Business logics catalog

Contents:

FF Data Factory
Business logics catalog

1. Occupancy time violation

This logic allows you to calculate the time the car stays in the parking lot. Two ANPR cameras at the entrance and exit identify the vehicle, and the operator sets the time paid by the client. If the duration of the vehicle's stay is more than the paid time, then a violation signal is given.

Current Overstay violators

Recalculate | Export

Entrance time	Plate Text	Car Image	Occupancy time
01.09.22, 08:11:00	BZD2695	📷	04:42:50
08.09.22, 08:45:00	4AM4749	📷	04:08:50
08.09.22, 10:12:00	2B66574	📷	02:41:50
08.09.22, 10:14:00	4B07767	📷	02:39:50
08.09.22, 10:24:00	5B38645	📷	02:29:50
08.09.22, 10:31:00	6B72214	📷	02:22:50
08.09.22, 10:39:00	1SC1954	📷	02:14:50

‹ 1 2 ›

Overstay violators who left the area

Export

Entrance time	Plate Text	Car Image	Occupancy time
08.09.22, 09:27:33	3AC1601	📷	02:32:00
07.09.22, 11:11:00	7B61870	📷	02:24:00
06.09.22, 10:50:00	6B94433	📷	03:09:00
05.09.22, 09:50:00	7B34289	📷	05:00:00
04.09.22, 11:30:00	7B32859	📷	02:10:00
04.09.22, 08:30:00	1SC1954	📷	03:00:00
03.09.22, 13:40:00	9B45773	📷	03:10:00

‹ 1 2 ›

Max occupancy time, min: 120 | Set max occupancy time

Events amount for occupancy duration ranges

(bar chart: 1. 0...30m, 2. 30...60m, 3. 1...1,5h, 4. 1,5...2h, 5. 2...3h, 6. 3... h)

Week events amount distribution

(bar chart: 1. Mon, 2. Tue, 3. Wed, 4. Thu, 5. Fri, 6. Sat, 7. Sun)

Entry cam ID: Checkpoint1 | Set Entry cam ID
Exit cam ID: Checkpoint2 | Set Exit cam ID

Passed vehicles

Export

Entrance time	Plate Text	Car Image	Exit time	Car Image	Occupancy time
08.09.22, 09:27:33	3AC1601	📷	08.09.22, 11:59:33	📷	02:32:00
07.09.22, 11:11:00	7B61870	📷	07.09.22, 13:35:00	📷	02:24:00
07.09.22, 09:35:00	BZD2695	📷	07.09.22, 11:05:00	📷	01:30:00
06.09.22, 10:50:00	6B94433	📷	06.09.22, 13:59:00	📷	03:09:00
05.09.22, 09:50:00	7B34289	📷	05.09.22, 14:50:00	📷	05:00:00
04.09.22, 11:30:00	7B32859	📷	04.09.22, 13:40:00	📷	02:10:00
04.09.22, 08:30:00	1SC1954	📷	04.09.22, 11:30:00	📷	03:00:00

‹ 1 2 3 ›

Plain events

Export

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Entry/Exit
08.09.22, 10:44:00	Checkpoint1	7B32859	📷	📷	Entry
08.09.22, 10:39:00	Checkpoint1	1SC1954	📷	📷	Entry
08.09.22, 10:31:00	Checkpoint1	6B72214	📷	📷	Entry
08.09.22, 10:24:00	Checkpoint1	5B38645	📷	📷	Entry
08.09.22, 10:14:00	Checkpoint1	4B07767	📷	📷	Entry
08.09.22, 10:12:00	Checkpoint1	2B66574	📷	📷	Entry
08.09.22, 09:56:00	Checkpoint1	2B66574	📷	📷	Entry

‹ 1 2 3 ... 5 6 ›

2

2. Lists and Alerts (with Milestone events)

This business logic allows the user to configure several types of lists of offenders on the road, e.g., trucks that are forbidden to enter the city center, VIP person's list or unscrupulous customers who don't pay at the gas station, etc.

As soon as Data Factory identifies the offender based on the data from the ANPR camera in real time, and, after comparing it with a given list, a warning pops up.

This business logic allows you to send Milestone Alarms and Milestone Analytic events (in VMS mode) according to group settings (in VMS mode only).

In addition, Group Name, GPS coordinates and recognition data, as well as vehicle snapshot received from the camera are also sent inside Analytic events.

To send Analytic events you must set the basic settings according to the arrow. These settings apply only to Analytic events.

Show alert according to group settings ▼

Group Name	Description	Alert type	⊕
Auto theft	Police data	Milestone Alert	✎
Garbage trucks	Wrong way of movement	Milestone Analytic	✎
Defaulters	Gas station	PopUp	✎
DF Test Analityc Event with GPS	Private area (for taxi)	Milestone Analytic	✎
Dangerous behavior	Public road	no	✎
City transit violators	Heavy Trucks	yes	✎

Selected group: **City transit violators**

Plate Text	Comment	⊕
06BN9133	Golf	✎
35AE2500	BMW	✎
35ALFD	toyota	✎
34YR0867	Camry	✎
PO389CT	Car1	✎

For the correct Millstone Analytic event sending you have to set basic parameters. Group Name should be registered as Analytic Event name in the Management client

Show all | Export

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Group Name
23.03.23, 12:25:00	cam_eucis	35AE2500	35 AE 2500	📷	City transit violators
23.03.23, 13:00:00	cam_eucis	34DD155	34 DD 155	📷	NotInGroups
24.03.23, 12:20:00	cam_eucis	34FC2061	34 FC 2061	📷	Prohibited entry
25.03.23, 14:30:00	cam_eucis	PO389CT	PO 389CT	📷	City transit violators
25.03.23, 16:10:00	cam_eucis	BJ953BV	BJ 953BV	📷	Dangerous behavior
26.03.23, 12:25:00	cam_eucis	06BN9133	06 BN 9133	📷	NotInGroups

Hide Analytic event parameters

Analytic Event server, port
http://localhost:9090/   Ok

*Set the parameter and press OK to apply

Notifications amount by groups

(bar chart: City transit violators, Dangerous behavior, NotInGroups)

	Time	Message	Source	ID
	12:11:03 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	20027
	12:11:02 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	20025
	12:11:02 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	20026
	0:53:17 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	10024
	0:53:17 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	10025
	0:21:25 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	10021
	0:21:25 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	10022
	0:21:25 2023-10-13	DF Test Analityc Event with GPS	AXIS P7304 Video Encoder (192.168.1.178) - Camera 1	10023

Events *Custom (filter applied)* ▼   Clear filter

3. Cargo Logic

Entry events **28**   Cam ID: | letnany1 | Ok   Set Cam ID

Exit events **23**   Cam ID: letnany2   Set Cam ID

Show vehicle movement scheme

Cargo vehicle violations   Export

Date Time	Car Image	Plate Text	Data Time	Car Image	Plate Text
25.07.22, 12:26:47	📷	33E2934	25.07.22, 12:27:00	📷	15NC610
25.07.22, 12:15:15	📷	15NC610	25.07.22, 12:15:50	📷	31AFC10
22.07.22, 18:17:02	📷	33E2934	22.07.22, 18:17:12	📷	15NC610

< **1** 2 3 4 >

All cargo vehicles   Export

Date Time	Car Image	Plate Text	Data Time	Car Image	Plate Text
25.07.22, 12:26:47	📷	33E2934	25.07.22, 12:27:00	📷	15NC610
25.07.22, 12:26:02	📷	15NC610	25.07.22, 12:26:19	📷	31AFC10
25.07.22, 12:15:15	📷	15NC610	25.07.22, 12:15:50	📷	31AFC10

< **1** 2 3 ... 5 6 >

Plain events   Export

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Entry/Exit
25.07.22, 12:27:00	letnany2	15NC610	15 NC 610	📷	Exit
25.07.22, 12:26:47	letnany1	33E2934	33 E 2934	📷	Entry

4

Cargo-logic allows customers to analyze the traffic of trucks with trailers from a whole network of logistics centers or border control centers.

ANPR camera detects the front license plate number and vehicle type as well as the rear trailer number plate. It then sends all the data to FF Data Factory where the logistics center operator can check the license plates for compliance and receive an alert of the truck's "entry/exit" status; or, in case of a violation (eg., a trailer number mismatch), the operator can prohibit the entry or exit with a warning signal.
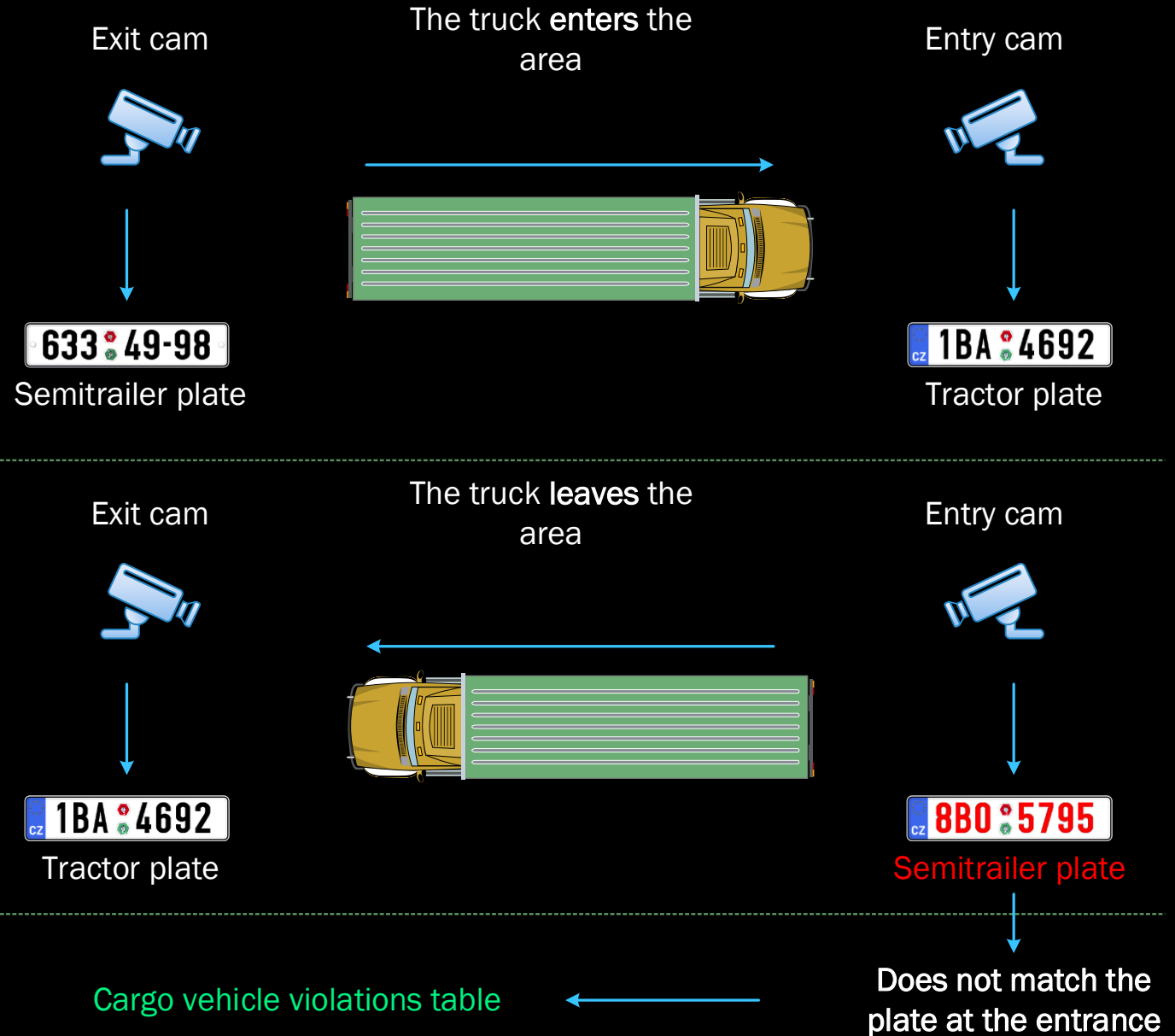
The time between recognition events on entry-exit cameras should not exceed 15 seconds (during this time, both cameras should recognize both the tractor and the semitrailer)

Vehicle movement scheme

Exit cam

The truck **enters** the area

Entry cam

633 49-98

Semitrailer plate

cz 1BA 4692

Tractor plate

Exit cam

The truck **leaves** the area

Entry cam

cz 1BA 4692

Tractor plate

cz 8B0 5795

Semitrailer plate

Cargo vehicle violations table

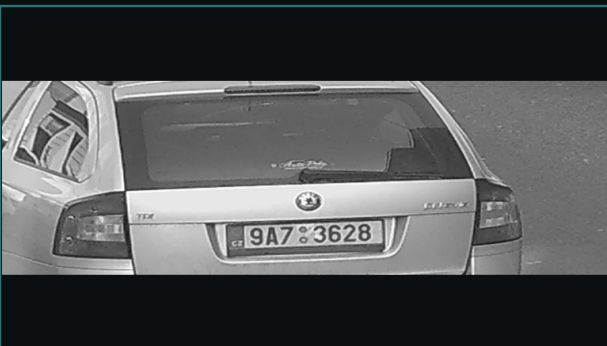Does not match the plate at the entrance

4. Time within area

FF Data Factory works quickly with lists and issues reports on vehicles' time spent in parking networks or in the parking lots of restaurants or shopping malls.

For example, restaurant owners are interested in how much time the client spends on their premises or how many visitors come by per day. This allows them to generate a client/visitor profile and effectively plan the staffing of the restaurant.
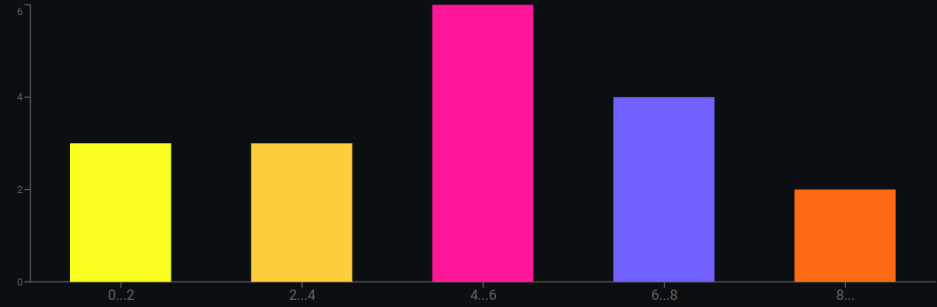

Entry events 20   Cam ID: 1   **Set Cam ID**

Exit events 18   Cam ID: 2   **Set Cam ID**

Week events

Time passed, min intervals

Passed vehicles   **Export**

Entrance time	Plate Text	Car Image	Exit time	Car Image	Time withing
06.09.22, 10:22:33	9A73628	📷	06.09.22, 10:27:33	📷	00:05:00
06.09.22, 10:12:11	3AC1601	📷	06.09.22, 10:12:18	📷	00:00:07
06.09.22, 09:20:00	1AZ8503	📷	06.09.22, 09:27:11	📷	00:07:11
06.09.22, 09:17:00	6B94433	📷	06.09.22, 09:20:00	📷	00:03:00
06.09.22, 09:11:00	9B80239	📷	06.09.22, 09:14:00	📷	00:03:00
05.09.22, 10:23:00	114	📷	05.09.22, 10:30:00	📷	00:07:00

‹ **1** 2 3 ›
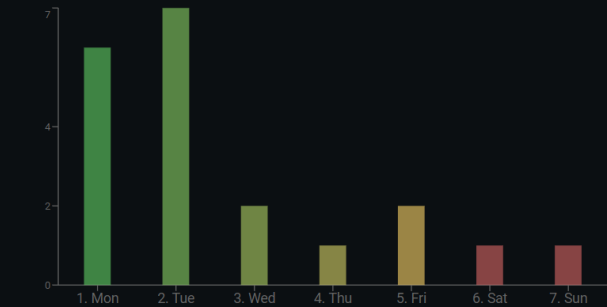
Plain events   **Export**

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Entry/Exit
06.09.22, 10:27:33	2	9A73628	📷	📷	Exit
06.09.22, 10:22:33	1	9A73628	📷	📷	Entry
06.09.22, 10:12:18	2	3AC1601	📷	📷	Exit
06.09.22, 10:12:11	1	3AC1601	📷	📷	Entry

‹ **1** 2 3 ... 9 10 ›

5. City Stat

Business logic for vehicle statistics helps to administer traffic in a city and plan new road infrastructure. The client can receive a different configuration of transport data by type, brand and model at different time periods and other parameters.

What's more, such statistics can be used in marketing campaigns to determine which vehicle brand passes most often by a given section of the road indicating optimal locations for the placement of targeted ads.

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Make
28.07.22, 15:44:15	012_OVA	6T99754	6T9 9754		Skoda
28.07.22, 15:44:15	007_OVA	WZ331CS	WZ 331CS		Infiniti
28.07.22, 15:44:11	004_OVA	6AA6127	6AA 6127		Porsche
28.07.22, 15:44:10	004_OVA	5J80282	5J8 0282		Peugeot
28.07.22, 15:44:09	004_OVA	6AN5359	6AN 5359		Peugeot

6. NCIC violators

This business logic was developed for the USA. In the Data Factory you can import a vehicle list of violators from the NCIC database (central database for tracking crime-related information). If the ANPR cameras that are connected to Data Factory capture a suspicious vehicle from NCIC, then the police receive an alert.
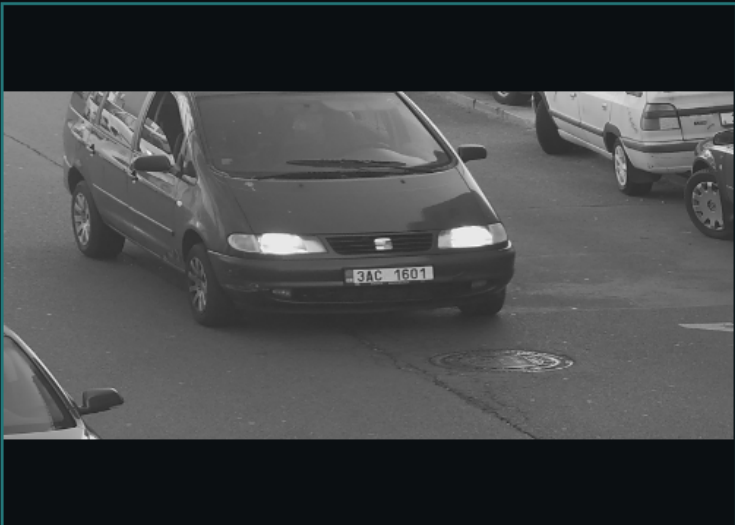
Violators list

[Clear list] [Import] [Export]

NIC	ORI	DTE	LIC	LIS	LIY	LIT	VYR	VMA	VMO	VST	VCO	
V994206921	NJ0071900	8/15/2022	F60PRU	NJ	2026	PC	2021	INFI	Q50	SE	WHI/WHI	✏
V994180930	NJ0131100	8/6/2022	X97LNY	NJ	2022	PC	2009	LAM0	GAL	2D	WHI	✏
V994173731	NJ0090600	8/3/2022	KHJ6477	NY	2023	PC	2009	NISS	MUR	LL	WHI	✏
V994165733	NJ0090600	8/1/2022	S1240384	GA	2022	TM	2010	CHRY	TNC	VN	BLU	✏
V994156222	NJ0010200	7/28/2022	1160NYP	NJ	2022	PC	2011	SUBA		4D	GRY	✏
V994109925	NJ0110300	7/14/2022	AW6347	OK	2029	TL	2008	ST0U		TE	WHI	✏
V994067326	NJ0061400	6/30/2022	AWT2006214	NJ	2017	AT	2006	YAMA	ATV	MV	BLU	✏

< **1** **2** **3** ... **714** **715** >

Detected violators

[Export]

Date Time	Camera Name	Plate Text	Plate Image	Car Image	VMO
24.09.22, 17:25:34	Prague4	AW6347	📷	📷	
24.09.22, 16:13:26	Prague2	1160NYP	📷	📷	
23.09.22, 14:13:13	city_cam2	AWT2006214	📷	📷	ATV
23.09.22, 14:13:13	city_cam1	AWT2006214	📷	📷	ATV
23.09.22, 14:12:45	city_cam2	S1240384	📷	📷	TNC
23.09.22, 14:10:12	factory_cam	F60PRU	📷	📷	Q50
22.09.22, 14:10:55	factory_cam	X97LNY	📷	📷	GAL

7. Average speed

One of the most popular traffic management features "average speed control" is implemented in Data Factory. For this, a user needs to select 2 points of speed control, distance between them and Data Factory calculates the average speed.

Once the offender has been identified, the data is transferred to the police. Moreover, you can get statistics of violations by day and by route to determine where to set up a police patrol.

Routes settings (camera pairs)

Import | Export

1st CameraID	2nd CameraID	Distance, km	Max speed, km/h	
cam_7	cam_22	10.4	70	
cam_5	cam_20	11	50	
cam_11	cam_47	20	80	
cam_12	cam_46	6	50	
cam_11	cam_45	4	70	
cam_1	cam_23	3	50	

1st Camera ID: cam_7

2nd Camera ID: cam_22

Average speed

Export

Plate Text	1st Cam ID	1st time	Car Image	2nd Cam ID	2nd time	Car Image	Time Interval	Speed, km/h
06EA9571	cam_7	21.11.22, 16:52:32		cam_22	21.11.22, 17:15:32		00:23:00	27
AW6347	cam_11	21.11.22, 14:12:32		cam_47	21.11.22, 14:52:32		00:40:00	30
AW6347	cam_11	21.11.22, 09:11:12		cam_45	21.11.22, 09:12:32		00:01:20	180
AW6347	cam_1	20.11.22, 07:33:12		cam_23	20.11.22, 07:35:12		00:02:00	89
BZD2695	cam_12	19.11.22, 12:15:00		cam_46	19.11.22, 12:18:12		00:03:12	112
7B61870	cam_5	18.11.22, 10:45:00		cam_20	18.11.22, 10:56:00		00:11:00	60
2B66574	cam_5	17.11.22, 22:10:00		cam_20	17.11.22, 22:21:00		00:11:00	60

‹ 1 2 ›

Week distribution of Total events amount

Plain events

Export
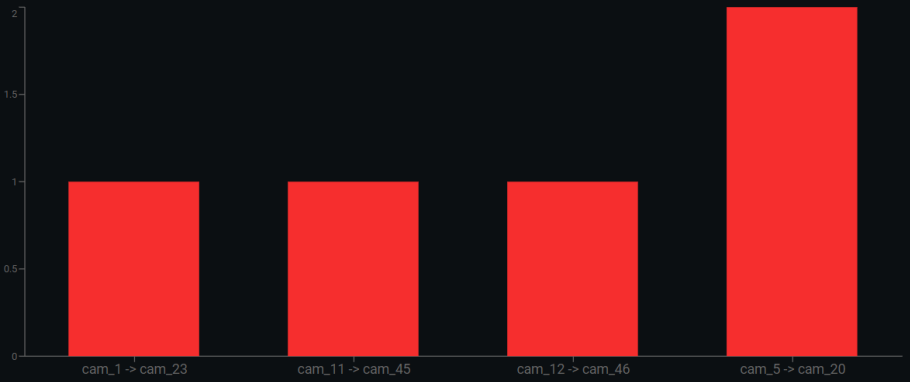
Date Time	Camera ID	Plate Text	Plate Image	Car Image
21.11.22, 17:15:32	cam_22	06EA9571		
21.11.22, 16:52:32	cam_7	06EA9571		
21.11.22, 14:52:32	cam_47	AW6347		
21.11.22, 14:12:32	cam_11	AW6347		
21.11.22, 09:12:32	cam_45	AW6347		
21.11.22, 09:11:12	cam_11	AW6347		
20.11.22, 07:35:12	cam_23	AW6347		

‹ 1 2 3 4 ›

Violations distribution by routes

cam_1 -> cam_23 | cam_11 -> cam_45 | cam_12 -> cam_46 | cam_5 -> cam_20

8. Free parking spaces

Keeping a count of cars that enter a parking lot to determine the number of free spaces is another useful business logic. All it takes is to set the number of total spaces and enter the cars that are currently there, and start the process of counting free spaces. Our business logic allows you to book online parking spaces, as well as conduct statistical analysis of work by day, week or month.

Entry	Exit	Free
34	26	26
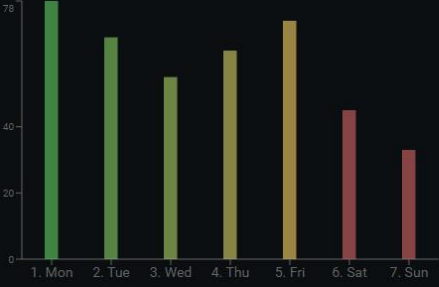
Reset Entry/Exit counters

Current number of cars: 12 Set

Parking Capacity, cars: 38 Set

Toggle to cameras setup

Week entry events distribution

Export

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Entry/Exit
24.04.22, 14:37:10	ID9.37	A4GOO	AI4 GOO	📷	Entry
24.04.22, 14:37:09	ID9.37	GL53SLV	GL53 SLV	📷	Entry
24.04.22, 14:36:50	ID9.37	R934LGK	R934 LGK	📷	Entry
24.04.22, 14:36:27	ID9.37	N437KPV	N437 KPV	📷	Entry
24.04.22, 14:36:25	ID9.37	AL02REE	AL02 REE	📷	Entry
24.04.22, 14:36:24	ID9.37	GV55RVX	GV55 RVX	📷	Entry

< 1 2 ... 10 11 12 >

General Operational mode (with last event image)

Entry

0

Reset Entry/Exit

Current number of cars: 0 Ok Set

Parking Capacity, cars: 38 Ok Set

Toggle to the Last Event image view

Cameras List   Import   Export

CameraID	Entry/Exit	⊕
Cam 63201	Entry	✏
...02	Entry	✏
...03	Exit	✏
Cam 63204	Entry	✏

Setting Cameras and Parking capacity

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Entry/Exit
24.04.22, 14:38:08	ID9.37	RO51ECO	ROSIE CO	📷	Exit
24.04.22, 14:38:05	ID9.37	NC58CKD	NC58 CKD	📷	Exit
24.04.22, 14:38:03	ID9.37	R78HOJ	R178 HOJ	📷	Exit
24.04.22, 14:38:02	ID9.37	KR57FTK	KR57 FTK	📷	Exit
24.04.22, 14:37:59	ID9.37	LJ06MFZ	LJ06 MFZ	📷	Exit
24.04.22, 14:37:33	ID9.37	R3SJPK	R3IS JPK	📷	Exit

Export

< 1 2 ... 8 9 10 11 12 >

10

9. Factory truck to city

How can you regulate the movement of trucks according to a given route (waybill)?

Data Factory has a logic that allows the logistics operator at a business to control the truck's route. Cameras installed at the business and in the city transmit data about the truck to the control point. If a truck by mistake violates the route and, therefore, the rules for entering the city, the operator can quickly correct its route.

Max. travel time to City, min: 30   **Set max time**

Cameras settings   Import   Export

CameraID	Factory/City	⊕
PORTAL_CAM_04	City	✎
PORTAL_CAM_03	Factory	✎
PORTAL_CAM_02	City	✎

‹   **1**   2   ›

Select car type

City Entrance Violators   Export

Factory Leaving	Plate Text	F image	V type	City Entering	C image	Time interval
13.12.22, 17:55:54	9T73294		Car	13.12.22, 18:20:11		00:24:17
13.12.22, 17:50:05	T8823		Unknown	13.12.22, 18:07:42		00:17:37
13.12.22, 17:45:39	1TK7686		Unknown	13.12.22, 17:58:45		00:13:06
13.12.22, 17:42:19	1TC0284		Car	13.12.22, 18:08:38		00:26:19
13.12.22, 17:39:59	1TY2421		Unknown	13.12.22, 18:10:54		00:30:55
13.12.22, 17:39:07	4AR1984		Unknown	13.12.22, 18:14:41		00:35:34
13.12.22, 17:36:23	1AY8172		Unknown	13.12.22, 17:41:19		00:04:56

‹   **1**   2   3   ›

Plain Events   Export

Date Time	Camera Name	Plate Text	V type	Plate Image	Car Image	Factory/City
13.12.22, 18:23:32	PORTAL_CAM_04	8T56642	Car	📷	📷	City
13.12.22, 18:23:25	PORTAL_CAM_01	3AR0816	Car	📷	📷	Factory
13.12.22, 18:23:22	PORTAL_CAM_01	1TR5183	Car	📷	📷	Factory
13.12.22, 18:23:27	PORTAL_CAM_04	3M90253	Car	📷	📷	City
13.12.22, 18:23:26	PORTAL_CAM_04	3AE4447	Unknown	📷	📷	City

‹   **1**   2   3   ...   303   304   ›

10. Camera Health

Recalculate		Export
Camera sensorProviderId	**Last Event Time**	**Timeout**
Berlin-Static-08	17.03.2023 17:19:43	00:06:39
NYC-PTZ-36	17.03.2023 17:20:42	00:05:40
BulletCam-OxfordSt-12	17.03.2023 17:21:47	00:04:35
PTZCam-Louvre-07	17.03.2023 17:23:08	00:03:14
EiffelTower-PTZCam-03	17.03.2023 17:23:23	00:02:59
RC-BM-Sunset_1.57	17.03.2023 17:24:36	00:01:46
WK-SM-Parkview_1.92	17.03.2023 17:24:55	00:01:27

Camera timeout, min: 5   Set timeout   Refresh time, sec: 5   Set refresh time

Data Factory makes sure that information arrives on time and from all cameras installed at the facility. The client enters a list of cameras and receives real-time data from each camera. If, during the set time, for example 5 minutes, the camera does not send data to Data Factory, then a signal appears on the dashboard that something is wrong with the camera.

Thus, the client can respond to the technical problems of the camera and receive objective data in time.

11. Chain Builder

Using this logic, you can build a chain (traffic route) of customer behavior on the territory of a facility, such as a car wash, a comprehensive car service or a logistics center.

This allows you to make inferences about the preferences of the client, for example, what service and services he uses, and, as a result, build a marketing campaign, or client program

Active Chains   Export

Start DateTime	License Plate	Chain
28.03.2022, 20:15:00	ULL9040	ff1--ff2ex--ff3
31.03.2022, 09:30:00	AKN5785	ff4en

Finished Chains   Export

Start DateTime	Finish DateTime	License Plate	Chain Name
02.04.2022, 08:00:00	02.04.2022, 11:00:00	7U13677	ff4en--ff3--ff4ex
26.03.2022, 05:00:00	26.03.2022, 08:00:00	3AH9448	Wash before annual check
24.03.2022, 07:15:00	24.03.2022, 10:30:00	EL658AE	Repair
22.03.2022, 08:00:00	22.03.2022, 09:45:00	ALA2242	No service

Car Image

AKN 57-85

Camera's IDs and Roles   Import   Export

CameraID	Entry/Exit/Inside	⊕
ff2ex	Inside	✎
ff2en	Inside	✎
ff3	Inside	✎
ff5	Exit	✎
ff4ex	Exit	✎

Chains   Import   Export

Chain Name	Chain Structure (--)	⊕
Annual check	ff4en--ff5	✎
No service	ff4en--ff4ex	✎
Repair	ff1--ff2ex--ff4ex	✎
Wash after repair	ff1--ff2ex--ff3--ff4ex	✎
Wash before annual check	ff4en--ff3--ff5	✎

< **1** **2** > Go to: [ ]

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12. Demo Events Generator

Using this logic, you can test other business logic. Especially when you don't have real cameras

Click on table's row to send event to localhost DataFactory   Import   Export

ID	Plate Text	Image	CameraID	Serial №	Custom Time	Time Source	Brand	Model	Color	Plate Coords
5	34KY8886		cam5	ACCC8EE25CB5	01.04.23, 09:01:34	custom	Fiat	500L	white	[1012, 791, 181,
4	06FF0030		cam4	ACCC8EE25CB5	02.04.23, 11:30:45	custom	BMW	5 Series	black	[1002, 792, 139,
3	35DD468		cam3	ACCC8EE25CB5	02.04.23, 13:15:30	custom	BMW	3 Series	white	[886, 783, 190, 4
2	34NAR90		cam2	ACCC8EE25CB5	04.04.23, 14:45:15	custom	Porche	Cayenne	black	[219, 520, 177, 4
1	34FV6760		cam11	ACCC8EE25CB5	05.04.23, 16:11:59	custom	Audi	Q5	white	[283, 448, 253, 6

Image of sent event

Response:
200   "a755f1e0-5f22-4b3d-fc25-08db36cb254b"

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13. Multilevel Parking

With the proposed logic, the client can control the number of free spaces in each parking lot from a single point. Data Factory has the ability to build a consolidated dashboard that displays data from all parking levels.

Free places can be distributed by the parking operator or they will be displayed on the parking display and the user will make his own choice.

| EVENTS | SEARCH | CHARTS | PARKINGS STATUS | LEVEL 1 | LEVEL 2 | LEVEL 3 |

Multilevel Parking state Export

Parking Name	Free spaces	Total spaces
Level1	26	38
Level 2	25	50
Level 3	0	30
Level 4	12	25
Level 5	0	25
Level 6	29	55
Level 7	32	55
Level 8	0	38

FF Data FACTORY

| EVENTS | SEARCH | CHARTS | PARKINGS STATUS | LEVEL 1 | LEVEL 2 | LEVEL 3 |

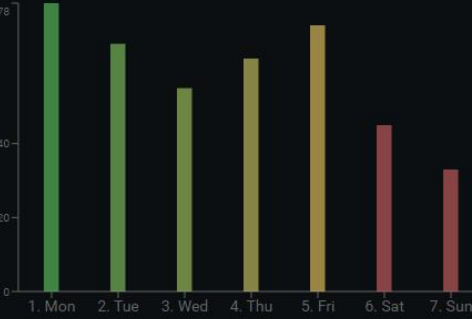| Entry	Exit	Free
34	26	26

Reset Entry/Exit counters

Current number of cars: 12   Set

Parking Capacity, cars: 38   Set

Toggle to cameras setup

Week entry events distribution

Export

Date Time	Camera Name	Plate Text	Plate Image	Car Image	Entry/Exit
24.04.22, 14:37:10	ID9.37	A4GOO	AI4 GOO	📷	Entry
24.04.22, 14:37:09	ID9.37	GL53SLV	GL53 SLV	📷	Entry
24.04.22, 14:36:50	ID9.37	R934LGK	R934 LGK	📷	Entry
24.04.22, 14:36:27	ID9.37	N437KPV	N437 KPV	📷	Entry
24.04.22, 14:36:25	ID9.37	AL02REE	AL0 2 REE	📷	Entry
24.04.22, 14:36:24	ID9.37	GV55RVX	GV55 RVX	📷	Entry

‹ 1 2 … 10 11 12 ›

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14. Occupancy time violation (multi cam)

This logic allows you to calculate the time the car stays in the parking lot.

Several ANPR cameras at the entrance and exit identify the vehicle, and the operator sets the time paid by the client. If the duration of the vehicle's stay is more than the paid time, then a violation signal is given.

Current Overstay violators   `Clear table` `Export`

Entrance time	Plate Text	Car Image	Occupancy time
24.03.23, 10:00:00	4SI9765	📷	00:03:00
24.03.23, 9:50:00	3873DXC	📷	00:10:00
24.03.23, 8:00:00	7H85453	📷	02:03:00
24.03.23, 9:30:00	SBI49UC	📷	00:32:00

Overstay violators who left the area   `Export`

Entrance time	Plate Text	Car Image	Occupancy time
23.03.23, 15:23:00	7U13677	📷	00:22:39
20.03.23, 18:18:00	F0205	📷	01:55:13
19.03.23, 10:15:45	ULL9040	📷	00:22:09
24.03.23, 7:40:25	E587AH	📷	00:15:34

Max occupancy time, min: 30   `Set max occupancy time`

Table refresh period, sec: 3   `Set refresh time`

Cameras List   `Import` `Export`

CameraID	Entry/Exit	⊕
c3	Entry	✎
c2	Entry	✎
c4	Exit	✎
c1	Exit	✎

Plain Events   `Export`

Date Time	Camera Name	Plate Text	Plate Image	Car Image
19.03.23, 10:15:45	c3	ULL9040	📷	📷
24.03.23, 9:30:00	c3	SBI49UC	📷	📷
23.03.23, 15:23:00	c4	7U13677	📷	📷
20.03.23, 18:18:00	c3	F0205	📷	📷
24.03.23, 7:40:25	c4	E587AH	📷	📷
29.03.23, 10:15:45	c1	ULL9040	📷	📷
24.03.23, 8:00:00	c3	7H85453	📷	📷

‹ **1** **2** › Go to: [ ]

Excluded Licence Plates   `Import` `Export`

Licence Plate	⊕
NBJ5190	✎
9S81911	✎
CKE6229	✎
AKN5785	✎

15. Wrong parking place occupied

Well solves the problem for the Warehouses with several parking spaces. At the entrance, the operator determines a specific parking for the car. If the car has not entered the right parking space assigned to it, then the operator sees the violator on the dashboard (the car is highlighted in red).

*Wrong parking means that the driver arrived at the wrong place of loading / unloading

Allowed Cars

Import | Export

Parking	Plate Text	Allowed Parking ⊕
All	41DV001	Parking 16 ✏
Parking 01	34ZH6701	Parking 15 ✏
Parking 02	86VVB24H	Parking 14 ✏
Parking 03	20T0166	Parking 13 ✏
Parking 04	20B8010	Parking 12 ✏
Parking 05	34GY3402	Parking 11 ✏
Parking 06	34KY8886	Parking 10 ✏
Parking 07	34JF4152	Parking 09 ✏
Parking 08	34TE5804	Parking 08 ✏
Parking 09	34FV6760	Parking 07 ✏
Parking 10	07EEP71	Parking 06 ✏
Parking 11	34SK683	Parking 05 ✏
Parking 12	35DK001	Parking 04 ✏
Parking 13	06BN9133	Parking 03 ✏
Parking 14	34JH5866	Parking 02 ✏
Parking 15	34FC2061	Parking 01 ✏
Parking 16		

All Cars ▼ | All Cars | Export

Entrance time	Plate Text	Car Image	Status
23.03.23, 10:00:00	34FC2061	📷	Entered the complex
23.03.23, 10:10:00	34JH5866	📷	On Parking 02
24.03.23, 11:30:00	06BN9133	📷	On Parking 03
25.03.23, 12:30:00	35DK001	📷	On wrong Parking 06
25.03.23, 14:45:00	34SK683	📷	On wrong Parking 09
26.03.23, 15:15:00	07EEP71	📷	Left the complex
27.03.23, 16:15:00	34FV6760	📷	Entered the complex

< **1** **2** > Go to: [ ]

Areas and Cameras

Import | Export

Area	Cameras (---) ⊕
Parking 10	CAM020---CAM021 ✏
Parking 09	CAM018---CAM019 ✏
Parking 08	CAM016---CAM017 ✏
Parking 07	CAM014---CAM015 ✏
Parking 06	CAM012---CAM013 ✏
Parking 05	CAM010---CAM011 ✏
Parking 04	CAM008---CAM009 ✏
Parking 03	CAM006---CAM007 ✏
Parking 02	CAM004---CAM005 ✏
Parking 01	CAM002---CAM003 ✏

< **1** **2** > Go to: [ ]

16. Events proxy

The smart camera can only send data to the receiving system to which it is connected. If you increase the number of points where you need to send data, it may not match the capabilities of the camera.

Therefore, you can create a list of receiving systems in Data Factory where you need to send data from cameras or analyze events. Such a service will be in high demand by parking network operators as well as by central police and municipalities, etc., which have to receive the data from the same cameras but in separate computer/network systems.

Click on the table's row to send event to DataFactory receivers (make sure, that camera with "Serial №" is registered in SETTINGS) [Import] [Export]

ID	Plate Text	Image	CameraID	Serial №	Custom Time	Time Source	Brand	Model	Color	Plate Coords
5	34KY8886		cam5	ACCC8EE25CB	01.04.23, 09:01:34	custom	Fiat	500L	white	[1012, 791, 181,
4	06FF0030		cam4	ACCC8EE25CB	02.04.23, 11:30:45	custom	BMW	5 Series	black	[1002, 792, 139,
3	35DD468		cam3	ACCC8EE25CB	02.04.23, 13:15:30	custom	BMW	3 Series	white	[886, 783, 190, 4
2	34NAR90		cam2	ACCC8EE25CB	04.04.23, 14:45:15	custom	Porsche	Cayenne	black	[219, 520, 177, 4
1	34FV6760		cam11	ACCC8EE25CB	05.04.23, 16:11:59	custom	Audi	Q5	white	[283, 448, 253, 6

Image of sent event

Receivers of data transmission [Send to receivers ▼] [Import] [Export]

URL	Description
http://10.0.9.67	
http://localhost:5001/api/Settings/linked-cameras	
http://10.0.3.175	

Response:
200

17. Camera Management

Camera Settings:	Register Camera in DF	Refresh	Import	Export	Get App B/W Lists			

Name	IP	Login	Password	Connection Type ⊕
cam1	193.107.24.111:4	root	💬	Axis CaMMRa ✏
cam2	84.15.61.2:81	stebetojas	💬	Axis CaMMRa ✏
cam3	10.0.3.175	root	💬	Axis CaMMRa ✏

White List | Black List

< 1 2 3 > Go to:

Empty

Ok | Ok

Reboot Camera

*click OK button to update list

Start | Stop

Camera Status: | **Application:**

IP	Name	Connection	Model	Serial Number	Firmware Version	Mac Address	SD Card	Camera Time	TimeZone	Name	Version	Status	EventType	FrameType
193.107.24.111:49380	AXIS P1445-LE-3	OK	P1445-LE-3	ACCC8ED3290F	11.4.63	ac:cc:8e:d3:29:0f	OK	2023-06-26T11:37:53Z	Europe/Kiev	AXIS LPV	2.8-2	Running	New	Licence crop
84.15.61.2:81	AXIS Q1700-LE	OK	Q1700-LE	B8A44F16D835	10.4.0	b8:a4:4f:16:d8:35	disconnected	2023-06-26T11:38:19Z		CAMMRA	1.5-4-10	Running	New	Full frame
10.0.3.175	AXIS P1445-LE	OK	P1445-LE	ACCC8EA617EF	11.5.54	ac:cc:8e:a6:17:ef	OK	2023-06-26T11:38:26Z	Europe/Kiev	CAMMRA	1.7-6	Running	New	Licence crop
192.168.1.175	AXIS P3255-LVE	OK	P3255-LVE	B8A44F0EBFC3	10.11.81	b8:a4:4f:0e:bf:c3	disconnected	2023-06-26T06:30:13Z	Europe/Kiev	CAMMRA	1.5-16-L06-19	Running	New	Full frame
10.0.9.65	AXIS Q1798-LE	OK	Q1798-LE	B8A44F041474	11.4.63	b8:a4:4f:04:14:74	disconnected	2023-06-26T11:37:19Z	Europe/Kiev	CAMMRA	1.7-5	Running	New	Full frame
192.168.1.107	AXIS P1465-LE	OK	P1465-LE	B8A44F30333D	11.6.22	b8:a4:4f:30:33:3d	disconnected	2023-06-26T11:39:42Z	Europe/Kiev	AXIS LPV	2.8.2	Running	New	Full frame
10.0.3.182	AXIS P7304	OK	P7304	B8A44F143C95	11.4.63	b8:a4:4f:14:3c:95	OK	2023-06-26T11:38:40Z		AXIS LPV	2.8-3	Running	New	Full frame

< 1 2 > Go to:

FF Protocol Receiver Settings: | Set Parameters on Selected Camera

URL	Event Type	Latitude	Longtitude	Send Data ⊕
-	New	-	-	Send ✏

192.168.1.107

This business logic allows you to manage cameras and their ANPR applications from a single place.
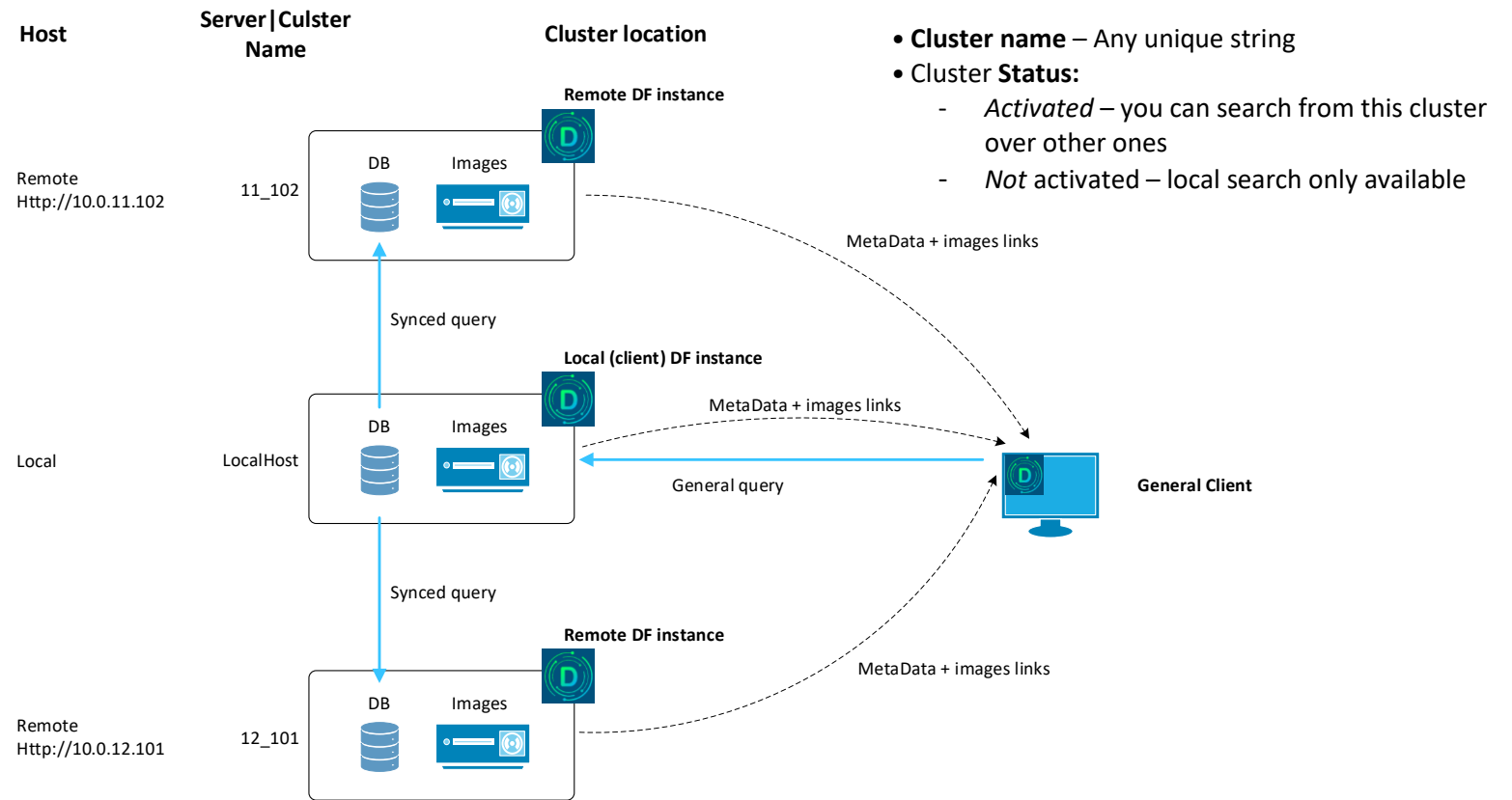
Just enter the Camera name, IP, Login, Password, and Connection Type (depends on ANPR application) – all other settings and information become able.

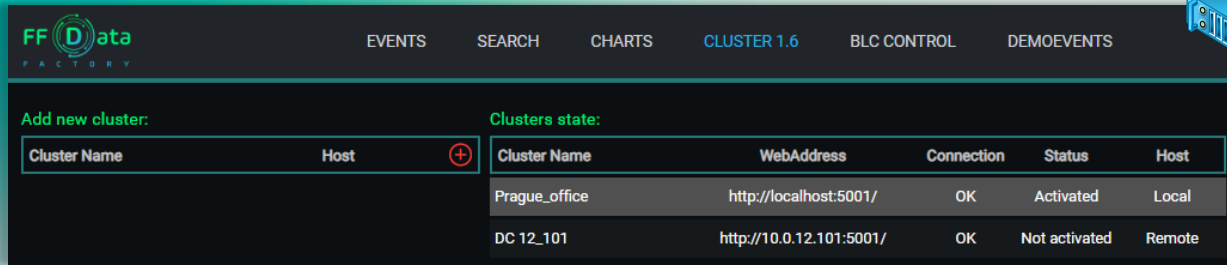From here you can also analyze the health status of each camera in many ways.

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18. Clustered DataFactory

Make you able to search and interact across several instances of DataFactory, located on remote hosts

Cluster Name	WebAddress	Connection	Status	Host
LocalHost	http://localhost:5001/	OK	Activated	Local
11_102	http://10.0.11.102:5001/	OK	Activated	Remote
12_101	http://10.0.12.101:5001/	OK	Activated	Remote

1. Add remote DF as Cluster

2. See Status

3. Set settings

Delete selected remote cluster to redefine

Or rename Local cluster

• **Cluster name** – Any unique string
• Cluster **Status:**
  - *Activated* – you can search from this cluster over other ones
  - *Not* activated – local search only available

Host **Server|Culster Name** **Cluster location**

Remote
Http://10.0.11.102   11_102   **Remote DF instance**
                                        DB   Images

Synced query

Local   LocalHost   **Local (client) DF instance**
                              DB   Images

Synced query

Remote
Http://10.0.12.101   12_101   **Remote DF instance**
                                        DB   Images

MetaData + images links

MetaData + images links

General query

MetaData + images links

General Client

2 Clusters example (One search direction)

Cluster/server name

FF Data	EVENTS	SEARCH	CHARTS	CLUSTER 1.6	BLC CONTROL	DEMOEVENTS

Add new cluster:

Cluster Name	Host	⊕
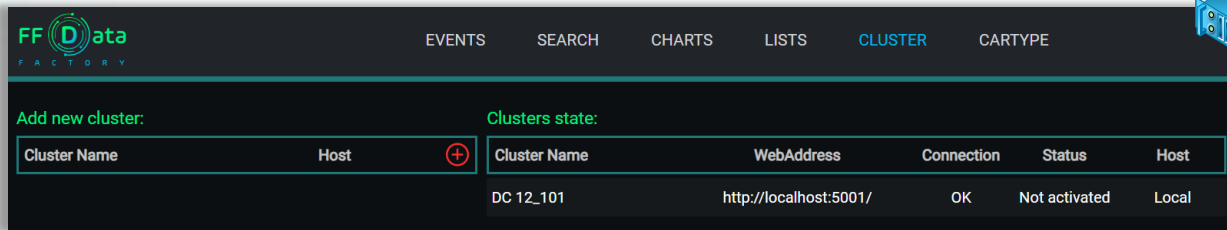
Clusters state:

Cluster Name	WebAddress	Connection	Status	Host
Prague_office	http://localhost:5001/	OK	Activated	Local
DC 12_101	http://10.0.12.101:5001/	OK	Not activated	Remote

Prague_office

The main cluster from which the search is carried out

FF Data	EVENTS	SEARCH	CHARTS	LISTS	CLUSTER	CARTYPE

Add new cluster:

Cluster Name	Host	⊕
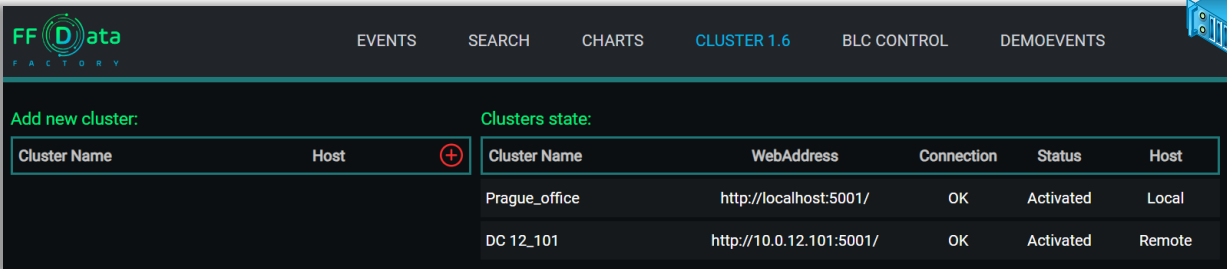
Clusters state:

Cluster Name	WebAddress	Connection	Status	Host
DC 12_101	http://localhost:5001/	OK	Not activated	Local

DC 12_101

Secondary cluster – Business logic for clusters does not need to be installed, so Search on this server will be processed only inside it

2 Clusters example (Cross-search)

FF Data	EVENTS	SEARCH	CHARTS	CLUSTER 1.6	BLC CONTROL	DEMOEVENTS

Add new cluster:

Cluster Name	Host	⊕
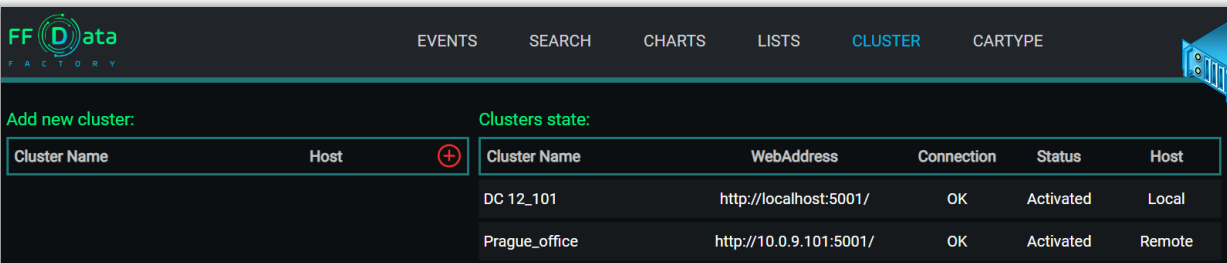
Clusters state:

Cluster Name	WebAddress	Connection	Status	Host
Prague_office	http://localhost:5001/	OK	Activated	Local
DC 12_101	http://10.0.12.101:5001/	OK	Activated	Remote

Prague_office

One of the equivalent clusters. The search is carried out in both clusters

Business logic for clusters must be installed on both clusters. Both clusters must have activated status

FF Data	EVENTS	SEARCH	CHARTS	LISTS	CLUSTER	CARTYPE

Add new cluster:

Cluster Name	Host	⊕

Clusters state:

Cluster Name	WebAddress	Connection	Status	Host
DC 12_101	http://localhost:5001/	OK	Activated	Local
Prague_office	http://10.0.9.101:5001/	OK	Activated	Remote

DC 12_101

One of the equivalent clusters. The search is carried out in both clusters

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19. Gmail API configuration

Configure and test your Gmail configuration so you may able to use it inside other Business logics

FF Data FACTORY

EVENTS   SEARCH   CHARTS   **GMAILAPI**

Gmail Client Settings:

Parameter	Value
Email	datafactory.test10@gmail.com
Sender Name	DataFactory
Password	rufq qnva wcbu joqk

Set settings
200

E-mail Content:

Parameter	Value
Recipient Addresses	antonio_banderas@gmail.com, emai
Subject	Camera Alert
Content	Camera fot an alert event!

Send mail
200

20. GPS and PDF export configuration

PDF export on SEARCH page

Set the maximum number of events for export to PDF from the SEARCH page.

A large number of events in the export can lead to a long time file formation or a crash of the web browser
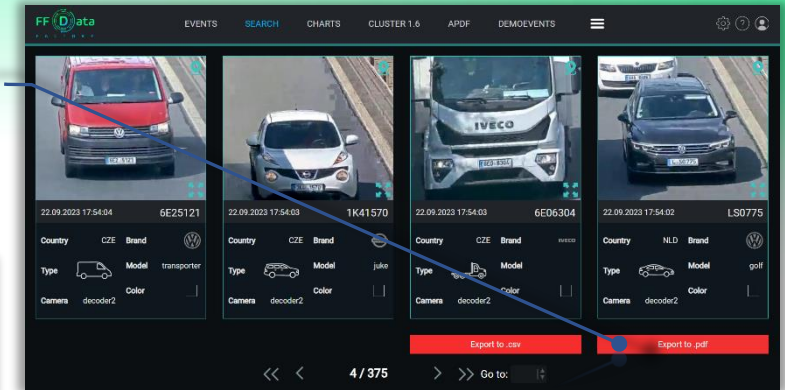
21. Offline activation

FF Data FACTORY

EVENTS   SEARCH   CHARTS   OFFLINE

Offline activation

Current activation status

Enter license key from FF-Group

http://shop.number-ok.com/weblm/offline.php

1. Enter license key, Press "OK" and get Activation string

UDKR-HF2S-RVHQ-E58B   Ok

Parameter	Value
Status	Not activated

Enter your activation / deactivation string:

2. Copy to Clipboard this Activation string and press OK:

dHlwZT1hY3RpdmF0aW9uJmNvZGU9VURLUi1IRjJTLVJWSF
EtRTU4QiZod2lkPXZIOEdrVFhPcmtycmpvcG5wa2swRTdLN   Ok

Submit

3. GoTo: http://shop.number-ok.com/weblm/offline.php paste there activation string from above, get the answer by the Submit button, copy it, enter here, and press OK

MugeSkctKlHELEwq7dVpdnJ0TwdvYVGocXg8AGiL/I+blWq1
xHYBjkflie8U4DkcMr4pXIwDRxJsxJNSdq3lKspnECGLEyhI2T
gyzVs3VWqNj7jtC7tujaJm8U6KEeB4ndWio19lFWTNRwGE5I
gsb9RvGvOHzakfImUqEFlVfnbkVHHlz5VU0uyuwy+ndIVcBb3
f7RvjLWYDYV44TqGH0YPwYPxvs2RpMudmz/ryXl90KsfT9e
5holRZKpPpDzOtICSRNBp1+Zr4Tl2yHt5m1asWoGdmCiy7G
PaOpsuw7K1HKPo0blibgESiehbANFERbhEVq70v8+5M3AtM
H1wVo7W2X8+i4=   Ok

Your serial number:

MA+429ZQhGzB+N+9dkroJ4Gst4JzrzfV2pDzckjFxhis24VFZ3aDDRkrxjLkO9vZF1kZp5
zjGqhIti6ko5usryXiCCgnkn3Th5gM0dvoyHbMNpim7meFudTrLEUNx4P4cvwFZK9P4xtH
sv01hLZ0uqiyexDfyuSln0J2sXGN3D0KiSkS0GX8nOx/jX1Os3a0U8kJrDRbU5MHLLpfS
cb0sgaDnTGaysYQ6dU6Dr3YuhpiDGu9Eoci40a7trxV53A6xDVo8iUklTXD1stkb8EtoMc
admH7SPecA5Uc3DNGQ1Z7+nJ/aOhDre4xPAwIjHPLmkiFAMRmMz226PSLjVahQ9To5T1UL

EVENTS   SEARCH   CHARTS   OFFLINE

Current activation status

Parameter	Value
licenseStatus	Activated
licenseType	Full
featureType	Basic
numberOfChannels	30
expirationDate	9999-12-31

Finally, your Data Factory is activated

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22. Car types statistic

This Business-logic will display vehicle statistics for different sections. Including dependency on the selected camera and the selected day

23. Logging mode (BLC controller)

Set the level of Business-logic logging

The more detailed the level, the better it is to debug, the worse the performance for high-load systems

Recommended log-level is **Debug**

EVENTS	SEARCH	CHARTS	DEMOEVENTS	MS_L_A_A1	WIDGETS

Running Business logics list — Export

Port	Business logic Id	Status	ActiveID
10001	cammanage1 86506061-8587-4a49-d195-08da650c099b cammanage1	1	cc4910a0-30b8-453b-a4bc-61eb3fa4b729
10002	demoevents 86506061-8587-4a49-d195-08da650c099b demoevents	1	162bea37-97e9-4bc1-ae16-7a5eb2e6520b
10003	camshelathsimple2 86506061-8587-4a49-d195-08da650c099b camshelathsimple2	1	cff4a8e3-6580-4c30-bbea-1c9c97c7bf34
10004	just events receiver 86506061-8587-4a49-d195-08da650c099b just events receiver	1	dad8e73f-4d4f-4cfb-84bd-6701de33a9a6
10005	av speed1 86506061-8587-4a49-d195-08da650c099b av speed1	1	c7a82c2d-a464-48dd-b74e-6751266320f8
10006	avspeed_1.8 86506061-8587-4a49-d195-08da650c099b avspeed_1.8	1	d9aa6263-f7a0-462e-b367-e7719b6bb0b9
10007	cluster 1.6.1 86506061-8587-4a49-d195-08da650c099b cluster 1.6.1	1	b2dbf29b-a202-43c8-a104-2ea17297582b
10008	ms_l_a_a1 86506061-8587-4a49-d195-08da650c099b ms_l_a_a1	1	aa8ff32c-1c9c-43f9-a120-cbcb31b04e0d
10009	widgets 86506061-8587-4a49-d195-08da650c099b widgets	1	75c1e2db-15bc-4b36-935d-36d18d653d6c
10010	freepark1 86506061-8587-4a49-d195-08da650c099b freepark1	1	e95720e5-e121-45d1-92d0-d5cb5ce8479e
10011	blc control 86506061-8587-4a49-d195-08da650c099b blc control	1	841af15b-8faa-4e6f-9d6e-33d5172654d1
10012	-	0	
10013	-	0	
10014			
10015			
10016			
10017			
10018		0	
10019	-	0	
10020	-	0	

Logging parameters — Export

Parameter	mapName
Log level	Debug
Retained file count limit	10
Retained file time limit	7.00:00:00

Set parameters for selected port:

Select log level: Error

Error ▼

Set File Count Limit

| 10 | Ok |

Set File Time Limit

| 7.00:00:00 | Ok |

For high-load systems recommended log level is
"Error"
That means that only critical errors will be logged