information from the weighing equipment and the POS



Investigate incidents from their beginning without having to scroll through the entire till roll



Conduct marketing conversion analysis when used in conjunction with the **Neuro Counter module**



Determine the presence or absence of violations from the video frame



Integrate with most retail and cash register systems based on protocols



Significantly speed up the process of removing a product from the receipt if the customer so wishes



Conduct 'health monitoring' of the entire system using **TRASSIR CMS**

TRASSIR CMS

Solution for managing an extensive CCTV system in retail

For whom:

➔ More than 20 recorders

➔ Many locations with video surveillance

➔ Uninterrupted 24/7 monitoring is critical

Basic features

Advantages

 **24/7 monitoring of surveillance system**

You will not miss equipment failure and will not lose important data. Set up notifications or view the status online

 **System status reports**

To analyse situations, you can create reports on the state of the system for any period. We can customise the CMS and collect reports on any system data

 **Convenient user management, LDAP**

Easy creation of users and flexible management of their rights based on your corporate user system

 **Situation Center**

Security guards will not miss suspicious situations and they do not have to monitor all cameras. You handle only alarms from the right detectors and flexibly set their trigger scenarios

 **Traffic reduction**

With slow Internet speed or narrow channels, the desired channel can still be viewed by multiple users




 **Centralised server update and management via scripts**

You can update all or individual servers at once using the CMS and also manage them via scripts

TRASSIR®

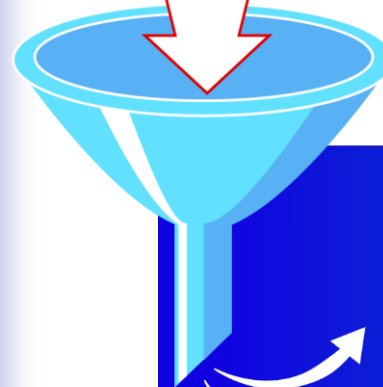
Neuro Counter module

intelligent object
detector

-  Counts visitors based on neural networks
-  Excludes employee counting
-  Gives an estimate of passability



TRASSIR®
Active POS



Gathers marketing analysis of
conversion to purchase

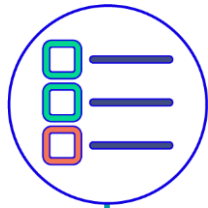
Unites groups of people at
POS for accurate conversion
estimation

REDUCTION OF LOSSES IN CASH TURNOVER IN THE BANKING SYSTEM

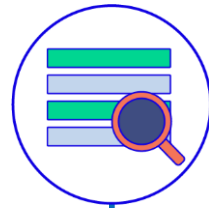
For POS cash registers and counting rooms



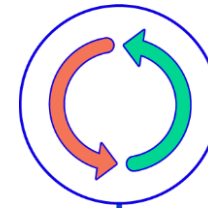
The module is integrated with money counting machine and bank software



Creating a list of all events



Creating and storing evidence base to investigate incidents. The archive of video recordings of all transactions passing through the ATM allows promptly investigating customer claims and the precedents of fraud



Synchronisation of event video monitoring of cash and payment centres using Active POS. Synchronisation of video recording of all of the cashier's actions with the data received from bill counters enables the merging of this information for easy monitoring of all operations with banknotes at any time

CASES

SPAR supermarkets

A wide network of retail shops that have service areas and their own cooking facilities. The network is actively expanding.

Project objectives:

- To reduce losses from shoplifting
- To provide a solution to prevent fraud at POS
- To control the process of independent weighing of goods by customers in self-service areas

Implementation result:

30%

decrease of
shortage quantity

40%

decrease of losses
resulting from shoplifting

60%

decrease of
shoplifting theft



CASES

Largest fast food restaurant chain
opens more than 500 outlets

Project objectives:

- Minimising delays in receiving and delivering orders
- Preventing POST fraud
- Preventing theft

Implementation result:

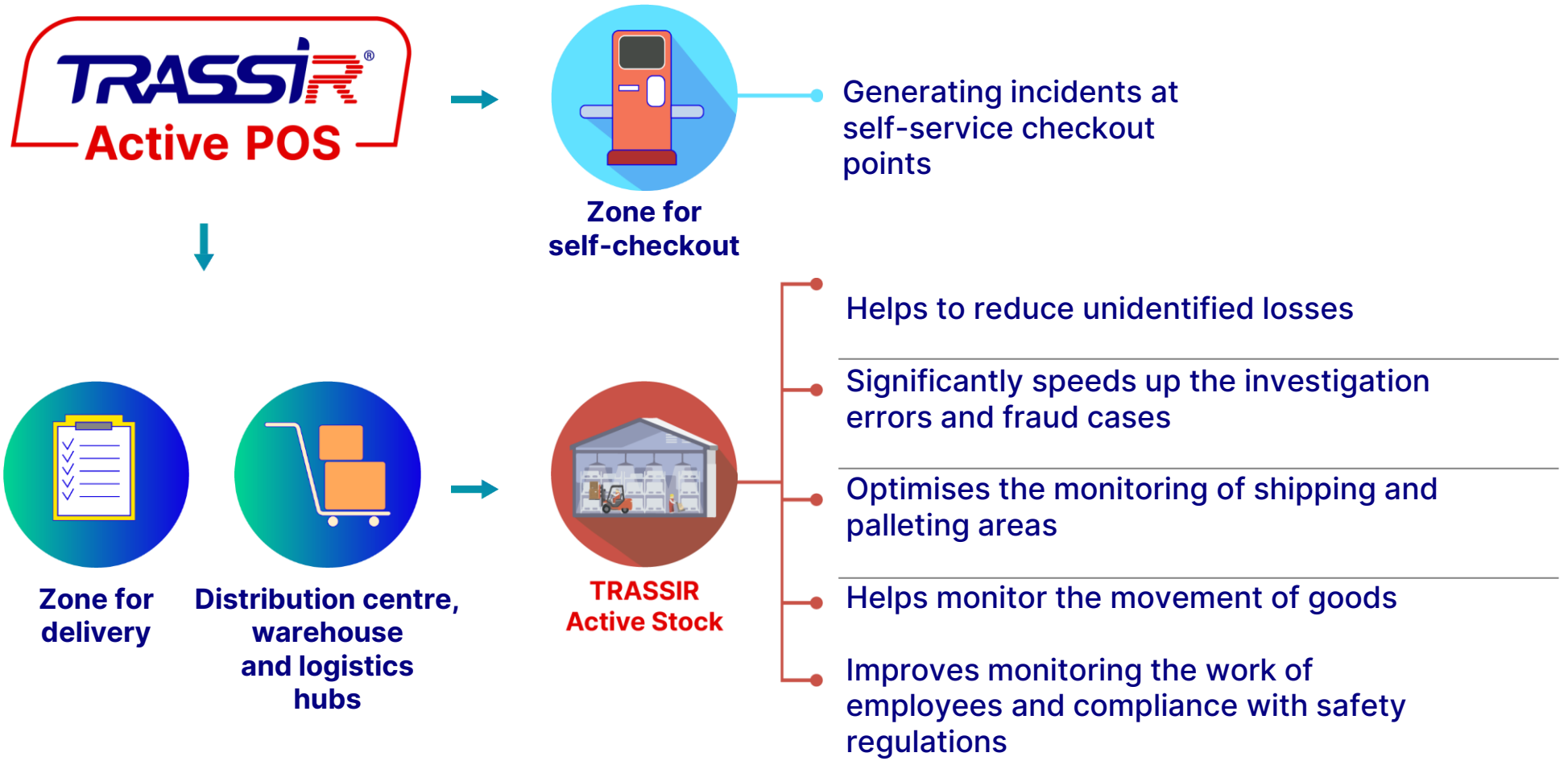
- Video surveillance as a regulatory control tool
- Collecting statistical data for marketing research without the involvement of third-party services

2 months
for payback

70%
reduction of financial losses
resulting from theft



ADDITIONAL IMPLEMENTED SOLUTIONS AND DEVELOPMENT VECTORS





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